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SUBMISSION FOR THE DIVISION OF REVENUE

Technical Report

11th Floor, 33 on Heerengracht,

Heerengracht Street, Foreshore, Cape Town

www.ffc.co.za

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List of Acronyms

AIC	Akaike Information Criterion
ArcGIS	Online Graphic Information System
ASGISA	Accelerated and Shared Growth Initiative For SA
BIG	Basic Income Grant
CBA	Cost Benefit Analysis
CCA	Climate Change Adaptation
CCM	Climate Change Mitigation
CCRB	Climate Change Responsive Budgeting
COGTA	Cooperative Governance and Traditional Affairs
COPS	Conference of Parties
COS	Cost of Supply
COVID-19	Corona Virus Disease 2019
CPI	Consumer Price Index
CSG	Child Support Grant
CSIR	Council for Scientific and Industrial Research
DDM	District Development Model
DEA	Department of Environmental Affairs
DMRE	Department of Mineral Resources and Energy
DPE	Department of Public Enterprises
DSD	Department of Social Development
DWS	Department of Water and Sanitation
EAF	Electricity Availability Factor
EBIDTA	Earnings Before Interest, Taxes, Depreciation and Amortisation
ECD	Early Childhood Development
EM	Emerging Market
EMDEs	Emerging and Developing Economies
EPWP	Expanded Public Works Programme

FPE	Final Prediction Error
FPL	Food Poverty Line
GDP	Gross Domestic Product
GHG	Greenhouse Gasses
GHS	General Household Survey
GWh	Gigawatt Hours
HoD	Head of Department
HQC	Hannam-Quinn Criterion
IBT	Inclining Block Tariff
ICDG	Integrated City Development Grant
ICESCR	International Convention on Economic, Social and Cultural Rights
IDPs	Industrial Development Plans
IRF	Impulse Response Function
INEP	Integrated National Electrification Programme
LBPL	Lower Bound Poverty Line
LED	Local Economic Development
LGCCSP	Local Government Climate Change Support Programme
LGES	Local Government Equitable Share
LGFF	Local Government Fiscal Framework
LTSM	Learner Teacher Support Materials
MBRR	Municipal Budget Reporting and Regulation
MFMA	Municipal Financial Management Act
MIIF	Municipal Infrastructure Investment Framework
MIG	Municipal Infrastructure Grant
MISA	Municipal Infrastructure Support Agency
MTEF	Medium Term Expenditure Framework
Mt	Metric Tons
NDC	National Determined Contribution
NDEFF	National Department of Environment, Forestry and Fisheries
NDP	National Development Plan
NDPG	National Development Partnership Grant

NERSA	National Energy Regulator of South Africa
NNSSF	National Norms and Standards for School Funding
OECD	Organisation for Economic Co-operation and Development
OPG	Older Persons Grant
PED	Provincial Education Department
PESTLE	Political, Economic, Social, Technological, Legal and Environmental
PCGB	Paris Collaborative on Green Budgeting
PFMA	Public Finance Management Act
PPI	Producer Price Index
PSET	Post School Education and Training
SAA	South African Airways
SABC	South African Broadcast Corporation
SALGA	South Africa Local Government Association
SAPO	South African Post Office
SARB	South Africa Reserve Bank
SASSA	South African Social Security Agency
SA-SAMS	South African School Administration and Management System
SC	Schwartz Criterion
SEIS	Socioeconomic Impact Study
SITA	State Information Technology Agency
SNE	Special Needs Education
SOEs	State Owned Enterprises
SOHCs	State Owned Holding Companies
SRD	Social Relief of Distress Grant
TEUs	Twenty-Foot Equivalent Units
UBIG	Universal Basic Income Grant
UBPL	Upper Bound Poverty Line
UNDP	United Nations Development Programme
USDOE	United States Department of Education
VAR	Vector Autoregressive

About the Authors

Chen Tseng is the Head of Research at the Commission, and he holds a Master's degree in Economics from the University of Cape Town. He was the Strategic Research Advisor to the late Chairperson of the Commission: Professor Daniel Plaatjies. His research focuses on the empirical analysis of economic growth and productivity through pricing and costing as it relates to public finance management within the intergovernmental fiscal relations system. His research interests are understanding the impacts of public policy and finance management on economic growth and development and issues of poverty, inequality, and unemployment facing South Africa. Before the Commission, he worked as an economist at the Western Cape Provincial Treasury, Fiscal Policy, and economic advisor to the then Provincial Member of the Executive Council and Finance Minister of the Western Cape, Dr Ivan Meyer.

At the time of writing, **Boitumelo Thabane** was a Research Intern at the Financial and Fiscal Commission with research interests that included social and economic justice, inequality and environmental economics. She holds a Bachelor of Commerce in Law and a Bachelor of Commerce Honours in Economics from the North West University.

Fabrice Gatwabuyege has an MCom in Economics from the University of Pretoria. His work at the Financial and Fiscal Commission focuses on national budget analysis and fiscal policy related issues. Fabrice's research interests are in the areas of public debt management, transportation and logistics for economic development, income and wealth inequality issues and climate finance. Prior to joining the Commission, he worked at the Centre for Financial Regulation and Inclusion (Cenfri), where he worked on issues related to promoting financial sector development and financial inclusion across sub-Saharan Africa.

Gianni Delle Donne holds a Master's degree in Economics from the University of Cape Town and an LLB degree from Stellenbosch University. She is currently a Researcher at the Financial and Fiscal Commission in the macroeconomics and data unit. Her research interests include the study of inequality and socio-economic development in South Africa.

Khutso Baltimore Makua holds a master`s degree in economics from Nelson Mandela University. He is a researcher in the Local Government unit of the Financial and Fiscal Commission, where his focus is on local government finance and local economic development. Khutso's research interests are in areas relating to public debt, municipal finance, and gender inclusivity.

At the time of writing, **Lauren Stevens** was working towards a Master's degree in economics from Stellenbosch University. Her work at the Financial and Fiscal Commission focused on the social sector, especially the South African social assistance programme. Lauren's research interests are in the areas of public finance, education, government initiatives that aid development and socio-economic issues.

Neo Malungane holds a Master's Degree in Economics from Nelson Mandela University. His area of focus is on Budgeting and Socio-Economic Rights. Neo's research interest is on budgeting techniques, socio-economic issues and entrepreneurship.

Nomonde Madubula holds a Ph.D. in Development and Management (Disaster Risk Studies) from the North-West University. Her work at the Financial and Fiscal Commission focuses on local government and the intergovernmental fiscal relations, and Gender Responsive Budgeting. Nomonde's research interests are in the areas of disaster risks and environment, climate change, gender budgeting, public finance, and socio-economic issues.

Noxolo Mahlalela holds a master's degree in applied economics from the University of Cape Town. She is currently an economist at DNA Economics. Prior to joining DNA Economics, she worked as a researcher at the Financial and Fiscal Commission (FFC). Noxolo's areas of interest broadly include public finance, and economic and fiscal policy.

Ronewa Candy Sadiki holds an Honours degree in Economics from the University of Venda. Her work at the Financial and Fiscal Commission focuses mainly on local government budget analysis. Ronewa's research interests are in the area of local economic development and sustainable resources in urban space. Prior to joining the Commission, she worked at Old Mutual as a financial advisor.

Sabelo Mtantato holds a Master's Degree in Economics from the University of KwaZulu-Natal. His work at the Financial and Fiscal Commission focuses mainly on intergovernmental fiscal relations issues and research work on public finance. Sabelo's research interests are in the areas relating to public transport, roads and human settlements sectors.

At the time of writing, **Sanele Simayile** held an Honours degree in Economics from the University of Fort Hare. At the Financial and Fiscal Commission, he conducted work on the theory and practice of regulations in the public sector, and the progressive realisation of rights and how it is accounted for in budgeting practice as well as how governments react in times of fiscal crisis. His research interest is understanding the effectiveness of fiscal policy on unemployment.

Sasha Peters has an MPhil in Public Policy from the University of Cape Town. Her focus areas at the Commission include public education, the oversight and support system underpinning the intergovernmental relations system in South Africa and national budget analysis. Sasha's research interests lie in the area of socio-economic rights vis-a- vis the Bill of Rights and intergovernmental fiscal relations system. Previously, she was employed in the Presidency and in IDASA's Budget Information Service, where her focus was mainly on the social sectors.

Shafeeqa Davids holds a Master's degree in Economics degree from the University of the Western Cape. Her thesis focused on estimating sizing the informal economy in South Africa. At the Financial and Fiscal Commission, Shafeeqa's core focus is on the Local government fiscal framework, local government budget analysis and fiscal policy related issues. Before joining the Commission, she worked at the Western Cape Treasury as an economist in their Fiscal Policy unit. Her research interests are in the areas of municipal sustainability and viability and the local government fiscal framework.

Siyanda Jonas holds a Master's Degree in Economics from the University of Pretoria and MTech in Local Development from Tshwane University of Technology. His work at the Financial and Fiscal Commission focuses mainly on macroeconomic analysis, government budget analysis, and fiscal policy issues. Siyanda's research interests are in the areas of Economic Growth, Local Economic Development, Income and Wealth Inequality.

Thando Ngozo holds a Masters degree in International Economics and Public Policy from Cardiff University in the United Kingdom and an MBA from Milpark Business School. His work at the Financial and Fiscal Commission focuses mainly on macroeconomic analysis; fiscal framework analysis, including taxation and public expenditure issues; and analysis of public institutions' financial and operational health. Thando's research interests include development finance, taxation policy, domestic resource mobilisation, and economic development.

Executive Summary

The South African economy is confronted by a series of global and domestic challenges that are weighing heavily on public finances. These challenges include, amongst others, slowing global growth, geopolitical tensions, rising inflation, acute power challenges, inefficiencies in state-owned enterprises (SOEs), high unemployment, and climate change.

They also highlight the importance of inclusive growth, which has become central to economic development, seeking to raise living standards and generate more opportunities across society. A healthy and financially sound fiscus is required to achieve inclusive growth. This means that South Africa's fiscal situation, riddled with governance issues and constrained by a resource-depleted budget, must be addressed.

In the last three years, the COVID-19 pandemic overwhelmed global health systems, disrupted economic activity worldwide, and shaped public finances in most countries. While it recedes, it continues to have a bearing on the global economy. One of the most enduring legacies of the pandemic has been rapidly rising prices, particularly food and energy, that took effect in the early phases of the pandemic and subsequently accelerated due to the war between Russia and Ukraine.

After an extensive phase of low interest rates and low inflation, the global economy is moving into a period characterized by high inflation and high levels of both public and private debt. In South Africa, increased global food and fuel prices have resulted in inflation rates overshooting the 3-6 per cent inflation target band set by the South African Reserve Bank (SARB). Headline inflation reached a 13-year peak of 7.8 per cent in July 2022.

The resultant upsurge in global inflation since 2021 is the most severe in over three decades and has triggered an unprecedented policy response. In South Africa, the policy response from the SARB has been relentless, culminating in nine consecutive interest rate hikes by March 2023. This steep hiking cycle has put pressure on middle-class consumers and in turn hamstrung consumer demand, dampened investment and, stifled economic growth. It also implies that government policies require a precise appreciation of how inflation impacts various societal groups. The exploration of how fiscal policy should respond to curtail inflation while supporting the vulnerable is thus critical.

South Africa is facing an unprecedented energy crisis. Eskom has responded to this crisis by instituting devastating loadshedding that is undermining the economic recovery from COVID-19 while interest rates rise in response to high inflation. In 2022, there were 200 days of loadshedding. In the first quarter of 2023, there was only one day of no loadshedding, and increasingly prolonged blackouts have become the norm. A swift resolution of the electricity crisis is urgently warranted entailing reforms in the energy sector and a massive turnaround of Eskom. However, immediate action is also required to eradicate inefficiencies in other major SOEs, particularly those operating in the transport and logistics sectors.

Under the theme "**Improving service delivery and inclusivity in an environment of expenditure moderation**", this technical report consists of ten chapters. In respective order, chapter 1 is on the escalating global inflation, looking into the sources and spill overs; chapter 2 homes in on the effects of inflation and growth shocks on fiscal sustainability. Chapter 3 analyses SOEs and the threat to fiscal sustainability, while Chapter 4 is an incident study on a basic income grant (BIG), which, if implemented, may also pose a risk to fiscal sustainability. The report further tackles issues on learner teacher support materials (LTSM) in chapter 5, while chapter 6 reviews learner transport. The last three chapters have a distinct local government focus. Chapters 7 and 8 focus on assessing municipal responses to climate change and investigating the challenges confronting the local government fiscal framework, respectively. Chapter 9 investigates the impact of municipal spending on local unemployment and development and finally, chapter 10 tackles the issue of municipal cost recovery and the affordability of basic services.

The Commission makes the following recommendations:

Chapter 1: Escalating Global Inflation: The Sources and Spill Overs

1. With respect to fiscal policy, the Commission recommends that National Treasury continues to focus fiscal consolidation on expenditure and revenue mix appropriate for debt reduction. This should be done by targeting a primary surplus to significantly reduce debt, foster economic growth, and restore fiscal sustainability. Moreover, the Commission recommends that National Treasury crafts a medium term fiscal framework that must maintain long-term debt sustainability through consolidation, improving debt transparency, advancing debt management functions, and enhancing revenue collection and spending efficiency.

2. With respect to social protection, the Commission recommends that National Treasury, in conjunction with the Department of Social Development (DSD), design a comprehensive social security programme to protect those segments of the population particularly exposed to the negative impact of rising inflation, including higher energy, fuel and food prices. In the interim, National Treasury and the DSD should address the challenges of access constraints of the current social protection measures, particularly the Special COVID-19 Social Relief of Distress (SRD) Grant.

Chapter 2: The Effects of Inflation and Growth Shocks on Fiscal Sustainability in South Africa

1. The Commission recommends that National Treasury strengthens the plan for debt reduction by focusing on improving primary balances. Our analysis suggests that fiscal consolidation focusing on expenditure and revenue mix may be appropriate for debt reduction. The analysis shows that primary surpluses will significantly contribute to debt reduction. Primary surpluses also contribute to economic growth. In other words, fiscal consolidation fosters economic growth and restores fiscal sustainability.

2. The Commission recommends that the government departments under the economic cluster develop and implement macroeconomic reforms to address fiscal sustainability. Robust real gross domestic product (GDP) growth also increases the likelihood of major debt reduction because it helps countries to grow their way out of indebtedness. Our analysis suggests that economic growth plays a significant role in debt reduction.

Chapter 3: State-Owned Enterprises and the Threat to Fiscal Sustainability

1. Reducing risks from quasi-fiscal activities

In collaboration with the relevant SOE's parent departments, National Treasury should eliminate fiscal risks emanating from the imposition of quasi-fiscal burdens by avoiding policies that result in such obligations or abolishing them if they are already in place. The reduction of discretionary fiscal governance in SOEs requires the following:

a. Liberalising the prices of goods and services provided by SOEs in competitive markets and regulating prices in monopolistic or oligopolistic markets at levels that would enable them to generate sufficient profit.

b. Subjecting SOEs to the same labour and employment regulations; eradicating any local content obligations for the SOEs and rationalising procurement procedures; and appraising SOEs' investment decisions.

c. Improving corporate and fiscal governance through reforms that enable SOEs' management boards the operational autonomy they require to make profit-maximizing decisions and eliminating political interference to enhance operational transparency.

2. Avoiding Excessive and/or Discretionary Resource Extraction from SOEs

In collaboration with the relevant SOEs' parent departments, National Treasury should reduce excessive resource extraction, which reduces the SOEs' competitiveness, through establishing explicit and progressive guidance to SOEs on expected rates of return and the distribution or reinvestment of profits. Instituting a predetermined dividend policy in the form of a fixed percentage of annual profits or linking the pay-out to achieving the desired capital structure for each SOE.

3. Reducing fiscal risks from SOEs' borrowing

SOEs require access to financing to maintain their operations and undertake investments. Fiscal rules that necessitate SOEs to run balanced budgets render them competitive relative to other private sector companies operating in the same sector. SOEs should therefore be allowed to charge higher prices to cover financing costs. However, the National Treasury should establish safeguards to prevent SOEs from becoming too leveraged. National Treasury should not provide preferential access to finance and contractual terms to SOEs. They should instead introduce transparent and non-discretionary controls on borrowing to ensure the SOEs remain liquid and solvent. The provision of government guarantees by the National Treasury should be subject to assisting SOEs in obtaining financing for projects with significant public benefit. National Treasury should establish an aggregate debt ceiling for each sector to be approved by Parliament. Government guarantees should then only be granted to SOEs subject to an in-depth and explicit appraisal of their ability to service the debt. The SOEs should be charged fees comparable to those imposed on any guarantees granted to private sector companies, as is the case, for instance, in

Australia. Borrowing controls should be premised on clear, predetermined, and impartial benchmarks that evaluate the SOEs' capacity to service their debts. This should entail the size and structure of the SOEs' liabilities, their interest burden, debt repayment schedules, operational profitability, the size of their contingent and known future liabilities, the liquidity of their assets, and the volatility of their revenues. The evaluation must also forecast how the new capital structure will impact these indicators. At a minimum, the indicators used by National Treasury for evaluating the SOEs must incorporate the ratio of gross liabilities to revenue, debt denominated in foreign currency to foreign exchange reserves, interest payable to revenue, and liquid assets to short-term liabilities. The indicators should be standardised and weighted for making approval decisions. In monitoring, reporting, accounting, and control, the Commission recommends implementing effectual systems to monitor the execution of their budgets and provide detailed reports in this regard.

4. Monitoring, reporting, accounting, and control

In collaboration with the relevant SOEs' parent departments, National Treasury should obligate SOEs to implement effectual systems to monitor the execution of their budgets and provide detailed reports in this regard. National Treasury should acquire human and technical resources required to monitor the SOEs, safeguard their adherence to financial and reporting obligations, scrutinise budgets and reports, and provide appropriate feedback on necessary remedial action where necessary. National Treasury must make it mandatory for SOEs to submit a consolidated set of statements that will enable statistical analysis. A separate statement must be prepared on targets for the government and SOEs and evaluated using different criteria. Government spending on SOEs should be assessed on whether it achieved aims such as macroeconomic growth and fiscal stability, and the SOEs' budgetary allocations must be evaluated on their profitability, efficiency, and liquidity. National Treasury should strengthen their SOEs' asset and liability management capabilities. This should ensure that SOEs boards have the necessary skill set to prioritise this.

5. Improving the transparency of SOEs' operations

The public disclosure and appropriate distribution of detailed information on SOEs' operational and financial performance are critical for good governance. Moreover, examination by external stakeholders significantly increases the SOEs' accountability and discourages political complicity

or flagrant corruption. National Treasury should institute reforms aimed at improving transparency, focusing on the following:

   a. More declaration of the SOEs' contingent and future liabilities and the results of sensitivity and risk analyses.
   b. Safeguarding that the SOEs' quarterly and annual reports include sections analysing their performance during the corresponding period.

6. Establishment of a centralised holding company

There is theoretical and empirical evidence that a centralised holding company, that monitors or controls SOEs, improves its performance and reduces fiscal risk. Holdings with corporate structures may not automatically produce better results than a well-staffed centralised unit within National Treasury. However, a centralised holding company is critical to reducing monitoring costs. National Treasury should establish a centralised holding company that will operate with tight ex-ante controls regarding debt and capital expenditure plans to minimise the fiscal risk inherent in the operation of SOEs.

Chapter 4: The Basic Income Grant in South Africa - An Incidence Study

1. The Minister of Social Development and the Minister of Finance should reconsider recalculating the COVID-19 SRD grant amount with a well-informed determination formula.

2. The Minister of Social Development and the South African Social Security Agency should account to the public for underspending recorded in the adjustments appropriation bill and the second adjustments appropriation bill amounting to R1.8 billion and R3.7 billion, respectively.

3. The Minister of Social Development should develop a policy tool that interlinks with access to complementary social and economic opportunities with opportunities such as the expanded public works programme (EPWP).

Chapter 5: Learner Teacher Support Materials

1. The Minister must ensure that the draft LTSM policy, which has been stalled since 2014, is finalised and approved.

2. Funding for LTSMs should be prioritised, especially for learners in quintiles 1, 2 and 3 schools. National funding norms need to be developed to guide spending on LTSM per child, per phase i.e. foundation, intermediate and senior and FET. Moreover, specific priority should be given to the provision of LTSMs for learners with special educational needs.

3. LTSMs are critical in improving reading for meaning. The Minister of Basic Education must fund a national programme that is aimed at improving reading for meaning and which is uniformly implemented across the nine provinces. Lessons from successful local initiatives must be drawn on to determine which approaches are likely to succeed.

4. To aid improved monitoring and oversight of LTSMs (particularly textbooks) and achieve the goal of universal coverage, the Minister of Basic Education must expand the modules contained in the South African School Administration and Management System (SA-SAM) to include LTSM.

Chapter 6: A Review of Learner Transport

1. The national and provincial departments of transport and basic education should improve data collection and reporting and ensure that accurate data on learner transport including the annual demand and expenditure is reported and made publicly available through annual reports.

2. Infrastructure delivery should be planned holistically and coordinated to ensure that where possible the need for learner transport is kept to a minimum, particularly in areas experiencing an inward migration of learners. This requires coordination between the various infrastructure delivery plans such as human settlements and school infrastructure. Furthermore, provincial treasuries and provincial education departments must ensure that school infrastructure delivery plans for building new schools in provinces prioritise areas with sustained higher demand for learner transport or with higher learner transport beneficiaries.

3. The national and provincial treasuries, in consultation with provincial departments of transport and basic education, should develop a new funding model for learner transport. Such a model must also include flexibilities for provinces to address emergency contracts to provide learner transport.

4. The provincial departments responsible for learner transport should develop systems to verify the number of learners transported through the learner transport programme annually to ensure that annual changes are captured and accounted for (learners pass primary and move to secondary schools, learners pass matric while some drop out).

Chapter 7: Assessing the Response to Climate Change in Local Government

1. The Minister of Finance should create an enabling framework to ensure government budgets are climate sensitive and incorporate green budgeting measures across budget cycles, budget circulars, the medium term expenditure framework (MTEF), as well as Municipal Finance Management Act (MFMA) and Public Finance Management Act (PFMA) processes. Climate change indicators and targets should inform this process.

2. The National Department of Forestry, Fisheries & Environment (NDFF&E) and Cooperative Governance and Traditional Affairs (COGTA) should spearhead integration, coordination, and implementation of climate change responses so that it is in line with the national agenda on transitioning to a low carbon and resilient economy. The Department of Monitoring and Evaluation (DPME) and the Presidential Climate Commission (PCC) must monitor, evaluate and report on the progress made by subnational governments in integrating climate change responses in their respective planning documents. Committees at the legislatures and municipal councils should exercise their oversight role by ensuring that integration, coordination, and implementation of climate change responses take effect.

3. National Treasury, together with COGTA and the National Department of Public Works and Infrastructure (DPW&I), should, as a starting point, revise formats for the infrastructure grant frameworks to include climate change response specifications so as to be able to gradually achieve climate resilient infrastructure, with a strategic approach in the medium to long term of incorporating climate change mitigation and adaptation measures to all infrastructure related projects.

Chapter 8: The Impact of Municipal Spending on Local Unemployment and Development

1. COGTA to include skills development through the revitalisation of mentorship/apprenticeship programmes as part of future local economic development (LED) Frameworks.

2. COGTA and Treasury must develop an appropriate funding mechanism or funding plan in a targeted and phased approach that considers the spatial inequalities across local government. The Commission further believes the District Development Model (DDM) must be strengthened and financed for local government to fulfil its developmental role.

Chapter 9: Investigating the Local Government Fiscal Framework and Spatial Inequalities

1. The Commission recommends that, to overcome persistent challenges municipalities face in the context of the rapidly changing economic environment, the Minister of COGTA and the Minister of Finance should critically review the local government fiscal framework. A differentiated approach is needed to ensure the policy is well-tailored to overcome unique issues individual municipalities face. To achieve this, the fiscal framework may need to be radically, rather than incrementally, reconfigured.

2. The Commission is of the view that careful attention must be given to the funding mechanism of conditional grants. The Commission thus recommends that COGTA and National Treasury develop an appropriate funding mechanism or funding plan in a targeted and phased approach, which enhances the capacity of municipalities to spend conditional grants effectively and in a manner consistent with local government's developmental role.

Chapter 10: Municipal Cost Recovery and the Affordability of Basic Services

1. The Commission recommends that National Treasury, in consultation with the South African Local Government Association (SALGA), CoGTA, and provincial governments should urge local municipalities to apply effective revenue enforcement and credit control mechanisms and improve billing and accounting systems to increase payment and cost coverage levels. Officials responsible for managing municipal finances should possess the competencies and skills required to perform their roles. In addition, municipalities should apply the prescripts of various legislation such as the Municipal Systems Act, Municipal Property Rates Act,

Municipal Structures Act, MFMA, and other municipal service provision by-laws to enforce payment from residents.

2. The Commission reiterates its previous recommendation that COGTA, in consultation with SALGA, should ensure that the credit control systems of Eskom and municipalities are aligned by means of a memorandum of understanding (MOU), and that Eskom should assist municipalities with credit control via electricity disconnections within areas supplied by Eskom.

3. The Commission recommends that COGTA should engage SALGA about incorporating innovative approaches in the "Asisho! Let's Say it" campaign to increase awareness about the importance of paying for municipal services. In addition to using television to disseminate the message, other forms of media such as national and community radio stations, billboards, sending prompts via WhatsApp, SMS, and email, and inserts in newspapers should be used to reach a wider audience.

4. The Commission recommends that National Treasury should urge municipalities to assess the affordability of the total municipal bill as part of the municipal tariff setting process. This can be done using the tariff setting tool developed by National Treasury, that includes a component for testing the affordability of tariffs to customers.

CHAPTER 1:

ESCALATING GLOBAL INFLATION: THE SOURCES AND SPILL OVERS

Chapter 1

Escalating Global Inflation: The Sources and Spill Overs

Thando Ngozo

1.1 Introduction

The COVID-19 pandemic has resulted in a significant shock to the global economy, manifested in outright decelerations in output in many countries. The pandemic, and its impact, have not yet reached its end, thus compelling policymakers to contend with an unfinished and imbalanced rebound amidst high public debt and indeterminate inflation prospects, as well as external risks of capital flows and exchange rate developments.

The global economy experienced a substantial drop in inflation over the past four to five decades, particularly in the initial stages of the COVID-19 pandemic. Since then, resurgent commodity prices, supply-chain interruptions, labour deficiencies, and an upturn in domestic demand have jointly spurred inflation to unprecedented apexes (International Monetary Fund, 2021); (Adrian & Gopinath, 2021) and (Daminger, 2022). Most Emerging Markets (EMs), inclusive of South Africa, are enduring a sharp upsurge in food prices, which represent a significant portion of their consumption basket (Caseli & Mishra, 2021) and (International Monetary Fund, 2021). Core inflation has also risen in many EMs as currency depreciation impacts imported goods' prices. Inflation expectations for short- to medium-term are currently well anchored. However, persistently high inflation could impact expectations and render endeavours to rein in inflation more challenging.

The latest developments in the evolution of global inflation have meant that many EMs are experiencing tightening global financial conditions. Rising energy and food prices, together with tenacious supply chain interruptions amidst extreme uncertainty of the progression and effects of the pandemic, are sustaining inflationary pressures in EMs that are projected to remain elevated, at least for this year, although with substantial differences across the EM countries (Adrian & Gopinath, 2021) and (Daminger, 2022).

Most EMs have withdrawn the pandemic-fighting emergency measures and tightened monetary policy. This response has enhanced policy credibility and anchored long-term inflation expectations. However, the challenge of tightening monetary policy to achieve price stability will be considerable, given the substantial output and employment deficits in most Ems (Adrian and Gopinath, 2021). The challenges with calibrating monetary policy emanate from the intensified uncertainty associated with the COVID-19 pandemic, the delicate balance between supporting the economy and combating inflation, and the vulnerability to external conditions.

External risks result from EMs' dependence on global financial markets and their consequential susceptibility to global financial conditions (Mimmir & Sunel, 2019); (Tobal & Menna, 2020). Tightening monetary policy in the US can result in substantial capital flows and exchange rate movement spillovers in EMs. These spillovers, consequently, could impact domestic financial conditions and inflation. This means that exposed countries with high debt levels and weaker institutions could find it hard to assuage any spillovers from global conditions on the domestic economy. This study will examine international inflation trends, sources, and the international inflation spillovers on the South African economy.

1.2   Literature Review

The literature review will be categorised into three main themes:

1.2.1   Global Inflation Synchronisation

Many scholars have furnished empirical proof of highly synchronised national inflation rates (Hakkio, 2009); (Ciccarelli & Mojon, 2010); (Auer Levchenko & Saure, 2017). Some scholars also investigate the scope of synchronisation in real and nominal variables other than the inflation (Mumtaz, Simenelli & Surico, 2011). Whereas the initial literature focused on the contribution of synchronised or coordinated monetary policies as a significant source of inflation co-movement (Clarida, Gali & Gertler, 2002; Rogoff, 2003), the latest research has underscored the part played by international spillovers of technology and the growing role of trade integration through global value chains (Henriksen, Kydland & Sustek, 2013; Auer, Borio & Filardo, 2017).

a) ***The global inflation factor***

Much of the literature highlights the importance of a global factor in inflation disparity among advanced economies. These studies suggest that the estimated contribution of the global factor differs by the inflation measure, period, methodology, and sample composition.

Ciccarelli and Mojon (2010) find that there is a common global factor in the consumer price index (CPI) inflation of 22 Organisation for Economic Co-operation and Development (OECD) countries spanning from 1960 to 2008. They conclude that the global factor explains approximately 37 per cent of the discrepancy in national inflation rates. Ferrori and Mojon (2014) build on this research and find an even more substantial role for global factors in advanced economies.

Hakkio (2009) also examines the role of a global factor in 19 OECD countries from 1960 to 2008. He extends the analysis to encompass several inflation measures, including overall CPI inflation, cyclical CPI inflation, core CPI inflation, and cyclical core CPI inflation. He concluded that the global factor accounts for average 41 per cent of cyclical inflation variation. Auer Levchenko and Saure (2017) investigate the role of a global inflation factor in 30 countries and concluded that it accounts for 51 per cent of inflation variation, half of which reflects standard cost shocks propagated through input-output linkages.

The literature also covers the effect of concrete global variables on domestic inflation. Eickmeier and Pjinenburg (2013) analyse data for 24 OECD countries from 1980 to 2007, using the global and distinctive factors of output gaps and changes in unit labour costs. They conclude that the global factor of changes in unit labor costs significantly affects domestic inflation. Lodge and Mikolajun (2016) also establish that global commodity prices are vital determinants of inflation in 19 advanced economies. Borio and Filardo (2007) and Auer, Borio and Filardo (2017) demonstrate the explanatory power of global inflation and the foreign output gap to conventional Phillips curve models of domestic inflation in most OECD countries. However, Gerlach, Giovannini, Tille and Vinals (2008) concluded that this result is not sufficiently robust to measure the global output gap when you control additional variables. Similarly, Ihrig, Kamin, Lindner and Marquez (2010) find minimal support for the globalisation hypothesis in 11 countries.

b) *Global inflation synchronisation evolution*

Neely and Rapach (2011) investigate a global factor from CPI inflation in 64 mostly advanced economies from 1950 to 2009. They concluded that the global factor, on average, explains 35 per cent of inflation discrepancy, and the regional factors accounted for 16 per cent, and these shares have increased considerably since the 1980s. Neely and Rapach (2011) found that the regional (world) factor has risen for numerous North American and European countries since 1980. Mumtaz and Surico (2012) approximate global and regional factors using 164 inflation indicators in 13 OECD economies covering 1961to2004. They conclude that, in most countries, the extent of inflation synchronisation has intensified since the 1980s. Mumtaz, Simenelli and Surico (2011) also demonstrate that the share of inflation variation attributed to the global factor has increased as of 1985.

c) *Drivers of global inflation synchronisation*

A large section of the literature identifies solid economic policy institutions, trade openness, and financial development as drivers of cross-country inflation synchronisation. Neely and Rapach (2011) use a sample of 64 primarily advanced economies from 1950 to-2009 and correlate the share of CPI inflation variance explained by the global factor with country characteristics. They conclude that the share is higher in advanced economies with stronger economic policy institutions, more developed financial markets, lower inflation, and more independent central banks.

Parker (2018) demonstrates that energy prices are less synchronised with global inflation factors in developing countries. Ciccarelli and Mojon (2010) suggest that the effect of a global inflation factor on domestic inflation is stronger in countries with lower inflation. Auer Levchenko and Saure (2017) establish cross-border trade in intermediate goods and services as the primary channel through which global economic slack impacts domestic CPI inflation and cost shocks created through input-output linkages explain approximately 25 per cent of inflation variability.

Monacelli and Sala (2009) approximate the inputs of a global factor to inflation variance of 948 CPI products for four OECD countries spanning 1991 to 2004. They concluded that, on average, the global factor accounts for 15-30 per cent of the discrepancy in disaggregated consumer price inflation, with the share being more significant in sectors with greater trade openness. Forster and Tillmann (2014) establish global, sectoral, and regional factors from CPI inflation in 40 predominantly OECD countries covering 1996 to 2011. They conclude that country-specific determinants explain about 68 per cent of overall inflation volatility. Parker (2018) expands Forster and Tillmann's (2014) research

to 223 countries and territories spanning 1980-2012. He concludes that the global factors account for approximately 68 per cent of the variance of advanced economies' inflation but only 20 per cent for middle-income countries and 10 per cent for low-income countries. Irrespective of the country group, mutual features explain a higher share of variability in energy and food price inflation than housing price inflation.

Beck, Hubrich and Marcellino (2009) find for the Euro Area, national, and subnational factors emanating from subnational inflation rates in six Euro Area countries. They conclude that the Euro Area factor accounted for about 50 per cent of the inflation variation, and national and regional components explain 32 and 18 per cent, respectively. Auer, Levchenko and Saure (2017) show that for disaggregated producer price index (PPI) inflation for 30 predominantly OECD countries and 17 sectors from 1995 to 2011, the global factor accounts for approximately 50 per cent of the variations in PPI inflation. They suggest that this PPI synchronisation across countries is driven primarily by standard sectoral shocks and amplified by input-output linkages.

In summary, inflation is highly synchronised internationally, but the extent of inflation synchronisation differs according to country characteristics and other factors, including the measure of inflation used.

1.2.2   Drivers of global inflation

The empirical literature on the part played by global shocks on domestic inflation in different countries employs two specialised techniques: a Phillips curve framework and structural vector autoregression (SVAR) and factor-augmented vector autoregression (FAVAR) models. The empirical evidence emanating from the Phillips curve analyses is mixed. In contrast, vector autoregression (VAR) studies have successfully established the sizeable influence of global shocks on domestic inflation, principally commodity price shocks.

Borio and Filardo (2007) analyse a sample of 15 Organisation for Economic Co-operation and Development (OECD) economies from 1985 to 2005 and determine that global inflation and the global output gap append explanatory ability to traditional Phillips curve models of domestic inflation. Firlardo and Lombardi (2014) also establish the crucial part of global demand shocks on domestic inflation in Asian countries, transmitted partially through global commodity price shocks. Altansukh et al, (2017) investigate the structural breaks in the relationship between the components (energy, food, and core) of domestic and trade-weighted foreign inflation in 13 OECD countries from

1970 to 2013. They conclude that the short-run sensitivity of headline inflation to foreign energy inflation has increased significantly.

In contrast, Ihring et al, (2010) conclude that the responsiveness of domestic inflation to the global output gap was insignificant using estimates of the Phillips curve in 11 OECD countries from 1997 to 2005. In parallel, Pijneburg (2013) analyses a bigger sample of 24 OECD economies from 1980 to 2007 and reached a similar conclusion that there is a statistically significant impact on domestic inflation only for global unit labor cost growth and not for global output gaps. Mikolajun and Lodge (2016) find a minimal role for global economic slack in domestic inflation by employing Phillips curves supplemented by global output gaps, inflation, and commodity prices in 19 OECD countries. Kabukçuoğlu and Martínez- García (2018) examine inflation expectations in 14 OECD countries using the Phillips curve framework complemented by the global output gap and global inflation. They conclude that global output gaps play no statistically significant part. However, they acknowledge the substantial role in global inflation.

VAR models have succeeded in establishing the crucial role of global developments in driving domestic inflation. Ciccarelli and Mojon (2010) find that global factors explain 33 per cent of inflation variation in domestic inflation in 22 OECD countries from 1960 to 2008. Neely and Rapach (2011) conclude that more than 50 per cent of the inflation variation in domestic inflation in 64 countries from 1951 to 2009 results from international factors.

Mumtaz, Simenelli and Surico (2011) establish a growing share of inflation variation due to global factors in 36 mostly advanced economies since 1960. Charnavoki and Dolado (2014) employ a structural dynamic factor model for Canada and conclude that global demand, supply, and commodity price shocks significantly impacted Canadian inflation from 1975 to 2010. Furcerri Loungani and Zdzienicka (2018) analysed a sample of 34 advanced economies during the 2000s. They concluded that a 10 per cent increase in global food inflation increased domestic inflation by approximately 0.5 percentage points after a year.

1.2.3   International inflation spill overs

The United States' (US) interest rate is crucial for global economic growth. Most developing economies strongly depend on the transactions and movements of the US dollar and monetary policy actions. Even though the Federal Reserve's mandate is domestic, its influence is increasingly global (Wallace, 2017). The US financial system has become the global economy's primary producer of safe

assets. The Federal Reserve has become a monetary superpower that sets global monetary trends (Crowe & Beckworth, 2017).

Over the years, globalisation has prompted a sharp increase in cross-border capital flows from financial integration. The integration into the global financial system determines the exchange rate regime, the monetary policy framework, and the financial stability regulation in domestic economies. This balances the benefit of financial integration and independence in local policymaking. Like many other emerging countries, South Africa has relied on a combination of flexible exchange rates, inflation targeting, and free capital mobility (Kabundi, et al., 2020).

The literature suggests that cross-border spill overs of monetary tightening in the US may differ depending on the context in which the tightening occurs. The channels they transmit to foreign economies may vary depending on the shocks prompting US monetary policy changes. Hoek, et al., (2020) argue that it matters greatly whether the news about US monetary policy represents a "growth" shock or a "monetary" shock. Ahmed, et al., (2021) study the cross-border monetary spill overs of US policy into emerging markets using a New Keynesian DSGE model and find that changes in the stance of US policy have sizable effects on economic activity in emerging economies (EMEs).

Higher US interest rates from more robust US demand generate modestly positive spill overs to output in economies with more robust fundamentals. Still, they can be detrimental to vulnerable EMEs due to tightening financial conditions. By contrast, US monetary shocks driven by a more hawkish Federal Reserve policy stance cause a slowdown in all EMEs. The adverse effects are much more significant for those with relatively higher vulnerabilities.

Furthermore, Auer, et al., (2017) observe the effects of international monetary spill overs through input-output linkages and conclude that due to global trade networks, a change in policy stance, for instance, in the US, has spill over effects into input costs of goods and services, thereby influencing the producer price inflation (PPI). Due to international monetary policy changes, local economies will experience imported inflation through this transmission channel.

US monetary policy changes spill over to other global economies via real and financial transmission channels. Given the centrality of the US dollar in international transactions, US monetary policy changes are transmitted to other countries through a global credit and risk-taking channel. This transmission triggers a robust synchronisation of risky assets globally, thereby generating a global

financial cycle (Rey, 2015; Rey, 2016). The transmission of the global financial cycle to local economies forces monetary policy authorities in each country to institute preventative measures and preserve domestic financial stability at the expense of implementing imperative macroeconomic objectives.

These financial transmission channels affect emerging countries such as South Africa through fluctuations in the exchange rate, bond, and stock markets, among other financial instruments. South Africa has one of the world's most extensive external financing requirements in relation to its currency reserves required for servicing its foreign debt and paying for imports (Kuepper, 2019). These dynamics could translate into lower credit rating and higher borrowing costs when the US dollar appreciates. Higher borrowing costs may make it more challenging to obtain the funding needed to invest in growth (Kuepper, 2019). Therefore, South Africa's investment is hindered, thus impacting economic growth, and amplifying the consequential socio-economic impact.

1.3 Problem Statement and Research Questions

1.3.1 Problem statement

The global economy experienced a significant deceleration in inflation over the past four to five decades. Global inflation trends reflect that the median annual national consumer price inflation declined from a summit of approximately 17 percent in 1974 to just over 2 percent in 2019 (World Bank, 2022). In advanced economies, median inflation fell from 15 percent to 1.3 percent over the same period. Emerging market and developing economies (EMDEs) also witnessed a similar decline in inflation, from 17.5 percent in 1974 to 2.6 percent in 2017. Disinflation, over this period, was widespread across all regions, including those with a history of stubbornly high inflation, such as Latin America and Sub-Saharan Africa1.

However, since the beginning of 2020, global inflation has been unstable. In the first quarter of 2020, global inflation decelerated by approximately one percentage point, owing to the decline in demand and falling oil prices. In the middle of the second quarter of 2020, global inflation marginally

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[1] Ibid

accelerated, driven by a rally in oil and food prices and a rebound in economic activity resulting from easing the lockdowns instituted at the beginning of the COVID-19 pandemic[2].

Many studies have analysed the sources of inflation, its highly synchronised nature, and its policy implications. However, not many studies have comprehensively investigated the evolving dynamics of inflation, including its evolution, synchronisation across countries, the global and domestic sources of inflation, and the roles of expectations and exchange rate passthrough. This paper will contribute to filling this gap by examining inflation and monetary policy-related challenges in detail and assessing their implications for development outcomes for South Africa.

This is important for South Africa because high inflation is repetitively correlated with sluggish growth. The general increase in prices is also associated with weaker investor confidence and disincentives to save, thus resulting in the deterioration of the public sector balance sheet.

Most importantly, the devastating impact of high inflation falls disproportionately on the poor because poorer households are heavily dependent on wage income, with limited access to financial instruments, such as interest-bearing bank accounts, that generate buffers to high inflation (International Monetary Fund, 2001; Mishkin, 2008). This means that high inflation implications correlated with low growth and poor development outcomes warrant investigation, particularly in the context of high unemployment, increasing income inequalities, and incidences of poverty.

1.3.2 Research questions

There are four main research questions that this paper will seek to address:

1. How has global inflation synchronisation evolved over the past five decades?
2. What are the main drivers of global and domestic inflation?
3. What are the international inflation spillovers in South Africa?
4. What are the policy responses to a global monetary policy tightening cycle in the context of sluggish growth?

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[2] Ibid

1.4   Research aims and objectives

1.4.1   Research aim

This research aims to examine international inflation trends, sources, and policy decisions and their impact on South Africa's economy.

1.4.2   Research objectives

The objectives of this paper are threefold:

1. To examine the evolution of global inflation.
2. To investigate the main sources of global and domestic inflation.
3. To examine international inflation spillovers on South Africa.

1.5   Research methodology and data

The research methodology will entail qualitative techniques that assess the impact of global inflation on the global economy and the risks from public sector institutions on fiscal sustainability.

This approach encompasses a qualitative analysis of the long-term structural factors affecting inflation, the effects of inflation on inequality and poverty, the evolution of global inflation, global inflation synchronisation, sources of inflation: global and domestic, and inflation and exchange rate pass-through.

1.6   Long-term structural factors affecting inflation

Over the last half-century, several structural factors have been associated with global disinflation. Broadly, global value chains, inflation-targeting regimes, independent and transparent central banks, and open capital accounts have been the main explanatory variables for the deceleration of inflation in most countries.

The general trend for inflation is a hike or slowdown triggered by unforeseen short-term shocks. However, adjusting wages and prices in the long-term pushes inflation to its long-term trend. Monetary and fiscal policies determine these trends in tandem with an economy's institutional frameworks and structural features. The response by inflation and inflation expectations to short-term

shocks depends on long-term structural factors. Thus, trends in long-term drivers have also played a significant role in global inflation trends (Ha, Kose, & Ohnsorge, 2019).

1.6.1 Trade integration

The literature suggests that increased openness to international trade is associated with more significant shares of imports and lower prices resulting from competition with foreign producers (Yellen 2006; Romer 1993; Terra 1998; Lane 1997; Al Naseer, Sachsida, & Mário 2009; and Vuletin & Zhu, 2011). Increased foreign competition diminishes the ability of a company to raise prices and wages in response to domestic demand. However, what also holds is that more foreign participation in domestic markets could result in more competition and, in turn, a faster response to higher demand. Therefore, more trade openness correlates with lower inflation volatility (Granato, Lo, & Wong, 2006; Bowdler & Malik, 2005). Trade in intermediate goods offers more information on the impact of international competition on inflation than the trade in final goods (Lombardo & Ravenna 2014; Burstein, Kurz, & Tesar 2008). The literature also establishes that global value chain integration correlates with lower inflation volatility (Hakkio 2013).

a) *Trends in trade integration*

Over the past fifty years, global trade openness significantly increased from almost 50 per cent of global GDP in 1970 to 74 per cent of global GDP in 2016. In the median emerging market and developing economies (EMDE), trade openness accelerated from almost 50 per cent of GDP in 1970 to 72 per cent in 2016. Likewise, in the median advanced economy, trade openness grew substantially to 80 per cent of GDP in 2016 from 47 per cent of GDP in 1970. The growth of trade in EMDEs has escalated international trade (World Bank, 2016). International trade exploded rapidly between the 1990s and early 2000s.

Trade integration has facilitated the establishment and extension of global value chains, and consequently, the share of foreign value added expressed in exports in advanced economies grew by 20 per cent to 30 per cent in 2016 from 10 per cent in the 1970s. The share of foreign value added in domestic exports in EMDEs also increased to 10 per cent in 2016, from 1.5 per cent in 1990.

1.6.2 Financial openness

According to the literature, financial openness could increase or decrease inflation volatility. Capital flows can restrain domestic demand fluctuations that could either generate inflationary or disinflationary forces in a financially open economy. This would minimise inflation volatility.

In contrast, procyclical capital inflows could cause more significant domestic demand fluctuations resulting in more volatility in output and inflation. The empirical literature shows that more capital account openness correlates with lower inflation. Several articles have established in large cross-sections of countries that more capital account openness is associated with lower average inflation (Badinger, 2009; Gruben & McLeod, 2002; Aizenman, Chinn, & Ito, 2008).

Trends in financial openness

Advanced economies completely liberalised their capital accounts between 1970 and 2000, whereas the EMDEs have progressed gradually. In the median advanced economy, capital account openness increased to 0.9 in 2017 from 0.4 in 1970[1]. The median EMDE increased from 0.2 to 0.4 in the mid-1990s and decelerated before growing again in the mid-2000s and later decreasing again. This capital openness progression was intermittent because of the effects of the Asian and global financial crises. Since 1970, financial integration has also increased in EMDEs and advanced economies. The share of international assets and liabilities reached 121 percent of GDP in 2017.

1.6.3   Monetary policy frameworks and exchange rate regimes

Fixed exchange rate regimes and inflation-targeting monetary policy regimes are critical in providing an anchor for inflation expectations to stabilize and reduce inflation. However, these regimes must be implemented with complementary policies (Bernanke & Mishkin, 1997; Fischer, 2001; Mussa et al. 2000). A formal pegged exchange rate regime is vital for countries with weak institutions because it reflects loyalty to monetary and fiscal policy discipline. The implementation of a pegged exchange rate has its complications. In instances where the domestic inflation is higher than the inflation in the country whose currency is pegged, the domestic economy will be less competitive pending the inflation rates convergence. The implication of this would be an increase in inflation volatility.

However, in countries with strong institutions to implement credible inflation-targeting regimes, inflation expectations can be anchored within the inflation target range. This means that a pegged exchange rate or inflation-targeting monetary policy regime ensures temporary shocks to inflation stay temporary. The literature supports the suggestion that pegged exchange rate regimes are correlated with lower inflation (Bleaney & Fielding 2002; Ghosh et al. 1997).

In some EMDEs, the lower inflation attained by pegging the exchange rate resulted in a higher fluctuation of GDP growth and inflation (Bleaney & Fielding 2002). However, in broader samples earlier, pegged exchange rate regimes correlated with more stable inflation (Ghosh et al. 1997; Moreno 2001).

In advanced economies, inflation targeting regimes have correlated with minimal impacts on inflation levels and volatility, although with less inflation tenacity. According to the literature, seven advanced economies implementing inflation targeting in the 1990s did not experience substantially lower inflation rates or volatility (Ball and Sheridan 2005; Bernanke et al. 2001; Lin and Ye 2007). However, a broader and more recent sample of advanced economies yielded a different result, as the adoption of inflation targeting correlated with lower inflation within two years, albeit with more inflation fluctuations (Fang, Miller, & Lee, 2012; Levin, Natalucci, & Piger 2004). Deceleration inflation tenacity in advanced economies in the early 2000s has been attributed to inflation targeting or its introduction (Benati, 2008; Cantarella & Miller, 2017). The extensive embracing of inflation-targeting regimes has promoted global economic stability (Rose, 2007; Taylor, 2014).

The experience of EMDEs with inflation-targeting regimes differs from that of advanced economies. Inflation targeting regimes in EMDEs have correlated with substantially less and more stable inflation (Fang, Miller, & Lee, 2012). Introducing such regimes has substantially lowered inflation in some EMDEs (Gonçalves & Salles, 2008). The reason for this is the improved anchoring of inflation expectations and lower inflation tenacity (Batini & Laxton, 2007; Canarella & Miller 2017; Gerlach & Tillmann 2012). The efficacy of inflation targeting in lowering inflation in EMDEs differs extensively by country features, including fiscal positions and the duration of embracing of inflation targeting (Mishkin 2000, 2008a; Lin & Ye 2009).

Trends in exchange rate and inflation targeting regimes

Inflation targeting monetary policy regimes have become prevalent, whereas pegged exchange rate regimes, which were popular until the 1970s, have receded. In 1990, inflation targeting was only implemented in New Zealand. Since then, more advanced economies and EMDEs have embraced inflation-targeting regimes to substitute the nominal anchor presented by pegged exchange rates. The number of inflation-targeting central banks increased to 35 by 2017, and the proportion of EMDEs depending on pegged exchange rate regimes declined from 84 per cent of countries in 1970 to 54 per cent in 2017. Most inflation-targeting central banks, particularly in EMDEs, reduced inflation to within the target ranges, while simultaneously reducing the midpoints.

The conversion from fixed to floating exchange rate regimes was more straightforward in some countries, such as Chile, but complex in others, such as Brazil, where exchange rate crises followed.

1.6.4   Central bank independence and transparency

Central bank independence and transparency can strengthen a stable monetary policy and exchange rate regime. A more independent central bank is more credible at attaining monetary policy targets. Similarly, more transparent central bank operations, strategy, and communications preserve the sincerity of the central bank, improve public appreciation of and assurance in strict monetary policy, foster knowledgeable debate amongst market participants and the broader public, and efficiently direct and anchor inflation expectations.

The empirical literature records that central bank transparency is critical in controlling inflation in developed countries (van der Cruijsen & Demertzis, 2007; Demertzis & Hallett, 2007). These economies, through central bank transparency, have lowered inflation expectations and, consequently, inflation (Weber, 2016; Siklos, 2003; Demertzis & Hallett, 2007). In 87 advanced and emerging market economies, more information on central bank forecasts resulted in lower inflation, excluding countries with exchange rate targeting regimes (Chortareas, Stasavage, & Sterne 2001). However, in some advanced and emerging market economies, a prolonged record of low inflation is more critical for macroeconomic stability than an institutional arrangement (Cecchetti & Krause, 2002).

Trends in central bank independence and transparency

Central bank independence and transparency have improved significantly over the past twenty years. In the median EMDE, the central bank independence and transparency index rose to 5.4 in 2014. The senior staff turnover rate of heads of central banks declined by 33 per cent amongst EMDEs between 1990 and 2016, with the most extensive enhancements in East Asia and Pacific and Europe and Central Asia

1.6.5   Fiscal frameworks

Central banks could be obligated to finance fiscal deficits when private, domestic, and foreign borrowing options are insubstantial or expensive. If such deficit financing results in the crowding out of private credit and money supply, inflation will increase, and the central bank's room to attain monetary policy objectives will be constrained (Sargent & Wallace, 1981).

The empirical confirmation for the association between fiscal deficits and inflation has been inconclusive. Still, it appears more significant for countries with pre-existing high inflation or during high-inflation episodes. In many countries, wider fiscal deficits correlate with higher inflation, especially in countries where inflation was initially high (Fischer, Sahay, & Végh, 2002) or where the money supply was sizeable relative to GDP (Catao & Terrones, 2001). Similarly, increasing government debt has been correlated with higher inflation in countries initially experiencing high debt (Kwon, McFarlane, & Robinson, 2009; Bleaney, 1999).

a) *Trends in fiscal frameworks*

Trends in government debt reflect a divergence between advanced economies and EMDEs. In advanced economies, government debt has progressively accelerated to 68 per cent of GDP, on average, in 2017. However, in EMDEs, government debt declined to 49 percent of GDP in 2017. In EMDEs, lower government debt is attributed to fewer financing needs. The countries with fiscal rules grew to 88 in 2017, from six in 1985.

1.6.6 Labour and product markets

In the 1970s, wage indexation in both advanced and emerging market countries was correlated with a more significant impact of shocks on inflation (Fischer, 1983). Prevalent wage indexing enforced through highly collectivised wage bargaining could entrench short-term inflation shocks into longer-term inflation trends and expectations (Taylor, 1979). Labor market deregulation has also been correlated with lower inflation persistence (Biroli, Mourre, & Turrini, 2010). In the Euro Area, less employment protection, low union density, and more limited collective bargaining have been associated with less inflation persistence (Jaumotte & Morsy, 2012).

Suppose wages and prices are more flexible, resulting from the deregulating administrative prices. In that case, the real effects of monetary policy become more transitory, thus lessening the enticement for central banks to stimulate growth and employment (Rogoff, 2003). This ultimately results in lower inflation expectations. The empirical literature collaborates lower inflation persistence among advanced economies with more significant product market flexibility (Biroli, Mourre, & Turrini, 2010).

Trends in labour and product markets

Labour market flexibility has relatively increased in both advanced economies and EMDEs. In EMDEs, union membership fell significantly to between 5 and 15 per cent of the labour force in 2013,

from between 15 and 35 per cent in 2000. However, in EMDEs, wage bargaining coverage remains high, and union membership has increased.

1.6.7 Economic structure

Commodity-reliant economies are vulnerable to more macroeconomic volatility, including inflation volatility, due to volatile commodity prices (Bayoumi & Ostry, 1997). Similarly, countries that rely heavily on food imports could also be susceptible to more global food price volatility. However, the results of resource dependence for macroeconomic stability are contingent on policy frameworks because monetary policy independence and financial openness, for instance, could alleviate the volatility triggered by global commodity price fluctuations in resource-based economies (Aizenman, Chinn, & Ito, 2010).

Most EMDEs rely heavily on commodity exports. In these countries, the commodity sector accounts for 30 to 80 per cent of exports, 20 to70 per cent of government revenues, and 5 to 20 per cent of GDP. Some of these countries were incentivised by the collapse in commodity prices from their peaks in early 2011 to diversify. Consequently, by 2016, commodities' share of exports accounted for by these countries fell to between 25 and 70 per cent.

1.6.8 Other factors

In some countries, low inflation results from population aging and the increasing digitalisation of services. In Japan, for instance, population aging could have contributed to chronically low inflation because the weight of increasing pension funding fell disproportionately on the consumption of the working-age population; asset sales of older households decreased asset prices; and movements to lower-risk household assets by older families decreased the funding for fixed investment (Andersen, Botman, & Hunt, 2014; Imam, 2013; Katagiri, 2018).

In some advanced economies, low inflation is correlated with the digitalisation of services such as e-commerce or sharing services (Goolsbee & Klenow, 2018). These services increase competitive pressures through cheaper distribution channels, price transparency, and efficiency (Dong, Fudurich, & Suchanek, 2017).

The empirical literature provides the minimal substantiation of low inflation correlation with digitalisation (Charbonneau et al., 2017). Inflation in online retail prices, for instance, narrowly rivals official U.S. price indexes (Cavallo & Rigobon, 2016; Cavallo, 2017). In both developing and

developed countries, the progression of online prices has matched offline prices (Cavallo, 2017; Gorodnichenko, Sheremirov, & Talavera, 2016; Gorodnichenko & Talavera 2017).

1.7 Effects of inflation on inequality and poverty

Inflation impacts different groups of households in varied ways. The literature records that the poor are much more likely to be affected by inflation than the rich. Poorer households experience more significant losses in the actual value of their income and wealth because of inflation than wealthier households resulting from the composition of income, assets, and consumption baskets and thus, inflation increases inequality (Easterly & Fischer, 2001).

In terms of income composition, in advanced economies, the poor are more inclined to depend inordinately on wage income, transfers, and pensions but not so much on income from capital than higher-income households (Erosa & Ventura, 2002). Figure 1.1 below shows the sources of income in the US according to income percentile. Given that wages usually fall behind price inflation, this implies that inflation could decrease the actual value of nominal wages, thereby lessening the incomes of the poorest households compared to those of the richest. It also represents a transfer of income away from labour income toward profits, worsening the distribution of income between rich and poor and aggravating inequality (Laidler & Parkin, 1975; Fischer & Modigliani, 1978). Poorer households are unlikely to profit from indexed wages and health insurance (Bulir, 2001).

Figure 1.1: Sources of U.S. household income, by income percentile
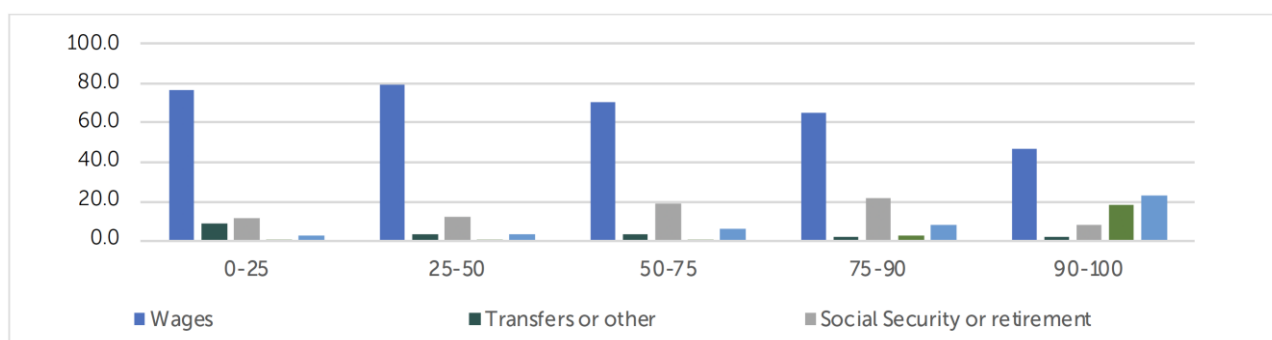
Source: World Bank

Social protection transfers in most developed countries are indexed, implying erosion of real incomes, for some income groups in the short run, given that the adjustments typically lag inflation (Minarik, 1979; Burdick & Fisher, 2007). Whereas these channels hold for EMDEs, households in EMDEs are

more reliant on nonmonetary income, such as subsistence farming or barter. In Brazil, for instance, nonmonetary income accounts for more than 25 per cent of total income among the poorest fifth of households, as shown in Figure 1.2 below. This means that this source of income could be less susceptible to inflation than wage income.

Figure 1.2: Sources of Brazilian household income, by income percentile
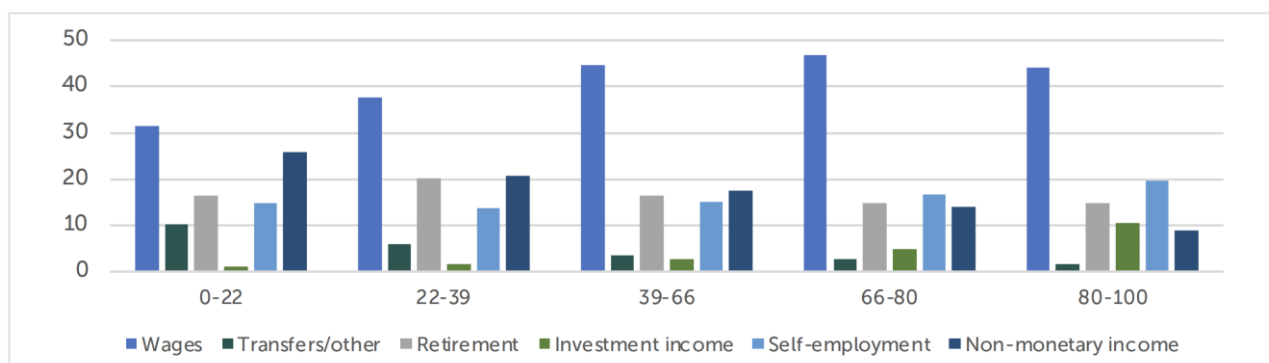
Source: World Bank

Regarding the composition of assets, the poor are more inclined to hold a large fraction of their assets in cash because of their limited access to financial assets that can shield them against inflation. This emanates from the high entry cost of these financial assets (Kahn, 1997; Mulligan & Sala-i-Martin, 2000; Erosa & Ventura 2002). In the United States, for instance, many households have a transaction or current account with a financial institution. However, the richest 20 per cent of households are four times as likely as the poorest to have hold certificates of deposit and six times as likely to hold savings bonds. Similarly, the wealthiest households are 12 times as likely as the poorest 20 per cent to hold equities and 23 times as likely to have pooled investment funds (Demirgü.-Kunt et al., 2018). Incidences of high inflation are, therefore, likely to push some households into poverty through the erosion of the value of their savings, thus exacerbating inequality (Cysne, Maldonado, & Monteiro, 2005; Areosa & Areosa, 2016).

A sudden upsurge in inflation can erode the actual value of assets. Given that the wealthy are essentially net creditors, incidences of unexpected inflation lessen their wealth while simultaneously raising the wealth of net debtors through decreasing the real value of their debt (Palmer & Barth, 1977). This does not profit the poorest households, because they hold minimum assets and liabilities (Romer & Romer, 1998). In Brazil, for instance, 0.9 per cent of the poorest percentile of households have a mortgage, and 6.3 per cent have a credit card, compared to 6.1 per cent and 44.2 per cent, respectively, for the wealthiest percentile.

Concerning the composition of consumption baskets, the actual design of consumption baskets differs considerably by income group because households select various goods and services and use contrastingly priced varieties of equivalent goods and services. In EMDEs, for instance, the bottom quintile of households devotes approximately 50 per cent of their income to food compared to only 20 per cent for the top quintile.

The literature also shows that variances in the prices paid for the same goods is responsible for 67 per cent of the heterogeneity in inflation rates among US households (Kaplan & Schulhofer-Wohl, 2017). High-income households can easily substitute higher-quality goods with lower-quality goods when tough economic times warrant it. They can also benefit from discounts on bulk purchases because they have fewer liquidity constraints (Argente & Lee, 2015; Orhun & Palazzolo 2018).

The empirical evidence collaborates the narrative that inflation rates differ among income groups. The literature records significant, long-term variances in real inflation rates between the poorest and wealthiest households, signaling that the inflation rates faced by the poor surpass those of the rich by 0.4 to 0.8 percentage points a year (Levell & Oldfield, 2011; Kaplan & Schulhofer-Wohl, 2017; Weichenrieder & Gurer, 2018). There is also empirical evidence of substantial cyclical, but not enduring, variances in inflation rates amongst income groups (Hobijn & Lagakos, 2005; Oosthuizen 2007). McGranahan and Paulson (2006), for instance, present evidence that more vulnerable groups are susceptible to more volatility in inflation. Moreover, the type of deflator employed in the computation of the poverty line, or the indexation of welfare benefits could impact the incomes of the poor (Gibson, Le, & Kim, 2017).

The dynamics of food price inflation are not straightforward. Most poor households in EMDEs are producers and consumers of food simultaneously. This means that while increases in food prices impact the poor households in EMDEs more than higher-income households, a rise in food prices could boost the incomes of some poor households. However, overall, most poor households in the EMDEs are net food buyers; hence, any sharp increases in food prices are likely to exacerbate poverty levels. For instance, the rise in food prices between 2006 and 2008 is estimated to have increased the poor by 105 million (Ivanic & Martin, 2008).

Inflation indirectly impacts poverty through the economic growth channel as demonstrated in Figure 1.3 below. Consequently, low, and stable inflation, combined with well-anchored inflation

expectations, correlates with greater short-term stability of long-term growth and employment (Bruno & Easterly, 1998; Eggoh & Khan, 2014).

Figure 1.3: Growth and change in poverty rate
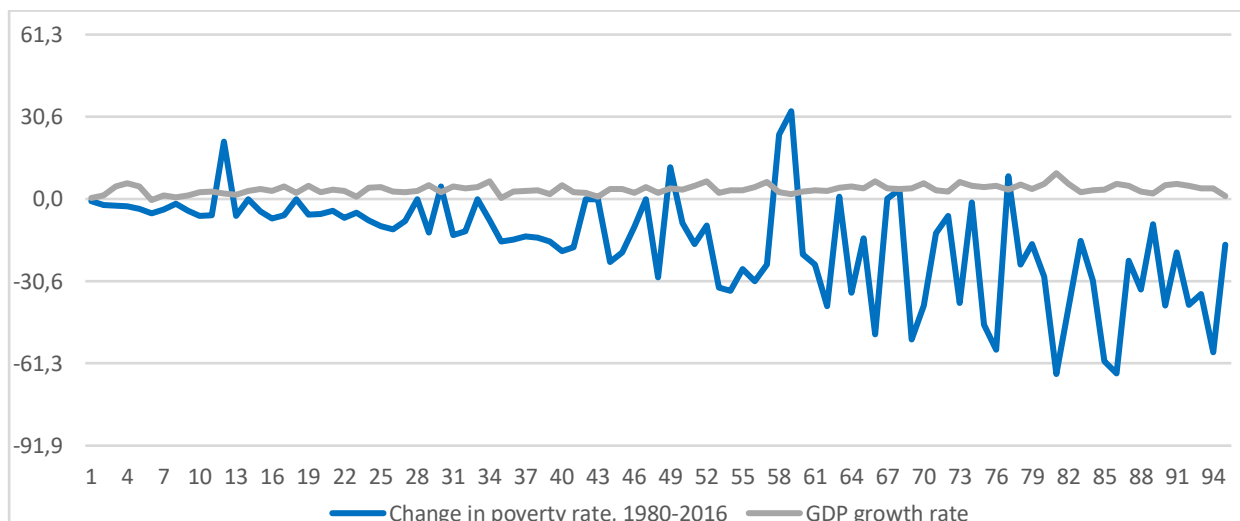
Source: World Bank

NB: Inflation and GDP data are averaged over the period 1980-2016

Stronger economic growth is largely helpful for the poor and has been correlated with sharper decelerations in poverty levels (Dollar & Kraay, 2004; Dollar, Kleineberg, & Kraay, 2016). It is worth noting, though, that the association has been highly nonlinear, as poverty has reacted to a lesser extent to growth when the poverty rate has previously been higher (Ravallion, 2012; World Bank, 2010).

1.8   Evolution of global inflation

Global inflation has fallen substantially from 16.6 per cent in 1974 to 2.6 per cent in 2017. This deceleration in global inflation commenced in the mid-1980s in advanced economies and was shortly followed by similar declines in EMDEs in the mid-1990s. In 2000, global inflation was stable at unprecedently low levels. The low inflation rates coexisted with lesser volatility, particularly in advanced economies (Ha, Kose, &Ohnsorge, 2019).

In the 1970s, with the quadrupling of oil prices in 1973 and the doubling of oil prices in 1979/80, the global median inflation tripled from 4.4 per cent in 1970 to 13.7 per cent in 1980. This rapid acceleration in inflation resulted from, among other things, easing the constraints fixed exchange rates, which intended to reinforce economic activity and enhance monetary expansion in advanced economies.

Eliminating the nominal anchor of fixed exchange rates triggered an inflationary wage-price spiral. This also precipitated a spillover of inflation from advanced economies to EMDEs through accommodative monetary policy (IMF, 2011).

The 1980s saw the introduction of monetary policy tightening in advanced economies to rein in inflation. Consequently, inflation decreased significantly from its peak of 15 per cent in 1974 to a median of 3 per cent in 1986. For instance, short-term interest rates in the United States almost quadrupled between the end of 1976 and mid-1981. These interest rate increases resulted in the contraction of economic growth by more than 2 per cent between early 1981 and mid-1982. The EMDEs did not experience a similar deceleration of inflation over this period because of several constraints including insistent large fiscal and current account deficits, fixed exchange rate regimes, worsening terms of trade for commodity exporters, and political disturbances (Ha, Kose, & Ohnsorge, 2019) (Dornbusch, 1986; Edwards, 1989). Consequently, some EMDEs such as Argentina, Brazil, Chile, Israel, Mexico, Peru, and Uruguay experienced persistently high inflation.

In the 1990s, most EMDEs initiated economic efficiency measures encompassing macroeconomic stabilisation programmes and structural reforms. These initiatives entailed the elimination of foreign exchange market controls, trade liberalisation, strict fiscal policy, and robust fiscal and monetary policy frameworks. This resulted in inflation soaring in most EMDEs as price and exchange rate liberalisation increased aggregate demand. Succeeding stabilisation measures resulted in output contraction. In Uzbekistan and Georgia, economic growth contracted cumulatively by 16 per cent and 75 per cent, respectively, between 1989 and 1994 (Fischer, Sahay, & Vegh, 1996).

However, in a relatively short period spanning two years, growth in most EMDE economies resumed. In Latin America and the Caribbean, for instance, rehabilitated stabilisation programmes, strong fiscal discipline, and greater central bank independence translated into the deceleration of gained inflation.

In the early 2000s, the disinflation of the 1980s and 1990s was halted by the build-up to the global financial crisis, as energy and food prices rose sharply. However, the advent of the global financial crisis introduced mild disinflation and, in many advanced economies, episodes of negative inflation (Ha, Kose, & Ohnsorge, 2019).

Post-crisis, low inflation was unprecedently universal among advanced economies. In 2015, for instance, inflation was negative in more than 50 per cent of the advanced economies, and in 2016, inflation was in the low single digits in 75 per cent of advanced economies. Monetary policies in advanced economies instituted extraordinary accommodative monetary policy measures after the global financial crisis to mitigate the risk of deflation. In EMDEs, inflation reverted to target ranges in 60 per cent of inflation-targeting economies. In 80 per cent of EMDEs, inflation in the second quarter of 2018 reached a narrow range of 0.8 and 6.7 per cent, compared with a broad range of 3.9 to 23.9 per cent in the second quarter of 2008.

Figure 1.4 below shows that global inflation continued to decelerate and reached 2.3 per cent in 2019. This trend decline was widespread, encompassing both advanced economies and EMDEs. These decelerations in inflation resulted primarily from a more robust emphasis by monetary authorities on price stability as the principal goal of monetary policy in conjunction with the swift globalisation and liberalisation of product, labour, and financial markets (Ha, Ivanova, et al., 2019).

Figure 1.4: Headline CPI inflation, 1970 - 2020
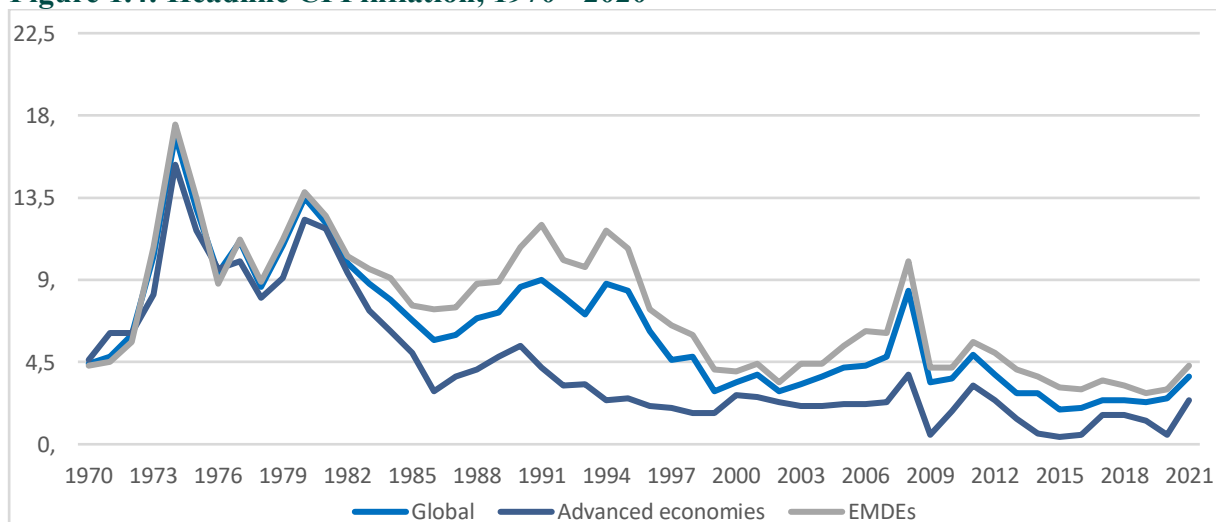
Source: World Bank

The inflation trends also reveal that in 2019, before the COVID-19 pandemic, inflation was within the target ranges in almost all inflation targeting advanced economies. Similarly, in approximately 50 per cent of inflation-targeting EMDEs, inflation was within target ranges every year from 2012 to 2019. However, since early 2020, global inflation has been vastly unstable, as shown in Figure 1.5 below.

Figure 1.5: Monthly CPI inflation, January 2019-March 2022
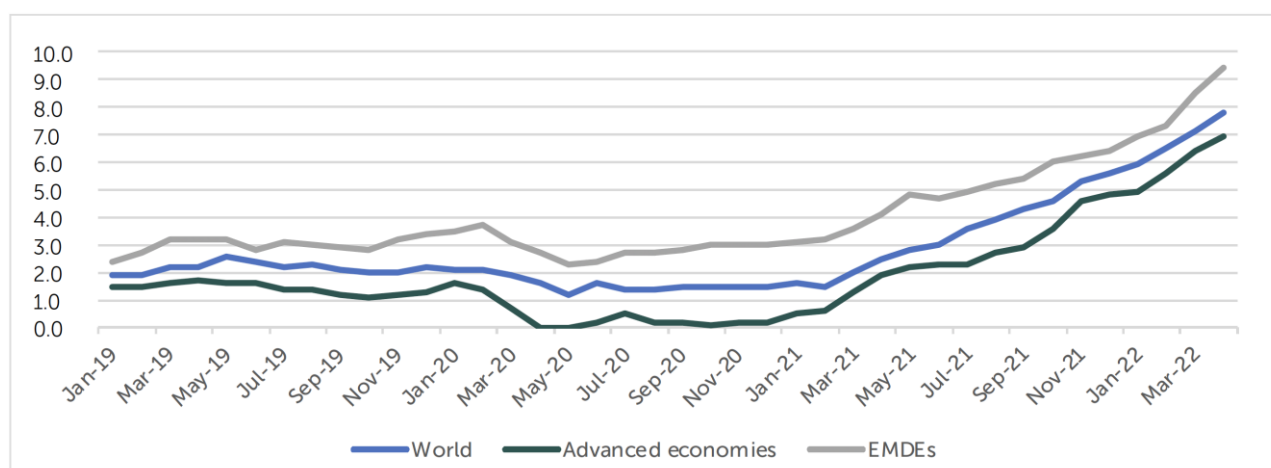
Source: World Bank

In the first quarter of 2020, global inflation declined by about one percentage point because of a sharp decline in demand and the collapsing of oil prices. However, in May 2020, global inflation accelerated because of a recovery in oil and food prices and an economic activity revival resulting from lifting the lockdown restrictions necessitated by the need to control the first wave of the pandemic. The spike in commodity prices as a consequence of the war in Ukraine and supply interruptions owing to a new wave of the pandemic and reinstated movement restrictions in China have further increased the price of food and energy, thus increasing inflation, as shown in Figure 1.6 below.

Figure 1.6: Sectoral contributions to headline CPI
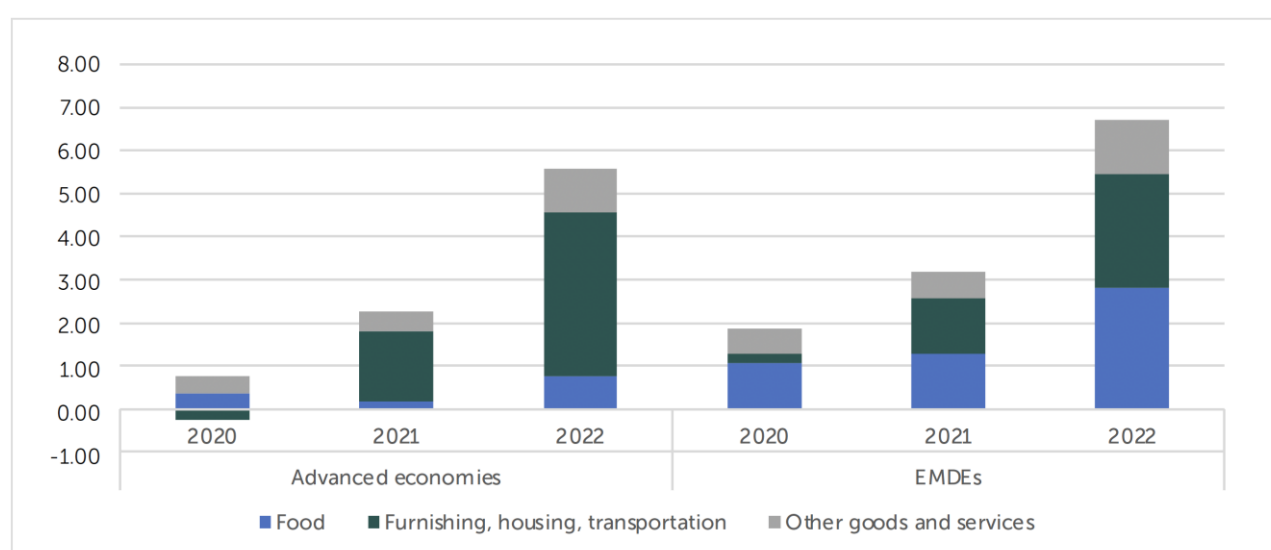
Source: World Bank

The most recent data shows that global inflation is at 7.8 per cent, its highest level since 2008. In advanced economies, inflation is currently at its highest level since 1982. In EMDEs, inflation is at 9.4 per cent, its highest level since 2008, up from a multidecade low in May 2020. As of April 2022, inflation was above target in all advanced economies, and almost 90 per cent of inflation targeting EMDEs. In EMDEs, the acceleration in inflation in 2023has been most marked in Europe and Central Asia due to recovering demand in advanced-economy Europe, interruptions of the war in Ukraine, and the commodity price hike. In contrast, in East Asia and the Pacific, where frequent lockdowns have been implemented, inflation has increased but remained within the target ranges, as shown in Figure 1.7 below.

Figure 1.7: Inflation in EMDE regions, April 2022
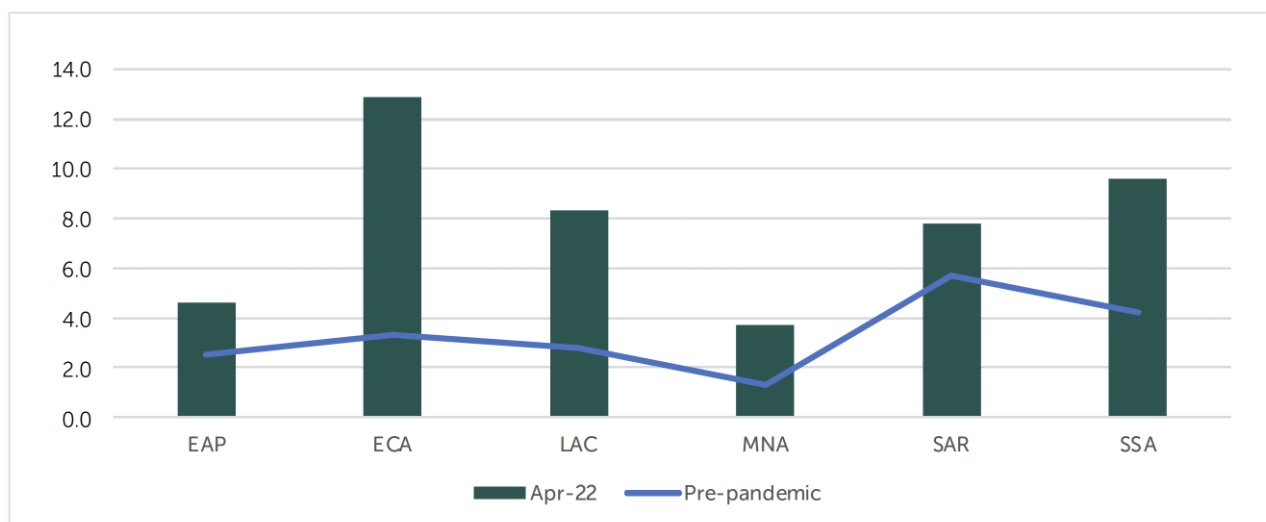
Source: World Bank

1.9   Global inflation synchronisation

A wide range of factors are responsible for global inflation synchronisation (Ha, Kose, & Ohnsorge, 2019). Inflation synchronisation across countries could be driven by common shocks that spread evenly (or simultaneously) across countries and/or by country-specific shocks that spill over from one country or a subset of countries to others. Commodity price shocks, internationally correlated productivity shocks, other cost-push shocks, and real demand shocks that trigger global recessions or expansions could all affect national inflation rates widely and often in the same direction, representing inflation synchronisation.

Correlated or coordinated monetary policies are a primary source of inflation co-movement, especially among advanced economies (Clarida, Gali, & Gertler, 2002). Even if there is no deliberate

coordination of policies, similar monetary policy frameworks can trigger similar policy responses to global shocks. This policy synchronicity would then translate into inflation synchronicity. For example, many countries have introduced inflation-targeting monetary policy frameworks. In many of these countries, inflation targets have been lowered over the past three decades, and in advanced economies, the targets are now virtually universally at or around two percent. In EMDEs, inflation targeting has been associated with lower inflation, and the switch to inflation targeting has been associated with more significant declines in inflation (Fang, Miller, & Lee, 2012).

Structural changes can also explain inflation synchronisation. Over the past four to five decades, global integration in trade and financial markets has proliferated. These structural changes have often strengthened cross-country spillovers of real and nominal shocks, which have, in turn, led to more synchronised movements in inflation.

Stronger trade linkages increase an economy's exposure to external shocks. As a result, domestic inflation has become more sensitive to global shocks that raise or lower import prices (Bianchi & Civelli, 2015). Prices are more likely to be internationally determined in sectors with strong trade linkages to global markets where they are subject to common demand and supply shocks (Karagedikli, Mumtaz, & Tanaka, 2010). Rapidly expanding global supply chains allow global supply and demand shocks, as well as commodity price swings, to ripple through global input-output linkages and global labour markets and cause co-movement in national inflation rates (Rogoff, 2003).

The period between 1970 and 1985, which witnessed two global oil price spikes and two global recessions, experienced more global factors' contribution to inflation fluctuations than the period between 1986 and 2000. This is explained partially by the 2008/09 global financial crisis and the 2014 to-16 oil price plunge. Global inflation synchronisation intensified considerably between 2001 and 2017. During this time, the global factor explained 22 per cent of national inflation, accounting for 18 per cent of inflation variation in the median EMDE and 27 per cent in the median advanced economy. In contrast, between 1986 and 2000, it accounted for 7 and 22 per cent, respectively (Ha, Kose, & Ohnsorge, 2019).

Figure 1.8: Global and group inflation factor, 1972-2016
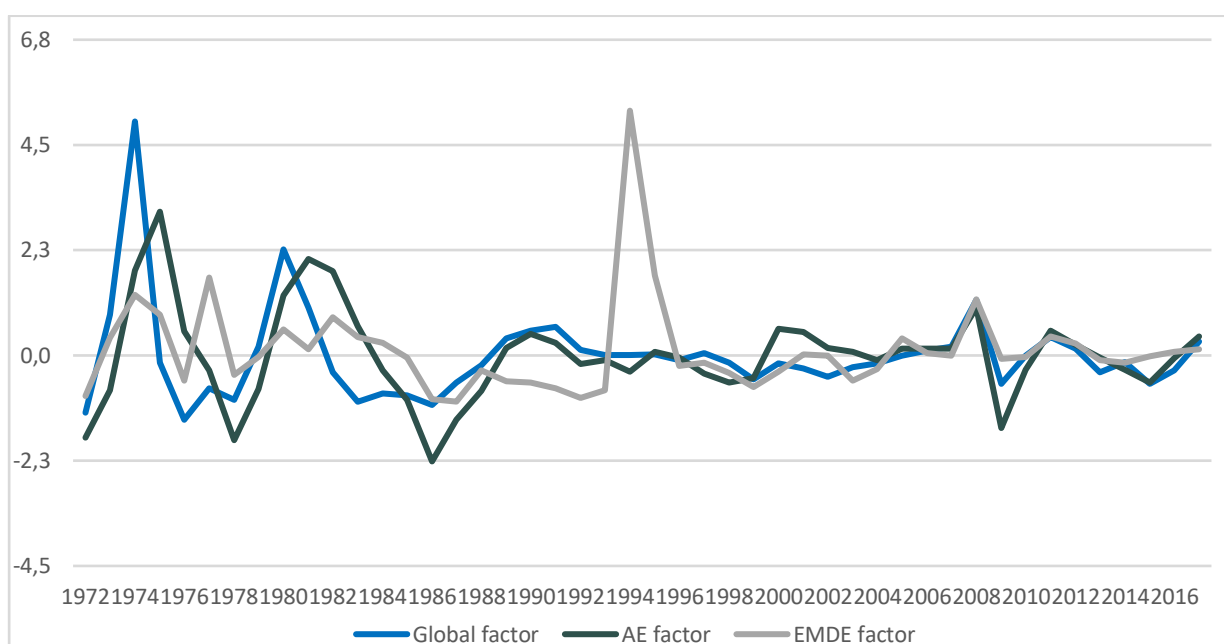
Source: World Bank

Moreover, group-specific inflation synchronisation increased from 2000. Since 2001, the group-specific inflation factors explained 8 per cent of inflation variation in the median EMDE, translating into 33 per cent more than during 1986 and 2000 and 21 percent in the median advanced economy, reflecting 17 per cent more than during 1986-2000. Global inflation synchronisation has expanded across different measures of inflation. In 1970 to 1985, inflation synchronisation was prominent only for inflation measures with a large portion of tradable goods and services.

However, since 2001, it has extended to one-third even for core CPI inflation and growth of the GDP deflator. Inflation synchronisation has become more pronounced in countries with more trade openness, higher commodity-import intensity, and less trade concentration. Among EMDEs, the portion of the global factor was exceptionally high in East Asia and Pacific, Latin America, and the Caribbean, and South Asia.

1.10   Drivers of global and domestic inflation

Global inflation has been remarkably low since the global financial crisis of 2008/09 and the period spanning the oil price plunge between 2014 and 2016, as shown in Figure 1.9 below. The decline in global inflation during this period was partly due to the global recession, further elongated by the oil price nosedive. Global demand shocks have explained most fluctuations in global inflation since 2008, and oil price swings have accounted for 60 per cent since 2010.

Oil price shocks and global demand shocks contributed 80 per cent translating into almost 40 per cent each, to the variation in global inflation between 1970 and 2016. Since then, the contribution of global demand shocks and oil price shocks has intensified significantly over time, while that of global supply shocks has retreated.

The comparative significance of global demand shocks increased since the Great Moderation between 1986 and 2000 to explain 60 per cent of global inflation fluctuations between 2001 and 2017. Nevertheless, the 2014 to16 oil price collapse was a significant cause of post-crisis global disinflation.

Figure 1.9: Historical contribution of global demand shocks to global inflation
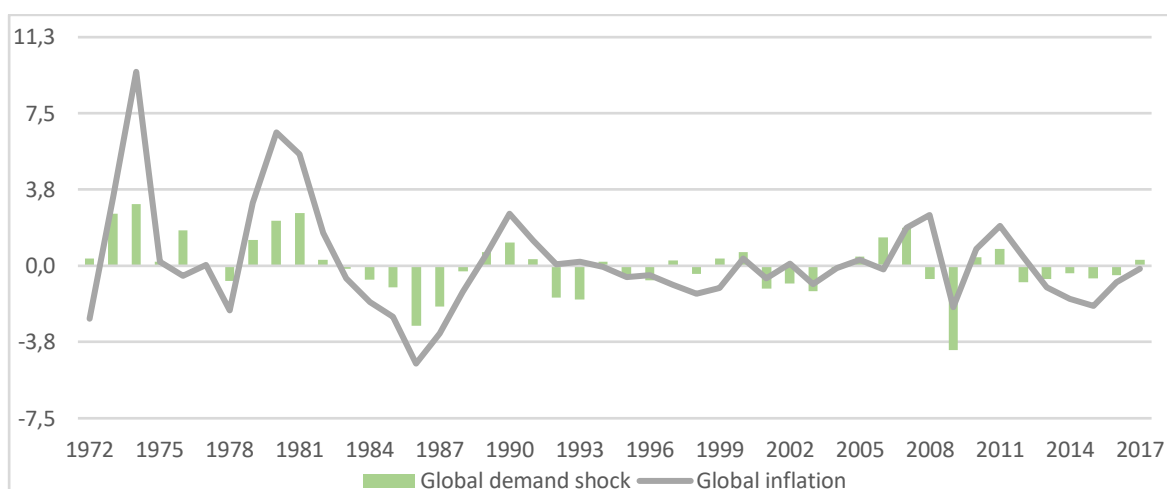
Source: World Bank

In the advent of oil price spikes, global trend inflation increased, on average across the spikes, by 2.4 percentage points within a year. The effect of the supply-driven oil price spikes between 1970 and 1980 was much more at 3.5 percentage points, on average, within a year, compared to the largely demand-driven oil price increases of the 1990s and 2000s, as shown in Figure 1.10 below. The stable growth in oil prices between 2004 and 2008 only contributed modestly to the rise in trend inflation, which primarily translated into the rapid acceleration of inflation in EMDEs.

Figure 1.10: Historical contribution of oil price shocks to global inflation
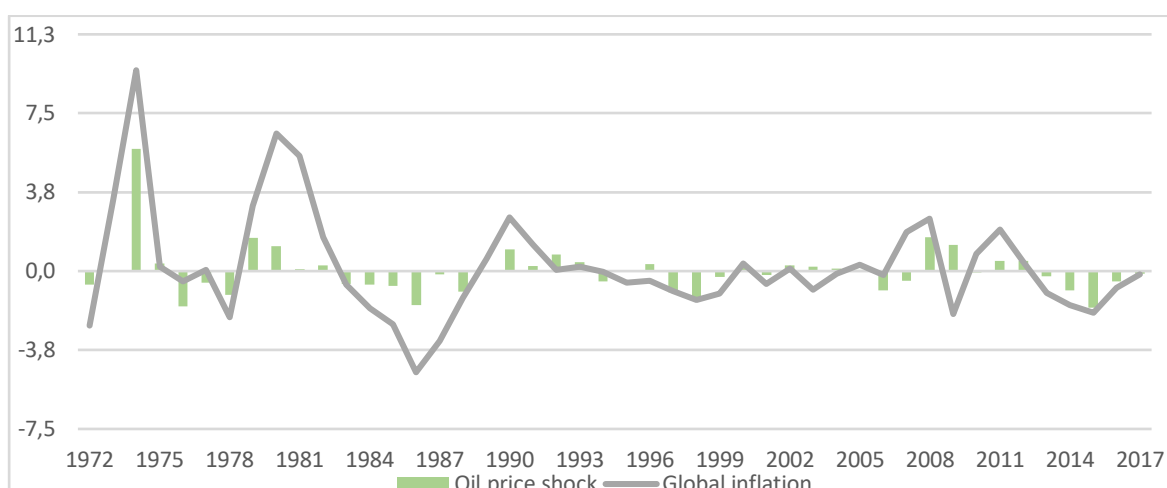
Source: World Bank

The global shocks explained about 25 per cent of domestic inflation fluctuations since the 1970s, but with extensive heterogeneity across countries. The contribution of global shocks was substantially higher at 33 per cent percent in the median advanced economy. Global demand shocks and oil price shocks were almost equally important in the median EMDE at 14 per cent, where only global demand shocks played a significant role.

Domestic shocks have explained about 75 per cent of domestic inflation fluctuations and more in EMDEs. In contrast to global supply shocks, which had a minimal contribution to global and domestic inflation fluctuations, domestic supply shocks explained 26 per cent of inflation fluctuations and, in EMDEs, more than any other type of domestic shock. Domestic demand and monetary policy shocks accounted for almost 15 per cent each of domestic inflation fluctuations.

The role of global shocks to domestic inflation fluctuations was higher in EMDEs without inflation targeting regimes, with more open capital accounts, greater trade openness, and global value chain participation.

1.10.1 Drivers of recent inflation developments

In the wake of the COVID-19 pandemic and the Russian-Ukraine geo-political tensions, the global economy has entered a period of persistently high inflation and weaker economic growth. The risks to the inflation outlook are assessed to the upside. The persistence of Russia's war in Ukraine will likely, affect global prices further. Oil prices increased strongly from the start of the war and may rise further as stresses in energy markets intensify (IMF, 2022).

Electricity and other administered prices will continue to present short- and medium-term risks. The higher-than-expected inflation has prompted central banks to accelerate the normalisation of policy rates, tightening global financial conditions and raising the risk profiles of economies needing foreign capital. Due to escalating inflationary pressures and uncertainties in international markets, capital flows and market volatility are expected to remain elevated for emerging market assets and currencies (IMF, 2022). Alongside currency depreciation, other risks to the inflation outlook, such as increased food and fuel prices, have been realised, pushing up unit labour costs and expectations of future inflation (Ha, Kose, & Ohnsorge, 2022).

The global implications of the Russia-Ukraine war hold a negative outlook for global financial stability, primarily by exacerbating financial market uncertainty and volatility against the macroeconomic backdrop of the slowing of an already tentative global economic recovery from the COVID-19 pandemic; and sustaining elevated inflation and inflation expectations over a longer time frame. While policy rates in advanced economies remain largely accommodative, growing concerns over higher global inflation are likely to accelerate interest rate increases, a tapering of asset purchases by major central banks and, in some instances, a reduction of central bank balance sheets to normalise liquidity conditions (SARB, Financial Stability Review - First Addition, 2022).

The drivers of inflation have changed since January 2020, and disruptions related to the demand, supply, and oil prices have impacted different inflation measures. Whereas demand shocks were the leading driver in the deceleration of inflation in the first half of 2020, oil price shocks and supply shocks have become more prominent in the acceleration of inflation up since early 2021, as shown in Figure 1.11 below.

Figure 1.11: Drivers of global headline CPI inflation in 2020-22
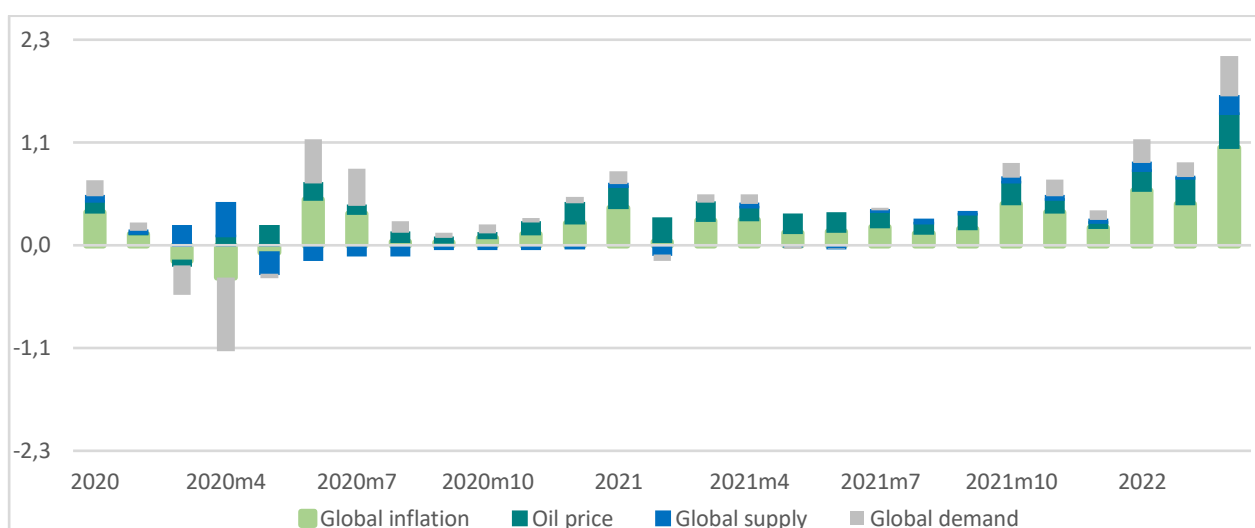
Source: World Bank

1.11   Inflation and exchange rate pass-through

Exchange rate fluctuations affect an economy through various transmission channels, impacting imports, exports, and capital flows. These exchange rate movements have important implications for the domestic economy through the international transmission of business cycles and inflation, the adjustment of the current and financial accounts, and the conduct of economic policy (Parsley, 2010). Domestic shocks have been relatively large in recent years, elevating rand volatility to above the VIX index3, or US stock price volatility, a commonly-used indicator of the global uncertainty (Miyajima, 2019).

In the context of South Africa, for instance, the rand is subjected to external shocks through two critical channels. Firstly, the rand is traded globally in large volumes, sometimes as a currency that proxies emerging market (EM) risks. Secondly, non-resident investors hold significant shares of local assets. An external shock could increase the volatility impact on the South African Rand since market participants tend to trade South Africa's local bonds based mainly on changes in global conditions (Miyajima, 2019).

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[3] VIX index = The Chicago Board Options Exchange Volatility Index, or the 'VIX' as it is better known, is a measure of the expected volatility of the US stock market.

The key transmission mechanism in these relationships is via price changes; hence the relation between exchange rates and prices, specifically exchange rate pass-through[4], is central to open economy macroeconomic research and the economic policy (Ha, Stocker, & Yilmazkuday, 2019). Across major EMs, higher exchange rate volatility increases risk premia and local currency sovereign bond yields (Gadanecz, Blaise, Miyajima, & Urban, Optimized Taylor rules with domestic bond yields in emerging market economies, 2015). Historically, high rand volatility after domestic or global shocks has been accompanied by rand depreciation, leading to an increase in inflation rates (Mumtaz, Haroon, & Theodoridis, 2015). Uncertainty shocks could be inflationary due to precautionary price increases by firms (Redl, 2015).

However, the literature has demonstrated that currency movements are only partially associated with domestic prices, with dissipating effects through the production chain. The pass-through to consumer prices goes through various channels, from direct effects through energy and other commodity prices to the indirect impacts through import prices, wage formation, and profit (Bhundia & Ricci, 2005). Even in the case of internationally traded goods, different forms of market segmentation and nominal rigidities may explain an incomplete pass-through (Gadanecz, Blaise, Miyajima, & Shu, 2018).

Beyond structural factors and country characteristics, the macroeconomic shock that triggers an exchange rate movement plays a crucial role in determining the size of the associated pass-through (Chipili, Chisha, & Longa, 2017). This reflects that shocks impacting the exchange rate concurrently affect economic activity, productivity, and other factors influencing price formation and inflation expectations. A common assumption in the literature is that the relationship between exchange rate movements and inflation is linear and symmetric. However, prices may respond differently to significant changes in the exchange rate, and depreciations may generate an asymmetric reaction relative to appreciations (Ha, Jongrim, Stocker, & Yilmazkuday, 2019).

There is increasing evidence that pass-throughs can vary significantly even over short periods, making extrapolation from average values undependable and possibly deceptive for policy assessment and forecasting determinations.

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[4] Exchange rate pass-through is usually defined as the percentage response of domestic prices to exchange rate changes

This unpredictability in pass-through rates can be demonstrated by plotting rolling correlation rates between exchange rate movements and consumer price inflation over time. In advanced economies, the median correlation rate became progressively positive during the late 1990s at 0.4 in 2000, during the mid-2000s at 0.2 in 2007, and again during the mid-2010s at 0.5 in 2014 as shown in Figure 1.12 below. During these periods, big monetary policy shocks translated into more substantial exchange rate pass-through to inflation. In contrast, correlation rates were almost zero during the recovery in the early 2000s and eventually became negative during the global financial crisis at -0.5 in 2008/09. During this period, there were movements in domestic or global demand conditions associated with lesser changes in inflation in response to exchange rate movements (Ha, Kose, & Ohnsorge, 2019).

Figure 1.12: Advanced economies: Correlation rate, 1995-2018
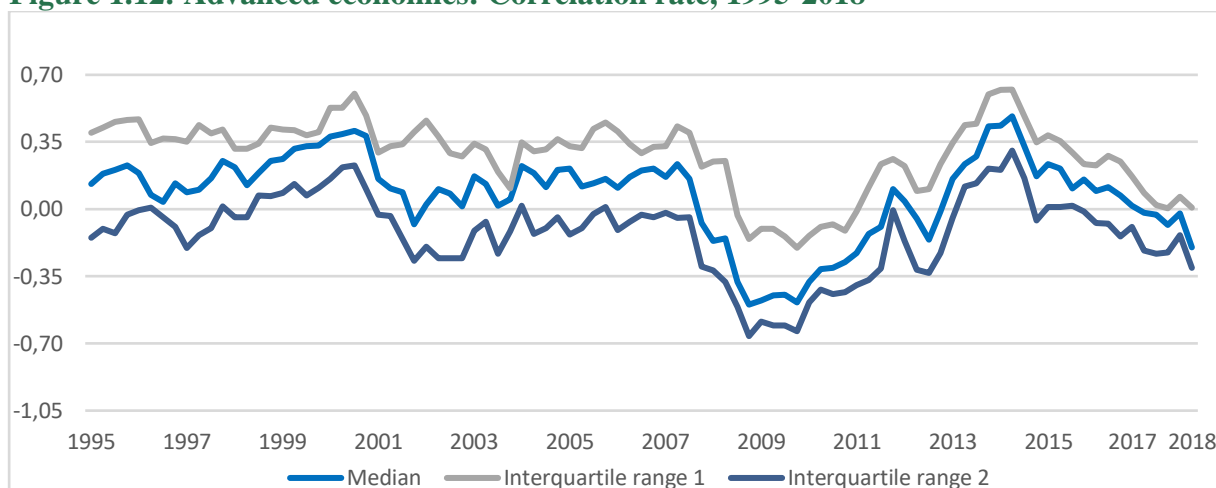
Source: World Bank

In EMDEs, the median correlation also moved close to zero throughout the economic recovery in the early 2000s and the global financial crisis as shown in Figure 1.13 below. It became progressively positive after 2010 due to worsening supply-side environments in most countries, including commodity exporters confronting the expiration of the commodity supercycle (Baffes et al., 2015). An extensive range of cross-country and time variations in the relationship between exchange rates and inflation is aligned with the narrative that diverse shocks and country-specific features could influence the reaction of inflation to exchange rate movements.

Figure 1.13: EMDEs: Correlation rate, 1995-2018
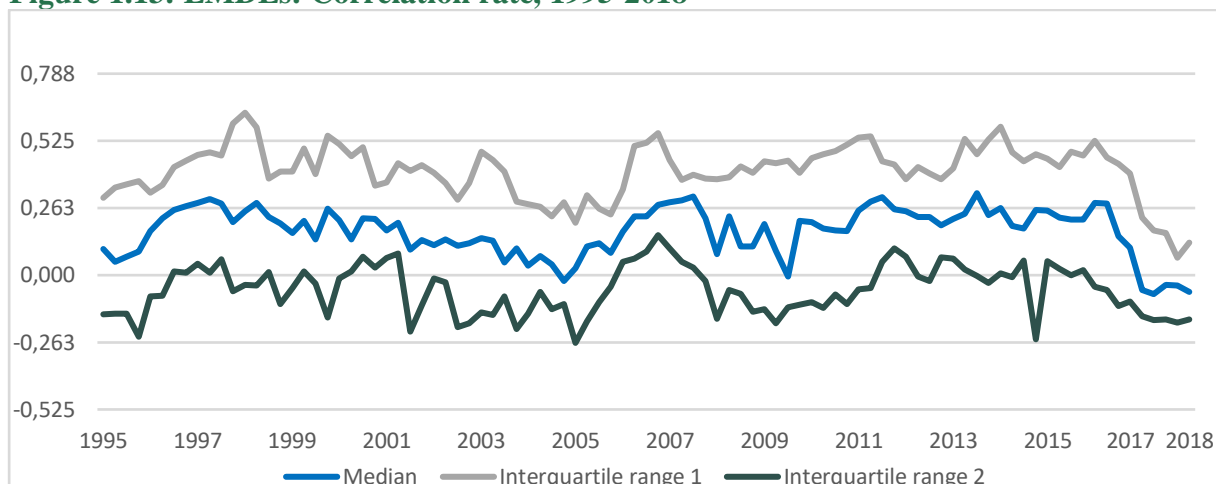
Source: World Bank

1.12 International Inflation Spill Overs

There has been a sharp increase in cross-border capital flows in the past few decades because the world has become more financially integrated. This development has brought into sharp focus the two critical roles of the US financial system in the globalised economy. First, the US financial system has become the principal manufacturer of safe assets for the global economy. Second, the Federal Reserve has become a monetary superpower that sets global monetary conditions (Crowe & Beckworth, 2017). This means that Federal Reserve, more than any other central bank, defines the path of global nominal spending growth because while its mandate is domestic, its impact is progressively global.

The Federal Reserve system has a commanding impact on the global economy. As the central bank of the world's largest economy, its policy decisions affect economies and markets globally. The global impact of its policies on the state of the world economy is a significant factor that other central banks must consider when making monetary policy decisions (Philbrick, 2017).

The monetary policy changes in the US interest rates often impact emerging market economies as they affect debt burdens, capital outflows, and general financial conditions that can lead to financial crises. The increase in the federal funds rate during the Volcker disinflation of the early 1980s, for instance, was correlated with a sharp upsurge in the occurrence of financial crises in EMEs. Nonetheless, in other incidences, such as in the mid-2000s, EMEs weathered rising US rates easily.

It is essential, therefore, to analyse what accounts for differences in the spill overs of US monetary policy to emerging markets. The literature shows that financial spill overs to EMEs of US monetary policy are a function of two significant factors. The first is the reason behind the change in US monetary policy. An increase in interest rates resulting from positive growth prospects is expected to have a comparatively moderate impact on emerging financial markets because the benefits of higher US GDP and higher investor confidence ought to offset the costs of higher rates.

In contrast, if higher rates are propelled primarily by concerns over inflation or a hawkish turn in Fed policy, jointly known as monetary news, this will probably be more turbulent for emerging markets. The second main element prompting a US monetary policy spill over is the domestic conditions in the EMEs themselves; financial conditions in economies with higher macroeconomic vulnerabilities are more susceptible to a rise in U.S. interest rates. In essence, higher US Treasury yields could translate into a significant tightening of EME financial conditions. Still, such impacts are significantly contingent on the determinants of higher yields and domestic conditions in EMEs.

The literature shows a direct impact of US monetary policy on South Africa's GDP. When the US changes its interest rates, investment movement is affected. The Federal Reserve policy impact is through financial markets, which affect currency exchange rates, interest rates, and international flows of investment money (Walker, 2019). This results in potentially large amounts of money flowing out of EMEs. An expansionary conventional or unconventional monetary policy in the US reduces South African long-term rate, signalling a decrease in risk towards emerging markets assets.

It also results in an increase in net purchase of stocks by non-residents showing capital flows from the US and other developed markets to emerging markets, and an appreciation of the Rand against the US dollar. Stock prices on the domestic stock market also rise. It is also worth noting that according to the literature, industrial production and credit to the private sector react contrastingly to an expansionary monetary policy shock in the US. Industrial production responds negatively to an expansionary US monetary policy shock because of structural issues in the real sector. Whereas monetary policy in South Africa is fairly independent, and responds primarily to local inflation, economic activity, and financial conditions, variance decomposition shows that the US monetary policy is responsible for some variation of the South African policy rate. This correlation emphasises the structural issues in the real sector, political uncertainty, and limited households' balance sheets. It

is also a reflection of the persistent sluggish economic growth that has resulted in South Africa not being able to take advantage of the low inflation nor the global economic recovery[5].

US policy changes also have an impact on the value of the exchange. The literature shows that, for instance, when the dollar appreciates, oil prices for oil-importing nations are incredibly high. This means that when the dollar is stronger, it costs more for other countries to purchase dollar-priced goods in their domestic currencies. This does not only apply to US exports because lots of commodities, including oil, are priced in US dollars. A higher oil price results in an overall price increase in retail goods and services for the South African consumer. It is essential for foreign investors who invest in South African bonds, to have confidence that the capital they have invested in the bonds will generate reasonable returns. When the rand depreciates, it directly affects foreign investor sentiment in the long term, which could result in outflows from South African bonds, and less investment overall. This could ultimately result in lower tax revenue and increased budget deficits.

1.13 International trade and inflation channels

1.13.1 International trading partners for South Africa

According to the International Trade Centre, in 2001, South Africa's top export destinations were the US (14 per cent), the United Kingdom (10.9 per cent), Germany (9.1 per cent), and Japan (8.9 per cent). However, there has been a significant shift in export destinations since then. In 2019, the US share of South African exports decelerated to 7 per cent, the United Kingdom to 5.2 per cent, and Japan to 4.8 per cent. In contrast, China increased South Africa's exports share from 1.8 per cent in 2001 to 10.7 per cent in 2019. The rest of Africa's share increased from 15.5 per cent to 26.7 per cent. There is a similar trend regarding South Africa's main import markets. Whereas the EU is the main supplier of goods to South Africa, at around 30 per cent of the total, China's import share from South Africa has increased from 4 per cent in 2001 to 19 in 2019. Figure 1.14 below shows South Africa's top export destinations in 2021.

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[5] Ibid

Figure 1.14: South Africa's top export destinations, 2021
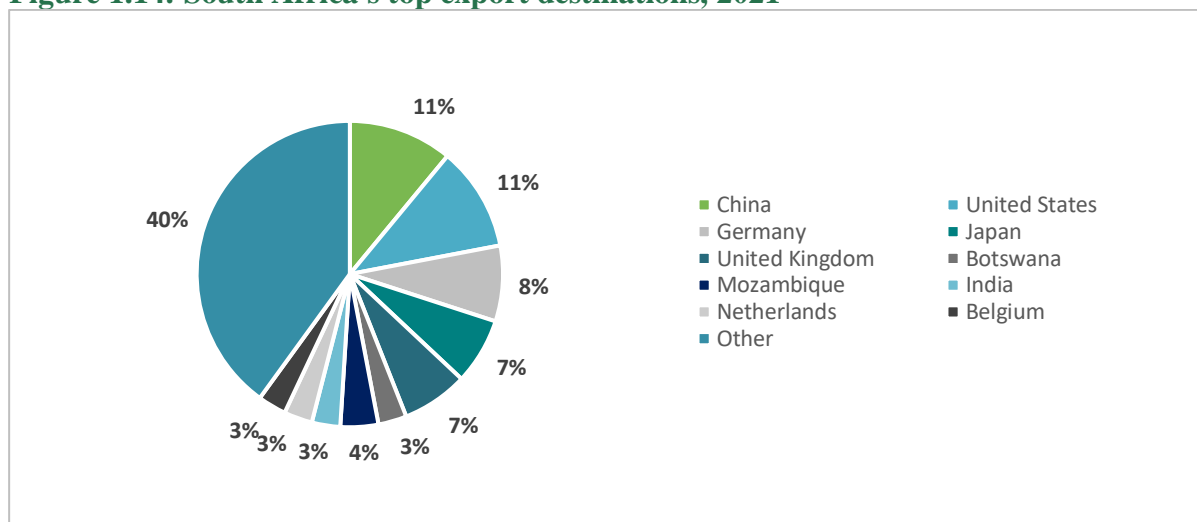
Source: International Trade Centre

1.13.2 The Ukraine-Russia war inflation channels

The Ukraine-Russia war has exacerbated supply chain bottlenecks and inflationary pressures through higher energy and food prices, which has translated into the tightening of monetary policy. The wider impact of the war on the economy could be traced through three broad channels: higher energy and fuel prices that have increased inflation thus eroding disposable income and reducing consumer demand; interruptions to trade have affected exports and imports; and an acceleration in investor uncertainty has reduced asset prices and consequently, the rand has depreciated, triggering the likelihood of capital outflows from South Africa.

Whereas direct trade between South Africa and Russia, as well as between South Africa and Ukraine, is not significant, the shock to global trade will impact the country's exports and imports. According to the National Treasury, the share of South Africa's exports to Russia and Ukraine is less than one per cent[6]. Imports from both countries also reflect a similar magnitude[7]. A large portion of South Africa's exports to Russia are agricultural, predominantly citrus, and other fruits. Imports mainly consist of copper, wheat, and agrochemicals such as fertiliser[8]. Therefore, there could be potential risks to the delivery and payment of these volumes.

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[6] See National Assembly debate on the impact of the Russian federation's invasion of Ukraine on the south African economy Available at https://www.parliament.gov.za/news/national-assembly-debates-impact-russia-ukraine-war-south-african-economy

[7] Ibid
[8] Ibid

A sudden hike in investor risk aversion resulting from the Ukraine war could trigger capital outflows from South Africa, activating the depreciation of the exchange rate, dropping stock prices, and increasing risk premiums in bond markets, thus exacerbating fiscal consolidation risks.

The war is further complicating the role of monetary policy authorities in maintaining price stability without choking growth. Oil is a critical input across most production processes, and as such oil-price increases represent a significant driver of cost-push inflation. The South African Reserve Bank has already commenced a hiking cycle to reign in rising inflation. The bank has implemented five consecutive increments following two 25 basis points hike in November 2021 and January 2022. Interest rates were increased by 50 basis points in May 2022 and by 75 basis points in July and September 2022. What is becoming more evident is that the South African Monetary Authorities are consistently hiking interest rates and tightening liquidity to wrestle inflation, with minimal effect on cost-push inflation, thus risking a hard landing.

1.14   Inflation evolution in South Africa, determinants, and consumption and unemployment impacts

South Africa has a long history of price instabilities dating back to the 1960s. There were attempts through various policies to tame inflation that failed until inflation targeting was embraced in 2010. The inflation trends reveal high rates of inflation before the adoption of inflation targeting. Inflation averaged 9.4 per cent before inflation targeting, while under inflation targeting, it averaged 5.3 per cent, reflecting a deceleration of 77 per cent. Since the inflation-targeting framework of 3 to 6 per cent was instituted in 2000, the SARB has maintained inflation within the targeted range. However, the target range was breached during the global financial crisis and post-recession (Mandeya, 2021)

The international comparison reveals that the inflation rate between South Africa and the US averaged 9.9 and 7.1 per cent, respectively, during the 1970s, reflecting a 2.8 per cent differential. In the 1980s, the average inflation rate in the US decelerated to 5.6 per cent, while in South Africa, it accelerated to 14.7 per cent. The introduction of inflation targeting in South Africa resulted in the deceleration of inflation to an average of 5.5 per cent between 2000 and 2013. While the global financial crisis

severely affected domestic and global inflation between 2008 and 2009, South Africa's average closely tracked the inflation of its major trading partners[9].

Coco and Viegi (2020) employ various tools to evaluate the implicit inflation target, SARB's communication, and the predictability and credibility of monetary policy. They concluded that communication and credibility have improved since 2014, as reflected in the depressed reaction of forward market rates to repo rate changes. Kabundi and Mlachila (2018) find that the credibility of monetary policy has increased and resulted in exchange rate pass-through. They also suggest that trade and financial openness amplify the exchange rate pass-through effect. This means that although trade policy is becoming more protectionist through trade tariffs and non-tariff barriers, the South African economy remains relatively open.

The literature on the determinants of inflation in South Africa reveals that domestic inflation is dependent on both internal and external factors. According to the literature, internal factors, such as inflation expectations, government consumption expenditure, GDP, and unit labour cost, are important determinants of inflation in South Africa.

It also shows that external factors, such as import price and exchange rate, are critical determinants. In the South African context, external factors are vital in determining domestic inflation, because of the country's heavy reliance on imports. This means that the depreciation of the rand exacerbates the effect of imported inflation. It also means that cost-push factors are dominant in determining domestic inflation compared to the demand-pull inflation factors (Madito & Odhiambo, 2018).

With regards to the consumption of individuals, the literature suggests that external monetary policy tightening has minimal effect on the consumption of individuals at the lower ends of the consumption distribution. Individuals with lower consumption levels are more inclined to depend more on government transfers than labour income and thus gain more from lower inflation. In contrast, the consumption of individuals with higher consumption levels tends to be negatively affected by lower labour income, weaker asset price performance, and higher debt service cost (Miyajima, 2021).

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[9] Ibid

Concerning unemployment, the literature shows that inflation is negatively correlated to joblessness while positively correlated to the exchange rate. This translates into a quid pro quo between inflation and joblessness. Whereas the correlation between inflation and unemployment is aligned with the framework of the Phillips curve, the relationship between inflation and exchange rate suggests that a weak rand in the foreign exchange market accelerates the rate of inflation in South Africa. This means that South Africa's heavy reliance on imported capital and intermediates goods, and a weak exchange rate hurt the domestic industries because of the imported products they rely on.

Normally, an economy that suffers from a low level of output and a high level of unemployment must institute expansionary monetary or fiscal policy. However, the macro fundamentals reveal that unemployment in South Africa is structural because there is a mismatch between the labour market demand and supply. This attribute of the economy renders it unreactive to either monetary conditions or domestic absorption, which complicates the policy framework (Semosa & Kanayo, 2021), Whereas unemployment is a severe challenge in South Africa, it is incongruous to address it by allowing inflation to increase. Tackling unemployment warrants wide-ranging macroeconomic policies, including an institutional devotion to price stability, and targeted interventions in the labour market.

1.15 Conclusion and Recommendations

1.15.1 Conclusion

The sharp increase in food and energy prices which commenced in 2021 and was worsened by the war between Russia and Ukraine, has occasioned Government's response to high inflation. Since 2021, global oil prices have doubled, natural gas prices in Europe have risen significantly, and prices for fertilisers have tripled.

Rising food and energy prices have increased the cost of living, reducing real incomes across most countries. Consequently, concerns about potential social unrest have been elevated, many households have been pushed into poverty, and millions of people are at risk of food shortage. The impact has differed across countries, subject to whether they are net importers or exporters of commodities. The effects have also differed across individuals within a country because an increase in food prices affects low-income households, particularly those who spend a more significant portion of their income on

food. Increasing prices of necessities and basic staples have a devastating and long-lasting effect on people.

1.15.2 Recommendations

The Commission makes the following recommendations:

1. *With respect to fiscal policy the Commission recommends that National Treasury continues to focus fiscal consolidation on expenditure and revenue mix appropriate for debt reduction. This should be done by targeting a primary surplus to significantly reduce debt, foster economic growth, and restore fiscal sustainability. Moreover, the Commission recommends that National Treasury crafts a medium-term fiscal framework that must maintain long-term debt sustainability through consolidation, improving debt transparency, advancing debt management functions, and enhancing revenue collection and spending efficiency.*

2. *With respect to social protection, the Commission recommends that National Treasury, in conjunction with the Department of Social Development (DSD), design a comprehensive social security programme to protect those segments of the population particularly exposed to the negative impact of rising inflation, including higher energy, fuel and food prices. In the interim, National Treasury and the DSD should address the challenges of access constraints of the current social protection measures, particularly the Special COVID-19 Social Relief of Distress (SRD) Grant.*

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CHAPTER 2:
THE EFFECTS OF INFLATION AND GROWTH SHOCKS ON FISCAL SUSTAINABILITY

Chapter 2

The Effects of Inflation and Growth Shocks on Fiscal Sustainability

Siyanda Jonas and Noxolo Mahlalela

2.1   Introduction

Many governments across the globe undertook large stimulus packages to support livelihoods and economic recovery during the COVID-19 crisis. As a result, the COVID-19 crisis caused a widespread increase in deficits and debt. High debt levels across countries will impact borrowing costs and increase debt servicing costs. Gross government debt as a percentage of GDP has reached levels which could negatively affect fiscal sustainability in many countries. Similarly, higher debt and deficits generate higher interest rates as the government must incentivise private lenders to accept government bonds in exchange for their savings or as a risk premium for possible risk default or, even worse monetisation. Policy debates now focus on fiscal sustainability as public debt, and deficits have soared since the crisis began.

The debate around fiscal sustainability is occurring within the context of rising inflation. Inflation has soared as many governments move away from stricter restrictions, on a global scale. Around the world, fuel, electricity and food prices are increasing rapidly. Advanced, as well as emerging and developing economies have experienced annual inflation rates above 5 per cent in 2021 and 2020, respectively (Reinhart & Von Luckner, 2022).

South Africa has not been isolated from these developments. In March 2022, consumer price inflation stood at 5.9 per cent year-on-year – its highest since 2017 – and has been rising steadily since its low of 2 per cent in 2020. Although the causes of inflation vary across countries, supply disruptions caused by the COVID-19 pandemic have played a crucial role in driving cost-push inflation in South Africa. Cost-push inflation occurs when the costs of producing goods and services increase, for instance, due to supply-chain bottlenecks and higher transaction costs, which increase the prices for end products. Since the Russian-Ukraine conflict has caused food and energy prices to rise dramatically, rising production costs have translated into higher prices for consumer goods and services.

Higher inflation could impact debt through various channels. Firstly, the government could implement a base money creation (seigniorage). In addition, inflation can erode the real value of debt depending on the maturity structure and currency denomination of the debt. The effect of this channel also depends on the interest rate response to higher inflation. Inflation will have a larger effect on long-term, fixed term and local denominated currency debt. Lastly, inflation can affect the primary balance. Inflation shock increases tax revenues due to higher nominal GDP, which results in lower budget deficits and reduced public debt.

The rise of inflation also has numerous macroeconomic implications. For instance, if inflation rises faster than incomes, consumers 'purchasing power is reduced which could deteriorate their standard of living, which may lead to workers demanding higher wages. Rising compensation of employees is already placing pressure on public finances and fiscal sustainability. Moreover, high inflation rates have wide-ranging implications for the economy: it can discourage savings, deter businesses from investing due to increased uncertainty and reduce the currency's value, making imports more costly. Rising inflation also raises concerns for fiscal sustainability, as it can increase the state's borrowing costs and costs of public spending and raise vulnerability to macroeconomic crises.

2.2 Literature Review

2.2.1 Inflation dynamics and macroeconomic performance

Macroeconomic stability is essential for fiscal sustainability. Macroeconomic stability, including stable inflation, a flexible exchange rate and a stable interest rate is important for sustainable fiscal balances. Equivalently, fiscal sustainability is essential for macroeconomic stability. It is, therefore, important to identify the source of risk and vulnerability in the fiscal and macrostructure of a country. Rising inflation globally raises concerns for fiscal sustainability and its effect on macroeconomic performance. The rising price levels present a significant threat to the South African economy. Although the economy was beginning to show a recovery, it was still volatile and susceptible to disruptions. Consumer prices have reached record high levels, breaching the South African Reserve Bank mid-point.

Figure 2.1: CPI year-on-year rates
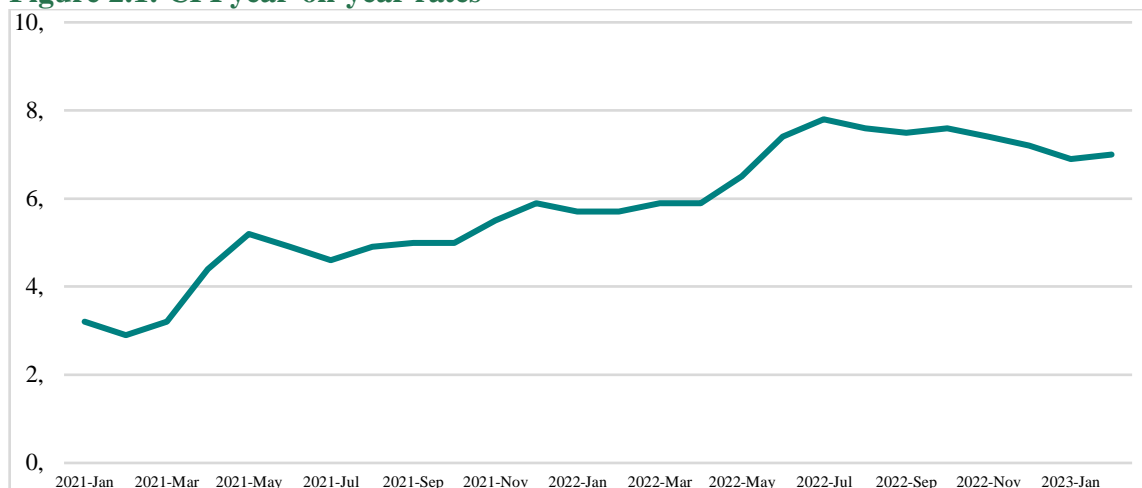
Source: Statistics South Africa

The South African economy has been confronted with several challenges in the last years including slow economic growth, rising government deficits, and high levels of public debt. The increase in inflation is likely to add to these challenges. To maintain price stability the South African Reserve Bank (SARB) has increased interest rates. The increase in interest rates will increase South Africa's debt servicing costs. At the same time, high deficit and debt will have an upward pressure on interest rates. To reduce the deficit, the government introduced measures to curtail expenditure growth by cutting down baseline budgets and setting limits on compensation expenditure, these actions were counteracted by various shocks, including the COVID-19 crisis and the civil unrest in KwaZulu-Natal and Gauteng. Figure 2.2 below shows the trend in economic growth between 2013 and 2021. As a result of the pandemic, the economy contracted by -17,1 per cent in 2020, the worst annual economic performance over the period analysed. Although economic growth has recovered to its pre-pandemic level, it remains low.

Figure 2.2: Gross Domestic Product (constant 2015 prices)
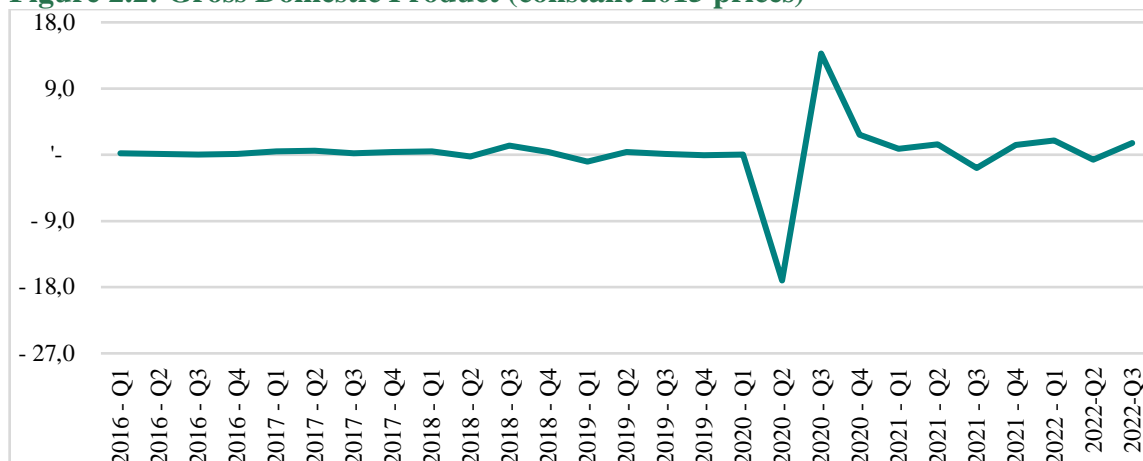
Source: Statistics South Africa

The link between inflation and macroeconomic performance is not obvious. Firstly, some have argued that some inflation can be beneficial to economic growth through the Mundell-Tobin effect. The Mundell–Tobin effect suggests that the public will shift real money holdings into other financial assets (or savings) and that would result in real interest decreasing (Bittencourt et al., 2014). In other words, the effect suggests that nominal interest rates rise less than one-for-one with inflation; in response to inflation the public will keep less in money balances, and more in other assets, which would drive interest rates down and that can have a positive effect on growth. Secondly, others would argue that inflation can be harmful on growth rates because it might increase macroeconomic uncertainty, which usually leads to lower investment, and consequently lower economic activity (Bittencourt et al., 2014). All in all, the link between inflation and growth is not at all obvious and therefore deserves attention.

The empirical effect of inflation on macroeconomic performance has been deliberated extensively in macroeconomic research over the years. Literature notes that inflation is influential in determining financial stability and economic growth (Mandeya & Ho, 2021). Lower and more stable inflation has frequently been associated with improved growth outcomes, by decreasing uncertainty, encouraging a more efficient allocation of resources, and aiding the preservation of financial stability (Ha et al., 2019). In contrast, high inflation rates are likely to worsen economic activity by distorting relative prices, generating uncertainty that weakens long-term decision making and hinders savings; redistributing incomes and therefore weakening consumption, and corroding financial stability (Ha et al., 2019). Furthermore, economic activity is also likely to be undermined by the policies required to decrease inflation from high levels. Andres and Hernando (1997) note that inflation impacts the expansion of other growth contributors such as human capital or investment in Research and Development.

There is extensive empirical research on the probable real impact and costs of inflation. Quamrul et al. (2012) employed an agent-based computational technique to study the impact of inflation on macroeconomic performance in the United States. The study found that an increase in the trend inflation rate above 3 per cent has an adverse impact on economic performance. Further, Barro (2013) used cross-country data from 100 countries over 30 years to analyse the effects of inflation on economic performance. The regression results indicated that a 1 percentage point increase in average inflation per year is accompanied by a 0.2-0.3 percentage point decrease in the growth rate of real per capita GDP, and a reduction in the ratio of investment to GDP by 0.4-0.6 percentage points (Barro, 2013).

Despite the various studies analysing the relationship between inflation and growth, most studies have not looked at the impact of inflation uncertainty on growth (Mandeya & Ho, 2021). Mandeya and Ho (2021) estimated the joint impact of inflation and inflation uncertainty on economic growth in South Africa using autoregressive distributed lag (ARDL) estimation methods on quarterly data. They found that inflation negatively affects growth in both the short and long term, however inflation uncertainty is a short-term occurrence that has no effect in the long term. Overall, the literature suggests evidence of a negative relationship between inflation and growth. However, the magnitude of the effect largely depends on country-specific characteristics, the data set used, and the methodology employed.

Regarding the effects of inflation on inequality and poverty, Ha et al. (2019) note that at the aggregate level, evidence of a positive relationship between inflation and inequality or poverty varies, however the correlation is more certain at the household level. Ha et al. (2019) further note that poorer households may experience bigger welfare losses from inflation compared to wealthier households. Generally, poorer households may be less able to preserve the real value of their income and assets from the effects of inflation, as they tend to be more dependent on wage income, have limited access to interest-bearing accounts, and are unlikely to hold large amounts of additional assets apart from cash (Ha et al., 2019). In addition, poorer households may experience higher or more volatile levels of inflation compared to wealthier households because of variations in the composition of their consumption baskets, hence they may be more subject to food price volatility.

2.2.2 Deficits and debt in emerging and developing economies

The world economy has begun to recover from the COVID-19 shock. To support the recovery, emphasis should be placed on promoting fiscal sustainability. High debt levels across countries will impact borrowing costs and increase debt servicing costs. Gross government debt as a percentage of GDP has reached levels which could negatively affect fiscal sustainability. In Emerging Market and Developing Economies, the average government debt as a percentage of GDP was at 63.5 per cent in 2020. South Africa's government debt as a percentage of GDP is above average at 69.4 per cent and is above China's government debt at 66.3 per cent) but below Brazil's government debt at 98.9 per cent. An unsustainable increase in government debt will likely result in diminished confidence in public sector sustainability.

Figure 2.3: Government debt as a percentage of GDP (2020)
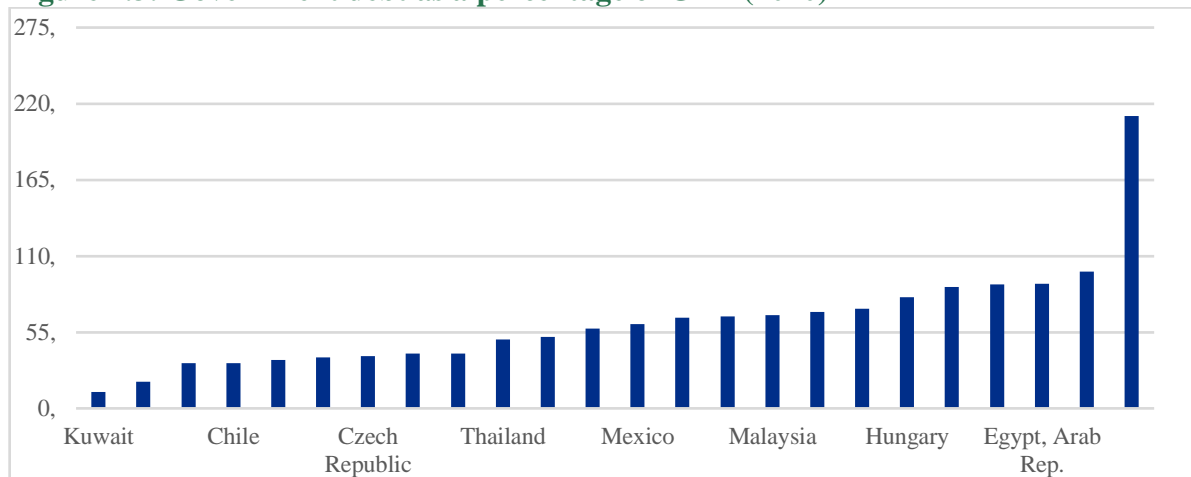
Source: Kose, et al (2021). A Cross-Country Database of Fiscal Space. World Bank, Washington, DC.

A higher debt ratio can potentially result in a surge in interest rates. Higher debt and deficits generate higher interest rates as the government must incentivise private lenders to accept government bonds in exchange for their savings or as a risk premium for possible risk default or even worse, monetisation (Fullwiler, 2012). As a result of fiscal measures taken during the crisis, many governments experienced higher primary deficits, and hence debt has risen.

For example, among emerging markets and developing economies, while most countries experienced a primary deficit, a few experienced a primary surplus. Many emerging economies will have to develop deficit reduction strategies that are not detrimental to the recovery and general macroeconomic performance. Reducing the deficit gives fiscal authorities space to respond to future economic and financial shocks and avoid an escalation of borrowing needs and debt servicing costs. It also provides for countries to be able to fund new priorities.

Figure 2.4: Primary deficit as a percentage of GDP (2020)
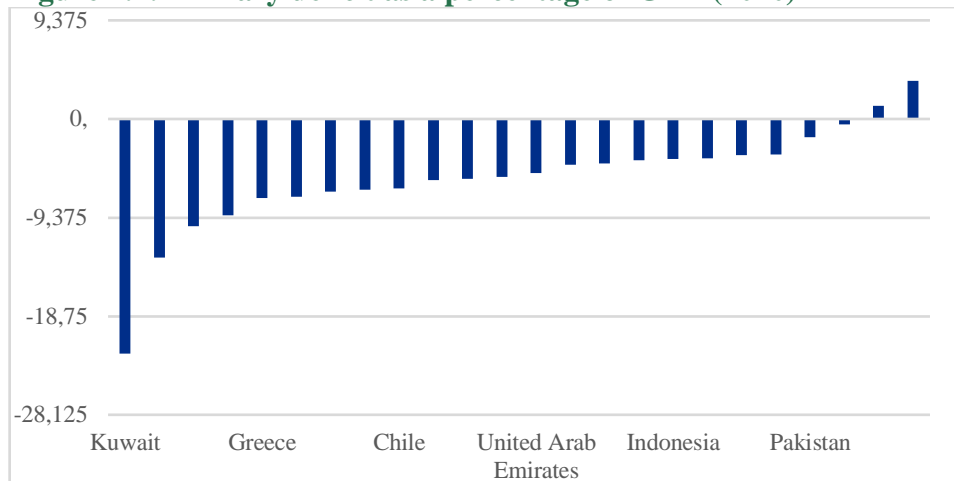
Source: Kose, et al (2021). A Cross-Country Database of Fiscal Space. World Bank, Washington, DC.

A credible deficit reduction strategy can boost the confidence of the market on the future path of fiscal variables. Reducing the deficit while supporting macroeconomic performance will require governments of emerging economies to focus on containing spending rather than having increases in taxes. Reducing spending, especially with respect to consumption expenditure, while increasing investment spending is likely to be better for economic performance. An increase in taxation on the other hand is likely to harm consumer spending and demand thus negatively impacting economic performance. Fiscal consolidation that focuses on tax increases may be detrimental in an environment of high global inflation. Elevated inflation has important implications for the design and implementation of fiscal policy.

There is also a strand of literature focusing on interest-growth differentials. Most of this literature has been focused on advanced economies examining interest-growth differentials and documenting how they are usually negative in these countries (Barrett 2018), particularly if the interest rate is gauged by the real rate of return of short-term government bills (Barro 2020). Low inflation volatility and accommodative monetary policy are important factors explaining these trends in recent years (Turner and Spinelli, 2011).

2.2.3　Public debt and deficits in South Africa

South Africa continues to face fiscal risks, although these challenges were eased by better tax revenue and reduced borrowing needs, financing conditions remain tight. Government non-interest expenditure continues to exceed revenue collected. Debt servicing costs have become the fastest growing expenditure item, and this limits the ability of government to respond to future shocks. Trends in the main and primary budget balances are shown in Figure 2.5 below. Between 2013/14 and 2019/20, the main budget deficit rose from -3.7 per cent to -5.1 per cent of GDP. In 2020/21, the main budget deficit grew to -9.9 per cent of GDP due to the extensive fiscal support in response to the pandemic. Higher-than-expected revenue collection in 2021/22 is expected to lead to improvements in the main budget deficit, that declined from -9.9 per cent of GDP in 2020/21 to -5.5 per cent in 2021/22. The primary budget deficit, that excludes debt servicing costs, is also expected to improve from -5.7 per cent of GDP in 2020/21 to -1.3 per cent in 2021/22.

Figure 2.5: Main and primary budget balance as percentage of GDP
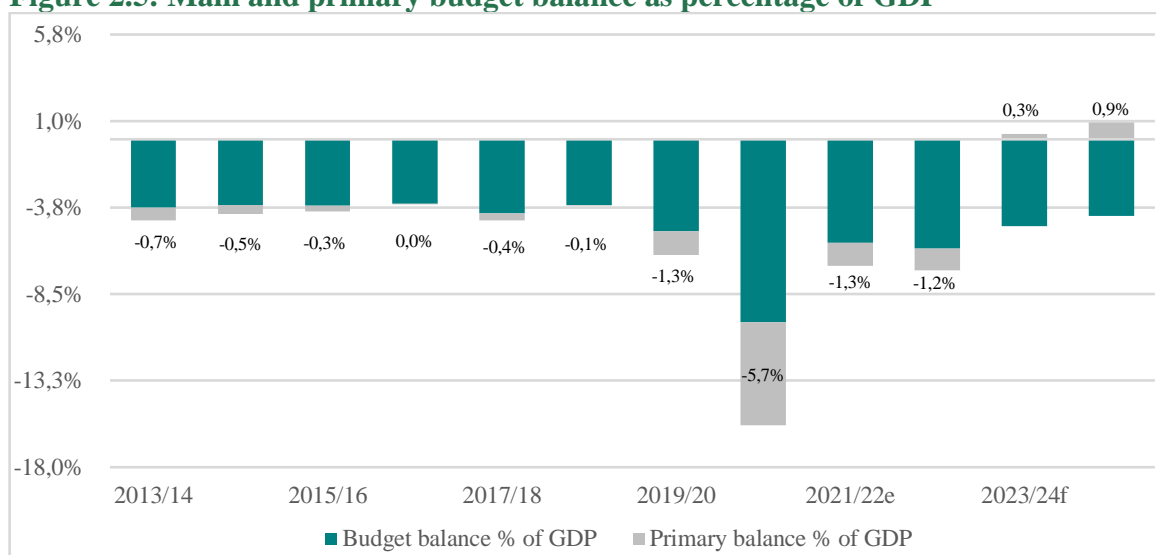
Source: National Treasury (2022)

Government debt has grown exponentially over the years. As illustrated in Figure 2.6 between 2013/14 and 2021/22 gross loan debt rose from 43.8 per cent of GDP to 69.5 per cent. Rising government debt could jeopardise fiscal sustainability, particularly if the economy continues to experience low levels of growth. The impact of rising debt could also be exacerbated by rising inflation and interest rates. In a context where interest rates continue to be above the growth rate, interest payments on existing debt are rising faster than GDP. To stabilise the debt ratio, the government needs to offset this with a primary surplus. Economic growth can reduce the burden of debt even without a primary surplus. However, South Africa's growth has been slow or not high enough to offset the debt. In other words, South Africa could run a primary deficit and debt will remain stable, if growth were high enough.

The government needs to develop a strategy to stabilise debt which could include moderating expenditures but not compromising service delivery. The government needs to address broader fiscal risks that include containing compensation budgets, local government finances and the fiscal risk (solvency vs liquidity crises) of state-owned enterprises. A restraint of aggregate government expenditure should be balanced with supporting the economy so that tightening of fiscal policy will not slow the economy further and deepen the crisis. Restraining government spending, without balancing it with growth objectives, could potentially lead to continued trajectory of debt. High debt and composition of debt has implications for fiscal balance and sector balances.

Figure 2.6: Gross loan debt as percentage of GDP
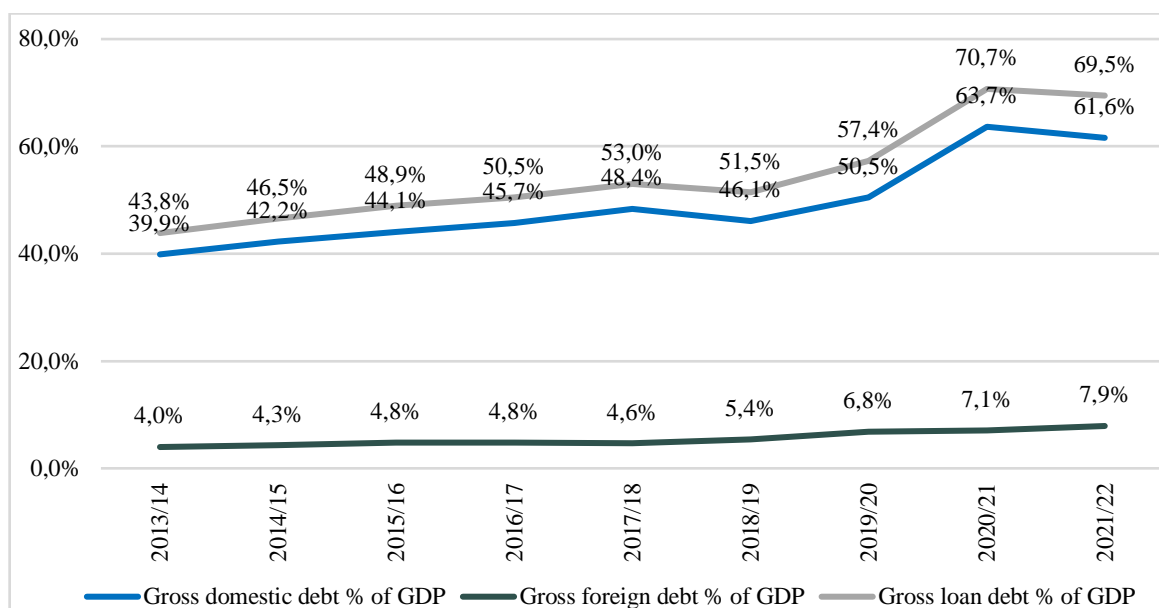
Source: National Treasury (2022)

Figure 2.7: Composition of public debt (percentage)
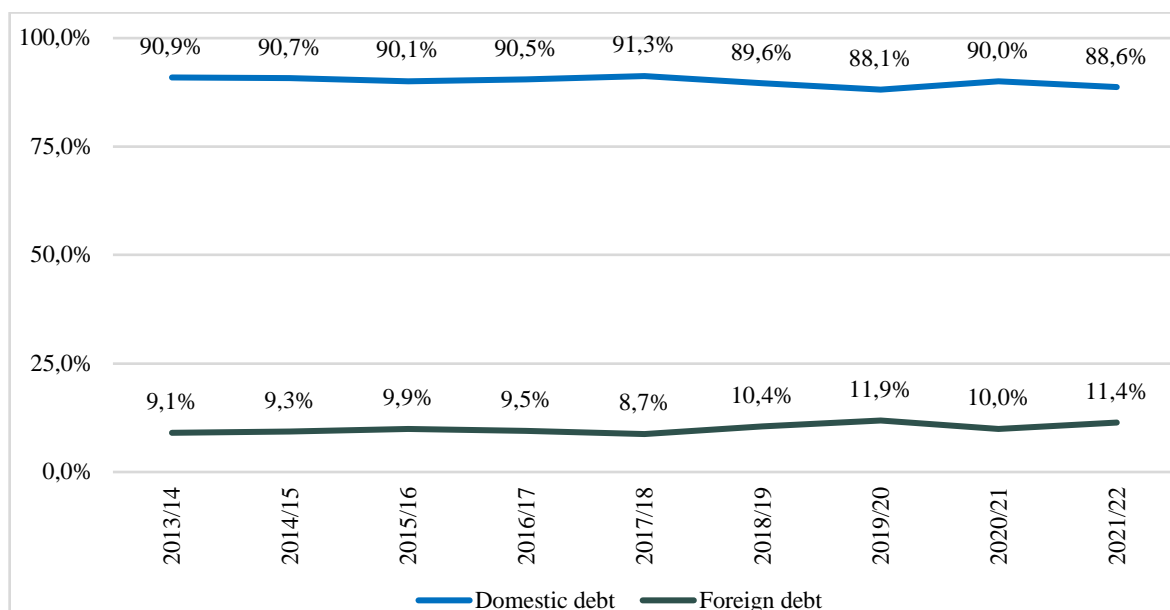
Source: National Treasury (2022)

Figure 2.7 illustrates the trend in the composition of government debt. On average, between 2013/14 and 2021/22, 90 per cent of government debt was held domestically, while 10 per cent was held externally. Government debt levels can be impacted by changes in the exchange rate. Therefore, a lower proportion of foreign debt decreases exposure to foreign exchange risks. If the exchange rate depreciated the cost of servicing debt would increase, which could lead to fiscal imbalances by increasing debt servicing costs and exacerbating the public debt burden. How the deficit is financed has implications on macroeconomic imbalances and performance.

Persistent budget deficits have contributed to higher levels of public debt, increasing debt-service costs. Debt-servicing costs are presently the fastest growing expenditure item and are projected to grow at an annual average rate of 13.3 per cent over the medium term (National Treasury, 2021). The exponential increase in debt-servicing costs is depleting resources for other vital expenditure priorities. Between 2005/06 and 2020/21, cumulative debt-servicing costs totaled R1.8 trillion (SARB, 2021). On the impact of inflation on debt servicing costs, Mosk and Welz (2022) note that highly indebted countries could be confronted with deteriorating debt servicing capacity if increasing interest rates and risk premia widen the gap between nominal interest rates and nominal growth rates.

Figure 2.8: Debt-service costs
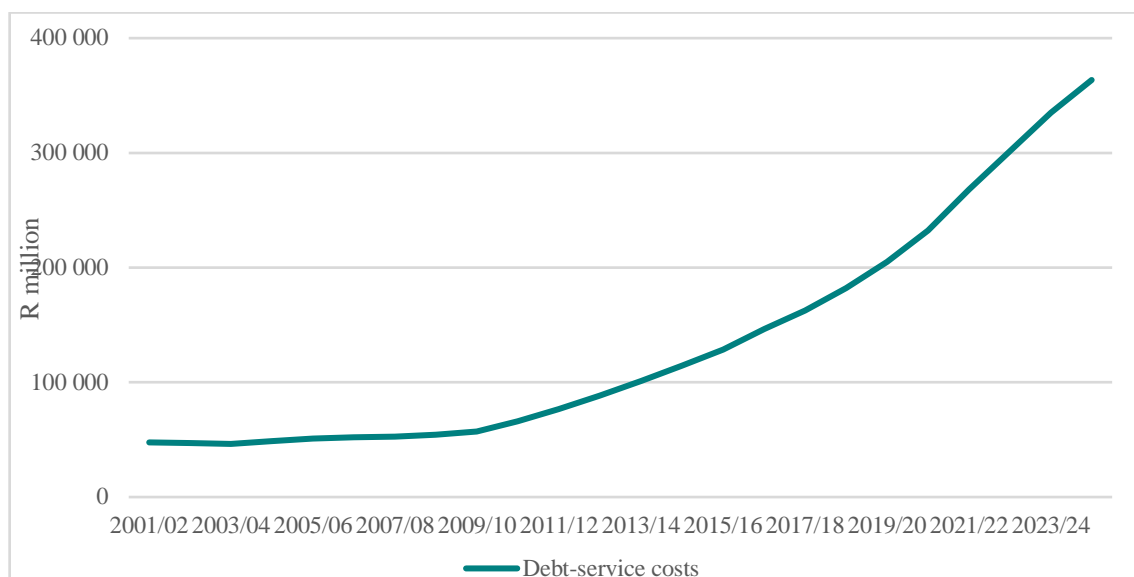
Source: National Treasury

2.2.4 Deficit financing and macroeconomic imbalances

The macroeconomic impact of deficits is dependent on the financing approach chosen by the government. There are basically four ways of financing a fiscal deficit: (i) borrowing abroad (external sector); (ii) borrowing from the central bank; (iii) borrowing from the domestic financial sector (such as commercial banks and other types of financial corporations, e.g., money market funds, pension funds, insurance corporations, etc.); and (iv) borrowing from the domestic non-financial sector (loosely referred to as the "nonbank sector", which includes public and private non-financial corporations). Each form of financing can be associated with macroeconomic imbalances. Table 2.1 summarises macroeconomic imbalances associated with each deficit financing approach.

Table 2.1: Deficit financing and macroeconomic imbalances

Deficit Financing	Macroeconomic imbalance
External sector financing	Financing the deficit with foreign borrowing may initially tend to appreciate the exchange rate, damaging the competitiveness of the traded goods sector. Changes in the exchange rate will affect the amount of debt the government owes in local currency.
Borrowing from the central bank	Government borrowing from the central bank is equivalent to the creation of high-powered money. The central bank's holdings of government bills rises and when the government spends the money, the stock of high-powered money rises by an equivalent amount. Creating money at a rate that exceeds demand in turn creates excess cash balances and eventually drives up the overall price level.
Borrowing from the domestic financial sector	If the central bank does not accommodate the extra demand for credit, the commercial banks and other deposit-taking institutions may be forced to reduce credit to the private sector in order to meet the higher demand for government credit. This phenomenon, referred to as the crowding out of private spending, takes place principally through interest rate increases.
Domestic nonfinancial sector	Bond financing of the deficit, while it postpones inflation, may lead to significantly higher inflation in the future if the stock of government debt is not kept in check. Second, like bank borrowing, borrowing directly from the public puts upward pressure on domestic interest rates and thus crowds out the private sector.

Source: Commission compilation based on International Monetary Fund, 2014

In an environment where inflation is volatile, creditors lose money and become careful about future lending decisions, and creditors start requiring higher interest rates to compensate for the added risk of inflation (Barquero et al., 2017.). The government should not finance the deficit in a way that would induce high-interest rates in the long run because this may begin to crowd out the private sector and affect liquidity in credit markets. The liquidity of financial markets, especially credit markets, is essential to support economic growth, so governments cannot raise interest rates for an indefinite period without causing disruptions in financial markets.

2.2.5   Public debt and inflation interaction

There is renewed interest in the relationship between public debt and inflation. Most governments had to incur more debt to support livelihoods and economic recovery. Public debt has increased across developed and developing economies. In advanced economies, government debt reached 122.5 per cent of GDP in 2021 and 63.9 per cent in the emerging and developing economies (IMF, 2022). Public debt is set to remain high over the medium term. At the same time, prices have increased across countries. Fuel and food prices have increased rapidly, hitting vulnerable populations in low-income countries hardest. War-induced commodity price increases and broadening price pressures have led to 2022 inflation projections of 5.7 per cent in advanced economies (IMF, 2022). This raises a question about the interaction between public debt and inflation in the inflationary process of an economy.

Inflation has been largely viewed as a monetary policy issue determined by monetary policy decisions such as money supply. For instance, expansionary monetary policy will increase both real output and the general price level in the short term, but in the long run only the price level continues to increase (Friedman, 1995. This is considered the monetarist theory of price level determination. The monetarist theory of price level determination suggests that total control over prices is under the authority of the central bank. At the centre of the monetarist theory, are an active monetary policy and passive fiscal policy operating within a Ricardian equivalence framework. Government debt does not have a significant impact on the determination of price levels, suggesting that government bonds are not net wealth (Barro, 1989). Public debt and fiscal policy stance do not matter for inflation dynamics.

In contrast to the view that monetary policy aggregates drive inflation, in a non-Ricardian framework both monetary and fiscal policy aggregates drive inflation (Aimola & Odhiambo, 2020). The price level is also a function of fiscal policy variables. Essentially, there are two main channels through which public debt affects inflation, monetisation and the wealth effect channel. An increase in the value of government bonds affects the households' lifetime budget set and fiscal disturbances affect the price level through the wealth effect on private consumption demand (Urquhart, 2021).

The level of public debt and fiscal policy stance has strong effects on inflation dynamics. A higher level of public debt makes inflation increase. As such, policies to fight inflation followed by monetary authorities may not be sufficient on their own to curb price increases thus requiring a mix of monetary and fiscal policy.

The maturity structure of public debt plays an important role in public debt and inflation dynamics. The maturity of debt is a key parameter for assessing the vulnerability of fiscal positions and should be considered in debt sustainability analysis (Missale, 2012). The maturity structure can provide insurance against shocks that impact tax revenues and output if these shocks result in interest rate changes. However, the maturity structure that provides the best hedge against such shocks is dependent on the type of shock. For example, supply shocks caused by increasing energy prices are best hedged by long maturity debt, particularly if the resultant inflation is offset by increased real interest rates (Missale, 2012). Whereas productivity shocks are best hedged by short maturity debt as negative shocks that decrease output and tax revenues also reduce interest rates and result in greater returns on longer-term debt. A long-term maturity structure is the best hedge against interest rate risk and lowers the risk of default.

Several empirical studies have investigated the effects of inflation on public debt and have concluded that higher inflation can play a part in reducing government debt levels (Fukunaga et al. 2019; Aizenman and Marion, 2009; Akitoby et al., 2014). Using simulation and estimation approaches, Fukunaga et al. (2019) assessed the effects of inflation shocks on the public debt to GDP ratio in 19 advanced economies. The study found that moderately higher inflation could slightly reduce public debt in advanced economies. Specifically, the results suggest that the debt to GDP ratio is decreased by approximately 0.5 to 1 percentage point following an inflation shock of 1 percentage point (Fukunaga et al., 2019). Moreover, the impact of an inflation shock is noted to be greater and more persistent when debt maturity is longer, or debt rollover is lower.

A study by Aizenman and Marion (2009), analysed the impact of inflation scenarios on the debt to GDP ratio and the real value of debt, on the assumption that all debt is denominated in domestic currency, non-indexed, and debt maturity is invariant to inflation. The study found that a moderate inflation rate of 6 per cent could decrease the debt to GDP ratio by 20 per cent within four years. Akitoby et al. (2014) indicated that the impact of inflation on public debt is contingent on the currency denomination of the debt, maturity structure, as well as the interest rate response to higher inflation, with inflation having the biggest effect on long-term, fixed-rate, and local currency-denominated debt. Akitoby et al. (2014) estimated the impact of inflation on public debt in G7 countries. The results

suggest that raising inflation from baseline projections to 6 per cent for five years would slightly erode the debt to GDP ratio.

Furthermore, based on the assumption that G7 countries have constant debt maturity structures, they experience no impact of inflation on growth, and experience a one-for-one adjustment to inflation of nominal interest rates on newly issued debt. The average net debt to GDP ratio is estimated to decrease by approximately 11 percentage points over five years (Akitoby et al., 2014).

In contrast to the previous studies, Cherif and Hasanov (2012) found that an inflation shock leads to a slight decrease in the debt ratio for a few quarters, after which the debt ratio increases above its pre-shock inflation path. The study used a modified Vector Autoregression (VAR) model to analyse how macroeconomic shocks affect US public debt dynamics. Initially, higher inflation is found to decrease the debt ratio, regardless of lower growth and higher interest rates. The debt ratio started increasing as higher interest rates, lower growth, and eventually a higher primary deficit counteracts the effects of higher inflation. Cherif and Hasanov (2012) note that the positive or negative response of debt to inflation is largely dependent on the monetary and fiscal policy regimes in place. Similarly, using United States data from 2012, Hilscher et al. (2014) found that higher inflation is unlikely to reduce the real value of debt by more than a few percentage points of GDP.

2.3   Problem Statement and Research Questions

A sustainable fiscal outlook is an essential foundation for a growing the economy. Putting South Africa's public finances on a sustainable fiscal path creates a conducive environment for growth. With a strong fiscal foundation, South Africa will have increased access to capital, more resources for future public and private investments, improved investor confidence, and a stronger safety net. If long-term fiscal imbalances are not addressed, the ability to respond to future economic shocks will be weakened, with fewer economic opportunities for and less fiscal flexibility to respond to future crises.

The current increase in price levels could have a detrimental effect on macroeconomic performance and public finances in general. Higher inflation has the potential of putting already soaring debt levels and servicing costs on an unsustainable path. Government bondholders will require compensation for the rise in price levels. Secondly, as government debt increases, investors might begin to doubt the government's ability to repay debt and could demand even higher interest rates, further raising the cost of borrowing for businesses and households.

The gross loan debt rose from 43.8 per cent of GDP to 69.5 per cent. Rising government debt could jeopardise fiscal sustainability, particularly if the economy continues to experience low levels of growth. South Africa continues to face fiscal risks and while these challenges were eased by better tax revenue and reduced borrowing needs, financing conditions remain tight. Government non-interest expenditures continue to exceed revenue collected. Debt servicing costs have become the fastest growing expenditure item, and this limits the ability of the government to respond to future shocks. This raises questions about South Africa's fiscal sustainability in the context of rising inflation and low growth. What will be the consequences of inflation and growth shocks on fiscal sustainability?

2.4   Research Aims and Objectives

The main aim of this submission is to assess the effects of inflation and growth shocks on government debt and their implication for fiscal sustainability. The research findings aim to make a suite of recommendations contributing to the policy debates on fiscal sustainability as public debt and deficit have soared since the COVID-19 crisis began. Large deficits and debts carry vulnerabilities, and many have argued that reducing debt and deficit is critical for sustainable public finances. Reducing public debt is one of the challenges facing policymakers. In the debt dynamics equation, fiscal consolidation, high growth, sustainable inflation, or low-interest rates constitute the elements of a debt-reduction strategy. The submission will therefore answer the following key research questions:

1. How will rising inflation impact fiscal policy?
a) Will rising inflation cause the debt ratio to GDP to increase?
b) Will rising inflation cause a positive primary balance (real government spending minus revenue) to decrease?
2. What are the implications of rising inflation for financial and fiscal stability?

2.5   Research Methodology and Data

2.5.1   Analytical framework of fiscal sustainability

The public debt and inflation link is challenging, but exploring this relationship is crucial to proposing effective policies, especially for South Africa, since the budget and primary balance have increased. The primary balance as a percentage of GDP increased to -5.7 per cent in the 2020/21 financial year, while the budget balance increased to -10 per cent. How the deficit is financed impacts the resulting macroeconomic imbalance because it leads to a change in asset stocks held by various agents in the

economy (Cherif & Hasanov, 2012; Pradhan, 2019). The government makes decisions about financing the deficit faced by a budget constraint that has been illustrated in equation (1) below:

$$G_t + iB = T_t + \Delta B_t + \Delta M_t \qquad 1$$

In the government budget constraint, (G) is non-interest spending plus interest paid on government debt (iB) where B equals debt held by the non-government sector and i is the interest rate on government debt, (T) is the tax revenue and change in bonds (ΔB) and change in the quantity of money (ΔM). The government must satisfy the intertemporal budget constraint and existing obligations cannot exceed the present value of all future primary balances. In the current year, the change in the nominal value of the debt held by the non-government sector (ΔB) is given by the current primary deficit $(G - T)$ plus interest on the outstanding nominal debt held by the non-government sector (iB).

$$\Delta B = G - T + iB \qquad 2$$

For the government fiscal stance to be sustainable intertemporally, it is assumed that the path of future spending, taxation and interest payment must be equal to equation 2 to avoid monetisation. Because the economy's taxable income roughly grows with nominal GDP, it is common to scale the nominal amounts in identity (2) in terms of ratios to nominal GDP (denoted by Y_t). The idea is, that if the government's revenues can grow indefinitely, so could expenditure and debt. Rewriting equation 2 in real terms, that is, inflation-adjusted, where $PB_t \equiv G_t - T_t$. Assuming Y_t that grows at an annual rate (θ_t), we can transform equation (2) as follows:

$$\frac{B_t}{Y_t} = (1 + r_t)\frac{B_{t-1}}{Y_{t-1}}\frac{Y_{t-1}}{Y_t} + \frac{PB_t}{Y_t} \qquad 3$$

$$b_t = (\frac{1 + r_t}{1 + \theta_t})b_{t-1} + pb_t \qquad 4$$

At any given time t, the public debt-to-GDP ratio results from the interest burden of past debt, which is only indirectly dependent on government's policies, and the present primary deficit, which directly reflects fiscal policy decisions. The impact of the interest bill on debt-ratio dynamics depends on nominal growth. Under the conventional assumption that the interest rate exceeds growth $(r_t > \theta_t)$, the

debt to GDP ratio tends to increase automatically because the rise in GDP, higher denominator, cannot counterbalance the additional debt, higher numerator, that would be required to pay the interest bill with new debt. The real growth rate also affects the growth of government stock of debt. In cases where the economy grows more slowly than the real interest rate, the national debt grows faster than the government's ability to pay it back. To ensure that no Ponzi scheme is sustained, that is, the government cannot continue to borrow without ever paying back its debt, we use Equation 4 to see how the current debt level is linked to the future.

Let $R_t = (\frac{1+r_t}{1+\theta_t})$

$$b_t = R_t b_{t-1} + pb_t \qquad\qquad 5$$

$$b_{t+1} = R_{t+1} b_t + pb_t \qquad\qquad 6$$

$$b_t = \frac{1}{R_{t+1}} b_{t+1} - \frac{1}{R_{t+1}} pb_{t+1} \qquad\qquad 7$$

Using forward iteration and substituting into equation 7 to account for the possibility of refinancing existing debt indefinitely, the intertemporal government budget constraint requires that the net present value of all future primary balances cover any current amount of debt b_t. In other words, we use forward iteration and equation 7 to make sure that the government has enough money to pay back all the debt it currently has. This means that the total amount of money from future payments must worth more than what is owned now.

$$b_t = \lim_{\to\infty} \prod_{j=1}^{T} \frac{1}{R_{t+j}} b_{t+T} - \sum_{j=1}^{\infty} \prod_{K=1}^{j} \frac{1}{R_{t+K}} pb_{t+j} \qquad\qquad 8$$

The solvency condition requires that existing obligations cannot exceed the present value of all future primary balance, such that $\lim_{\to\infty} \prod_{j=1}^{T} \frac{1}{R_{t+j}} b_{t+T} = 0$. Equivalently, primary deficits must at some point be fully offset by surpluses. In other words, the stock of government debts must be equal to primary balances.

$$b_t = -\sum_{j=1}^{\infty} \prod_{K=1}^{j} \frac{1}{R_{t+K}} pb_{t+j} \qquad\qquad 9$$

The satisfaction of both the no Ponzi and solvency conditions are essential for current and future fiscal policy behaviour for the sustainability of fiscal policy.

2.5.2   Approach and estimation technique

The technical submission will use times series econometrics to model the effect of inflation on public debt dynamics. The question as to whether public debt is on a sustainable path is a central consideration in any macroeconomic analysis of fiscal sustainability. More specifically the submission uses a Vector Autoregressive (VAR) model following Cherif and Hasanov (2012) and Favero and Giavazzi (2007). The submission adopts an unrestricted VAR based on the following four variables in the endogenous vector Y specified in equation (1): primary deficit-to-GDP ratio primary expenditures minus revenues, (pb), real GDP growth rate (g), inflation rate based on the GDP deflator (p), and nominal average interest rate based on interest payments on debt (i). The variables used are exactly those that are in equation (2) describing the debt dynamics.

$$Y_t = \sum_{i=1}^{\kappa} A_\iota\, Y_{t-1} + \sum_{i=1}^{\ell} \gamma_i\, d_{t-1} + \varepsilon_t \qquad\qquad 10$$

The lag selection (the number of lags represented by κ and ℓ) will be determined using the Akaike Information Criterion (AIC). In this submission, the system of equations is defined by Equations 10 to determine the debt dynamics in South Africa.

2.5.3   Data and descriptive statistics

The submission uses time series data available from several sources. Fiscal policy variables are sourced from National Treasury. The National Treasury maintains a large source of data on fiscal variables. The data is collected and organised in line with time series techniques. Data on real growth and inflation will be collected from Statistics South Africa and South African Reserve Bank (SARB). The data on average interest rate on debt is collected from Federal Reserve Bank of St. Louis which collects and manages large international datasets. The data will be supplemented by budget data that will be used for descriptions of the fiscal environment in South Africa. The submission largely uses secondary data sources and document reviews. Table 2.2 shows descriptive statistics among the following quarterly variables: primary deficit (share of GDP), growth rate, inflation rate, the average interest rate on debt, and debt ratio (share of GDP).

Table 2.2: Descriptive statistics

	Obs	Mean	Std. Dev.	Min	Max
Gov debt	98	39.706	11.772	23.5	70.20
Inflation	98	5.276	2.600	-1.761	13.569
Primary balance	98	0.091	3.201	-10.90	6.50
Interest rate	98	8.018	3.090	3.607	20.117
GDP growth	98	0.599	2.339	-17.090	13.760

Table 2.3: Correlation coefficient

	Gov debt	Inflation	Primary balance	Interest rate	GDP growth
Gov debt	1.0000				
Inflation	-0.1541	1.0000			
Primary balance	-0.3756	0.1277	1.0000		
Interest rate	-0.3183	0.4469	0.5166	1.0000	
GDP growth	-0.0456	-0.0498	0.0673	-0.0219	1.0000

The government debt ratio has increased rapidly from the 1990s to about 70.2 per cent of the GDP in 2022. The minimum GDP growth experienced is 17 per cent, the lowest growth rate experienced in South Africa. The growth rate was largely driven by the COVID-19 shock and lockdown restrictions implemented by the government. Table 2.3 shows correlation coefficients in the sample data. The estimation sample shows some interesting correlation patterns in the data. Higher government debt is negatively associated with GDP growth, whereas primary balance (surplus) is positively associated with GDP growth. Inflation is negatively associated with government debt. The correlation between inflation and government debt is largely because South Africa's debt is mostly denominated in local currency.

2.6   Results and Analysis

2.6.1   Vector autoregressive model estimation

The submission examines the time series properties of economic data as a guide to subsequent multivariate modelling and inference. It employs the Augmented Dickey-fuller test (ADF) to test for the stationarity of the variables at the level and difference. Table 2.4 shows results from the Augmented Dickey-Fuller (ADF) test at the level. The results show that inflation, interest rate and government debt are non-stationary. A nonstationary series tends not to return to its long run mean when a shock hits it. We, therefore, accept the unit root null hypothesis indicating the presence of a unit root at levels

and then proceed to employ the first differentiation approach to establish the order of integration of the variables using the Augmented Dickey-Fuller tests unit root test as presented in Table 2.5.

Table 2.4: Augmented Dickey-Fuller Test Results at Level

Variable	t-statistics	P-value	Remark
Inflation	-2.625	0.0878	Non-stationary
Primary balance	-6.248	0.0000	Stationary
GDP growth	-13.871	0.0000	Stationary
Interest rate	-2.024	0.2761	Non-stationary
Government debt	2.242	0.9989	Non-stationary

Table 2.5: Augmented Dickey-Fuller Test Results at First Difference

Variable	t-statistics	P-value	Remark
Inflation	-5.492	0.0000	Stationary
Interest rate	-7.573	0.0000	Stationary
Government debt	-6.057	0.0000	Stationary

Table 2.5 shows that inflation, interest rate and government debt are stationary at the first difference. The model's variables are integrated at order one, therefore, making the variables stationary. A stationary time series means that the mean, variance and autocorrelation structure do not change over time. Intuitively, a time series is stationary if it tends to revert to its long-run average value after a shock hits. The stationarity of variables does not mean that the values for each data point must be the same, but the overall behaviour of the data should remain constant.

An important step in estimating a Vector Autoregressive (VAR) Model and computing impulse response analysis and decomposition of the forecast error variance is the lag order selection. In this submission, we have employed commonly used lag-order selection criteria to choose the lag order, such as the Akaike information criterion (AIC), Schwartz criterion (SC), Hannam-Quinn criterion (HQC) and Final Prediction Error (FPE) to determine the optimum lag and then analyse the residuals as presented in Table 2.6.

Table 2.6: VAR Lag Order Selection

VAR Lag Order Selection	Optimum Lag Test
AIC	2
SC	2
HQC	2
FPE	2

The importance of an appropriate lag length is that if the lag length is too small, the model is misspecified and if the lag length is too large, degrees of freedom are wasted. Table 2.6 shows that lag two is chosen as the optimum lag in the specification of the VAR model on the relationship between government debt and macroeconomic variables such as inflation, growth and interest rate. Thus, we now estimate and analyse the VAR, impulse response and decomposition of the forecast error variance.

The estimation of VAR models is widely used to capture dynamic relationships among macroeconomic variables. In addition, VAR models are also important forecasting tools that most macroeconomic or policy-making institutions use. The application of VAR models continues to be a subject of ongoing research that follows the seminal contribution of Sims (1972), which established a framework for modelling endogenous variables in a multivariate setting. The VAR models are usually presented through impulse responses that measure the effects of the different shocks on the variables of interest, and variance decomposition which measures the relative importance of the different shocks to the variation in the different variables. We present the estimation result in Table 2.7 that shows the VAR estimation results.

The model estimation shows some interesting results on the inflation and public debt link in South Africa. The first lag shows a positive relationship between inflation and public debt. In order words, inflation and public debt move in the same direction. The direction of the relationship between public debt and inflation at first lag is influenced by the maturity structure of the government debt. That is, the effect of inflation on debt depends on the maturity structure and currency denomination of the debt and the interest rate response to higher inflation. Higher inflation rates will affect short-term and maturing long-term debt because they will be refinanced at higher interest rates, and the floating rate debt will adjust automatically to higher rates. Again, the local currency value of foreign-currency-denominated debt will rise due to currency depreciation.

Higher inflation will also affect long-term, fixed-rate, and local-currency-denominated debt through eroding debt, and hence, in the second lag, there is a negative relationship (inflation reducing debt). This is because inflation reduces debt primarily by eroding the real value of outstanding medium- and long-term debt. However, debt-to-GDP ratios could start increasing again, underscoring the temporary nature of the relief provided by inflation. Inflation could hardly solve the debt problem alone, as it would raise significant risks for the real sector by unanchoring inflation expectations.

Table 2.7: VAR Model Estimation

Variables	Inflation	Growth	Interest rate	Primary balance	Gov debt
Lag inflation	0.602***	-0.079	0.190*	-0.279	0.073
	(0.123)	(0.244)	(0.100)	(0.298)	(0.115)
Lag (2) inflation	-0.209*	0.230	-0.045	-0.088	-0.086
	(0.114)	(0.224)	(0.092)	(0.274)	(0.106)
Lag growth	-0.054	-0.374***	0.036	0.494***	-0.191***
	(0.056)	(0.111)	(0.046)	(0.136)	(0.052)
Lag (2) growth	0.044	-0.126	0.058	0.176	-0.061
	(0.056)	(0.111)	(0.046)	(0.136)	(0.052)
Lag interest rate	0.232	0.083	0.161	0.447	-0.109
	(0.150)	(0.296)	(0.121)	(0.361)	(0.139)
Lag (2) interest rate	-0.079	-0.385	-0.164	0.563	-0.022
	(0.144)	(0.284)	(0.116)	(0.347)	(0.134)
Lag primary balance	0.075	0.096	-0.083**	0.283**	-0.156***
	(0.052)	(0.103)	(0.042)	(0.126)	(0.048)
Lag (2) primary balance	0.049	0.169	0.053	0.151	-0.009
	(0.057)	(0.113)	(0.046)	(0.138)	(0.053)
Lag gov debt	0.288*	0.446	-0.043	0.076	0.014
	(0.150)	(0.297)	(0.121)	(0.362)	(0.139)
Lag (2) gov debt	0.060	0.349	-0.016	-0.180	0.031
	(0.145)	(0.287)	(0.118)	(0.351)	(0.135)
Constant	-0.074	0.652**	-0.148	-0.216	0.382***
	(0.139)	(0.275)	(0.112)	(0.335)	(0.129)

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

The results also show that government debt has a negative relationship with economic growth for both lags. High and growing debt adversely affects economic growth through the crowding out of private sector investment by competing for resources in the capital markets (Elmendorf and Mankiw,1999). In addition, growing government debt causes higher interest rates through the excess supply of government debt and higher credit premiums. Moreover, high and growing debt could result in

increases in future taxation to fund future liabilities and rising debt servicing costs. The results also show that primary balances have a negative relationship with government debt at both lags. In other words, the negative correlation between debt and the primary surplus is sufficient to guarantee that the debt ratio will revert to some finite steady-state value.

2.6.2   Public debt dynamics and impulse responses

Inflation can be expected to erode the real value of debt. Considering that taxes are levied on nominal amounts -income, value-added, profits, etc.- tax revenues increase when inflation rises so the burden of servicing the existing debt as a proportion of public revenues declines.

However, the impact of inflation on public finances also depends on whether financial markets anticipated higher inflation and on its expected persistence. An anticipated rise in inflation would have caused an increase in nominal interest rates even before inflation and nominal growth started to pick up, thereby worsening the dynamics of the debt ratio. An unanticipated inflation shock will have a bigger impact on the path of the debt ratio. The persistence of inflation also plays an important role. If it is expected to remain elevated, it will cause an increase in market-based inflation expectations. But this inflation is not expected to persist into the future. Hence the output shows that the debt as a share of GDP goes back into its path after five quarters from the initial shock.

Figure 2.9: Debt impulse responses
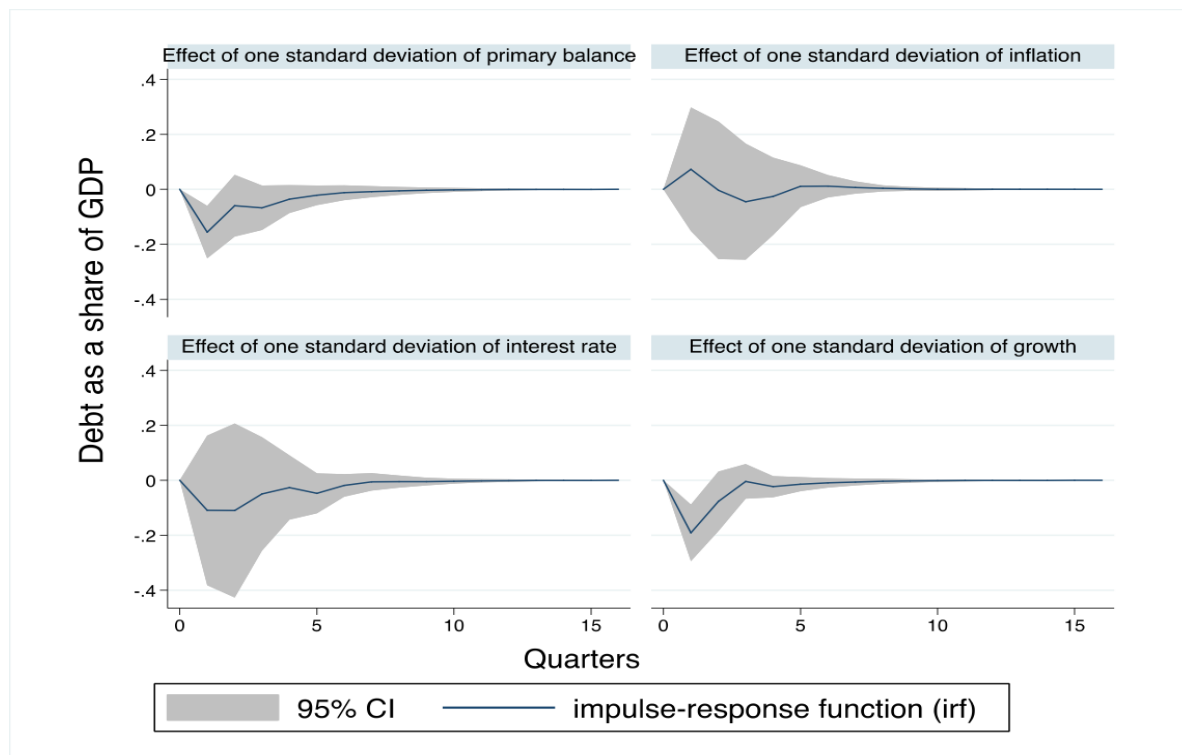
Debt dynamics depend on the primary balance, this being, the budget balance excluding interest charges and the difference between the average cost of debt (r) and nominal GDP growth (g). A positive one standard deviation of the primary balance should result in a decrease in the debt as a share of GDP. The relationship between primary balances and debt is somewhat straightforward. In a situation of a primary surplus, revenue exceeds primary expenditure, which means there is more money which can be directed at reducing debt.

The decrease in public debt is mainly driven by the primary surplus and, to less extent, by inflation, while growth and the interest rate counteract the fall in the debt ratio. The effect of interest (r) and growth on debt as a percentage of GDP depends on whether differential between interest and growth. Higher growth, that exceeds the interest rate means that the government does not need a primary surplus to stabilise the debt. However, when growth is less than the interest rate, the government will need a primary surplus to stabilise the debt. South Africa's growth has been low, so the government requires a primary surplus to stabilise the debt. It means that South Africa must develop a credible plan to reduce expenditure or raise revenue through increases in taxes.

2.6.3   Growth dynamics and impulse responses

The effect of increases in public debt on economic growth has received renewed attention in the context of the COVID-19 pandemic. The pandemic led to a significant contraction in the world economy and pandemic policy responses, including expansionary fiscal policies, have resulted in sharp increases in public debt levels. The impulse responses show that one standard deviation shock on the debt will result in a decrease in output for South Africa. The results corroborate findings by Soyres et., al. (2022) that an unanticipated debt shock will have a negative impact on the real GDP level after the shock in countries before reverting to the growth path. An increase in the public debt to GDP ratio hurts the real GDP level for countries with a high initial debt level or a rising debt trajectory.

Figure 2.10: Growth impulse responses
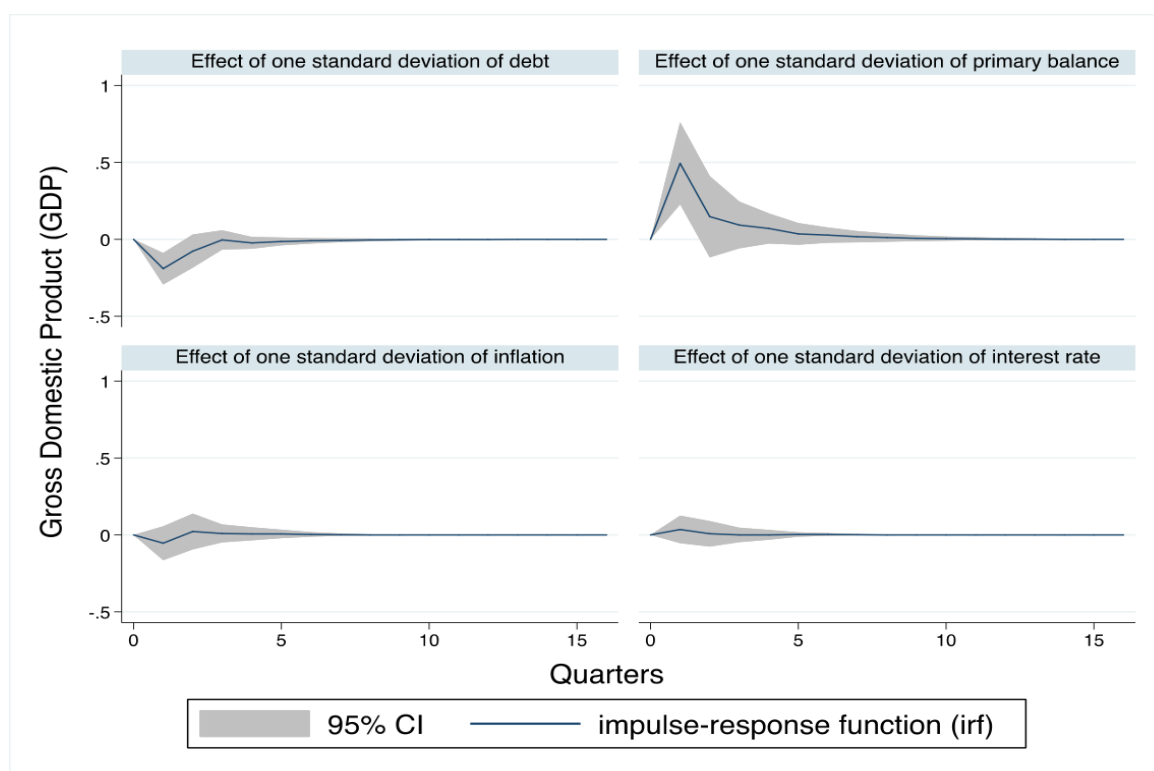
A primary surplus is also growth-enhancing. The results show that a primary surplus shock will increase output in South Africa. Greiner (2014) shows that a balanced government budget yields a higher long-run growth rate than a debt policy where public debt grows at the same rate as all other economic variables. With permanent public deficits, there is either no balanced growth path, a unique balanced growth path or there exist two balanced growth paths.

2.6.4   Forecast error variance decomposition

Variance decomposition measures the relative importance of the different shocks to the variation in the different variables over time. The variance decomposition shows how much information each variable contributes to the other variables in the autoregression. In other words, variance decomposition demonstrates how important a shock is in explaining the variations of the variables in the model and how that importance changes over time. Table 2.8 shows the variance decomposition of government debt. Inflation shock explains about 7 per cent of the variation of government debt in the initial period. The contribution of the inflation shock to explaining the variation in government continues for the period under analysis. The shock of the lag of government debt explains 53 per cent of the government debt but decreases its contribution over time.

Table 2.8: Variance decomposition of government debt

Lags	Government Debt				
	Debt	Inflation	Growth	Primary balance	Interest rate
1	.527439	.070183	.139964	.258532	.003882
2	.363907	.064521	.279581	.283363	.008628
3	.347133	.070131	.289913	.28023	.012594
4	.342213	.073159	.285299	.286088	.013241
5	.339724	.074727	.28533	.28684	.013379
6	.33851	.074817	.28539	.287166	.014117
7	.338167	.074756	.285527	.287322	.014228
8	.337998	.074722	.285607	.287439	.014235
9	.337933	.07471	.285624	.287493	.014241
10	.337905	.07471	.285632	.287507	.014247
11	.337893	.074712	.285633	.287511	.014251
12	.337888	.074713	.285634	.287513	.014252
13	.337887	.074713	.285635	.287514	.014252
14	.337886	.074713	.285635	.287514	.014252
15	.337886	.074713	.285635	.287514	.014252
16	.337885	.074713	.285635	.287514	.014252

The shock in growth explains approximately 14 per cent of the variation in government debt. The contribution of growth in explaining the variation increases over time up to 29 per cent in quarter 16. The primary balance explains approximately 25 per cent of the variation in government debt in the initial period of the shock and continues to increase to 29 per cent in quarter 16. The findings suggest that growth and primary balances (surplus) are essential in addressing South Africa's government debt. Developing a credible plan to address the primary deficit is also important for supporting growth.

2.7   Conclusion

We study the dynamics of South Africa's public debt in response to shocks from major macroeconomic aggregates. More specifically, we study the effect of inflation and growth shocks on public debt in South Africa. The country continues to face fiscal risks, government non-interest expenditure exceeds revenue collected. Debt servicing costs have become the fastest-growing expenditure item, limiting the government's ability to respond to future shocks. The current environment of low growth and high inflation will compound the scale of the problem. Macroeconomic performance, including stable inflation and interest rates, is essential for sustainable fiscal balances. The high and growing public debt and inflation have resulted in a renewed interest in the relationship between public debt and inflation and growth.

Using a VAR, our findings suggest that an inflation shock would increase the debt ratio after only a few quarters (at least two quarters). Higher inflation rates will increase short-term and maturing long-term debt because they will be refinanced at higher interest rates. The floating rate debt will adjust automatically to higher rates hence the increase in debt-GDP. However, if inflation persists, it is expected to reduce debt primarily by eroding the real value of outstanding medium- and long-term debt hence the result shows that the debt-GDP ratio will decline before returning to its pre-shock path. The debt-to-GDP ratios could start increasing again, underscoring the temporary nature of the relief provided by inflation. Inflation could hardly solve the debt problem alone, as it would raise significant risks for the real sector by un-anchoring inflation expectations.

The findings suggest that the relationship between primary balances and debt is straightforward. In a situation of a primary surplus, revenue exceeds primary expenditure; which means more money can be directed at reducing debt. The primary surplus and, to a lesser extent, inflation mainly drive the decrease in public debt. We find that a positive growth shock contributes to a substantial reduction of public debt in South Africa.

Finally, we find that one standard deviation positive shock on the debt will decrease South Africa's output. In other words, an unanticipated debt shock will harm the real GDP level after the shock in South Africa before reverting to the growth path. The findings also show that a primary surplus is also growth-enhancing. The results show that a primary surplus shock will increase output in South Africa.

2.8   Recommendations

The Commission makes the following recommendations:

1. *The Commission recommends that National Treasury strengthens the plan for debt reduction by focusing on improving primary balances. Our analysis suggests that fiscal consolidation focusing on expenditure and revenue mix may be appropriate for debt reduction. The analysis shows that primary surpluses will significantly contribute to debt reduction. Primary surpluses also contribute to economic growth. In other words, fiscal consolidation fosters economic growth and restores fiscal sustainability.*

2. *The Commission recommends that the government departments under the economic cluster develop and implement macroeconomic reforms to address fiscal sustainability. Robust real GDP growth also increases the likelihood of major debt reduction because it helps countries to grow their way out of indebtedness. Our analysis suggests that economic growth plays a significant role in debt reduction.*

2.9   References

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CHAPTER 3:
STATE-OWNED ENTERPRISES AND THE THREAT TO FISCAL SUSTAINABILITY

Chapter 3

State Owned Enterprises and the Threat to Fiscal Sustainability

Thando Ngozo

3.1   Introduction

State-owned enterprises (SOEs) impose control over the economy by providing goods and services in a distinctly different manner from governments. SOEs offer people and businesses essential services such as water, electricity, and transportation. They shape industrial policy, therefore transforming the economy through stimulating new industries. In South Africa, SOEs are crucial constituents of economic growth because of their critical role in strategic network industries. They dominate the utilities, transportation, and communications sectors and provide development finance.

The financial health of SOEs reflects weak financial performance, as demonstrated by the profitability and solvency metrics. In 2020/21, none of the major SOEs posted a net profit, and only Transnet consistently posted a positive net profit over the five years before 2020/21. Eskom has published four consecutive annual losses from 2018. Its net loss increased from R2.3 billion in 2018 to R20.9 billion in 2019[10]. According to the unaudited financial statements, the net losses of South African Airways (SAA) increased from R1.4 billion in 2016 to R5.5 billion in 2019/20. Transnet posted a net loss of R8.4 billion in 2020/21[11]. Some of the key SOEs, namely the South African Post Office, Land Bank, Denel, SAA, SA Express, and Armscor, failed to submit their financial statements to Parliament when they were due in September 2021. Most of the major SOEs experienced sharp declines in the value of their assets from 2015. Most of these losses relate primarily to Transnet, Sanral, and Eskom, who all wrote down their assets substantially.

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[10] See Eskom Annual Reports 2018 and 2019

[11] See Transnet Annual Report 2021

SOEs continue to constitute a fiscal risk for the government as they require fiscal transfers to cover their losses and recapitalise their balance sheets. SOEs are beneficiaries of significant support from the fiscus through transfers and guarantees, therefore constituting huge direct costs and consequently a critical source of fiscal risks in contingent liabilities. The portfolio of government guarantees to SOEs has grown significantly since the mid-2000s, with the portfolio's composition changing substantially over the past decade. Support to entities, whose operational and financial performance continues to deteriorate, have exposed fiscal vulnerabilities.

Given the developments mentioned above, there are policy-related questions about whether the means through which SOEs are fulfilling their mandates is cost-effective. The financial strain that SOEs place on public finances in a fiscally constrained environment is a significant concern and is one of the factors placing pressure on the government's fiscal consolidation plans over the medium term.

In addition, the onset of the COVID-19 pandemic and associated lockdowns worsened the situation, reducing the operational income of SOEs and slowing restructuring plans (National Treasury, 2022). Furthermore, insufficiencies in service delivery by SOEs, particularly related to reliable electricity supply, coupled with corruption and improprieties in procurement and governance, have heightened the necessity for SOE reform.

The contingent liability management in South Africa paints a distressing picture. Cumulative fiscal transfers amounting to R313.7 billion and government guarantees of R350 billion were allocated to Eskom between 2008/09 and 2025/26, in addition to R663.7 billion in budget support12. Consequently, fiscal transfers and government guarantees, as a percentage of GDP, rocketed from 0.42 per cent in 2008/09 to 9 per cent in 2018/19. This unsettling development triggers concerns over the government's capability to support SOEs in a manner capable of stemming the current tide of fiscal risks resulting from the unsuccessful management of government contingent liabilities. Additionally, the materialisation of contingent liabilities would likely result in credit rating downgrades for South Africa. Already, many investors are unwilling to lend capital, increasing the risk of certain entities defaulting on their debt.

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12 See National Treasury Budget Review 2020

The research aims to review the state of South Africa's major SOEs, evaluate their role in economic development, assess the risks they pose to fiscal sustainability, and examine possible SOE reforms. Qualitative and quantitative methods are employed to assess the extent of the risks from SOEs and contingent liabilities on the fiscus and the measures that can be implemented to mitigate the threat to fiscal sustainability. Given the overall weak financial and operational performance of SOEs in South Africa, the associated fiscal risks are expected to be substantial and require urgent attention.

3.2   Literature Review

3.2.1   SOE landscape in South Africa

In South Africa, SOEs dominate network industries, particularly utilities, communication, transportation, and developmental financial services (International Monetary Fund, 2022). As a result, they are a key determinant of economic growth and productivity. However, deficiencies in service delivery and corruption have resulted in discontentment and demands for reform. In addition to poor operational performance, public enterprises have experienced deterioration in their finances. The major SOEs faced escalating financing costs in the late 2010s, especially at Eskom and Transnet (Makgetla, 2020). An increase in debt service costs arose from debt incurred primarily to finance investments during the global metal boom. However, due to the subsequent slowdown of the economy, revenues that were supposed to pay for new projects did not materialise. Delays, poor procurement practices, inefficiencies, and growing corruption exacerbated the financing burden.

Compared to other emerging market economies, the extent of government ownership of SOEs is considerably higher (International Monetary Fund, 2022). Many emerging economies have a mix of public and private owners. Regarding cost efficiency, the average labor cost in non-financial government-owned SOEs is higher than in other countries. Moreover, there appears to be an inverse relationship between executive remuneration and the performance of SOEs in South Africa (Marimuthu & Kwenda, 2019). In other words, executive remuneration is high despite the declining performance of state entities.

3.2.2   Fiscal risk from SOEs

There are numerous fiscal risks stemming from state-owned entities. Taxes, royalties and dividends from SOEs are sources of revenue for governments; however, they can be volatile depending on economic fluctuations, the nature of the SOE, and projects that they choose to embark on (Baum, Medas, Sy, & Soler, 2020). In addition, SOEs pose a cost to the government when they cannot service

their debt, resulting in explicit loan guarantees. Moreover, materialisation of risks can lead to increases in budget transfers to SOEs, including capital injections, transfers, and subsidies.

In South Africa, the poor financial performance of SOEs and reliance on government support adversely affect public finances and sovereign credit rating. Between 2009 and 2014, South Africa's sovereign credit rating downgrades in the main were attributed to unsustainable government expenditure commitments linked to the counter-cyclical fiscal policy stance and multiple requests for support from SOEs (Collaborative Africa Budget Reform Initiative (CABRI), 2020).

Between 2014 and 2020, fiscal commitments to SOEs generally weighed heavily on sovereign credit ratings. For Eskom, financial deterioration arose due to inadequate funding models, reduced electricity demand due to high tariffs, and high Board and executive turnover, among other factors, over the past ten years. The government's continuous support to the SOE weakened the sovereign credit rating which also contributed to Eskom's credit rating deterioration. The case of Eskom represents an example of when an entity is too big to fail, its own failures have disastrous effects on public finances.

One source of fiscal risks from SOEs is the inability of national and subnational governments to impose hard, credible budget constraints on these entities (Ter-Minassian, 2019). This can stem from flaws in corporate governance or fiscal governance, namely the financial relationship between SOEs and Government. SOEs are vulnerable to external shocks, such as macroeconomic shocks, natural disasters, and social unrest, like private enterprises in the same sector (Ter-Minassian, 2019). However, if SOEs believe that the government would use its fiscal resources to bail them out when shocks materialise, they lack the incentive to prepare for these shocks which may result in an excessive accumulation of debt. The financial distress of SOEs also impacts fiscal outcomes indirectly through their links to the rest of the economy (Soler and Sy, 2021).

3.2.3   Contingent liabilities and public debt

Contingent liabilities can be defined as obligations whose timing and magnitude depend on the occurrence of some uncertain future event outside of the control of the Government (Cebotari, 2008). For the government, they are a major source of fiscal costs and distress when they materialise. Although contingent liabilities for public institutions may assist in fulfilling policy objectives or catalysing investment, they expose governments to risk (Bachmair, 2016). These risks stem from a public entity's inability or unwillingness to service its debt obligations to a third party.

Often, among both advanced and emerging economies, realisations of contingent liabilities occur during periods of weak economic growth and crises, exacerbating the pressure on public finances during already difficult times (Bova, Ruiz-Arranz, Toscani, & Ture, 2019). The COVID-19 pandemic resulted in large government support programmes, including state guarantee components, across many countries.

Research on the fiscal risk stemming from government liabilities in the pandemic indicated that EU states are increasingly willing to use public guarantees and other off-budget instruments, which are classified as 'hidden debt' (Anghel, Boitan, & Marchewka-Bartkowiak, 2021). Should these guarantees need to be covered by the budget, an unprecedented increase in public debt may occur. In South Africa, the materialisation of contingent liabilities can act as a significant driver of debt accumulation and threaten debt sustainability (Bachmair & Bogoev, 2018). Moreover, an assessment of the relationship between financial guarantees and public debt in South Africa indicated that past levels of financial guarantees have a predicting ability in determining the present value of national loan debt (Miruka, Mah, & Nchake, 2015). As a result, SOEs need to be effectively managed to prevent disastrous effects on the fiscus.

3.2.3   SOE reforms and privatisation

A large section of the literature on SOEs has concentrated on the enhancement in efficiency that is associated with full and partial privatisation (La Porta & López de Silanes, 1999; Megginson & Netter, 2001; Vickers & Yarrow, 1988). While the main argument advanced by this literature lends credence to the narrative that privatisation improves the performance of SOEs, there is acknowledgment that the improvements are largely a function of a variety of exogenous conditions (Bortolotti, Fantini, & Siniscalco, 2004; Kole & Mulherin, 1997) including the quality of management (Frydman, Gray, Hessel, & Rapaczynski, 1999; Musacchio & Lazzarini, 2014) and the competitive environment (Bartel & Harrison, 2005; Boardman & Vining, 1989; Poczter, 2012), as well as the quality of political institutions (Lazzarini, F, Mesquita, & Musacchio, 2016) and the nature of the budget constraint they face (Bertero & Rondi, 2000).

Many countries have experienced mixed results with significant privatisations and reforms to the regulatory framework in SOEs in the electricity sector (Andres, Guasch, & Lopez Azumendi, 2008; Estache & Rossi, 2005; Hernández Ochoa, 2018), telecommunications sector (Estache, Manacorda, Valletti, Galetovic, & Mueller, 2002; Ros & Banerjee, 2000), oil and gas industries (Hults, Thurber, & Victor, 2012; Tordo, Tracy, & Arfaa, 2011), in the provision of infrastructure (Engel et al., 2003; Estache & Serebrisky, 2004; Perelman & Serebrisky, 2010), banking (Haber, 2005; Haber &

Musacchio, 2004), and other sectors (Chong & López de Silanes, 2005; Lora, 2006). Notwithstanding these developments, semi-privatised SOEs continue to underperform in relation to their private sector peers manifested in large losses resulting from, among other things, corruption and price controls.

Subsequently, international organisations, including the OECD and the World Bank, have crafted advisory guidelines and international best practice on how countries can establish and manage SOEs (Christiansen, 2011; Organisation for Economic Co-operation and Development (OECD), 2005; OECD, 2011; World Bank Group, 2014). Their advice has been centred around enhancing the corporate governance of SOEs. The advice is specifically tailored around centralised control model. In this model, governments are supposed to institute centralised systems of control and monitoring of SOE through state-owned holding companies (SOHCs). This is achieved by centralising the monitoring of SOEs under a single agency, which in turn is monitored by a single line department. The line departments execute its monitoring and evaluation function through close examination and appraisal of the SOEs financials regularly, designing, revising and monitoring the execution of such plans (OECD, 2015; OECD, 2018).

The disproportionate concentration of the literature on corporate governance reforms in SOEs has unfortunately resulted in half-baked solutions that are often ineffectual. Granted, reforming corporate governance in SOEs may indeed lessen most of the principal-agent challenges and information asymmetry difficulties, but it may not necessarily solve the fiscal governance problems. Fiscal governance challenges warrant a series of changes encompassing the execution of tight timelines for the transfer of resources to SOEs, administrative controls to limit the liabilities of SOEs, and training programmes for the surveillance of SOEs by professional technocrats.

The empirical evidence that corporate governance reforms in SOEs, such as the introduction of independent directors, impact performance positively is mixed at best (Chang & Jin, 2016; Dongzhi, 2003; Menozzi, Gutiérrez Urtiaga, & Vannoni, 2011; Peng, 2004). The literature supports the notion that corporate governance reforms, encompass the establishment of holding companies as one of the pillars of SOE reform. Recent literature on best practices in terms of governance of SOEs incorporates guidelines on the institution and operations of SOE holdings companies. SOHCs appear to be more successful if they are supplemented by a clear separation between the state and the SOE (Chang & Jin, 2016; Fan, Wong, & Zhang, 2013) and when the SOHC is the owner, but not the regulator (Ng, 2010; Sam, 2008).

3.3   Problem Statement and Research Questions

3.3.1   Problem statement

The establishment and operations of SOEs are supported by a broad legislative and policy framework, paramount of which is the National Development Plan (NDP). The role of the NDP in anchoring the mandates of SOEs is further supplemented by other key national planning documents encompassing the New Growth Path (NGP), the Medium-Term Strategic Framework (MTSF), and the Industrial Policy Action Plans (IPAPs). The SOEs governance is also subjected to various corporate governance documents, including the King IV Report on Corporate Governance; guidelines in the Public Finance Management Act; and the specific Shareholder Compacts for each SOE agreed between the SOE boards and the State's representatives.

Despite this extensive legislative and policy framework, SOEs face considerable hurdles in fulfilling their developmental mandates. The challenges they encounter entail, among other things, lack of clarity in objectives, a multiplicity of mandates within their business models, improper costing of mandates, lack of an ownership policy, inconsistent legislative framework, complex and decentralised oversight model, deficiencies in the regulatory framework, governance interference manifested in political appointments of boards and senior management, non-adherence to international best practices in corporate governance dictates, severe breaches of procurement policies, and weaknesses in oversight by line ministries, legislature, and SOEs boards.

The challenges outlined above translate into the weak and deteriorating financial performance of SOEs. The SOEs have experienced a sharp decline in their performance since 2015. In 2018/19, SOEs recorded R15 billion in losses, with a rate of return on assets of -0.7 per cent, and between 2016 to 2019, 15 of 25 SOEs posted financial losses in at least two years over this period, and seven made successive financial losses over the entire period.

Consequent to this poor financial performance, substantial fiscal transfers of R45 billion were made to SOEs in the late 2010s. They were projected to climb to R65 billion from 2019/20 to stabilise their balance sheets13. There are budgetary risks stemming from government contingent liabilities resulting from these direct fiscal transfers and equity injections to SOEs.

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[13] See Makgetla, Neva. 2020. 'The crisis at the state-owned enterprises, 'Trade and Industrial Policy Strategies, Policy Brief 1/2020.

Due to liquidity and solvency challenges, these risks are exacerbated by continued financial support to SOEs to avoid defaulting on guaranteed SOEs' debt.

Public finances have deteriorated significantly between 2008/09 and the 2018/19 fiscal positions, with the levels of government debt, contingent liabilities, and cost of borrowing rising to unprecedented levels, partly because of the increase in financial assistance to SOEs. Net government debt, contingent liabilities, and provisions to GDP increased from 34.4 per cent to 74 per cent, an increase of 115.1 per cent over this period. Government guarantees as a percentage of contingent liabilities increased from 39.4 per cent to 60.2 per cent per cent, an increase of 52.8 per cent over this period14. The picture painted by the fiscal metrics above reflects a distressing deterioration in the fiscal landscape of South Africa. There is a need to interrogate the role played by the contingent liabilities to SOEs in exacerbating the current fiscal vulnerabilities and how they can be resolved.

3.3.2   Key research questions

1. What is the role of both corporate and fiscal governance in strengthening SOEs?
2. What are the risks, and the impact thereof, stemming from major SOEs and their contingent liabilities to fiscal sustainability?
3. What measures and reforms can assist in mitigating these risks?

3.4   Research Aims and Objectives

3.4.1   Aims

The research aims to review the state of South Africa's major SOEs, evaluate their role in economic development, assess the risks they pose to fiscal sustainability, and examine possible SOE reforms. The financial and operational deterioration of many SOEs has exposed fiscal vulnerabilities, necessitating an investigation into the extent of the risk to the fiscus and reforms to remedy the situation. Combining both a qualitative and quantitative approach will assist in providing a rounded assessment of issues surrounding SOEs in South Africa.

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[14] See National Treasury 2008/09 and 2018/19 Budget Reviews

3.4.2   Objectives

1. Assess the role of corporate and fiscal governance in improving the financial and operational performance of SOEs.

2. Examine the risks posed by major SOEs and contingent liabilities on the fiscus and evaluate the possible consequences.

3. Identify policies and reforms that can reduce fiscal risk stemming from public sector institutions.

3.5   Research Methodology and Data

Qualitative and quantitative techniques shall be used to assess the risks from public sector institutions on fiscal sustainability.

This approach comprises a qualitative review of the South African SOE landscape, the developmental role of SOEs, the financing of SOEs, government debt and contingent liability management, mitigating and managing fiscal risks from SOEs, and reform of SOEs. The research will also review the centralised SOE monitoring model and the State-Owned Holding Companies' experiences.

3.6   South African SOE Landscape

There is no clear legal definition of a state-owned enterprise. For instance, the Companies and Intellectual Property Commission (CIPC) categorises SOEs using the Public Finance Management Act (PFMA). However, the PFMA does not have a specific definition but only refers to primarily self-funding government businesses and other public entities. The PFMA only lists public entities in Schedule 2 for major public entities, without definition, and Schedule 3 for others. In general terms, SOEs, sometimes called parastatals or public companies, refers to commercially run companies under government ownership, whether directly or indirectly, tasked to undertake both commercial and non-commercial activities on the Government's behalf (Bolton, 2010). The role of SOEs in the economy is significant. As a group, SOEs manage over R2 trillion worth of assets. The SOEs are responsible for infrastructure and control a substantial fraction of these assets. A disaggregation of the SOEs by share of total capital assets shows that Eskom, Transnet, and SANRAL are the dominant SOEs, as shown in Figure 3.1 below.

Figure 3.1: Assets by SOEs
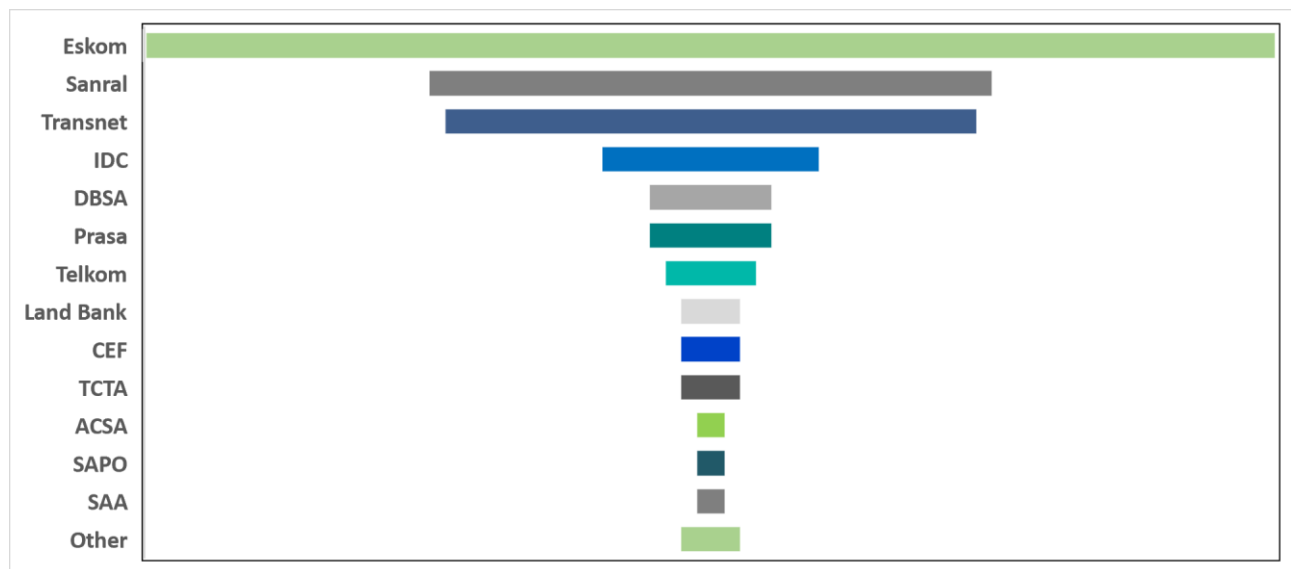
Source: Makgetla (2020)

The largest state-owned enterprises (SOEs) account for 20 per cent of South Africa's capital stock, 14 per cent of total annual investment, and around one per cent of employment15, highlighting their importance in managing infrastructures and investments. SOEs jointly manage assets worth more than R2 trillion (Makgetla, 2020). However, the role of SOEs in the economy transcends infrastructure and investments. It incorporates easing the cost of doing business, resolving market failure through investing in high-risk knowledge and capital-intensive industries, and availing capital finance to strategic sectors that are not profitable enough to attract private finance from commercial banks (Bowman, 2020).

The non-financial SOEs dominate the SOEs' assets, accounting for 86 per cent of total assets. Eskom, Transnet, and Telkom account for 75 per cent of the total assets for nonfinancial SOEs. The financial SOEs assets are dominated by the Development Bank of Southern Africa (DBSA), the Industrial Development Corporation (IDC), and the Land Bank, representing 94 per cent of total assets for financial SOEs. The bulk of nonfinancial SOEs constitutes the utility and transportation sectors, as shown in Figure 3.2 below. The utilities sector comprises Eskom, responsible for electricity, and Transcaledon Tunnel Authority TCTA and water boards, which are water enterprises. The transport sector includes Transnet, which is tasked with commercial railways, ports, and pipeline infrastructure,

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15 These SOEs consist of all SOEs as listed in Schedule 2 by the Companies and Intellectual Property Commission (CIPC) plus Sanral and Telkom. They exclude water boards and the TransCaledon Tunnel

the airline, South African Airways (SAA) and the airport, air traffic and navigation companies, Airports Company of South Africa (ACSA), and Air Traffic and Navigation Services (ATNS), and passenger railway transportation (PRASA).

Figure 3.2: Nonfinancial SOE Portfolio by Sector
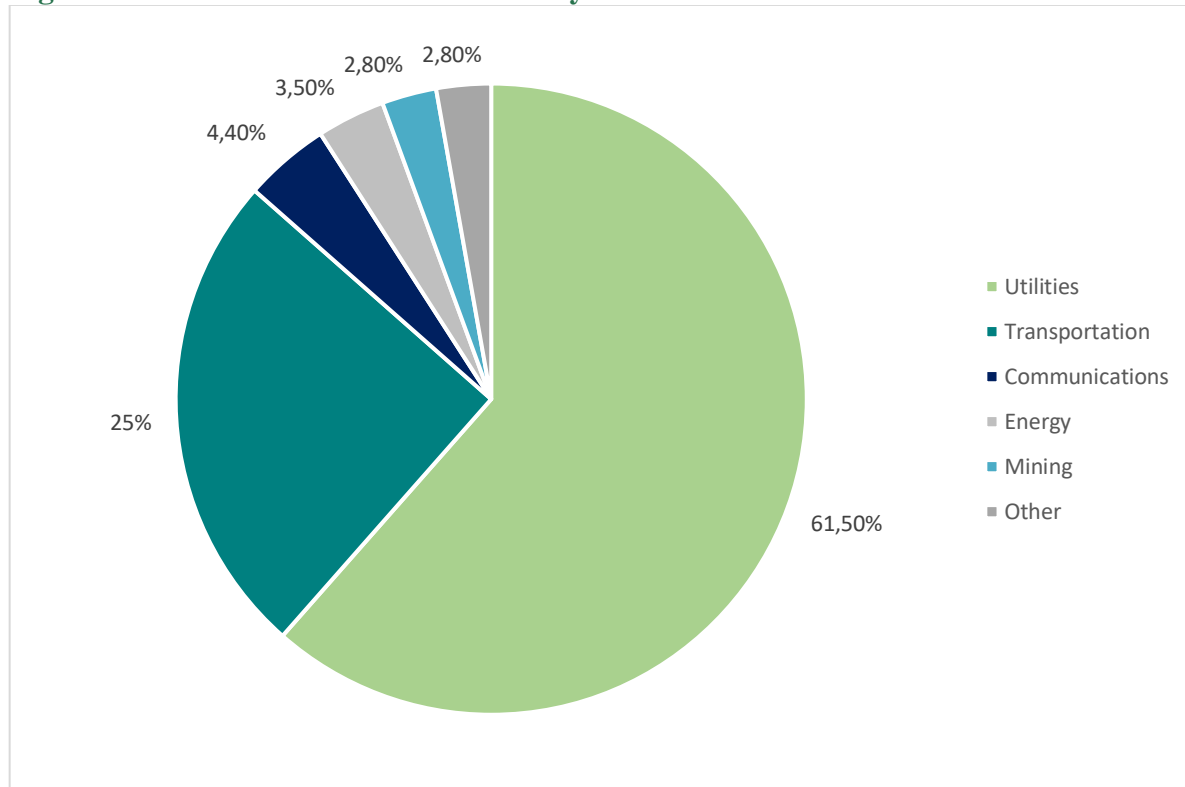
Source: IMF, 2022

3.7   The Developmental Role of SOEs

The apartheid government, between 1948 and the late 1960s, established what was known as the minerals-energy-complex (MEC) industrialisation programme. This programme combined the finance, mining, and energy sectors into crucial political, economic, and energy arrangements held together by cheap coal and cheap black labour (Fine and Rustomjee 1996). In this arrangement, SOEs like Iscor, Eskom, the South African Coal and Oil Company (Sasol), and other chemical and mineral beneficiation industries, were strategically positioned to grow and control the MEC landscape.

During this time, SOEs supported the MEC, allowing economic advantages to only accrue to a limited set of industries and institutions, thus limiting the growth of other industrial sectors16. The SOEs

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[16] Ibid

provided employment and networked infrastructure for water, electricity, sanitation, and public transport for the white working class. They also offered the apartheid government sustenance during a period of tightening international sanctions and disinvestment during the 1980s, providing fuel, arms, minerals, energy, and food (Schneider, 2018).

The democratically elected government sought to use the Reconstruction and Development Programme (RDP) to reposition the SOEs from the skewed benefit they provided during apartheid to fund transformation. However, the reality was that the new government inherited many SOEs operating at a loss and represented a drain on the fiscus. Privatisation of SOEs appeared to be a rational solution for poor economic performance. The RDP was later abandoned and replaced by the Growth, Employment, and Redistribution Strategy (GEAR). The restructuring of SOEs, which has already commenced under the RDP, was deepened by GEAR to entice foreign investment (Mosala, Venter, and Bain, 2017).

The restructuring of SOEs during the implementation of GEAR to privatise them hit a significant hurdle when the developmental-state notion was adopted as a critical element of economic policy. SOEs thus became vital building blocks of a developmental state (Greenberg 2006; Smith 2010). GEAR was later replaced by the Accelerated and Shared Growth Initiative (ASGISA) as the latest economic policy plan. It emphasised considerable investments in physical and social infrastructure, which SOEs drove. Major SOEs like Eskom, Transnet, Sanral, Infraco, Telkom, Metrorail and South African Rail Commuter Corporation (SARCC), and Airports Company of South Africa (ACSA) were subsequently allocated substantial resources to fund infrastructure investments by the SOEs.

The current state of SOEs exhibits institutions that are chronically underperforming because of, among other things, indeterminate policy expectations, uncertain funding strategies, weak institutional accountability and governance, and political interference. The critical implication of their underperformance is their failure to deliver key large-scale capital projects within approved budgets, thus worsening the current fiscal crisis (NPC 2020).

SOEs are meant to provide infrastructures that enhance the operations of mines, energy, and refineries. However, most of them have become an increasingly severe burden for the sovereign. Instead of SOEs playing an appropriate counter-cyclical role, these institutions have experienced a decline in financial and institutional terms primarily because of events related to state capture. The size and impact of SOEs warrant a strategic deployment of these institutions to channel their capital investments to diversify the economy meaningfully, spearhead economic development, trigger socio-technical

innovations, and institute counter-cyclical interventions. However, their development role has been undermined by, amongst other things, a lack of rationalisation of the overall governance of SOEs and clarity on their mandates. Their inability to drive economic development has been exacerbated by state capture. The government has emphasized the need to remedy the challenges engulfing SOEs. However, the absence of a clear strategic political vision for SOEs as critical drivers of a national economic development programme to overcome South Africa's fundamental structural economic weakness continues to characterise the developmental role of SOEs.

3.8   The Governance of SOEs

Section 66(1)2 of the Companies Act requires an SOE to have a Board of Directors and has the authority to exercise all the powers and perform any of the functions of the SOE, except if limited by the Companies Act or Memorandum of Incorporation.

The governance of SOEs is impeded by the politicisation of the procedure for selecting Board members and the need for a limpid and systematic methodology for appointing such members. Without a lucid framework that guides and professionalises the selection of members to the Boards of SOEs, the process is susceptible to randomness rather than a systematic approach.

In 2008, the Department of Public Service and Administration (DPSA) published a Handbook for appointing persons to State and State-controlled institution boards. However, it was not premised on any regulation or legislation that could be used to hold the government to account. Whereas the Public Finance Management Act is instrumental in promoting good governance, it concentrates on the functions and responsibilities of accounting authorities. These weaknesses render these governance tools ineffective in eliminating political interference in appointing SOE board members.

The DPSA piloted a government shareholder management bill in realising these governance shortcomings. The bill aimed to address these governance shortcomings, particularly the appointment of Board Members. However, the bill was halted. The rationale for stopping the bill was premised on the need for the DPSA to align its work with the implementation of the Presidential Review Committee recommendations, particularly the proposal to develop a single piece of overarching legislation governing all SOEs (Department of Public Enterprises, 2017). Ironically, neither the implementation of the Review Committee recommendations ever happened, nor the bill proposed by the DPSA.

Most SOE boards have struggled to play a significant and leading role in directing the affairs of their SOEs. This results from many factors, including devoting inadequate time to their jobs, inadequate information, improper skill sets, and insufficient incentives, amongst others. The value of SOE boards can be greatly enhanced by improving the implementation of enacted reforms requiring appointing high courage and personal integrity directors who diligently and faithfully discharge their responsibilities and zealously guard the SOE's autonomy. This includes forcefully resisting any attempts to encroach on their delegated authority by government overseers and other political actors.

State capture eroded critical elements of the government and the value of SOEs, undermining the rule of law. The extent to which this scourge has permeated vital institutions, particularly the SOEs, was the subject of the Zondo Commission of Inquiry into State Capture. In the main, the Commission concluded that appointing Boards and senior executives (CEOs and CFOs) for SOEs is a matter of concern. As a result, the Commission recommended that the appointment of such individuals should no longer be left in the hands of politicians. It further recommended that a body is established for identifying, requiring, and selecting individuals for these positions.

The latest governance developments regarding Eskom have seen the President appoint the Electricity Minister and bestow on him wide powers, in terms of Section 97 of the Constitution. This implies that there would be a transfer of certain powers and functions from other government institutions to enable the Electricity Minister to execute his mandate, which is primarily to significantly reduce the severity and frequency of loadshedding. The Electricity Minister chiefly has political responsibility, authority, and control over all vital elements of the Energy Action Plan. He is, therefore, expected to facilitate the coordination of various departments and entities seized with responding to the current electricity crisis while simultaneously working with the Eskom leadership to improve the performance of existing power stations and hasten the procurement of new generation capacity.

The main concern with this arrangement is that it will bestow the new Electricity Minister with the overall responsibility of resolving the electricity crisis that could result in turf wars with other entities with a similar mandate, such as the Department of Public Enterprises (DPE) and the Department of Mineral Resources and Energy (DMRE). The potential territory war could hamstring the resolve of the energy crisis.

The DPE, for instance, is still expected to be the shareholder representative of Eskom and drive the restructuring of the entity. The DPE minister will continue to ensure and oversee the establishment of the transmission company, the implementation of the just energy transition programme, and the

establishment of the SOE Holding Company. This makes it difficult to understand the effective role of the Electricity Minister.

In the early phases of this governance arrangement, divergent views are already emerging. The Electricity Minister has publicly expressed his belief that the ageing power stations need investment to refurbish them to improve their performance and prolong their lifespans. The DPE Minister, on the other hand, believes in investing limited capital in new generating capacity from renewables as expressed in his response to a parliamentary question.

In another governance-related development, the Finance Minister granted Eskom the exemptions in a special Government Gazette issued on March 31, which effectively granted Eskom exemption from Section 55 (2) (b) (i) of the Public Finance Management Act (PFMA) for 2022/23 and the following two years. The gazette was later withdrawn but the concern of such a move remains, particularly because the withdrawal was temporary and another major SOE, Transnet, was granted a similar exemption. On 31 March 2022, National Treasury granted an exemption from the specified provisions of the Treasury Regulations issued in terms of the Public Finance Management Act (PFMA) and National Treasury Instruction No. 2 of 2019/2020. The Eskom exemption entails that the power utility will not need to report fruitless, wasteful, unauthorised, and irregular expenses in its annual financial statements but rather in its integrated report. This is premised on the possibility that many legacy issues are carried over year after year, thus upsetting efforts to financially restructure the power utility.

The challenge with this arrangement is that the integrated report has no statutory standing and effect thus enabling more financial transgressions. Moreover, Eskom's financial track record, particularly as it relates to transgressions in its procurement policies, means that it lacks the credibility to adhere to these exemption requirements.

3.9   The Financial Health of SOES

3.9.1   Combined net assets and return on investment

The operational and financial health of most SOEs is deteriorating. Their total assets declined from R1.3 trillion in 2019/20 to R1.28 trillion in 2021/22. The net asset value fell sharply by -5.5 per cent in 2018/19 after increasing by 20.8 per cent in 2015/16, as shown in Figure 3.3 below. The net assets only recovered marginally by 6.8 per cent in 2020/21 and 10.9 per cent in 2021/22. Consequently, their net asset value has remained relatively flat, increasing from R362 billion in 2017/18 to only R376 billion in 2020/21. The most concerning metric, the return to equity, which measures the ability of SOEs to generate profits, has significantly deteriorated. The average return to equity has decelerated substantially from 1.7 per cent in 2013/14 to (-13.5) per cent in 2020/21 and (-1.2) per cent in 2021/22. High-cost structures resulting primarily from high debt service costs and employee compensation are SOEs' main hurdles to profit-making. The COVID-19 pandemic has negatively impacted returns, and muted demand has strangled revenue growth for most SOEs.

Figure 3.3: Combined balance sheets of state-owned companies
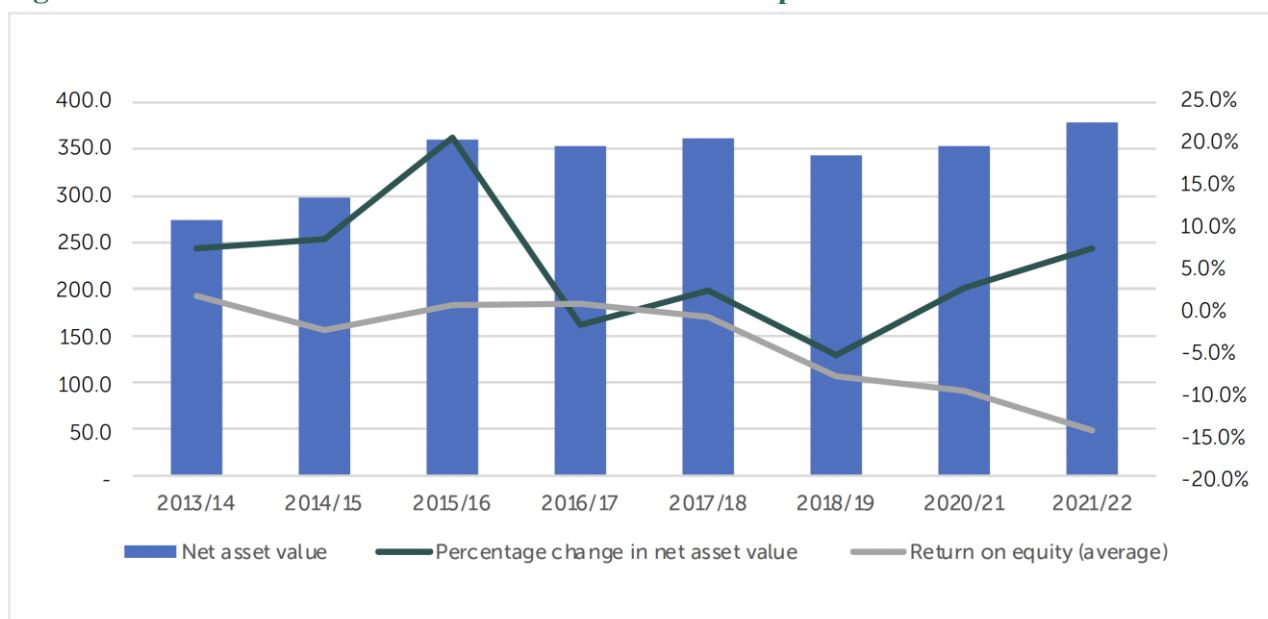
Source: National Treasury Budget Review, 2018-2023

3.9.2   Combined cash flows, infrastructure investment, and the cost of debt

The cash flow analysis for SOEs reveals that net cash from operations has significantly declined by 54 per cent from R66.9 billion in 2014/15 to R29.6 billion in 2020/21, as shown in Figure 3.4 below. However, improved profitability has increased consolidated net cash flow from operations by 53.6 per cent, from R32 billion in 2020/21 to R49.2 billion in 2021/22.

Net cash available after servicing obligations has been negative since 2014/15, declining from R102 billion in 2014/15 to R157 billion in 2020/21. Infrastructure spending by SOEs has decelerated from R103 billion in 2014/15 to R44 billion in 2020/21. Interest payments accelerated to R52.8 billion in 2019/20 from R28 billion in 2014/15. The poor financial health of SOEs is a significant impediment to their access to capital markets, thus increasing the dependence of these institutions on the fiscus for sustaining their operations. The combined negative cash flow of SOEs means that these institutions rely on debt to finance operations, thus minimising the scope for capital investment and rendering the financial position unsustainable.

Figure 3.4: Cash flows, infrastructure spending, and interest on the debt for SOEs, 2013/14-2020/21
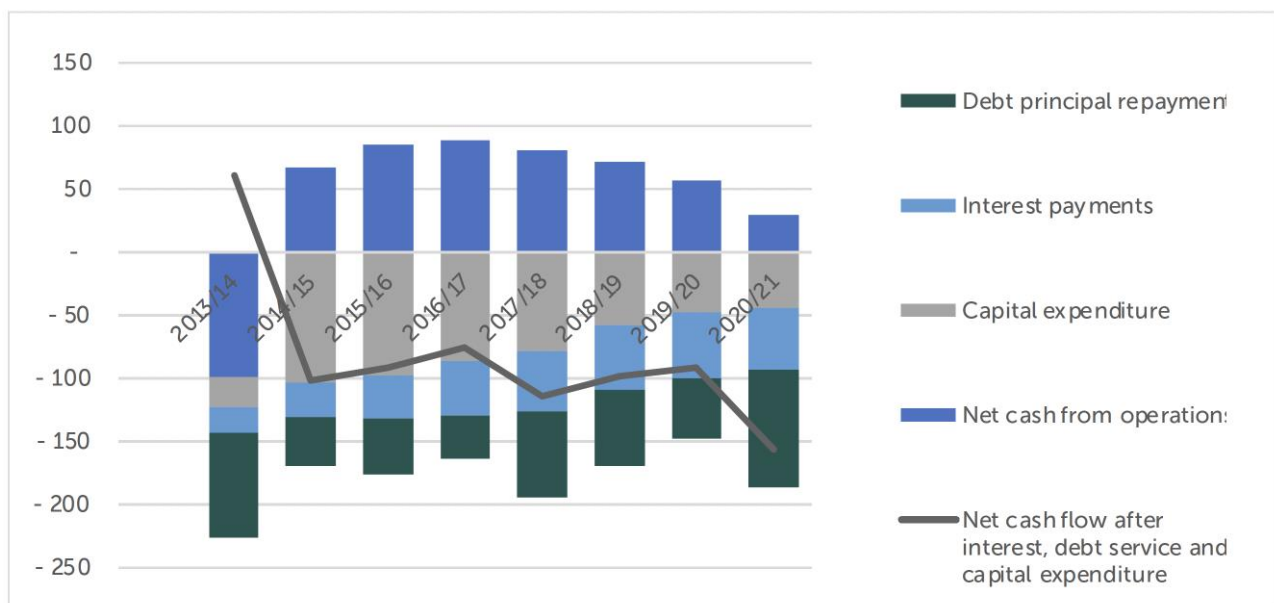
Source: National Treasury Budget Review, 2018-2022

3.9.3   Debt maturity and government guarantees

The maturity of SOEs debt presents a substantial risk to the fiscus. Figure 3.5 below shows that the SOE debt repayments will peak at R24 billion in 2025/26, of which the government guarantees 17 per cent or R4 billion. In 2026/27, debt repayment by SOEs will amount to R16 billion, of which more than half (55 per cent) will be guaranteed by the government. Over the medium term, R67.4 billion in debt falls due, of which government guarantees 22 per cent or R14.9 billion. The poor financial health of SOEs means that this debt may require refinancing; if the refinancing of this debt is not possible, the government is obligated to make available the guarantees, thus impacting the already precarious public finances.

Figure 3.5: Debt maturity profile of major SOEs
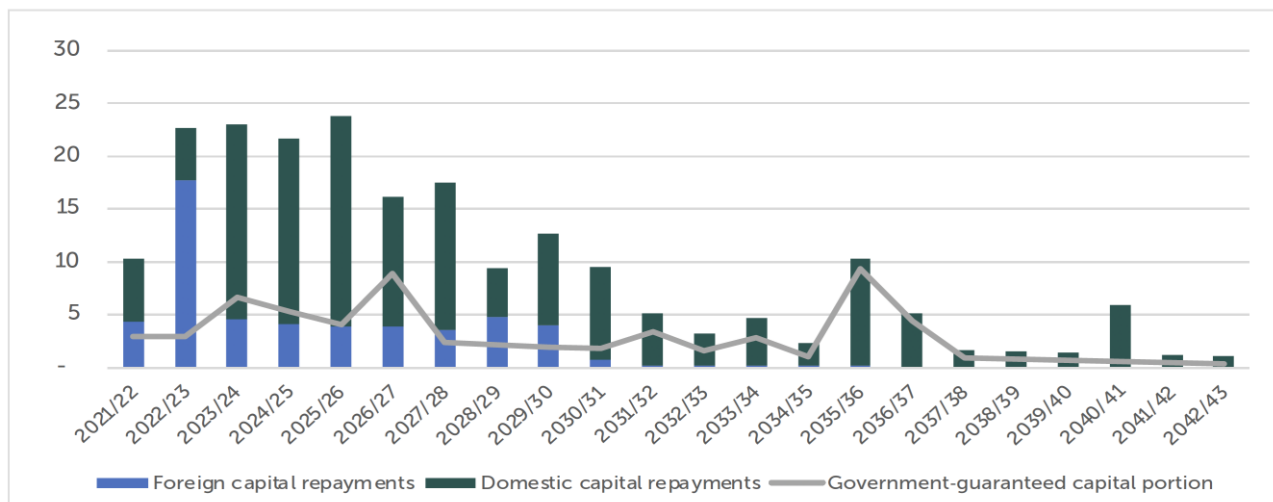
Source: National Treasury Budget Review, 2018-2022

3.9.4   Government financial support to SOEs

Most SOEs, including Eskom, SAPO, SABC, Denel, and SAA, have received direct financial support from the fiscus. The direct fiscal transfer to SOEs transfers accelerated from 1 to 1.6 per cent of GDP between 2015/16 and 2020/21. In the past 12 years, the government has paid R162 billion to financially distressed SOEs, as shown in Table 1.1 below. Eskom accounts for 82 per cent of the total fiscal transfers. In 2019/20, the government allocated R49 billion to Eskom and committed R112 billion in medium-term funding.

Table 3.1: Fiscal transfers to SOEs, 2008/09-2022/23

R billion	Eskom	South African Airways	Denel	South African Express	South African Broadcasting Corporation
2008/09	10.0	–	–	0.4	–
2009/10	30.0	1.5	–	–	–
2010/11	20.0	–	–	–	–
2011/12	–	–	–	–	–
2012/13	0.7	–	0.4	–	–
2013/14	–	–	–	–	–
2014/15	–	–	–	–	–
2015/16	23.0	–	–	–	–
2016/17	–	–	–	–	–
2017/18	–	10.0	–	–	–
2018/19	–	5.0	–	1.2	–
2019/20	49.0	5.5	1.8	0.3	3.2
2008/09-2019/20 (history)	132.7	22.0	2.2	1.9	3.2
2020/21	56.0	10.3	0.6	0.2	–
2021/22	33.0	4.3	–	–	–
2022/23	23.0	1.8	–	–	–
2020/21-2022/23 (MTEF)	112.0	16.4	0.6	0.2	–
Total	**244.7**	**38.4**	**2.8**	**2.1**	**3.2**

Source: National Treasury, Budget Review, 2019

According to National Treasury, the total cumulative total of bailouts to SOEs between 2012/13 and 2021/22 is a staggering R266.6 billion. The bailouts to SOEs are currently not guided by any framework. Whereas some conditions have been attached to some bailouts, they have not been crafted to inculcate turnaround behaviour. Without an enforcement mechanism for adherence to the conditions, most SOEs have not adhered to the bailout conditions, thus rendering them ineffective.

Consequently, there are no tangible fruits of turnaround strategies implemented by SOEs as most remain unprofitable and undercapitalised, reflecting a weak financial position. The bailing out of SOEs creates several moral hazards, as illustrated by their behaviour. SOEs involve themselves in excessive and unjustified risks because the government has created an expectation that they will provide bailouts.

3.9.5 ESKOM

a) *Business model and operations*

Eskom is a critical player in the South African energy sector, generating more than 95 per cent of the country's electricity with a 40 per cent share of Africa's electricity supply. It controls the national transmission grid and distributes around 50 per cent of its electricity directly to industrial and residential consumers, while the residual goes to municipalities.

Eskom is among the top 20 power utilities in the world, using the installed generation capacity as a yardstick (Reuters, 2019). Since 2007, Eskom has battled to satisfy the electricity demand, thus resulting in intermittent power cuts. The rollout of the electrification programme was implemented without any contingency plan to increase generation capacity, despite the government's knowledge of the likelihood of electricity demand surpassing generation capacity in 2007 (Department of Minerals and Energy, 1998).

Eskom has a monopoly on generating and transmitting electricity in South Africa. It shares distribution with municipalities. Electricity generation is burdened with much of Eskom's debt, while the transmission consists of one of the world's most extended electricity transportation lines. Electricity distribution is hampered because municipalities can utilise revenue from selling electricity for other uses. Governance missteps and operational failures at Eskom have translated into financial underperformance and an exodus of critical skills.

Eskom has an enormous operating budget for maintenance, refurbishment, staffing costs, consulting, and service contracts. The most significant component of its finances is coal, which generates most of Eskom's electricity. It is this component of its budget that the granting of over-priced coal contracts has occurred in the past, and non-transparent governance practices have materialised. The cost overruns in building the Medupi and Kusile power stations have also compounded Eskom's finances. The new build programme cost overruns, the significant operating budget, and the over-priced coal contracts are aggravated by the widespread culture of non-payment by some of Eskom's major clients, especially municipalities.

b) *Eskom financial analysis*

As measured by key financial ratios, the financial health of Eskom reflects weak economic performance as both the profitability and solvency ratios are deteriorating. The earnings before interest, taxes, depreciation, and amortisation (EBIDTA) margin for Eskom, which measures its operating profit as a percentage of its revenue, declined from 25.57 per cent in 2018 to 16.06 per cent in 2021, as shown in Figure 3.6 below, implying that Eskom's operating costs are very high compared to total revenue. The latest EBIDTA calculated using Eskom interim results for the six months ending 30 September 2021 shows a significant improvement to 33.22 per cent.

Figure 3.6: Eskom EBIDTA Margin, 2017-2022
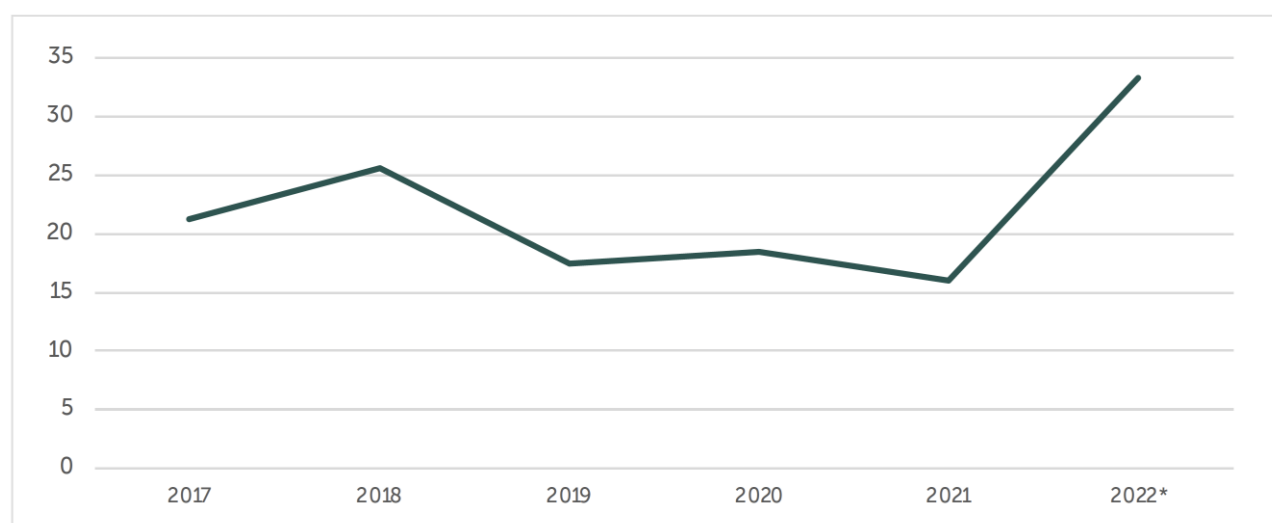
Source: Eskom annual Report, 2021
*2022 ratio based on Eskom interim results for the six months ended 30 September 2021

The debt-to-equity ratio for Eskom, which measures the degree to which a company is financing its operations through debt as opposed to own funds, increased from 2.77 in 2018 to 3.5 in 2019 and remained high at 2.25 in 2021. This means that Eskom uses more debt than equity to fund its business. The net asset value for Eskom decreased from R175 billion in 2017 to R170 billion in 2018, then increased to R215 billion in 2021, as shown in Figure 3.7 below. Eskom's liabilities increased from R534 billion in 2017 to R637 billion in 2020, and its net loss increased from R2.3 billion in 2018 to R20.9 billion in 2019. It remained high at R20.5 billion in 2020 before marginally declining to R18.934 billion in 2021. The projected net loss for 2022 is R9.1 billion.

Figure 3.7: Asset, liabilities and profit/loss margins for Eskom, 2017-2022
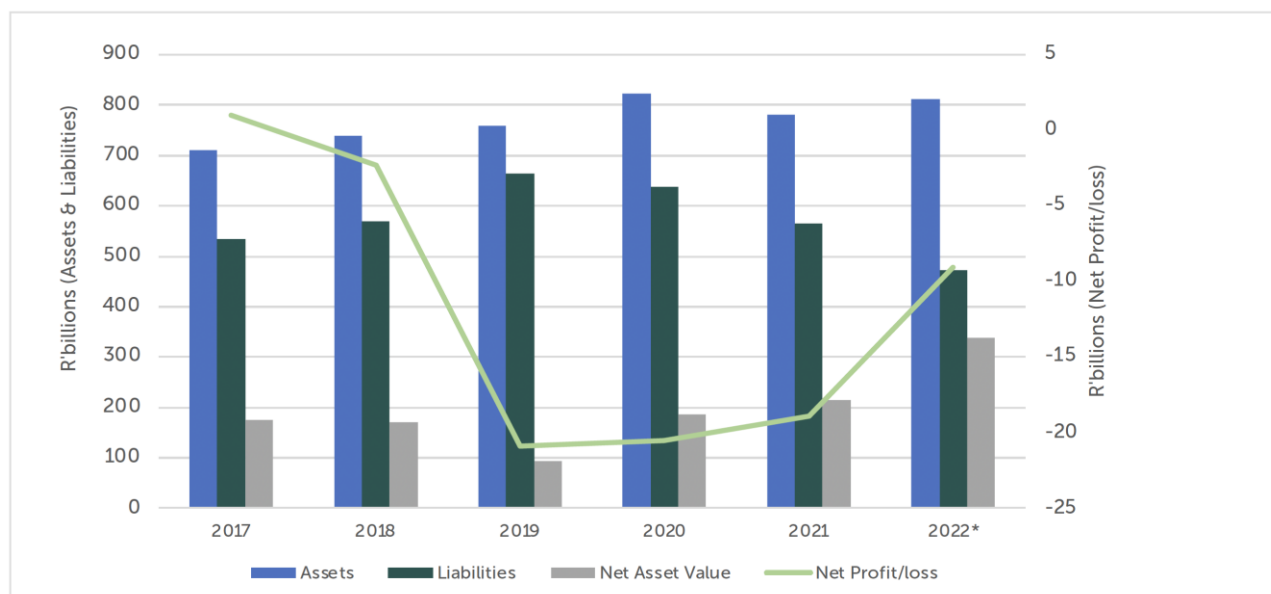
Source: Eskom Annual Reports, various editions

*2022 figures are based on Eskom interim results for the six months ended 30 September 2021

Eskom continues to face liquidity constraints resulting from high debt service costs of the outstanding debt, working capital requirements, escalating municipal arrear debt, and sub-investment grade-level credit ratings. This makes Eskom heavily reliant on government guarantees and equity injections for its operations.

c) *Eskom operational analysis*

Eskom's technical performance metrics are deteriorating. Delayed and inadequate unplanned capability loss factor maintenance translates into declining and unreliable performance, leading to higher maintenance costs. The electricity availability factor (EAF) measures the actual energy output of an electricity-generating device in relation to the energy output that would be produced if it operated at its rated power output. Figure 3.8 below shows that Eskom's EAF has significantly decelerated from 82 per cent in 2012 to 64.2 per cent in 2021. It declined to 62.02 per cent in 2022. The unplanned capability loss factor measures the amount of time generation units were taken offline for unplanned outages. Eskom's unplanned capability loss factor has increased substantially from 8 per cent in 2012 to 20 per cent in 2021 and increased further to 25.35 in 2022.

Figure 3.8: Eskom energy availability factor and unplanned capability loss factor
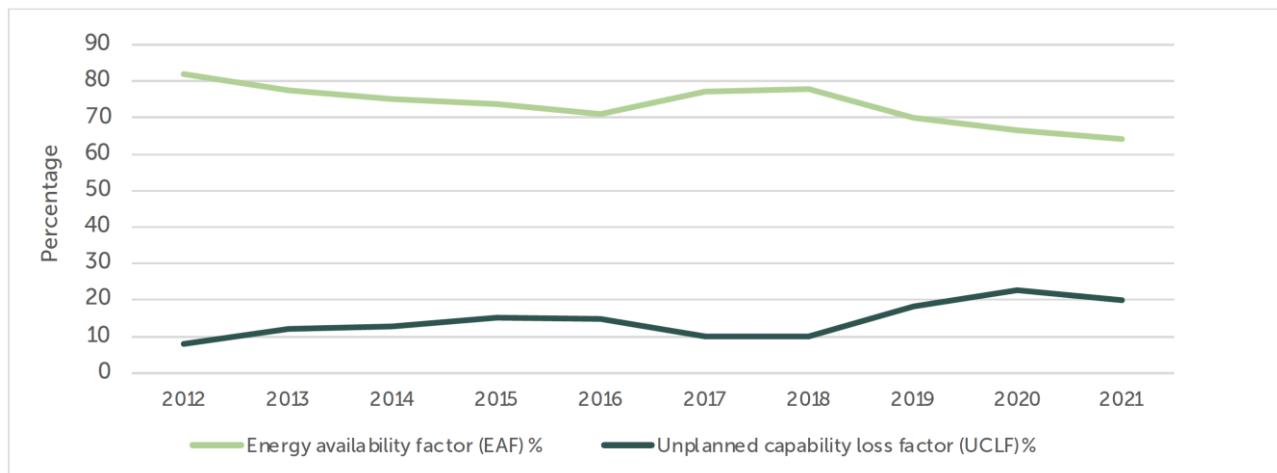
Eskom Annual Report, 2021

South Africa's escalating load shedding challenge is significantly worsening. Figure 3.9 below shows that load shedding in 2021 amounted to 2455 Gigawatt hours (GWh), reflecting a 37 per cent increase from the 1798 GWh load shedding experienced in 2020. The intensity of the load-shedding has also increased. Stage 3 load-shedding increased from 141 GWh in 2020 to 210 GWh in 2021. Similarly, stage 4 load-shedding reached 384 GWh in 2021, up from 332 GWh in 2020. Eskom load-shedding intensified in 2022. According to the Council for Scientific and Industrial Research (CSIR), 2022 overtook 2021 as the most intensive loadshedding year yet, at four times more. More loadshedding was experienced in December 2022 on its own than in any year before. It is the first year that most loadshedding was in stage 4 (3824 GWh), not stage 2. The highest level of loadshedding implemented by Eskom thus far, Stage 6, reached 996 GWh in 2022.

Figure 3.9: Eskom loadshedding in gigawatt hours, 2007-2021
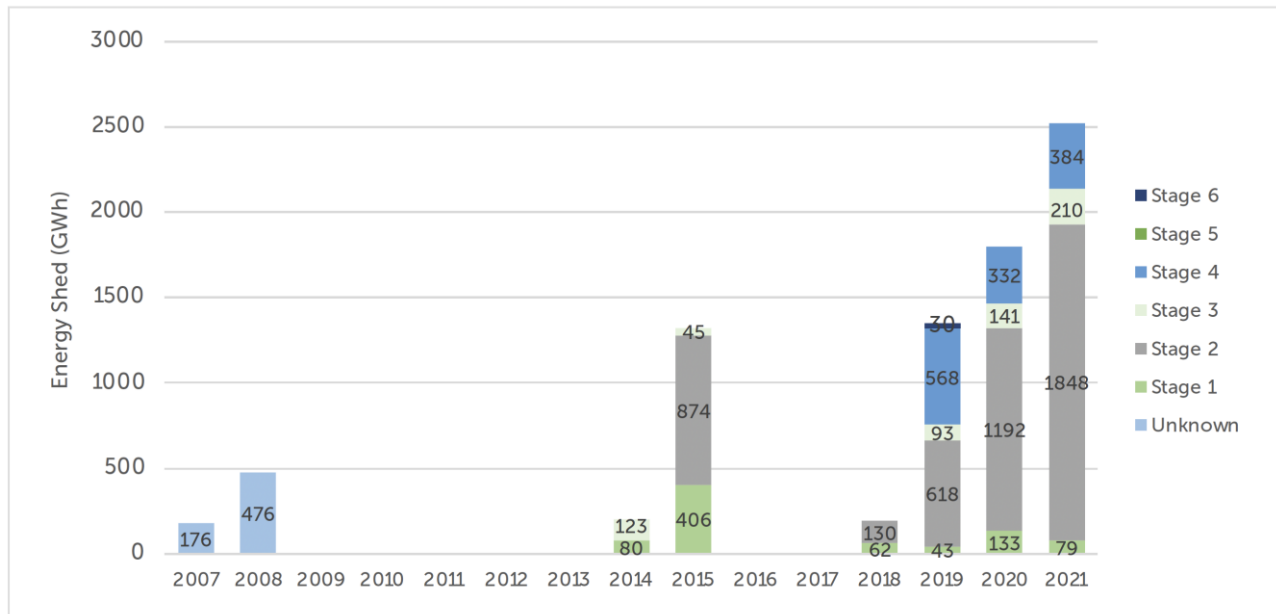
Source: Council for Scientific and Industrial Research, 2021

Eskom loadshedding represents the most crucial constraint to economic growth and has significant socio-economic ramifications for the country. Table 3.2 below shows that between 2007 and June 2022, the cumulative hours of load shedding in South Africa amounted to 5328 hours of electricity blackouts. This translates into 216 days of electricity outages. Whereas load-shedding was initially implemented sporadically, it has increased annually since 2018. It is worth noting that the cumulative hours of load shedding in the first seven months of 2022 have surpassed the 2021 total. At the current pace, the 2021 total will be more than doubled this year and could amount to 100 days of blackouts in a single year, presenting insurmountable challenges for businesses and households.

Table 3.2: Eskom loadshedding in hours, days and GWh, 2017-2022

	Duration of outages (hours)	Days	Energy Shed (GWh)
2007	120	5	176
2008	320	13	476
2009			
2010			
2011			
2012			
2013			
2014	121	5	203
2015	852	36	1325
2016			
2017			
2018	127	5	192
2019	530	22	1352
2020	859	36	1798
2021	1169	43	2521
2022	1230	51	2276
	5328	**216**	**10319**

Source: Council for Scientific and Industrial Research, 2022

Eskom continues to receive significant support from the fiscus, notwithstanding the underperformance outlined above. In the 2020/21 financial year, Eskom utilised R281.6 billion of its R350 billion government guarantee facility. An additional R7 billion was further allocated to Eskom. The Minister of Finance further approved a special dispensation tenable to Eskom to access additional guaranteed debt of R42 billion in 2021/22 and R25 billion in 2022/23. The government has further provided Eskom with equity support amounting to R31.7 billion in 2021/22.

In terms of reforms, Eskom has missed its deadline of 31 December 2021 to complete the legal separation of its transmission, generation and distribution entities. This deadline was missed. The legal separation is now expected to be completed by 31 December 2022.

3.9.6   Transnet

a) *Business model and operations*

Transnet is one of the most prominent players in the freight logistics industry and the transportation of goods in South Africa and some parts of Africa. Transnet is beset by historical and structural challenges, paramount of which is the disproportionate transport demand requirements of inland mining deposits far from the ports. South Africa's economic activity is primarily concentrated inland. Its non-containerised export activity also occurs inland. (Havenga,et al., 2013).

These structural challenges are exacerbated by the chronic nonexistence of a long-term strategic vision for infrastructure planning in South Africa. Currently, rail transport has a share of less than 20 per cent of general freight and less than 10 per cent of passengers. A similar trend is evident in bulk minerals freight (Department of Transport, 2017). The significant market share for road-going side-tipper interlinks results from the deregulation of freight transportation through the Transport Deregulation Act of 1988. The growing market share of road transporters has led to significant investment by road transporters and logistics companies. The deregulation caught Transnet ill-prepared. The period before the deregulation contributed to the absence of a strategic vision for infrastructure planning, particularly rail infrastructure because it had created a monopoly for Transnet that resulted in chronic underinvestment in the rail and ports network (Pieterse et al., 2016).

The rail system in South Africa is currently marred by a capital investment backlog and insufficient funding, outdated and old infrastructure, declining rolling stock, and obsolete technologies. These challenges are exacerbated by a deficient regulatory framework, particularly for freight rail and port terminal operations. The inadequacies in the system encompass the absence of a settlement process; the lack of rules on pricing, investment, and access; and the lack of an autonomous regulator with statutory investigative, enforcement, and decision-making powers.

b) *Transnet financial analysis*

The financial health of Transnet, as measured by key financial ratios, also reflects weak economic performance as the profitability and solvency ratios are deteriorating. The EBIDTA margin for Transnet decreased from 45.6 per cent in 2019 to 28.9 per cent in 2021, reflecting less profitability, as shown in Figure 3.10 below.

Figure 3.10: Transnet EBIDTA, 2017-2022
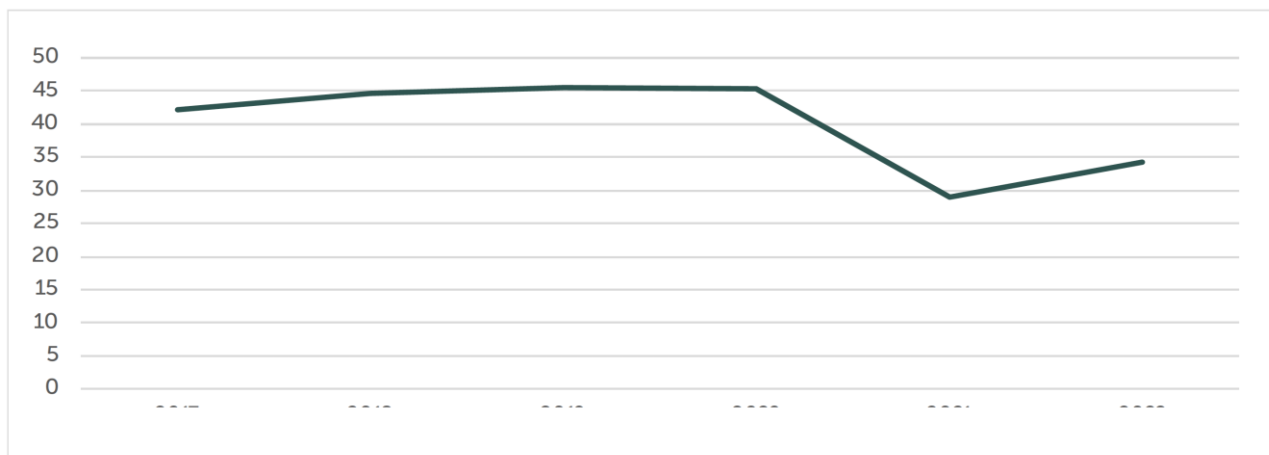
Source: Transnet Annual Reports, various editions

The debt-to-equity ratio increased from 0.43 in 2018 to 0.49 in 2019, implying that Transnet is increasingly using debt than equity to fund its business. It improved marginally to 34.3 in 2022. Transnet's operational performance has declined recently, and its financial position remains marginally constrained. Over the four-year horizon between 2017 and 2021, Transnet's net value decreased from R143 million to R129 million. Transnet posted a net loss of R8.4 billion in 2020/21. In 2022, Transnet made a profit of R5 billion.

Figure 3.11: Asset, liabilities and profit/loss margins for Transnet, 2017-2022
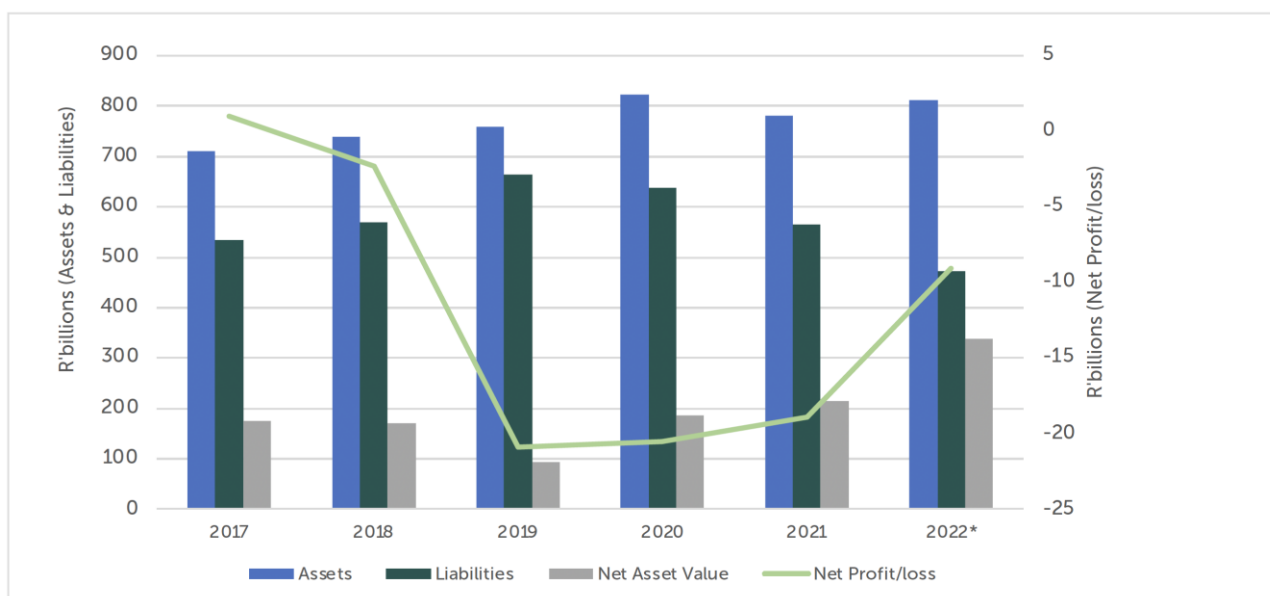
Source: Transnet Annual Reports, various editions

c) *Transnet operational analysis*

Export coal

Transnet's coal exports decelerated by 7.76 per cent to 66.9 mt in 2021 from 72,53 mt in 2020. This means that Transnet missed its target of 74.93 mt by 10.72 per cent. The underperformance is ascribed to tippler breakdowns at the Richards Bay Coal Terminal, derailment eventualities, and the scarcity of 22E locomotives resulting from contractual irregularities[17].

Export iron ore

The volume of iron ore exports conveyed by Transnet declined by 9.77 per cent from 58.85 mt in 2020 to 53 mt in 2021, thus missing the Transnet target of 59.50 mt by 10.76 per cent. The underperformance is attributed to, amongst other things, derailment episodes and the temporary closure of the Olifants River Railway Bridge due to hazardous infrastructure settings, network speed restrictions, and the breakdown of tipplers18.

General freight

The general freight volumes decelerated by 21,72 per cent from 63,4 mt conveyed by rail in 2021 to 80,99 mt in 2020, missing the Transnet target of 80,58 mt by 21,32 per cent. In addition to the effect of COVID-19, the underperformance resulted from Transnet operational glitches, including derailment occurrences, an escalation of theft and vandalism incidences across all corridors, tenacious locomotive malfunctioning and reliability matters, speed limitation within the network, and tippler and offloading impediments at several ports[19].

Freight Rail transported 517 889 Twenty-foot Equivalent Units (TEUs) through major corridors in 2021, reflecting a 22 per cent decline from the 660 894 TEUs transported in 2020. The number of cars transported by Transnet in terms of imports declined from 35 932 in 2020 to 8 434 in 2021, whereas the export units decelerated from 99 754 in 2020 to 80 381 in 2021[20].

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[17] See Transnet Freight Rail 2021 available https://www.transnet.net/InvestorRelations/AR2021/Transnetper cent20Freightper cent20Rail.pdf

[18] Ibid
[19] Ibid
[20] Ibid

3.9.7 Financial analysis of other non-financial and financial SOEs

a) *Non-financial SOEs*

The SABC

The SABC net loss reached R1,03 billion in 2017 before declining to R524 million in 2021, after a net loss of R511 million in 2020. It continues to post net profit losses. These net profit losses have been attributed to a sharp deceleration in advertising spending and revenue resulting from the COVID-19 lockdown. The SABC has reduced its complement and revamped its advertising sales model as part of its turnaround plan.

Denel

Despite government support, Denel's debt situation has worsened. In March 2021, Denel was declared insolvent with an accelerated debt of R3.4 billion. The severe liquidity state and the absence of sovereign support have led to a further credit rating downgrade. In 2021/22, the government provided Denel with R3 billion through section 70(2)(b) of the Public Finance Management Act (PFMA) for capital and interest payments on guaranteed debt. Denel remains financially distressed and unable to fulfil its financial obligations. It has not submitted annual financial statements for 2021/22. Denel was allocated R3.4 billion through the Special Appropriation Act (2022) with set conditions relating to the implementation of its turnaround plan and clarity on a sustainable business model. The allocation funds will only be released to Denel if the conditions are met before the end of March 2023. There is a need for all relevant stakeholders, including the Department of Defence, the Department of Public Enterprises, and the National Treasury, to finalise the strategic way forward for Denel.

South African Airways

The 2020 budget allocated R16.4 billion to SAA over the 2020 medium-term expenditure framework (MTEF) period for state-guaranteed debt and interest costs. To implement the business rescue plan, an additional R10.5 billion was allocated to SAA in the 2020 Medium Term Budget Policy Statement (MTBPS). The partial sale of SAA is yet to be finalised, subject to the approval of R3.5 billion to settle historical liabilities by the National Treasury. SAA exited business rescue in April 2021 and resumed domestic and regional operations. It has not submitted financial statements since 2017 and the financial statements for 2021/22 are still outstanding. The 2023 budget allocated R1 billion to assist with outstanding obligations.

Regarding operational issues, in August 2022, SAA was given 90 days to respond to charges of administrative breaches or face losing its licenses by Air Services Licensing Council (ASLC). The ASLC breach by the airline pertains to its non-adherence to the Air Services Licensing Act.

b) *Financial SOEs*

Development Bank of Southern Africa

The DBSA funds large-scale infrastructure projects. The bank has posted back-to-back net profits in the past five financial years, growing from R2.3 billion in 2018 to R3.8 billion in 2022. However, the bank experienced a 64 per cent decline in approved loans from R39.7 billion in 2018/19 to R14.4 billion in 2020/21. The deceleration is ascribed to the impact of the COVID-19 pandemic and the bank's higher cost of borrowing. The DBSA sovereign credit rating downgrades in 2020 increased the bank's funding cost. Disbursements declined to R13.5 billion in 2021 from R15.4 billion in 2019/20.

Industrial Development Corporation

The IDC funds industrial development and enhances economic integration across the continent. After posting back-to-back net profit losses in 2019 (-R400 million) and 2020 (-R3.1billion), the IDC reported a net profit for two successive years, R3.2 billion in 2021 and R2.7 billion in 2022. The poor performance of other group components resulted in net losses of R33 million in 2021 and (-R3.8 billion) in 2020.

The COVID-19 pandemic resulted in the accumulation of impairments and write-offs on IDC's investments in 2020. The Downgrades to the sovereign credit rating resulted in shrinking borrowing capacity and rising borrowing costs.

Land Bank

The Land Bank finances the agricultural sector. It remains in financial distress following a default on its debt in 2020/21. The Land Bank has since reduced its debt by 29 per cent, from R40.6 billion to R29.2 billion, through capital repayments. The 2020 adjustments budget allocated R3 billion to the Land Bank. A further R5 billion was provided in 2021. The 2022/23 fiscal framework allocated an R5 billion conditional allocation to the Land Bank.

The Land Bank has improved its financial position. Net profit for 2021/22 was R1.4 billion, compared to a net loss of R747 million in 2020/21. Pursuant to a qualified audit opinion, the Bank implemented a remedial action plan and received an unqualified audit opinion with no findings from the Auditor-

General for 2021/22. However, the Auditor-General noted uncertainty about its status as a going concern due to the debt default.

3.10 Government Debt and Contingent Liability Management

3.10.1 Contingent liabilities management rationale

Contingent liabilities are government's legal obligations to make a payment if a particular future event occurs and are typically not fully 142 recognised until after a failure occurs. They constitute commitments that may give rise to financial obligations in the future. If the failure realises, this means that the required size of government outlay is uncertain. These obligations include guarantees to state-owned companies, independent power producers, public-private partnerships (PPPs), and provisions for multilateral institutions. Any underfunding of social security funds (according to their actuarial valuations) also constitutes an obligation. Levels of contingent liability risk vary, as do the likelihood of default and callability (when creditors call on the guarantee).

South Africa's contingent liabilities emanate primarily from the issuance of government guarantees, obligations from the PPP contracts, and state insurance schemes. They are managed by the Asset and Liability Management (ALM) Division of the National Treasury.

The government's explicit contingent liabilities originate from issuing credit guarantees to SOEs. These guarantees are mainly given to provide government support to SOEs. The liability arises when an SOE cannot service its guaranteed debt because the government is then obligated to service the debt.

Contingent liabilities from PPPs arise from government-guaranteed debt in terms of the PPP agreement, as well as any expected costs for the government in the event of termination of the contract. The PPP contract could also include a minimum revenue generated by the project, failing which the government is obligated to provide the shortfall.

Other contingent liabilities could arise from the public or market expectation that the government should support failed institutions of national interest. These entail a default of a sub-sovereign, public or private entity on non-guaranteed debt and other liabilities, bank failure, investment failure of a government-related pension fund, employment fund, or social security fund, central bank default on its obligations, and residual environmental damage, disaster relief, military financing.

If contingent liabilities are not well managed, they could be transmitted into the national budget unexpectedly, thus generating cash outflows and debt accumulation. Contingent liabilities could therefore mask fiscal support. Moreover, because they do not require upfront payment, they could easily be used to evade budgetary constraints. This means minimising the need to conduct a thorough systematic assessment of risks and their impact on the budget. The contingent liabilities are thus not subjected to the usual scrutiny associated with regular expenditure decisions. They could therefore be abused to support less deserving projects.

The government must fully appreciate the contingent liabilities portfolio and their related risks to manage these liabilities effectively. They must also establish a proper methodology for regulating the issuance of contingent liabilities, institute risk mitigation measures to lessen the possibility of devolution, and provide sufficient funding, accounting, and reporting procedures. The first step in managing contingent liabilities is determining their composition. Figure 3.12 below presents a composition framework for contingent liabilities.

Figure 3.12: Framework for determining the composition of contingent liabilities
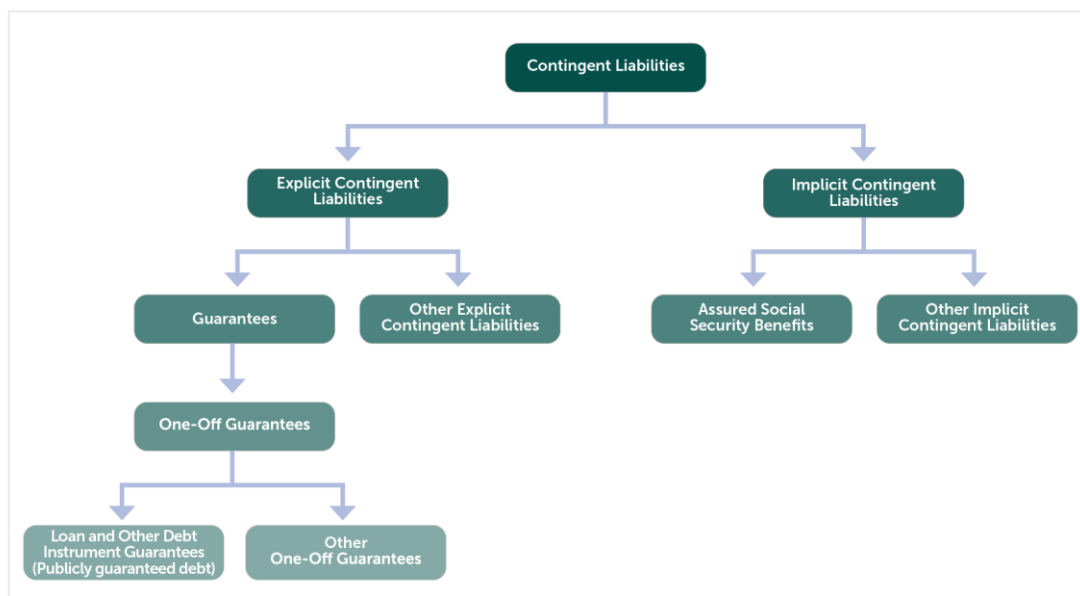
Source: IMF GFSM (Government Financial Statistics Manual, 2014)

3.10.2 Government debt and contingent liabilities analysis

In 2008/09, the gross loan debt was R627 billion, or 23.6 per cent per cent of GDP. Since then, gross loan debt has increased almost six-fold to R4.3 trillion or 69.5 per cent of GDP in 2020/21. The gross loan debt is projected to increase further to reach R5.4 billion or 73 per cent of GDP in 2024/25, as shown in Figure 3.13 below.

Figure 3.13: Gross loan, net loan debt, gross loan as a percentage of GDP, net loan debt as a percentage of GDP, 2007/09-2024/25
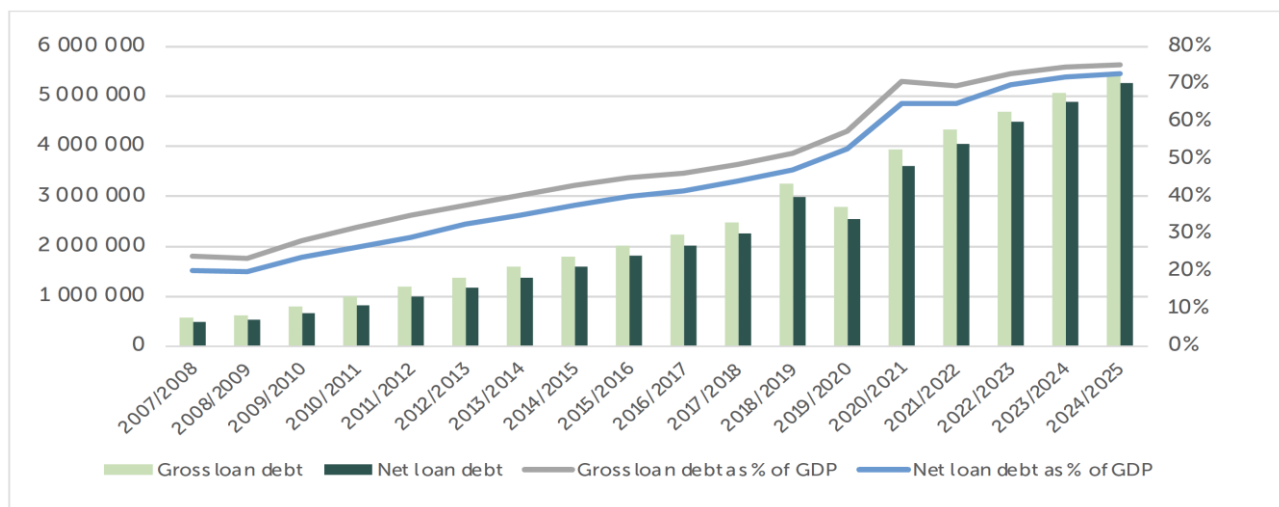
Source: National Treasury Budget Review, 2018-2022

The total contingent liabilities amounted to R195 billion in 2008/09, of which government guarantees to SOEs constituted R63 billion, representing 32 per cent of contingent liabilities, as shown in Figure 3.14 below. Contingent liabilities are projected to reach R1.1 trillion in 2020/21, of which R569 billion will be government guarantees to SOEs, accounting for more than half of the total contingent liabilities (53 per cent). In 2024/25, contingent liabilities are projected to increase to R1.2 trillion; more than 40 per cent will be government guarantees to SOEs. Contingent liabilities are increasingly driven by government guarantees to SOEs, constituting a significant risk to the fiscus, particularly when SOEs' financial and operational performance is weak, as demonstrated above. If the guarantees to SOEs materialise, government debt will increase, and the fiscal position will worsen, thus presenting significant developmental challenges.

Figure 3.14: Contingent liabilities and government guarantees to SOEs, 2007/08 - 2024/25
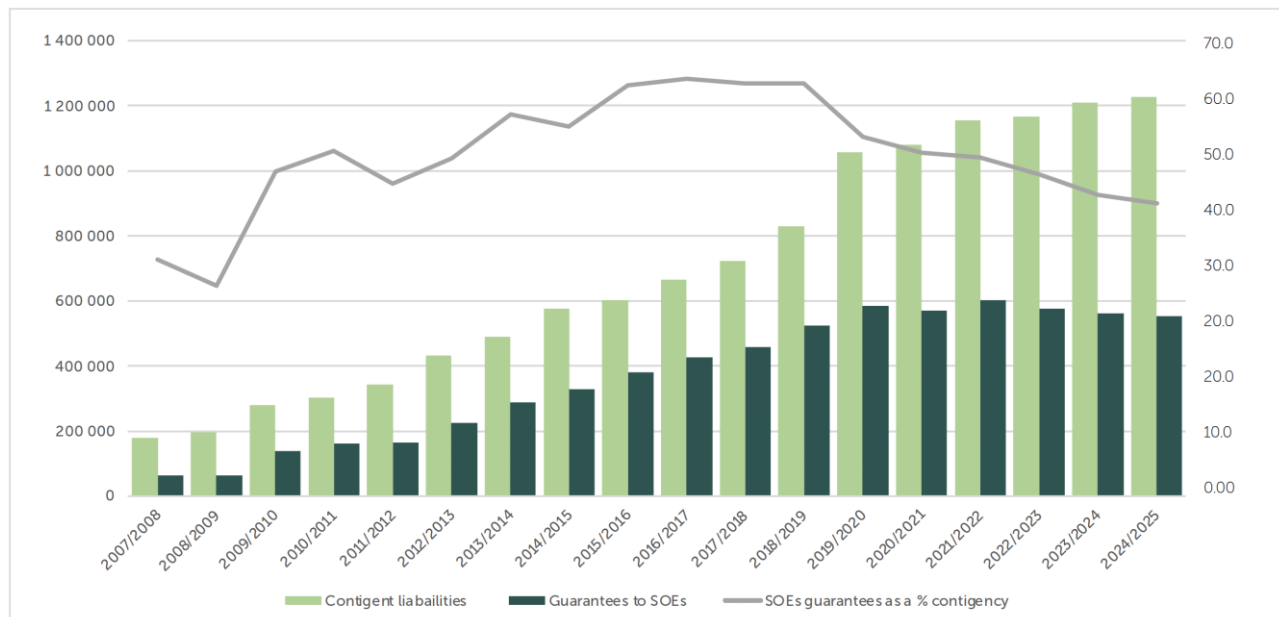
Source: National Treasury Budget Review, 2018-2022

3.10.3 Government guarantees and exposure to SOEs

Government exposure to SOEs is very high. Table 3.3 below shows that government support for Eskom, in the form of guarantees, increased from 6.2 per cent per cent of GDP in 2019/20 to 6.3 per cent in 2020/21. The total guarantee to all the SOEs in Table 3.3 increased from 12.2 per cent of GDP in 2019/20 to 12.4 per cent in 2021/22.

There is no correlation between the conditions attached to government issuance of guarantees and the reasons why guarantees are applied for in the first instance. The swift acceleration of government guarantees between 2008/09 and 2018/19 is mainly attributed to SOEs' poor governance; inappropriate business models; policy uncertainty; and costly policy decisions.

The failure to address the problem source when financing decisions are made translates into ill-advised guarantee support. The government is continuously being confronted by consecutive guarantee applications and financing requests with no tangible results to justify them. Consequently, government guarantees have been increasing while the SOEs' financial performance has been deteriorating, as demonstrated by net profit losses, unsustainable debt levels, and worsening liquidity ratios. This unhealthy virtuous cycle has been reoccurring as weak SOEs' financial performance has led to more government guarantees to SOEs resulting in higher fiscal vulnerability, higher financing costs, and deteriorating credit rating outcomes.

Table 3.3: Government guarantees and exposure to SOEs, 2019/20 - 2021/22

	2019/20		2020/21		2021/22	
	Guarantee	Exposure	Guarantee	Exposure	Guarantee	Exposure
Public Institutions	8.5%	7.3%	10.4%	6.9%	9.0%	8.7%
Eskom	6.2%	5.7%	6.3%	5.4%	5.6%	5.2%
SANRAL	0.7%	0.7%	0.7%	0.7%	0.6%	0.8%
Trans-Caledon Tunnel Authority	0.8%	0.2%	0.8%	0.2%	0.4%	0.2%
South African Airways	0.3%	0.3%	0.3%	0.1%	0.3%	0.0%
Development Bank of Southern Africa	0.2%	0%	0.2%	0.0%	0.2%	0.0%
Land and Agricultural Bank of South Africa	0.2%	0.1%	0.2%	0.1%	0.2%	0.1%
Transnet	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Denel	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Independent power producers	3.5%	2.8%	3.2%	3.3%	3.3%	2.8%
Public -private partnerships	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%
Total	**12.2%**	**10.3%**	**10.2%**	**12.4%**	**12.4%**	**9.6%**

Source: National Treasury Budget Review, 2022

3.11   Sources of Fiscal Risks from SOEs

A soft budget constraint occurs when a government fails to credibly commit not to bail out an enterprise that it effectively controls in terms of ownership. The existence of soft budget constraints distorts the incentives of SOEs to operate efficiently and emboldens risk-taking. Whereas private enterprises functioning in competitive markets are most likely to go bankrupt if they operate inefficiently, SOEs, particularly those mandated to provide social goods and services, are unlikely to face similar consequences. This means that the SOEs' incentives to control costs and improve the quality of their output are greatly diminished.

a) *Quasi-fiscal Operations*

In most instances, soft budget constraints result from a directive from governments to SOEs obliging them to pursue public policy objectives without commensurate resources. These quasi-fiscal burdens arise from imposed prices, the labour market, or other regulations. The continual implementation of these uncompensated quasi-fiscal activities results in loss accumulation, underinvestment, and excess borrowing by SOEs. Consequently, the government is obliged to bail out these SOEs through fiscal transfers, equity increases, and assumption and restructuring of their debt. The government's rationale

for using SOEs for uncompensated, quasi-fiscal operations is multi-fold. The primary sources of quasi-fiscal burdens are as follows:

- Governments usually fix regulated prices for goods and services provided by SOEs at levels that do not permit efficient operations. While some countries have progressed in this regard by instituting independent agencies for regulating, for instance, energy and utility prices, using transparent formulas, SOEs continue to incur uncompensated losses because regulated tariffs often need to be adequately adjusted to reflect cost increases. Moreover, government headline inflation rate moderation is usually achieved by suspending statutory formulas. The prices of SOE-provided goods and services with a significant weight in the consumer price index are frozen or adjusted only partially.

- In some countries, the SOEs' employees enjoy the same rights as the country's civil servants. This means the ability of the SOEs to adapt the size of their workforce to changing demand levels, technological changes, or financial constraints is severely limited. The SOEs could also be forced to comply with a rigid pay structure, resulting in high floors for wages paid to low-skilled workers and an inability to attract highly skilled. Even in countries where the SOEs' employees adhere to the same legislative frameworks as private enterprises, the limited flexibility has made it politically difficult for them to resize their workforce in response to cyclical and structural factors. Moreover, the power of trade unions further complicates workforce management, especially in the larger SOEs.

- SOEs responsible for public services such as electricity, water, and sanitation are typically directed to undertake costly investments to extend their coverage, especially in remote rural areas.
  The SOEs usually are not compensated for the original investment and the additional costs of providing the services at a loss. Governments often use their SOEs to outsource unrelated social activities to their core businesses.

- SOEs are often legally obliged to source raw materials and equipment from relatively costlier national suppliers. This results in substantial delays and cost overruns in implementing large projects.

- To increase transparency, SOEs must often adhere to cumbersome public procurement regulations. This significantly increases their regulatory burden and reduces their competitiveness.

- SOEs are usually forced to contend with payments in arrears from national and subnational governments or other SOEs and distribution losses resulting from the unauthorised usage of their services.

- SOEs can often not make profit-maximising decisions because political imperatives dictate the locations and types of investment, recruitment of staff, and procurement. This results in cost increases, reductions in efficiency, and an implicit expectation by the SOEs' management to be bailed out in case they run into financial distress. In more extreme, but not uncommon cases, such interventions are accompanied by outright corruption for personal or party gains.

3.11.2 Excessive resource extraction from SOEs on the part of their government owners

In most OECD countries, the government guides the SOEs' boards on expected rates of return, often in the context of their approval of annual or long-term corporate plans. Similarly, most OECD countries have established guidelines on how SOEs should distribute dividends. Some countries set dividend payouts as a fixed percentage of the SOEs 'profits, while others link expected dividend distribution to optimal capital structure guidelines. Explicit rate-of-return requirements are not standard in most developing countries. However, in some developing countries, regulators consider rate-of-return considerations when setting tariffs. In the main, though, dividend distribution policies in developing countries tend to be primarily dictated by short-term government budgetary needs, translating into less-than-optimal capital structures and weakened investing capacity. The discretionary nature of dividend distribution policies also makes it harder for SOEs to forecast the amount of internal financing available and plan future investments.

3.11.3 Preferential access of SOEs to financing

Preferential access to financing is one of the primary sources of soft budget constraints for SOEs. It distorts their incentives for efficiency because they know they can depend on government bailouts and inspires excessive borrowing, ultimately resulting in a debt-fueled financial crisis. The different forms of preferential access are as follows:

- Governments typically lend directly to their SOEs at below-market interest rates or use state-owned financial institutions to lend to non-financial SOEs. Such activities are relatively uncommon in the OECD countries because of the restrictions imposed on state aid and the declining state ownership of financial institutions. However, it is more common in developing countries, where the state has a significant presence in the financial sector. In Peru, Fonafe offers short-to-medium-term loans to its enterprises. In Argentina, the share of loans to non-financial SOEs in the portfolio of the Bank of the Argentine Nation has grown significantly over the last decade. The Brazilian Development Bank provided 20 to 40 per cent of all its loans to SOEs over the last decade.

- Government usually guarantees SOEs' borrowings and security issues. Most OECD countries do not provide explicit guarantees save for a limited number of large SOEs such as railways, airports, and financial enterprises. Some OECD countries levy fees on these guarantees. However, in most developing countries, government guarantees are commonly used with no fees charged.

- In instances with no explicit guarantees, financial markets expect the government to step in if one of its SOEs is about to default in developing countries.

- Most developing countries depend on administrative controls for SOEs financing; SOEs must obtain approval from the government for borrowing applications, except for short-term loans to finance working capital requirements. The government approvals are premised on evaluating the proposed usage of the debt and the SOE's ability to service it. Though, most approvals are discretionary.

- Administrative control systems could translate into soft budget constraints because:
  - They initiate bargaining between the government and the SOEs.
  - Governments might find it politically unpalatable not to bail out SOEs if they were responsible for the financial difficulties being faced by the SOEs.
  - Financial markets would understandably see the government guaranteeing its approved loans or bond issues.

- Therefore, SOEs' access to financing must be conditional on their ability to meet clear, pre-specified, and well-publicised criteria assessing their capacity to service the debt.

3.11.4 Information asymmetries

Several types of information asymmetries could also result from soft budget constraints. Some impact the extent of control that shareholder governments have over SOEs, while others constrain the due diligence financial markets can perform on the SOEs.

a) *Information asymmetries between SOEs and the government*

The relationship between governments and SOEs is usually defined by principal-agent problems (Musacchio, Pineda Ayerbe, & Garcia, 2015). The objectives of the government (the principal) are to pursue specific policy goals, primarily correcting market failures and maximising the return generated by the SOEs. These goals may only partially align with the SOE's management (the agents). They might be more attracted to expanding the firm's size, securing more capital, pursuing other investments, or increasing their financial gains. The management manipulates the fact that it typically has more information about the SOE's operations and finances than the shareholder government. Such asymmetries could be exacerbated by the following:

- The delegation of oversight of individual SOEs to different ministries with different policy objectives. If the SOE has multiple principals and no central coordination mechanism, it may be incentivised to minimise the government's oversight by strategically limiting the information it provides to each principal.
- The manifestation of imprecise and inadequately enforced government guidelines regarding the following:
  - SOEs' planning, budgeting, and investment selection processes
  - The specifics and regularity of information provided to the government
  - The naming, calculation, and disclosure of risk factors affecting the SOE's projected operational and financial results
  - The steps to be taken in the event of underperformance
  - Weaknesses in the accounting and internal and external auditing systems for SOEs
  - Inadequate resources in the units responsible for monitoring the SOEs.

The seriousness of these information asymmetries varies considerably across countries and over time, reflecting the country's level of development, the size of its SOE sector, and the quality of its institutions. Some developing countries have robust oversight and control mechanisms such as SOHCs or inter-ministerial committees. In these countries, the SOEs are given detailed guidance on budget and investment decisions and must submit comprehensive financial reports on time. However, some SOEs do not have to abide by the general rules. Consequently, performing any risk analysis is impossible due to the lack of operational and financial data.

b) *Quality and transparency of public information on SOEs' Performance*

Appraising published information on SOEs' operational and financial performance by minority shareholders, financial market operators, consumers, and other private firms is a function of its quality and credibility.

However, published information often falls short in several ways:

- Non-adherence to international standards for corporate accounts

- Inadequate detail

- Low or irregular frequency of publication

- Frequently unaudited

- Lack of standardised, timely, and reliable indicators of operational performance

In most developing countries, information on SOEs' financial performance tends to be more readily available and is of a higher quality than what is provided on their operational performance. Most countries publish summary financial data for individual SOEs at regular intervals and more comprehensive audited income statements and balance sheets annually. Most countries also publish aggregated financial statistics for the entire SOE sector. However, these reports rarely analyse a particular enterprise's performance against its targets and the results achieved by private and foreign firms operating in the same industry. In addition, they seldom offer recommendations for the future.

3.12   The case of State-Owned Holding Companies

3.12.1 Historical background of state-owned holding companies

A state-owned holding company (SOHC) is a parent company that controls the configuration of the board of directors of its subsidiaries or a professionally managed institution owning a portfolio of stocks in SOEs to influence them (Banerjee, Leleux, & Vermaelen, 1997; Murthy, 1988). It oversees the management of SOEs by acting both as a financial intermediary and an active stakeholder. Ideally, SOHCs are supposed to be independent and free from any political influence; they enjoy appropriate legal status and budgetary autonomy.

The primary rationale for establishing a SOHC is its ability to manage the SOEs effectively. It can also prepare public companies for privatisation and effectively manage it. The typical arrangement is that the ownership of SOEs is transferred to the SOHC, which operates under the ministry of finance authority. In serving as an intermediary between the government and the SOEs, a SOHC could restrain political interference in the running of SOEs and provide more operational independence.

Most countries have embraced the SOHC model. They include, among others, Temasek (Singapore, 1974), the Austrian Industry-Holding Stock Corporation (Austria, 1986), Khazanah Nasional Berhad (Malaysia, 1994), The State Capital Investment Corporation (Vietnam, 2006), Druk Holdings and Investments (Bhutan, 2007), Samruk-Kazyna (Kazakhstan, 2008), and the Hungarian National Asset Management Inc. (Hungary, 2008).

The history of SOE reforms has mainly included privatisation meant to enhance corporate governance and the effectiveness of SOEs. Most countries have introduced these reforms over the past twenty years, with different levels of success. Some literature has suggested a positive correlation between partial privatisation and the performance of SOEs subject to proper policy and regulatory frameworks (Gupta, 2005; Kikeri & Nellis, 2004; Lazzarini & Musacchio, 2014). In contrast, some studies have concluded that privatisation does not substantially enhance the efficacy of SOEs (Boussofiane, Martin, & Parker, 1997; Kraft, Hofler, & Payne, 2006; Saygili & Taymaz, 2001).

The Organisation for Economic Co-operation and Development (OECD) 's Guidelines on Corporate Governance of State-Owned Enterprises (OECD, 2015) is the international benchmark of good practice on SOEs governance. Most countries are instituting governance reforms to change the ownership function arrangements fundamentally. These arrangements have been inclined mainly toward greater centralisation aimed at resolving the problems associated with the governance of SOEs.

Centralised arrangements are meant to dissociate the state's ownership functions from its policymaking and regulatory procedures to minimize political interference and potential conflicts of interest (World Bank, 2014). The primary categories of centralised systems encompass ownership residing within a single ministry or department, a specialised government agency combined with sectoral holding companies, and a SOHC. In the single ministry or department model, SOEs are placed under the control of a single entity. A specialised government agency model involves establishing an institution under the state's direct ownership responsible for recommending directors, assessing disclosures and reporting, executing good governance practices, and developing the assets of SOEs[21].

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[21] Idid

3.12.2 Advantages of state-owned holding companies

Establishing a SOHC will normally reduce the principal problems by introducing a two-tiered principal-agent relationship; (a) the government-SOHC relationship and (b) the SOHC-SOE relationship. The benefits of full centralisation under one entity also accrue to SOHCs. These benefits include:

Better transparency

Existing evidence on SOHCs shows that they enable the introduction of ex-ante procedures to guide the behaviour of SOE managers and help standardise SOE disclosure requirements, timelines, procurement policies, and auditing procedures. They reduce the discretionary nature of financial governance by reducing the soft budget constraint problem and the government's capacity to extract the public benefits of control. Homogenising financial and accounting rules and unifying the processes around internal audits for its Portfolio Companies (PCs) and Holding Companies (HCs) enable transparency, comparability, and better decision-making. HCs enable the standardisation of all data, thus permitting data comparability.

Improvement in governance

Grouping SOEs under the same roof makes homogenising the legal framework for all subsidiary companies easier. HCs can simplify interaction with other stakeholders. The relationship with stakeholders, like Parliament, state auditors, civil society, and other entities, can be coordinated more effectively. HCs, help address shortcomings in governance areas by taking up additional responsibilities.

Mitigating the problem of multiple shareholders

Companies with multiple and dispersed shareholders are susceptible to governance challenges. SOHCs facilitate the consolidation of a variety of SOEs under one principal. This reduces the multiple principals' problems, information asymmetries, and monitoring problems. A SOHC undertakes the mission as the main shareholder in all SOEs, controlled or held directly or indirectly by the government. With multiple shareholders, converging on a focused set of objectives is difficult. For instance, Finance ministries could promote a dividend policy aimed at maximising government revenues, but power utilities and ministries of energy will be more inclined to prioritise service quality through investments to maintain and improve quality and seek to increase service coverage. These incompatible objectives highlight the multiple agency problem. A SOHC can mitigate the multiple-agency problem by designing a common strategy for the entire group, which adjusts and adapts to the peculiarities of its individual subsidiary companies.

Clear strategic focus

SOHCs are efficient instruments for controlling several SOEs because line ministries find it challenging to deal with numerous SOEs directly. The HC facilitates government control. Without multiple shareholders, HCs can ease the design of better management policies for SOEs. Identifying and defining clear objectives and responsible executives results in better performance monitoring. SOHCs can differentiate between social and financial objectives, allowing for a transparent measurement and allocation of distinct funding for their social objectives.

Avoiding conflicts

The coordination of products, services, prices, contracts, and funding can be improved in the HC structure, thus avoiding conflicts. HCs enable internal systems aimed at resolving conflicts among their PCs through better transparency.

Stimulating capital markets

Budgetary allocations from governments do not fund SOHCs' operations. Instead, they are self-financing through dividends from their own assets and capital raised from financial markets. Most emerging markets' current capital markets landscape includes a significant share of SOEs. In some instances, SOEs account for almost 13 to 22 per cent of global stock market capitalisation. They play a crucial role in stimulating stock markets through the volume of trading in SOE stocks and liquidity.

Additional SOHC advantages include the following:

- The SOHC's authority over the SOEs on behalf of the government and its responsibility for improving their fiscal governance and financial performance limits the government's ability to enforce social objectives on the SOEs, thus enabling them to make decisions premised only on maximising profits and sustaining good financial performance.
- A SOHC alleviates the multiple principal difficulties because it eliminates the ability of various agents to implement contradictory objectives.
- A SOHC provides increased transparency by embracing a single set of financial and accounting standards by all SOEs.
- A SOHC provides a degree of separation between the government and the SOEs, thus, rendering it difficult for the government to intervene in the daily affairs of the SOEs.
- A SOHC manages various SOEs along strategic, operational, and financial lines to achieve better efficiency through economies of scale and industrial synergies.

3.12.3 Typology of state-owned holding companies

Three main types of SOHCs are premised on their distinctive role as institutional investors mediating the relationship between government and SOEs: the corporate investor, shadow investor, and submissive investor. A corporate investor-type SOHC is a private institutional investor whose primary objective is profit maximisation. Given that underperforming SOEs cannot rely on price subsidies or bailouts, the corporate investor type has significant repercussions for the fiscal governance of SOEs. The fiscal governance of an underperforming SOE is defined by discretionary fiscal transfers, which encourage managers to take on excessive risk. In contrast, the corporate investor avoids these issues by having tight budget constraints and transparent resource transfers.

Moreover, while benefiting from the SOHC system, the corporate investor type also incurs fewer political and agency costs. In this model, a decrease in input controls is achieved through many independent board members, high independence of the SOHC, and a separation of the roles of chairman and CEO. There is a robust enticement for enhanced performance as the SOHC–SOE relationship is highly dependent on evaluating critical performance metrics. The corporate investor is also resistant to the tunnelling problem because ownership is not placed on the SOHC.

A shadow investor-type SOHC focuses on operational efficiency but is only partially focused on profit maximisation. In this model, the government is responsible for the planning, setting objectives for each subsidiary, and allowing them to make operational decisions. The shadow investor type model could manage these SOEs, but it essentially operates as a facilitator by guaranteeing the government's social objectives are met through efficient resource utilisation. In this model, government officials constitute most of the board of directors. There is potential for tunnelling as different state subsidiaries might be under an active privatisation phase or subject to strategic manoeuvring by the government.

In the submissive investor-type SOHC model, the government has almost complete control of the subsidiaries. The submissive SOHC model operates SOEs like government agencies, with the government setting social objectives and running the SOEs. Submissive SOHCs have minimum independence to manage the SOEs, and their boards are packed with politically appointed public officials. They also have weak corporate governance because there of lack of separation between the chairperson and CEO roles. This model pays little attention to performance measures in deciding compensation, and tunneling is highly likely to occur because ownership is concentrated within the SOHC.

Most developing countries are transitioning from the submissive investor type to the shadow investor type. For instance, in Peru, whereas the social objectives of SOEs are powerfully accentuated, and political interference in bureaucratic institutions is high, more independence is being grated to Peru's National Fund for the Financing of the Public Sector Companies, in appointing the board members and CEOs of SOEs. Similarly, Hungarian National Asset Management Inc. has distinct non-commercial objectives. Although political interference still exists, independent directors from the private sector are now on the boards of their SOEs.

3.12.4 State-owned holding companies' lessons and challenges

The challenge for a SOHC is insulating it from political and bureaucratic forces because its efficiency is hamstrung as political interference surges. This means substantial room for improvement in instances with high government interference. The performance of SOEs operating under a corporate investor-type SOHC model compares favorably with that of their private industrial counterparts because government-mandated social objectives do not hamper them. They also exhibit sound fiscal governance because of hard budget constraints. Moreover, there are minimal discretionary resource transfers because the ownership of SOEs is not concentrated within a corporate investor-type SOHC.

SOEs under a shadow investor-type SOHC model or a submissive investor-type SOHC perform poorly compared to private companies. Their operational decisions are often clouded by political interference and rely on government bailouts and discretionary resource transfers to ease budgetary concerns. Their efficiency is constrained because of contradictory social and corporate objectives, and politically appointed public officials manage them. For a SOHC to be effective, it must have operational autonomy and staff with managerial and technical skills. Singapore, for instance, has brought private sector professionals to Temasek Holdings Limited (THL) boards and its portfolio companies to augment technical, financial, and legal skills. In Malaysia, the Khazanah has employed experienced professionals from the financial and corporate sectors, and public officials have been removed from the boards of SOEs (World Bank, 2014).

There are two principal–agent layers associated with a SOHC: the first is between the government and the SOHC, and the second is between the SOHC and the SOEs. To concurrently decrease both political and agency costs, it is essential to have external and internal monitoring apparatuses such as an anti-corruption agency, an auditing agency, and a performance-based compensation system. Fiscal governance also plays a vital role in the performance of SOEs, and reforms are often required to make the budgeting and resource transfer process more transparent.

In Vietnam and Malaysia, for instance, such measures are absent, and their respective holding companies suffer from discretionary resource transfers. In Singapore, the Temasek model is successful because of its ability to have significant control over major industries. The choice of the model needs to account for both the structure and the characteristics of the SOEs, the government culture, and the political environment.

The Temasek model, for instance, may not be suitable for economies with central planning, an unstable political environment, and a weak financial market. A sectoral holding company, for example, may be more convenient than a SOHC where the country is large, with a high degree of industrial complementarity, and the potential to maximise economies of scale throughout the region. No single ownership model is universally applicable because various starting points need different methodologies and sequencing. Advancing to a fully-fledged centralised model may be hampered, for instance, by political opposition, vested interests, or the lack of institutional capacity in the short term. Ownership arrangements should be custom-made to align with the country's political, economic, and institutional realities.

3.13   Conclusion

This study has analysed SOEs' challenges and the reforms required to address these problems. The SOEs are beset with weak fiscal governance, which creates cycles of dependence on the fiscus, necessitating continuous bailouts for the SOEs out and guaranteeing debt issuance to cover expenses.

This weak fiscal governance translates into fiscal risk or cash flow risk and risk emanating from the size of the stock of SOE liabilities. The governance problem of SOEs is not confined to corporate governance but translates to a severe fiscal governance problem. This means that more than corporate governance reform is needed to mitigate the challenges of SOEs. Implementing hybrid solutions that combine administrative controls that target incentives for SOEs, their managers, and the organisations that monitor them is essential. Adequate qualitative and empirical evidence supports the creation of centralised agencies to monitor SOEs.

Whereas substantial changes have been made at Eskom and Transnet, particularly concerning leadership at the executive and board levels, there are still more reforms required before these two critical SOEs can operate optimally. There is still significantly more that needs to be done to quell these institutions' corruption, mismanagement, and governance failures. This is particularly important given an underperforming economy, policy uncertainty, and fluid national politics.

Several reforms aimed at turning around SOEs have been undertaken, including creating a clear framework for restructuring Eskom and its division into autonomous units and gaining greater clarity on some of the critical problems in SOEs emanating from the Zondo Commission. Consequently, some reforms have taken place at Eskom and Transnet, including new management teams. Eskom, however, continues to be affected by long-standing weaknesses, including underinvestment in grid maintenance. There is also a need for more clarity on the precise terms of the restructuring of Eskom.

There is a need to build strong capabilities in SOEs premised on technically competent and ethical boards. There must be clarity on the relationship between boards and the shareholder. The regulatory structure must be fixed, and the mission of SOEs redefined, so there is more clarity on the long-term objectives and the mission of SOEs.

3.14   Recommendations

The Commission makes the following recommendations:

1. *In collaboration with the relevant SOE's parent departments, National Treasury should eliminate fiscal risks emanating from the imposition of quasi-fiscal burdens by avoiding policies that result in such obligations or abolishing them if they are already in place. The reduction of discretionary fiscal governance in SOEs requires the following:*
   a) *Liberalising the prices of goods and services provided by SOEs in competitive markets and regulating prices in monopolistic or oligopolistic markets at levels that would enable them to generate sufficient profit.*
   b) *Subjecting SOEs to the same labour and employment regulations; eradicating any local content obligations for the SOEs and rationalising procurement procedures; and appraising SOEs' investment decisions.*
   c) *Improving corporate and fiscal governance through reforms that enable SOEs' management boards the operational autonomy they require to make profit-maximizing decisions and eliminating political interference to enhance operational transparency.*

2. *In collaboration with the relevant SOEs' parent departments, National Treasury should reduce excessive resource extraction, which reduces the SOEs' competitiveness, through establishing explicit and progressive guidance to SOEs on expected rates of return and the distribution or reinvestment of profits. Instituting a predetermined dividend policy in the form of a fixed percentage of annual profits or linking the pay-out to achieving the desired capital structure for each SOE.*

3. *SOEs require access to financing to maintain their operations and undertake investments. Fiscal rules that necessitate SOEs to run balanced budgets render them competitive relative to other private sector companies operating in the same sector. SOEs should therefore be allowed to charge higher prices to cover financing costs. However, the National Treasury should establish safeguards to prevent SOEs from becoming too leveraged. National Treasury should not provide preferential access to finance and contractual terms to SOEs. They should instead introduce transparent and non-discretionary controls on borrowing to ensure the SOEs remain liquid and solvent. The provision of government guarantees by the National Treasury should be subject to assisting SOEs in obtaining financing for projects with significant public benefit. National Treasury should establish an aggregate debt ceiling for each sector to be approved by Parliament.*

   Government guarantees should then only be granted to SOEs subject to an in-depth and explicit appraisal of their ability to service the debt. The SOEs should be charged fees comparable to those imposed on any guarantees granted to private sector companies, as is the case, for instance, in Australia. Borrowing controls should be premised on clear, predetermined, and impartial benchmarks that evaluate the SOEs' capacity to service their debts. This should entail the size and structure of the SOEs' liabilities, their interest burden, debt repayment schedules, operational profitability, the size of their contingent and known future liabilities, the liquidity of their assets, and the volatility of their revenues. The evaluation must also forecast how the new capital structure will impact these indicators. At a minimum, the indicators used by National Treasury for evaluating the SOEs must incorporate the ratio of gross liabilities to revenue, debt denominated in foreign currency to foreign exchange reserves, interest payable to revenue, and liquid assets to short-term liabilities. The indicators should be standardised and weighted for making approval decisions.

4. *In collaboration with the relevant SOEs' parent departments, National Treasury should obligate SOEs to implement effectual systems to monitor the execution of their budgets and provide detailed reports in this regard. National Treasury should acquire human and technical resources required to monitor the SOEs, safeguard their adherence to financial and reporting obligations, scrutinise budgets and reports, and provide appropriate feedback on necessary remedial action where necessary. National Treasury must make it mandatory for SOEs to submit a consolidated set of statements that will enable statistical analysis. A separate statement must be prepared on targets for the government and SOEs and evaluated using different criteria. Government spending on SOEs should be assessed on whether it achieved*

aims such as macroeconomic growth and fiscal stability, and the SOEs' budgetary allocations must be evaluated on their profitability, efficiency, and liquidity. National Treasury should strengthen their SOEs' asset and liability management capabilities. This should ensure that SOEs boards have the necessary skill set to prioritise this.

5. *The public disclosure and appropriate distribution of detailed information on SOEs' operational and financial performance are critical for good governance. Moreover, examination by external stakeholders significantly increases the SOEs' accountability and discourages political complicity or flagrant corruption. National Treasury should institute reforms aimed at improving transparency, focusing on the following:*
   a. *More declaration of the SOEs' contingent and future liabilities and the results of sensitivity and risk analyses.*
   b. *Safeguarding that the SOEs' quarterly and annual reports include sections analysing their performance during the corresponding period.*

6. *There is theoretical and empirical evidence that a centralised holding company, that monitors or controls SOEs, improves its performance and reduces fiscal risk. Holdings with corporate structures may not automatically produce better results than a well-staffed centralised unit within National Treasury. However, a centralised holding company is critical to reducing monitoring costs. National Treasury should establish a centralised holding company that will operate with tight ex-ante controls regarding debt and capital expenditure plans to minimise the fiscal risk inherent in the operation of SOEs.*

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CHAPTER 4:
THE BASIC INCOME GRANT IN SOUTH AFRICA - AN INCIDENCE STUDY

Chapter 4

The Basic Income Grant in South Africa - An Incidence Study

Chen Tseng, Boitumelo Thabane, Lauren Stevens, Neo Malungane and Fabrice Gatwabuyege

4.1   Introduction

South Africa has made efforts to deal with the challenges of poverty, inequality, and unemployment with a range of initiatives, which include the use of social assistance programmes. Child support and old age grants have contributed substantially towards reducing poverty levels. However, destitute, and unemployed people between the ages of 18 and 59 do not have access to social security in the form of a social grant (Human Rights Commission, 2018). The right to social security, including 'appropriate social assistance', for people incapable of supporting themselves is enshrined in the Constitution (1996).

The rollout of the temporary COVID-19 Social Relief of Distress (SRD) grant to people with no income was a novel intervention in response to the pandemic; however, a permanent social assistance programme has not been implemented. Various policy proposals, including a Basic Income Grant (BIG), have been suggested to extend income support to people who have no income, particularly those between the ages of 18 and 59.

The BIG policy brief by the Human Rights Commission defines a BIG as a cash payment made to either a specific group of people or all citizens to lift people from a poverty trap (Human Rights Commission, 2018). The brief notes that a BIG may be granted using a means test, where the cash payment is only paid to people earning below a certain level of income. According to Senona (2020), implementing a BIG could potentially contribute to a reduction in poverty, unemployment, and inequality in South Africa. A BIG could directly impact growth at the macroeconomic level by increasing labour force participation and stimulating aggregate demand (Deloitte and Touche, 2021).

While there are various arguments in favour of implementing a BIG, it is argued that it would be unaffordable for the government, and the implementation costs would be substantial.

4.2   Literature Review

Given the prevalence of poverty and inequality in South Africa, researchers and policymakers are driven to understand the macroeconomic impacts of extending social security interventions to alleviate poverty and reduce inequality. The universal basic income grant (UBIG) is one of several ways to ensure the universality of social protection floors. The cost of such a social protection floor includes four basic guarantees, namely, (i) allowances for all children and orphans; (ii) maternity benefits for all women with new-borns; (iii) benefits for all persons with severe disabilities; (iv) universal old-age pensions. In 2000 South Africa had its first recommendation for a universal income grant through the Taylor Committee of Inquiry into Comprehensive Social Security. Universal social protection floors have since been shown to reduce poverty and increase employability and growth (Ardington, et al., 2007). However, the cost and affordability of extending social assistance are the focus of this paper. With an emphasis on the fiscal space, the literature review outlines the history of social assistance in South Africa and the viable financing options available to the government to facilitate an extended basic income grant system.

Social security systems typically consist of three parts:
- Social insurance: benefits organised by the state and funded by means of specified contributions by employers and employees.
- Social assistance (grants): non-contributory cash or in-kind grants to provide protection to the most needy.
- Informal insurance: cash or in-kind assistance from the extended family and other social networks.

The paper will focus solely on social assistance in the form of non-contributory cash or in-kind grants in South Africa. However, some of the other social security components may be used in the paper to understand the broader context and implications of the UBIG.

4.2.1   The history of social assistance in South Africa

Various racially segmented social grants were implemented between 1910 and 1950, including military pensions (1919), social pensions (1928), grants for the blind and the disabled (1936 and 1937), pensions for military veterans (1941) and family allowances for large low-income families (1947). Protection against unemployment remained comparatively incomplete, due to job reservations and higher education. Additionally, since the time of the Great Depression, most of the white population at the time were assured employment due to job reservations, skills levels and higher education.

The assurance of job reservation was institutionally facilitated by the Unemployment Insurance Fund (UIF) which was responsible for insuring solely against cyclical unemployment, which is characterised by a mild and often temporary duration. Government welfare spending maintained white support for the apartheid regime. However, the safety net for other groups was comparatively elementary and lacking by the 1970s. Social grants were progressively extended to the disenfranchised sectors of the population over time; however, the extension was at a much lower benefit rate.

A strong call for social reform in the early 1970s onwards came from attempts to formalise the homeland regime and the tricameral parliament (which comprised white, coloured, and Indian people). Measures for cooperation led to increased growth in the number of people moving to the homelands. They resulted, therefore, in the strengthening of the tricameral parliament, that is, the inclusion of coloured and Indian people in social spending efforts. The fiscal costs of including the relatively small coloured and Indian groups into the social spending plan were not too big a burden on the budget. However, this coincided with other events that also contributed to fiscal stress.

The greatest fiscal challenge, namely full inclusion of black people into the system and dismantling of racial barriers that enabled a flourishing welfare state for the white population, was delayed. Only in the late 1980s did the government attempt to eradicate racial differentials in the benefit structures of all social programmes. Fiscal constraints, however, resulted in the equalisation of benefits only being achieved by cuts in the real value of the maximum social pension received by white people with introductions of benefits to the black population. The equalisation move was most easily achieved in areas where resistance to reducing white benefit levels was weakest. One apparent example was means-tested social old-age pensions due to the relatively low number of poor elderly whites and the politically marginal group whose benefits could be decreased the least due to the relatively low number of poor elderly whites and the politically marginal group whose benefits could be decreased with the least fear of political backlash.

By 1993 the pension gap had been effectively non-existent, and the discrimination in the administration of the means test had been removed, with all racial groups receiving approximately the same real grant level per beneficiary as was received previously by coloureds and Indians.

The equalisation of benefits, introduction of the child support grant in April 1998 and rapid growth in take-up of disability and foster-care grants led to sharp increases in government spending on social assistance grants from the late 1980s onwards. General government spending on social protection increased from 6.2% of total outlays in 1982/83 to 13.4 per cent in 2005/06 (that is, from 1.8 per cent to 4.4 per cent of GDP) (Van der Berg, 2005). The sharp spike in both ratios in 1993/4 reflected a special transfer of R7.3 billion to the Government Employees Pension Fund (GEPF).

The number of beneficiaries of social grants increased from 2.4 million in April 1998 to a projected 18.3 million in 2021 and 26.6 million in 2022 (Van der Berg, 2005, National Treasury, 2023). Projections published by the National Treasury (2023) suggest that 49.9 per cent of all grants paid in the 2022/23 financial year would have been child support grants; other large categories would have been the SRD grant (30 per cent) and old-age pensions (14.6 per cent). Although all the grant types, except the war veteran grant and grant-in-aid, experienced significant growth in beneficiary numbers during the past decade, the child support grant clearly was the major driver of such growth in the system as a whole. Although the child support grant is the smallest of the grants in rand terms, the grant does not dominate social assistance expenditure. The 2023 Budget provides for social assistance expenditure of R233 billion, of which R92.1 billion is allocated for old-age pension grants and military veteran grants, R77.2 billion for child support grants, R29.1 billion for the SRD grants, R24.8 billion for disability grants and R9.8 billion for other grants (National Treasury, 2023).

4.2.2   Extending the current social protection system to a universal basic income grant

Case and Deaton (1998) were among the first to question the fiscal sustainability of expanding social security grants in South Africa due to the increasing cost associated with the exercise and the political sustainability of financing such an expansion in the political transition. The equalising effect that the lifting of economic constraints had after apartheid on poverty rates and the globally observed trend of inequality reduction were compelling grounds to introduce a more comprehensive grant. Like other developing countries, South Africa has observed the positive effects of social protection floors. World Bank (2009) finds that South Africa spends more than twice on social assistance than other developing and transitioning countries across the globe.

Ocampo and Gómez-Arteaga (2016) report the positive impact of social protection systems on reducing poverty and inequality in Latin America. The experience in Latin America contrasts with the experience of other developing economies in that the incidence of direct cash transfers is relatively low; however, social spending has had a significant effect on the growth of those Latin economies.

Of note is the persistence of inequality for those wishing to access social protection funds in developing countries and the fact that this inequality is made worse by the type of employment and income differences attached to members of developing countries. Effectively, some significant portion of the population will be excluded from social security grants. Still, it remains essential to introduce a social security net to capture those excluded by arbitrary means requirements. Future research can therefore benefit from investigating the obstacles inherent in means tests and the inequality in opportunities or access.

Hollander, et al. (2022) estimate the macroeconomics adjustment that a UBIG requires using a dynamic stochastic general equilibrium model. The model includes both high-income and low-income households in its analysis of the impact of social transfers. The study assumes that the main financing options would consist of tax financing, debt financing and cutting expenditure. The findings are that the UBIG would further cripple economic growth, however, the channel of increased household consumption would counteract the slow-down, albeit on a smaller magnitude. It is a major contribution to understanding the dynamic context of the UBIG implementation.

Development Pathways (2021) also assessed the macroeconomic and redistributive effects of simulated investments into social protection on the economies of Rwanda, Colombia, Costa Rica, Ghana, India, Serbia, and Georgia. The study uses the social accounting matrices model and a general equilibrium model and finds that a one per cent investment of GDP into social protection transfers has, on average, a 1.1 per cent multiplier effect on GDP, as well as a 1.8 per cent multiplier effect on government revenue. The most significant impacts were seen in countries with lower levels of GDP-per-capita compared to those with higher levels. India, Rwanda, and Bangladesh showed better results in terms of GDP growth than Serbia, Georgia, and Costa Rica as their economies are driven by domestic demand as opposed to the higher-income countries with a higher supply of imports.

Adelzadeh (2021), on the other hand, uses dynamically integrated macro-micro simulation and finds that an unemployed BIG, an adult BIG, and a universal BIG set at the value of either the lower bound poverty line (LBPL) or the upper bound poverty line (UBPL) and a reduction in unemployment to 26.7 per cent over five years. The results show varying outcomes as the method of estimation changes.

Bierbaum, et al. (2016) developed a social protection floor index (SPFI) to support regular monitoring of social security programmes in several developed, developing, and low-income countries. The index is a composite indicator that captures the implementation of the four fundamental social security guarantees in two dimensions: income and health. According to the SPFI country rankings, South Africa lies at number 30, where rank is based on the minimum income criterion of $1.90 in 2011, and at number 37, where rank is based on the $3.10 a day minimum income criterion in 2011. The index further ranks South Africa at number 106, where ranking is based on the relative minimum income criterion and an income floor in 2012. Among the 265 countries, South Africa ranks high in meeting minimum income criteria. However, the rank is much lower for the relative comparisons.

The gap in the rankings raises questions about the complementarity of social security programmes across different milieus and contexts. South Africa is above average in its order because of a progressive tax system and government's progressive transfer system towards social indicators, having achieved what Higgins and Lustig (2015) term the most considerable reduction in inequality in the 12 middle-income countries analysed in their study. Thus, South Africa has achieved relative success in terms of ranking and performance towards poverty and inequality reduction.

Given the relative success of South African social protection, UBIG proponents maintain that South Africa's fiscal space can withstand the impact of a UBIG (Deloitte and Touche, 2021; Institute for Economic Justice, 2021). The basic income grant proponents suggest that the universal basic income grant will cost R200 billion per year, which means that all working-age adults without formal employment will receive R800 per month. However, an Intellidex (2021) report notes three essential flaws in the reasoning of these reports that favour a basic income grant. Firstly, it identifies material mistakes and misstatements that inform the basic income grant recommendations. Secondly, individual taxes are regarded in isolation as if there are no interactions between the different taxes. Lastly, the reports contain no meaningful discourse about the impact that the estimated tax revenue will likely have on sustainable growth in South Africa. The most critical argument against implementing a basic income grant is the effect of undermining the country's macroeconomic stability or even slowing down the growth of economic output and employment in South Africa.

Considering the macroeconomic risks associated with implementing a UBIG, financing options become a major issue for consideration going forward. According to Ortiz, et al. (2017), there are eight policy options for governments that aim to extend the fiscal space and generate resources to create a more universal social protection system.

Fiscal space analysis, therefore, requires the re-allocation of public spending, increasing tax revenues, extending the coverage of social protection systems and contributory payments, official development assistance, eliminating illicit financial flows, using fiscal and foreign exchange reserves, managing debt through borrowing or restructuring existing debt, and adopting a more accommodative macroeconomic framework. The viability of all the financing options is limited from the South African perspective. Whatever the future direction, policymakers must ensure alignment between policy directives and the implementations thereof.

4.3   Problem Statement and Research Questions

4.3.1   Problem statement

It is fiscally feasible to implement a basic income grant in South Africa.

4.3.2   Research questions

1.   In terms of reprioritisation, what would be the impact of a BIG on the fiscus?
2.   How much would it cost to implement a BIG over the next three years?

4.4   Research Aim and Objectives

4.4.1   Research aim

The research paper aims to determine the fiscal feasibility of a basic income grant in South Africa. It will assess the programme's costs and the country's expected fiscal capacity to absorb the costs over the forecasted period. The research will consider the immediate impact of the BIG and investigate some of the viable eight policy options proposed in the literature review. The optimal policy is then forecasted over three years.

4.4.2   Research objectives

The paper will investigate the following research objectives to achieve the research aim:

- Investigating BIG policy options
- Calculating the immediate implementation costs of the BIG policy
- Estimating the fiscal feasibility of the BIG over three years

4.5   Research Methodology and Data

Many research papers investigating the BIG have focused on its socioeconomic impact on citizens. This research is highly focused on the fiscal impact of a BIG on the already burdened South African budget. The paper will include a mixed-method approach to measuring fiscal feasibility.

The paper includes a cost-benefit analysis (CBA) that analyses the socioeconomic benefit and the cost of implementing some of the eight BIG policy options in the current fiscal space. The CBA encompasses estimations of policy implementation costs and a cost forecast of the BIG policy over three years. The forecasting estimates are calculated following a non-parametric forecasting approach.

4.5.1   Research methodology

Incidence study

After considering the costs and reach of certain policy options, the paper will include their respective incidence curves. Further, the research will consist of a descriptive section focusing on the distribution of social grant recipients in each province and municipality. The study will utilise the Geographic Information System mapping method to demonstrate the graphical distribution of grant recipients around the country.

4.5.2   Data

The research will employ official secondary data sources in its investigation of the feasibility of a BIG in South Africa. The costs incurred with implementing the COVID-19 SRD grant will be used as the base for forecasting. As the SRD is targeted, the research will include various scenarios with more extensive social coverage associated with BIG. The primary source regarding the budget will consist of National Treasury fiscal framework data. In contrast, data concerning the administration of grants will be collected from the South African Social Security Agency (SASSA).

As research will also consider various funding alternatives for the BIG, revenue and aggregated tax data will be used in estimation. Funding alternatives consist of the current and forecasted size of the country's debt related to the implementation of the recent SRD grant, cost scenarios under a permanent BIG and changes to tax rates.

4.6 Results

4.6.1 Sub-national profiles of grant recipients

The SASSA distributes over 18 million monthly grants to impoverished citizens. The immense demand for social grants emphasises how the dwindling economy affects the livelihoods of citizens and what is expected from the government to save South Africans from complete destitution. High levels of poverty and inequality permeate the country's social structures and regions. Each province is unique in terms of its economic productivity and available resources. In times of low economic growth, all sectors are affected – yet some provinces may experience higher poverty levels. This is attributed to the current market conditions and existing structural barriers from Apartheid that limit the economic integration of all South Africans.

Figure 4.1: Poverty headcount at the district level
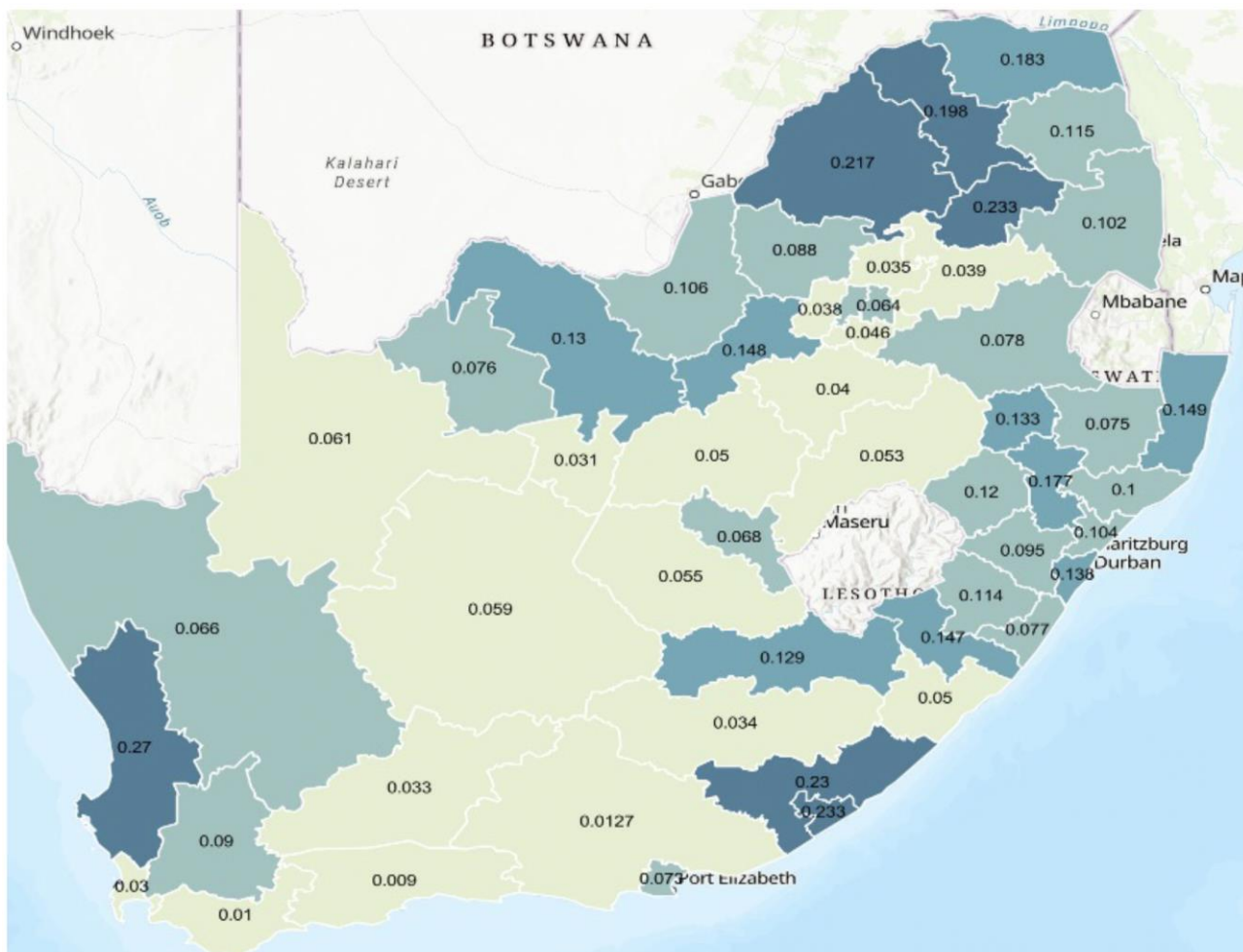
Source: Commission's illustration using Statistics South Africa (2016)

The government uses social grants to support poverty-stricken citizens. Therefore, the efficacy of targeting can be determined by observing where grant recipients are distributed around the country. Figure 4.1 depicts poverty headcounts on a district level. Higher poverty levels are concentrated in the northern and eastern provinces of the country, such as Limpopo, Mpumalanga, the North West and KwaZulu-Natal. There are poverty hotspots visible in the Eastern and Western Cape, portrayed by the deep blue shading in relatively lighter areas.

Figure 4.2: Share of social grants across provinces (left) and per capita social grant receipt (right)
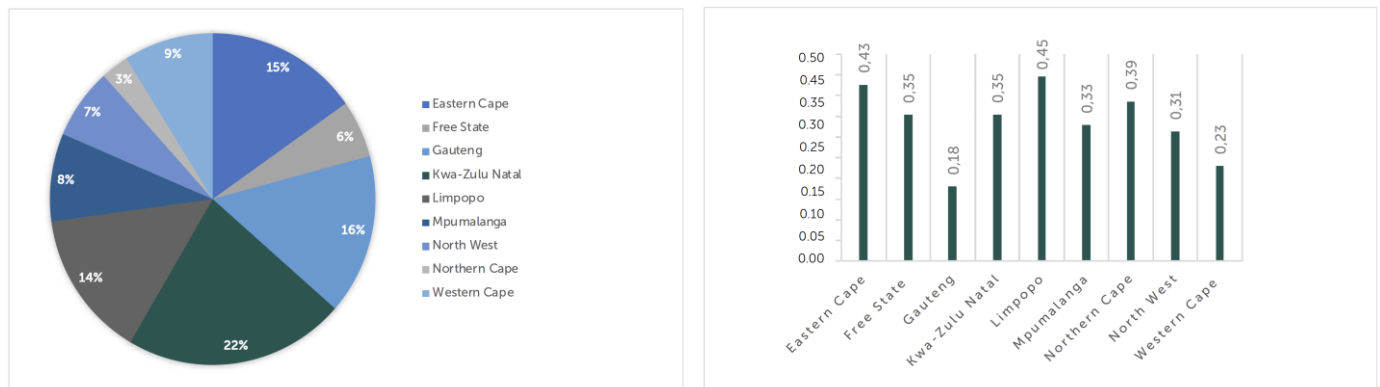
Source: Commission's calculations using SASSA (2023)

Figure 4.2 shows that KwaZulu-Natal, Gauteng, Limpopo, and Eastern Cape have the largest shares of social grants. The largest share belongs to KwaZulu-Natal, which receives 22 per cent of all social grants in circulation. The social grant share per province needs to be viewed from a per capita perspective. Provinces are not equally distributed in terms of population. Therefore, provinces with higher population densities, such as KwaZulu-Natal and Gauteng, will receive larger shares of the social grants. Per capita grant receipt considers, on average, the proportion of the population within the province that receives social grants.

As social grants in South Africa are targeted, the per capita estimations in Figure 4.2 suggest that 45 per cent of citizens in Limpopo receive a social grant and live below the means-tested value. The Eastern Cape has a similarly high per capita level of grant receipt at 43 per cent, followed by the Northern Cape with an estimation of 39 per cent. Referring to the poverty headcount levels in Figure 4.1; the Eastern and Northern Cape have varying concentrations of poverty. This unequal distribution of poverty, accompanied by the high levels of per capita grant receipt, suggests that grant recipients within the province live well below the poverty line.

In monetary terms, KwaZulu-Natal receives the largest amount of social grant spending due to 22 per cent of citizens in the province being reliant on social grants. The government spent over R42 billion over the 2020/21 financial year on social grants in KwaZulu-Natal. In comparison to the Northern Cape, which receives the smallest share of grants, the government spent R5 billion in the 2020/21 financial year. Expectedly, the provinces who receive the largest share of the grants are the same provinces who receive the bulk of social grant spending. Namely, the Eastern Cape, Gauteng and KwaZulu-Natal.

Figure 4.3 illustrates the proportion of public funds spent on social grants in each province by grant type. Overwhelmingly, the Older Persons Grant (OPG) receives the majority of spending, while the Child Support Grant (CSG) takes a close second. This result is particularly interesting as the OPG is almost two-and-half times the CSG. Other social grants within the network are relatively small in comparison to the OPG and CSG. The immense reliance on social grants for citizens below and above the working-age emphasises that working-aged individuals in the households are most likely unemployed, underemployed, and significantly poor. Therefore, there is a need for other household members to use the government's social safety net to meet the household's needs.

Figure 4.3: Social grant expenditure by province and grant type
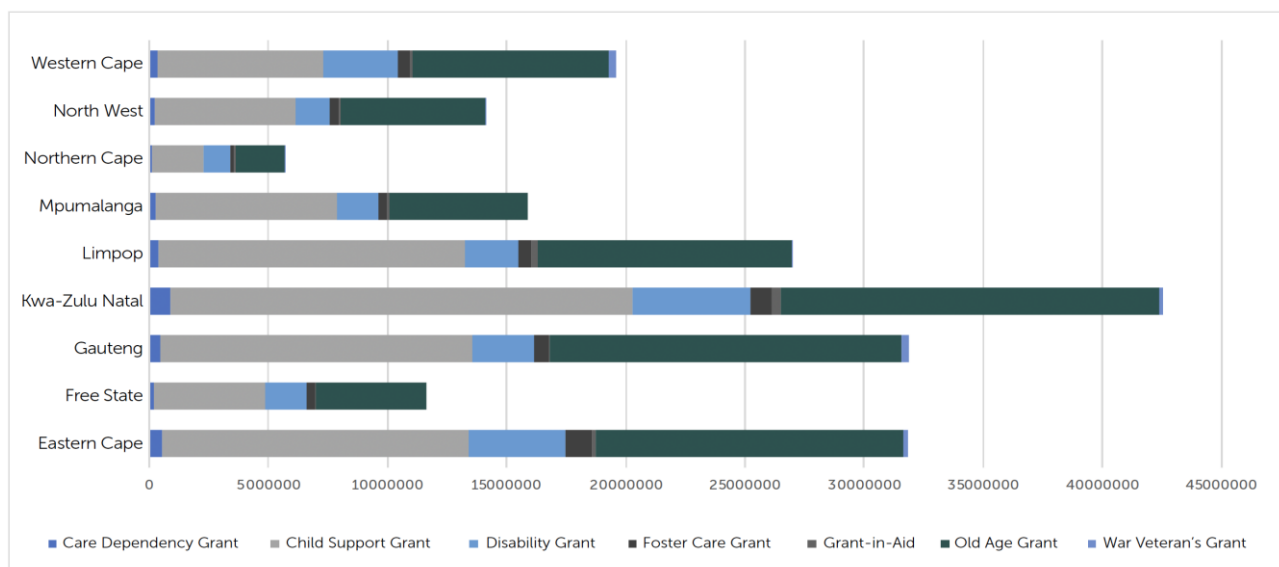
Source: Commission's calculations (National Treasury 2021 & SASSA 2021)

Figure 4.4 illustrates the age and sex distribution of social grant beneficiaries nationally as at the end of December 2022. The total number of grant beneficiaries as at the end of December 2022 was 12.9 million people, of which 10.7 million (or 83 per cent of the total) were female. When focusing on the age distribution, 3.8 million people (or 30% of the total) were between the ages of 16-34 years old.

This highlights how dependent South Africa's youth population (as defined in the National Youth Commission Act, 1996) is on social grants.

This reflects the challenges facing the country's working age youth population face when it comes to gaining employment in order to reduce their dependence on grants. In addition to this, 4.6 million of the 60 years and older (36 per cent of the total) were dependent on some sort of social grant. This shows the reliance on the OPG grant on South Africa's elderly population to meet their household needs. In terms of the gender breakdown, Figure 4.4 shows that 3.6 million young females (those aged 16-34 years old) were dependent on some form of social grant, compared to just 213 200 males in the same age bracket. This highlights the fact that young working age females in households are mostly likely to be unemployed or underemployed, often due to challenges assessing job opportunities and/or due to having child caring or other household responsibilities. These factors in turn necessitate their reliance on social grants to sustain their livelihoods.

Figure 4.4: Number of social grant beneficiaries by age and gender nationally as at the end of December 2022
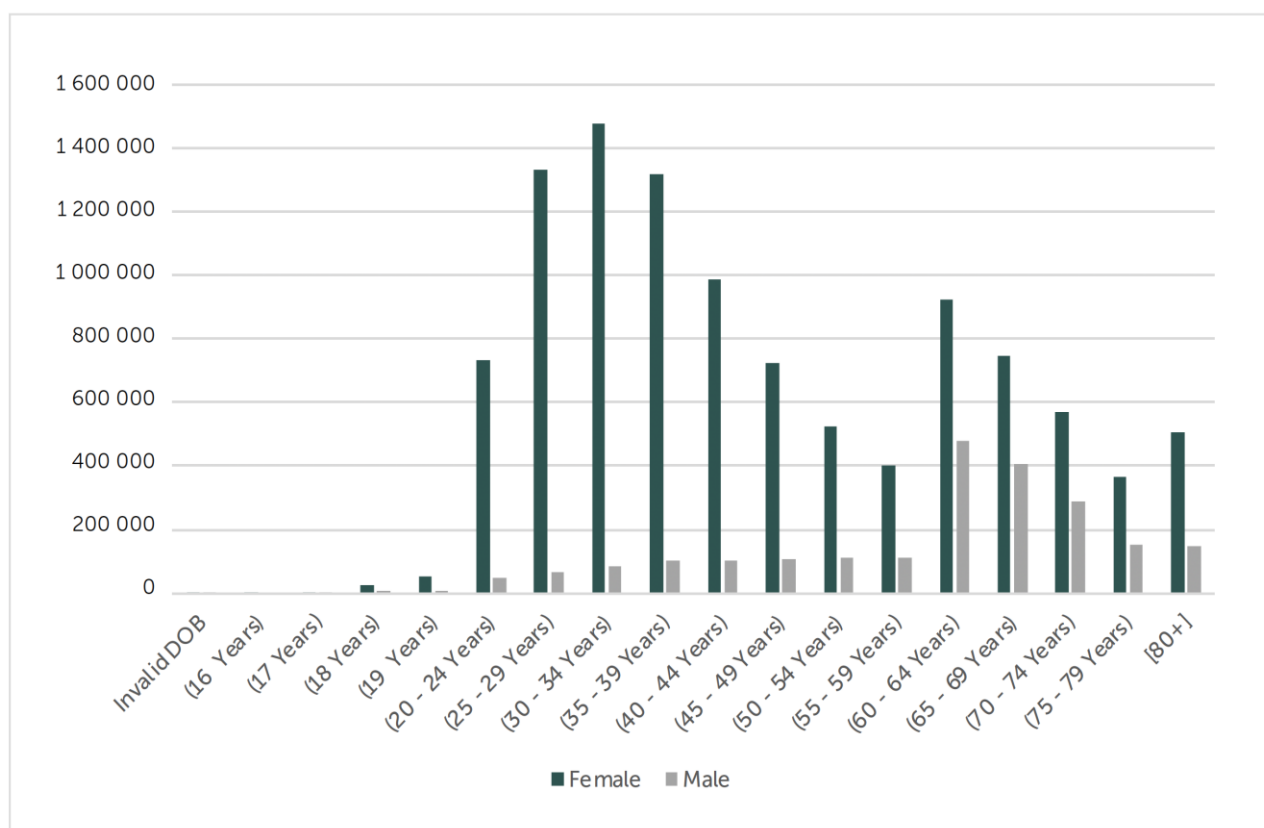
Source: SASSA (2023)

4.6.2   The COVID-19 social relief of distress grant and its extension prospects

The SRD grant is a means to support citizens and non-citizens by providing financial assistance during unforeseen critical economic downturns. This type of grant is awarded monthly and is subject to conditions. In 2020, a special COVID-19 SRD grant was introduced amounting to R350, and more recently, the payment of the grant has been extended to March of 2024. The SRD grant of R350 will likely become a more permanent form of basic income. In the 2023 state of the nation address, President Cyril Ramaphosa announced the continuation of the SRD grant, and that work was underway to develop a mechanism for targeted basic income support.

The sustainability of the grant, however, is subject to challenges, which are exclusionary in nature. Regulations that determine eligibility are too stringent, inconsistent, and hampered by an excessively low means test. Figure 4.5 shows the need for a grant for those aged 18 to 59. The bulk of applicants that sought the COVID-19 SRD grant as of January 2023 are those aged between 20 to 35, making up 53 per cent of total applications, those aged between 36 to 49 years constitute 27 per cent of applicants, and 12 were those between ages 50 and 59. Figure 4.5 below shows that income support measures are needed to address joblessness and poverty in South Africa's current economy.

Figure 4.5: Special relief of distress grant applicants by age distribution
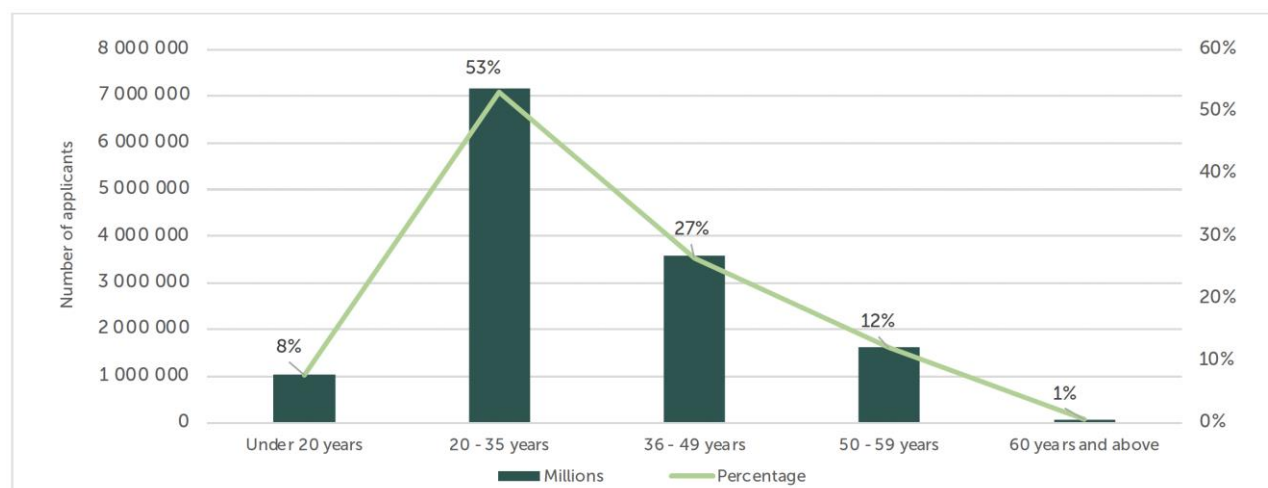
Source: Commission's calculations using DSD and SASSA (2023)

In Figure 4.6, the data shows that KwaZulu-Natal is the province with the most SRD grant applicants (3.1 million) in January 2023, followed closely by Gauteng with 2.6 million applicants. Of the 13.5 million applications, those with Grade 10 (39.3 per cent) and Grade 12 (40.6 per cent) form the group with the greatest need for basic income support.

The implication of the high applicant numbers from those with some level of schooling points to a lack of employment and a lack of coordination between facilities of education, training and the labour force in South Africa. The issue is further impacted by the drop in applications recorded during the 2022/23 financial year and subsequent savings of R1.8 billion and R3.7 billion reported by the Department of Social Development (DSD) in the Adjustments Appropriation and Second Adjustments Appropriation bills, respectively. Ultimately, the discrepancy between the cost-of-living crisis and the shrinking of applicant numbers, points to an issue of eligibility requirements and other administrative hurdles citizens face.

Figure 4.6: Special relief of distress grant applicants by province and education level
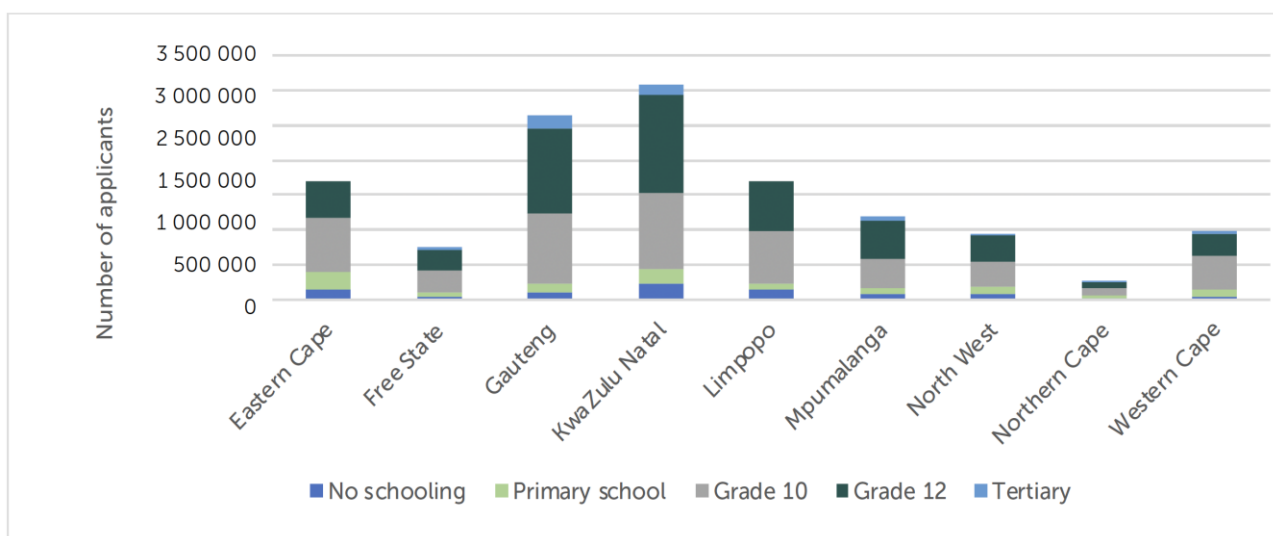
Source: Commission's calculations using DSD and SASSA (2023)

4.6.3 Fiscal revenue incidence

Figure 4.7: Consolidated revenue and social assistance spending over time
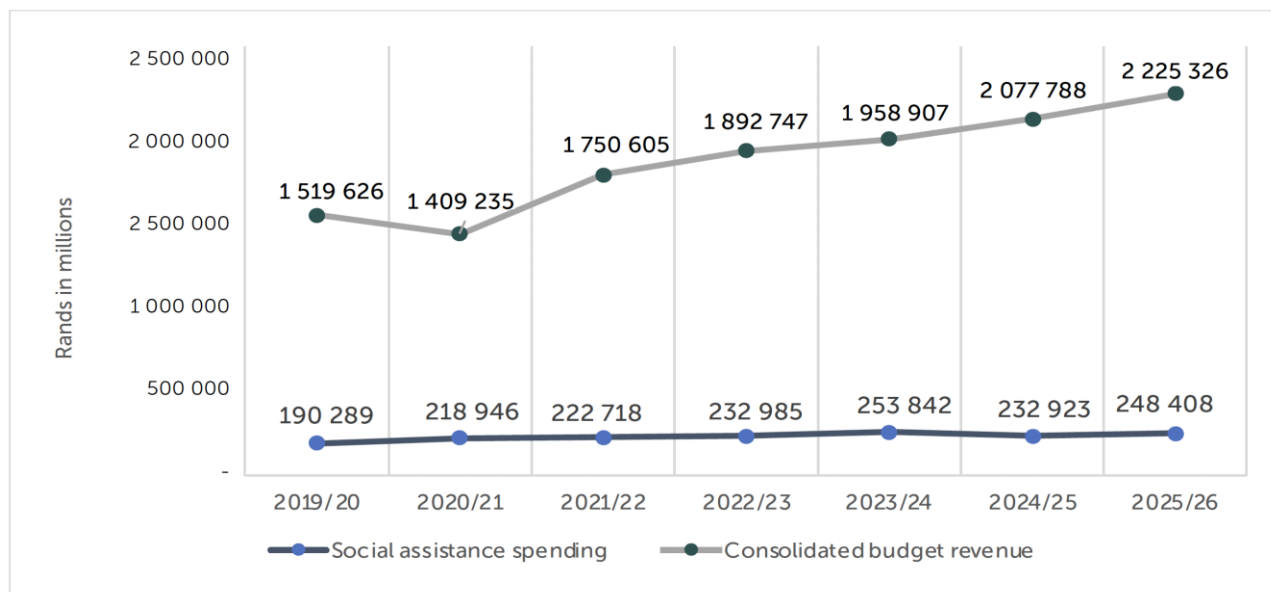
Source: Commission's calculations (National Treasury 2023)

Currently, the trend of consolidated budget revenue is growing at a faster pace than social assistance spending. This can be attributed to the government implementing fiscal austerity on the spending side, while aiming for increased revenue collection through the tax system. Based on the present budget, there is limited scope for increasing the social assistance budget to include a BIG as the medium term expected spending is relatively constant.

The following section explores various cost scenarios associated with the more extensive social coverage required by the implementation of a BIG. The results point to a need for certainty in the policy about the future of the SRD grant. The Commission finds that certainty should be ascertained in determining whether the BIG should anchor the existing social grant network system or whether a BIG's universality implies replacing all grants and the establishment of one social grant. In Table 4.1, the results estimate an amount of R235 billion required to fund the continuation of the social grant network in the 2022/23 financial year. As the estimated total cost increases in the 2023/24 period to R252 billion, a significant reduction of R20 billion is projected in 2024/25 where no provision is made for the COVID-19 SRD grant. Clearly, this is not the intent of the government, but the replacement of the COVID-19 SRD grant will need well-evaluated cost projections underpinned by a robust growth path and debt stabilising strategy. This is no small feat.

Table 4.1: Cost forecast estimates over the medium term

R billion	2022/23	2023/24	2024/25	2025/26
Child support	76. 51	81.69	87.04	93.39
Older persons*	92.85	100.27	108.25	116.93
Disability	25.03	26.60	28.25	30.03
Foster care	3.43	3.33	3.24	3.14
Care dependency	3.79	4.10	4.44	4.80
COVID-19 SRD	33.48	35.68	-	-
Total cost	235.09	251.67	231.22	248.28

*: Older person grant includes those aged over 75, and the military veterans grant
Source: Commission's calculations using National Treasury (2023)

Table 4.2 shows the cost scenarios under the assumptions of a standardised SRD grant. The table results further display the cost of a UBIG that encompasses social assistance coverage of unemployed working-age citizens. The SRD grant costs match estimates for a UBIG at the food poverty line (FPL), upper- (UBPL) and lower-bound poverty lines (LBPL). However, these estimates may benefit from more detailed analysis. At face value, the UBIG would capture most unemployed persons but fails to accommodate the needs of children, foster care and older persons. The implication is that those not covered by the universality of the proposed BIG would still need a grant of some kind for survival.

On the other hand, the SRD grant provides an income floor for those missed by the existing social grant network; its shortfall is that its cost is associated with ever-increasing social assistance expenditure and an uncertain policy environment. The estimations, like many others, only provide some insight into what is required to fiscally foster a further expansion of the social protection floor. However, until the policy is clear, these figures remain mere predictions. The source and type of funding for a permanent basic income support grant are of utmost significance for impact analysis.

Table 4.2: Cost forecast estimates with an SRD and UBIG based on the LBPL and the UBPL*

R billion		2022/23	2023/24	2024/25	2025/26
SRD	FPL (=R663)	63.42	66.65	-	-
	LBPL (=R945)	90.39	100.68	-	-
	UBPL (=R1417)	135.54	150.97	-	-
UBIG	FPL	63.60	65.73	61.13	65.60
	LBPL	90.65	93.69	87.10	93.43
	UBPL	135.93	140.49	130.66	140.22

Note: Poverty lines based on 2022 values.
Source: Commission's calculations using National Treasury (2023), Statistics South Africa (2022)

a) *Fiscal incidence of the General Household Survey (GHS) 2021*

According to survey respondents, 28 per cent of households regard their main source of household income to come from a business. Income from remittances (23 per cent) is the second largest category for primary household income, while income from salaries, wages and/or commission is the third largest contributor to household income. Under the Commission's analysis of extrapolating the GHS sample to a national level, 13 per cent of households regard social grants as their main source of income. Other categories that households consider as primary sources of income are depicted in Figure 4.8.

Figure 4.8: Main source of household income
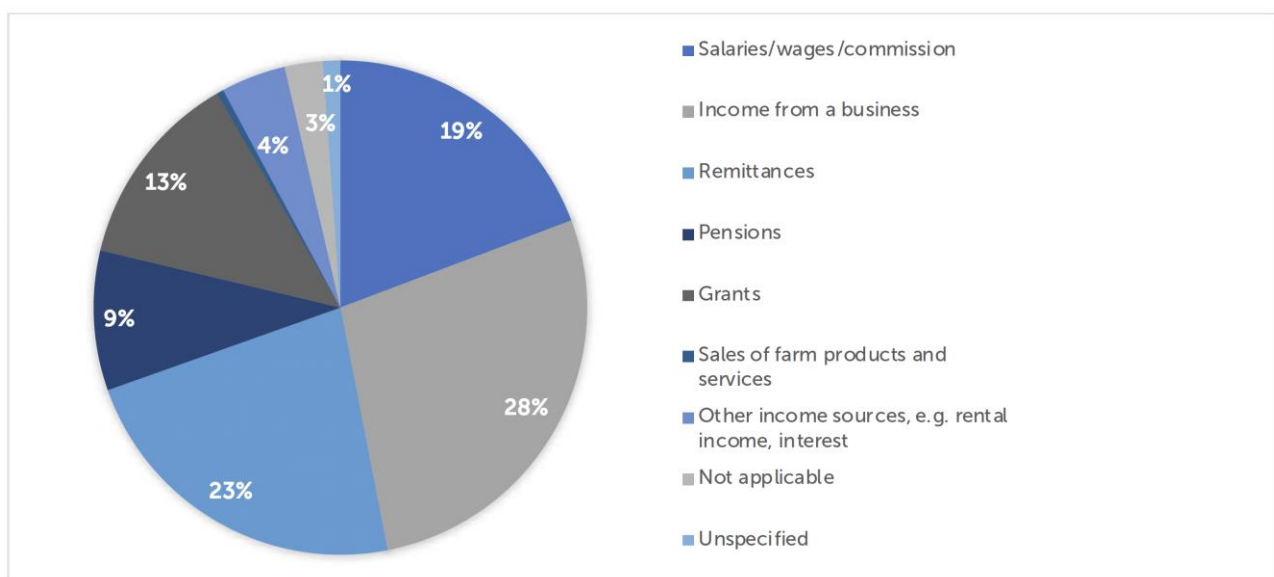
Source: Commission's calculations using the General Household Survey 2021

The Commission estimates that the African population receives the largest share of grants by race. The Coloured population follows a close second, thereafter the Indian and White populations. This trend is consistent with existing literature and notes the existing structural racial inequality in the country. Table 4.3 depicts these results and reports large standard deviations. The large standard deviation in the estimation is a slight cause for concern – the correct data from SASSA would assist with an accurate analysis.

Table 4.3: Extrapolated estimates of government grant recipients by race

Total	Estimate	Standard Error
African	6 310 000	378 991
Coloured	4 447 506	119 426
Indian/Asian	529 632	84 372
White	581 371	58 569

Source: Commission's calculations using the General Household Survey 2021

Social grants have a redistributive power in South Africa. This is noted by the darker blue regions being relatively more rural and less developed than lighter regions such as the Western Cape and Gauteng in Figure 4.9. The Eastern Cape receives the highest percentage of social grants per person, followed by Limpopo, while Gauteng receives the smallest portion of social grants per person.

Figure 4.9: Percentage of persons receiving social grants per province
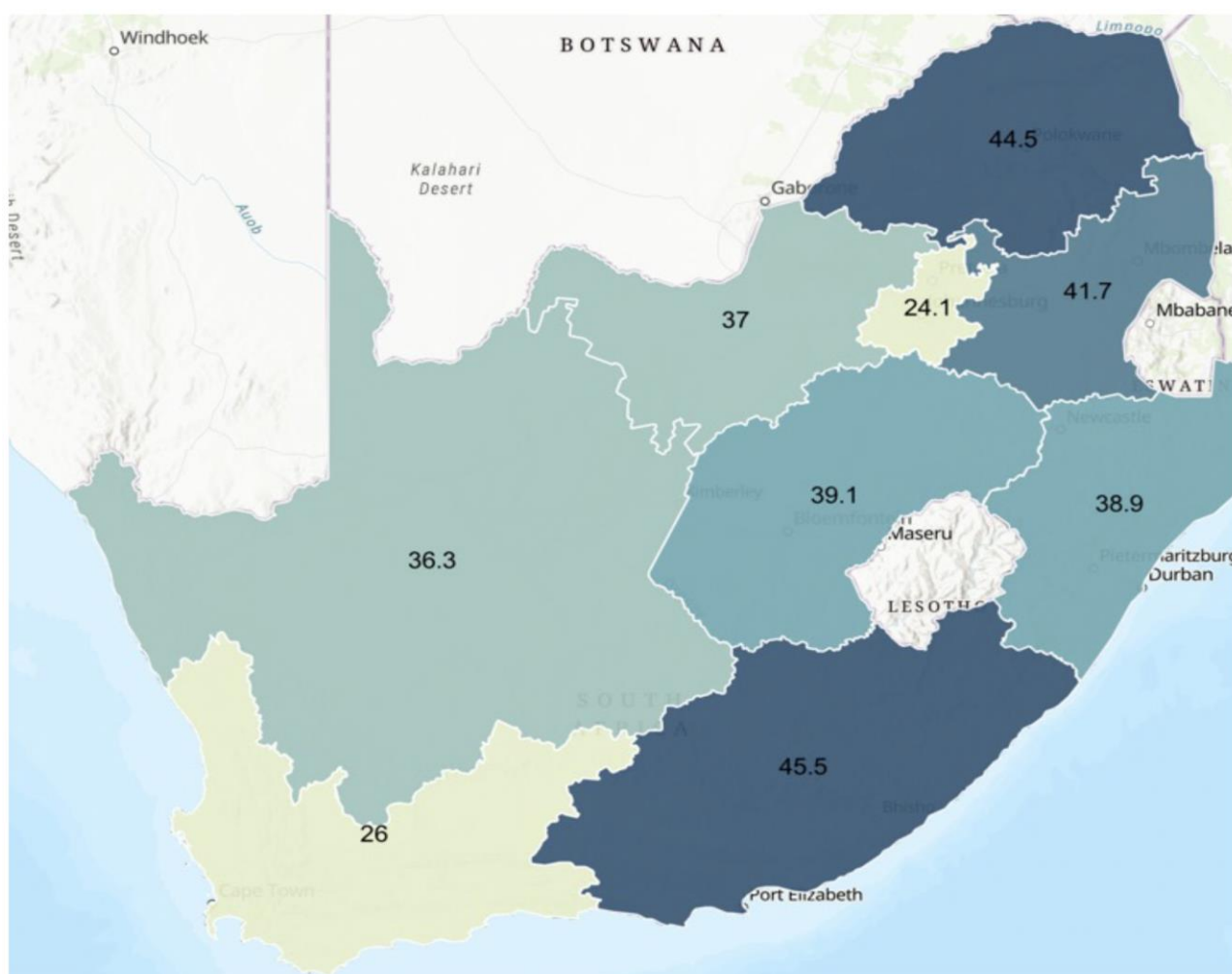
Source: Commission's calculations using the General Household Survey 2020

Figure 4.10, that considers the percentage of households that receive social grants, is consistent with Figure 4.9, that considers the percentage of persons. This again emphasises the distributive nature of social grants in the country. Limpopo has the largest share of households relying on social grants, followed by Mpumalanga and the Eastern Cape. As in the person estimation, households in Gauteng receive the lowest percentage of social grants per household.

Figure 4.10: Percentage of households receiving social grants per province
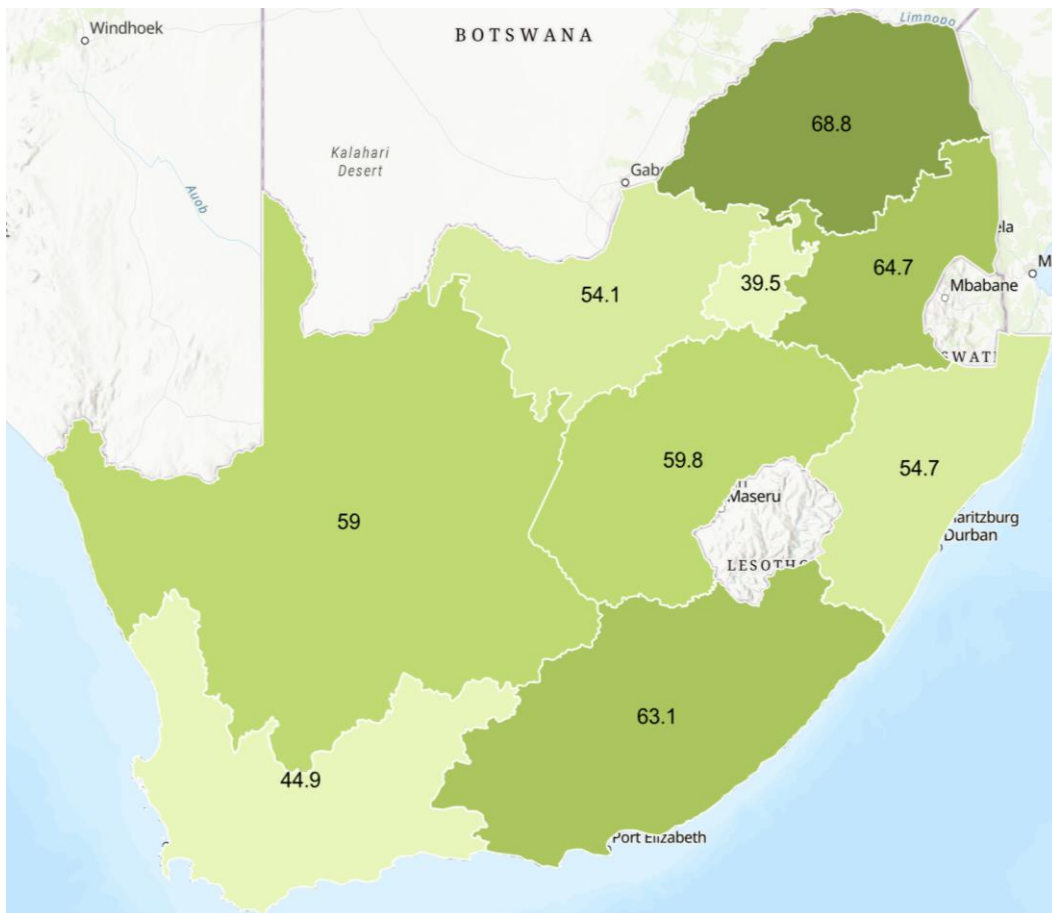
Source: Commission's calculations using the General Household Survey 2020

Figure 4.11 below suggests a bimodality in tax revenue distribution. The results imply a lack of certainty on the state or quality of progressive personal income taxes, and therefore, the results indicate that the tax is more concentrated in some sections than in others. The Commission finds that households falling in the middle - that earn between R500 000 and R750 000 per annum - and those at the top of the distribution - that is, those earning more than R1.5 million per annum - bear most of the burden of personal income tax (accounting for 46.7 per cent of the total personal income tax payable before relief).The figure depicts lower-than-expected tax revenue from R750 000 to R1 000 00 tax bracket group and the R1 000 000 to R1 500 000 tax bracket group. The results should depict a revenue collection trend that is higher than the trendline or at least the same as the trendline (grey dotted line).

The above results suggests two things; first is a decline in tax morality associated with the income group in concern. Secondly, people in South Africa may be struggling to get into the upper middle-income class, which in turn results in a large drop in income tax payable at the aforementioned income groups – further as lack of growth in the economy proceeds to businesses.

As evidence of this, the number of estimated registered tax individuals in 2023/24 significantly drops from 842 653 people earning incomes of between R500 000 to R750 000 to 354 263 individuals earning incomes of between R750 000 to R1000 000 (a decrease of 488 390 people). Another explanation for this could be delving into to what extent these individuals are assessed when it comes to their personal taxes and if indeed all relevant income sources are being declared as part of their tax filings. The uneven and non-progressive distribution also means that should personal income taxes be leveraged as a financing option for the inclusion of a BIG, the tax pressure will unfairly prejudice the middle-income group of taxpayers.

Figure 4.11: Progressivity of personal income taxes (2023/24 estimates)
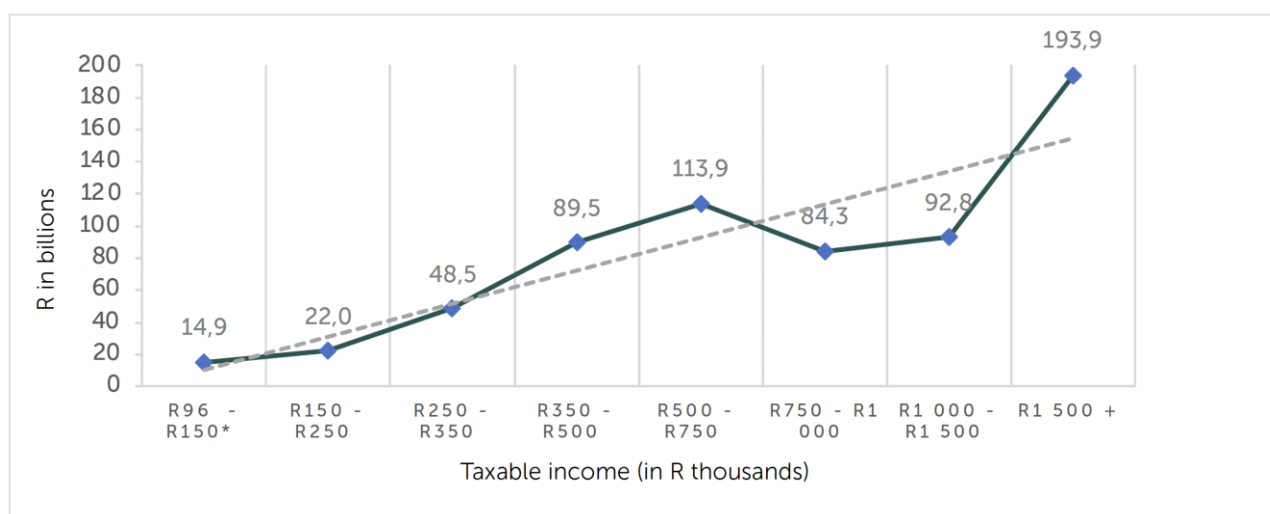
Source: Commission's calculations using National Treasury (2023)

As seen in figure 4.12 the taxation of the different income groups has historically been uneven and possibly non-progressive. The results suggest that a progressive personal income tax reform should precede any personal income tax increases that may be used to implement the BIG.

Figure 4.12: Progressivity of personal income taxes over time

Legend: ■2017/18 ■2018/19 ■2019/20 ■2020/21 ■2021/22 ■2022/23 ■2023/24

Y-axis: R in billions
X-axis: Taxable income (in R thousands)

Categories: R96 – R150*, R150 – R250, R250 – R350, R350 – R500, R500 – R750, R750 – R1 000, R1 000 – R1 500, R1 500 +

Labels: 14,9 | 22,0 | 48,5 | 89,5 | 113,9 | 84,3 | 92,8 | 193,9
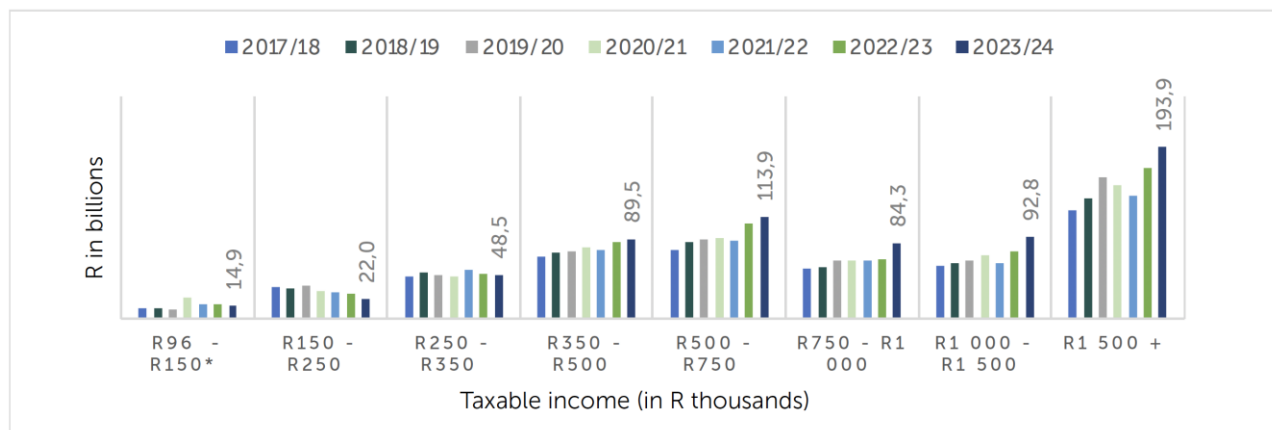
*: The lower interval of the income bracket varies over the years
Source: Commission's calculations using National Treasury (2023)

Figure 4.13 depicts the long-run trend of tax revenue collection for personal income tax, corporate income tax, value-added tax, excise duties, fuel levy and customs duties. From the figure, the Commission notes that the size of the personal income tax, value-added tax and corporate income tax makes up the biggest share of total tax revenue. The decrease in collection caused by COVID-19 is depicted in 2020/21 followed by positive gains toward normal growth in 2021/22 for all taxes. Other than corporate income tax, there has been no larger-than-expected growth for taxes that posit potential growth for social assistance spending in the budget. Even more, corporate income tax is starting to show a decline in 2023/24.

Figure 4.13: The trend of taxes over time
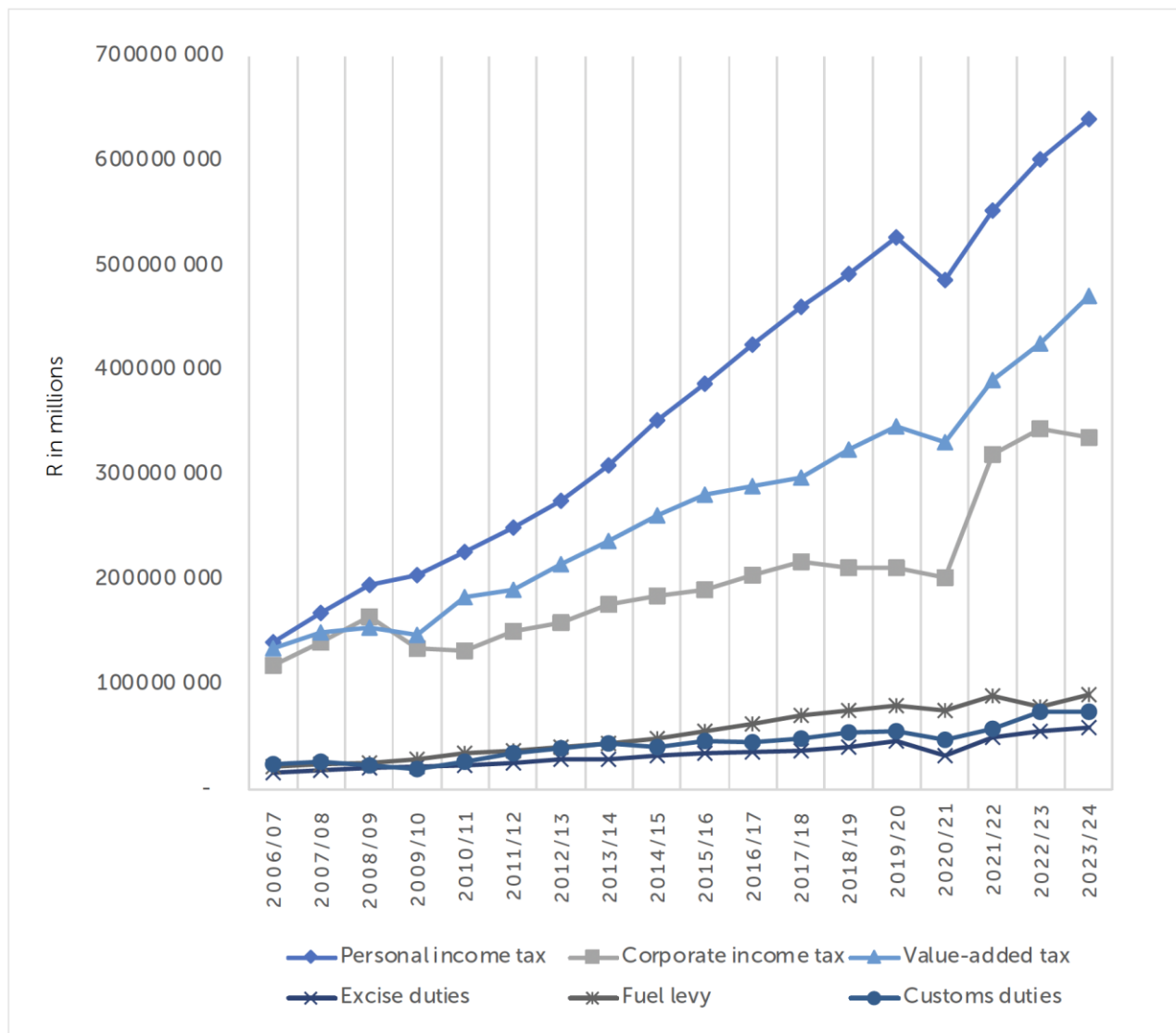
Source: National Treasury (2023)

Figure 4.14 shows that gross tax revenue collection in the 2022/23 tax year grew by 8.2 per cent, but this growth was vastly lower than the 25.1 per cent revenue growth recorded in 2021/22. The 25.1 per cent growth in 2021/22 is misleading since its magnitude only reflects the recovery of the economy after COVID-19 and not necessarily improved tax revenue collection capacity nor does the expansion imply a higher-than-expected expansion of the economy. The picture over the medium term shows consistent growth, but the anticipated growth is not promising, given the proposed plans to modify the tax system to finance the expansion of social grants as announced at the 2023 state of the nation address.

Figure 4.14: Tax revenue collection estimates
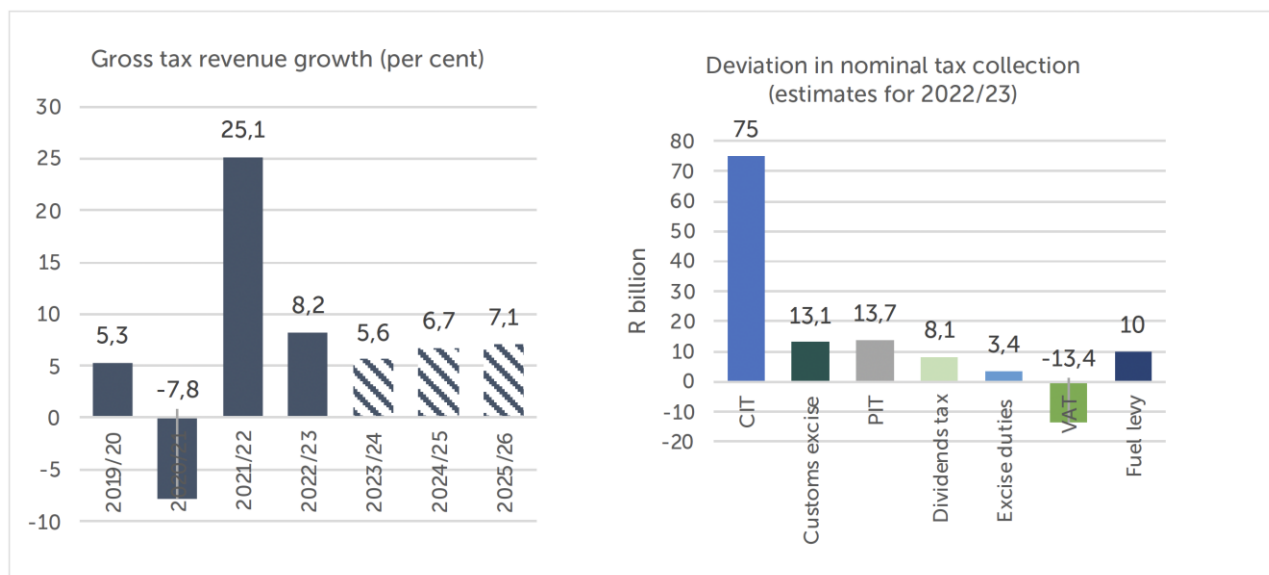
4.7   Discussion and conclusion

The paper investigates the fiscal feasibility of extending social assistance coverage by leveraging tax and streamlining the existing grant network as a restructuring mechanism.

4.7.1   A subnational focus

From the analysis, the Commission finds that the state needs greater subnational intervention to cure limits of economic integration at regional and provincial levels. Each region and province of South Africa is unique in terms of infrastructure and economic leverage. Therefore, each part of society needs tailored intervention to alleviate the peculiarities of its poverty and inequality picture. The Commission's findings suggest concerted poverty alleviating effort is particularly needed in the Limpopo, Eastern Cape, and Northern Cape provinces where grant recipients live well below the poverty line. This does not necessarily imply an increase in social grants, but rather an economic fortification such as public works programmes that lead to jobs and sustainability in Limpopo, Eastern Cape, and Northern Cape. In line with the analysis of the distribution of social grants sub-nationally, the Commission further finds that social grant share per province needs to be viewed from a per capita perspective.

4.7.2   SRD grant and its extension prospects

The immense reliance on social grants for citizens below and above the working-age emphasises that working-aged individuals in the households are most likely unemployed, underemployed, and significantly poor. A replacement of the COVID-19 SRD grant is needed as a safety net for households to support themselves in the current economic and unemployment crises.

The system of grant dispensation is fraught with challenges. Eligibility requirements and the means of testing are inconsistent. The inconsistency leads to discouragement and varying monthly numbers of successful grant applicants and recipients.

Therefore, the true picture of citizens and non-citizens needing financial assistance is distorted. The administration of the social grant network needs to be reviewed. The Commission shares its misgivings over purported reductions in the number of applicants needing the SRD grant over time and further questions the need for the grant if the custodian of the grant, namely the Department of Social Development records savings and continual reductions in applicants when South Africa is in economic decline and residents are facing a cost-of-living crisis.

4.7.3 Fiscal revenue incidence

The permanence of a basic income is questionable given the current fiscal space and policy uncertainty. Fiscal austerity measures and increased tax revenue collection have boosted consolidated revenue over time. Social assistance spending, however, has been constant over the same period. The Commission finds that the competing spending budget pressures over time have limited the growth of social assistance spending over time and over the medium term.

The budget prioritises interventions such as infrastructure investment and debt stabilisation, which are priorities that ensure structural stability for the economy and its citizens. Without further research, the Commission cannot suggest which budget pressures deserve lessened prioritisation over social assistance. However, the Commission notes that the continuation of the SRD grant in terms of cost is unsustainable over the medium term. The integration of all working-age citizens and non-citizens into the current social grant network is costly and warrants an exploration of alternative intervention. Ultimately, the Commission finds that the dire status of employment prospects is the driving force and motivation for the introduction of a BIG. Thus, alternative intervention calls for investment in employment initiatives rather than the extension of social coverage. The fiscus needs an external boost to expand and include a BIG where policy is specific about the envisaged spending on social assistance.

From the analysis, the Commission notes a relatively high share of households that regard social grants as a main source of income. On the lighter side, social grants in South Africa possess redistributive power and redistribution is demonstrated in Limpopo, Mpumalanga and the Eastern Cape by the larger share of persons and households receiving social grants.

From a targeting perspective, the social grant system successfully applies and disperses financial relief. Thus, if the aim is not targeting nor poverty alleviation, only the motive of the extension of the social grant system remains a problem for the government.

4.7.4   Revenue collection and progressivity of the tax system

Social assistance is progressive if the wealthier subgroup is taxed at higher rates than the poorer population, and the additional funds raised through taxation are spent on the poor through social grants or other government initiatives. The results of the tax system analysis show that tax may be regressive at the top end of the income distribution at the household level. Furthermore, the personal income tax system has not been progressive nor evenly distributed across tax subgroups over the years.

The Commission cautions against reliance on growth in tax revenue as a means to finance a BIG. The sustainability of an ever-increasing tax revenue trend depends on employment, infrastructure development and growth among other aspects. Thus, if government prioritises social assistance pressures over the sustainability underpinnings, the budget risks overcompensation due to a lack of economic progress. The issue of overcompensation implies that the focus needs to turn to economic growth and development rather than social assistance pressures. Moreover, gross tax revenue growth over the medium term does not show extraordinary growth despite revenue collection ambitions, and anticipated growth calls for conservative expectations in terms of taxes being leveraged as a source of implementing a BIG.

4.8   Recommendations

The Commission makes the following recommendations:

1. *The Minister of Social Development and the Minister of Finance should reconsider recalculating the COVID SRD grant amount with a well-informed determination formula.*

The Commission notes the static and arbitrary amount value of R350 attached to the SRD grant. The Commission encourages a recalculation of the amount that takes into consideration the cost-of-living crisis and unemployment. Moreover, a permanent basic income support structure is needed when considerations are made about the value of the income support.

2. *The Minister of Social Development and the South African Social Security Agency should account to the public for underspending recorded in the Adjustments Appropriation Bill and the Second Adjustments Appropriation Bill amounting to R1.8 billion and R3.7 billion, respectively.*

The results suggest that a growing number of South Africans are jobless and need income support. However, the reduced intake for the SRD grant points to the misadministration of the budget allocated to the Department of Social Development. The grant is not merely an exercise of convenience but an essential lifeline. The Commission notes that difficulties are associated with eligibility requirements but urges a level of reliability in the administration of grants. The underutilised allocation could have also serviced other spending pressures in the budget.

3. *The Minister of Social Development should develop a policy tool that interlinks with access to complementary social and economic opportunities with opportunities such as the expanded public works programme (EPWP).*

The Commission envisages policy tools that can link social grant recipients to employment, training and education opportunities. The tools would enable coordination between state initiatives aimed at improving the behaviour and economic status of beneficiaries. The Minister should use the grant beneficiary demographic data at its disposal to track the success of the social grant network system. Data inefficiencies in the current administration make the proper monitoring and evaluation of the grant system burdensome and difficult. The Commission urges proper record-keeping and information

dispensation at the Department of Social Development, as accurate reports are the only way to dismantle obstacles in the system and identify threats.

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CHAPTER 5:

RESOURCING OF LEARNER TEACHER SUPPORT MATERIALS IN SOUTH AFRICA

Chapter 5

Resourcing of Learner Teacher Support Materials in South Africa

Sasha Peters, Neo Malungane and Sanele Simayile

5.1   Introduction

Educational outputs or performance is contingent on a myriad of inputs (see Figure 5.1). Some of these inputs are school-related, but many of them are outside the domain of the education sector. Factors related to a learner's socio-economic status such as parents' educational attainment or private household resources are non-school related. Those factors that are within the direct control of the education sector include planning and provisioning of (1) human resources such as teachers, physical facilities (for example classrooms), and material inputs (such as learner teacher support materials (LTSM). From a cost-benefit perspective and relative to other educational inputs, improving the provisioning and management of LTSM can be regarded as a relatively low-hanging fruit in that it is a relatively less complex and politically charged avenue for improving educational performance, especially when compared to the dynamics involved in either education infrastructure or issues around teacher quality and performance.

LTSM is the focus of this analysis.

Figure 5.1: Inputs in the education process
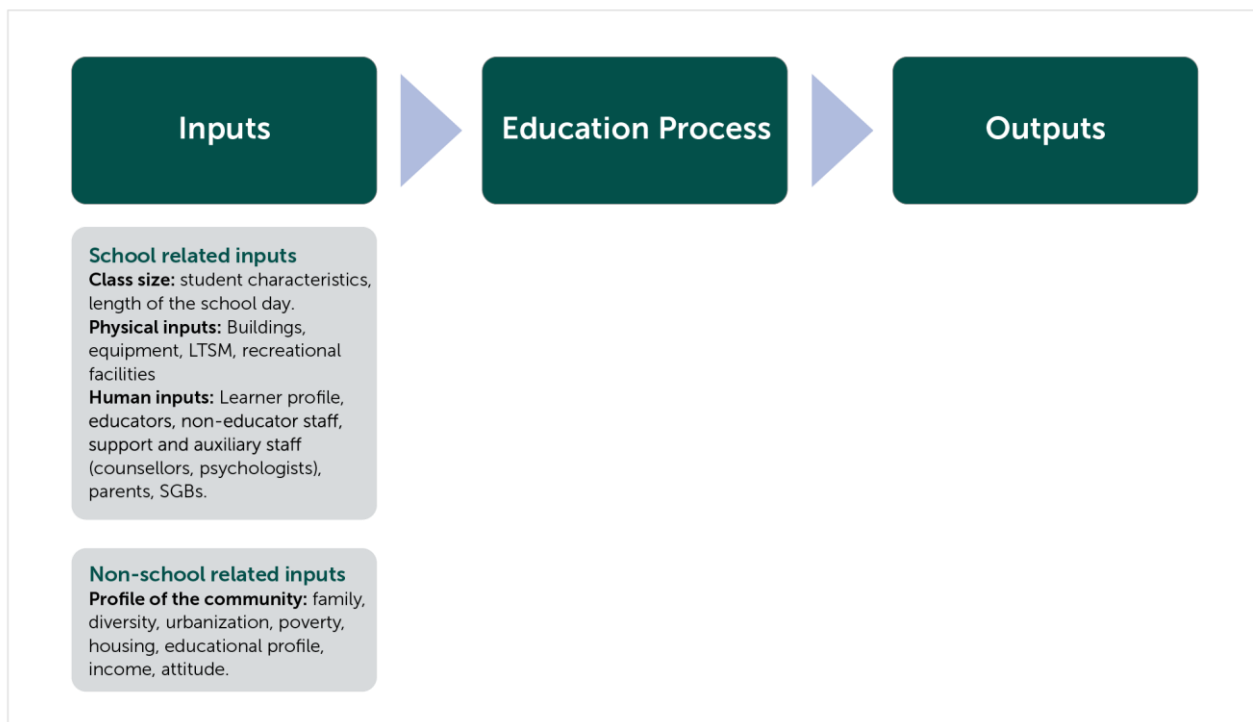
5.2 Literature Review

5.2.1 What is LTSM?

LTSM refers to various resources that promote learning and improve academic achievement. Manqele (2012), expands on this view by describing LTSM as physical items or instructional aids used in educational institutions to facilitate the process of teaching and learning. LTSM comprises, but is not limited to, textbooks, workbooks, worksheets, and supplementary resource materials used in classroom settings at educational institutions to assist learners in better comprehending the content covered in their curriculum.

Onuoha-Chidiebere (2011), notes that LTSMs are an essential tool to convey knowledge to learners in a way that transforms complicated concepts into understandable content. LTSMs are thus a crucial component of curriculum creation and a tool for fostering an efficient teaching and learning process in schools. LTSMs can be divided into various categories as outlined in Table 5.1. Based on Table 5.1, it is worth highlighting that LTSMs can also include electronic materials, such as e-textbooks, tablets, computers, and supplementary electronic materials – these are also commonly referred to as eLTSMs. Whilst acknowledging the growing importance of eLTSMs in our fast-paced and technologically evolving world, this analysis focusses predominantly on the more traditional forms of LTSM.

Table 5.1: Classification of LTSM

Category of spend	Example
Learner support material	Textbooks, library books, charts, models, computer hardware and software, televisions, video recorders, home economics equipment, science laboratory equipment, musical instruments, learner desks, chairs
Non-learner support material equipment	Furniture (excl. learner desks and chairs), paper copier machines, telephone sets, fax machines, intercom systems, equipment for connectivity within the school and to the internet, hardware tools, cleaning equipment, first aid kits, overalls for cleaners and ground staff, sporting equipment, electrical accessories,
Consumable items of an educational nature	Stationery for learners
Consumable items of a non-educational nature	Stationery for office use, paper, cleaning materials, petrol, food
Services relating to repairs and maintenance	Building repair work, equipment repairs and maintenance, light bulbs
Other services	TV licences, internet service providers, school membership of educational associations, postage, telephone calls, electricity, water, rates and taxes, rental of equipment, audit fees, bank charges, legal services, advertising, security services, public or scholar transport, vehicle hire, insurance, copying service

Source: Gauteng Education Department (2011).

5.2.2   The importance of LTSM

The link between LTSM and learners' academic performance has long been a matter of debate among scholars. It is important to note that substantial literature shows that a country's degree of development influences how well learners perform in relation to educational resources. To this end, in developing nations, school-related elements tend to be relatively more important in accounting for learners' academic performance, while a learners' socio-economic background is more important in developed nations (Fuller & Clarke, 1994; Heyneman & Loxley, 1983).

Focusing on Nigeria, Adeogun (2001) finds a strong positive link between instructional resources and academic performance. Adeogun (2001), concludes that schools with greater resources outperform those with fewer resources. A large body of literature concurs with Adeogun's sentiment that the quality and quantity of LTSMs have an impact on learners' academic achievement and that educational institutions that are adequately resourced with LTSMs stand a better chance of outperforming those that are less resourced (see for example Mwiria & Wamahiu, 1995, in the case of Africa; Kwinda, 2014, in the case of South Africa).

Similarly in Brazil where Harbison and Hanushek (1992), conducted an eight-year investigation into the relationship between inputs to primary schools and educational performance, results showed that the use and availability of textbooks have a favourable impact on learners 'achievement. Postlethwaite & Ross (1992) contend that supplemental reading resources and learners' exercise books along with the existence of school libraries were significantly related to achievement in Indonesia, Trinidad, Tobago, and Venezuela.

Homing in on South African-related literature, a recent, 2020 study by Adebayo, Ntokozo, and Grace find that the availability of educational resources significantly affects student performance. Earlier studies on LTSM and student performance confirm this positive link. For example, Van der Berg (2010) finds that educational institutions with insufficient resources in the form of good textbooks, other relevant LTSMs, as well as quality teachers, often struggle to improve the quality of learning. While Van der Berg emphasises sufficiency of resources, he notes that what is crucial is to ensure that resources are available in the proper combinations and that schools, together with classroom set-up should be organised to make the most of these resources. Key findings from Gustafsson (2007) and Van der Bergs' (2010) use of hierarchical linear production function models to analyse SACMEQ data, highlight that textbooks and school facilities had an impact on learning, with the combination of these inputs contributing slightly to the variation in performance between schools.

While access and availability of LTSMs is essential, Phakathi (2015) strongly emphasises the need to train schools on managing LTSMs to attain quality and efficiency with minimal resources while producing the highest possible returns. Phakathi's view is echoed by Bodelina (2013) and Bush et al (2010) who note that effective management of scarce educational resources in schools is most likely to maximise learners' performance. This underlines the fact that educational resources alone are necessary, but not sufficient to achieve desired outcomes. This sentiment is also emphasised by Van der Berg (2005) who stresses the significance of enhancing input management as opposed to merely increasing input levels. In accordance with these findings, Oghuvbu (2009) conducted an analysis of resource management in primary schools in Nigeria and found that learners' academic performance is influenced by a combination of availability of LTSM and the qualification of the teachers who assess learners' academic achievement.

The large body of observed literature suggests that school academic non-performance is attributed to inadequate resource allocation and lack of management of these resources, which in turn compromises the quality of education, desired academic outcomes, and teaching and learning processes. It is apparent from the literature that the quality aspect of LTSM, management and proper provisioning of the most relevant and up-to-date textbooks and other relevant LTSMs to schools, can accelerate academic performance. Effective utilisation of these resources can facilitate learning opportunities offered to learners and improve learning outcomes.

5.2.3 Challenges characterising the provision of LTSM

While empirical studies attest to the potential benefits of access to LTSM, in practice, various challenges characterise the provision of LTSM to learners and teachers. This includes inadequate spending on LTSM, flawed procurement approaches and practices, as well as issues around utilisation and retrieval, especially of textbooks.

Spending on LTSM

With respect to spending on LTSM, the World Bank provides guidance on what is considered an appropriate level of spending on LTSM. These spending benchmarks advise that governments ought to spend a minimum of 3-5 per cent of the primary education budget and 4-6 per cent of the secondary education budget on textbooks. In practice, this often does not materialise, as the cost of providing LTSM becomes relatively higher over time. One of the most substantial contributors to the rising cost of LTSM is the cost of textbooks. In sub-Saharan countries (including South Africa), the unit cost of a textbook is four times higher when compared to a country such as Vietnam for example (Fredriksen & Tan, 2008). Kwinda (2014) notes that the high cost of textbooks is due to the quality of material used, as well as methods used to bind books and that in trying to reduce the costs of textbooks, quality is compromised. According to a study by DFID (2010), while high unit costs are associated with a high-quality textbook, one of the key advantages of this approach is that the textbooks have an extended lifespan, which then reduces the frequent costs associated with textbook replacement. Fredriksen, Brar & Trucano (2015) assert that an increase in textbook lifespan can reduce the year-on-year per pupil cost of textbooks by more than two-thirds of the unit cost.

One way of addressing the high cost of textbooks is to take a localised approach whereby textbooks are both produced and published domestically (UNESCO, 2014). This type of approach facilitates competition among publishers thus serving to drive prices down. In addition, given that textbooks are often damaged during the distribution process, improving storage conditions can also drive down wastage (DFID, 2010). UNESCO (2016) suggests that the Gavi model could provide a suitable financing mechanism to address the issues of textbook funding in Sub-Saharan Africa.

The Gavi model functions as a business model, determining the aggregate demand of textbooks from schools across the country; then funding the provision of books through government allocations (including donations), private sector investments and donations – from both non-profit and profit organisations. Moreover, the Gavi model is systematised in way that funds sourced are directed towards a specific component of the LTSM, which in this case is textbooks. This enables transparency, in the sense that year-on-year textbook expenditure monitoring is possible as the exact funding

allocations are known. This in turn improves the capacity of education management information systems and helps to ensure systematic reporting on data for textbooks, thus enhancing transparency.

Countries like Rwanda and the Philippines have tried to implement certain elements of the Gavi model with some positive outcomes. In addressing variations in textbook availability by region, Rwanda set up a computerised system for textbook management – with outcomes showing 98.6 per cent of schools with accurate orders and 98.3 per cent of schools receiving LTSM directly from publishers at no cost to the school (GPE, 2013; Read & Bontoux, 2015). In the case of the Philippines' education system, which was once prone to wasteful expenditure and corruption in the delivery of textbooks, the use of Gavi principals facilitated a turnaround whereby the education sector managed to improve transparency in textbook delivery and distribution which contributed to a drop in the average cost of textbooks (Arugay, 2011).

Procurement

Procurement is an integral step in ensuring access to LTSMs at school level. Generally, the process of procurement is often riddled with challenges including misunderstandings regarding the importance of the procurement process itself, the disintegration in the organisational structures and systems, lack of skills and capacity, ineffective execution of strategies and regulations within the procurement environment and lack of supplier relationship management (Chrisholm, 2012; Mbuqe, 2020). Corruption also influences the price of LTSMs and the risk of corruption is high across the value chain of LTSMs, especially before textbooks reach schools. The issue of corruption in public sector procurement processes is not unique to LTSMs but is prevalent across several sectors.

The process of procurement can either be managed centrally or decentralised to lower levels of government or even to the school level. According to Attwell (2014), a more centralised procurement model allows for reliance on the assumed capacity of government departments to carry out the process. However, the centralised model is often prone to poor management and monitoring due to the complex number of stakeholders involved (Veriava, 2013).

According to UNESCO (2016), a potential avenue for reducing costs associated with LTSMs is to undertake bulk procurement at a national level. By guaranteeing demand and funding or aggregating order volumes for paper and other supplies; a method similarly utilised in Ethiopia and South Sudan, costs can be reduced. Research conducted by Houston & Hutchens (2009), and Musanzikwa (2013) ascertain that LTSM procurement policies and practices are adequate, however what often disrupts the procurement process is a lack of effective monitoring and implementation. To this end Ndolo and Njagi

(2014), suggest the need for establishing and enforcing a procurement code of ethics among procurement personnel to execute the strategic role of SCM with integrity.

According to Phakathi (2015), and Tukuta and Saruchera (2015), lack of skills and capacity in the implementation of the procurement function hampers the LTSM procurement process. The appointment of inexperienced and unqualified officials and contractors, lack of technical expertise in the respective bid committees, lack of understanding of the relevant regulatory framework and noncompliance with policy frameworks, add to the existing procurement anomalies (Munzhedzi, 2016).

Mbuqe (2020) emphasises that the persistent shortage of textbooks in South Africa's education system is due to inadequate implementation of procurement practices and ineffective management of those processes. Supplier relationship management is a key concept within the procurement process, as any mismanaged contractual relationship can present irregularities within the process. As a result, Crandall, Crandall and Chen (2015), highlight that improved relationships with suppliers can realise benefits such as increased flexibility, improved visibility in the procurement process and contract compliance – for example, frequent meetings with suppliers can help clarify any vagueness of responsibilities and tasks.

Utilisation and retrieval

LTSM, particularly textbooks, are usually distributed to learners at the commencement of the academic year and are to be retrieved at the end of the academic year for distribution to the following cohort of learners the year thereafter. As highlighted by Woldetsadik and Raysarkar (2017), textbooks are only effective when used in classrooms – lack of, or poor, retrieval affects the effectiveness of LTSMs from both a cost and performance perspective.

However, not all books are returned as some are lost or damaged. Any loss and/or damage of textbooks implies replacement costs, even where funds for such losses are recovered, it is questionable whether such funds are indeed used to replace damaged or lost books, because despite these payments, shortage of books remains a concern (Phakathi, 2015). This lack of accountability is another factor that contributes towards shortage of books. Therefore, to be effective in the retrieval of textbooks, each school should have a textbook retrieval policy and strict rules and guidelines ought to be set out in policy when distributing textbooks to learners to maintain effective management in this area (Kwinda, 2014). In addressing lack of retrieval of textbooks in Ethiopian schools, Woldetsadik and Raysarkar

(2017) proposed regular monitoring of the use of textbooks at schools and taking corrective measures to address misuse, such as the introduction of e-books.

Transitioning to eLTSM

Similar to global and regional developments, the basic education sector in South Africa has also seen shifts towards the utilisation of eLTSMs– to improve efficiency in learning (reading and writing), and effectiveness in providing LTSM. Clarke et.al (2013) notes that the introduction of eLTSMs can be a game changer in the education sector, with this form of LTSMs playing an integral part in the cultural change in schools towards improving learning and teaching.

There are however serious challenges that limit the benefits that can be derived from the permanent shift to eLTSMs in South African public schools. Ineffective administration, poor leadership, inadequate infrastructural development, cost and sustainability and safety are some of the key reasons hampering school level adaptability to the wave of technological innovation. The transition to eLTSMs also presents equity considerations for South Africa in terms of the ability of lesser resourced, quintile 1 to 3 schools being able to leverage the full range of benefits of a more technologically advanced approach to LTSMs. As such, it is important for South Africa to consider feasible medium- and long-term plans to ensure that lesser resourced schools are able to enjoy the use and accompanying benefits of eLTSMs.

5.2.4 Learning from others

Initiatives undertaken in some countries seem to be bearing fruit in terms of simultaneously improving access, whilst containing costs associated with LTSM, especially in relation to textbooks. Examples 1 and 2 provide a snapshot of two such examples, one in Ethiopia and the other Vietnam.

Example 1: Ethiopia

In the sub-Saharan region, Ethiopia is one of the few countries that has managed to operate an adequate textbook loan scheme for distribution and retrieval (UNESCO, 2016). As a low-income country with large class sizes and a low number of trained teachers, instruction time is often cut short and access to good quality LTSM such as textbooks greatly improved education outcomes. With the introduction of the General Education Quality Improvement Project (GEQIP), the country managed to address issues surrounding the provision of textbooks.

GEQIP was designed to improve quality of general education in Ethiopia through five components: curriculum reform and textbook provision; a teacher development programme; a school improvement programme; management and capacity building; and the use of information and communication technology in education. With respect to LTSM, and textbooks in particular, in 2013/14, the country achieved a 1:1 ratio of textbooks to pupils and a 1:40 ratio of teaching guides. This materialised in all subjects at the primary and secondary level, with content in English and four major native languages. The success of GEQIP was accompanied by reliable financing and well-considered policies for textbook provision. A single-title textbook policy for core subjects helped to achieve economies of scale, and larger print runs made it possible to reduce the unit cost of textbooks. A decision to pursue international competitive procurement made it possible to combine and streamline the development, printing, and distribution of textbooks; with government's policy to retain copyright of the new materials thus significantly reduced reprinting costs. Finally, high standards for textbook content and production values helped to improve the quality and durability of the materials and reduced the recurrent costs associated with its provision (Woldetsadik & Raysarkar, 2017).

Example 2: Vietnam

In Vietnam, as in South Africa, the delivery of education is a concurrent function shared between the national and provincial governments. In Vietnam, the national government maintains a centralised system of textbook provision through the national department of education and the Education Publishing House, with the national department having full authority over all aspects of textbook development, production, and distribution. Subnational education authorities are then responsible for supplementary supplies and other LTSM through the channelled education budgets. The national department has the responsibility for developing textbooks and retains full copyright, making reprints cheaper.

Vietnam has achieved the near universal textbook availability ratio of 1:1; with a pupil-textbook lifespan of 4 years. On the other hand, high annual textbook production also hints at the decline in the real lifespan of textbooks – this is mainly due to frequent curriculum alterations. In terms of funding, Fredriksen, Brar, and Trucano (2015) note that the national government finances all textbook costs; the allocation of funds is highly centralised, and access to this information is highly restricted. In ensuring the procurement of all necessary textbooks, UNESCO (2016) reveals that Vietnam relies thoroughly on domestic production and publishing to drive down textbook costs.

Kenya and Japan provide interesting approaches to trying to ensure that all learners have access to textbook content, one through the use of technology, the other through an approach to ensure streamlined content and low-cost production. Examples 3 and 4 provide greater detail.

Example 3: Kenya

In recent years, the use of tablets in the education sector has gained recognition and prominence due to their speed, portability, and cost-effectiveness measures of improving early literacy and numeracy. In light of the growing educational tablet market, Kenya is amongst the African countries that rolled-out a large-scale tablet programme in schools with hopes that the devices will provide access to educational content and respond to low educational outcomes, especially in rural areas. However, legal and policy frameworks do exist that support these initiatives.

Implementing a one-to-one tablet initiative in Kenya primary schools received extensive support from the Kenyan Ministry of Education and community-based and non-profit partners under the Digital Literacy Programmes to enhance access to educational resources and transform the aspect of teaching and learning through technology integration. The tablets were provided to teachers and learners, the schools centrally managed the devices, and the software applications were downloaded onto the devices before they were distributed. Teachers were provided with sufficient technical training to improve their technological capabilities to use the tablets. The tablets are pre-loaded with up-to-date curriculum learning materials and instructional content to enhance learners' ICT knowledge, e-literacy skills, and grades across the school subjects of science, mathematics, and languages. The Tablets contain digital textbooks benchmarked in English and Kiswahili and prohibit the use of social networking sites to prevent distraction during lessons in classroom settings.

In addition, the devices contained workbooks, supplementary readings, and dictionaries in English and Kiswahili to improve the learners writing and reading fluency abilities. Apart from any other educational materials loaded on the devices, the teacher's devices were loaded with unique, sophisticated software applications that assist teachers and learners in accurately sounding out letters (Piper, Oyanga, Mejia, & Pouezevara, 2017). Despite the ultimate impacts foreseen by the tablets initiatives, several barriers have constrained the full potential of digital learning in Kenya. These include a lack of internet connection between schools and homes, sustainable and reliable electricity supply, and appropriate professional ICT training for rural Kenya teachers (Heinrich, Darling-Aduana, & Martin, 2019).

To this end, it is worth noting that the school's infrastructure must be managed thoroughly, including having adequate wi-fi connectivity, technical assistance, clear management policies, funding for repairs, and insurance (Clarke, Svanaes, Zimmermann, & Crowther, 2013). Honing in on sub-Saharan African countries with weak infrastructure, the provision of digital learning materials, as opposed to printed materials, requires substantial investment. To this end, even countries with great digital resources and quality education systems that have taken the lead in digital transformation have not yet entirely transitioned to digital learning; they are smoothly transitioning to the digital era and use a diversified mix of printed and digital materials. On that note, using digital materials should not replace the existing traditional educational models; instead, it should complement and supplement paper textbooks and create opportunities for students to learn independently (Jagannathan & Smart, 2018).

Example 4: Japan

In Japan, textbooks, along with good curriculum, teachers, and other learning resources form an integral component of quality education. In Japan, textbooks are designed to not be too overloaded. As noted by Janes (2010), textbooks utilised in Japan are very lean and compact compared to their counterparts in other industrialised countries. These books are course content focused and fitted, and teachers do not pick which parts of the text they will use but are expected to teach the entire book. Books are produced for each semester, each under 100 pages long. This ensures that the standard textbook value chain is relatively inexpensive thus facilitating the free textbook policy to schools. Japanese textbooks are considered inexpensively produced paperbacks because they are printed on either newsprint or lightweight, wood-free paper with a binding that is not durable, particularly in the local climate (Jagannathan & Smart, 2018). Printing specifications are adequate for the expected life of the book. This further supports the task of updating textbooks frequently with less costs and aligning the content with new pedagogical methods such as interactive and collaborative learning. Despite the pervasive spread of information and communication technologies and the proliferation of digital learning resources, textbooks remain highly relevant in the education process and consumes considerable budgets and resources in Japan and other Asian developing countries (Jagannathan & Smart, 2018).

5.2.5   Reading and textbooks

Basic reading skills serve as a solid foundation for reading for meaning and assists children in better comprehending challenging texts. Learning to read for meaning is fundamental to a child's future years of learning. In Grade 4, learners start utilising these fundamental reading abilities to learn. Furthermore, reading for meaning significantly ensures learners' progression in school and smooth engagement with the school curriculum.

In essence, failure to acquire critical reading skills in the foundation phase deprives learners of an opportunity to learn or effectively engage with the curriculum in higher grades, which compromises learners' educational outcomes (Pretorius, Jackson, McKay, Murray, & Spaull, 2016). Unfortunately, this is the case for South African children; they are perpetually left behind as they fail to engage effectively with the curriculum. To date, the majority of South African children lack the skill to read for meaning by the end of grade 3, whether evaluated in their native tongue or English. This has an adverse impact on foundation learning and higher grades of schooling.

Although various DBE initiatives have tried to address this predicament in the past, there seems to be slight to no understanding of what is effective, or the results are not in sync with the desired outcomes. One of the most prominent reasons behind this predicament is that teachers in the foundation phase lack the specialised skill or knowledge to teach children how to read or fail to implement the different reading methodologies (Spaull & Kotze, 2015; Van der Berg et al., 2016). Critically, from the perspective of this paper, the availability of and free access to, LTSMs, specifically readers, can facilitate progress in early grade reading and reading for meaning which is integral to improving educational outcomes.

5.3   Problem Statement and Research Questions

Poor educational outcomes, especially when viewed in relation to the substantial resources invested in public education, is a stubborn challenge facing South Africa. The extent of this challenge is well reflected in South Africa's poor early grade reading statistics which show that 78 per cent of Grade 4 learners could not read for meaning[22] (Howie, 2016). Among the strategies to help address this issue, the provision of LTSM (particularly reading materials in the foundation phase) is critical (Metcalf, 2022). Unfortunately, the provision of textbooks and LTSM in general has proven challenging in South Africa.

Of the R298 billion allocated to basic education in 2022/23, 75 per cent is allocated to compensation of employees. While national government has made additional provision (amounting to R24.6 billion) to cover provincial personnel funding shortfalls, a consequence of ever-expanding compensation costs are dire for spending on non-personnel educational inputs (National Treasury, 2022). Given the relative rigidity of provincial revenue bases, provinces are left with the task of having to reorient spending towards the most pressing needs.

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[22] Based on 2016 PIRLS Literacy Tests

For schools that are unable to supplement government funding with revenue from school fees, this means less funding for essential educational inputs such as LTSM. That being said, it is also unclear exactly how much is currently being spent on LTSM. According to the 2022 Budget Review R5 billion (or 2 per cent) of total education spending is allocated to LTSM in 2022/23. However, funding for LTSM is also incorporated in the quintile-based per learner amounts that are gazetted annually in terms of the National Norms and Standards for School Funding. Unfortunately, not all provinces are able to align their funding with the minimum norms and standards and thus fund below the annually gazetted amount per learner. In addition, the per learner amount covers a number of school expenditure items including utilities such as water and electricity – this may serve to crowd out spending on LTSM. An important element in terms of general spending on LTSMs is the extent to which funding and access encompasses a focus on special needs education.

The provision of LTSM has also been at the centre of legal challenges. In 2012, failure of government to deliver textbooks to schools in Limpopo resulted in court action (Basic Education for All vs Minister of Basic Education) whereas in 2014, the government's failure to provide age-appropriate desks and chairs in the Eastern Cape also gave rise to legal action (Madzodzo vs Minister of Basic Education). More recently, at the beginning of 2022, a legal challenge was lodged in the Eastern Cape where textbook and stationary deliveries were delayed for approximately 3000 schools (Ellis, 2022).

In keeping with the precedents set in the two earlier cases, the judgement passed down in March 2022 again confirmed that government has a legal obligation to ensure that all learners have access to all required LTSM including textbooks and stationery at the start of the academic year and that failure to do so is in contravention of the right to a basic education.

Not only does such recurring litigation open the department up to additional costs and questions around the extent to which the right to education as enshrined in the Constitution is being upheld, but more importantly without readers, textbooks and other LTSMs, it will be harder for South Africa to improve early grade reading and writing and thus educational outcomes. The impact of poor access to, or lack of LTSMs, and particularly textbooks is not limited to the basic education sector but can have a knock-on effect across the human capital pipeline. For example, as learners transition from the basic education sector to the post school education sector, the result is that the PSET sector then inherits students that may not have mastered the ability to read for meaning, thus continuing to impact outcomes at the higher education level. The lack of access to LTSM and textbooks and readers, in particular, can end up having much broader impacts that can affect the skills available in our economy.

Given the above, the primary research questions underpinning this analysis are:

- What is the national and provincial policy context and institutional factors that shape the provisioning of LTSM to public schools in South Africa?
- How much is being spent on LTSMs?
- What opportunities exist to improve the provision of this key educational input?

5.4   Research Aims and Objectives

5.4.1   The aim

The overarching aim of the research will be to review the provisioning of LTSM in South Africa with a view to making recommendations on how policy, funding, and ultimately access to this essential educational input can be improved.

5.4.2   The objectives

Three main objectives underpin the research, namely to:

1. Assess the policy and funding regime underpinning the provision of LTSM in South Africa
2. Conduct an institutional analysis of the factors that hamper the effective procurement and delivery of LTSM across the nine provincial education departments PEDs
3. Make recommendations on how the management and provision of LTSM can be improved

5.5   Research Methodology and Data

To answer the research questions being posed, a combination of policy, budget and institutional analysis will be relied upon as follows:

- Analysis of national legislation and regulations underpinning the provision of LTSM will be undertaken to understand the environment within which the provisioning of this essential educational input takes place. Emphasis will be placed on whether a formal LTSM-related policy and regulations exist and the extent to which they recognise the varying contexts confronting the nine PEDs. This is critical as policy decisions affect the cost of implementation and in the context of a resource-constrained environment, poor acknowledgement of provincial context can affect the costs associated with delivery and ultimately the extent to which policy goals are achieved.
- In terms of budget analysis, secondary data is relied on to analyse spending on LTSMs. Ten years' worth of spending data (2010 up until 2020) is sourced from the Estimates of Provincial

Revenue and Expenditure documents which are available for each of the nine PEDs on the National Treasury website. The data will be analysed to establish trends in the funding of LTSM. Available financial data on LTSM will also be assessed to determine how far South Africa is in terms of meeting international LTSM spending benchmarks.

- Institutional analysis entails understanding how institutions (in this case government departments) behave and function, particularly the way administrative and political factors affect the implementation of public programmes. In the context of this study, the aim is to understand whether the provision of LTSM is informed by province-specific policies, which set out the priority and provincial goals around LTSM, how in practice, the budgeting for LTSMs takes place and what the dynamics and implications around selected procurement and delivery approaches are. In this regard, annual reports and annual performance plans of PEDs will be anaylsed. In addition, meetings with officials at the national DBE and PEDs are used to gain further understanding of the practical operating environment within which PEDs deliver LTSM. These interactions will also provide the opportunity to delve deeper into conclusions drawn from the policy and budget analysis.

5.6   Analysis

5.6.1   Legislative and policy context underpinning LTSM

The curriculum statement of a country provides a statement of the knowledge, skills and values that need to be learned within its schools. There should be a close link between the aspirations of the curriculum statement and LTSMs as LTSMs provide support for the implementation of the curriculum.

Curriculum 2005 (C2005) was South Africa's first post-Apartheid curriculum statement, implemented in 1998. In 2000, C2005 was revised and the National Curriculum Statement (NCS) was implemented in 2004. In July 2009, the Minister of Basic Education, appointed a panel of experts to investigate the nature of the challenges and problems experienced in the implementation of the NCS and to develop a set of recommendations designed to improve the implementation of the NCS (Dada, 2009).

Part of the challenge at this time was that provinces were allowed to develop and use their own catalogues and materials. As a result of the lack of uniformity, exam question papers had to be set according to different textbooks due to the variation in the use of different catalogues. In the end, the NCS was revised, and the Curriculum and Assessment Policy Statement (CAPS) was introduced in 2012.

Prior to CAPS, teachers were expected to produce learning materials, and many were not equipped to do this. Essentially CAPS provides teachers with guidelines on what to teach and what needs to be assessed in a grade and subject. CAPS also provides teachers with a week-by-week planning schedule and advice on teaching pace. As the curriculum policy evolved, so too did the view of LTSMs. With C2005 textbooks were less emphasised relative to the development of materials by teachers. In addition to the lack of uniformity in content, quality was also an issue due to, among other things, the workload of teachers.

The key pieces of legislation that underlie the provision of LTSM, are outlined below:

a) *South African Constitution, 1996*

The right to basic education is enshrined in the Bill of Rights. Section 29 (1)(a) of the Constitution stipulates that everyone has the right to a basic education, including adult basic education. In accordance with international conventions which South Africa is party to (such as the International Covenant on Economic, Social and Cultural Rights (ICESCR), as well as legal precedents set domestically (see for example Basic Education for All vs Minister of Basic Education, Madzodzo vs Minister of Basic Education and Khula Community Development Project vs Head of Department of Eastern Cape Department of Basic Education and others), LTSM is considered an essential component of a learner's constitutional right to basic education. It is important to recognise that the right to basic education is unique in the sense that its fulfilment is not subject to the limitations of progressive realisation and availability of resources – thus the right to basic education is immediate.

b) *South African Schools Act (SASA), 1996*

The overarching aim of the SASA is to provide for a uniform system for the organisation, governance and funding of schools and matters connected therewith. Of relevance to the issue of LTSM is that Section 21 of the SASA makes provision for a governing body to apply to the Head of Department (HoD) to be allocated various functions, including in Section 21 (1)(c), the purchase of LTSM, or as listed in the clause: textbooks, educational materials or equipment for the school. Section 21(2) further notes that the HoD may only refuse a request if the governing body lacks the capacity to perform the function applied for. Section 22(1) allows for a HoD to withdraw any functions allocated to a governing body, if reasonable grounds exist therefore. Where a governing body is not allocated the right to purchase LTSM on behalf of a school, the province must procure LTSM for that school.

c) *National Norms and Standards for School Funding (NNSSF), 1996 and as amended in 1998*

The NNSSF gives effect to the SASA and provides guidance to the nine PEDs on allocations to schools within their jurisdictions. The norms and standards relate specifically to school level expenditure and only to public ordinary schools. The national DBE cannot prescribe what level of funding should be annually allocated to PEDs – this is the responsibility of provincial governments and legislatures.

The national sphere is however empowered to set minimum norms and standards with the assumption that PEDs will align their spending accordingly and, in so doing, also honour their duty in relation to the Constitution and SASA especially in relation to the poorest learners. To account for the heterogeneity of learners and schools in terms of social conditions, and vastly varying capacity of provincial administrations and school governing bodies, education allocations for recurrent expenditure items are guided by a resource targeting list that categorises the public ordinary schools within a province into five quintiles based on need/poverty.

Quintile 1 is the poorest whereas quintile 5 is the least poor. There are two factors that determine need/poverty, namely the physical condition, facilities and crowding of the school and the second factor is the relative poverty of the community surrounding the school. The quintile ranking of the school determines the per learner allocation with learners in quintiles one, two and three receiving relatively higher per learner allocations. Table 5.2 illustrates the national poverty distribution table which divides learners according to the five quintiles. The data in Table 5.2 can also be considered an indicator of the varying needs that exist across the nine provinces not only for LTSM, but more broadly, the need for publicly funded basic education. Based on Table 5.2, the largest number of needy learners are located in the Limpopo and Eastern Cape provinces, whereas the Western Cape and Gauteng are at the other end of the spectrum in terms of the percentage of learners that fall in quintile 5 (where the least needy learners are located).

Table 5.2. National Poverty Distribution Table

%	Quintiles					Total
Province	1	2	3	4	5	
EC	27.3	24.7	19.6	17	11.4	100%
FS	20.5	20.9	22.4	20.8	15.4	100%
GP	14.1	14.7	17.9	21.9	31.4	100%
KZN	22.1	23.2	20.2	18.7	15.8	100%
LP	28.2	24.6	24.2	14.9	8	100%
MPU	23.1	24.1	21.5	17.7	13.5	100%
NC	21.5	19.3	20.7	21.4	17.1	100%
NW	25.6	22.3	20.8	17.6	13.7	100%
WC	8.6	13.3	18.4	28	31.7	100%
South Africa	20	20	20	20	20	100%

Section 96 of the NNSSF provides a sense of what items should be purchased from the annually gazetted per learner amounts – see Table 5.3. As is evident from Table 5.3, the per learner amounts are to be used to fund a wide variety of items including LTSM. Notable among this list is the inclusion of utility payments such as water and electricity – given the increase in water and electricity tariffs, PEDs could face a situation where spending on such items crowd out spending on core educational inputs such as textbooks.

Table 5.3. Outline of items that must be funded via the annually gazetted per learner amount

Category of spend	Example
Learner support material	Textbooks, library books, charts, models, computer hardware and software, televisions, video recorders, home economics equipment, science laboratory equipment, musical instruments, learner desks, chairs
Non-learner support material equipment	Furniture (excl. learner desks and chairs), paper copier machines, telephone sets, fax machines, intercom systems, equipment for connectivity within the school and to the internet, hardware tools, cleaning equipment, first aid kits, overalls for cleaners and ground staff, sporting equipment, electrical accessories,
Consumable items of an educational nature	Stationery for learners
Consumable items of a non-educational nature	Stationery for office use, paper, cleaning materials, petrol, food
Services relating to repairs and maintenance	Building repair work, equipment repairs and maintenance, light bulbs
Other services	TV licences, internet service providers, school membership of educational associations, postage, telephone calls, electricity, water, rates and taxes, rental of equipment, audit fees, bank charges, legal services, advertising, security services, public or scholar transport, vehicle hire, insurance, copying service

Source: Republic of South Africa, 2006, p. 27

The annually gazetted amounts per learner in each of the quintiles are reflected in Table 5.4. Thus in alignment with the NNSSF, PEDs are required to fund learners in quintile 1 at R1 536 for 2022 per learner. Recall that the funds must be used to cover purchases related to the items described in Table 5.3 above.

Table 5.4. Annually gazetted per learner amounts, 2021-2023

	2021	2022	2023
National quintile 1, 2 and 3	R1 466	R1 536	R1 610
National quintile 4	R 735	R 770	R 807
National quintile 5	R 254	R 266	R 279
No-fee threshold	R1 466	R1 536	R1 610

PEDs determine how to divide the per learner amounts (Table 5.4) across the different spending areas identified in Table 5.3. For example, in the Western Cape, in 2019/20, schools were advised to spend 30 per cent of the per learner amounts on LTSM, whereas the PED recommended that KZN schools allocate 40 per cent of their per learner allocations on LTSM in 2022.

d) *Draft National Policy for the Provision and Management of Learning and Teaching Support Material, 2014*

At present, there is no approved national policy governing the provision and management of LTSM in South Africa. What exists is a draft policy titled "Draft National Policy for the Provision and Management of Learning and Teaching Support Material (LTSM)'. The draft policy was published for comment in 2014 and is intended to govern provinces, districts and schools. The national DBE has noted that the policy process was interrupted by the need to conduct a socio-economic impact study (SEIS). The draft policy covers six elements, namely: development and production of LTSM, development of the national catalogue of core LTSM, procurement of LTSM, LTSM retention, utilisation of LTSM and monitoring and evaluation of the management and provision of LTSM.

In terms of access to LTSM, the aim of the draft policy is to address the past inequalities in access to LTSM. To this end it proposes that "every learner and teacher have access to the minimum set of core material required to implement the National Curriculum Statement Grades R-12. Core material is defined as LTSM that is central to teaching the entire curriculum of a subject for a grade – the draft policy notes that this generally includes a textbook/learner book, workbook and teacher guide.

The draft policy includes a section on LTSM retention and retrieval. It is noted that textbooks need to be retained in the system for a minimum period of five years. Notwithstanding this five-year period, workbooks are renewed annually while it is expected that certain complementary LTSM (for example reference works) should last longer than the five-year minimum period.

It is recommended that each school have a textbook retention plan, conduct inventory checks once a term and carry out an LTSM audit annually. To its credit the draft policy also contains a section

covering monitoring, supporting, reporting and evaluation. A bottom-up approach is advised starting with schools and moving up to the national department of basic education. More specifically, schools must produce LTSM reports, which are consolidated at district and provincial level and then on to the national department. The draft policy envisages these reports playing a central role in informing policy and planning decisions.

One gap in the draft policy is that it does not substantively cover the aspect of eLTSM. The policy indicates that eLTSM will be provided as an alternative or as an addition to printed textbooks. In contrast to this the National Development Plan (NDP) highlights the significance of eLTSMs. In terms of nationally envisaged developmental goals, the NDP emphasises the progression towards e-education and envisages that high speed broadband should be readily available and incorporated into the design of schools to enable greater use of technology in education and improve ways of learning. Furthermore, it emphasises that mobile devices such as phones and tablets should be explored as a means of distributing learning content and teachers must be exposed to necessary technical training to improve their skills and use of technology. The draft LTSM policy is silent on the aforementioned aspects, and as such raises concern around alignment between the national policy on LTSM and the aspirations outlined in the NDP. Moreover, the exploration of mobile devices and teachers sufficient technical training is not alluded to in the policy. It is imperative that these aspects be included and strengthened in the policy as they form an integral part of the digital transformation in education and should be viewed as part of the broader equity considerations within the sector.

Moreover, the finalisation of the policy is a necessary step in concluding the policy process with respect to LTSM. A policy precedes the enactment of legislation which allocated mandate, roles and responsibilities and is a necessary step to enable the establishment of funding and other regulations.

5.6.2   Indicators of demand for LTSM

The main indicator for LTSM is the number of learners in public ordinary schools. As at 2019, there were just over 13 million learners attending public ordinary schools in South Africa (Table 5.5). In line with the NNSSF, learners in quintile 1, 2 and 3 schools do not pay fees and so are relatively more reliant on public subsidies and funding than learners in quintile 4 and 5 schools where public subsidies are supplemented with funding from fees. Figure 5.2 illustrates the dominance of learners in no-fee paying schools and thus the pressure on government and PEDs to ensure that annually gazetted per learner amounts are allocated to cover essential inputs to education such as LTSM

Table 5.5. Total number of learners in public ordinary schools, 2013-2019

Province	2013	2014	2015	2016	2017	2018	2019
EC	1,938,078	1,946,885	1,953,397	1,961,547	1,795,563	1,840,780	1,843,814
FS	664,508	672,290	682,704	688,349	701,487	707,166	716,080
GP	2,129,526	2,191,475	2,262,319	2,326,584	2,413,225	2,402,576	2,447,377
KZN	2,866,570	2,901,697	2,881,518	2,877,544	2,863,316	2,821,221	2,844,764
LP	1,714,832	1,720,585	1,753,734	1,765,555	1,776,467	1,724,791	1,753,819
MPU	1,052,807	1,057,788	1,079,280	1,074,352	1,096,428	1,045,972	1,094,941
NC	282,631	289,004	290,139	292,595	292,377	295,339	298,888
NW	788,261	800,316	813,873	829,467	825,776	840,640	852,589
WC	1,052,435	1,075,396	1,097,509	1,116,572	1,127,634	1,141,057	1,188,926
Total	12,489,648	12,655,436	12,814,473	12,932,565	12,892,273	12,819,542	13,041,198

Source: DBE, Schools Reality Reports.

Figure 5.2: Number of learners per quintile, 2007-2019
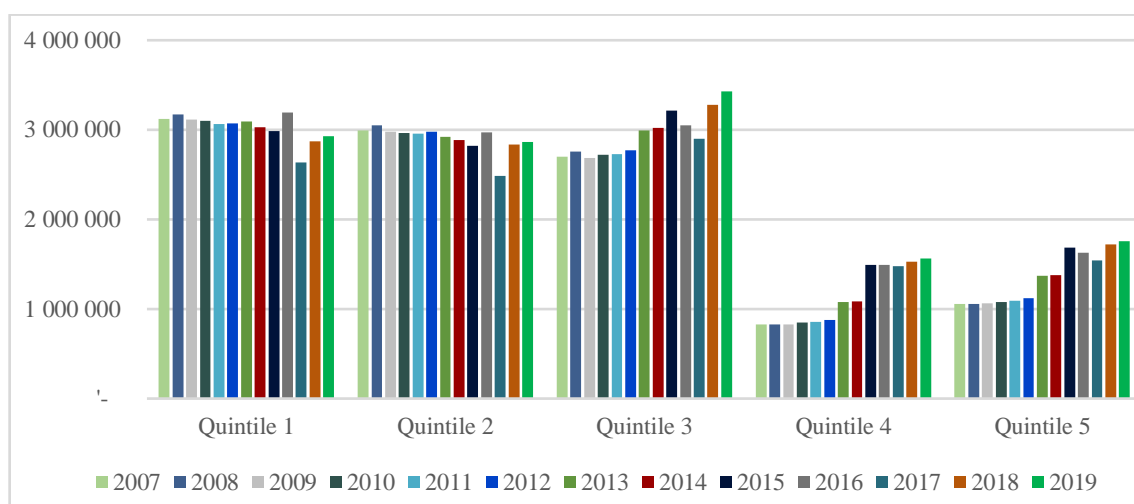
Source: DBE, Schools Master List.

Two factors that heavily influence the demand for LTSMs include subjects offered by schools and the retention and retrieval of textbooks.

5.6.3   Provincial context

Ultimately, funding, procurement and delivery of LTSMs are the responsibility of provinces and the schools within their domain. Notwithstanding the absence of an approved national LTSM policy, various provinces, including KwaZulu-Natal, Gauteng, Mpumalanga, Northern Cape, and Western Cape have developed their own LTSM policies. These policies are designed to ensure that LTSM, as well as other curriculum resources, are developed and made accessible to all schools across provinces – providing learners with equal opportunities for their right to education and to make the best use of their capabilities, irrespective of their socio-economic background.

As assessment of these provincial policies indicates that they clearly outline roles and responsibilities of all role players in relation to LTSM; disclose methods of LTSM budgeting/funding and allocation; map out the LTSM acquisition process for all types of schools (section 20 and 21 schools) and include the retention/retrieval processes for textbooks.

a) *Spending on LTSM*

Spending on LTSM is funded by provinces from their equitable share allocation and within the parameters of the NNSSF and the annually gazetted per learner amounts. Figure 5.3 illustrates the spending on LTSM relative to total provincial education spending. Whereas in 2010/11 spending on LTSM was R2.5 billion (or 1.8 per cent of the total provincial education spend), this has increased to R8.6 billion as at 2020/21 (3.2 per cent of total provincial education spend).

Figure 5.3. Provincial LTSM spending in relation to total provincial education spending, 2010/11 to 2020/21 (R'000)
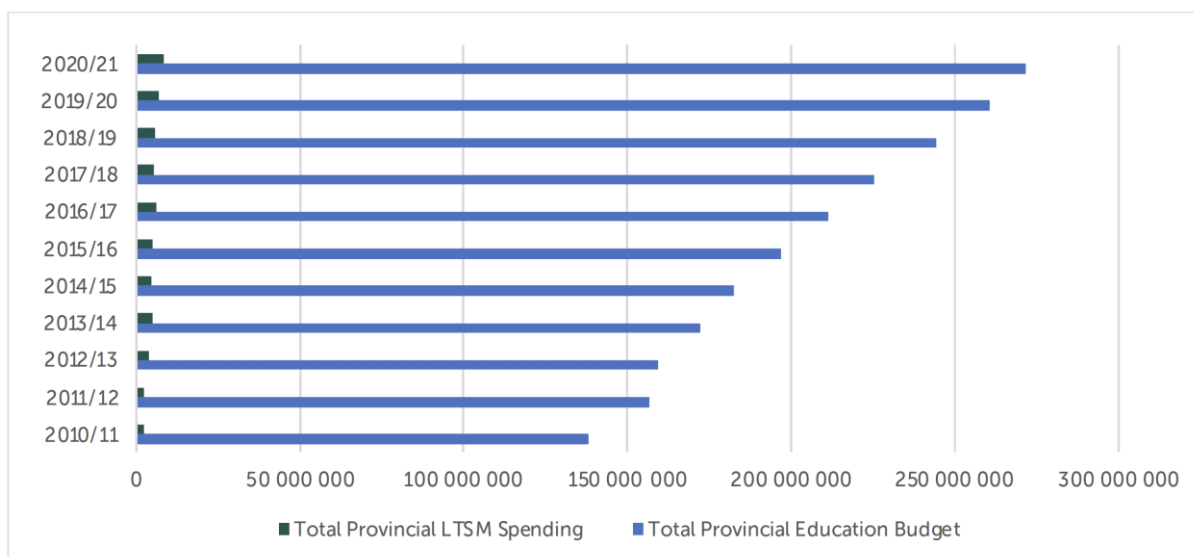
Source: Commission calculations based on: (National Treasury, 2013, 2016, 2019, 2022).

The bulk of LTSM spending occurs in the Public Ordinary School Education programme, which is responsible for, on average, 80 per cent of LTSM spending over the period 2010/11 to 2020/21. Figure 5.4 illustrates total LTSM spending by the three key provincial education budget programmes namely, the Public Ordinary School Education, Public Special School Education and Early Childhood Development (ECD) programmes. In contrast to the LTSM spending for Public Ordinary Schools, such spending within the ECD and Public Special Schools programmes is minimal, averaging 3.8 per cent and 0.6 per cent respectively over the period 2010/11 to 2020/21.

The proportion of the programme budget allocated to LTSM has remained relatively stable over the last five years. Particular concern regarding the small LTSM allocations to special schools and ECD is emphasised. Special needs schools contain among the most vulnerable of learners with the LTSM needs of these learners being particularly sophisticated and expensive. Likewise, ECD spending on LTSM is of concern given the importance of the foundation phase and the role that it can play in strengthening educational outcomes throughout the rest of a learner's schooling career.

Figure 5.4. Total LTSM spending per provincial education budget programme, 2010/11 to 2020/21 (R'000)
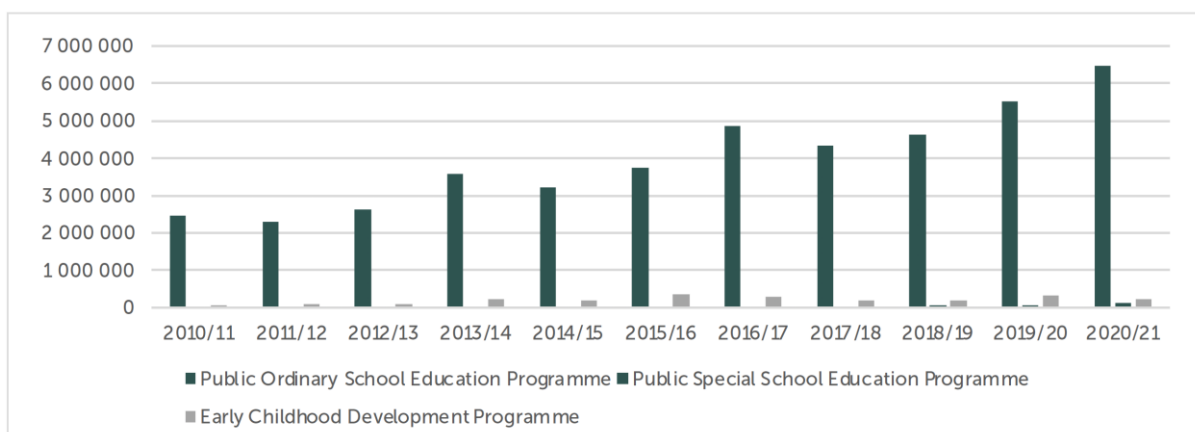
Source: Commission calculations based on: (National Treasury, 2013, 2016, 2019, 2022).

Disaggregating spending on LTSM by province, shows the variances in spending (see Figure 5.5). As at 2021/22, the three highest spenders on LTSM are Gauteng (R2.1 billion), KwaZulu-Natal (R2 billion) and the Eastern Cape (R1.1 billion). At the lower end of the scale are the Northern Cape (R161 million) and Free State (R249 million). Table 5.6 shows the provincial LTSM spending as a proportion of the total provincial education budget. While Gauteng and KwaZulu-Natal spend the largest amounts on LTSM, the North-West province spends the largest share of its provincial education budget on LTSM (4.2 per cent of the provincial education budget spent on LTSM) and has been doing this since 2017/18.

Figure 5.5: Total LTSM spending per province, 2010/11 to 2020/21
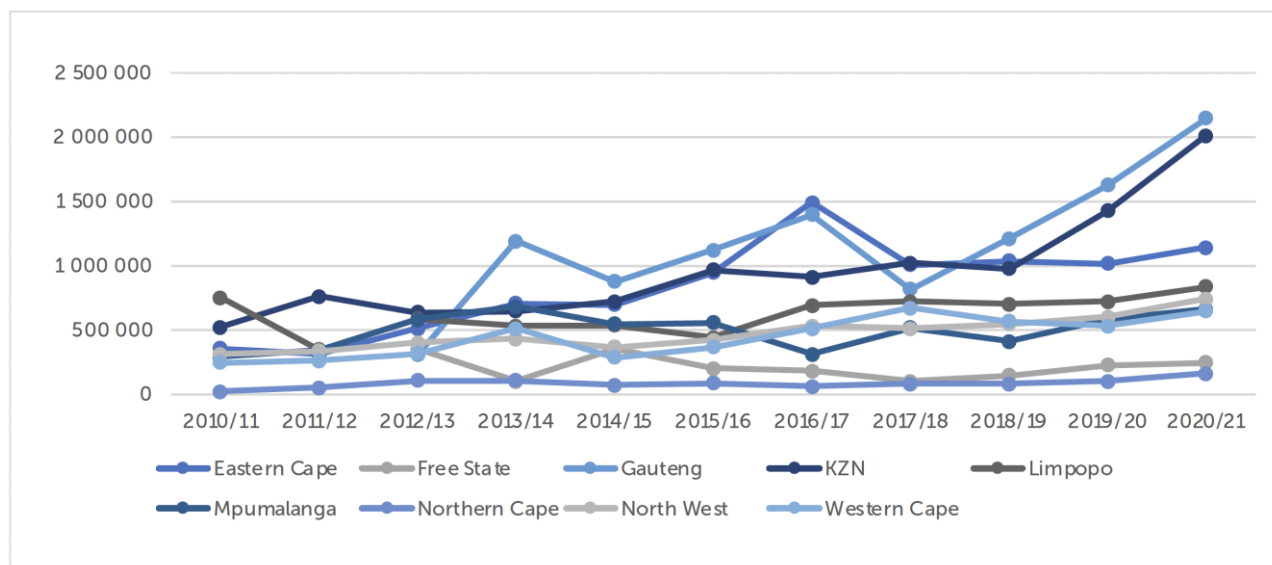
Source: Commission calculations based on: (National Treasury, 2013, 2016, 2019, 2022).

Table 5.6: LTSM spending as a proportion of total provincial education budget, 2010/11 to 2020/21

%	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
EC	1.6%	1.2%	2.0%	2.6%	2.6%	3.3%	4.8%	3.1%	2.9%	2.7%	3.1%
FS			3.5%	1.0%	3.1%	1.8%	1.5%	0.8%	1.1%	1.5%	1.6%
GP			1.2%	4.1%	2.8%	3.1%	3.5%	2.0%	2.5%	3.1%	3.7%
KZN	1.8%	2.2%	1.8%	1.7%	1.8%	2.3%	2.0%	2.1%	1.9%	2.6%	3.5%
LP	3.7%	1.6%	2.8%	2.3%	2.2%	1.8%	2.6%	2.5%	2.3%	2.3%	2.5%
MP	2.5%	2.6%	4.2%	4.6%	3.5%	3.3%	1.8%	2.7%	2.0%	2.6%	3.0%
NC	0.6%	1.3%	2.7%	2.4%	1.5%	1.7%	1.1%	1.4%	1.3%	1.5%	2.2%
NW	3.4%	3.3%	3.9%	3.7%	3.0%	3.2%	3.8%	3.4%	3.5%	3.6%	4.2%
WC	2.1%	2.0%	2.3%	3.4%	1.7%	2.1%	2.7%	3.3%	2.5%	2.2%	2.6%
Total	2.3%	2.0%	2.4%	2.9%	2.4%	2.6%	2.9%	2.4%	2.3%	2.6%	3.2%

Source: Commission calculations based on: (National Treasury, 2013, 2016, 2019, 2022).

Table 5.7 illustrates the per learner spending on LTSM by province over the period 2010/11 to 2020/21. The North-West province has spent above the national average spend per learner on LTSM over the entire period reviewed. Over the last three years, Gauteng has also managed to spend above the national average spend amount. The Eastern Cape exhibited a similar pattern since 2014/15 but as at 2020/21, LTSM per learner dropped slightly below the national average.

Table 5.7: LTSM spending per learner, 2010/11-2020/21 (Rands)

Province	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
EC	175	158	263	366	358	484	761	561	563	553	620
FS	0	0	529	153	525	294	265	144	208	318	346
GP	0	0	149	560	400	496	601	338	505	664	856
KZN	187	267	221	225	248	336	317	357	347	502	702
LP	442	206	342	309	311	251	391	407	408	412	475
MPU	280	326	552	646	517	515	290	471	395	534	598
NC	81	191	395	384	250	305	204	287	279	340	529
NW	413	439	517	549	456	521	639	622	651	708	861
WC	246	259	307	486	266	335	460	596	498	448	521
National Average	205	196	306	393	352	399	471	423	444	525	651

Source: Commission calculations based on: (Department of Basic Education, 2010-2020).

b) *Institutional arrangements within provinces*

In terms of procuring LTSMs, provinces can use a centralised or decentralised procurement approach. With the centralised procurement approach, the authority and responsibilities are centered within a PED which represents the collective needs of provincial schools. In this model, DBE or the specific PED manages all the procurement processes and procures the essential LTSM.

On the other hand, in a decentralised procurement system, schools can purchase supplementary LTSMs independently. Regarding these two models, Visser and Van Zyl (2016) note various options including: an autocratic centralised procurement system where PEDs purchase and distribute LTSM to all schools, including those designated as self-governing; the second option is a consultative centralised procurement system, in which individual schools choose the textbooks they want from a catalogue, but the department is in charge of paying the service provider directly. Lastly, a hybrid system where funds are transferred to self-governing or section 21c schools so they can purchase textbooks on their own.

Table 5.8 provides a summary of the procurement approach followed by each province. As is evident many schools opt for centrally procuring LTSM through their respective PEDs. Some schools also rely on national transversal contracts that have been established for LTSM (also known as RT 7). The advantages associated with procuring through the PED or relying on transversal contracts relate to the cost benefits associated with bulk orders. One of the reasons cited for not participating in transversal contracts is that the provisions that form part of some of the contracts (for example stationary) are less than what the PED has committed to providing and thus participating would mean that PEDs would need to procure additional items to ensure they meet their province specific specifications. In his

assessment of the correlation between procurement approach and textbook coverage, Devendranath (2019) finds that central procurement is more likely to facilitate 100 per cent coverage rate.

Table 5.8: Summary of provincial procurement approaches

Province	Number of Schools Section 20 and Section 21		Top-Up Textbooks	Stationery	Special School LTSM
Eastern Cape	5 142		Procures textbooks for all Section 20 and 21 schools.	Procure stationery centrally for Quintile 1 – 3 schools. 89 Quintile 4 – 5 schools have opted out of central procurement.	Transfers funds to all special schools
Free State	168 Section 20		Procures textbooks for all Section 20 and 21 schools.	Procure stationery centrally for Quintile 1 – 3 schools. 89 Quintile 4 – 5 schools have opted out of central procurement.	Transfers funds to all special schools
Gauteng	199 Section 20		Procures textbooks for all Section 20 and 21 schools.	Procure stationery centrally for Quintile 1 – 3 schools. 89 Quintile 4 – 5 schools have opted out of central procurement.	Transfers funds to all special schools
KwaZulu-Natal	5 805		Procures textbooks centrally for all Section 20 schools and transfer funds to Section 21 schools.	Procures stationery centrally for all Section 20 schools and transfer funds to Section 21 schools.	Transfers funds to all special schools
Limpopo	3 698		Procures textbooks for all schools.	Procures stationery for all schools.	Transfers funds to all special schools
Mpumalanga	1 677		Procures textbooks for all schools	Procures stationery for all schools	Procures all LTSM for all schools
Northern Cape	nil	545	Procures textbooks for all schools	Procures stationery for all schools	Transfers funds to all special schools
North West	nil	1 450	Procures textbooks for all schools	Procures stationery for all schools	Procures all LTSM for all schools
Western Cape	244 Section 20 1 235 Section 21		Procures textbooks centrally for all section 20 schools and transfer funds to Section 21 schools.	Procures stationery centrally for all section 20 schools and transfer funds to Section 21 schools.	Transfers funds to all special schools

Figure 5.6 presents the LTSM value chain as detailed in the DBE's 50-point plan.

Figure 5.6. Summary of LTSM value chain
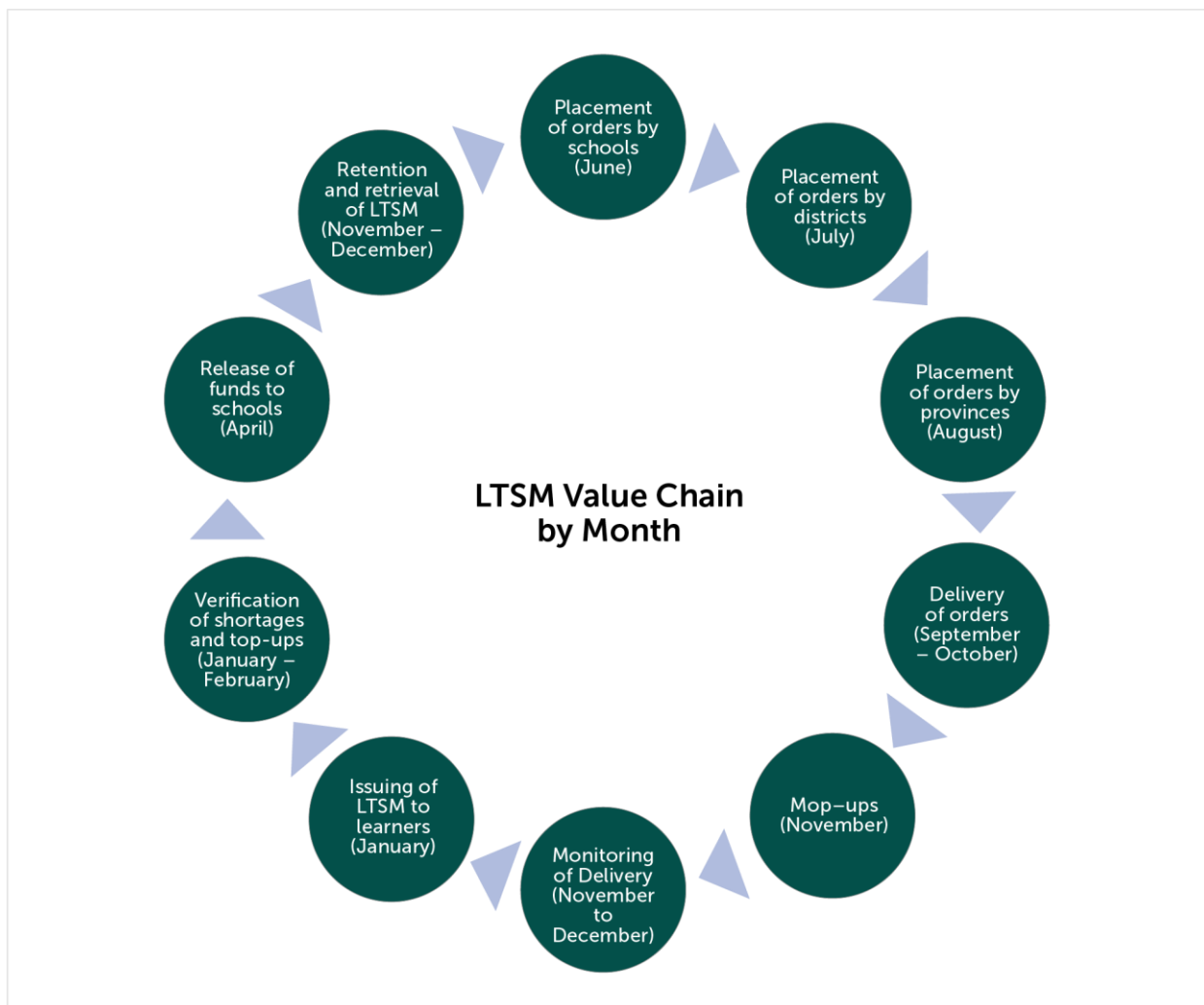
Based on a 5-year assessment of the annual reports of PEDs some of the challenges characterising the provision of LTSMs include:

- Implementation of fiscal consolidation has affected and put pressure on the availability of fiscal resources for PEDs who must move funds from other critical areas of need in order to provide adequate textbooks and furniture to schools.
- During the COVID-19 pandemic, schools across the country were subjected to crime, including armed robberies and break-ins. As a result, the stock of LTSM for the subsequent schooling year was insufficient.
- The reprioritisation of funds within departments, make top-ups and mop-ups impossible.
- The struggle of retrieving and retaining books issued to all learners continued, worsening the existing unstable coverage ratios.

- Orders for LTSMs were placed late, which has a knock-on effect in terms of delivery dates.
- Late payments to service providers due to insufficient funding.

5.6.4 Key issues emerging from the analysis

The following key issues are based on the preceding review of the legislative framework, the budget analysis and interviews with key stakeholders:

a) *LTSM policy in draft form since 2014*

The LTSM policy has stalled, having been in draft form for the past eight years. While the Commission welcomes the development of the draft policy, it is important that the stagnation in this regard is addressed. An approved policy can foster a shared understanding of the national aspirations and priority attached to LTSMs as well as deepen understanding around the role that LTSMs can play in improving educational outcomes.

With concurrent functions such as basic education, the express role of the national department is to develop policy and norms and standards, and as such the finalisation of this policy lies squarely with the national DBE. Access to eLTSMs are part and parcel of the broader equity challenge confronting the basic education sector. In this regard, one of the gaps that the FFC identified in the draft policy is the absence of a substantive focus on the sector's goals around eLTSMs. It is therefore important that this aspect be strengthened as the policy is finalised, especially since the use of eLTSMs is contained as one of the 2030 goals outlined in the NDP.

b) *Funding not linked to demand and cost of LTSM at different grades*

As indicated earlier in this paper, funding for LTSM at the school level is via the annually gazetted per learner amounts, which are applicable to all public ordinary schools. The amounts are the same per learner in the same quintile irrespective of whether a learner is in primary or high school. The concern is that as learners progress to higher grades, there are an increased number of textbooks and the length of textbooks increase, which implies higher costs. The funding does not consider this differentiated need of learners as they progress to higher grades. This non-differentiated approach is not aligned with best practice as recommended by the World Bank whereby governments ought to spend a minimum of 3-5 per cent of the primary education budget and a slightly higher, 4-6 per cent of the secondary education budget, on textbooks.

Some provinces noted that this increase in costs associated with LTSMs in higher grades can at times result in an inability to ensure that all learners have textbooks and other LTSMs. Examples from two provinces as highlighted in Table 5.9 and Figure 5.7, illustrate that the provision of textbooks tend to be less effective at higher grades (that is, coverage rates tend to be lower the higher the grade). Provinces noted that in early grades as learners receive textbooks each year, they come to rely on them for structure. This is then reversed and learners are left floundering when they enter secondary school and they don't receive their own textbooks.

Table 5.9: Textbook coverage rate in the Northern Cape as at August 2022

Grade	Number of Learners	per cent of Textbook Coverage
4	99 221	83per cent
5	93 769	82per cent
6	92 667	83per cent
7	142 168	72per cent
8	174 366	63per cent
9	153 846	65per cent
10	217 648	71per cent
11	245 823	81per cent
12	176 163	79per cent
National Average	205	196

Source: Northern Cape PED, 2022.

Figure 5.7: Textbook coverage rates for a sample of KZN schools
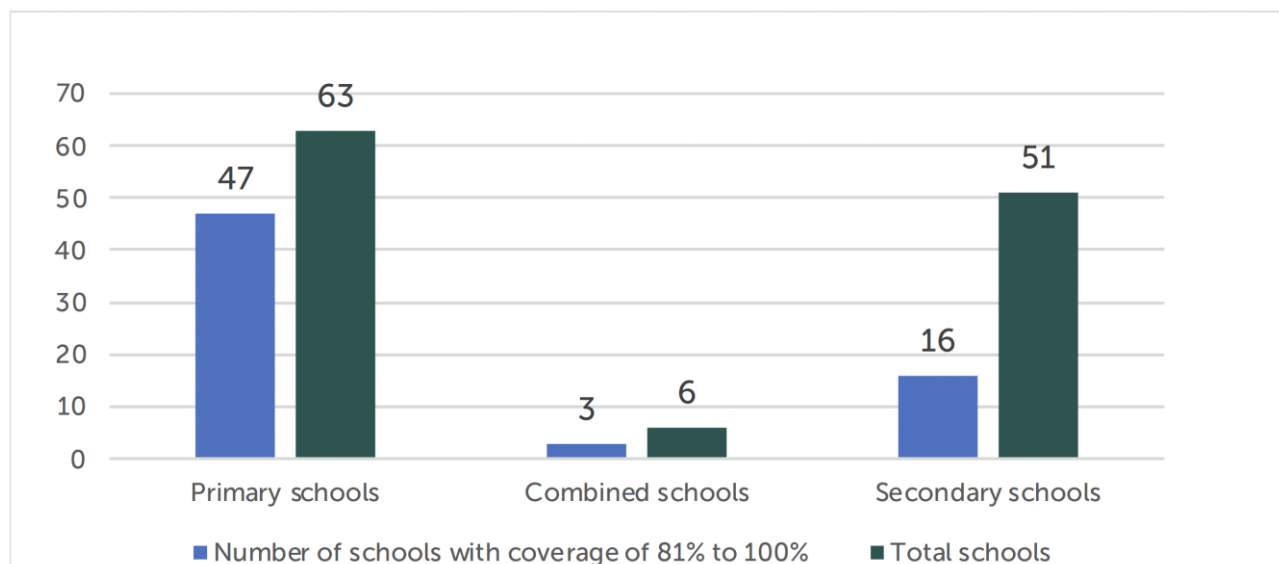
Source: Devendranath, 2019.

Limited LTSM funding for SNE learners

Figure 5.4 highlights the relatively low priority attached to LTSM spending in public special schools when compared to public ordinary schools and to a lesser extent, ECD. Over the period 2010/11 to 2020/21, the nine PEDs allocated an average of 0.6 per cent to LTSM in public special schools. Given the cost associated with specialised LTSM requirements (such as converting text to braille) and assistive technology (such as for example, audiobooks, electronic worksheets) that can be used by learners with special educational needs, the level of LTSM funding allocated to this category of schools are disproportionate. The low level of priority attached to LTSM in special schools is indicative of a broader challenge around the lack of a comprehensive funding framework for special schools which has been raised by the FFC in previous annual submissions – see for example chapter 5 of the Annual Submission for the 2021/22 Division of Revenue

Given the above, there would be merit in setting norms for funding per learner per phase (foundation, intermediate, senior and FET) of education. Specific attention should be paid to special needs education.

c) *Improving reading: Learning from successful local initiatives*

While the national DBE (and various PEDs) have spearheaded various interventions (including the 2008 National Reading Strategy) to improve early grade reading and reading for meaning, impact has been limited with these aspects remaining challenges that require significant and urgent turnaround. Recent, 2023 statistics, indicating that 82 per cent of Grade 4 learners cannot read for meaning, attests to this.

From an infrastructure point of view, data from the National Education Infrastructure Management System indicates that as at 2021, 30.41 per cent of schools had a library. Of that 30.41 per cent, only 17.39 per cent had a stocked library that contained books. This means that 69.59 per cent or over 17 000 schools have no library facilities. While this represents an improvement relative to 2020 where 74.16 per cent of schools did not have library facilities, the amount of schools without these facilities is high and this aspect should be urgently addressed, not only because it is part of the minimum norms and standards for school infrastructure, but because these facilities can play an important role in embedding a culture of reading and access to reading materials at school.

While international and regional case studies on best practice provide guidance on how to improve educational performance, successful local initiatives also exist – the Vula Bula and Funda Wande interventions are cases in point.

In 2018, the Eastern Cape PED developed a reading strategy for 2019-2023. This was in response to the expanding amount of domestic and global research that affirms the idea that kids should go to school, read, and write for meaning. Included in this strategy was the distribution of graded readers and other LTSM. Due to the expensive cost of supplying an acceptable quantity of graded readers in skinny-book format, the Department explored open-access readers.

The Department collaborated with non-government organisations such as Funda Wande, who, along with Molteno, was transforming Vula Bula's open-access graded readers into an anthology format. Since the readers were open education resources, printing the anthologies was significantly less expensive. As a result, in 2019 and 2020, the anthologies were provided to all Grade 1-3 learners at roughly R15 for each reader; included in this was the distribution of 825 000 readers to 463 276 children across 4 298 schools.

The anthologies included 44 phonically arranged leveled stories for grades 1 and 2 and 22 grade-level stories for grades 3. A key requirement that accompanied the provision of these readers to schools was the requirement that learners had to take the readers home. The readers also contained a note to parents and caregivers requesting them to encourage learners to read the stories aloud at home. According to an interaction with one of the key implementers of this initiative, the emphasis on allowing learners to take readers home departs from the norm of schools wanting to protect and hold on to textbooks and readers and thus very rarely or ever allowing these forms of LTSM to leave the school. Notwithstanding the fact that the roll-out of this initiative was incredibly cost-effective in that it was significantly less expensive than other interventions, several pieces of evidence suggest that the readers were used extensively in and outside the classroom setting.

The extensive usage of these readers improved the learner's word-reading fluency in their native tongue. As a result, learners who had full access to these readers in the Eastern Cape could read three more isiXhosa words fluently per minute in Grade 3 compared to those without access. Unfortunately, despite the programme's efficacy and impact on learners' reading performance in 2019 and 2020, the books were not printed or delivered in the subsequent years due to budgetary constraints and the preference for digital tablets for grade 12 students in 2020. Similarly, the 2023 Reading Panel Background Report provides key insights into local initiatives that have proven to positively influence reading for meaning (Spaull, 2023). One such example is the Funda Wande Limpopo Teacher Assistant intervention that coupled the provision of additional materials with the placement of a trained teaching assistant per teacher. With this approach reading outcomes improved dramatically (by 129 per cent) (Spaull, 2023).

Looking at approaches used internationally to improve reading for meaning, a small percentage of European countries have included reading specialists on their teaching staff to improve children's capacity to read for meaning (European Commission, 2011). On the other hand, Australia has implemented a guided reading programme across its schools, emphasising the explicit and methodical instruction of comprehension (Taylor, 2018).

Moreover, Australia has also made a digital reading service available that provides virtual tutoring on independent reading techniques and skill monitoring so that learners can make the most of their independent reading time at home and in school (Taylor, 2018). In the United States, the department of education (USDOE) has implemented a vocabulary-teaching game-based programme delivered on a portable platform (Nintendo DS). The programme intends to assist struggling fourth-grade learners in mastering vocabulary and word-learning strategies (Keir, Wilson, & Elizondo, 2009). Key to note in this regard is that the actual presentation of content affects how learners process it. Therefore, it is pertinent that teachers and schools take full advantage of the improved effectiveness of textual content in the digital landscape in the form of e-learning platforms.

Numerous schools also make use of research-based core reading programmes and augment their basic curricula with intervention materials for all learners who struggle with reading. Moreover, many schools use various tactics to build a text's meaning, including phonics, context clues, and visuals. It is important to note that these tactics are implemented from the foundation phase and are a constant part of reading instruction throughout all grades. These schools have given the improvement of reading for meaning abilities top priority and developed preschool reading readiness programmes that include print concepts, sound-symbol relationships, language acquisition, and listening comprehension. As learners progress to higher grades, they continue with these skills and add reading fluency and comprehension (United States Department of Education, 2014). The suitability of these initiatives for implementation in the South African context should be explored.

d) *Value for money initiatives must be compatible with full access to LTSMs*

Textbook retrieval is critical to building up a healthy stock of textbooks, but efforts should not constrain full learner access to these resources. Healthy textbook retrieval rates mean that schools can reuse and focus on topping up existing textbook stock as opposed to purchasing new stock. Healthy textbook retrieval therefore has a direct bearing on LTSM spending in the sense that it can assist in minimising the need for additional purchases.

PEDs generally lament low retrieval rates and emphasise the need for a shift in the thinking not only of learners, but also parents around the importance of caring for and returning textbooks so that they can used by learners in subsequent years. To this end, several PEDs have embarked on roadshows across their respective areas to highlight the importance of this aspect. It must be cautioned that in the pursuit of better retrieval rates, allowing learners actual access to textbooks and readers and permitting learners to take these resources home, must not be sacrificed.

e) *Strengthening monitoring and oversight*

Where functions are shared amongst national and provincial spheres of government, the national sphere is generally more focussed on monitoring and overseeing service delivery as implemented by provinces. This is the case when it comes to LTSM as well. At present, the national DBE does not have an electronic monitoring system to track performance of PEDs when it comes to LTSMs. Likewise, at a provincial level, it is important for PEDs to be aware of how schools within their jurisdiction are performing in relation to the delivery of basic education.

At present, a few provinces, notably the Free State, North-West and Northern Cape provinces have their own internal electronic systems. The Free State has noted various advantages as a result of being able to effectively monitor and track requisitioning, receipt and retrieval of LTSMs by schools, even in some instances being able to avoid unnecessary spending on top-ups of textbooks. Given the high costs associated with procuring information technology (IT) systems, the basic education sector needs to consider how to leverage existing systems and processes to assist with monitoring and oversight nationally and provincially. In this regard, the South African School Administration and Management System (SA-SAMS) provides an opportunity. The SA-SAMS has been developed and implemented by national DBE, the State Information Technology Agency (SITA) and PEDs. This system can be used to ensure that all provinces are capturing data related to LTSM such as coverage rates, retention, top-ups et cetera.

f) *A note on the challenges hampering the full utilisation of eLTSMs*

Officials in different provinces indicated that the utilisation of electronic materials for learning and teaching is a feasible concept that could contribute significantly to improving learning outcomes. However, the issue of sustainability was of great concern, as officials questioned the long-term plan with respect to eLTSM. Moreover, challenges of safety and retrieval and maintenance, were at the forefront of the challenges noted by PEDs. Infrastructure challenges in schools were also noted as a hindrance to being able to use eLTSMs.

For example, some schools across the country still experience shortages in relation to the minimum norms and standards around school infrastructure, namely the

requisite computer labs, science labs and electricity. On the other hand, some provinces indicated that the monitoring of eLTSM, more specifically tablets, is relatively easier, as service providers are able to track down these devices due to theft or non-retrieval. Finally, it was indicated that moving towards electronic materials for learning and teaching would require capacitating current teachers with requisite level of skills as new methods of pedagogy could emerge.

5.7   Conclusion and Recommendations

LTSMs have been recognised as an essential element in relation to the constitutionally enshrined right to a basic education. Based on the seeming crowding out of non-personnel spending in the basic education sector, important educational inputs such as LTSM are threatened. The FFC thus undertook an analysis to understand the policy context underpinning the provision of LTSM in South Africa as well as the funding thereof. Based on the preceding analysis, the following recommendations are proposed

The Commission makes the following recommendations:

1. *The Minister must ensure that the draft LTSM policy, which has been stalled since 2014, is finalised and approved.*

The Commission welcomes the draft policy's intention to achieve enhanced LTSM delivery systems. However, it is imperative that this policy be finalised as it will serve to convey governments broad aspirations around the provision of LTSM and the priority attached to its provision. To this end and what the Commission noted as a gap in the draft policy is a strong emphasis on eLTSMs. The Commission sees the shift towards utilisation of eLTSMs as key to addressing broader equity concerns within the basic education sector. The shift to eLTSMs is also one of the basic education aspirations identified in the NDP. To this end the Commission advises that this aspect be strengthened as the policy is finalised.

2. *Funding for LTSMs should be prioritised, especially for learners in quintiles 1, 2 and 3 schools. National funding norms need to be developed to guide spending on LTSM per child, per phase – foundation, intermediate and senior and FET. Moreover, specific priority should be given to the provision of LTSMs for learners with special educational needs.*

The funding of LTSMs are wrapped up in the per learner funding that is allocated to schools annually through the NNSSF policy. Currently this funding instrument distinguishes between the quintile that a learner is in. So, for example learners in quintiles 1, 2 and 3 get relatively more funding than a learner in a quintile 4 or 5 school (which is presumed to be relatively better resourced). However, the funding is not differentiated based on grade/stage of learning. So a learner in Grade 1 at a quintile 1 school gets the same amount as a learner in grade 10 in a quintile 1 school – this is despite the fact that the LTSM needs of these learners are different. In addition to the FFC calling for greater funding priority for LTSMs particularly for those learners in the poorer, quintile 1 to 3 schools, the development of funding norms is also recommended to guide spending on LTSMs taking into consideration a learner's stage of education and thus the changing LTSM needs that come with those different stages. Further, in relation to funding of LTSMs, the analysis in the paper highlights the marginal LTSM funding allocated to public special schools. According to the FFC's analysis of provincial education budgets, an average of 0.6% of total LTSM spending is allocated to LTSMs in public special schools over the period 2010/11 to 2020/21. As, a result the Commission also calls for specific priority to be given to LTSMs for learners with special educational needs and that there should be proper costing and support to provide LTSMs for these learners.

3. *LTSMs are critical in improving reading for meaning. The Minister of DBE must fund a national programme that is aimed at improving reading for meaning and which is uniformly implemented across the nine provinces. Lessons from successful local initiatives must be drawn on to determine which approaches are likely to succeed.*

The provision of LTSMs, such as readers, are crucial to improving early grade reading and reading for meaning. This is a particular challenge in South African where most children (as at 2023, 82% of Grade 4 learners), continue to lack the fundamental ability to grasp the content of what they read – this is true, whether evaluated in their native tongue or English. The Commission is of the view that various initiatives exist locally that have proven success in improving early reading skills and reading for meaning abilities – these include the Vula Bula and Funda Wande initiatives. To this end, the Commission encourages DBE to fund a national programme across all nine provinces, that prioritises early grade reading and reading for meaning and which focuses on broad access to readers and training for teachers. Particular focus should be placed on the foundation phase and collaboration with non-government organisations should be considered when developing this programme.

4. *To aid improved monitoring and oversight of LTSMs (particularly textbooks) and achieve the goal of universal coverage, the Minister of Basic Education must expand the modules contained in the SA-SAM to include LTSM.*

A monitoring tool can assist in mitigating potential LTSM provisioning failures. In addition, such a tool can also assist in ensuring more efficient and effective spending as the requisitioning of LTSM in schools will be aligned with previous years' retrieval and retention rates and current inventory rates.

Given that the costs of procuring these types of systems can be exorbitant, it is recommended that the sector leverage existing systems that are already being used to collect data and aid monitoring and oversight. To this end it is recommended that options around using SA-SAMS are explored. The SA-SAMS is currently provided free of charge to schools to upload and update learner-related information –this system can be used to ensure that all provinces are capturing data related to LTSM such as coverage rates, retention, top-ups etc.

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CHAPTER 6:
A REVIEW OF LEARNER TRANSPORT

Chapter 6

A Review of Learner Transport

Sabelo Mtantato

6.1 Introduction

The Constitution of the Republic of South Africa defines and provides basic rights for all those living in South Africa. Chapter 2 of the Constitution recognises access to basic education as a basic right of all. The Constitution further requires that the state, through reasonable measures, should ensure the realisation of this right. There are many input costs for providing basic education, including teachers, school infrastructure, learner teacher support material, school nutrition, and costs associated with transporting learners from homes to schools and back (learner transport costs).

For learners required to travel long distances to school, access to affordable, safe, and reliable transport is key to attaining the right to access basic education. Therefore, learner transport is crucial in ensuring that learners arrive at schools safely and on time and provides learners with opportunities to realise and achieve their academic goals.

With respect to the sphere of government responsible for public transport, which includes learner transport, Schedules 4 and 5 of the Constitution consider public transport to be a concurrent function between the national and provincial governments. In some provinces, learner transport is primarily the responsibility of the provincial Department of Transport, while in others it is the provincial Department of Education. In its 2008 Submission for the Division of Revenue, the Financial and Fiscal Commission (the Commission) undertook research on learner transport. Findings from the study indicated the absence of a specific national policy on learner transport and a lack of clear definition and division of responsibilities between education and transport at both the national and provincial levels. In line with these findings, a recommendation was made to establish national norms and standards for providing learner transport and clear assignment of responsibilities. In 2015, a National Learner Transport Policy was approved.

Some provinces have raised the funding of learner transport as a critical issue that needs an in-depth understanding, particularly in the light of school rationalisation. In other instances the growing need for learner transport emerges in response to the shortage of school infrastructure stemming from the growth in learner numbers with the result that not all learners can be accommodated in schools closest to them.

6.2   Literature Review and Legislative Framework

Transportation involves moving people, commuters, or goods from one place to another for a specific purpose. Concerning the movement of people, the goal could be for educational purposes (for learners), employment (workers), health, recreation, etc. Public transport is where many passengers share a common transport facility, including taxis, buses, and trains. Public transport operates according to a regular time schedule and along fixed routes. While private transport refers to the use of transportation that is not available for use by the general public and the user can decide freely on the time and route of transit.

A review of the international literature shows a wide scope in terms of how learner transport is conceptualised ranging from active transport such as walking and cycling to the use of private (parent/guardian driven) cars, organised school transportation (buses and minibuses) and the use of public transport systems, which may be fully or partially subsidised. Learner transport eligibility criteria are typically linked to distance, age/school grade of learners as well as potential dangers in accessing schools such as railway lines, lack of pavements and bridges, rivers etc., which may pose safety risks.

One of the most common features of learner transport worldwide is public transport with appropriate financial aid. Furthermore, learner transportation can sometimes include reimbursement to parents (Kotoula K. M., 2017). Other countries sometimes use specially built and equipped school buses following pre-determined specifications and rules. Another common feature of learner transport, particularly on buses, is that operators provide services following a public bidding process. Learner transport, also referred to as scholar transport, is vital to ensuring that learners residing far from schools have access to education by enabling such learners to arrive at schools on time.

While learner transport is essential, and different countries worldwide provide this service, the difference is how learner transport is implemented.

In France and Greece, learner transport is provided mainly for primary and secondary learners up to the age of 15 years and is less specific beyond this age. In many areas, learner transport is provided free of charge. In contrast, in some areas, parents are subsidised and only pay a proportion of learner transport costs (General Operation of French School).

Basically, three ways of transporting learners include special school buses, parents, and the use of public transport. With respect to the use of public transport, learners are given special cards, which are renewed annually. In Germany, learner transport is provided mainly by buses (public and specially equipped school buses). School buses that are common public transport operate two hours in the morning and two hours in the afternoon for learner transportation, and for the rest of the day, are used for the provision of regular services.

A learner within the South African context covers those in primary and secondary schools (from grades R to 12). For South Africa, learner transport accordingly refers to transporting those in need (need is defined by the distance between a learner's home and nearest appropriate school). The National Learner Transport Policy of 2015 does not prescribe a minimum distance travelled by a learner to access the nearest appropriate school. However, all provinces except KwaZulu-Natal, make use of a 5km cut-off between a learners home and the nearest appropriate school. KwaZulu- Natal uses a distance of 3km. Priority is given to primary school learners and learners with special needs. Other criteria that may be considered include whether learners are faced with potential dangers in accessing schools, such as the need to walk along or cross busy roads, lack of pavements and bridges, etc. Accessing a school of parental choice is not considered a determining criterion.

6.2.1 Need for and importance of learner transport

The provision of learner transport is crucial to ensuring that learners arrive at school safely and on time. Learner transportation has an impact on the academic performance of learners (Group, Urban Institute Student Transportation Working, 2020). Learner transportation can positively or negatively impact learner's academic performance and access to high-quality schools. (Blackmon & Cain, 2015). This is because the logistics of travel to and from school influence a learner's ability to be at school on time, reduces absenteeism, and enables a learner to participate in before and/or after-school activities (Group, Urban Institute Student Transportation Working, 2020). The availability of reliable and safe learner transport enables learners to access specialised school programmes or schools. In the South African context, a need for learner transport results mainly from two key developments: the legacy of the apartheid regime and the schools' rationalisation programme. In other provinces, for example

Gauteng, the need for learner transport is also as a result of increasing number of learners and human settlements developments which do not take into account school needs.

a) *Legacy of the apartheid regime and learner transport*

The need for learner transport in South Africa should be understood within the context of the legacy of the apartheid regime. The apartheid regime ensured that developmental processes pushed the majority of the South African population, especially blacks, to the peripheries, in areas that were largely inaccessible (Department of transport, 2009). The system ensured that the majority of Africans resided far away from the cities, and labour could only be transported in and out of the cities.

This created a mobility challenge for workers who had to commute daily to work and for learners who needed to travel to and from school daily. According to (Equal Education and Equal Law Centre, 2015), learner transport has failed to provide adequate transportation to poor and desperate learners. It was also noted that more than half a million learners walked to school for more than an hour, and another 2 million learners walked between 30 minutes and an hour to school. Learners, as a result, struggle to concentrate or stay awake in class, arrive late in classes, absenteeism of learners, and learners dropping out (Centre, Equal Education and Equal Education Law, 2015).

b) *Schools' rationalisation and learner transport*

The rationalisation of primary and secondary schools in South Africa is driven, among other things, by the declining number of learners in schools (mainly in rural areas). The fundamental rationale for schools' rationalisation is the cost-effectiveness of running and maintaining such schools. Declining learner numbers contribute to challenges around staff establishment and curriculum provisioning. In these instances, educators are sometimes forced to teach different grades across phases in one classroom. The schools' rationalisation programme has significantly decreased the number of schools in some provinces, mainly the most rural ones, and this implies an increase in kilometres travelled by learners from homes to the nearest schools. For example, the Eastern Cape province continues to rationalise schools, as indicated in the 2020/21 Annual Report that 783 small and unviable schools were targeted for rationalisation. The report further indicated that 122 schools were no longer operational and 495 schools were earmarked for closure (Eastern Cape provincial Department of Education, 2020).

While there could be benefits from the rationalisation of schools, including savings, there are costs involved in the process.

A study on a school rationalisation process in India also found that increased distance to school leads to increased dropouts, particularly in primary schools, since young children cannot travel long distances to school (Blackmon & Cain, 2015). Improving physical access to education through improved mobility initiatives requires that transport planners should see the mobility challenges from the perspective of learners who continue to travel long distances for them to access education. (Motatsa, 2014).

c) *Main mode of travel for school-going learners*

Results from the Statistics South Africa National Household Travel Survey, 2020, showed that of the 14.108 million school-going learners, 63 per cent or 8.891 million walked all the way to school. Almost 20 per cent or 2.769 million made use of public transport and 15 per cent or 2.117 million made use of private transport.

The primary reasons for walking was that the education institution was nearby/close enough to walk, 80.5 per cent in urban areas versus 73.2 per cent in rural areas. The second most common reason for walking was that public transport was too expensive, 8.9 per cent of respondents in urban areas versus 13.1 per cent in rural areas. The third most common reason for walking was that it was by choice in urban areas 7.6 per cent, while in rural areas is was because no transport existed, 5.1 per cent.

Results from the survey showed that 667 000 scholars used government scholar transport. Scholars who depend on government scholar transport were likely to live in the Northern Cape (40.3 per cent), followed by Eastern Cape (29.1 per cent), North West (23.3 per cent) and Gauteng and Mpumalanga both at 19.7 per cent.

6.2.2   Legislative and policy framework of learner transport

Several legislative and policy frameworks provide for and regulate the provision of scholar transport in South Africa. Pieces of legislative and policy framework within the area of learner transport include the Constitution of the Republic of South Africa, the White Paper on National Transport Policy of 1996, and the National Learner Transport Policy of 2015. Over and above these, provinces have also developed individual scholar transport policies.

a) *Learner transport and the Constitution*

According to the Constitution of the Republic of South Africa, section 85 (2) (b), in particular, the Department of Transport is mandated to develop and implement transport policy for the whole nation.

Therefore, the Constitution places a responsibility on the National Department of Transport (NDOT) to ensure that a national transport policy that addresses the mobility needs of all citizens, including learner transport, is developed and implemented. The Constitution also addresses human rights issues, and as indicated in the introduction, according to the Constitution, everyone has a right to basic education. Education is the responsibility of both the Department of Basic Education and the Department of Higher Education and Training. For many learners, particularly in rural areas, accessing the right to basic education is dependent on the availability of learner transport, therefore requiring collaboration across the two departments.

b) *White Paper on National Transport Policy of 1996 and 2017*

The White Paper on National Transport Policy of 1996 outlines the vision for a transport system that provides safe, reliable, effective, efficient, and fully integrated operations and infrastructure that best meet the needs of freight and passenger customers. In 2017, the White Paper on National Transport Policy was revised to reflect on activities, take corrective action, and ensure that the transport policy remains relevant to developments within the country, continent, and the world. Concerning the 2017 policy, one of the strategic objectives of public transport is to promote safe, reliable, and sustainable public transport that addresses user needs. The needs include commuters, learners, and targeted categories of passengers (pensioners, the aged, children, pregnant women, persons with disabilities, and tourists) and long-distance passengers. The White Paper was revised in 2021, and the revision was to ensure that the policy changes in response to a changing environment.

c) *National learner transport policy*

The National Department of Transport adopted a National Learner Transport Policy in 2015 (NLTP). The policy seeks to address the challenges of accessibility and safety of learners (Department of Transport, 2015). The Department of Transport and the Department of Basic Education developed the policy in collaboration with other key stakeholders. Development and adoption of this policy were also in line with the Commission's recommendation made in 2008 that government needs to establish and develop national norms and standards on learner transport. The policy objectives include the following:

1. Provide a uniform approach to norms and standards;
2. Promote coordination and cooperation among key stakeholders; and
3. Provide a framework for monitoring and evaluating learner transport services – outlining guiding principles, including operational safety and efficiency, broad-based access, equity redress, and multi-modal integration.

While the adoption of the NLTP is commendable, policy gaps include the failure to specify criteria on who qualifies for assistance or subsidy. The other policy failure relates to its provision for the dual responsibility between the Department of Basic Education and the Department of Transport for implementing the policy. Criticism of the unclear assignment of responsibilities between the Department of Transport and the Department of Education is one of the key findings of the Commission on learner transport in 2008 (Financial and Fiscal Commission, 2008).

6.3   Problem Statement and Research Questions

The Constitution of the Republic of South Africa established three distinct, yet interdependent, spheres of government (national, provincial, and local). It further assigned expenditure responsibilities to each sphere of government. Such functions are either exclusive to one sphere of government or concurrent (between spheres of government). Provinces are mainly responsible for education and health functions and are primarily funded through intergovernmental fiscal transfers through the Provincial Equitable Share (PES) and conditional grants.

For the education function, provinces, among other things, are responsible for delivering education, including personnel, infrastructure, learner, and teacher support material, and school nutrition programmes. Provinces through, the Department of Basic Education are also expected to ensure that learners are in class at the right time, which means that they are responsible or play a critical role in the provision of learner transport.

Over the years, there have been significant changes in the number of learners per province due to population growth as well as the movement of learners within and between provinces. The net effect of learners' movements has been different across provinces, with some experiencing an increase, while others reporting a decline in learner numbers. Provinces with a decline in learner enrolments also experience decreasing shares of the Provincial Equitable Share funding. Table 6.1 shows how the number of learners' enrolment has changed between 2000 and 2022.

Table 6.1: Changes in learners' enrolment between 2000 and 2022

Province	2000	2005	2010	2015	2020	2021	2022	Change 2000-2022
EC	2 129 077	2 206 575	2 052 386	1 953 397	1 843 297	1 848 053	1 826 150	-302 927
FS	770 009	689 189	654 704	682 704	719 847	726 713	728 844	-42 165
GP	1 554 495	1 745 262	1 974 066	2 262 319	2 508 387	2 564 812	2 611 641	1 057 146
KZN	2 663 360	2 719 966	2 806 988	2 881 518	2 867 271	2 893 958	2 883 354	219 994
LIM	1 845 265	1 906 402	1 706 401	1 753 734	1 759 322	1 799 130	1 798 646	-46 619
MPU	911 779	914 212	1 036 432	1 079 280	1 107 890	1 134 889	1 145 287	233 508
NC	198 608	210 152	269 392	290 139	304 237	304 566	306 056	107 448
NW	909 907	845 942	759 114	813 873	863 071	872 601	875 095	-34 812
WC	916 384	980 065	1 00 616	1 097 509	1 243 150	1 264 527	1 244 898	328 514

Data sources: (Department of Basic Education, 2000 - 2021)

Declines in learner enrolment numbers place provincial departments under pressure to rationalise the number of schools in order to save costs due to the direct correlation between learner enrolments, school-age population and available provincial funding. Figure 6.1 illustrates changes in the number of schools in different provinces from 2000 to 2019 and shares for provinces from the PES from 2000 to 2020. The number of schools per province is mainly because of school rationalisation efforts and increased demand for new schools, which is driven by the number of learners per province.

Notable from Figure 6.1 is a significant decrease in the number of schools for the Eastern Cape, Free State, Limpopo, and Mpumalanga and a substantial increase in Gauteng. Concerning provincial shares from the PES, shares of provinces such as the Eastern Cape, Free State, and Limpopo have been consistently and significantly declining over the years, and shares of Gauteng province have been increasing.

Figure 6.1: Total number of schools and PES shares per province
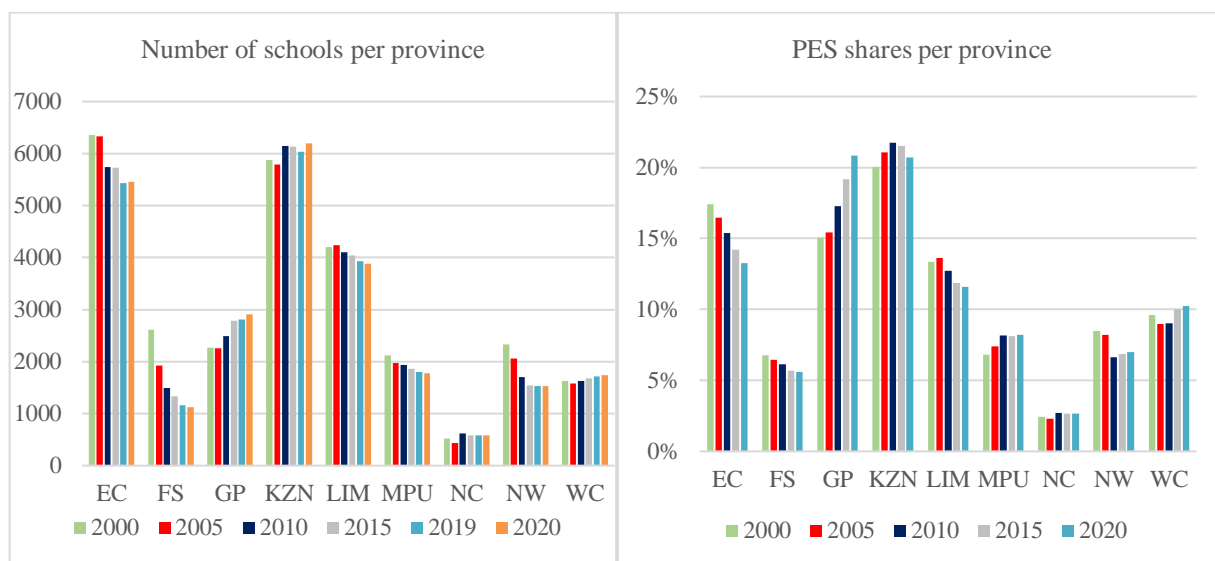
Data sources: (Department of Basic Education, 2000-2020, 2000-2020) and (National Treasury, 2000-2020)

6.4   Research Aims and Objectives

6.4.1   Research aim

The main aim of this research project is to evaluate and analyse learner transport demand and supply and cost implications to provinces as a result of schools' rationalisation and changing learner numbers

6.4.2   Research objectives

This research project has the following objectives:

- Understand demand and supply for learner transport and implications of changing learner numbers in provinces – particularly in provinces where the number of schools have significantly reduced due to rationalisation and where the number of schools has increased significantly.

- Evaluate funding and other challenges faced by provinces with respect to learner transport; and

- Make recommendations on how the delivery and provision of learner transport could be improved.

6.5   Research Methodology and Data

The research method used includes the following:

- Demand analysis of learner transport per province from 2014. Data sources include Annual Reports, annual performance plans and presentations of national and provincial departments of basic education, as well as national and provincial departments of transport.

- A comprehensive review of how different provinces fund learner transport, including expenditure trend analysis. Data used is from annual reports, estimates of provincial revenue and expenditure, and the National Interdepartmental Committee[23].

- The study also utilised a case study approach – three provinces (mostly rural provinces) with the highest number of rationalised schools and a province with an increased number of schools. With respect to schools with a high number of rationalised schools, three provinces have been chosen – the Eastern Cape, Kwa-Zulu-Natal, and Limpopo, while Gauteng is a province with the highest growth in the number of schools and learners. For this case study, interviews were conducted with the relevant officials from the provincial departments of Basic Education and Transport.

- Interviews were also conducted with the officials from the National Department of Basic Education and the National Department of Transport, as well as the Western Cape provincial Department of Education.

6.6   Results

6.6.1   Location of learner transport programme in different provinces and delivery chain

Regarding institutional arrangements on learner transport, key departments include the national and provincial departments of transport and basic education. The National Department of Transport and the National Department of Basic Education are mainly responsible for policy making, while the Provincial Departments of Transport and Education are mainly responsible for the implementation of learner transport. The National Learner Transport Policy of 2015 is not specific regarding the location of the learner transport function, hence the function is located differently across provinces as shown in Table 6.2. Interviews with different key stakeholders revealed that the location of the function does

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[23] The National Interdepartmental Committee meets quarterly with representatives from national and provincial departments of education and transport in which matters related to learner transport are discussed, co-ordinated and monitored.

not appear to affect delivery. However, for administrative purposes and uniformity, it would be better if the function could be under one department across provinces.

Table 6.2: Location of learner transport in different provinces

Province	Department currently responsible for learner transport
Eastern Cape	Provincial Department of Transport
Free State	Provincial Department of Education
Gauteng	Provincial Department of Education
KwaZulu-Natal	Provincial Department of Transport
Limpopo	Provincial Department of Education
Mpumalanga	Provincial Department of Transport
Northern Cape	Provincial Department of Education
North-West	Provincial Department of Transport
Western Cape	Provincial Department of Education

Given the different locations of the learner transport function, two processes of delivering the function are as follows:

Figure 6.2: Roles of different provincial departments on learner transport

Provincial Department of Education
- Province identifying schools for learner transport
- Province identifying the number of learners and the list for learner transport
- Prepares tender documents
- Advertise tenders
- Evaluates tenders
- Award and contract service providers

Provincial Department of Transport
- Ensures compliance issues - including roadworthiness and safety

Provincial Department of Education
- Province identifying schools for learner transport
- Province identifying the number of learners and the list for learner transport
- Province submit the list of schools and learners to the provincial department of Transport

Provincial Department of Transport
- Recieves the list of schools and learners
- Prepare tender process and documents including advertisement
- Evaluates tenders
- Procures provides
- Ensures compliance issues - including roadworthiness and safety

6.6.2　Analysis of changes in demand and supply for learner transport

This section has two sub-sections, with part one analysing the demand for learner transport and part two focussing on the supply side.

a) *Changes in the demand and targeting for learner transport*

Demand for learner transport in South Africa

Demand for learner transport is influenced by several factors, including growth in learner numbers, learners migrating within and between provinces, schools' rationalisation, as well as school infrastructure plans not keeping pace with the proliferation of informal settlements and the expansion of residential areas. There have been challenges with respect to the sourcing of recent, updated data in various provinces with respect to the demand for learner transport[24]. The reported demand for learner transport data[25] from 2014/15 to 2022/23 indicates that the total number of learners requiring learner transport nationwide stood at 498 263 in 2014/15, which increased to 875 985 in 2022/23.

Provinces with the highest demand were the Eastern Cape, KwaZulu-Natal, and Gauteng (combined share of over 51 per cent and 64 per cent of the total demand in 2014/15 and 2022/23 respectively). Concerning the growth trend of learner transport, Figure 6.3 illustrates that the Northern Cape (although off a low base), KwaZulu-Natal and Gauteng provinces have the highest increase in demand. For instance, the demand increased at an average annual rate of 16.87 per cent for the Northern Cape from 23 573 learners to 82 050 learners between 2014/15 and 2022/23. This rate of increase outstripped the annual average of 7.31 per cent for South Africa over the same time period. Similarly higher growth rates were recorded for KwaZulu-Natal and Gauteng which grew at an average annual rate of 13.32 per cent and 12.34 per cent respectively over the same period.

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[24] Most provinces do not make this data and information publically available through public documents such as Annual Reports and in the websites.

[25] There is a difference between the number of learners reported as the demand for learner transport as captured by the provincial Departments of Education and Transport and those classified as being in need of transport as can be measured by the General Houshold Survey data.

Figure 6.3: Demand for learner transport 2014 - 2022
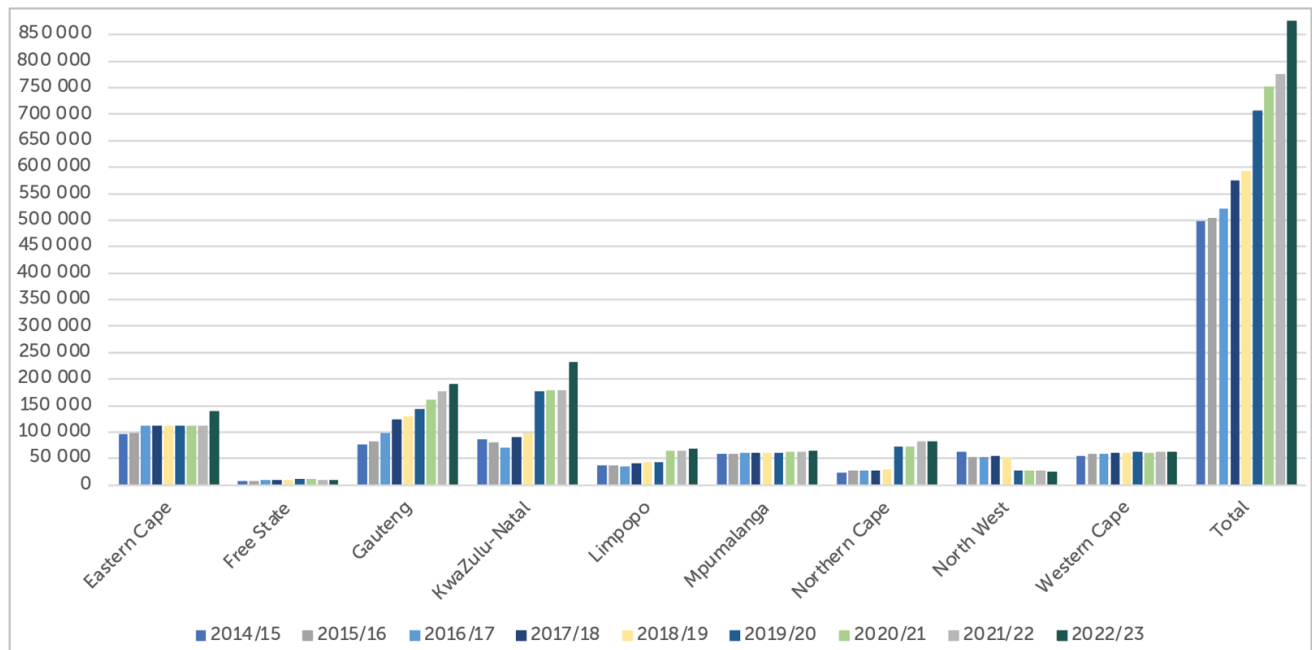
Source: (Department of planning, monitoring and evaluation, Department of Basic Education and Department of Transport, 2019)

The study reveals inconsistency with respect to the demand for learner transport between the Department of Transport and the Department of Basic Education. For instance, the Department of Transport reported a total demand of 503 859 and 521 711 learners in 2015/16 and 2016/17, respectively, while the Department of Basic Education reported a demand of 516 886 and 524 662 over the same period, as illustrated in Figure 6.4. It is key to note that accuracy with respect to the actual learner transport demand is essential for the planning and funding/budgeting for learner transport.

Figure 6.4: Demand for learner transport
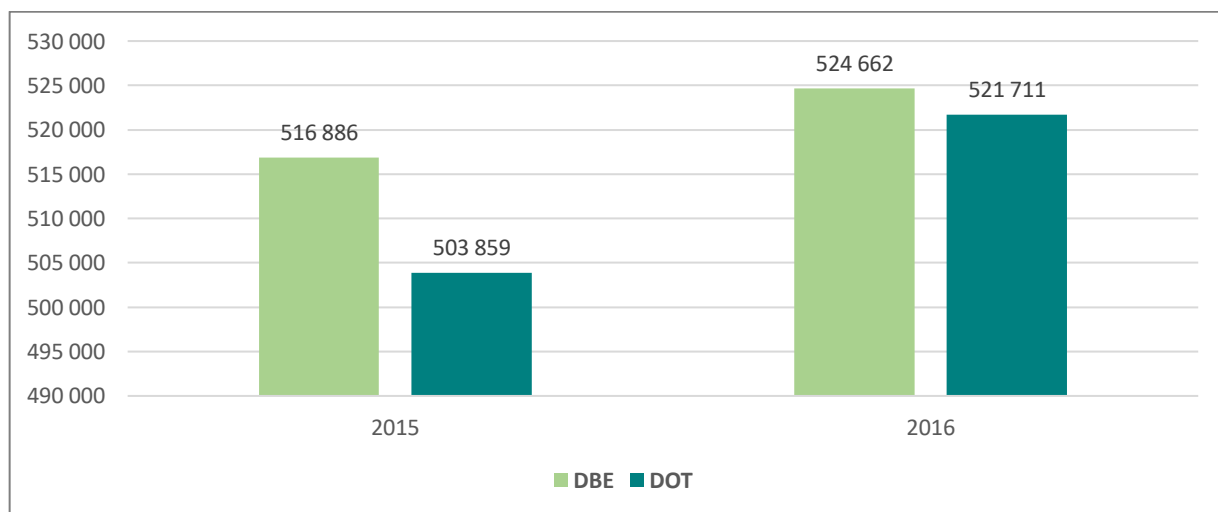
Source: (Department of Transport, 2018) and (Department of Basic Education, 2016-2017)

A comprehensive study undertaken in 2018 by the Department of Monitoring and Evaluation, the Department of Basic Education and Department of Transport also confirmed data inaccuracy supplied by the provincial departments and reported by the Department of Basic Education and Department of Transport. The variance between data from provinces and from the Department of Basic Education and Department of Transport is illustrated in Figure 6.5.

Figure 6.5: Variance in total demand and transported learners for selected provinces
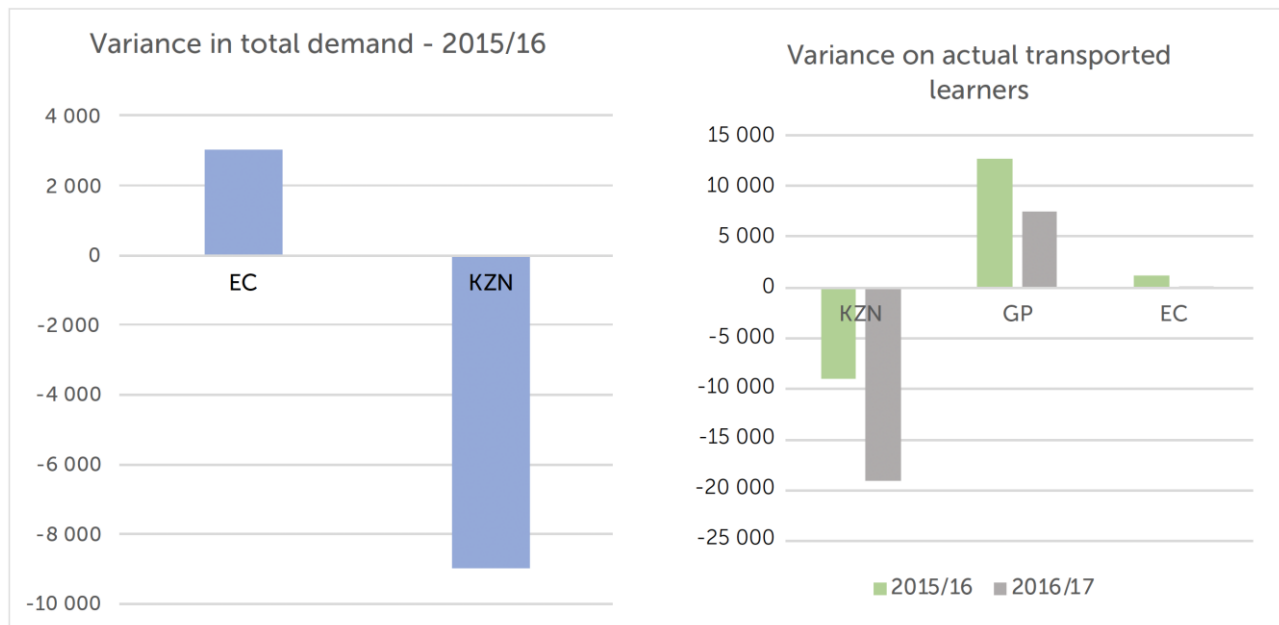
Source: (Department of Monitoring and Evaluation, Department of Basic Education and Department of Transport, 2019)

Furthermore, it is crucial to note that the number of targeted learner transport beneficiaries always falls below the total number of qualifying learners, as illustrated in Figure 6.6. For example, for 2015/16, 516 886 learners required and qualified for learner transport, and the total target for that year stood at 371 422 learners (71.9 per cent), implying that about 145 464 qualifying learners had no choice but to walk long distances to and from schools. In 2016/17, of 524 662 qualifying learners, only 420 240 were targeted by provinces. So about 104 422 needy and qualifying learners had to walk long distances to and from schools.

Figure 6.6: Demand and targeting of learners across all nine provinces
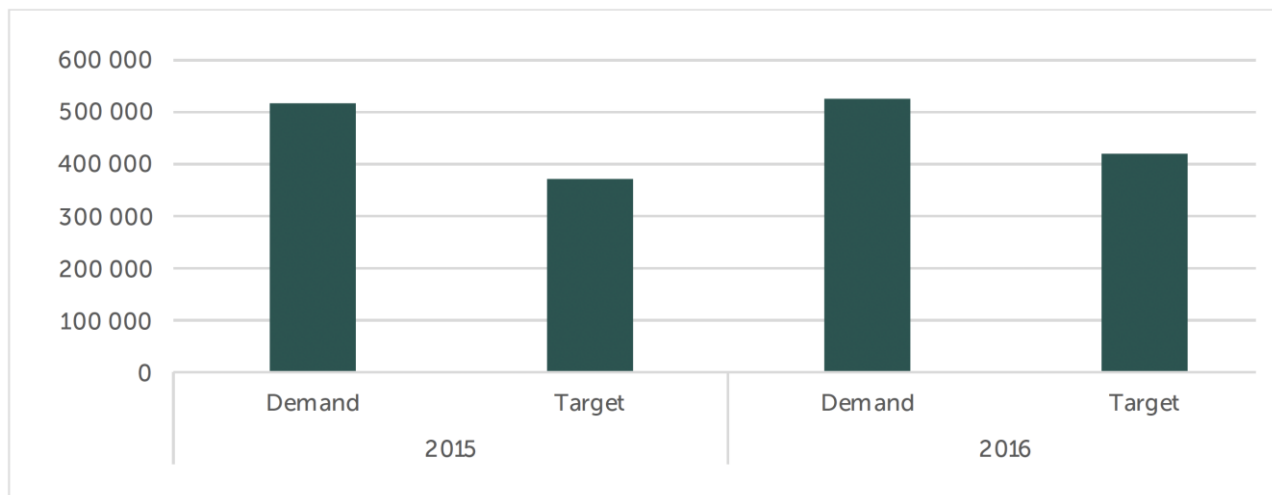
Sources: (Department of Basic Education, 2016-2017)

Analysis of learner transport demand in selected provinces

Concerning the demand for learner transport in the Eastern Cape province, it is critical to note the relationship between the number of schools and the need for learner transport or the number of beneficiaries, as illustrated in Figure 6.7. While the number of schools in the Eastern Cape province has significantly decreased between 2015 and 2019, the number of learners benefitting from learner transport has increased substantially, confirming an increased need to transport learners to nearby schools resulting from schools' rationalisation programme. It is also important to note that the number of learners in the Eastern Cape decreased significantly from 2 052 386 in 2010 to 1 848 053 in 2021.

Figure 6.7: Number of schools and learner transport beneficiaries in the Eastern Cape
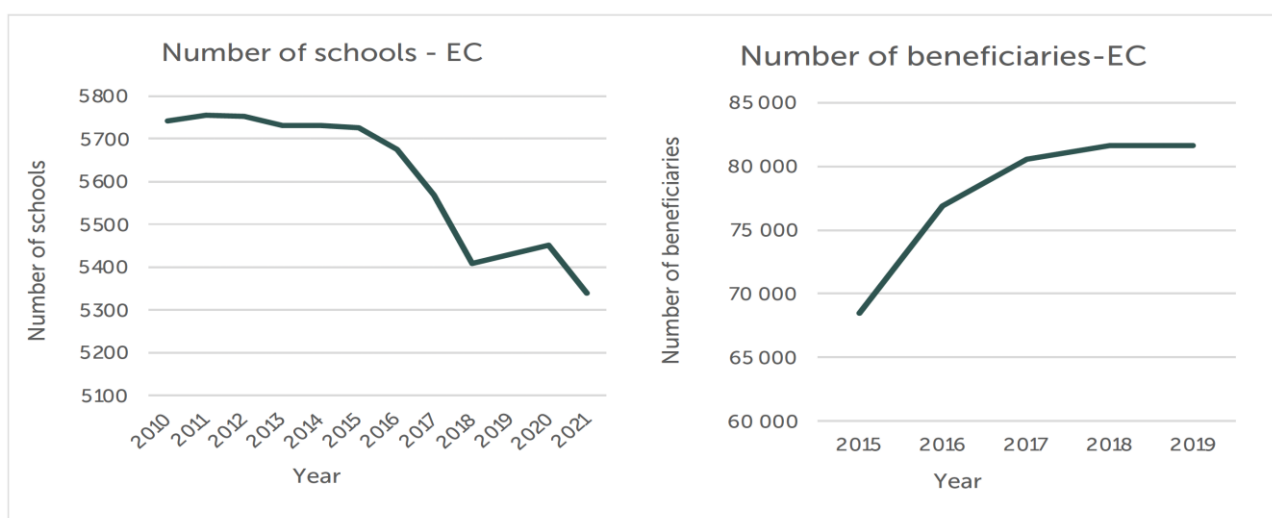
Source: (Department of Basic Education, 2010-21)

With respect to KwaZulu-Natal, the same trend, Figure 6.8 illustrates a decreasing number of schools and an increasing number of learner transport beneficiaries, like in the Eastern Cape. However, the difference between the two provinces is that KwaZulu-Natal experienced a slight increase with respect to learner numbers between 2010 and 2021 (from 2 806 988 to 2 893 958).

Figure 6.8: Number of schools and learners benefiting from learner transport in KwaZulu-Natal
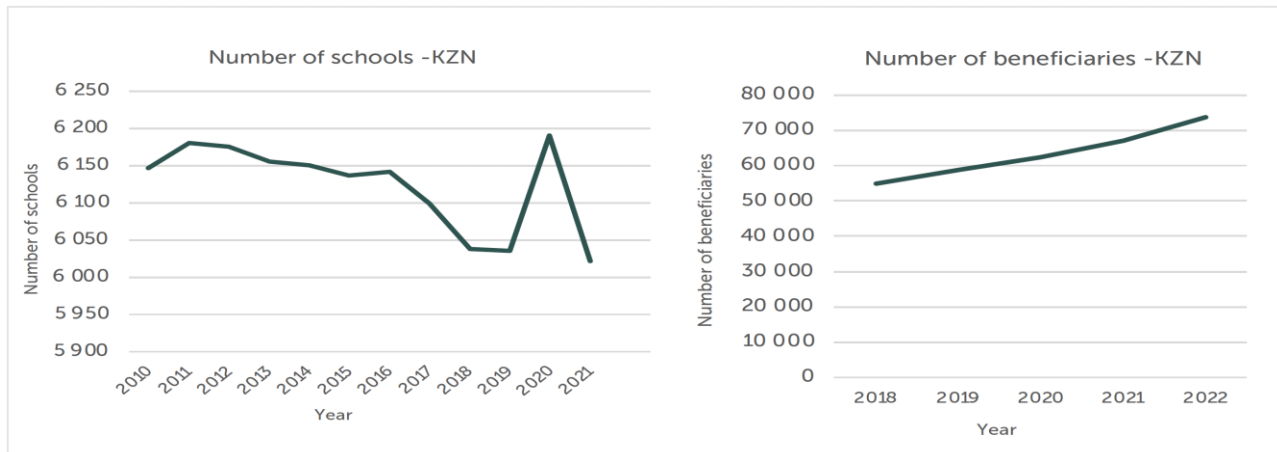
Source: (Department of Basic Education 2010-2022, 2010-2022)

Contrary to the Eastern Cape and KwaZulu-Natal, Gauteng exhibited an increasing number of schools and learner transport beneficiaries from 2015 to 2017 and a decreasing number of schools with a rising number of learner transport beneficiaries in 2018 and 2019, as illustrated in Figure 6.9.

Figure 6.9: Number of schools and learner transport beneficiaries in Gauteng
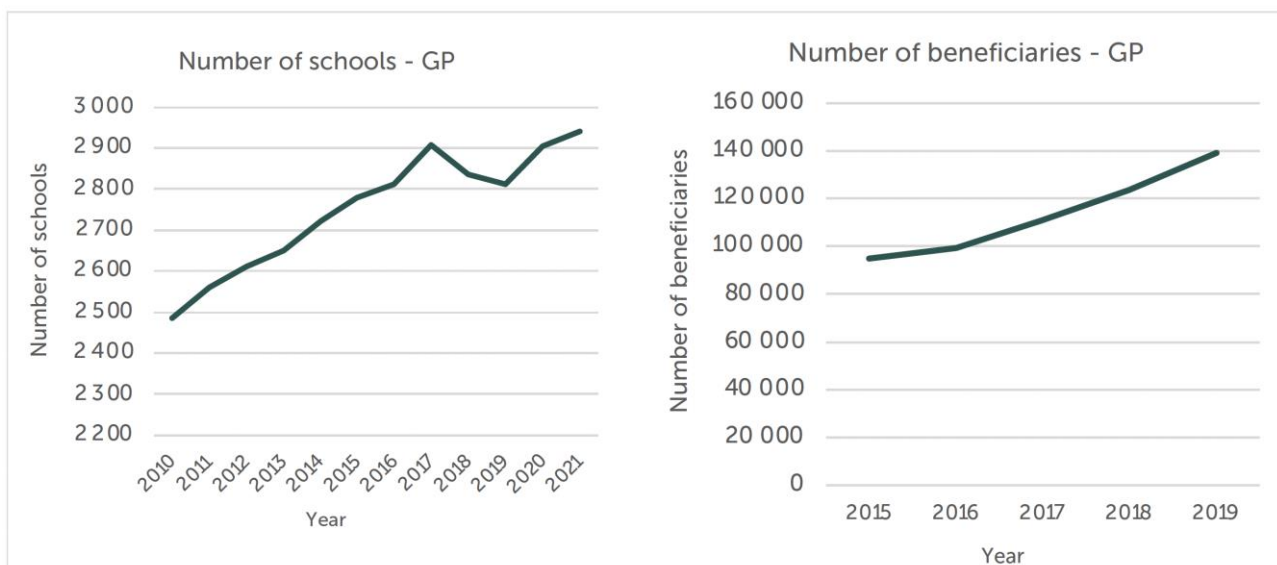
Source: (Department of Basic Education, 2010-2021)

Figure 6.10 shows the decreasing number of schools in Limpopo between 2015 and 2019. Over that period, schools decreased from 4 045 to 3 931 (a decrease of 114 schools over the period). With respect to the number of beneficiaries who benefitted from learner transport over the same period, officials from the provincial department of education indicated that the number of beneficiaries has been constant (57 636).

Figure 6.10: Number of schools benefitting from learner transport in Limpopo
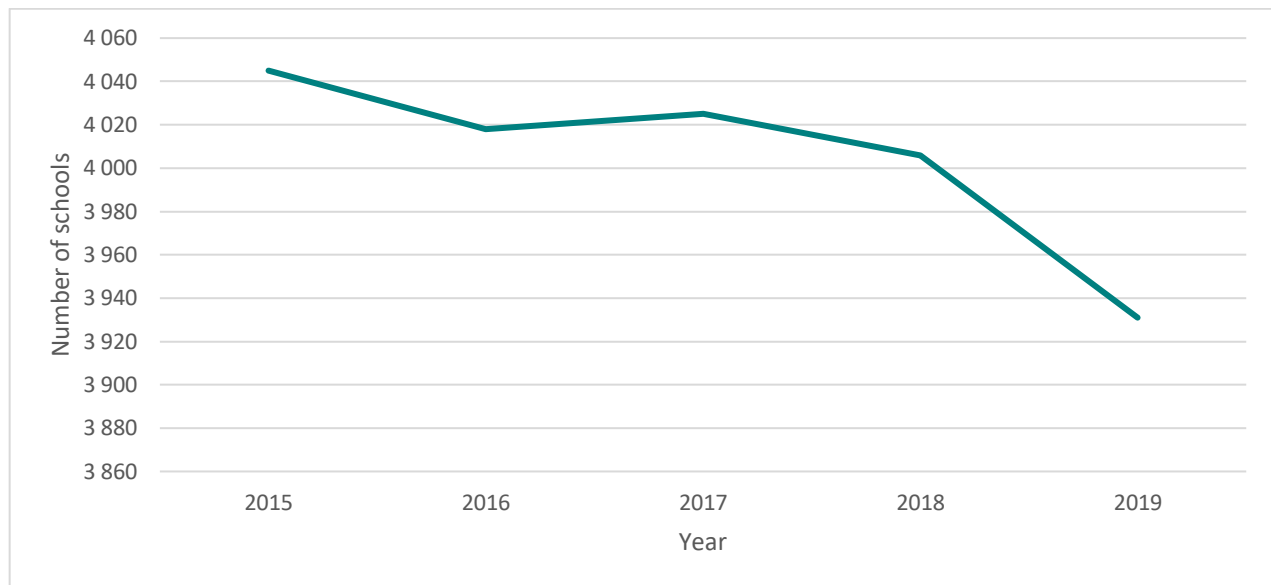
Source: (National Treasury, 2015-2019)

b) *Supply for learner transport*

The reported supply of learner transport for the period 2014/15 to 2022/23 indicates an average annual increase of 7.86 per cent in the total number of learners transported from 363 529 in 2014/15 to 665 806 in 2022/23. Provinces with the highest number of learners transported are Gauteng that reported transporting 188 685 learners in 2022/23, representing an average annual increase of 12.17 per cent over the period 2014/15 to 2022/23. The Eastern Cape indicated that 125 423 learners were transported in 2022/23 which is an average increase of 10.32 per cent over the same period. Limpopo showed the highest average annual increase of 14.55 per cent from 18 908 learners in 2014/15 to 56 065 in 2022/23.

Figure 6.11: Number of learners transported
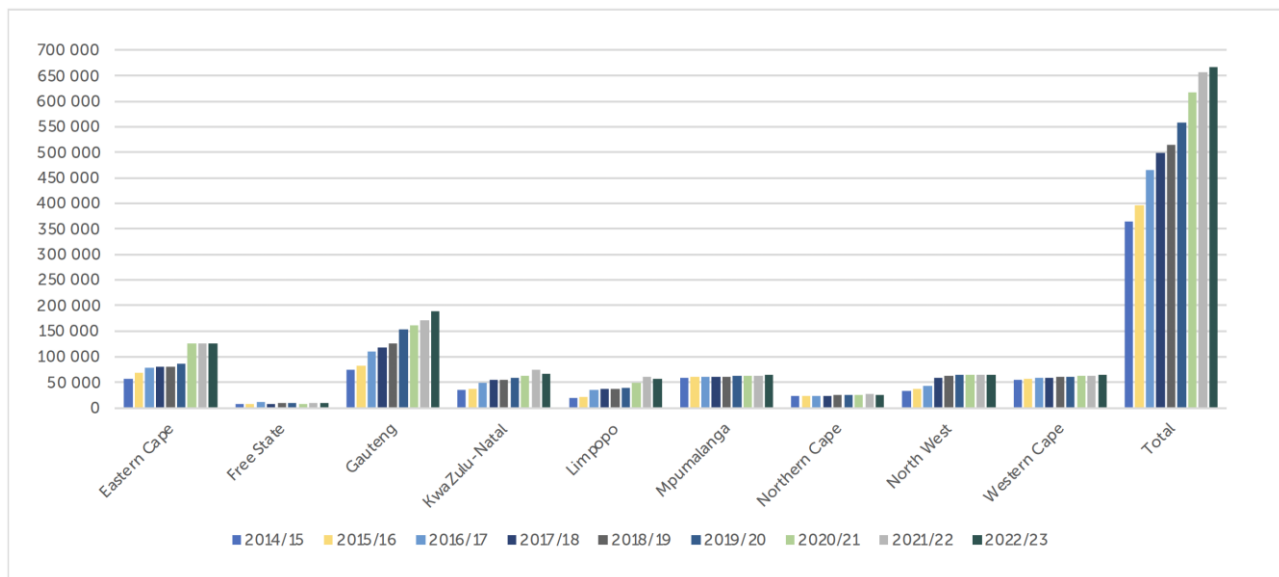
Source: (Department of Monitoring and Evaluation, Department of Basic Education and Department of Transport, 2019)

The number of learner transport beneficiaries in each of the four provinces has been increasing over the past six years, which indicates an increasing need for learner transport. It is also important to note that while the number of learner transport beneficiaries has been increasing, provinces indicated that the provision of learner transport has not been close to addressing those needing learner transport.

Figure 6.12 shows a significant increase in beneficiaries, with a growth of over 123 per cent in Limpopo and over 70 per cent in all three other provinces. The growth in the number of beneficiaries of learner transport has severe implications on the funding/budget for the learner transport programme especially given fuel price increases. While the growth rate is driven by various factors, including a reduction in the number of schools in most rural provinces (for example, in the Eastern Cape, the Department of Education indicated that 211 schools were under rationalisation in 2016 alone), in Gauteng, the need for learner transport and growth is attributed to in-migration and settlements in informal settlements and growth of new developments without school (Gauteng Department of Education, 2016).

Figure 6.12: Number of beneficiaries and growth rate 2015-2021
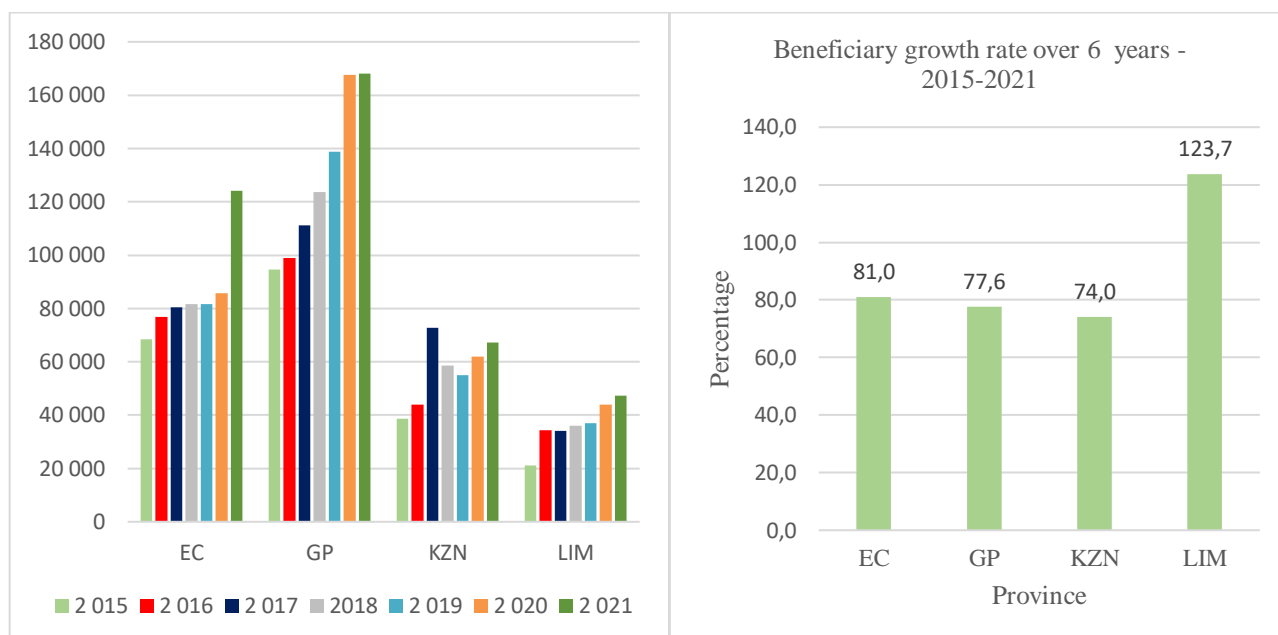
Sources: Own calculation, data from provincial departments annual reports and officials.

Figure 6.12 also illustrates the number of learners who benefitted from learner transport from the four selected provinces for seven years from 2015 to 2021. The provinces with the most beneficiaries are Gauteng and the Eastern Cape (provinces with the highest growth in learner enrolment and the highest rationalised schools, respectively). The Eastern Cape province, over the period, exhibits an increase from 68 519 to 124 036 learners benefitting from the learner transport programme (a growth of 55 517 or 81per cent over seven years), while Gauteng's number of beneficiaries increased from 94 600 to 168 000 between 2015 and 2021. Over the same period, the number of learners who benefitted from the learner transport programme increased from 38 600 to 67 163 in KwaZulu-Natal. This indicates a significant increase in the supply of learner transport measured by the number of learners who benefitted from the learner transport programme in both the Eastern Cape, Gauteng, and KwaZulu-Natal and even for Limpopo (but from a lower base).

Provinces usually set annual targets concerning the delivery of learner transport. Figure 6.13 compares targets and actual delivery in the four selected provinces. Data is not available to examine how these provinces have been performing concerning achieving set targets over a longer period. From available data, the study could only explore and analyse performance for two years, 2016 and 2017.

Notable from Figure 6.13 is the over-achievement of a set number of learners benefitting from the learner transport across all four provinces. In Gauteng province, for example, in 2016, the province planned to provide learner transport to 70 000 learners but provided learner transport to over 99 000

(29 000 more learners). The same applies in 2017, where the target was to provide learner transport to 70 000 learners, but a total of 111 053 learners were provided with learner transport (over 41 000 more learners were provided with learner transport). KwaZulu-Natal planned to provide learner transport to 35 000 learners in 2016, but reported over 72 000 beneficiaries, an increase of more than 100 per cent. These significant differences between planned and actual learner transport beneficiaries raise several questions, including how provinces set beneficiary targets. Other questions associated with these huge discrepancies include the following:

1. Whether or not provinces fully understand the extent of learner transport needs;
2. Whether provinces understand/have a costing model for determining learner transport as it is common that provinces provide learner transport services to more learners than planned;
3. Whether provinces have frameworks to assist with the determination of the number of qualifying learners, which could further assist in setting targets; and
4. Whether it is provincial budget constraints that result in provinces setting lower targets than the actual number of learners who need learner transport services.

Figure 6.13: Selected provincial planned and the actual delivery of learner transport
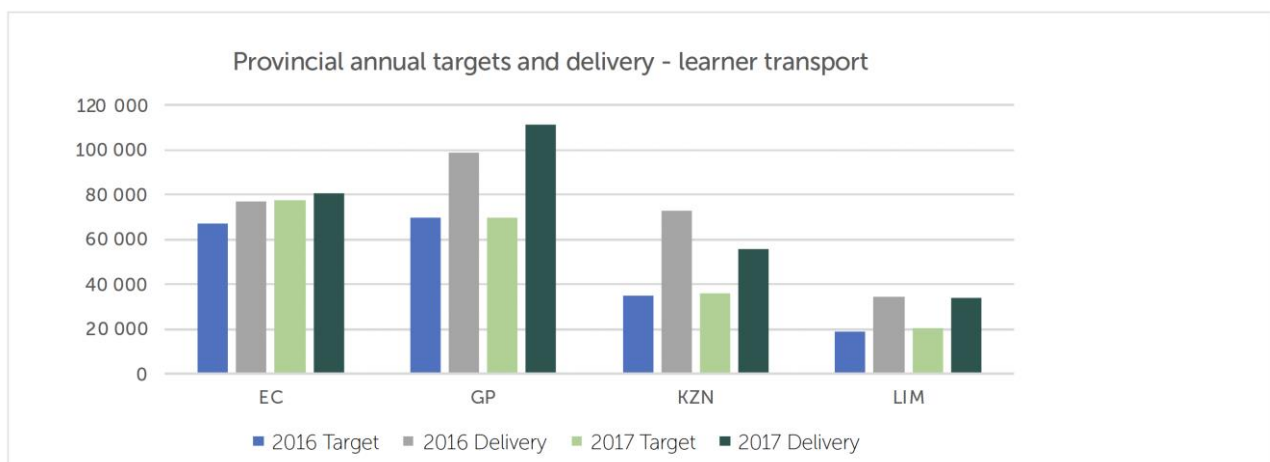
Source: (Gauteng Department of Education, 2017&2018)

c) *Demand, supply, and learner transport beneficiaries and targeting*

Consolidating the demand and supply information for learner transport in these four selected provinces is essential to understand the gap and causes of such discrepancies. For KwaZulu-Natal, Figure 6.12 illustrates a rapid increase in the demand for learner transport between 2018 to 2022 as the demand increased from 99 067 to 231 471. Over the same period, a steady increase in the supply of learner transport was noted. Key to note is an increasing gap between the demand and supply for learner

transport (this gap increased from 44 000 in 2018 to 157 538 in 2022) that shows that the province is unable to assist a large number of learners who need learner transport. It is noteworthy that the KwaZulu-Natal learner transport policy is different from other provinces with respect to learners' eligibility. While other provinces consider at least 5 km, KwaZulu-Natal considers 3 km; this, to some extent, explains the gap. Whether the KwaZulu-Natal distance of 3 km is reasonable compared to 5 km is debatable, although the typology of the province may play a role.

Furthermore, Figure 6.14 illustrates that the number of beneficiaries over the five years always exceeded the number of targeted learners. For example, in 2022, the number of targeted learners is 57 728, while the number of learners being transported is 73 933 (the difference is 16 205).

The difference between the number of targeted learners and the number of beneficiaries each year constitutes overload. It indicates risk and non-compliance with safety regulations, compromising learners' lives.

Figure 6.14: KwaZulu-Natal demand and supply
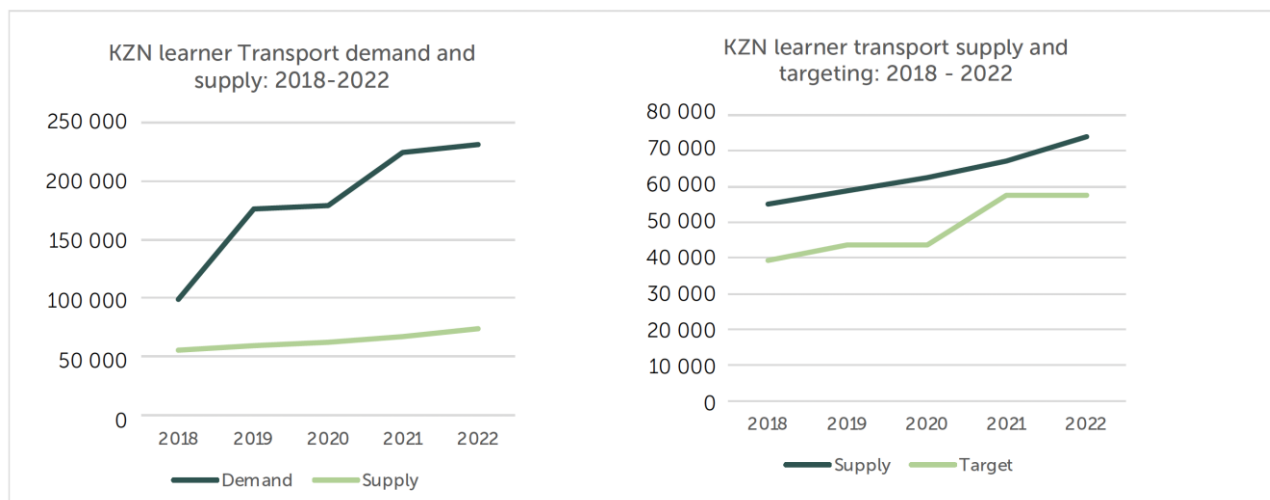
Source: Officials KZN

For the 2018 to 2022 period, the demand for learner transport in the Eastern Cape exceeded supply in each year, but the gap is not widening as is the case in KwaZulu-Natal. However, the gap is widening concerning the supply and targeting, indicating the pressure the province faces. More supply (the actual number of beneficiaries) than targeted learners imply two things. Firstly, overloads and non-compliance that compromise the safety of learners. Secondly, engagements with officials from the Eastern Cape Department of Education revealed weaknesses in the systems. These weaknesses are mainly because contracts are signed for five years with operators (so some learners who might have

passed matric would still be reported as ferried, or learners who just entered the system would not be accounted for).

Figure 6.15: Eastern Cape demand and supply
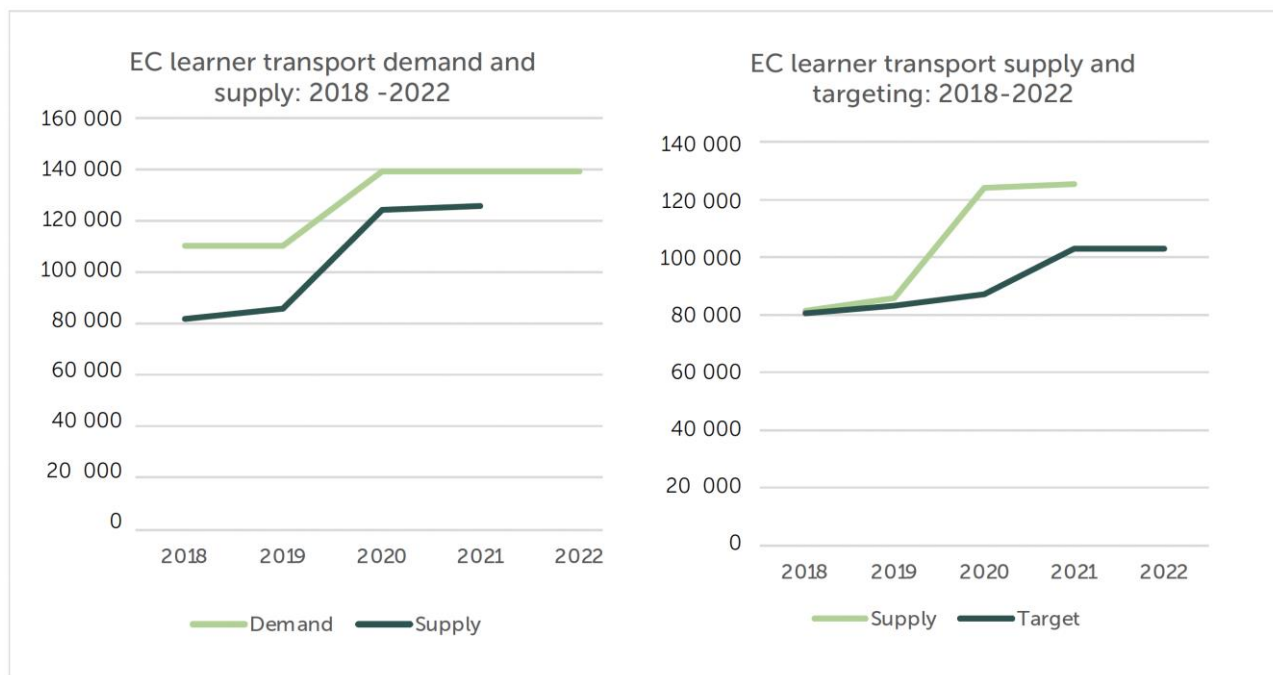
Source: Officials from the provincial Department of Education and Transport, EC

The demand and supply for learner transport in Limpopo has been constant over the past five years, according to data from the provincial department of education. Analysis of the targeted number of learners has not been undertaken due to the unavailability of data.

Figure 6.16: Limpopo demand and supply
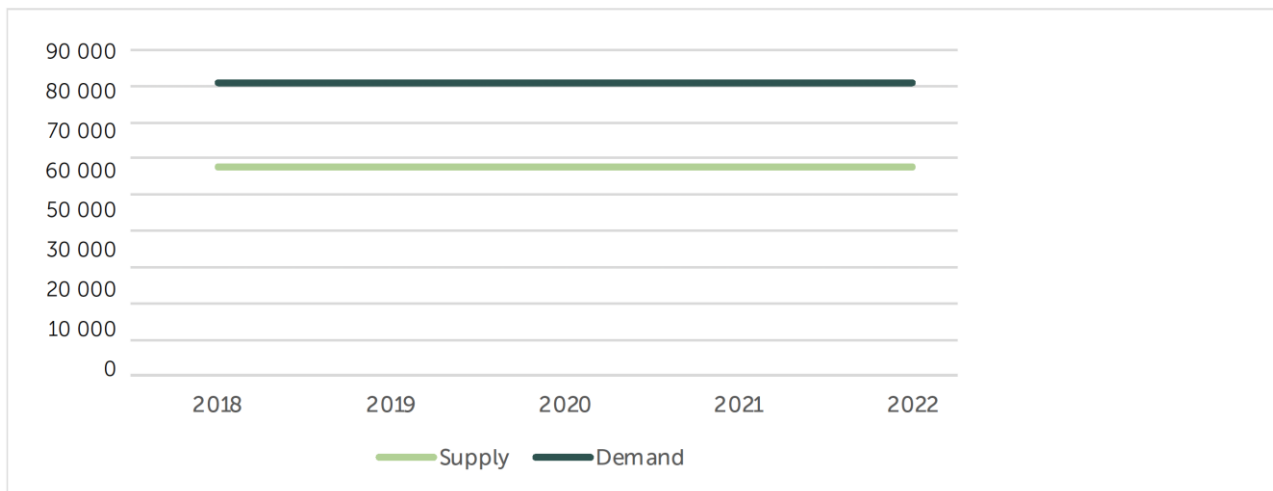
Source: Officials from the Limpopo provincial department of education

Figure 6.17 illustrates a widening gap between 2019 and 2020 (33 798) as a result of increased demand for learner transport due to new human settlements developments.

Figure 6.17: Gauteng demand and supply
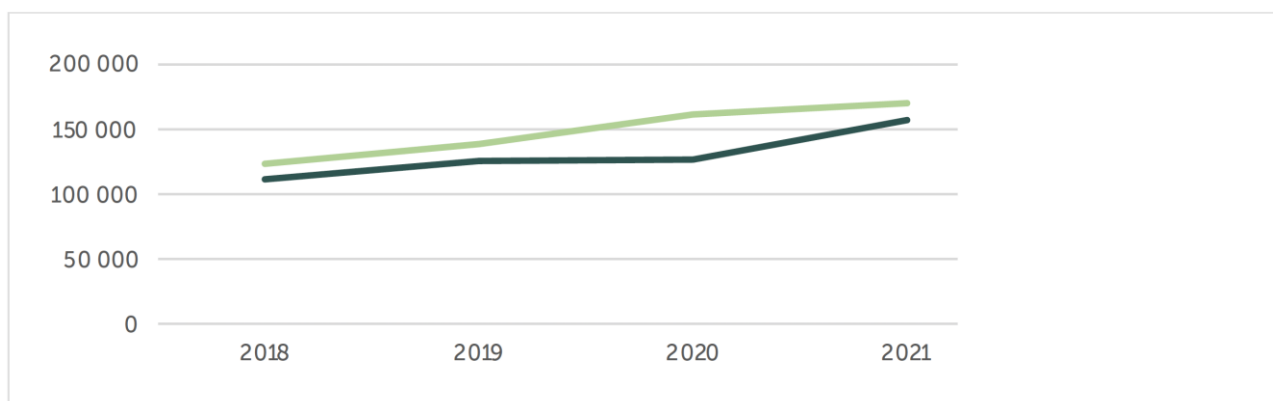
Source: (Gauteng Department of Education, 2018-2021)

6.6.3   Budget and expenditure on learner transport in provinces

There are gaps concerning the budget and expenditure data on learner transport. In some provinces, the budget for learner transport is included with other items under the goods and services classification, and this makes it difficult to determine how much is allocated for the programme. Figure 6.18 illustrates over-expenditure prior to 2020, as funding made available for learner transport has been inadequate. The lower learner transport expenditure for all provinces, particularly the Eastern Cape in 2020, is attributed to COVID-19 as schooling was seriously interrupted.

Figure 6.18: Budget and expenditure for the Eastern Cape, KwaZulu-Natal and Limpopo
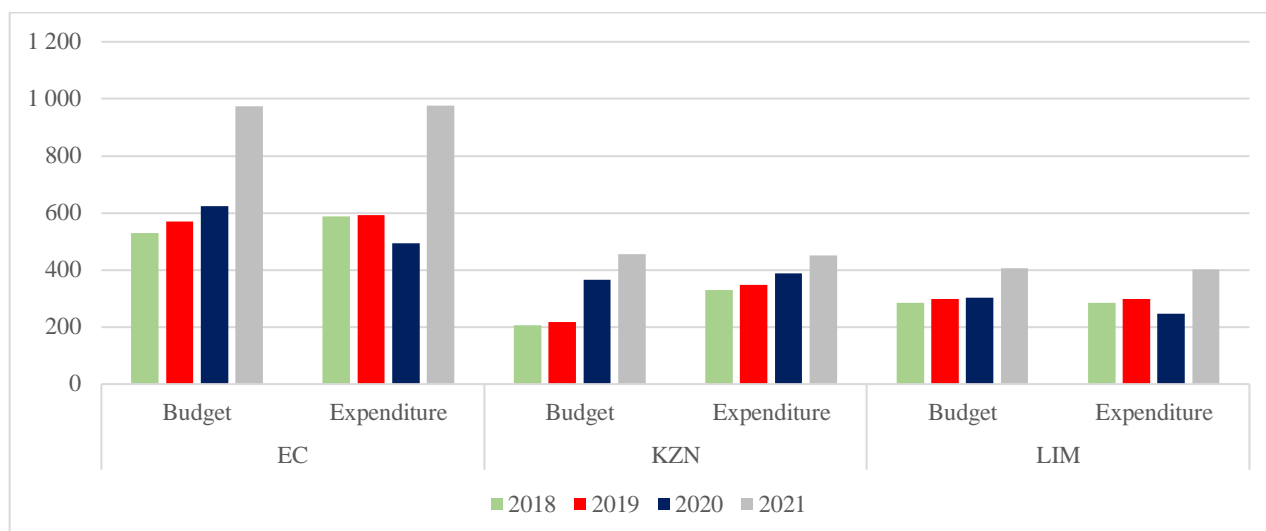
Source: Officials from the provincial departments of Education and Transport, Eastern Cape, KwaZulu-Natal & Limpopo

With respect to the funding and the funding gap for learner transport, provinces expressed a serious underfunding challenge for the programme, which is far below the funding required to meet ever-increasing learner transport demand. According to provinces, inadequate funding resources has resulted in a number of other challenges, including overloads, inability to respond to and meet increasing learner transport demand, and long and increasing waiting list of qualifying learners and qualifying schools.

Interviews with officials from the provincial department of education, KwaZulu-Natal, for example, revealed that with the available funding and buses, the province should be providing learner transport to about 57 000 qualifying learners, but about 73 900 learners were transported in 2022 (an overload of about 16 900 learners). Communities threaten operators/drivers if they leave learners at the bus stops, even if these learners are not identified as beneficiaries.

With respect to the number of schools provided with learner transport and qualifying schools on the waiting list, interviews revealed that only 407 schools are provided with the learner transport, and 1 148 qualifying schools are on the waiting list. This means that only about 26 per cent of qualifying schools in the KwaZulu-Natal are provided with learner transport due to inadequate funding. All these schools qualify according to the policy and have applied and been verified. In these schools, about 157 000 qualifying learners are still on the waiting list and cannot be transported because of funding constraints.

The KwaZulu-Natal provincial department of education estimated that an additional R169 million is required to address transport for over 16 000 learners constituting overload, while a further R1.6 billion would be required to address the 157 000 on the waiting list.

Given this KwaZulu-Natal scenario analysis, it is clear that more funding is required to fully implement learner transport in South Africa, assuming that most provinces are underfunded. It is clear that the government needs to rethink the funding model and devise new strategies for learners and children to realise their rights to basic education.

Human settlements development and schools' infrastructure are closely linked to the funding of the learner transport and were addressed during interviews. It has been identified that, in some instances, development patterns drive the demand for learner transport. A human settlement is considered complete and habitable if it has services such as water without any consideration of the need for schools, among other things.

With respect to the institutional challenges related to the funding and the lack of infrastructure planning and coordination, the delivery of human settlements contributes significantly to the increasing demand for learner transport. The Department of Human Settlements and private property developers are responsible for delivering houses and often do not consider schools' needs and pressure on learner transport. The current intergovernmental fiscal relations perpetuate fragmentation as funding is made available for housing developments without consideration of plans and funding for schools infrastructure. The other challenge relates to the actual delivery of schools infrastructure. Interviews reveal that the delivery of new school infrastructure is not closely linked to the demand for learner transport.

6.7   Conclusion

The Constitution of the Republic of South Africa provides basic rights for all who live in South Africa. Concerning a basic right to basic Education, Chapter 2 of the Constitution recognises access to basic education as a basic right. The Constitution further requires that the state, through reasonable measures, should make this right progressively available and accessible. Transporting learners from homes to schools and back is key to attaining the right to access basic education.

In South Africa, the need for learner transport is driven mainly by the legacy of apartheid, developments and expansion of human settlements, and school rationalisation programmes (particularly in rural provinces and those with low population density levels, including areas with aging populations).

The demand for learner transport far exceeds the supply, and there are discrepancies concerning the demand and supply for learner transport by the National Department of Transport and provincial departments of education and transport.

Provinces cannot provide learner transport to all qualifying learners due to inadequate funding. Inadequate funding for learner transport poses a safety risk as there is a greater probability of buses being overloaded and operating in contravention of rules and regulations.

There is a need to improve systems to ensure accurate reporting of data concerning the number of learners ferried and that annual changes are captured. In some instances, human settlement developments exacerbate financial resource challenges with regard to learner transport in provinces. For example, in Gauteng, these developments compound the need for more learners to be transported to schools, as many of these developments are built where there are no schools nearby. This indicates a fragmented approach by different departments concerning key and basic infrastructure delivery. Such misaligned infrastructure delivery plans by various departments needs to be addressed.

6.8   Recommendations

The Commission makes the following recommendations:

1. *The national and provincial departments of transport and the national and provincial departments of basic education should improve data collection and reporting and ensure that accurate data on learner transport, including annual demand and expenditure is reported and made publicly available through annual reports.*

Data collection on learner transport will improve understanding of the demand and growth, planning and budgeting for learner transport, and ensure that there are no discrepancies with respect to the demand for learner transport across departments.

Improvements in data collection and reporting will facilitate enhanced oversight and monitoring, paving the way for efficacy and efficiency evaluations, as well as assisting with the development of appropriate norms and standards costing for the provision of learner transport.

2. *Infrastructure delivery should be planned holistically and coordinated to ensure that where possible the need for learner transport is kept to a minimum, particularly in areas experiencing an inward migration of learners. This requires coordination between the various infrastructure delivery plans such as human settlements and school infrastructure. Furthermore, provincial treasuries and provincial education departments must ensure that school infrastructure delivery plans for building new schools in provinces prioritise areas with sustained higher demand for learner transport or with higher learner transport beneficiaries.*

This will ensure that infrastructure delivery plans by different departments are aligned and will not negatively impact other sectors. For example, the human settlements delivery plan would be aligned to other key infrastructure plans that will be needed, such as schools, and this will reduce the need or expenditure for learner transport. Contributing to an increasing learner transport demand and expenditure pressure is the lack of school infrastructure within reasonable walking distances, prioritising areas of higher demand for learner transport when building new schools would significantly reduce learner transport and expenditure pressures.

3. *The national and provincial treasuries, in consultation with provincial departments of transport and basic education, should develop a new funding model for learner transport. Such a model must also include flexibility for provinces to address emergency contracts to provide learner transport.*

Currently, learner transport funding is inadequate, as characterised by over-expenditure, and frequent in-year budget adjustments. A new funding model will ensure that adequate funding for learner transport is budgeted correctly, not adjusted later.

4. *The provincial departments responsible for learner transport should develop systems to verify the number of learners transported through the learner transport programme annually, to ensure that annual changes are captured and accounted for (learners pass primary and move to secondary schools, learners pass matric while some drop out).*

This will ensure that annual changes in the number of learners being ferried through the learner transport programme are determined on time thereby facilitating improved planning.

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CHAPTER 7:
ASSESSING CLIMATE CHANGE RESPONSE IN LOCAL GOVERNMENT

Chapter 7

Assessing Climate Change Responses in Local Government

Nomonde Madubula and Ronewa Sidiki

7.1   Introduction

The United Nations Framework Convention on Climate Change (UNFCCC) (2008) defines climate change as temperature change attributed directly or indirectly to human activity that alters the global atmosphere. Thus, globally, climate change is a real threat as it destabilises economies and livelihoods and disproportionately affects vulnerable and the marginalised people.

The World Bank on Climate Change Action Plan (2021-25) states that while the COVID-19 pandemic and economic crisis have devastating effects, addressing climate change issues while meeting the needs of society will be the most significant challenge of the 21st century. At the same time, addressing climate change issues offers a window of opportunity to transition to a low carbon and resilient climate economy to achieve sustainable development goals (poverty, unemployment, and inequality).

The global rise in temperatures will be detrimental to all economies if respective governments take no action. The world economy is expected to shrink by 4.2 per cent, while growth in Africa will shrink by 4.7 per cent if the rising temperatures increase below 2°C (Swiss Re Institute, 2021). South Africa is ranked the highest emitter of greenhouse gas (GHG) on the African Continent and the 14th highest emitter globally (Department of Environmental Affairs, Forestry, and Fisheries, 2011; Reddy et al., 2021; One World Sustainable Investments, Sustainable Energy Africa, and Adelphi 2018). As per the National Climate Change Response White Paper (2011) and National Climate Change Bill (2018), South Africa has committed to reducing GHG emissions by 42 per cent in 2025.

In committing to meeting climate change targets and sustainable development, South Africa is a signatory to various international agreements such as the Kyoto Protocol 1997, the United Nations Framework Convention on Climate Change 1992, the Conference of Parties (COPS) 1994, and the Paris Agreement 2015. Translating these international commitments into reality, South Africa has put in place various pieces of legislation, policies, plans, and strategies such as the Constitution, the

National Environment Management Act 1998, including policies; Climate Change Bill 2018, National Climate Change Response Policy 2011, National Development Plan 2010; Medium Term Strategic Framework 2019-2024; Low-Emission Development Strategy 2020 and the National Adaptation Strategy 2020 that all have the objective of mitigating and adapting to climate change impacts and environmental effects while integrating them into planning documents.

Recently, a report on 'Framework for a Just Transition' in South Africa published by the Presidential Climate Commission (2022) highlights the importance of strengthening adaptation to improve resilience to climate impacts. The just transition framework is South Africa's strategic plan to achieve a just and equitable transition to net zero greenhouse emissions by 2050 while fostering climate resilience.

According to the Presidential Climate Commission (2022), the transition to low emissions and climate resilience will create employment, protect the environment, and improve human health while growing the economy. It is in this context that subnational government should play a crucial role in responding to climate change impacts and coordinate 'just transition measures' in their respective jurisdictions by: identifying climate change impacts and vulnerability in their jurisdictions; identifying community needs and adaptation measures; implementing and managing adaptation projects such as disaster management strategies and early warning systems; and regulating and supporting sustainable use of land management; empowering communities to climate change measures and just transitions; as well as fostering collaborations with social partners that should be integrated into development plans (i.e. Provincial Development Plans/ Strategies/Integrated Development Plans and climate actions plans) (Presidential Climate Commission, 2022).

In response to climate change, the National Department of Environmental Affairs, the South African Local Government Association (SALGA), and Cooperative Governance and Traditional Affairs (COGTA) published a 'Let's Respond Tool Kit (2011)' to assist municipalities with integrating climate change risks and opportunities into IDPs. The Let's Respond Tool Kit, as per Figure 7.1 below, is a step-by-step process detailing what municipal officials need to drive the process.

The toolkit includes, among other things, details on conducting a situational analysis where local climate change impacts and emissions in the area are identified and assessed, followed by the development of vision and strategy on municipal climate change response that should be integrated into municipal planning documents of municipalities, for municipalities to be climate responsive. More than ever, local climate action response is vital for South Africa to meet the National Determined

Contribution (NDC) imperatives in line with the Paris Agreement, while also addressing poverty alleviation, inequality, and unemployment.

Thus, in 2019 Local Government Climate Change Support Programme ((LGCCSP) was established by the National Department of Environment, Forestry and Fisheries (NDEFF) and SALGA with the aim of building climate resilience at the municipal level. This was done by embarking on vulnerability assessments, identifying emissions sources and developing climate change response plans for districts local municipalities as well building capacity through conceptualising and costing of climate change response project at the local government level.

Local governments are experiencing the burden of climate change first-hand, as it is the sphere closest to people. The rural poor, mainly, are most vulnerable because they depend significantly on climate-sensitive ecosystems for their livelihoods. Also, they are most vulnerable because they have less resources at their disposal to withstand climate shocks' impact. On the other hand, urban inhabitants risk many climate-related disasters that affect urban infrastructure, water, and energy resources.

There are two main ways of responding to climate change: mitigation and adaptation. Robust mitigation and adaptation hinge on effective planning, especially at the local level. For local development to be resilient to the impacts of climate change, effective planning, and adequate budgeting are essential steps in responding to the challenge of climate change. Effective planning enables policymakers to detect possible policy conflicts, reduce risks and vulnerability, avoid maladaptation, identify potential opportunities resulting from climate change, infuse adaptation activities in the planning stage, introduce monitoring and evaluation activities to track the performance of climate change measures, and by and large, influence allocation of resources to climate change activities at the crucial planning stage.

In the South African local government sector, Integrated Development Plans (IDPs), are an essential tool used for managing planning and budgeting at the local level. Climate change is an important policy agenda, but it must first find meaning in the IDP and budgets. Ideally, IDPs are meant to set the tone for climate change mitigation and adaptation, prioritise climate change activities, and indicate how resources are to be deployed to deal with the risks associated with climate change. As the sphere directly bearing the brunt of climate change, the question that begs the mind is: how responsive are municipalities to opportunities and threats posed by climate change? A municipality's responsiveness to climate change can be determined through its planning and budgeting processes that mainstream climate change obligations.

This report evaluates the responsiveness of municipal IDPs and budgets to climate change. The paper is based on a comprehensive and systematic review of IDPs and the budgets of municipalities. The focus is on municipalities in KZN, Western Cape, Eastern Cape, and Gauteng provinces. Recent episodes of climate change hazards have hardest hit these four provinces that have faced the worst droughts and floods. The frequent incidences and severity of these disasters in these provinces are evident and are significantly undermining development and threatening resources, such as water and energy. These provinces have lost people, livestock, assets, and properties due to climate change. Thus, it is essential to analyse the responsiveness of these provinces to climate change.

Figure 7.1: Lets Respond Tool Kit, Integrating Climate Change into Municipal Plans
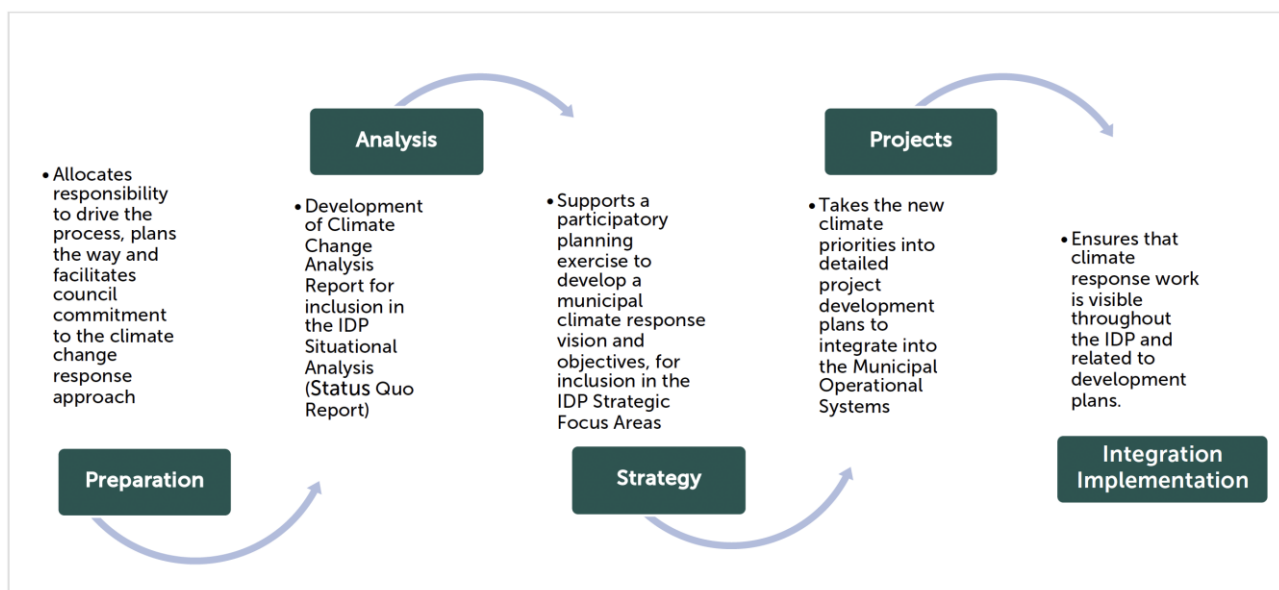
Source: (DEFF, SALGA, COGTA, 2011)

7.2   Problem Statement and Research Questions

South Africa is experiencing unprecedented and frequent disasters, such as extreme floods and droughts. Municipalities experience the consequences of these disaster events as the sphere closest to the people. They also account for a disproportionate burden of these disasters, that are partially attributable to climate change variability.

The April 2022 floods in KwaZulu Natal and Eastern Cape, accompanied by a trail of destruction, attest to rising temperatures. 435 were reported in the two provinces due to floods. 40 000 people were displaced and 13 500 houses were damaged or destroyed. The costs in terms of property damages were estimated at over R17 billion (Pinto et al., 2022; South African Government News Agency, 2022).

Arguably, the root causes of these disasters could be traced to, among other things, the legacy of old infrastructure not being maintained, lack of proper spatial planning, and absence of early warning systems in municipalities, increasing exposure and vulnerability (Pinto et al., 2022). Similarly, the drought experienced in the Western Cape has highlighted the detrimental impact of climate change on the health of citizens. Due to the drought, the province experienced increased vector-borne diseases and food and water-borne disease outbreaks (Chersich et al 2018). Climate change is a significant threat to the wellbeing of South Africans and the economy. It endangers the country's water sources, infrastructure, food security, health, and ecosystem. Due to South Africa's vast levels of poverty and inequality, climate change directly impacts inclusive economic growth (DEFF, SALGA &COGTA 2011).

Lethoko (2016), asserts that the vulnerability of households and society to climate change is affected by their geographical location and how effectively and capable the municipality delivers services. This implies that municipalities must be at the centre of mitigation and adaptation strategies and actions to address climate change. The plans and budgets of municipalities should be sensitive to climate change.

The recent floods and drought in the KZN, Eastern, and Western Cape Provinces are some disaster events demonstrating that climate change is real. Municipalities must mainstream climate change and implement robust response mechanisms and strategies. The National Climate Change Response Policy (2011) highlights the inclusion of climate change mitigation activities into IDPs as a critical measure in responding to climate change at the local level.

The Let's Respond Kit (2011) is designed to guide and support municipalities in mainstreaming climate change in their planning frameworks and budgeting instruments. Nowadays, the challenges of climate change require plans, policies, strategies, and budgets that should ideally reflect a municipality's sensitivity to the scourge of climate change.

However, the massive destruction caused by the recent droughts and floods in municipal areas forces us to ask several questions, vis a vis: Are local governments integrating or mainstreaming climate change in their planning, policy, or other strategic documents? Are local government budgets responsive or sensitive to climate change imperatives? If the answer to these two questions is negative, what could be done to make the climate change agenda of municipalities, their plans, and budgets? If the answer to the first two questions is positive, what measures can be taken to scale up responses to climate change?

7.3   Research Objectives

This study's overarching objective is to assess the local government's climate change responsiveness. The study's specific objectives are to consider whether municipal plans and budgets are climate responsive and sensitive and recommend possible strategies municipalities and governments can adopt to integrate climate change response into their projects and budgets.

7.4   Research Methodology and Data

7.4.1   Analysing IDPs for climate responsiveness

In assessing climate change responses in local government, firstly, the study followed a case study approach. The case study approach reviewed integrated development plans (IDPs) of the Eastern Cape, KwaZulu Natal, Gauteng, and Western Cape Provinces within their respective municipalities.

IDPs are the crucial strategic planning documents of the municipalities as they have detailed action/ implementation plans. The paper follows a content analysis approach (Hsieh & Shannon, 2005), whereby the content of IDPs was divided into five thematic areas that characterise most local government IDPs, namely: situational analysis, vision and objectives, actions, implementation, and options and priorities (see also Baker et al., 2012). The situational analysis (typically provided at the beginning or introductory parts of the IDPs) is a systematic collection and appraisal of past and present information that may influence the performance of an individual municipality. It includes some evaluation of a municipality's current and future strengths, weaknesses, threats, and opportunities.

Furthermore, the situational analysis provides the foundation for developing the plan's objectives, activities, and priorities. The vision provides a 'snapshot' of the Municipality in the future relative to where the Municipality is, while the objectives are qualitative and quantitative results that the IDP intends to achieve. If climate change adaptation or mitigation is part of the municipality's priority list, such articulation should be found in the mission or objectives of the IDP. Actions are the choices, approaches, and policies the plan proposes to put in place to achieve the stated objectives. The implementation component refers to how the Municipality will execute the plan.

Finally, the options and priorities component identify alternative solutions from various possible answers. The five components of the municipal IDPs were reviewed, identifying the content related to climate change adaptation and mitigation or any content resonating with the climate change adaptation and mitigation measures.

Following Genelettia and Zardo (2015), the five components content analysis was guided by a specific set of questions related to climate change adaptation and mitigation. The guiding questions were:

- Situational Analysis: Does the situational analysis contain any information (e.g., data/statements/analyses) that demonstrates that the municipality is aware of climate change and adaptation or mitigation in particular?

- Vision and objectives: Does the vision or objectives speak to climate change issues and adaptation or mitigation in particular?

- Actions: Are there strategies, policies, or actions designed to enhance the climate change resilience of a municipality?

- Implementation: Are there any implementation strategies or resources allocated to climate change mitigation or adaptation measures?

- Options and priorities: At the end of the IDP, is there any prioritisation of climate change-related measures?

In scoring the evaluation components, a four-level rating system was developed to evaluate how each component reflects a response to climate change. Each researcher independently rated each IDP component's responsiveness to climate change imperatives. Table 7.1 below presents a modified scoring of plan components proposed by Baker et al., (2012). In this paper, each component was rated by each author. The scores were then averaged to derive one score for each component.

Table 7.1: Scoring system used to evaluate the plan components

Score	Situational Analysis	Vision and objectives	Actions	Implementation	Prioritisation
0	No evidence of information related to adaptation, mitigation, and other climate change issues	No evidence of objectives related to adaptation, mitigation, and other climate change issues	No evidence of climate change measures	No evidence of implementation provisions or budgets related to climate change	Climate change does not feature within the priority list of actionable items.
1	Acknowledges climate change measures only generally (not in connection to specific climate change issues)	Mentions climate change-related objectives, but lacks further definition	Mentions climate change measures but lacks a different definition	Mentions implementation provisions and budgets related to climate change measures but lacks different definition	Acknowledges climate change as a priority, but lacks further detail on which adaptation and mitigation strategies will be prioritised
2	Acknowledges climate measures in the context of specific climate change issues	Includes climate measures in the objectives and provides some details on their specific content and how to pursue them	Includes climate measures in the actions and provides some details on their application and activities	Includes climate-related implementation provisions and provides some details on their application	Development, consideration, assessment, and prioritisation of alternative climate adaptation solutions.
3	Acknowledges climate measures and describes (at least qualitatively) the potential climate change adaptation effects	Includes climate measures in the objectives, provides details on their content, and describes links with related planning and policy processes at the local/regional level	Includes climate measures in the actions and provides information on their application and activities, including locally specific details	Includes climate-related implementation provisions and provides information on their application, including details on budget, responsible bodies, etc	Identifies which options to be pursued, resources (both human and otherwise) that will be deployed, and timeframes.

7.4.2 Analysing climate change responsiveness of budget

Secondly, the budget documents of these municipalities would be assessed to ascertain if there is funding dedicated to climate change response and its related environmental impacts. The budget documents of the selected municipalities were analysed to evaluate whether municipal budgets within the budget value chain are climate responsive and sensitive.

7.5   Literature Review

This literature review section focuses on two aspects: (1). local government plans for climate change responses, and (2). responsive climate change budgeting.

7.5.1   Responsiveness of Local Government Plans to Climate Change

The United Nations Development Programme (UNDP) (2008) states that the debate on climate change is over, clearly pointing to the need to act now by learning to live with the changes (adapt) and reduce the impacts (mitigation). Since it is the first point of call when disaster strikes, the local government needs to mitigate (reduce) and adapt (cope) to assist communities in reducing and coping with the effects. Deri (2008) argues that in tackling climate change response, an integrated twin-track approach should be used. Mitigation of the causes that drive climate change (reducing the use of fossil fuel and fossil energy) and adaptation to the effects of climate change (require increased investment into local infrastructure and local people to cope with and take opportunities of local changes to the impact of climate change).

Given their proximity to communities, literature acknowledges that local governments have a significant role in addressing the challenges posed by climate change. Many local governments worldwide are increasingly aware that climate change is not something they can assume away or for national governments to deal with.

The process of integrating climate change response into municipal planning is called mainstreaming. Lebel et al (2011) define mainstreaming as incorporating adaptation and mitigation measures into the government's developmental planning, policymaking, budgeting, implementation, and monitoring measures. Strategies, plans, and government programmes are analysed through a climate lens (ensuring that climate change impacts are responded to).

At the sectoral level, mainstreaming of adaptation involves four stages: at sectoral planning- climate lenses are applied where opportunities/ threats to climate change are identified; at the planning stage- intervention could be sought on appropriate adaptation measures needed; during the resource allocation phase- project proposal is assessed as to whether climate change risks need to be addressed; finally with monitoring and evaluation measures to track the performance of the adaptation interventions and measures (Lebel et al., 2011).

Kok and de Coninck (2007) further suggest the need to interlink climate change policies with various relatable policies to mainstream climate change, enhancing climate change measures while improving the effectiveness of other policy areas. Lebel et al., (2011) support the above arguments where they argue that for mainstreaming to be effective, climate change measures (adaptation and mitigation) should be seen as a developmental issue rather than an environmental one which will result in climate change measures being allocated budget and integrated into developmental planning-for example, mainstreaming climate change with potential benefits and relevant policies such as poverty reduction, rural development, and agriculture, disaster management, and energy security.

Therefore, existing policies (disaster risk reduction, water resource management, drought, etc.) meant to reduce climate change impacts are an entry point towards adaptation policies and development. Hardoy and Lankao (2011) allude to these climate change responses as the 'greatest opportunities' as they address more than one problem (risks/ vulnerability) at a time. Dubose and Calland (2011), support the arguments above that economic development, especially in Africa, as it depends on infrastructure services in sectors such as (energy, water, transport, etc.), agriculture and rural development, sustainability issues, and public finance management and thus, these sectors play a critical role in climate change responses. Since municipalities are the front liners in delivering these services, they are also the first responders to the climate change impacts.

A few studies have evaluated climate change in local development plans. Such studies have aimed to gauge whether local governments take climate change seriously. Genelettia and Zardo (2015) developed and applied a framework that assesses the treatment of climate change adaptation and mitigation in local government development plans.

In Australia, the National Climate Change Adaptation Framework stresses the importance of vulnerability, disaster risks, and adaptation measures for local government. Planning responses for municipalities include infrastructure and disaster plans such as building codes to reduce housing contribution to the heat island effect and provision for sea level rise.

Deri (2008) argues that, ideally, the adaptation plan should cover all services the local government offers. Thus, climate change preparedness becomes effective when integrated into existing local development plans. Devi proposes a five-step approach to climate change adaptation: set goals and objectives; identify current and future risks and vulnerabilities; identify and prioritise options; implement selected responses and review the adaptation process and adjust it accordingly. Adelphi's

Sustainable Investment, Sustainable Energy Africa study (2009) states that local climate actions would be key for South Africa to meet the NDC targets.

While delivery of crucial services remains a key priority of the local government in South Africa, the climate change response, such as energy efficiency and renewable energy, become viable when they correspond with government interests. Thus, the Local Government Climate Change Support Programme (LGCCSP) came into effect in 2019 with its main objective to assist provinces and municipalities in mainstreaming climate change into their plans, project development, and financing (DEFF& SALGA, 2019).

In terms of the LGCCSP progress, Reddy et al., (2021) noted the following; compared to the early stages of the programme, provinces and municipalities are notably more aware of climate change issues and appropriate response actions; however, it is not clear how many local municipalities have formulated climate response strategies and whether these have been integrated into IDPs; climate action is indeed still primarily viewed as a task for environmental departments and financing climate change response is mainly seen as an unfunded mandate and not prioritised by local decision-makers.

Reddy et al. (2019) argue that while the country is aware of the negative impacts of climate change, South Africas's adaptation policies are lagging compared to mitigation policies. A case in point was the droughts in the Eastern and Western Cape, where the City of Cape Town came close to experiencing 'day zero' where water sources would dry up.

Rodina (2019) argues that there was a 'water crisis/day zero' in the province, water resilience has become a priority, and the province narrowly escaped the crisis through a combination of measures (water cuts, water transfers from the agricultural sector, emergency preparedness, and eventually the rain that occurred). Rodina (2019) is of the view that some key lessons should be noted and considered with the water crisis that happened in the City of Cape Town. These include unpreparedness of various municipal departments due to unpredictable water variability; the need for alternative water supply sources (water reuse, groundwater, and stormwater) considered after the crisis and an indication of the preplanning measures to be in place to cater for such uncertainties.

As alluded to above, South Africa has committed to reducing emissions by over 40 per cent in 2025. Even so, the Climate Action Tracker (2021) regards the NDC target as inefficient. South Africa is ranked the highest greenhouse gas (GHG) emitter on the African continent and the 14th highest emitter globally (Global Carbon Project 2016). For South Africa to meet its NDC as per the Paris Agreement,

while addressing challenges of poverty eradication, unemployment, and inequality, local climate change actions are crucial (One World Sustainable Investments, Sustainable Energy Africa, and Adelphi, 2018).

The C40 report highlights that 97 per cent of C40 cities already experience the impacts of climate change. As such, cities have started transitioning towards low emissions and resiliency to clean energy, buildings, transport, waste, and other critical factors (C40, 2019). Furthermore, the C40 highlights the need for cities to assess the success of climate change adaptations through monitoring and evaluating the plans.

According to the C40 report26 (2019), cities around the world, of which South Africa is a member, have committed to half the emissions by 2030 and reach zero emissions by 2050. As such, city mayors have become committed champions of the Paris Agreement (limit temperature to 1.5°C). In this context, local government has contributed to delivering innovative climate change projects, plans, and policies to fulfil the Paris Agreement's mandate and the United Nations Sustainable Development Goals. Thus, it is a condition that all member cities of the C40 network need to develop and implement climate change action through an integrated and inclusive plan that addresses emissions and adapts to the impacts of climate change and that delivers on green socioeconomic and environmental benefits for the community at large.

In line with the arguments above, the National Development Plan (2010), is quite emphatic on the impacts of climate change and the need for the nation to address the impacts so as to be able to transition to a climate change resilient and low carbon economy. These measures include among other things the need for a; coordinated planning and investment in infrastructure services that takes into account of climate change measures, implementing mitigation and adaptation strategies which are in line with national development strategies, the need for the National Treasury together with the Department of Environmental Affairs, Forestry and Fisheries and   the South African Local Government Association to develop and implement indicators for local government that will inform fiscal allocations and capacity building for climate change,   creation of policy and regulatory framework for land use management so as to determine the socio-environmental costs of new

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 The C40 membership network is a group of cities who earn their membership by addressing climate change impacts in their respective cities and cities such as Johannesburg, Cape Town and the Tshwane are part of the network group.

developments and for South Africa to reduce its carbon emissions so as to be in line with international standards through managing investment in local and regional renewable energy sources.

Country Case Studies: Climate Change Plans/ Mainstreaming

Recent scientific literature has shown a growing inclusion of climate change in local government development plans. Various countries worldwide have integrated climate change responses in their planning documents. Table 7.2 below summarises the findings of various country case studies on local climate change response. The results indicate that most municipalities are aware of climate change and its impact and develop climate change responses, but fail to integrate these with plans, implementation, funding, or even monitoring and evaluation of climate activities. In some instances, the failure to implement varies and includes difficulty in understanding the concept of climate change science, technical skills and capacity, and funding.

Table 7.2: Country Case Studies on Local Climate Change Responses

Country & Author	Findings
Australia;Baker et al., (2012)	An evaluation of local government climate change adaptation planning in Southeast Queensland, Australia found that local governments are aware of the potential impact of climate change but are not generating locally contextualized relevant adaptation plans. The study cautions against evolving climate adaptation planning for local governments without tackling the structural, procedural, and contextual barriers.
USA; Nordregn et al., (2016)	This study acknowledges that local governments are on the front line of efforts to address climate-related impacts. However, there is limited knowledge of the resources needed to address the consequences. The study's findings show that local practitioners conduct vulnerability assessments and develop adaptation plans but fail to implement, fund, monitor, and evaluate the activities. The study recommends that local officials streamline activities to effectively and efficiently access the resources required to build a resilient local economy. Nordgren et al. (2016), list five steps toward climate adaptation: 1) identifying and assessing vulnerabilities/ risks; 2) planning; 3) implementing strategies; 4) monitoring and evaluating; and 5) revising and sharing lessons learned.

In the USA, research was conducted on local government integration of climate change into their development plans. The study's results indicated that 60per cent of US respondents were within the adaptation cycle, with 24per cent just beginning to initiate their adaptation process, 27per cent in the vulnerability analysis or planning stages, and 9per cent in the implementation stage.

These results indicate that adaptation levels have started with communities initiating efforts to prepare for climate-related impacts. Nordgren et al. (2016) also list reasons to slow adaptation measures and actions as: difficulty in understanding climate science, lack of human and financial resources, and capacity. However, primary motivators for adaptation to succeed are political leadership, knowledge of projected future climate impacts, and community support for adaptation measures, while available funding is the most negligible factor. |
| Denmark, Damsø et al.,2015 | In Denmark, local climate action plans are widely adopted at the local government level, except for implementing the target set and sectoral coverage. They recommended the need for national and local practitioners to share a mutual approach to an integrated planning system and its benefits, especially for local government. |
| India, Malaysia andIndonesia; Gouldson et al., (2015) | The cities are faced with pressing priorities and limited resources and capacity. However, the fight against climate change to be effective requires low carbon measures,(such as building energy efficiency and renewable resources) as they have socio economic and environmental benefits. However, for these measures to work effectively, depend on governance conditions, with support from multilevel governance (international, national, regional, and local institutions), including coordination between the multiple-level governance on climate change integration on sectoral policies and priorities to collectively reduce the impacts of climate change. |

| China, Li & Song, (2015) | An overview of local and regional climate change plans (mitigation and adaptation) in China was assessed; in 16 cities, four autonomous regions, and 22 provinces; using a detailed evaluation framework/content analysis described by the International Council for Local Environmental based on five climate change plans/components: (fact base; vision, goals, and targets; policy actions and strategies; implementation strategies; monitoring and review). Findings of the study showed that: many of the plans are similar in content, without evidence of local innovation; most of the plans have a comprehensive awareness of climate change impacts, but fail to assess local vulnerability and mitigation/adaptation capabilities; sector-specific baseline inventories and forecasts are rarely present in either provincial or municipal plans; implementation strategies and follow-up monitoring/evaluation progress are lacking.

What has also been noted in the study was that the planning interventions cover a wide range of strategies, that include changes in the built environment (e.g. land use, transportation, buildings), natural environment (e.g. water, agriculture, carbon sinks), economic sector (e.g. industry) and people's behavior (e.g. lifestyle shifts). The study recommended the need for: detailed guidelines for developing subnational climate change plans with long-term, clarified, and standardised goals to improve the quality and consistency of provincial and municipal plans; both climate change mitigation and adaptation toolkits are needed as guidance for Chinese jurisdictions; due to varying socioeconomic and urbanisation stages of different jurisdictions in China, local jurisdictions require more innovative policies, strategies, and tools that reflect local geographic and socioeconomic realities to better mitigate and adapt to climate change. Mitigation and adaptation policies and actions should be integrated with concerns about the risks of maladaptation and identifying potential synergies. |
|---|---|
| Tanzania, Semdoe et al., (2015) | Dar es Salaam, Tanzania's largest city and former capital, comprises three municipalities (Ilala, Kindononi, and Temeke), with Dar es Salaam City Council as an overarching strategic local authority for the metropolis. In the Tanzanian context, climate change issues are addressed mainly at the national level, while coping with its impacts, such as flooding and drought, is left to local communities or individuals at the local government level. The city level is the central nexus for local climate change adaptation by being the point at which community-based adaptation options may be linked to the available financial resources. What was observed as a challenge in the case of cities like Dar es Salaam is that most of the existing plans mention climate change action/adpotion (CCA) and climate change mitigation (CCM) in passing without adequately mainstreaming the issues or specifying mechanisms for addressing them. Although various climate change sector-related policies address climate change mostly indirectly, policies and programmes for addressing current vulnerability and promoting CCA at the city level are limited. Similarly, mainstreaming of CCA concerns in development plans, strategies, programmes, projects, and routine activities has yet to be done. Assessment of local authority technical cadres' awareness of the existing legislation and policies was undertaken concerning selected policies and laws. |
| South Africa: Lethoko, (2016) | The study investigated the inclusion of climate change adaptation and mitigation strategies in IDPs in the seven vulnerable municipalities in the Limpopo Province of South Africa. Several challenges that these municipalities were experiencing in addressing climate change surfaced. Amongst such challenges are: the low local human capacity to undertake this kind of planning; limited knowledge and understanding of climate issues at the local level; limited financial resources, and competing resources, which often result in medium- to long-term planning being side-lined; projects that do not fit into the short political life of decision makers are not implemented. |

7.5.2. Budget Responsiveness to Climate Change

The World Bank Climate Change Action Pan of 2021-25 advocates for countries to integrate climate change strategies to transition to a resilient, inclusive development and green economy. To do that, finance ministers should incorporate climate change response strategies into financial reporting. Audit institutions are taking centre stage in assessing compliance of government priority programmes with climate-related objectives (Coalition of Finance Ministers for Climate Action, 2022). In line with the Coalition of Finance Ministers for Climate Action to accelerate climate change through bud budgeting, the United Nations Programme (2021) report on 'Budgeting For Climate Change' argues that the role

of Finance Ministries is critical in translating strategies into plans by integrating climate actions into budgeting planning.

Success to countries who had integrated climate change response into their budget process has been attributable to Finance Ministries being at forefront and playing a critical in ensuring that budgets responds and are align with climate actions (UNDP 2021, Coalition of Finance Ministers for climate Action 2022), including effective participation of executive leadership (cabinet) in ensuring through its oversight role that budgets are reflective of climate change response. Climate integration into budget process requires among other things, climate budget information in budget circulars, climate change response on existing expenditures, climate change funding sources. (UNDP, 2021).

The World Bank (2014) report on 'Moving towards climate budgeting' support the arguments above that development strategies in climate action are likely failed to translate into effective plans if ministries of finance are not playing an active role in integrating climate change response into medium to long term budget planning which occurred in countries such as Ethiopia, Rwanda, Vietnam and Cambodia. The World Bank (2014) proposes three financial and expenditure management areas that the ministries of finance should focus on in order to be able to address fiscal implications of climate change.

These are (i). inclusion of climate change as a long-term national budget and expenditure framework so as to allow climate expenditure planning and adjustment in resource allocations over a period of time to the implementing agencies. (ii). Improving financial tracking and performance accountability by spending Agencies, this can be done through mandating implementing agencies to develop and document climate actions and plans while also reporting on climate related investments and expenditures. (iii). Increased capability of government financial management systems on effective use of external climate finance sources, whereby finance ministries need to have a consistent financial reporting (included in budgets and financial reporting) so that externally funded climate expenditures are captured.

Thus, countries worldwide have also developed and applied green budgeting tools. Green budgeting uses budgetary policymaking tools to achieve green objectives, that is, the climate and environmental goals (OECD, 2021). Green budgeting is not new. Instead, it builds on the already existing public finance management framework of respective countries where climate and environmental goals are integrated. It does not change the country's existing policies and public finance management. Instead, it allows policymakers to feature green or climate change dimensions into the existing policies and

budget decisions through the budget cycle (Gonguet et al., 2021), in line with the Paris collaborative on green budgeting (PCGB). The PCGB developed practical tools and guidelines on how governments can integrate climate change and environmental goals within the budgetary framework (OECD, 2021). Four building blocks underpin green budgeting; see figure 7.2 below: (i) effective strategic framework, (ii). evidence generation and policy coherence, (iii). reporting to foster accountability and transparency, as well as (iv). enabling budgetary framework (OECD 2021; Gonguet et al., 2021).

According to Gorelick et al., (2022), city budgets can play a significant role in delivering climate change action response by integrating adaption and resilience into the city's budget, boosting GDP through the reduction of depreciation of assets, while mitigation measures result in cost savings (through increased energy efficiency and stimulation of green financial services). Thus, green budgeting is a strategically helpful tool in delivering climate action response at a municipal level. This can be done by: identifying priority sectors and projects for municipal climate action, such as access to clean water and resilient housing; integrating climate targets into long-term green investment plans and budgets in transport, building construction and retrofits, and renewable energy; implementation of green public procurement (at all stages of procurement of municipal goods and services) to foster sustainability and innovation in various sectors of the economy (transport and construction sectors); green budgets allow opportunities for green financial instruments (such as incentives or taxes for household renewable energy installations or building retrofits).

Figure 7.2: Green Budgeting Building Blocks
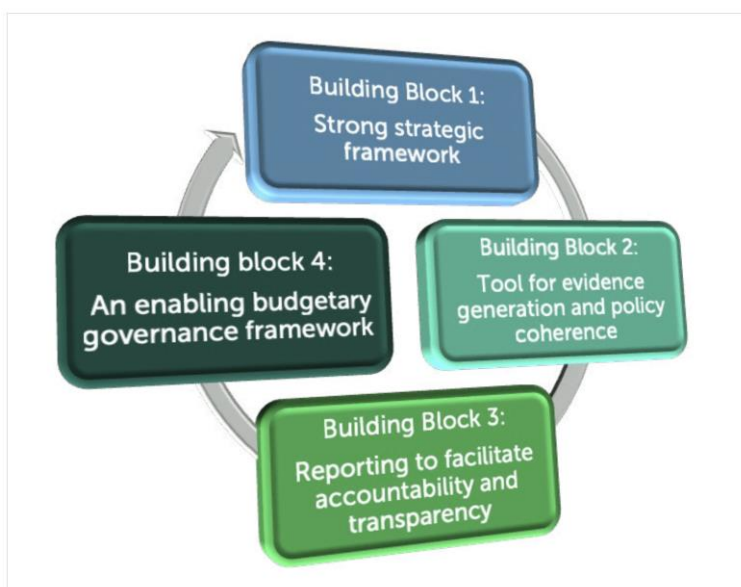
Source (OECD, 2021; Gonguert et. Al., 2021).

Goel (2017), argues that climate change-responsive budgeting is in line with the 2015 Paris Agreement, which underscores the management of climate change finance through transparency and accountability measures using budget policy documents. Climate change budgeting statements obligate public finances to implement climate change responses (reduce the impacts through mitigation and adapt by improving resilience measures through the various programmes). Various countries have started endorsing climate change/responsive budgeting by introducing accounting systems or budget tagging within their systems; see Table 7.3 below.

Table 7.3: Country Case Studies on Climate Change Responsive Budgeting (CCRB)

India

India ratified the Paris Agreement on climate change in 2015, with the implementation period starting in 2020, by integrating climate change into budgeting. Both the international agreements emphasised greater transparency and accountability of the national government for financing climate change interventions. There were some shortcomings in implementing the climate change responsive budgeting in India. A lack of monitoring and reporting made the CCRB redundant, and lack of coordination by the Ministry of Finance influenced expenditure patterns.

Nepal

In 2012, Nepal incorporated the climate tag into the budget system at the programme level, classifying expenditures by the level of climate relevance.

Bangladesh

The Government of Bangladesh adopted a Climate Fiscal Framework (CFF) in 2014, which proposes a climate expenditure tracking framework (CETF) to be applied to all line ministries' budget submissions and tag on budget.

Indonesia

Indonesia implemented a climate public expenditures review (CPER) in 2014 and a climate budget tagging (CBT) in Central Java, Yogyakarta, and Jambi Provinces. These tools enabled uniformity of budget items within, and between, cities and for the state to prioritise fiscal transfers.

Source: Gorelick et al., 2022; Goel 2017

In support of the above arguments, the C40 report (2020), states that climate budget has been used by countries across the globe to be able to achieve the Paris Agreement. Where a climate budget has been defined as a governance tool to reduce emissions and other climate targets. Climate budget strength is through directly integrating the budget into the municipal budget and in turn the process becomes the same as other budget processes of the municipality.

The C40 report proposed four steps to the climate budget process: (i) The climate budget process should be owned by a financial officer with a working group of finance and climate environment representatives, demarcation of municipal geographical area with climate targets set, and integration of climate budget into the financial budget process of the municipality. (ii) Draw climate change measures and calculate their effects such as mapping the emission's biggest sectors and their source, setting emission targets, calculate measures proposed, develop indicators, and aggregate impacts of

the climate budget and analysing. (iii) Prepare a climate budget (presentation of the municipality's climate targets), that is, historical emissions, situational analysis of climate measures, baseline, estimated emissions reductions, existing and proposed climate measures, and the description of financing and responsibility for implementing climate measures. (iv) Report and follow up on climate change measures, that is, are measures being implemented as planned? Is there a change? And evaluate the climate budget using information reported on, which needs to form the basis for preparing for next year's climate budget.

In the South African context, the National Treasury report on Financing a Sustainable Economy on Environment (2021) highlighted the need for the mobilisation of resources with a clear financing framework to realise the 2015 Paris Agreement and South Africa's National Determined Contribution (NDC) of limiting rising temperatures to 1.5°C. In this context, the 2021 climate budget tagging was introduced in the technical guidelines of the 2021 MTEF.

Climate change budget tagging is about integrating climate change into the budget process to understand and improve resource allocation efficiency and is a necessary step toward meeting South Africa's long-term climate change goals. The National Treasury has undertaken an exercise of tagging climate-related expenditure to identify, classify, weigh, and codify ("mark or tag") climate-related expenditure in the government budget system to enable the estimation, monitoring, and tracking of that expenditure. Tagging climate-related expenditure lines is a valuable starting point for understanding whether spending is aligned with needs, given climate risks and vulnerabilities facing the different sectors and parts of society.

At the local government level, the Local Government Climate Change Support Programme (2019) report states that while climate change funding can be complex, as an entry point funding should be sourced within the existing funding sources (intergovernmental grants, rates and taxes) as well as procurement policies before external funding can be solicited. Appendix 1 lists the type of financing mechanisms and practical examples that municipalities can use within their existing funding sources.

7.6   Results

This section reviews the IDPs of municipalities with respect to mainstreaming climate change in their planning and policy documents. Furthermore, a budget analysis tool assesses whether municipal budgets are responsive to climate change/climate sensitivity. In conducting the analysis, a brief overview of the characteristics of the Municipality selected for the study was reviewed. The results highlight the varying features of these municipalities (from metros, secondary cities, and large towns to small rural towns) regarding their socioeconomic and environmental circumstances. It includes municipalities directly affected by the various disaster risks (droughts, floods, fires) over the years and those that have not been directly affected regarding how they address climate change impacts in their respective municipalities. The last section on the IDP analysis details a case study (by province) analysis of the findings of each municipality's response to climate change.

7.6.1   Climate Change Integration: IDP Analysis

As noted in the methodology section, the IDPs of a sample of municipalities were examined by three independent researchers for their responsiveness to climate change imperatives. Each researcher graded each of the five components of the IDPs, i.e. situational analysis, vision and objectives, actions, implementation, and prioritisation, for any articulation that indicates climate change is taken seriously in each Municipality.

The results are shown in Table 7.4 below and suggest that the treatment of climate change varies by province, municipality size, and whether urban or rural. The City of Cape Town, City of Tshwane, Buffalo City and the Ethekwini City (the metros) with total scores of 15 and 14, perform well relative to other municipalities (see Figure 7.3). Other urban municipalities scoring relatively better included King Sabata Dalindyebo, RandWest and KwaDukuza. Saldanha Bay scored very low despite being a large town. On the lower extreme is Matzikama, one of the small towns/municipalities. Other rural municipalities scoring very low on climate responsiveness are Nyandeni and Umzimvubu. On average, municipalities in KZN and Gauteng scored fairly well, followed by Eastern and Western Cape.

Table 7.4: IDP municipal scoring

Municipality	Situational Analysis	Vision and Objectives	Actions	Implementation	Prioritisation
City of Cape Town	3	3	3	3	3
Matzikama	1	1	1	0	0
Saldanha Bay	2	1	1	1	1
Laingsburg	3	3	3	2	2
Buffalo City	3	3	3	2	3
Nyandeni	2	2	2	2	2
King Sabata Dalindyebo	3	3	3	2	2
Umzimvubu	3	2	2	2	2
City of Tshwane	3	3	3	2	3
Midvaal	3	2	3	2	2
RandWest City	3	3	2	3	2
Ethekwini City	3	3	3	2	3
Msunduzi	3	3	3	2	2
Mthonjaneni	3	3	3	2	3
KwaDukuza	3	3	3	2	3

Figure 7.3: Total scoring on climate change responsiveness
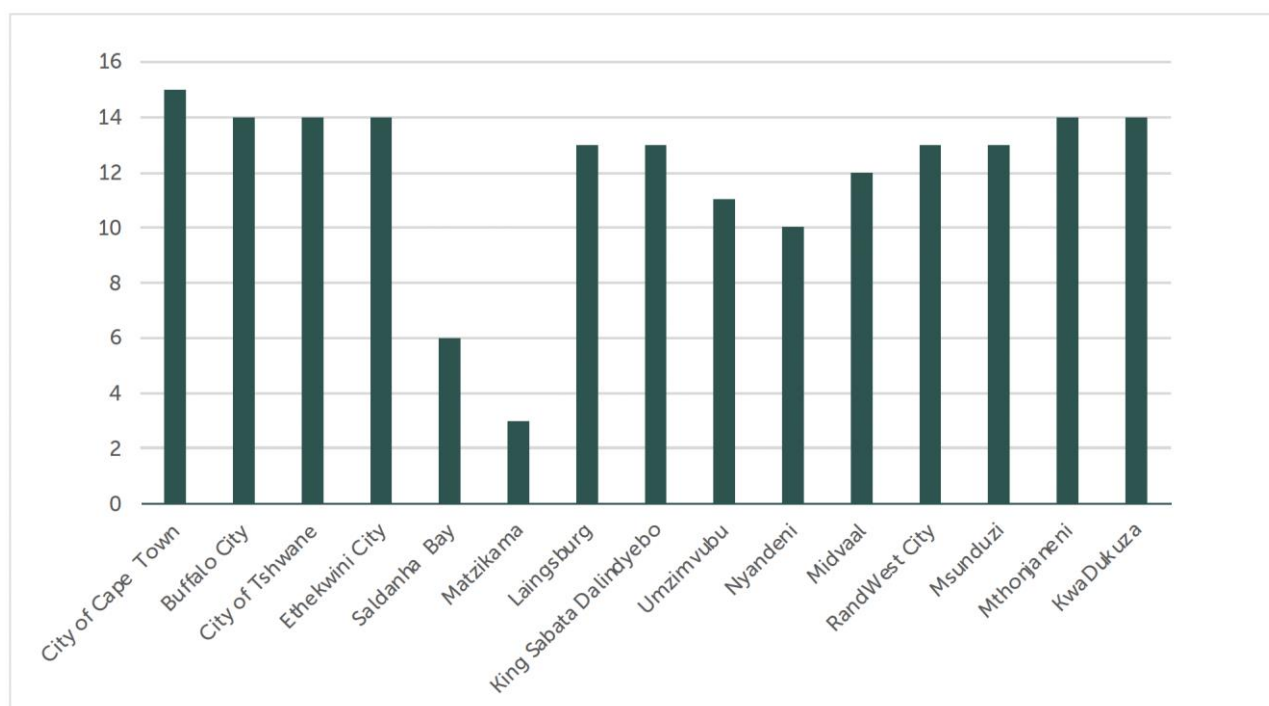
Figure 7.4 below shows the scores by the IDP components and each municipality, respectively. It is clear from Figure 7.4 that most municipalities, except Matzikama as well as Saldanha Bay, articulate climate change in their situational analysis well. The question is whether municipalities translate what they articulate in the situational analysis into actionable and implementable plans or prioritise the climate change action points. Figure 7.4 also shows that most municipalities have significant gaps in

actions, implementation, and prioritisation on climate change response. These municipalities understand that climate change is an issue but translating that understanding into actionable and implementable strategies is inadequate.

Figure 7.4: Municipal climate change response scores: IDP components
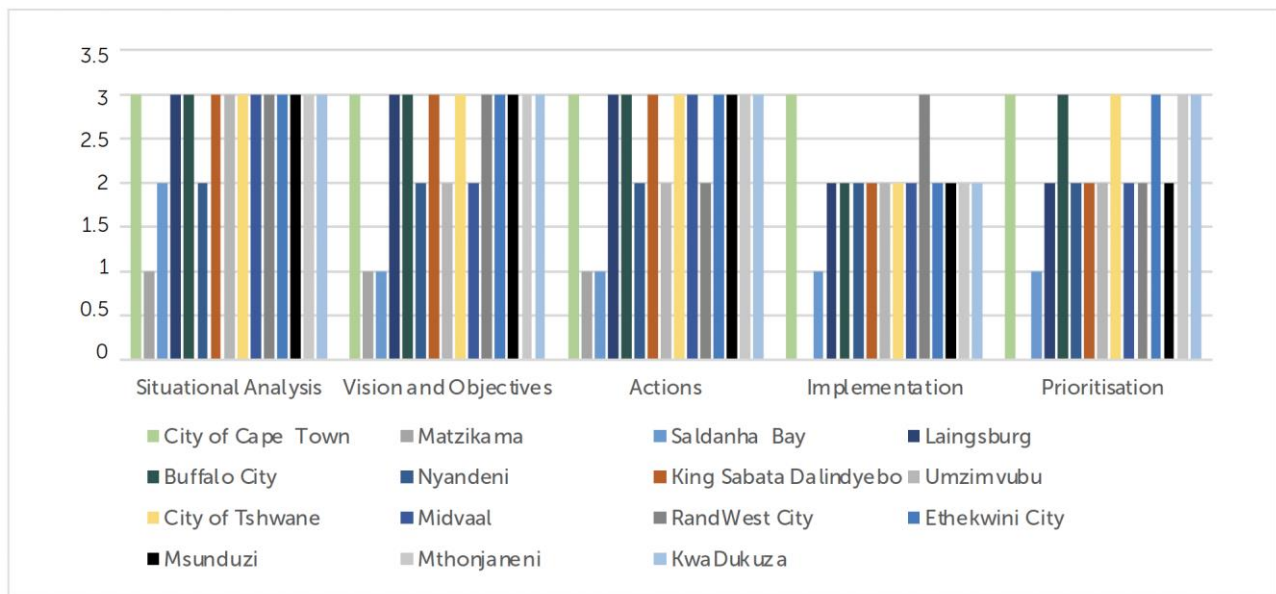
Figure 7.5 shows IDPs scores on climate change in the respective municipalities selected for analysis. Municipalities regarded as small and rural (such as Matzikama, Saldanha Bay, and Nyandeni) scored very low on the municipal components listed (vision and objectives, actions, implementation, and prioritisation on climate change response). Some of the reasons are that these municipalities do not see climate change as a priority; have not developed climate change plans; they rely on the metros/secondary city to conduct assessments on their behalf; do not see climate change response strategies as their responsibility.

In the case of the metros, secondary cities, and large towns, results demonstrated in their status quo analysis, vision, and actions indicate that these municipalities are aware of climate change measures and have strategies for climate resilience. However, on implementation and priorities, there are glaring gaps in implementing the strategy set or in making climate change a priority. Some of the reasons for this are attributable to lack of skills, plans that need to be approved by the council, follow-up measures/ evaluation of existing plans, as well as dedicated units responsible for climate change.

Figure 7.5: Municipal Climate Change: IDP Scores by Municipality
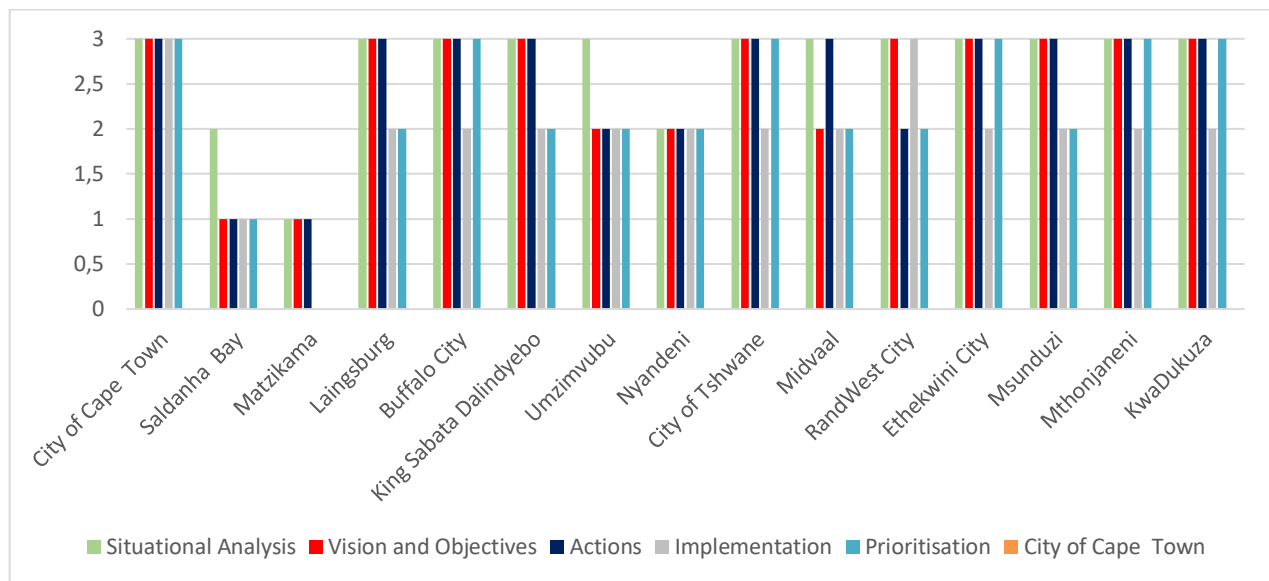
7.6.2. Case study analysis: IDP analysis

Table 7.5 shows a detailed IDP analysis of the municipalities selected in each province. In summary, the case study results indicate varied climate change responses by municipalities. That is, small and rural municipalities lack implementation and prioritisation due to municipalities referring to climate change response as the function of the district municipalities and in some instances these municipalities do not have plans and strategies in place, among other reasons. While for secondary and large cities, the lack of implementation and prioritisation is attributable to these plans waiting for council approval, whilst there is lack of capacity in implementation. Generally, municipal response to climate change by these municipalities has been reactionary, however due to disaster risks that have occurred recently, municipalities have started to plan for climate change measures.

Table 7.5: IDP analysis of municipalities

Western Cape: Municipalities	Municipal IDP Score
City of Cape Town	The City of Cape Town scored well across all IDP components. This suggests that its IDP articulates climate change issues relatively well regarding mitigation and adaptation. IDP shows that the City has conducted climate change and risk assessment, determining the adaptation measures across the various sectors. The City's adaptation plans include urban cooling and heat responsiveness, water security and drought readiness, water sensitivity, flood readiness, storm management, coastal management, and resilience, as well as managing fire risk and responsiveness. Likewise, with the mitigation strategies, the City details its plans that include zero-emission buildings and precincts, carbon-neutral energy for work creation and economic development, mobility for quality of life and livelihoods, and circular for the waste sector. In terms of actions and strategies, the City of Cape Town has put in place an action plan and taken proactive measures to protect people from the effects of climate change. To supplement and diversify the water supply, the City of Cape Town developed a Critical Water Shortages Disaster Plan (which includes extensive demand management measures) and a New Water Programme in response to unusually low rainfall in 2015, 2016, and 2017.
Matzikama	The Matzikama Local municipality IDPs speak of the water services development plan. However, no mitigation and adaptation strategies talk about climate change responsiveness. Currently, the Municipality has no concrete strategy Matzikama Local Municipality has been requested to draft a climate change response plan by the provincial department. As such, the Municipal Infrastructure Support Agent (MISA) will assist Matzikama in developing a Climate Change Response Plan to address climate change resilience and integrate the principles in its documents. Measures and action has been implemented towards the water priority, various boreholes have already been sunk in the Matzikama municipal area with various degrees of quality. These boreholes are strategically located to maximize the potential thereof together with the existing and upgrading of water infrastructure. However climate change as a whole does not feature in yet within the priority list of actionable items.
Saldanha bay	The Saldanha bay municipality conducts risk assessments in the area, with the risk of fires identified. Further, it is stated by the Municipality that climate change should be a priority – risk reduction response. Saldanha bay has fewer efforts toward climate responsiveness and lacks strategic policy, adaptation, and mitigation strategies to respond to the threat of climate change. Saldanha Bay is reliant on the West Coast District's climate change policy. Saldanha Bay does not have a climate change policy, but they actively engage in climate mitigation strategies such as air quality forums and the partial biodiversity plan.
In its 'situational analysis,' the Municipality demonstrates its awareness of climate change issues and the adaptation and mitigation measures needed. The Saldanha bay municipality conducted a risk assessment in the area, and the risk of Veld fires, Structural Fires, Major Hazardous Installations (MHI's), and social conflicts were identified. However, looking at the IDP (2022), there is little that speaks to climate responsiveness. In its vision and objectives, the municipality strives to encourage climate-friendly practices by local businesses and residents.
Laingsburg	The Laingsburg municipality recognizes climate change. Further, the details of how the Municipality plans to respond to the effects of climate change are incorporated in the Disaster Management Plan (2021), as climate change is considered a disaster. Laingsburg Municipality collaborates with the Central Karoo District Municipality and takes an active role in risk reduction to serve the communities and damage to property, the environment, and infrastructure. Hazards, Risk Identification, Risk Assessment, Risk Reduction, Mitigation Measures, Risk Response, and Recovery are their Disaster Management focal points. Laingsburg LM IDP (2022-2027) recognizes climate change in its situational analysis. However, the details of how the municipality plans to respond to the effects of climate change are incorporated in the Disaster Management Plan (2021) because climate change is considered a disaster. In terms of "action and implementation," a collaboration between the national departments, Central Karoo District Municipality, and Laingsburg Municipality has been established, and an active role in risk reduction to serve the community through Risk Identification, Risk Assessment, Risk Reduction, Mitigation Measures, Risk Response, and Recovery are implemented for disaster management. Municipal disaster management prioritises climate change-related issues, such as a sustainable environment clearly stated.

Eastern Cape: Municipality	Municipal IDP Score
Buffalo City	The city, in its situational analysis, highlights the need to promote an environmentally sustainable city. The city's strategic objectives and vision state the need for green city with focus on environmental management and climate change. Due to climate change impacts, the city developed Climate Change Strategy in 2015, which is due for review .In terms of actions and implementation, climate change mitigation and adaptation measures were developed such as mapping of Coastal Vulnerable areas in 2019 and Climate Risk and Vulnerability Assessment in 2021.It is stated that the development of these measures is to be able to determine the developments for infrastructure while ensuring that climate change is mainstreamed within the city's budget and planning. There is also the Environmental Education and Awareness Strategy which is awaiting Council approval. In terms of disaster management, it is stated that it is not conducted in an integrated and coordinated multisectoral manner. Among other reasons; lack of understanding in funding disaster management activities, insufficient budget and capacity, lack of stakeholder engagement which affects sitting of the environment and climate change committee as well as the implementation of the environmental programmes envisaged in the city. The city's priority and options are stated as to integrate and strengthen environmental management and climate change programmes within the city.
King Sabata Dalindyebo	KSD municipal scorecard demonstrated that the Municipality (i.e.in, its 'situational analysis') is aware of climate change and the mitigation and adaptation measures. These include the Spatial Development Framework plans, an Environmental Management Unit plan established to realise and effect environmental management goals in the Municipality; Integrated Environmental Management Plans; Environmental Awareness Programmes on Climate Change, Draft Energy Efficiency, and Climate Change strategy waiting for approval by the council.

The KSD municipality stated that Air quality management is a function of the district municipality (O.R. Tambo), 'as this is their responsibility. On the 'vision and objectives' components, the Municipality envisages a sustainable clean environment, while on 'actions and implementation of the Municipality enhances climate change resilience through, among others, the Disaster Management Plan with key performance indicators indicated in the planning. Lastly, 'options and priorities' prioritisation of climate change-related issues, such as sustainable environment, are clearly stated. |
| Nyandeni | In its 'situational analysis,' the Municipality demonstrates its awareness of climate change issues and the adaptation and mitigation measures needed. That is, the Municipality indicates that it is characterised by high temperatures/ rainfall /subtropical climate and the need to have climate change measures in place due to its geographical location. Thus, the Municipality further states the need to develop climate change response measures, develop Disaster Risk Reduction in the Agricultural sector, establish Disaster Management Services by the Municipality with the support of O.R. Tambo municipality, Vulnerability Assessment in the Municipality conducted by the O.R Tambo district.

Nyandeni municipality's vision and objectives state the need for a well-protected environment, although they do not directly indicate detailed climate mitigation and adaptation measures. In terms of 'actions and implementation,' there are strategies in place through the economic and environmental cluster, such as disaster risk management. The Municipality on 'options and priorities' does prioritise environmental issues, although not directly specifying them as climate change mitigation and adaptation strategies. |
| Umzimvubu | The municipality status quo analysis does indicate climate change (drought, fire, floods, hail, and storms, among others) effects as the Municipality is susceptible to and even mentions it in its SWOT analysis. Although not directly articulating on climate change response, the Municipality's vision and objectives state the need to develop and promote an integrated sustainable environment. In terms of actions and strategies of the Municipality, it indicates the need for municipal planning documents (SDF, sector plans, infrastructure plans, and IDP), which should include a measure that should directly mitigate the climate change impacts. However, it is unclear whether the Municipality has developed those plans, except for the Alfred Nzo District Climate Change Response Strategy (transition to low carbon economy, building climate change, and support for the green economy). Regarding the actions and implementation measures towards climate change, the Municipality mentions that its SDF should focus on, among others; the Disaster Vulnerability in the area; the development of Storm Water Manage; plan; the Municipality has a disaster management plan and cooperation with the district in providing for this service. In terms of 'options and priority, 'a clean environment' is prioritised by the Municipality, although not explicitly stated as climate change. |

Gauteng: Municipality	Municipal IDP Score
City of Tshwane	The City of Tshwane, in its status quo analysis, mentions disaster risks posed by climate change (heat stress, flooding risks, fire, drought, and deterioration of water quality), and the City indicated the need for mitigation and adaptation measures to respond to these climate impacts (such as the need to have green in. The 'vision and objectives' indicated that the City envisages a clean and sustainable environment (the City can expand on this/ include/state climate change measures). The 'actions and implementation' to enhance climate change measures in the City include renewal in conducting a Comprehensive Risk and Vulnerability Assessment to provide a quantified municipal indicative risk profile of the City for its Municipal Disaster Management Plans, including standardising templates to assist municipalities in the City in identifying development and related operational projects that align with disaster risk reduction measures and associated projects (green infrastructure building integrated into infrastructure planning) to mitigate the effects of climate change and the monitoring and evaluation of those projects. In terms of 'options and priorities,' the City prioritises environmental management programmes (Improving its Disaster Management plans, developing early warning systems, an m prove on, its risk and vuln ability assessments) and, as a commitment, is a member of C40 Cities Climate Leadership Group (C40). The C40 organisation supports cities and their mayors to collaborate effectively, share knowledge and drive meaningful, measurable, and sustainable action on climate change. In doing so, the City is complying with specific planning and reporting requirements set out by developing a climate change response strategy to respond to the findings of its annual Greenhouse Gas (GHG) Emissions Inventory ('carbon footprint') and its Climate Change Vulnerability Assessment.
Midvaal	The Municipality is aware of the environmental impacts of climate change and the need to address these challenges. The Municipality is also faced with and is enforcing compliance regarding pollution, biodiversity, and landscape. Regarding the 'vision and objectives,' the Municipality indicates the need for a sustainable environment (not climate change per se). For 'actions and implementation,' the Municipality has identified and seen the need to adopt a Climate Change Response Plan in line with the Draft Sedibeng Climate Change Response Plan and the Gauteng Climate Change Strategic Action Plan. Not only that, in its efforts to mitigate the effects of climate change, the Municipality is in the process of developing an Integrated Waste Management Plan (IWMP), and the Municipality has adopted a Five-Year Water Demand Management & Water Conservation Plan. The Municipality has approved a Draft Green Buildings policy and Implementation plan that aims to provide guidelines on energy-efficient buildings and the benefits thereof. On 'options and priorities' Municipality indicate the need for a sustainable environment (but does not categorically state climate change measures as the core).
RandWest City	Its status quo analysis is aware of climate change effects (pollution), and it is stated in its SWOT analysis. Acknowledge the need to build resilient communities to avoid and reduce the impact of climate change and disasters. The 'vision and objectives' indicate the Municipality's environmental challenges and the need for environmental management and education to take center stage. One of the strategic goals/actions of the Municipality includes the need to promote an inclusive green economy. However, locating the Public Safety Department, 'the actions of the Municipality do indicate a lack of Climate Change Mitigation Strategy, including the lack of Disaster Management Plan, and the Municipality is developing it. In terms of 'actions and implementation,' the Municipality is in the process of adopting the West Rand District Municipality Climate Change Vulnerability Assessment and Climate Change Response Plan. The Municipality has also prioritized the advertising and filling of the post of an Environmental Officer responsible for Air Quality and Climate change. The Municipality has identified the need to capacitate the Environmental management unit to ensure the development of Environmental Strategies, policies, and bylaws, to govern development activities within the Rand West City Local Municipality, and to enforce bylaws in cases of non-compliance. On 'options and priorities, the Municipality has key priorities programmes such as improvement and maintenance of drainage systems, air and water, and pollution.

KZN Municipality	Municipal IDP Score
Ethekwini	The Ethekwini City states in its status quo- that climate change is a challenge in the area as it impacts on the community at large ,especially the vulnerable, and as such sustainable environmental measures should be integrated into all programmes and projects. The vision and objectives of the city do allude to a city that is climate change responsive and sustainable. In addressing climate change impacts in line with national and international agreement on 'actions and implementation; the Ethekwini metro is part of the C40 network where climate change assessment have been conducted; there is also the Municipal Climate Protection Programme which assist municipality in adapting to and mitigating climate change including mainstreaming climate change into programmes and projects of the municipality. There is also the Durban Climate Change Strategy which outlines how the city should integrate climate change mitigation and adaptation strategies into functions and operations of the city. The City further acknowledges that climate functions is within the Environmental Planning and Climate Protection Department as it has been traditionally regarded as an 'environmental issue'- hence fragmented approach makes it difficult to drive implementation across the city in order to achieve integrated planning. However, there is a growing recognition in the city that climate change is also a social and economic issue that cuts across the various departments in the City. Further the city does prioritise various climate change projects such as Renewable Energy Roadmap Strategy, the C40 New Buildings Energy Programme and the development of the City's Transformative River Management Programme. Also, in implementing these programmes there are challenges such as; inability of climate change in influencing strategic planning, development and implementation, limited integration of departmental climate change plans and actions as well limited resources and capacity to implement; inadequate monitoring and tracking systems on progress on mitigation and adaptation actions; climate change across various sectors is not performance linked; lack of climate change knowledge delays the effective implementation; due to limited resources, climate change in the city competes with other service delivery interests. The vision and objectives for the city highlight the need for the city to be climate change ,smart given the climate change impacts in the city.
Msunduzi	In terms of situational analysis, the municipality is aware of climate change impacts and the need to have sustainable measures in place. In responding to climate change impacts, the municipality has developed and adopted a Climate Change Response Strategy, Climate Change Policy as well as mitigation and adaptation strategy. The municipality's vision and objectives states the need to adapt and respond to climate change. In terms of actions and implementation, the municipality has conducted a Climate Risk Vulnerability Assessment with the aim of identifying hazards in the area, with document in its final stages for council approval, there are also programmes on Environmental Education and Awareness in the community. Further, the municipalities has a Disaster risk planning for disaster management in place with focus on disaster reduction rather than the status quo of disaster response. Despite these efforts, municipalities reported the limited knowledge on climate change impacts, lack of enforcement of environmental laws, limited funding, and lack of cooperation and skills. On options and priorities, the municipality envisages a municipality functions efficiently in terms of delivering on its socioeconomic and environmental services.
Mthonjaneni	The municipality acknowledges the negative impacts of climate change and that it is a threat to humans and the natural environment. Vision and Objective of the municipality include creating a secure environment and service delivery to the community Actions and Implementation of the municipality state that since climate change is a threat to the environment, measures should be in place to reduce mitigation, with adaptation being a vital response. The municipality acknowledges the hazards (floods and fires) in the area with disaster risk reduction methods that need to be in place and explicit on ex-ante approaches to be used. However, in terms of implementation, challenges exist; such as staff shortages, limited budget in the unit, and poor attendance of sector departments at local disaster advisory forums. In terms of 'options and priority', the municipality has prioritised the development of a climate change response plan resulting in the identification of climate change vulnerability indicators, including disaster risk reduction measures. Climate change projects at the municipality include research on climate-proofing bridges and roads, the establishment of a Disaster Management Center and enhance maintenance on stormwater drainage systems.
KwaDukuza	In the situational analysis, the municipality is aware of climate change and its associated impacts and the need to have sustainable measures in place to address the negative impacts. The vision and objectives of the municipality indicate the a vibrant city that has inclusive growth, that adapts and responds to climate change and promoting environmental sustainability. On actions and implementations, the KwaDukuza municipality developed and adopted Climate Change Strategy in 2013, which incorporates adaptation and mitigation measures. Further, in the climate development Project (CDP), the municipality reports on its climate change impacts and progress, whereas in 2020, the CDP reported highlighted its understanding of climate change and has collected data on climate change impacts and risks. The Environmental management unit in the municipality strives to raise environmental awareness to its community as well as other functional areas/ units at the municipal level. There is also the Disaster Management unit which needs to ensure effective disaster management takes effect. Despite these efforts, there are challenges; poor enforcement of environmental laws and limited knowledge to climate change impacts, . In terms of implementation, it is stated what is in the pipeline such as implementation of approved green building guidelines and Low Carbon Emission strategy as well mainstreaming of climate change projects by all municipal business units. On options and prioritise, the municipality states its focus on environmental sustainability, where issues of climate change and reporting forms part of its delivery agreements.

7.6.3. Budget Analysis

The municipalities' budgets were reviewed as part of the case study. This was done by taking total expenditure of the municipality's programmes versus the expenditure on 'Environmental Protection Programme'. Table 7.6 illustrates the expenditure of each municipality for environmental protection, against the overall expenditure on municipal programmes. It is evident from the table that several of these municipalities do not set aside any funding for this purpose, and those that set aside, it is an insignificant amount compared to their total expenditure. The various municipalities' budgets that form part of the study allocated less than 1 per cent of these budgets for environmental protection.

Table 7.6: Total Municipal Expenditure as a per cent of Municipal Environmental Protection Expenditure

Municipalities	Expenditure By Functional Allocation	2019/2020	2020/21	2021/22
		R'000	R'000	R'000
City of Cape Town	Environmental Protection	188317	243088	239495
	Total expenditure	40118985	44525829	48446971
	Percentage	0,47%	0,55%	0,49%
Saldahna Bay	Environmental Protection	3502	4264	4396
	Total expenditure	1087726	1224284	1277131
	Percentage	0,32%	0,35%	0,34%
Ethekwini	Environmental Protection	255435	269652	286071
	Total expenditure	40664331	40121896	43420119
	Percentage	0,63%	0,67%	0,66%
Kwadukuza	Environmental Protection	n/a	n/a	n/a
	Total expenditure			
	Percentage			
Laingsburg	Environmental Protection	n/a	n/a	n/a
	Total expenditure			
	Percentage			
King Sabata Dalindyebo	Environmental Protection	4462	4806	3575
	Total expenditure	1363609	1466007	1425065
	Percentage	0,33%	0,33%	0,25%
Nyandeni	Environmental Protection	n/a	n/a	n/a
	Total expenditure			
	Percentage			
Midvaal	Environmental Protection	3256	4141	4424
	Total expenditure	1147283	1311848	1419374
	Percentage	0,28%	0,32%	0,31%
Msunduzi	Environmental Protection	20433	24865	25875
	Total expenditure	5566649	5673151	6424262
	Percentage	0,37%	0,44%	0,40%
Rand West City	Environmental Protection	29860	n/a	n/a
	Total expenditure	2173666		
	Percentage	1,37%		

Mthonjaneni	Environmental Protection	n/a	n/a	n/a
	Total expenditure			
	Percentage			
Matzikama	Environmental Protection	n/a	n/a	n/a
	Total expenditure			
	Percentage			
Buffalo City	Environmental Protection	27218	30110	n/a
	Total expenditure	7 725 037	7751280	8231745
	Percentage	0,35%	0,39%	
City of Tshwane	Environmental Protection	205775	242 984	205 123
	Total expenditure	37 454 040	37 461 146	39 140 052
	Percentage	0,55%	0,65%	0,52%
Umzimvubu	Environmental Protection	n/a	n/a	n/a
	Total expenditure			
	Percentage			

Repairs and maintenance

According to National Treasury (2021), circular 71, municipalities are advised to spend at least 8 per cent on repairs and maintenance infrastructure. Figure 7.6 below shows the repairs and maintenance ratio for the respective municipalities. Figure 7.6, further shows that the municipalities are spending significantly less than the required 8 per cent on infrastructure repairs and maintenance, with the exception of the King Sabata Dalindyebo municipality, that spent 9 per cent in 2017/18. All other municipalities have ratios below the 8 per cent norm, indicating that municipalities are underspending on repairs and maintenance.

Figure 7.6: Repairs & Maintenance
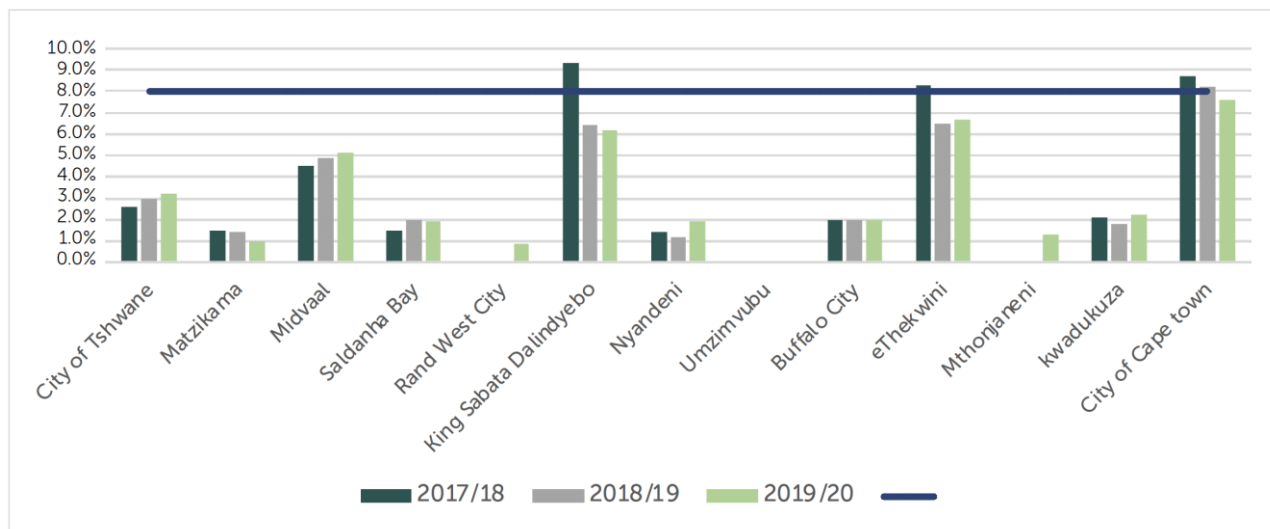
Source: own compilation based on National treasury (2021)

Delayed maintenance can result in infrastructure breakdowns, service disruptions, substandard services, and service delivery failure. According to the FFC (2013), South African municipalities lose about 30 per cent of water annually, and the burden of climate change can exacerbate this. As such, and as part of climate change adaptation and mitigation and to proactively deal with the consequences of climate change, it is important that mechanisms and adequate budgets need to be put in place to minimise incidences of poor maintenance, especially for water-related infrastructure (FFC, 2013).

Routine maintenance assists in preserving the useful life of infrastructure. The rising backlog in the maintenance needed to keep infrastructure operational has resulted in the dilapidation of infrastructure assets in many municipalities, that has led to significant municipal electricity and water distribution losses (National Treasury, 2021). Thus, proper maintenance of infrastructure does play a significant role in addressing climate change impacts. According to the United Nations Office for Project Services (UNOPS) (2021) report on 'infrastructure for climate action' infrastructure is responsible for 79 per cent of total greenhousegas emissions and 88 per cent of adaptation costs. Yet infrastructure provides developmental benefits through the services it provides such as water and energy to communities, transport services as well as management of waste services. Thus in order to accelerate sustainable climate actions on existing infrastructure, the UN Environment (2022) report calls for the need to take stock of the existing infrastructure performance across various sectors of the economy (energy, waste and sanitation, buildings, transport) and incorporate climate resilient/infrastructure through among others renewable energy, treat wastewater for reuse and energy).

7.7   Conclusion

South Africa has made various international and national commitments with respect to climate change. As such, various legislation, policies, and institutional frameworks have been put in place. However, translating various climate change initiatives and targets remain very weak for a variety of reasons. The literature and case study analysis indicate that municipalities are aware of climate change and its impacts and need to develop climate change responses, but fail to integrate these within their plans, as well as to implement, fund, or even monitor and evaluate climate activities.

In some instances, the failure to implement varies and includes difficulty in understanding the concept of climate change science, technical skills and capacity, and funding. A case in point in the case study analysis on the IDP scores indicates glaring gaps in actioning, implementing and prioritising climate change response by municipalities. Some of the reasons for this are a lack of skills, plans that need to be approved by the council, follow-up measures/ evaluation of existing plans, and dedicated units responsible for climate change. Also, what was found was that municipal response to climate change by these municipalities have been reactionary, while there is general lack of coordination on climate change actions and measures. Budget analysis was reviewed to assess whether municipalities budget for climate change responses. The results of the budget analysis reviewed showed that those municipalities that have a budget on climate change response do set aside a budget for climate action responses; however, the budget is an insignificant amount (1 per cent) compared to the total overall expenditure budget of the municipalities. Likewise, with repairs and maintenance on infrastructure, it was found that municipalities spent less than 8 per cent required amount. Yet, the literature points out that proper infrastructure maintenance plays a significant role in addressing climate change impacts by investing in climate-resilient infrastructure in sectors such as energy-renewable energy and water-wastewater treatment for reuse.

7.8   Recommendations

The Commission makes the following recommendations:

1. *The Minister of Finance should create an enabling framework to ensure government budgets are climate sensitive and incorporate green budgeting through integrating climate change budgets across budget cycles, budget circulars, the medium term expenditure framework (MTEF), as well as Municipal Finance Management Act (MFMA) and Public Finance Management Act (PFMA) processes. Climate change indicators and targets should inform this process.*

Findings show that where climate responses have had a meaningful impact, Ministers of Finance have been at the forefront and played a pivotal role in integrating climate change responses in their budget processes and financial reporting. Climate change-responsive and green budgeting is in line with the 2015 Paris Agreement, which underscores the management of climate change finance through transparency and accountability measures using budget policy documents.

2. *The National Department of Forestry, Fisheries & Environment (NDFF&E) and Cooperative Governance and Traditional Affairs (COGTA) should spearhead integration, coordination, and implementation of climate change responses so that it is in line with the national agenda on transitioning to a low carbon and resilient economy. The Department of Monitoring and Evaluation (DPME) and the Presidential Climate Commission (PCC) must monitor, evaluate and report on the progress made by subnational governments in integrating climate change responses in their respective planning documents. Committees at the legislatures and* municipal councils *should exercise their oversight role by ensuring that integration, coordination, and implementation of climate change responses take effect.*

In an effort to assist municipalities with mainstreaming climate change into key municipal planning documents, there are various supporting tools, structures, and institutions in place. An example is the 2011 'Lets Respond Tool Kit' developed and published by the NDFF&E and COGTA, to assist municipalities in gradually integrating climate change risks and opportunities into integrated development plans (IDPs). Additionally, the 'Local Government Climate Change Support Programme' (2019,) developed by the NDFF&E and SALGA is a supporting programme dedicated to advance local climate change planning and implementation capacity in order to be able to build climate resilience at the municipal level. Therefore, these supporting structures and the respective departments mentioned should be at the forefront in assessing the integration, coordination, and implementation of

climate change responses with respect to municipalities. At the same time the DPME and PCC should collaboratively monitor, evaluate and report on progress made against targets set so as to be able to transition to a low carbon and resilient economy that is environmentally sustainable as per the national agenda with respective committees in the legislatures and councils exercising their oversight role.

3. *National Treasury, together with COGTA and the National Department of Public Works and Infrastructure (DPW&I), should, as a starting point, revise formats for the infrastructure grant frameworks to include climate change response specifications so as to be able to gradually achieve climate resilient infrastructure, with a strategic approach in the medium to long term of incorporating climate change mitigation and adaptation measures to all infrastructure related projects*

Mainstreaming climate change responses on infrastructure provides an opportunity for climate resilient infrastructure, improved efficiency and service delivery standards. The current scenario is one where municipalities underspend on repairs and maintenance of infrastructure, which generally increases vulnerability to climate risks and suboptimal delivery of services. The literature points out that proper infrastructure maintenance plays a significant role in addressing climate change impacts and in realising mitigation and adaptation targets by investing in climate-resilient infrastructure in various sectors of the economy (such as energy/renewable energy and water/wastewater treatment for reuse).

7.9　References

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Appendix 1: Local Government Types of Financing Mechanisms

Type of Finance	Type of Finance Examples	Type of Finance Mechanisms for Local Climate Action	Benefits	Barriers
Intergovernmental Grants	Equitable share & Municipal Infrastructure Grant	Municipalities can be proactive through using grants for climate action (i.e. Policies, by-laws and sustainable public procurement of infrastructure for service delivery using grants)	More systematic and widespread inclusion of climate change No restriction on municipalities including climate change considerations in projects designed for these grants	Grants are mainly directed to capital expenditure, but this is changing to include operational considerations too. Climate change is a cross-cutting issue, but grants are still sector specific. Training may be required.
Municipal rates (tariffs and taxes)	Property rates, sale of water and electricity, development contributions, sale of sewerage and waste collection services)	Reductions or deductions can be offered as a reward for adhering to climate appropriate development and behaviour decisions, such as installing energy efficiency or generation. Increases can be used to penalise development decisions and behaviour choices that are not appropriate in response to climate change, such as increasing the cost of a unit of energy or water more is consumed so that higher users pay more per unit than lower users of resources.	Within the municipal council's control. With good revenue collection, the increased revenue collected can be utilised to fund larger climate action and municipal service delivery projects. No significant capital outlay is required.	Consider possible economic impacts of a deduction or increase in rates. Must not impact negatively on lower income families and households Build broad political support from citizens.
Sustainable public procurement	"a process whereby organisations meet their needs for goods, services, works, and utilities in a way that achieves value for money on a whole life basis in terms of generating benefits not only to the organisation, but also to society and the economy, whilst minimising damage to the environment"	Climate change considerations, such as resource efficiency and carbon emissions associated with the production and operation of what is procured, can be included in the technical specifications, functionality, eligibility criteria and/or the contract conditions for goods, construction or services.	The grant funding and concessional loans available should assist in reducing the cost of implementing climate action. Grants do not need to be paid back and can therefore be used for projects where there is little to no direct return on investment, such as capacity building, strategy and policy development, financial and technical feasibility studies, etc.	Need to overcome the perceptions of increased cost and that this is not required by legislation. When doing this for the first time, may take longer than simply following business-as-usual or taking the same approach as previously done. Data on local climate impacts are needed to make informed decisions.
Public International funding	National governments of countries (taxes) across the world who have designated funds for climate action.	Increasingly, national governments that release international public funding through these agencies are including climate change criteria as a minimum compliance criteria and/or developing specific funds for climate action.	The grant funding and concessional loans available should assist in reducing the cost of implementing climate action. Grants do not need to be paid back and can therefore be used for projects where there is little to no direct return on investment, such as capacity building, strategy and policy development, financial and technical feasibility studies, etc.	Preparing projects can be expensive. Grant funding is associated with reporting requirements to funders that can be burdensome at times. Increasingly, International funds require that grants and concessional loans be used to leverage additional funding, whether from the public or private sector.
Private capital market	Institutional and commercial investors - pension funds, banks, the sale and delivery of private goods and services	Private financiers are increasingly including climate change criteria when evaluating investment opportunities and risk. Going further, many impact investors are specifically looking to invest in projects that derive direct social, environmental and economic benefits, rather than just profit. As technology has improved, climate change mitigation projects now also have a strong business case for investment and demonstrate stronger returns on investment.	Private capital markets have significantly larger resources than the public sector, therefore greater amounts of finance can be leveraged. Private capital markets can provide the necessary upfront capital costs for projects when local governments do not have the resources to do so.	Preparing projects can be expensive. Money received needs to be paid back. The private sector is risk averse and requires guarantees for certainty. Reporting requirements to funders can be burdensome at times.

Source: NFF&E; SALGA; 2019

CHAPTER 8:

THE IMPACT OF MUNICIPAL SPENDING ON LOCAL UNEMPLOYMENT AND DEVELOPMENT

Chapter 8

The Impact of Municipal Spending on Local Unemployment and Development

Shafeeqa Davids and Khutso Makua

8.1 Introduction

The increasing size and complexity of public sector institutions and the scarcity of resources in South Africa have emphasised the importance of efficient financial management. The optimal and efficient use of financial resources is vital in an environment characterised by constant change and increasing community needs and requirements. This has been exacerbated by the COVID-19 pandemic that has left many without jobs and heavily reliant on government for basic sustenance. Without funds, it would be impossible for any municipality to survive, let alone provide services to the people (Du Toit et al, 2002). The available resources must therefore be well managed to ensure that funds are utilised effectively and that municipalities can deliver services.

The revenue and expenditure of municipalities determine their ability to deliver services. Weaknesses in revenue and expenditure management could constrain the ability of a municipality to contribute to poverty reduction, increased employment, and local economic development. Section 213 of the Constitution, 1996, establishes a National Revenue Fund. Section 214(1)(a) states that an Act of Parliament must provide for the equitable division of revenue raised annually amongst the national, provincial, and local spheres of government. To comply with section 214 of the Constitution, the Division of Revenue Act (DoRA) is passed by Parliament annually. It provides for the budgeting for allocations to the national government, the nine provinces and the current 257 municipalities through grants. The purpose of these grants is to enable municipalities to provide basic services and perform the functions allocated to it (RSA, 1996).

Sustained local economic growth and improved service delivery are necessary for increased economic participation and employment. Ideally, municipalities should be sustainable to provide services to the public, encourage economic and social development in a conducive, safe, and healthy environment, provide democratic and accountable governance for local communities and promote the participation

of communities in local government matters. Municipalities can only achieve these objectives if municipal finances are stable. Recent findings from the Auditor-General's report on Municipal Finances conclude that South African municipalities fail in many of these aspects. The report highlights that local government finances are under immense pressure due to the non-payment of municipal debtors, ineffective financial management, and poor budgeting.

Inefficient municipal financial management has far-reaching economic consequences and affects households, SMMEs, large businesses, and local economy investors. Local economic development and investment initiatives rely on municipal finances. Research has shown that there is a correlation between capital projects and economic benefits, through higher, more sustainable economic growth, as well as increased levels of productivity. These infrastructure projects also have positive indirect spin-offs in other areas, such as reducing poverty, employment, and the standard of living of citizens (Pereira and Pereira, 2018).

If municipalities cannot provide the infrastructure and basic services required for investment, it adversely impacts poverty, inequality, and employment issues. As a result, the local tax base erodes, and municipalities become reliant on fiscal transfers, which adds to the heavily burdened fiscal environment in South Africa.

8.2   Literature Review

One of the key drivers for a country is economic growth, especially in developing countries as this will result in positive changes in their citizens' lives and the country's welfare (Magdalen, S & Suhatman, R., 2020). Achieving sustainable levels of growth in many countries is still considered an indicator of success. There is an ongoing debate between economists, researchers, and politicians that infrastructure is a key driver of the economy, and that low economic growth is a result of inadequate infrastructure capital (Holtz-Eakin & Schwartz; 1994).

A plethora of literature exists that supports the notion that one of the key drivers for an economy is infrastructure investment (Seidu, Young, Robertson and Ryan; 2020). The role of government according to researchers, authors and economists has always come up with conflicting results and conclusions on the role of fiscal policy on unemployment which has created an ongoing debate (Keynes, 1936; McDonald and Solow, 1981; Murwirachena, Choga & Maredza, 2013). Within a socio-economic context, there are several discussions and debates on whether infrastructure provision promotes economic growth.

As such, the stance on the impact of infrastructure investment on economic development and employment will vary significantly, depending on the researcher and their school of thought. There are those who support the notion that infrastructure investment supports economic growth (Carlsson, Otto & Hall; 2013).

This is further supported by Pereira and Pereira (2018), their research showed that there was a positive correlation between infrastructure and increasing productivity and economic growth. Their findings further supported the positive knock-on economic and social effects. However, several authors/economists suggest that public spending on infrastructure can negatively impact economic growth. In 2021, Nepram, Singh and Jaman, literature review highlighted the number of researchers who supported the theory that there is a negative correlation between government expenditure and employment.

The South African National Government believes in the positive connotation. The government's view is that infrastructure development is one of the primary tools used to alleviate poverty and inequality (Makhatini, Mlambo & Mpanza; 2020). In the past, the South African government has made use of counter-cyclical fiscal policy to boost the economy. In addition, the government's macroeconomic policy of Accelerated and Shared Growth Initiative (ASGI-SA), identified infrastructure as one of the growth impediments in the country. This is further supported by the establishment of the Presidential Infrastructure Coordinating Commission (PICC). The Commission is a joint forum promoting infrastructure coordination and decision making in South Africa.

8.2.1   Economic growth

Kuznet defines economic growth as a long-term rise in capacity to supply increasingly diverse economic goods to its population, this growing capacity based on advancing technology and the institutional and ideological adjustments that it demands (Kuznet, 1971). Seidman (2005) defines economic growth as a process of creating and utilising financial, physical, social, and human assets to produce improved economic well-being and a higher standard of living in a region.

According to Greenwood and Holt (2010), the concept of economic growth is further defined by explaining the difference between economic growth and economic development. Where economic development is "broadly based and provides a sustainable increase in the overall standard of living for individuals within a community" and that growth is not always accompanied by an improved standard of living (Greenwood & Holt, 2010). The authors go further by stating that economic development is a combination of economic growth and continuous changes in factors that contribute to an individual's wellbeing, such as improved healthcare and education.

Economic growth is used as a yardstick as its existence indicates the success of the development of an economy and its impact on individuals' lives. It further illustrates the growth of goods and services for a specific time for a specific region (Magdalen, S & Suhatman, R., 2020).

8.2.2 Municipality's role in economic development

One of the key role players in economic development is local government. This is due to the familiarity they have with the local economy compared to the other spheres of government, as this sphere has a closer relationship with local stakeholders. Given this, they can adapt their policies and strategies to the local conditions to promote the area/region advantages and reduce obstacles in the system (OECD, 2022).

This does not diminish the importance of the roles of the other spheres of government, as these spheres have interdependent roles in achieving economic development objectives. This is essential as neither sphere would be able to achieve the objective without the assistance of the other. This is further evident that local government are seen as the implementing agents of national programmes.

Many African countries are highly centralised, and their local governments have lower levels of responsibilities and resources than local governments in other economies with similar income levels. Not only does this limit their ability to pursue economic development policies, but it has a negative impact on economic development. Furthermore, decentralisation is an important measure for supporting economic growth throughout a country, thus facilitating economic development at the national level.

Although municipalities play an important role in economic development, they should not do this in silos from the other spheres of government (OECD, 2022). In South Africa, three spheres of government should work together to achieve the developmental goals of the nation; as such, national, provincial, and local governments play complementary roles. This coordination is reemphasized in the District Development Model (DDM), under which all three spheres of government are envisaged to coordinate and integrate development plans and budgets and mobilize the capacity and resources of government to civil society, including businesses, labour, and community, in pursuit of inclusive growth and job creation (COGTA, 2020).

The DDM is firmly based on an analysis of previous and current initiatives to improve developmental local government and cooperative governance. The developmental change is shaped and owned at a local level in partnership with communities, citizens, and social actors.

The successful functioning of local government is critical to ensure that the sector is well-positioned to carry out this role. However, more cohesive governance and overall coordination and functioning of the three spheres of government is required to implement this model and achieve its goals successfully.

As a tool of intergovernmental relations systems, the DDM is still fraught with controversy. According to the FFC (2022), while the model can be an important driver of LED through cooperation amongst the three spheres of government, it is established against the backdrop of municipalities that are dysfunctional and in financial distress. Furthermore, questions and confusion abound on the funding requirements of the model and the role to be taken by the respective role players, which may become a hindrance to the successful implementation and rollout of the model which has been rather slow since the President announced the model in the year 2019. In the same report, the Commission emphasised the need for government to hasten the implementation of the DDM to allow for broader cooperation amongst the three spheres of government while also ensuring there is stability in local government as the sector is pivotal for the success of the model.

8.2.3   Local economic development

According to Meyer (2014), local economic development (LED) is the microeconomic component of development economics. Development economics is defined as a process of improving the quality of life, especially of the poor (World Bank, 1991). This requires higher levels of household incomes, but also impacts several factors such as higher levels of education and skills, improved standard of healthcare and nutrition, equal opportunities, etc., ultimately leading to reducing or eradicating poverty.

There are various definitions of LED in the literature. LED is defined as the process in which local government stimulates/maintains business activity and employment (Blakely, 1994). Scheepers and Monchusi (2002) define LED as a process which is managed by municipalities in accordance with the constitutional mandate to promote economic and social development. This clearly shows the key role that local government is expected to play in economic development. The ILO (2006), states that local economies are required to uncover solutions to improving and strengthening the regions competitiveness and comparative advantage which will allow them to compete globally.

LED has been accepted globally as a tool to address poverty and job creation issues in rural and urban areas. The World Bank has categorised LED into three waves, shown in 8.1 below.

Table 8.1: The three waves of LED

Wave	Focus	Tools used to implement:
First wave: 1960 – early 1980's	During the first wave, the focus was on the attraction of: mobile manufacturing investment, attracting outside investment, especially the attraction of foreign direct investment hard infrastructure investments	Massive grants subsidised loans usually aimed at inward investing manufacturers tax breaks subsidised hard infrastructure investment a expensive "low road" industrial recruitment techniques
Second wave: mid 1980's – 1990's	During the second wave the focus moved towards: the retention and growing of existing local businesses still with an emphasis on inward investment attraction, but usually this was becoming more targeted to specific sectors or from certain geographic areas	Direct payments to individual businesses incubators/workspace advice and training for small and medium-sized firms' technical support business start-up support some hard and soft infrastructure investment
Third wave: late 1990s	During this third (and current) wave of LED, more focus is placed on soft infrastructure investments public/private partnerships networking and the leveraging of private sector investments for the public good highly targeted inward investment attraction to add to the competitive es of local areas	Developing a holistic strategy aimed at growing local firms providing a competitive local investment climate supporting and encouraging networking and collaboration encouraging the development of business clusters encouraging workforce development and education closely targeting inward investment to support cluster growth supporting quality of life improvements

Source: World Bank 2008

8.2.4   Government's expenditure

Government spending can be seen as spending on development of a country, it is non-consumptive government expenditure as it is investment in both physical and non-physical projects such as development in health care and education. (Magdalen, S & Suhatman, R., 2020), defines development expenditure as the vehicle to realise prosperity through improvement in economic growth/development. In this scenario, priority is assigned to sectors which will stimulate broader economic activities, i.e., increasing economic activities.

Government expenditure can be split into two categories, namely, 1) routine expenditure and 2) development expenditure (Magdalen, S & Suhatman, R., 2020). Routine expenditure can be defined as government spending to finance operational functions. In contrast, development expenditure relates to government spending to increase the region's capital in the form of soft and hard infrastructure. This expenditure illustrates the government's policy for improved and sustainable public welfare.

Furthermore, the expenditure by the government shows its role in improving the lives of its citizens through the aim of increasing economic growth, which is demonstrated through the country's fiscal policy through its allocation to local government.

Both the direct and indirect expenditure by the government is aimed at encouraging output which will lead to an increase in the region's economic growth.

8.2.5 A Review of LED and government expenditure in South Africa

Since the abolishment of apartheid, the concept of Local Economic Development (LED) has gained prominence within economic development (Makhatini, et al; 2020). One point of contention centres around how LED is defined. According to the Department of Cooperative Governance and Traditional Affairs (COGTA), LED is defined as "an approach towards economic development which allows and encourages local people to work together to achieve sustainable economic growth and development thereby bringing economic benefits and improved quality of life for all residents in a local municipal area".

The current development policy of South Africa focusses on the developmental aspect of local government with an emphasis on policy being pro-poor. The Constitution (RSA, 1996) encourages local government to play a pivotal role in both job creation and poverty reduction through LED. Local Government is the most regulated sphere of government, and every aspect of legislation emphasises the developmental role assigned to local government. According to Nel and Rogerson (2005), the main reason for the lack of implementation at a municipal level is due to a poor understanding/analysis of local economies, unsustainable projects, lack of capacity and resources.

However, given the current economic environment, which has been further exacerbated by COVID-19, the country faces a fiscal crisis which is intertwined with lacklustre economic growth over the past decade, coupled with rising social pressures. In addition, the South African economy has not recovered to pre-2007 growth levels and has experienced rising fiscal deficits and unemployment. As part of the economic recovery plan, tabled in October 2020, the plan stated that to achieve higher levels of growth, the government had to support the efforts through infrastructure investment and related institutional reforms. The Public Sector infrastructure report (2020), states there was a need to increase capital investment from both the private and public sector to achieve an increase in economic growth that would lead to a reduction in unemployment and poverty.

Many infrastructure projects are funded through a capital mix, which are partially funded through conditional grants. Sections 214 and 227 of the Constitution entitle local government and each province to an equitable share of revenue raised nationally. Additionally, both these spheres may receive other allocations from national government revenue, either conditionally or unconditionally.

The dependency on revenue raised nationally varies across the three spheres of government, with local government receiving the smallest portion, due to its power to raise its own revenue from several sources. As such, nationally raised allocations are to aid in the funding gap that municipalities may experience in service delivery.

8.2.6 A PESTLE analysis of local economic development in South Africa

PESTLE is an effective analysing tool for evaluating the external environment. Institutions/Organisations don't have direct control over their external environment; however, it is crucial that management understand their business climate to make a sensible decision. PESTLE analysis classifies issues as political (P), economic (E), social (S), Technological (T), legal (L) and environmental (E). Morrison (2016) defined PESTLE analysis as an audit tool for brainstorming and scanning the influence from key external environmental factors, to enhance management on strategic decision-making.

In context to this paper, the PESTLE criteria are focused on issues that policy makers and developers should address to ensure sustainable economic development that can help communities to achieve sustainable livelihoods and the goals as set out by the national development plan.

a) *Political*

Local government is faced with numerous challenges. One of these challenges is the political environment that municipalities find themselves in. The results of the 2021 elections were that 66 (31 per cent) of the 213 contested municipalities have hung councils, this is more than double the 27 hung councils borne out of the 2016 elections. This has resulted in many parties forming a coalition council. Even though there are advantages to these alliances, it is also fraught with many disadvantages and has resulted in many services delivery disruptions (FFC, 2021).

b) *Economic*

Given the current economic environment that has been further exacerbated by COVID-19, the country faces a fiscal crisis which is intertwined with lacklustre economic growth over the past decade, coupled with rising social pressures. In addition, the South African economy has not recovered to pre-2007 growth levels and has experienced rising fiscal deficits and unemployment.

In addition, many developed economies are currently faced with recessions as interest rate hikes are implemented globally. The higher interest rates globally negatively impact the country as it is more expensive to access capital.

South Africa is no exception, with a rising cost of living, significant increases in fuel and higher than inflation increases in electricity has contributed to growing inflation. As a result, this has led to an increase interest rates due to the country's monetary policy. Municipalities have experienced an increase in the cost of debt servicing, it is also more expensive to borrow given the increase in the market lending rate.

There is an increase in the number of municipalities experiencing financial distress. In recent years, there has been an emphasis on financial and governance management issues. These areas include but are not limited to; the collapse of VBS bank, numerous service delivery protests and increasing value of fruitless and wasteful expenditure reported annually (Glasser & Wright, 2020). In 2022, there was an increased focus across the spheres of government on improving the challenges experienced by local governments by developing key policy recommendation on strengthening municipal finance and governance.

c) *Social*

Over the past decade, South Africa has experienced slow economic growth and high unemployment rates. This has resulted in an increased dependency on government in terms of both basic needs and social protection. The pandemic has aggravated the issue. Unemployment reached a record high of 34.9 per cent in 2021 (FFC, 2022).

Given the high levels of unemployment, the majority of South African household live in poverty. Approximately 75 per cent of total households are being provided free basic services via Local Government Equitable Share (LGES). Due to most households living below the national treasury threshold, the country has high levels of crime, drug abuse and alcohol dependency.

d) *Technology*

The pandemic has sped up the Fourth Industrial Revolution (4IR) and has impacted the way individuals/institutions work. This has also impacted how work is done in the future. The National Development Plan (NDP) identifies Science, Technology and Innovation as primary drivers of economic growth, job creation and socio-economic reform. This has since resulted in the need for an update to the policy response to the expanding role of Science Technology and Innovation (STI), with the introduction of the 2019 White Paper on STI and the 2021 Decadal Plan.

The CSIR, an entity of the Department of Science and Innovation, has since launched the Centre for the Fourth Industrial Revolution, C4IR South Africa, with the strategic objective of:

- Boosting Industry 4.0 in South Africa and the implementation of emerging technologies in industrial production and supply chains, aimed at sustainable industrial development of South Africa, the region, and the continent.
- Transition South Africa towards a data-based digital economy to improve its competitiveness and become a relevant global player, as well as to accelerate digitalisation of government.

e) *Legal*

Local government is the most regulated sphere of government and LED is no different. With the basis for the LED framework set out in the Constitution (Patterson, 2008). Sections 152 (c) and 153 (a) of the Constitution states that local government must "promote social and economic development" and it must "structure and manage its administration, and budgeting and planning processes to give priority to the basic needs of the community, and to promote the social and economic development of the community".

The White Paper on Local Government also introduced the concept of developmental local government which supports the role of local government in LED. This document also highlighted that they are not responsible for creating employment, but rather an enabling economic environment. The White Paper on Local Government further identifies three key developmental outcomes that local government must focus on, which include the provision of sustainable household infrastructure and services, creation of liveable and integrated local areas, and promotion of LED and community empowerment and redistribution (Mashamaite & Lethoko, 2014).

The Municipal Systems Act of 2000, requires all municipalities to prepare a five-year IDP which is reviewed annually, the development targets need to be set out in this strategic document including the detailed projects and programmes (Harrison, 2006). The Municipal Systems Act specifies the need for a municipal council to choose a service delivery mechanism that will most successfully and speedily extend municipal services to residents and communities in the municipality that does not have access to basic service delivery. Figure 8.1 below provides a summary of the legislative mandates that govern LED.

The Municipal Structures Act (RSA, 1998) determines the division of powers and functions between the various categories of municipalities and its regulatory governance structures. LED is one of the key strategic tools through which municipalities can fulfil their developmental duties.

Figure 8.1: Legislative mandates that govern LED
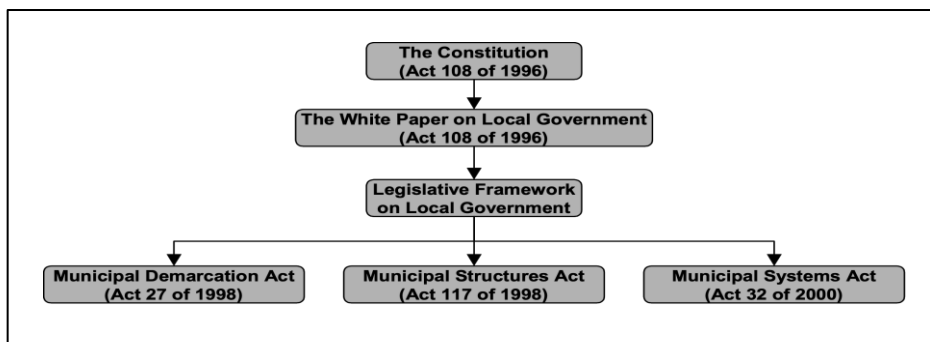
Source: DPLG, 2004

f) *Environment*

The global climate is changing and poses increasingly severe risks for ecosystems, human health, and the economy. Recently, the eastern coast of the provinces KwaZulu-Natal (KZN) and Eastern Cape (EC) experienced exceptionally heavy rainfall. The severe flooding and landslides caused numerous deaths, houses destroyed, and displaced households. The floods also severely damaged municipal and provincial infrastructure, i.e. roads, schools, health facilities, etc. This has negatively impacted service delivery on both a provincial and local government level with many businesses forced to go into business rescue. This has several spill-over effects on the economy with loss of jobs due to businesses closing, loss of economic activity, etc. In addition, there were ecological reasons (i.e., E. coli) that required beaches to remain closed which placed severe pressure on businesses operating along the Kwa-Zulu Natal Coast.

South Africa's power utility has been unable to provide a reliable service that is both affordable and profitable and has failed to do so over the past 15 years. The government has needed to provide equity for Eskom, as part of the president's State of the Nation Address (SoNA) it was announced that government would be taking over Eskom's debt. Access to reliable, safe, and affordable energy has been shown to improve people's lives, as well as being fundamental for the recovery of the SA economy. Table 8.2 below, provides an overview of the factors of the PESTLE analysis.

Table 8.2: Summary of PESTLE analysis of local economic development in SA

Political	Economic	Social
• Political unrest - ongoing rivalry within parties and coalition government hampering service delivery. • Hung councils • Lack of governance structures within municipalities	• Low economic growth • Unfunded budget • Municipalities in financial distress • High inflation and interest rates • High cost of servicing debt • Increase in fruitless and wasteful expenditure	• High unemployment • Culture of non-payment • High levels of crime, drug abuse and alcohol dependency • High level of dependency for social assistance - municipal level i.e., indigent support • Poor community involvement
Technological	**Legal**	**Environment**
• Structural unemployment- lack of skilled labour • Lack of capacity at a municipal level • Lack of leadership and management • Technological and infrastructure inefficiencies	• Section 152 of the Constitution • The NDP 2030- highlights the vision of economic development • The NSDP identified five principles that government needs to uphold; to create a conducive environment and alleviate poverty • The vision of the policy is to provide access to support and development services to those who were excluded in full participation of the economy • The LED framework aims to support the development of sustainable local economies through integrated government action. • White Paper on Local Government (1998) identified a municipality as a developmental local government. • Chapter 5, section 23 (1) of the Act makes provision for municipal planning. • Section (24) urges municipalities to align their development plans and strategies with those of other organs of state. • Section 25 of the Act is specifically adapted for municipal Integrated Development Plan (IDP).	• Climate change • Lack of consistent energy supply • Corruption and fraud • Complexities / red tape /barriers to entry • Poor rail and port services

Source: Authors own compilation

8.2.7   SWOT analysis of local economic development

A SWOT analysis is an efficient tool used to measure an institution/organization's health by evaluating its strengths, weaknesses, opportunities, and threats (Hough, Thompson, Strickland, and Gamble; 2011). It allows the institution to allocate its resources optimally to capitalise on opportunities while protecting itself against imminent threats in its operating environment. The strengths and weaknesses refer to an internal environmental factor that gives the organisation an advantage or disadvantage in the marketplace (Hough et al., 2011:113).

There have been recent amendments to the basic SWOT analysis, the indicators identified from the situational analysis can be aligned in a systematic way which will act as a catalyst in developing a strategic plan (Pearce & Robinson, 2017). This is illustrated in Table 8.3 below.

Table 8.3: LED SWOT Analysis and the South African Context

Internal/External	STRENGTH (S)	WEAKNESS (W)
OPPORTUNITIES (O) List of external opportunities	STRATEGY (SO) Use the strength to take advantage of opportunities	STRATEGY (WO) Take advantage of opportunities that arise to overcome the weaknesses
THREATS (T) List of external threats	STRATEGY (ST) Use the strengths to avoid threats	STRATEGY (WT) Minimise weaknesses and avoid threats
OPPORTUNITIES (O) List of external opportunities	Strengths • Increased investment in the local economy • Improved infrastructure support • Increased municipal revenue base – increased ability to raise own revenue • Effective economic development nodes identified and developed	Weaknesses • Timeframes for the Implementation of LED programmes • Shortage of skills and entrepreneurs • The reliance on municipalities to provide LED opportunities • LED opportunities are still centralised in urban areas • Limited development and assistance provided to small and more rural municipalities – limiting their LED opportunities • Weak Infrastructure • Low own revenue raising capabilities
Opportunities • Effective funding instruments to provide economic benefits • Skills transfer programs to build further LED opportunities • Create access to employment and economic opportunities • Implementation of the LED and Tourism Strategy • Spatially redefine LED opportunities	STRATEGY SO • Ensure good governance • Improved service delivery. • Development of Small-Town Rejuvenation (STR) • Increased capacity at a municipal level • Increase investment • Revitalising manufacturing sector • Tourism-based economy	STRATEGY WO • Improve access to quality education and health care • Develop spatial planning and infrastructure • Reskill workers to accommodate the changing labour environment
Threats • High rate of poverty and unemployment • Lack of food security • Climate Change • Increase in crime and poverty • Poor investor confidence	STRATEGY ST • Strengthen the economy • Buy-in from the community • Coordination between the three spheres of government	STRATEGY WT • Strengthening the implementation of legislation to promote economic development • Improve transportation networks and node development • Alleviating poverty and unemployment

Source: Putri & Wulandari, 2020 and Author's own compilation

The current variation of the SWOT analysis presented above allows the researcher to provide strategic ideas around how to maximise the point highlighted in the analysis.

8.3 Problem Statement and Research Questions

Ineffective municipal financial management impedes local economic growth and exacerbates unemployment.

8.3.1 Research questions

1. How effective is municipal grant spending in addressing challenges of unemployment and LED?
2. What is the economic impact of municipal spending on citizens and the local economy?
3. How can municipalities stimulate employment and inclusive growth in local economies?

8.3.2 Research aims and objectives

The paper aims to investigate the impact of municipal grant spending on local unemployment and development. The objectives include:

- Understanding the reasons for the inefficient use of resources, and
- To propose measures to guide municipalities in fulfilling their constitutional mandates, while contributing to local economic development and curbing unemployment.

8.4 Research methodology and data

The proposed study follows a mixed approach to achieve the set objectives. The research presents a descriptive overview of the literature related to economic development and the role of local government. The nature of the research methodology is qualitative and quantitative and uses secondary data derived from different sources, such as the National Treasury and Statistics South Africa. The quantitative approach includes an econometric model that explains the relationship between municipal infrastructure grants spending, local economic development, and employment. Municipalities in South Africa are broadly categorised into three categories: category A (metropolitan areas), category B (local), and category C (district) municipalities (Municipal Demarcation Board, 2018). Further classifications are provided by the Municipal Infrastructure Investment Framework (MIIF) classification, which subdivides category B municipalities into four groups, from B1 to B4, consisting of larger municipalities that exercise more powers and smaller municipalities with fewer resources and power (Municipal Demarcation Board, 2018). Category C municipalities are divided into two sub-groups consisting of districts that are water authorities and those that are not. In particular, the MIIF classifies local and district municipalities as follows (Municipal Demarcation Board, 2018):

- B1 municipalities are secondary cities with 21 local municipalities with the largest budgets.
- B2 municipalities have a large town as the core of the municipality.
- B3 municipalities have a relatively small population with a significant proportion of the population residing in urban areas, but do not have a large town as the municipality's core.
- B4 municipalities are largely rural with no more than one or two small towns.
- C1 district municipalities commonly have limited service delivery functions and are not water services providers.
- C2 district municipalities are water services providers and generally have more responsibilities.

8.5.1 Quantitative analysis

The data employed in the empirical analysis covers the period 2018 to 2021 and includes observations for metropolitan municipalities and local municipalities, which consist of 213 jurisdictions. The independent variables include the Integrated National Electrification Grant and the Municipal Infrastructure Grant for B1 and B2 categories, and the Municipal Infrastructure Grant for B3 and B4 categories. The dependent variable is Local Economic Development, which is proxied by Gross Value Added. To achieve the set objectives, the study employed regression analysis to ascertain the existence of any association between the dependent and independent variables.

8.5 Results

The Constitution establishes national, provincial, and local spheres of government which are distinctive, interdependent, and interrelated (section 40), each with assigned exclusive and concurrent competencies (elaborated in schedules 4 and 5). Sections 214 and 227 of the Constitution entitle local government and each province to an equitable share of revenue raised nationally. Additionally, both these spheres may receive other allocations from national government revenue, either conditionally or unconditionally.

The dependency on revenue raised nationally varies across the three spheres of government, with the local government receiving the smallest portion due to its power to raise its own revenue from several sources. National and provincial governments heavily depend on transfers from the national fiscus, with provinces receiving approximately 95 per cent of their revenue via this mechanism.

Over the 2022 MTREF, local government will receive R481,3 billion as direct transfers, 9.8 per cent of the national government's non-interest expenditure. This increases to 10.3 per cent when indirect transfers are added (NT, 2022). Table 8.4 below illustrates the vertical division of revenue, clearly showing that Local Government receives the smallest share of nationally raised revenue, which fluctuated between 8 and 10 per cent.

Table 8.4: Vertical division of revenue

R billion	2018/19	2019/20 Outcome	2020/21	2021/22 Revised estimate	2022/23	2023/24 Medium-term estimates	2024/25	Average annual MTEF
Division of available funds								
National departments	**634,3**	**749,8**	**790,5**	**831,1**	**824,7**	**770,9**	**805,7**	**-1,0%**
of which:								
Indirect transfers to provinces	*3,9*	*2,9*	*3,1*	*4,0*	*4,6*	*4,6*	*4,0*	*0,5%*
Indirect transfers to local government	*6,3*	*5,6*	*4,1*	*4,9*	*8,1*	*8,5*	*8,9*	*21,8%*
Provinces	**572,0**	**613,5**	**628,8**	**661,2**	**682,5**	**667,3**	**690,2**	**1,4%**
Equitable share	470,3	505,6	520,7	544,8	560,8	543,1	562,0	1,0%
Conditional grants	101,7	107,9	108,1	116,4	121,8	124,2	128,1	3,3%
Local government	**118,5**	**123,0**	**137,1**	**135,3**	**150,6**	**160,5**	**170,1**	**7,9%**
Equitable share	60,8	65,6	83,1	75,7	87,3	94,1	101,5	10,3%
Conditional grants	45,3	44,2	40,0	45,0	48,0	51,0	52,5	5,3%
General fuel levy sharing with metros	12,5	13,2	14,0	14,6	15,3	15,4	16,1	3,3%
Provisional allocation not assigned to votes[1]	–	–	–	–	5,6	28,3	32,1	
Non-interest allocations	**1 324,8**	**1 486,2**	**1 556,4**	**1 627,6**	**1 663,5**	**1 627,0**	**1 698,0**	**1,4%**
Percentage increase	*6,6%*	*12,2%*	*4,7%*	*4,6%*	*2,2%*	*-2,2%*	*4,4%*	
Debt-service costs	181,8	204,8	232,6	268,3	301,8	335,0	363,5	10,7%
Contingency reserve	–	–	–	–	10,0	5,0	5,0	
Unallocated reserve	–	–	–	–	–	25,0	30,0	
Main budget expenditure	**1 506,6**	**1 691,0**	**1 789,0**	**1 896,0**	**1 975,3**	**1 992,0**	**2 096,6**	**3,4%**
Percentage increase	*7,2%*	*12,2%*	*5,8%*	*6,0%*	*4,2%*	*0,8%*	*5,2%*	
Percentage shares								
National departments	*47,9%*	*50,4%*	*50,8%*	*51,1%*	*49,7%*	*48,2%*	*48,4%*	
Provinces	*43,2%*	*41,3%*	*40,4%*	*40,6%*	*41,2%*	*41,7%*	*41,4%*	
Local government	*8,9%*	*8,3%*	*8,8%*	*8,3%*	*9,1%*	*10,0%*	*10,2%*	

Source: National Treasury, 2022

Conditional grants form a fundamental component of the local government fiscal framework in South Africa. Municipalities receive several conditional grant transfers and agency payments from both the national and provincial spheres. Within the context of the local government fiscal framework, conditional grant transfers and agency payments are designed to influence the fiscal decisions of

municipalities, to collectively achieve the shared or mutual objectives of national, provincial, and local government. These grants are intended to assist municipalities with institutional and governance capacity, support service delivery, infrastructure delivery, and provide funding streams for once-off projects, amongst others. This is in concurrence with Section 154 of the Constitution, that provides for Provincial and National governments to support and strengthen the capacity of municipalities to manage their own affairs through legislative and other measures.

National Treasury (2019) indicated in the explanatory memorandum to the division of revenue that conditional grant transfers account for a relatively small proportion of the local government fiscal framework, with the bulk of local government revenues being raised by municipalities themselves through their substantial revenue-raising powers. However, the proportion of revenue from transfers and own revenues varies dramatically across municipalities, with poor rural municipalities receiving most of their revenue from transfers. In contrast, urban municipalities raise most of their own revenues.

As with other municipalities across the country, municipalities receive various conditional grants and transfer payments from the national and provincial departments. These grants can be categorised into two types [1] direct transfers and [2] indirect transfers. Direct transfers refer to funding that flows directly to municipalities in the form of either conditional or unconditional grants. Indirect grants are transferred to municipalities, but the funds don't flow directly to the municipalities; this is funding spent by national departments and other entities on behalf of municipalities. For this paper, the focus will be on the direct infrastructure grants from national departments.

Table 8.5: Transfers to local government

R million	2018/19 Outcome	2019/20 Outcome	2020/21 Outcome	2021/22 Adjusted budget	2022/23 Medium-term estimates	2023/24 Medium-term estimates	2024/25 Medium-term estimates
Direct transfers	**118 465**	**122 986**	**137 098**	**137 585**	**150 630**	**160 514**	**170 147**
Equitable share and related	**60 758**	**65 627**	**83 102**	**77 999**	**87 311**	**94 087**	**101 486**
Equitable share formula1	55 072	59 301	76 482	71 028	80 023	86 491	93 556
RSC levy replacement	4 795	5 357	5 652	5 963	6 249	6 524	6 817
Support for councillor remuneration and ward committees	891	969	969	1 009	1 040	1 071	1 114
General fuel levy sharing with metros	**12 469**	**13 167**	**14 027**	**14 617**	**15 335**	**15 433**	**16 127**
Conditional grants	**45 239**	**44 191**	**39 969**	**44 969**	**47 983**	**50 994**	**52 534**
Infrastructure	43 568	42 322	37 901	42 636	45 571	48 551	49 982
Capacity building and other	1 670	1 870	2 068	2 333	2 412	2 442	2 552
Indirect transfers	**6 358**	**5 591**	**4 194**	**7 727**	**8 055**	**8 481**	**8 862**
Infrastructure	6 266	5 480	4 074	7 592	7 915	8 335	8 709
Capacity building and other	92	111	120	135	140	147	153
Total	**124 823**	**128 576**	**141 292**	**145 313**	**158 685**	**168 995**	**179 010**

Source: National Treasury, 2022

Table 8.6 below illustrates the transfers to local government sphere; conditional grants make up a smaller percentage of national transfers with the bulk of the funds being unconditional. The table further illustrates that the direct infrastructure grants funding will increase over the 2022 MTREF. It is also apparent that the indirect infrastructure grants will follow a similar trajectory over this period.

Table 8.6: Conditional grants transferred to local government

R million	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
		Outcome		Revised budget		Medium-term estimates	
Direct transfers	**43 568**	**42 322**	**37 901**	**42 636**	**45 571**	**48 551**	**49 982**
Municipal infrastructure	15 288	14 816	14 491	15 593	16 842	17 595	18 385
Integrated urban development	–	857	936	1 009	1 085	1 123	1 173
Urban settlements development	11 306	11 655	10 572	7 405	7 352	7 676	8 021
Informal settlements upgrading partnership	–	–	–	3 945	4 181	4 365	4 561
Public transport network	6 287	6 370	4 389	5 175	6 013	6 689	7 720
Neighbourhood development partnership	569	592	479	1 318	1 393	1 475	647
Integrated national electrification programme	1 904	1 860	1 359	2 003	2 119	2 212	2 311
Rural roads asset management systems	108	114	108	110	115	115	121
Regional bulk infrastructure	1 963	2 029	2 006	2 237	2 521	2 892	2 763
Water services infrastructure	4 777	3 669	3 368	3 620	3 701	3 864	4 038
Municipal disaster recovery	1 151	133	–	–	26	321	–
Energy efficiency and demand-side management	215	227	193	221	223	224	243
Indirect transfers	**6 266**	**5 480**	**4 074**	**7 592**	**7 915**	**8 335**	**8 709**
Integrated national electrification programme	3 262	3 124	1 983	2 824	3 588	3 821	3 993
Neighbourhood development partnership	48	46	63	181	101	101	105
Water services infrastructure	581	548	305	730	771	805	841
Regional bulk infrastructure	2 375	1 761	1 724	3 857	3 455	3 607	3 769
Bucket eradication	–	–	–	–	–	–	–
Total	**49 834**	**47 801**	**41 975**	**50 228**	**53 487**	**56 886**	**58 691**

Source: National Treasury, 2022

8.6.1 Municipal expenditure review

This section will evaluate the expenditure performance of conditional grant transfers to municipalities. The analysis will provide a comparison across the various types of municipalities. The information for this section is extracted from the Section 71 reports.

### 8.6.2 Metropolitan municipalities:

Metropolitan municipalities receive several grants; the Urban settlements Development Grant is not part of the 5-year review as this grant's information is not published as part of the section 71 reports. For the paper, the Municipal Disaster Recovery Grant and Municipal Emergency Housing Grant will not be assessed as this funding is reactive and in response to a disaster.

Figure 8.2 below illustrates the Metros' performance on the three grants over five years; however, funding via INEP was only for the first two years of the review period. It is evident that these municipalities have performed poorly on the remaining two grants over the past three years, having spent less than 30 per cent of their allocation on all these grants. However, despite the low performance of the Public Transport Network grant, the allocation has grown consistently over the review period, illustrating the emphasis put on infrastructure in providing an economically enabling environment.

The neighbourhood development partnership grant, envisaged to support municipalities in developing and implementing urban network plans, also shows a significant underperformance. Over the 2022 MTREF, the grant will receive R3.5 billion for the direct capital component, including R1.7 billion for creating labour-intensive projects, showing governments' commitment to addressing growing unemployment. However, the municipality's ability to achieve the objective is questionable, with metros only spending 8 per cent of their allocation in the 2021/22 financial year. A significant decline is notable year-on-year for the Public Transport Network Grant and Neighbourhood Development Partnership Grant (Capital Grant), falling well below 20 per cent of spending on these grants.

Figure 8.2: Grant performance of metro municipalities
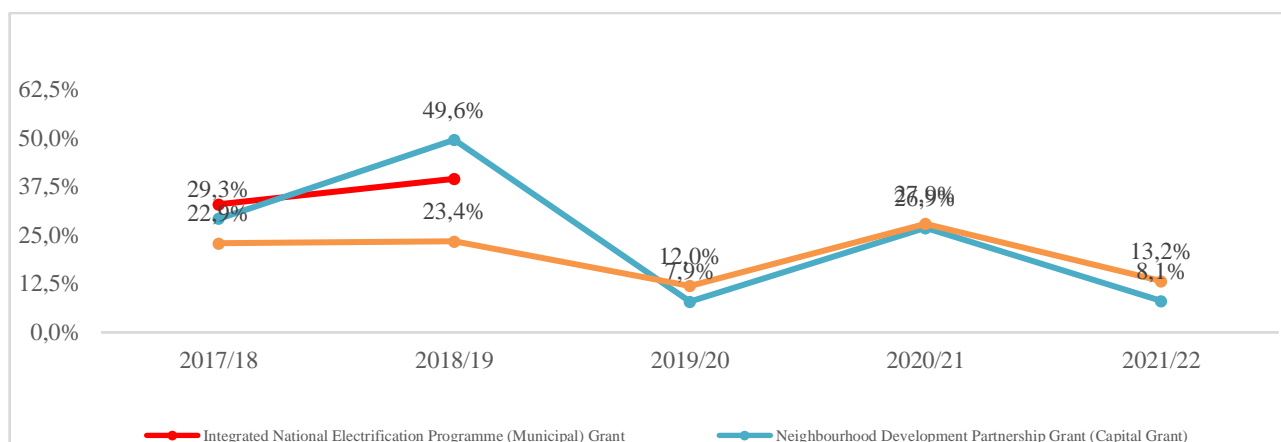
Source: Section 71 reports.

Not all municipalities receive the Municipal Infrastructure Grant, metros receive the USDG instead, and IUDG goes to a few select urban local municipalities, this is illustrated in Figure 8.3. It should be noted that USDG is excluded from National Treasury's report on municipal infrastructure grant performance. This is a substantial source of funding for a municipality for municipal infrastructure. The combination of these three grants account for approximately 56 per cent of all direct infrastructure grants to municipalities. The municipalities have not performed well on the spending of these grants in 2021/22.

Figure 8.3: Municipal infrastructure-related grants
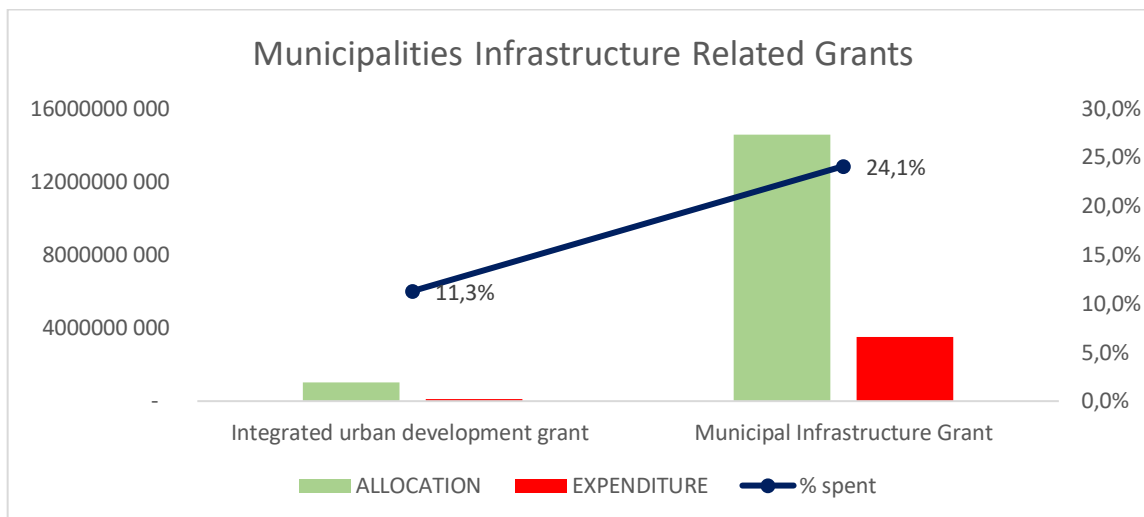
Source: Section 71 reports.

8.6.3 Local municipalities

Figure 8.4: Local Municipalities infrastructure grant performance
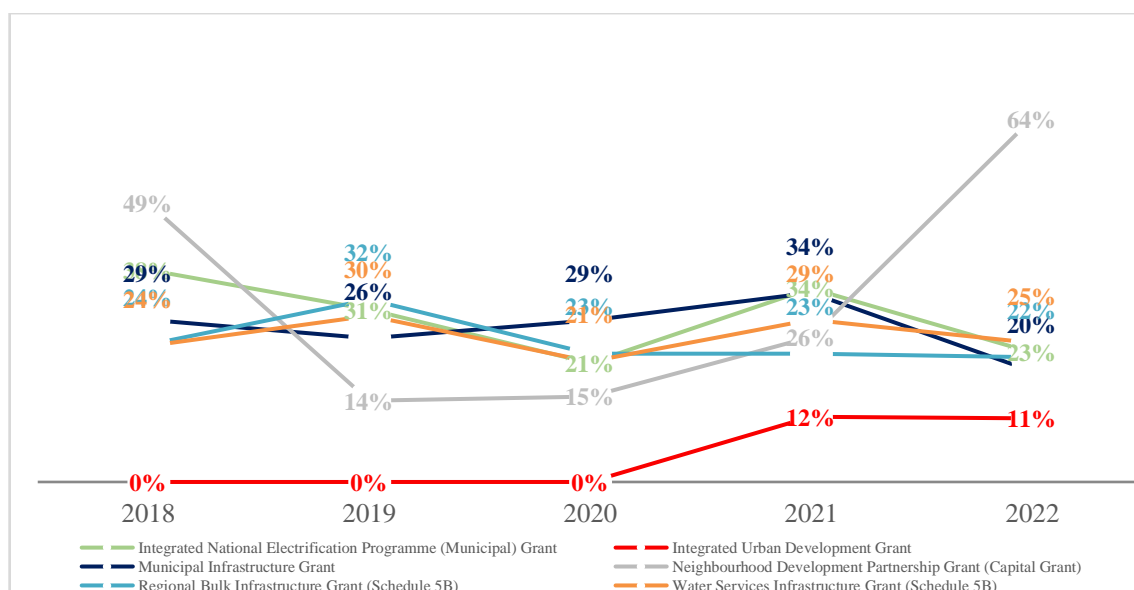
Source: Section 71 reports.

Category B or local municipalities receive six direct infrastructure-related conditional grants. The largest allocation to local municipalities flows via the municipal infrastructure grant. Figure 8.4 above illustrates the expenditure performance of these grants. It can be observed that local municipalities have been unable to spend on these grants, with all grants having an expenditure percentage of below 40 per cent over the review period, except for the capital component of the NDPG, that exceeded this in both 2017/18 and 2021/22. For the economy to flourish and promote increased economic activity, the country will require a consistent water and electricity supply.

The funding allocation to water and electricity has remained constant and marginally increased over the review period. However, municipalities have been unable to perform financially in these two areas. From the treasury report on the conditional grant performance, it is noted that there is a substantial difference between the National Transferring Officers (NTOs) and the municipal reports. NTOs have stated municipalities have achieved 80.8 per cent of spending on direct transfers, whereas municipal reports indicate an expenditure level of 55.8 per cent. The 80.8 per cent is lower than the 84 per cent achieved in the previous financial year.

National Treasury had noted several factors that have imputed the overall spending of municipal conditional grants. Some of these include: Supply Chain Management Processes, the Local Government Elections in 2021, COVID-19 which impacted several years of the review period, late submissions of business plans, etc (National Treasury, 2022).

8.6   Regression analysis

For this study, category C municipalities were excluded from the analysis as this category of municipalities are exempt from conditional grant allocations, especially districts that are not water services providers. The quantitative analysis begins with a regression analysis of LED and selected conditional grants to ascertain a relationship between these variables. As mentioned elsewhere in the study, two models were provided. The first model provides the relationship between LED and the selected conditional grants. The second model will then relate LED and employment. It should be noted that due to data constraints and differences in grants that accrue to the respective municipal categories, the authors were prompted to select common grants that accrue to municipalities in each of the municipal categories; as such, not all conditional grants to municipalities are analysed in this study.

The econometric is specified as follows:

Model 1: Local economic development and infrastructure spending

$$Z_{it} = a + b_1 X_{it} + +m_i + \tau_i + e_i \ \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots \ (1)$$

Where:

b represents slope coefficients of municipal grants

X represents municipal grants

Z represents LED

m represents fixed effects

τ represents factors that can change over time

e is an error correction term

Table 8. below presents the regression statistics for the selected municipal categories. The table shows that for both metropolitan and local municipalities, the R-squared is below 50 per cent, which is a low R-squared as the acceptable norm for the R-squared is 50 per cent. This shows that the data does not fit the model well and points to a possible weak correlation between the variables.

Table 8.7: Regression statistics (metropolitan municipalities)

Regression Statistics	
Multiple R	0.624863145
R Square	0.39045395
Adjusted R Square	0.276164066
Standard Error	385030.4631
Observations	20

Table 8.8: Local municipalities

Category	Multiple R	R Square	Adjusted R Square	Standard Error	Observations
B1	0.285619823	0.081578683	0.035657617	41333.43463	43
B2	0.21446991	0.045997342	0.009304932	61332.31336	55
RURAL (B1 &B4)	0.021908386	0.000479977	-0.001381326	21829.91818	539

Source: Commission's calculations

Table 8.9 below provides estimated results of the impact of municipal unconditional grants spending on LED. It also provides the estimation parameters of the independent variables, the relevant t-statistics, and an indication of the statistical significance of the estimated coefficients.

Table 8.9: Impact of grant spending on LED (metropolitan municipalities)

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	650713.764	126720.0379	5.13505026	9.9769E-05	382079.2841	919348.2439	382079.2841	919348.2439
ICDG	0.013700745	0.005255873	2.6067496	0.01907739	0.002558792	0.024842698	0.002558792	0.024842698
INEP	-0.005585133	0.014985404	-0.3727049	0.71425921	-0.03735277	0.026182504	-0.03735277	0.026182504
NDPG	0.007592414	0.009754486	0.778351	0.44772056	-0.013086172	0.028271	-0.013086172	0.028271
GDP growth	-0.0456	-0.0498	0.0673	-0.0219	1.0000			

Source: Commission's calculations

The estimated coefficients show a marginal impact of the one per cent increase in the independent variables on LED. The table shows that for metropolitan municipalities, the selected grants have a marginal impact on LED. More specifically, the Integrated City Development grant (ICDG) raises LED significantly by 1.3%. the Integrated National Electrification Programme (INEP) Grant and the National Development Partnership Grant (NDPG) raise LED by 0.5 per cent and 0.7 per cent respectively, although the impact is not statistically significant.

Table 8.10: Impact of grant spending on LED (local municipalities)

Category		Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
B1	Intercept	70842.56813	8797.714296	8.052383351	6.71356E-10	53061.72427	88623.41198	53061.72427	88623.41198
	INEP	0.00094788	0.000771997	1.227828112	0.226687987	-0.00061238	0.002508143	-0.00061238	0.002508143
	MIG	0.00015693	0.000187601	0.836513514	0.407835834	-0.00022222	0.000536085	-0.00022222	0.000536085
B2	Intercept	62594.41252	14475.52295	4.324155523	6.95025E-05	33547.15064	91641.67441	33547.15064	91641.67441
	INEP	-0.003615231	0.003005293	-1.20295467	0.23444248	-0.00964579	0.00241533	-0.00964579	0.00241533
	MIG	-0.000514129	0.00050074	-1.02673780	0.309296502	-0.00151893	0.000490679	-0.00151893	0.000490679
RURAL	Intercept	1.44E+04	1.05E+03	1.37E+01	1.19E-36	1.23E+04	1.64E+04	1.23E+04	1.64E+04
	MIG	-1.24E-05	2.44E-05	-5,.8E-01	6.12E-01	-6.03E-05	3.55E-05	-6.03E-05	3.55E-05

Source: Commission's calculations

Table 8.10 above shows that for secondary cities (B1), a one per cent increase in the Integrated National Electrification Grant (INEP) will raise LED by 0.36 per cent. This is statistically insignificant at the one per cent level. Furthermore, the results show that a one per cent increase in the Municipal Infrastructure Grant (MIG) will raise LED by a mere 0.01 per cent. This marginal increase is also insignificant at the one per cent level given a P-value of 0.4 per cent. The results provided by Table 8.11 suggest that the INEP and the MIG have little to no impact on LED.

The results are negative and statistically insignificant for large towns (B2). This suggests that increasing the INEP and the MIG tends to cripple LED. It should be noted, however, that the marginal

impacts of such grants on LED maybe be attributable to municipalities generally underspending on conditional grants. As a result, the intended objectives of these grants in the local government sphere cannot be realised.

The Impact of LED on employment

As mentioned elsewhere in this report, our empirical analysis includes an analysis of the impact of LED on employment. It is important to explore this relationship and the channels through which LED may impact employment, as this will better inform how resources should be allocated. The econometric model is specified as follows:

Model 2: Local economic development and employment

$$Y_{it} = a + b_1 Z_{it} + b_2 X_{it} + m_i + \tau_i + e_i \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots.. (2)$$

Where:

Z represents LED

Y is employment

b represents slope coefficient explanatory variable

ϵ represents fixed effects

τ represents factors that can change overtime

e is an error correction term

Table 8.11 below provides the estimated results of the impact of LED on employment. It also provides the estimated parameters of the independent variables, the relevant t-statistics, and an indication of the statistical significance of the estimated coefficients. The estimated coefficients show the marginal impact of a one per cent increase in the independent variables on employment.

Table 8.11: Impact of LED on employment

		Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Metros	Intercept	-22422.4702	30070.82331	-0.7456553	0.46256413	-84233.933	39388.9923	-84233.933	39388.99233
	ICDG	-0.00025429	0.001240297	-0.2050238	0.83915019	-0.0028038	0.00229518	-0.0028038	0.002295177
	INEP	0.008550259	0.003228555	2.64832351	0.01356767	0.00191387	0.01518665	0.00191387	0,01518665
	NDPG	-0.00323855	0.002119429	-1.5280321	0.13858015	-0.0075951	0.00111799	-0.0075951	0.001117993
	PTNG	-3.97276E-05	0.000169547	-0.2343162	0.81657489	-0.0003882	0.00030878	-0.0003882	0.000308782
	LED	1.379535078	0.042870159	32.1793783	1.7902E-22	1.2914142	1.46765595	1.2914142	1.467655953
B1	Intercept	28249.27731	12615.02513	2.23933579	0.03076157	2753.36047	53745.1941	2753.36047	53745.19414
	INEP	-0.00015440	0.000703894	-0.2193609	0.82748446	-0.001577	0.00126822	-0.001577	0.001268216
	MIG	0.000687201	0.000169246	4.06037139	0.0002216	0.00034514	0.00102926	0.00034514	0.001029259
	LED	0.94091944	0.141054429	6.6706125	5.407E-08	0.6558378	1.22600108	0.6558378	1.226001076
B2	Intercept	49986.07437	7035.247954	7.10509064	3.3642E-09	35868.8165	64103.3322	35868.8165	64103.3322
	INEP	0.000483371	0.001226756	0.39402364	0.69517481	-0.0019783	0.00294504	-0.0019783	0.002945038
	MIG	0.000122789	0.00021337	0.57547313	0.56745342	-0.0003054	0.00055095	-0.0003054	0.000550947
	LED	0.08579942	0.059411652	1.44415141	0.15469494	-0.0334188	0.20501762	-0.0334188	0.205017622

Source: Commission's calculations

The results presented on Table 8.11 above reveal that a 1 per cent increase in LED for metropolitan municipalities leads to a 137 per cent increase in employment. However, the impact is statistically insignificant, with a probability value of 1.79. Furthermore, the table reveals that the IDG, NDPG, and PTNG all have a negative and statistically insignificant impact on employment. The INEP, however, has a positive, but very marginal impact on employment.

For secondary cities, the results reveal that a one per cent increase in LED will raise employment by a mere one per cent. The results further reveal that a one per cent increase in the INEP will raise employment by 0.01per cent, while increasing the MIG will lead to a marginal increase of 0.06 per cent on employment.

For large towns, the results are somewhat positive. The results reveal that raising LED will lead to an 8 per cent increase in employment, while raising the MIG and the INEP have a marginal impact on employment. (0.01 per cent and 0.04 per cent respectively).

8.7.1 Summary of findings

Using public finance dataset on South Africa's municipalities, this chapter has examined the responsiveness of municipal infrastructure grant spending to local economic development. The main findings of the empirical analysis can be summarised as follows:

- For metropolitan municipalities (A), the Integrated City Development Grant (ICDG) provides incentives for LED to grow. The NDPG also appears to raise LED, although the impact is very marginal and insignificant. Contrarily, the INEP grant appears to be impacting LED negatively.
- For secondary cities (B1), the MIG and INEP both appear to have a positive impact on LED, although the impact is statistically insignificant.
- For large towns (B2), the INEP and MIG both impact LED negatively.
- The MIG impacts LED negatively for rural municipalities (B3 and B4).
- Lastly, the second model reveals that for all the municipal categories, LED has a positive impact on employment, though statistically insignificant.

The findings reflect the underperformance of the above-mentioned grants in the local government sector and support the findings presented in the qualitative analysis.

As such, it can be concluded that LED cannot be promoted whilst municipalities continue to underspend on infrastructure grants. The same can be said about employment, as observed in the results of the second econometric model. It can be said, therefore, that underspending on infrastructure grants undermines LED and employment as citizens are robbed of resources that could otherwise be used to stimulate local economies.

It is important, however, to investigate the causes of this underspending. An array of literature explains municipalities' inability to perform the roles and responsibilities set out in the Constitution. Research findings have shown that municipalities have failed to deliver on their constitutional mandate due to insufficient capacity, inadequate financial resources, and the lack of efficient utilisation of infrastructure assets, including the maintenance and installation of infrastructure (Schalkwyk, 2008; Monkam, 2014); stated that the challenges faced by municipalities are large because of inadequate revenue collection, fraud and corruption, financial mismanagement, the legacy of the past, and lack of human capital.

8.7   Conclusion

The research provides an overview of the policies and framework regarding economic development in South Africa and the role that municipalities are envisaged to fulfil. This shows that the country, through its transfers to local government through conditional grants, is aimed at unlocking the country's growth potential through infrastructure investment. AGISA identified infrastructure as hampering the country's growth, and one of the reasons this policy was unsuccessful was largely due to capacity issues relating to the rolling out of infrastructure projects.

The findings from the expenditure review, as well as the regression, show that lack of spending on infrastructure is still a prominent factor in the local government sphere, with significant underspending occurring annually over the review period.

There are several legislations, policies, and frameworks relating to LED in the local government sphere. The findings from the report indicate that a few challenges exist hampering the implantation of policy. Nel and Rogerson (2005), stated that several aspects needed to be addressed to improve the implementation of LED at a local level, such as improved skills levels, addressing the funding shortfall, increased community involvement, and improved monitoring and evaluation. One of the main reasons for the failure of LED is that LED is not embedded in municipalities, the review of the literature showed a lack of LED units in municipalities, and if municipalities had units, they had limited funding available to allocate to LED. As such, municipalities do not have sufficient economic strategies to address inequality, poverty, and unemployment (SACN, 2004).

8.8   Recommendations

The Commission makes the following recommendations:

1.   *Any future framework development on LED should include skills development through the revitalisation of mentorship/apprenticeship programmes to address the country's unskilled labour issue.*

The Department of Cooperative Governance and Traditional Affairs develops the National LED Framework, that provides the LED strategy and implementation. The framework is for a period of

ten years, and it provides a guide to various sectors as to their role in innovative-led LED. The research has shown several reasons LED has failed to achieve its desired outcomes. Researchers have indicated that one of the key issues in South Africa is the skills deficit. The skills capacity issue must be addressed to implement LED strategies successfully.

2. *The Commission recommends that Cogta and Treasury develop an appropriate funding mechanism or funding plan in a targeted and phased approach, which considers the spatial inequalities across local government. The Commission further believes that the District Development Model (DDM) must be strengthened and financed for local government to fulfil its developmental role.*

The research has shown that municipalities have sufficient legislations and policy frameworks to guide them in meeting the country's developmental goals. The Division of Revenue has consistently allocated funding for infrastructure-related projects over the review period, with minimal reprioritization of infrastructure-related grant baselines.

However, municipal grant performance has been consistently low, with municipalities achieving below 60 per cent spending on these priorities annually. In addition, infrastructure diversity is still only focused in urban areas, with many local municipalities only receiving MIG funding that is geared towards eradicating backlogs.

Smaller, more rural municipalities have received minimal assistance towards LED, exacerbating spatial inequalities. The current funding of capital projects is still localized in urban areas where the municipalities have the revenue-raising revenue base and capabilities to fund many of their LED projects. This trajectory will continue the migration patterns to urban areas for better work prospects, putting further pressure on service delivery.

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CHAPTER 9:

INVESTIGATING THE LOCAL GOVERNMENT FISCAL FRAMEWORK AND SPATIAL INEQUALITIES ACROSS LOCAL MUNICIPALITIES

Chapter 9

Investigating the Local Government Fiscal Framework and Spatial Inequalities across Local Municipalities

Gianni Delle Donne

9.1 Introduction

Municipalities play an essential role in improving the living standards of citizens by providing basic services to communities. These essential services include the provision of water, sanitation, electricity and waste removal. Municipalities are also envisaged to play a transformative role in driving local economic development (LED) by, among other things, creating an enabling environment conducive to economic growth through investing in basic infrastructure. Essentially, post-1994, local government was placed at the forefront of the developmental agenda. While some municipalities have made progress, many are struggling to fulfil their essential service delivery mandate and have been unable to drive LED initiatives. Significant spatial inequalities across municipalities persist, undermining the revenue-generating powers embedded in the Constitution.

The COVID-19 pandemic amplified many of the challenges already faced by local government. Before the COVID-19 pandemic, many municipalities were already in a strained cash flow position. For the 2019/2020 financial year, 175 municipalities were in financial distress, and 123 had unfunded budgets (National Treasury, 2020). With the onset of the COVID-19 pandemic and the national state of disaster declared in March 2020, accompanied by a drastic decline in economic growth, many municipalities suffered financially with devastating impacts on their operations and service delivery. Post COVID-19, essential service delivery continues to be severely hampered, constraining economic development in many areas, deepening spatial inequalities, and impeding fundamental socioeconomic rights of South Africans enshrined in the Bill of Rights.

The White Paper on Local Government 1998 (hereafter referred to as the "1998 White Paper") sets out the framework within which the municipal financial system functions (CoGTA, 1998). Sections 229 and 230 of the Constitution grant municipalities a range of taxation and borrowing powers. However, section 227 of the Constitution also entitles the local sphere of government to an equitable share of revenue raised nationally, and municipalities may receive additional grants on a conditional or unconditional basis for them to be able to carry out their mandate. Municipalities are, in principle, required to be financially self-sufficient to foster accountability at the local level (Steytler, 2005).

However, amongst many smaller, rural municipalities, unfavourable socioeconomic conditions weaken the capability of municipalities to collect their own revenues and sustain themselves financially (Moloto & Lethoko, 2018) . These municipalities rely heavily on intergovernmental transfers to maintain operations and fulfil their essential service delivery mandate. Municipalities are, in principle, required to be financially self-sufficient to foster accountability at the local level (Steytler, 2005). However, amongst many smaller, rural municipalities, unfavourable socioeconomic conditions weaken the capability of municipalities to collect their own revenues and sustain themselves financially (Moloto & Lethoko, 2018). These municipalities rely heavily on intergovernmental transfers to maintain operations and fulfil their essential service delivery mandate.

The collection of own revenue is crucial for the viability and sustainability of municipal finances. The ability of municipalities to raise own-source revenues was placed under significant pressure during COVID-19, and recovery appears weak in the post-COVID-19 landscape, with rising inflation and a reduction in purchasing power for consumers. Fiscal consolidation has also put pressure on the intergovernmental transfer system. The Financial and Fiscal Commission (FFC) has previously stated that local government's lack of fiscal space places its sustainability and viability at risk (Financial and Fiscal Commission, 2019). In the post-COVID-19 landscape, it is necessary to re-evaluate the local government fiscal framework and seek new opportunities for fostering local economic growth.

9.2   Literature Review

Overview of the local government legislative and policy framework post-1994

The role of local government was radically transformed post-1994. Local government was placed at the forefront of the unique developmental agenda to improve living standards for citizens and communities. This new role came with wide-ranging powers and responsibilities.

The policy objectives of the 1998 White Paper are threefold: firstly, to address the underlying causes of financial problems at the municipal level; secondly, to balance programmes aimed at eradicating poverty and fostering equity with strategies to enhance growth, job creation and competitiveness; and thirdly, to empower municipalities to fulfil their constitutional mandates.

The 1998 White Paper is the primary policy tool that sets out the local government fiscal framework and the policy intentions for local government (CoGTA, 1998). According to this framework, municipalities are assumed, to a large extent, to be financially self-sufficient. National Treasury estimates that 75 per cent of municipal budgets are self-generated, while approximately 25 per cent come from transfers, informing the vertical division of revenue between the national, provincial and local spheres. To fund themselves, sections 229 and 230 of the Constitution grant municipalities a wide range of taxation and borrowing powers, and section 227 of the Constitution entitles the local sphere of government to an equitable share of revenue raised nationally. Municipalities may also receive additional grants on a conditional or unconditional basis for them to be able to carry out their mandate.

The need for a local government fiscal framework that is cognisant of the differences between municipalities is acknowledged in the 1998 White Paper, particularly between urban and rural municipalities. Thus, it is recognised that poorer municipalities, that cannot collect sufficient revenues through taxes, levies and user charges – and who are not in a credible position to raise capital through acquiring debt – are entitled to transfers from the national sphere to fulfil their service delivery mandate. Furthermore, under this new local government system, providing free or subsidised essential services to disadvantaged households was a key policy tool to address household poverty and reduce inequality.

Municipalities play a crucial role in driving the agenda of LED. The primary role and functions of municipal governance are to create an environment for the efficient and effective delivery of services to communities within a specific jurisdiction. Municipalities are essential in delivering basic services, including water, sanitation, sustainable electricity provision and waste removal. They are also mandated to fulfil a developmental role in creating an enabling environment for economic activity to flourish by providing and maintaining essential infrastructure.

Section 11 of the Municipal Systems Act allows municipalities to impose and recover rates, taxes, levies, service fees and surcharges on fees placing a duty on a municipality to "collect all money that is due and payable to it" (section 95(a), Municipal Systems Act, 2000). In other words, municipalities must protect their revenue base, ensuring services are delivered to all residents. The General Valuation Roll and the Supplementary Valuation Rolls of a municipality serve as the revenue base, which comprises the total value of rateable properties within the municipal boundaries. Hence, complete, accurate and fair property valuations are the foundation of the revenue base and the revenue budget for billing taxes and levies. Equity and fairness are compromised if this foundation is not solid. In other words, to manage the revenue base, municipalities must ensure the property management systems are up to date and function effectively.

Once accurate information on all the land or properties within its boundaries is registered on the cadastre (the official record or dimensions and values of land parcels used to record ownership), a good foundation is provided for billing households for taxes and trading services. The National Treasury Circular No. 64 offers specific guidelines to maximise the revenue-raising potential of existing revenue sources, with a particular focus on property rates. The above sentiment is echoed in Circular 66 issued by the National Treasury, where municipalities are requested to ensure that 'billing systems are accurate'. Accurate, updated property valuations allow for appropriate billing of property rates and services provided within the municipality and determining the proper demand requirements of communities. It helps a municipality have a complete perspective of the revenue base of the municipality.

The oversight and regulation of municipal finances are provided for in several sections in the Constitution, including sections 139(1)(a) and (b), and 155(7), which give national and provincial government executive and legislative authority to oversee the financial performance of municipalities concerning their functions; sections 229(1)(b), (2)(b) and 230(1), which provide for national regulation over the fiscal powers of municipalities; as well as sections 215 and 216 of the Constitution, amongst other Chapter 13 provisions, which grant powers to the National Treasury to regulate finance affairs of municipalities. In the event of gross financial mismanagement, recourse is given in the form of interventions, allowed under sections 100 and 139 of the Constitution.

Sources of municipal revenues

Municipalities, in general, have four primary sources of income: own revenue (revenue obtained from imposing taxes and providing services), transfers and subsidies (payment received via intergovernmental transfer system), loans, as well as equity (revenue received from the private sector). Due to significant spatial inequalities and varying degrees of economic development, the sources of revenue across municipalities differ remarkably. Thus, the proportion that own revenue versus transfers contributes towards overall revenue varies significantly across different types of municipalities. Generally, municipalities may be grouped into three categories, metropolitan municipalities (Category A), local municipalities (Category B) and district municipalities (Category C). Local municipalities can further be distinguished into secondary cities (Category B1), those with a large town at its core (Category B2), those with small towns (B3), and rural municipalities (B4) (Municipal Infrastructure Investment Framework).

Before the COVID-19 pandemic, the essential sources of municipal revenues at the aggregate level were grants and subsidies, property rates and sales of electricity (Stats SA, 2019). Grants and subsidies contributed 28.4 per cent of total municipal revenues (R29.2 billion), while electricity sales made up a quarter of total municipal revenues (R25.7 billion), and property rates contributed 17.5 per cent (R18 billion). Water sales made up just over 10 per cent of total municipal revenue (R10.6 billion), while refuse removal, sewage, and sanitation jointly made up approximately 7 per cent (R7 billion). In June 2019, total municipal revenue amounted to R402 503 million, of which grants and subsidies made up 29.2 per cent, electricity sales 26.2 per cent and property rates and taxes 16.5 per cent, as shown in Figure 9.1. "Other" revenue sources, including fines, licenses, permits and donations, made up 11.9 per cent of total municipal revenue, while water made up 9.6 per cent. Sewerage and refuse removal charges contributed relatively little to total revenue, only 3.8 per cent and 2.9 per cent, respectively.

Figure 9.1: Municipal revenue before COVID-19 (aggregate amounts)
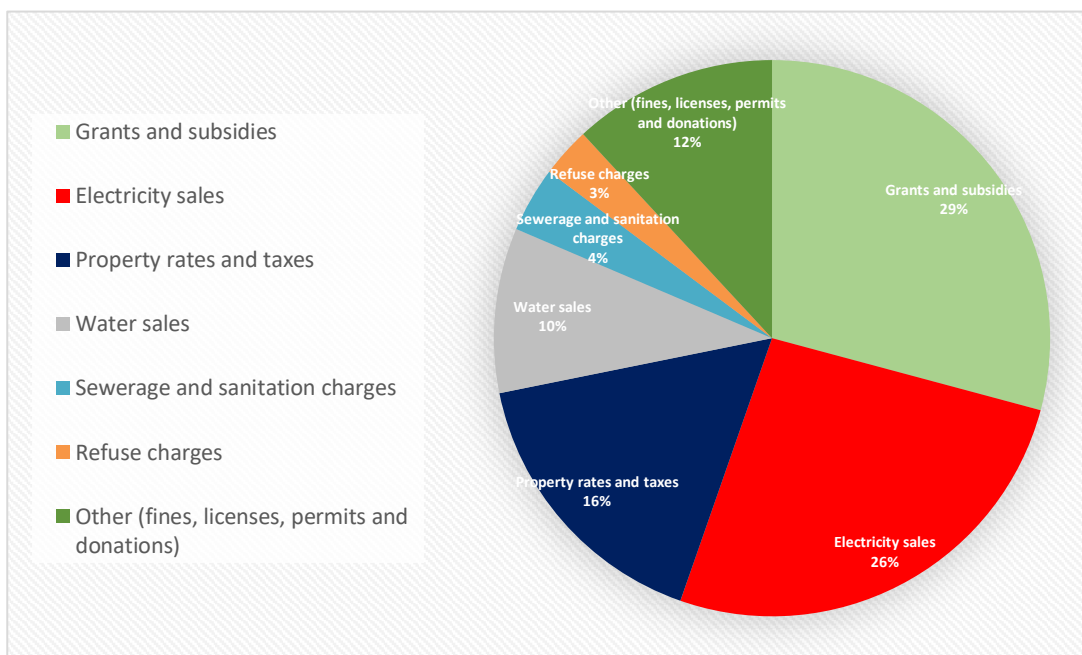
Source: Stats SA

However, fiscal capacity varies significantly across municipalities. Thus, these aggregate figures disguise essential features of the financial position across different categories of municipalities, particularly across urban and rural municipalities. The eight metropolitan municipalities (Category A) contribute approximately 60 per cent of total municipal revenue (Stats SA, 2021). These cities are able to self-generate approximately 80 per cent of their income (Stats SA, 2021). Due to the substantial size of these municipalities compared with many smaller municipalities, they can influence the aggregate figures and distort the overall picture. Rural municipalities, on the other hand, were only able to generate about 28 per cent of their income; therefore, municipalities of smaller towns and rural communities tend to depend heavily on grants and subsidies from intergovernmental transfers (Stats SA, 2021).

When municipal financial data is disaggregated across different types of municipalities, inequalities across municipal revenue sources become much more evident. In 2015, 73 per cent of rural municipalities' (Category B4) income stemmed from grants and subsidies from either the provincial or national sphere of government in the form of intergovernmental fiscal transfers (Stats SA, 2015). Some rural municipalities obtained almost all (up to 95.9 per cent) of their total income from the intergovernmental transfer system (Stats SA, 2015). Therefore, despite wide-ranging revenue-

generating powers conferred upon local government, revenue-generating capacity tends to vary tremendously.

The literature on municipal finances also emphasises a culture of non-payment for municipal services. This phenomenon has become widespread, especially amongst municipalities with a low-income base and poor-quality services. Non-payment directly negatively impacts the financial position of municipalities as it constrains their ability to collect own-source revenues, making them more reliant on the transfer system and less financially viable. In 2015, approximately 49.2 per cent of adults were living below the upper-bound poverty line and were too poor to provide payment for municipal services, making them dependent on additional state support for access to these services (Stats SA, 2019).

In terms of the Municipal Finance Management Act of 2003 (MFMA), municipalities have the legal power to borrow. However, such municipal debt is not guaranteed by National Treasury, and to mitigate risk, municipalities may only borrow in Rands (although the types of lenders or investors are not restricted). Such policies aim to support infrastructure financing, prevent excessive municipal debt and promote fiscal responsibility and creditworthiness (Jackson, 2022). A relatively small number of larger urban municipalities account for most municipal debt. Out of the 257 municipalities in South Africa, only 124 reported having long-term debt, and the eight metropolitans accounted for 86 per cent of total municipal debt – with Johannesburg alone holding 35 per cent (National Treasury, 2021). Furthermore, only four metros have issued municipal bonds (Jackson, 2022), further highlighting the financial disparities across municipalities. Most cannot exploit all their revenue-raising powers entrenched in the Constitution and relevant legislation.

The post-COVID-19 local government fiscal space

Before COVID-19, local government was already facing numerous challenges. Of the 257 municipalities, 63 per cent were already in financial distress, and the growth in national transfers to the local government sphere was already in decline before the pandemic hit (Chigwata & de Visser, 2021). Furthermore, the rise in debt and debt-service costs has put tremendous pressure on the state to consolidate its spending, limiting the fiscal envelope for transfers to the local sphere (Chigwata & de Visser, 2021). In many ways, the pandemic has amplified municipalities' challenges and highlighted inefficiencies in the local government sector.

Municipal revenue and spending patterns have been adversely impacted, although municipalities have been affected to varying degrees given their different circumstances. Metros tend to be more reliant on their own revenues and thus felt the economic shock of the COVID-19 restrictions on economic activity more severely compared to smaller towns and rural areas, where economic activity and the demand for public services were already far less pronounced (Chigwata & de Visser, 2021). However, having sufficient autonomy to regulate fiscal space assisted some cities in striking a balance between the needs of residents and their institutional capacity to continue providing services to the public (Jackson, 2022). The City of Johannesburg, for instance, managed to balance its budget in 2020 by raising property taxes and user fees for a range of services, including electricity, sanitation and water (Jackson, 2022). On the other hand, specific relief measures were also implemented during COVID-19 to assist citizens, particularly vulnerable groups, and businesses during the economic downturn. For instance, in Cape Town, commercial property owners could obtain tax relief conditionally on proving their business income was negatively impacted by the crisis.

Overall, local governments faced an unprecedented dual challenge of combating the pandemic, while simultaneously trying to protect and rebuild the local economic landscape once restrictions were gradually eased (Jackson, 2022). A decrease in revenue collection rates was observed across all municipalities. This decrease may be attributed to the rapid decline in economic production following the COVID-19 lockdown restrictions on economic activity. The pandemic negatively impacted consumers' incomes to the extent that some were unable to pay municipal bills, which, in turn, harmed municipal debt. The number of municipalities that could not pay Eskom and Waterboards increased between 2019 and December 2020 following the onset of the pandemic (from 11 to 13 and from 24 to 38, respectively).

Some municipalities suspended a portion of their credit control measures to aid consumers, resulting in substantial revenue losses between April and June 2020. While certain metros, such as the City of Cape Town and the City of Johannesburg, were able to show financial resilience during this challenging time, others, notably smaller towns and rural municipalities, struggled to supply even the most basic of services, such as water, sanitation and waste management. Almost half of all municipalities showed severe financial strain – including low debt recovery, substantial operating deficits and escalating amounts owed to creditors (National Treasury, 2020).

In the 2019/20 financial year, a total of R150.2 million was transferred to municipalities from the municipal disaster relief grant (National Treasury, 2020). A further R4 billion was reprioritised within

other conditional grants that had already been transferred through the intergovernmental fiscal relations system.

The Medium-Term Budget Policy Statement (MTBPS) for 2020/21 made provision to transfer additional funding of R20 billion to municipalities to ensure the provision of basic services – including R11 billion allocated through the equitable share and R9 billion repurposing through conditional grants that were already given (National Treasury, 2020).

Despite these interim measures, in June 2021, 23 municipalities were classified as dysfunctional and were subject to provincial intervention to restore financial stability, governance and service delivery (AGSA, 2022). By February 2022, the number of dysfunctional municipalities that required provincial or national support to oversee their day-to-day operations had increased to 33 (AGSA, 2022). Furthermore, despite financial support, local government spending inefficiencies persist post-COVID-19. In many municipal areas, the quality of services is declining – which is not a new trend – and a substantial number of municipalities are in financial distress, with incomes unable to meet their expenditure needs. Where money is available, spending inefficiencies persist, undermining LED initiatives. In many respects, local government has failed to live up to its transformative role as envisaged by the Constitution and the 1998 White Paper policy framework.

9.3   Problem Statement and Research Questions

Not all municipalities have the geographic and socioeconomic resources to exploit their revenue-generating powers embedded in the Constitution. The level of economic activity heavily influences own revenue streams in municipalities. Spatial inequalities across municipalities are a barrier to service delivery and LED. Anticipated own revenues needed to cover operating expenditure as assumed in the 1998 White Paper have not materialised, and spending on conditional grants to build infrastructure continues to underperform. These trends are exacerbated by the rising cost of living in the post-COVID-19 landscape, placing additional pressure on the local government fiscal framework.

The study seeks to answer the following research questions:
1. Based on the most recent data, what are quantitatively the most critical sources of revenues for municipalities?
2. Do income sources differ substantially across different types of municipalities, and why?

3. What do municipalities prioritise spending on (core operating expenditure)? Are municipalities effectively utilising conditional grants for driving LED?

4. How can ArcGIS assist with making fiscal policy better tailored to the differentiated needs of some municipalities?

9.4 Research Aims and Objectives

9.4.1 Research aims

- To ascertain, using quantitative techniques and the most recent available data, the nature and composition of sources of municipal revenues.

- To assess the nature and scope of revenue sources across different types of municipalities, i.e. across urban and rural areas.

- To assess spending patterns and spending on conditional grant transfers for infrastructure delivery.

- To investigate innovative approaches to local economic development that are more sensitive to the spatial inequalities and different types of resources available to various municipalities.

9.4.2 Research objectives

- To understand the most crucial income sources across municipalities in different socioeconomic positions.

- To identify gaps in the current policy environment on the municipal financial system and the available means of collecting own-source revenue.

- To identify spending priorities and inefficiencies in spending patterns.

- To develop a quantitative and innovative tool to assist underdeveloped municipalities in fostering sustainable revenue streams through local economic development.

9.5 Research Methodology and Data

9.5.1 Research Methodology

This paper is quantitative and thus relies on data to analyse the demographic, financial and socioeconomic conditions across the different municipalities in South Africa. Municipal revenue sources are disaggregated to enhance our understanding of the extent to which different types of municipalities rely on various revenue sources.

Data is used to draw the vital distinction between municipalities heavily dependent on own-source revenues and municipalities that mainly depend on intergovernmental fiscal transfers to fund their expenditure needs.

This study uses municipal mapping to develop an appropriate tool to assist municipalities in their strategies for local economic development, which is more sensitive to the unequal economic position municipalities find themselves in. More specifically, with ArcGIS we can assess each municipality geographically, using illustrative data to show large spatial inequalities across local municipalities. The tool will be tailored to assist municipalities with finding appropriately differentiated growth strategies for local economic growth and development in their areas by mapping specific economic indicators with their respective geographical locations.

a) *Data*

The study uses a variety of data sources, including the MFMA Section 71 reports for the analysis of revenue and expenditure 2020/21, as well as the analysis for conditional infrastructure grant spending between 2018 and 2022 (National Treasury, 2021). The Local Government Equitable Share data shows the Local Government share allocations across all local and district municipalities. The Stats SA financial and non-financial census data will also supplement the analysis and the Statistics South Africa's Community Survey 2016 data for socioeconomic statistics on individual municipal profiles.

9.6   Results

9.6.1 Overview of local government in South Africa

Local government comprises 257 municipalities: 8 metropolitan municipalities, 44 district municipalities and 205 local municipalities. Figure 9.2a provides an overview of all local and metropolitan municipalities (only seven are displayed above) across South Africa using ArcGIS mapping.

Figure 9.2a: Map of local and metropolitan municipalities across provinces
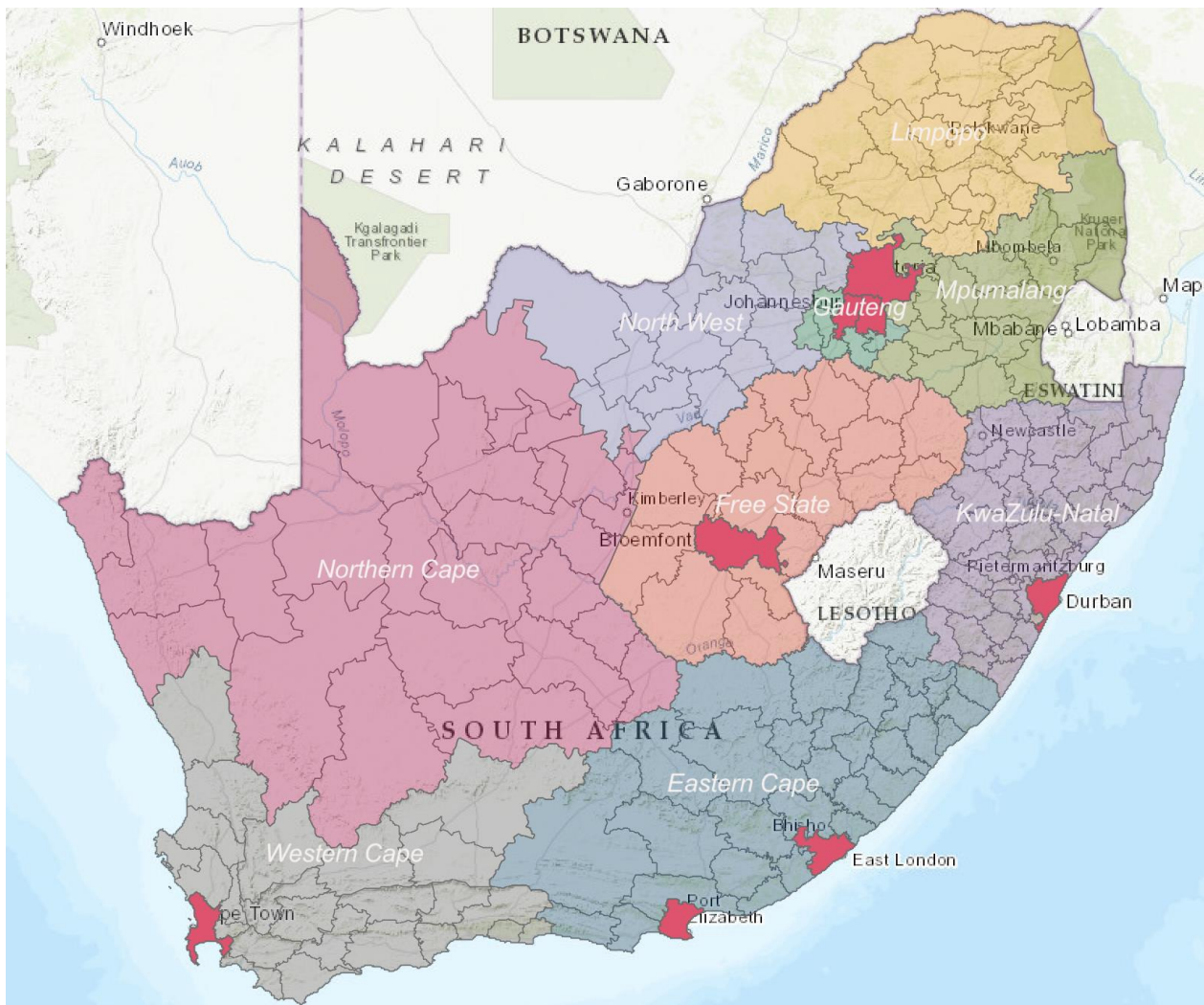
Source: Author's design using ArcGIS mapping

The local municipalities are disaggregated by province, which are shaded by colour: Western Cape in grey, Northern Cape in pink, Eastern Cape in blue, KwaZulu-Natal in purple, Free State in orange, Mpumalanga in green, Gauteng in turquoise, North-West in light purple, and Limpopo in yellow. Figure 9.2b below provides the same map as above but includes all the names of local municipalities showing how they are distributed across the country.

Figure 9.2b: Map of local and metropolitan municipalities
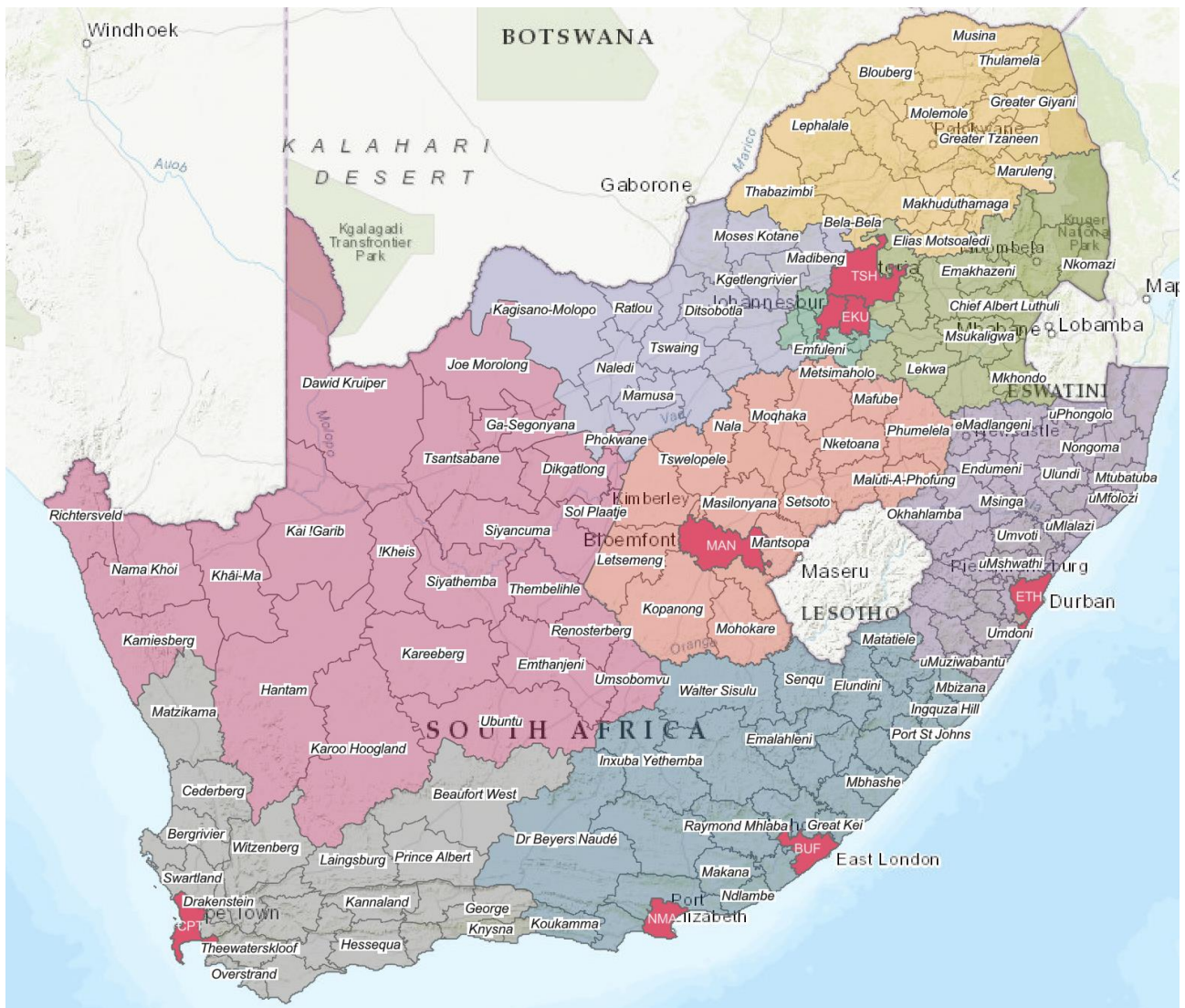
Source: Author's design using ArcGIS mapping

Socioeconomic conditions, such as the prevalence of poverty, impact municipalities' revenue bases. Figure 9.3 below shows a heatmap of the percentage of poor households per local municipality. Municipal boundaries are shown in white and provincial boundaries are shown in black. The map reveals that the rate of poor households across most local municipalities ranges between 50 and 70 per cent, with relatively few municipalities where household poverty is below per cent.

Figure 9.3: Indigent households across local municipalities
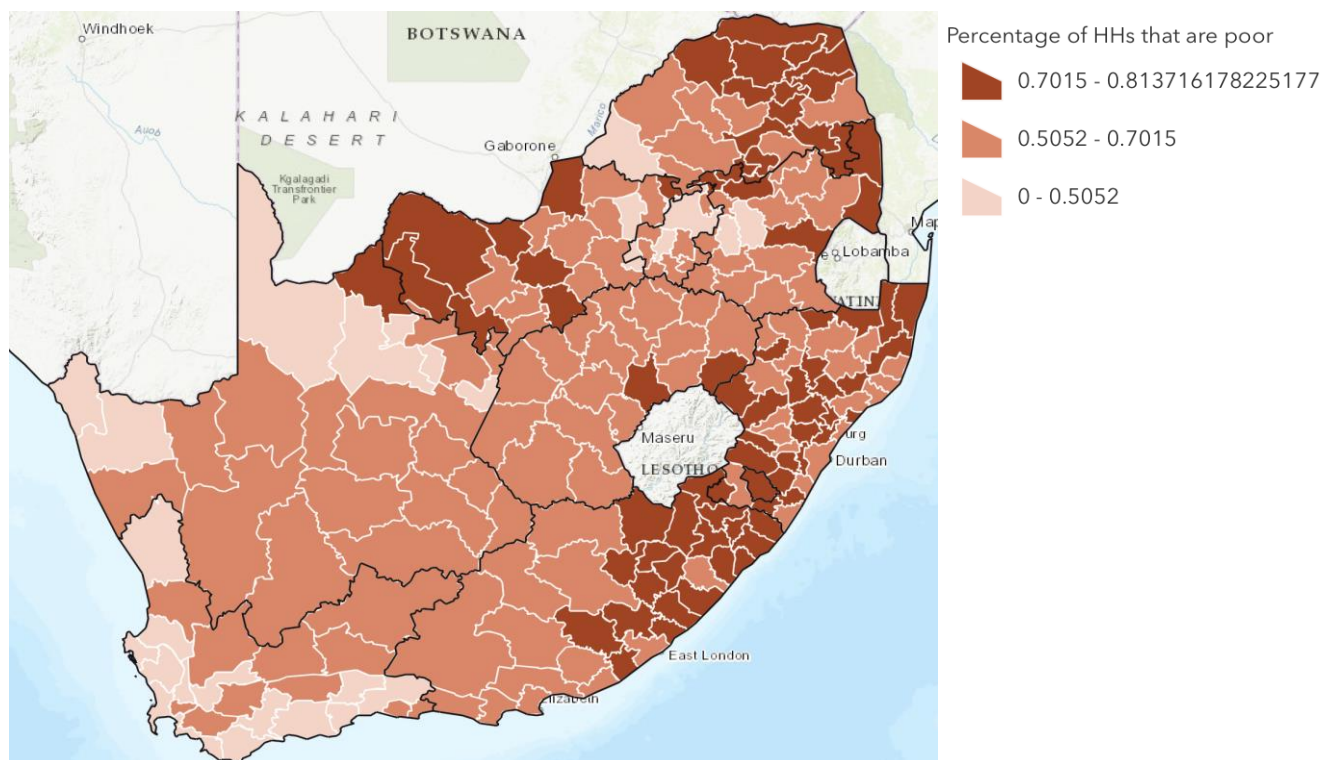
Source: Author's calculations using LGES 2022/23

Figure 9.3 tells us that there are also several households, most notably in municipalities situated in the Eastern Cape, North-West, Limpopo and KwaZulu-Natal provinces, where the percentage of poor households exceeds 70per cent. In these regions, the prevalence of low-income households translates into the inability to pay for municipal services, negatively impacting revenues through the constrained collection of service charges or forgoing revenue by providing Free Basic Services (FBS).

Providing free or subsidised essential services is an important policy tool that assists poor households in accessing critical services they otherwise could not afford. Access to basic services is a crucial component of the social wage, effectively supplementing the incomes of poor households and reducing inequality (Ledger & Rampedi, 2020). Figure 9.4 below shows the number of households per province that receive FBS. The province within which most households receive FBS is Gauteng, followed by KwaZulu-Natal. In Gauteng, almost 800 000 homes receive water and solid waste management free of charge. Approximately 650 000 and 550 000 households in Gauteng receive free electricity, and sewerage and sanitation, respectively. The distribution of households receiving FBS differs significantly across provinces; however, even within provinces, the provision of one essential service (e.g. electricity) may far exceed another (e.g. solid waste management).

Figure 9.4: Indigent households receiving FBS by province, 2020
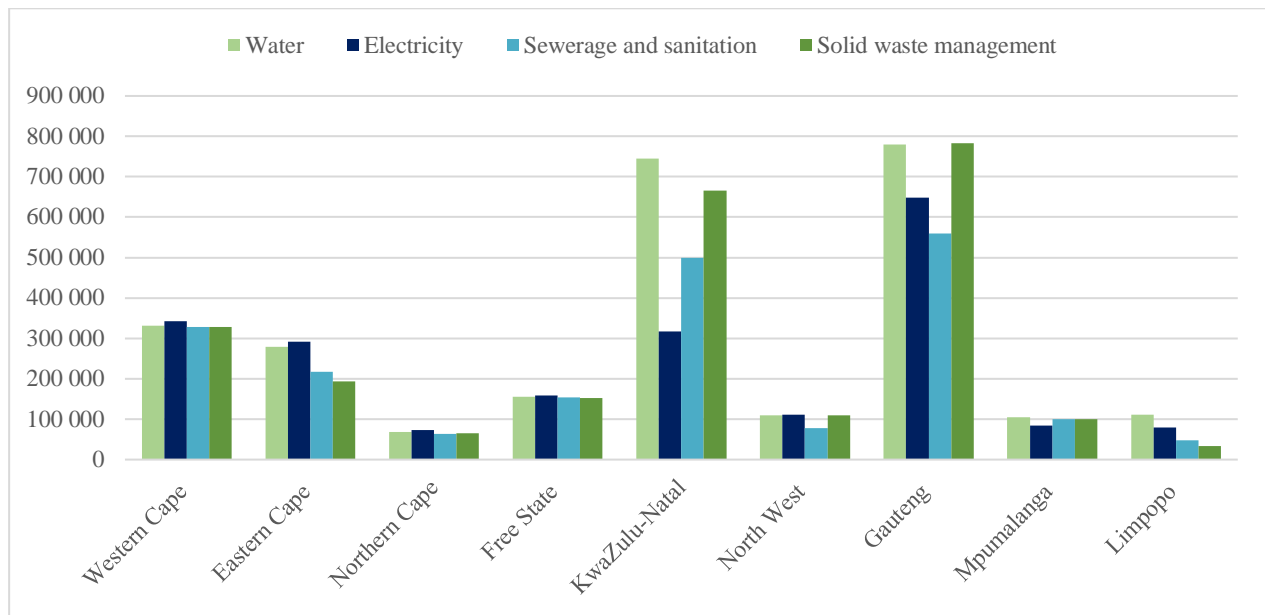
Source: Author's calculations using MFMA non-financial census 2020

Figure 9.**5** shows household access to FBS across all provinces between 2006 and 2020. The figure shows that, during this period, the number of households receiving FBS has expanded for all basic services: water, electricity, refuse removal, sewerage, and sanitation. By 2020, over 2.5 million indigent households received free water services; almost 2.5 million received free refuse removal services, and roughly 2 million received free sewerage, sanitation, and electricity services. It appears that the expansion of FBS to indigent households has been gradual and inconsistent over the years.

Figure 9.5: Indigent households receiving FBS (across all provinces), 2006-2020
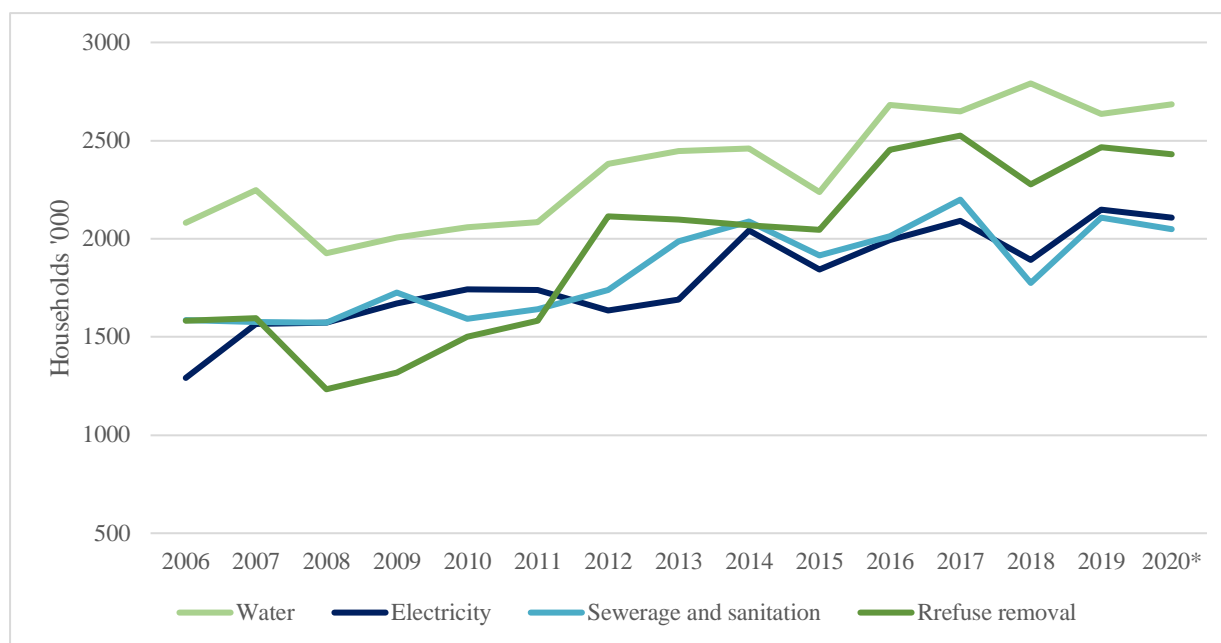
Source: Author's calculations using Stats SA MFMA non-financial census, 2022

This expansion is necessary to protect vulnerable groups, especially in the current cost of living crisis South Africa is experiencing as a result of rising inflation. However, the impact of the FBS policy on municipal revenues cannot be overlooked. The solution would be LED that leads to job creation across municipalities, which translates into greater purchasing power for consumers and, therefore, a more significant tax base for municipalities. The following two sections consider the overall local government fiscal framework and the municipal revenue base across different types of municipalities.

9.6.2   Local government fiscal framework

National Treasury's view of the local government fiscal framework (LGFF) refers to all revenue streams municipalities have at their disposal to meet their expenditure obligations. These include own revenue, borrowing and intergovernmental transfers.

Figure 9.6 illustrates that municipal categorisation impacts the municipality's transfer dependency. For example, the own income of metropolitan municipalities (Category A) makes up the bulk of its operating budget at 87.82 per cent. The diagram further illustrates that district municipalities (Category C) are much less able to raise their revenue and who receive a large portion of their operating budget from grants (transfers and subsidies), which make up 41.05 per cent.

Local municipalities (Category B) rely on transfers and subsidies to fund approximately a quarter of their operating budgets. However, this aggregate figure for Category B municipalities is distorted and does not capture the disparities across different types of local municipalities.

Figure 9.6: Local government fiscal framework 2020/21
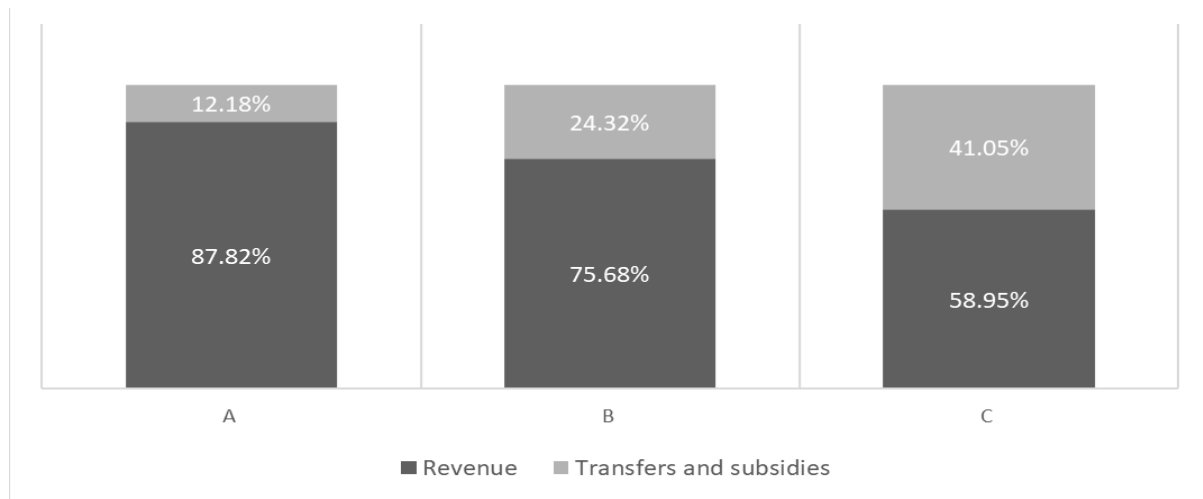
Source: 2021 4th Quarter Section 71 Reports

According to section 227 of the Constitution, a municipality is entitled to revenue raised nationally "to enable it to provide basic services and perform functions allocated to it". Municipalities also receive income from conditional national and provincial government transfers in terms of the Division of Revenue Act (DoRA). These transfers supplement municipalities' income, enabling them to provide essential services and fulfil their mandate. Conditional grants, specifically geared towards infrastructure, are considered in more detail in section 6.7 of the paper.

Below, we consider the level of reliance on intergovernmental transfers, specifically the Local Government Equitable Share (LGES) allocations across both district and local municipalities using ArcGIS mapping. The size of the local government's equitable share (LGES) is decided through the national budget process.

Figure 9.7 illustrates the 2022/23 LGES allocations for district municipalities across South Africa, disaggregated by the size of the LGES. Districts shaded in blue receive the smallest amount, followed by districts shaded in green, yellow and red. Those shaded in red receive the largest amounts.

To illustrate, the figure shows that most districts in the Northern Cape, Western Cape and Mpumalanga receive between R2.8 million and R260 million, while many situated in the Eastern Cape and Kwa-Zulu Natal receive substantially more – between R260 million and R628 million. In Limpopo, the Vembe, Mopani and Skhukhune district municipalities, shaded in orange, receive between R628 million and R1.2 billion in LGES allocations. The map also shows metropolitan municipalities who receive the most LGES, such as City of Tshwane, City of Ekuhuleni, eThekwini and City of Cape Town, shaded in red (between R1.2 and R6.2 billion)

Figure 9.7: LGES allocations for district municipalities 2022/23 (Rands)
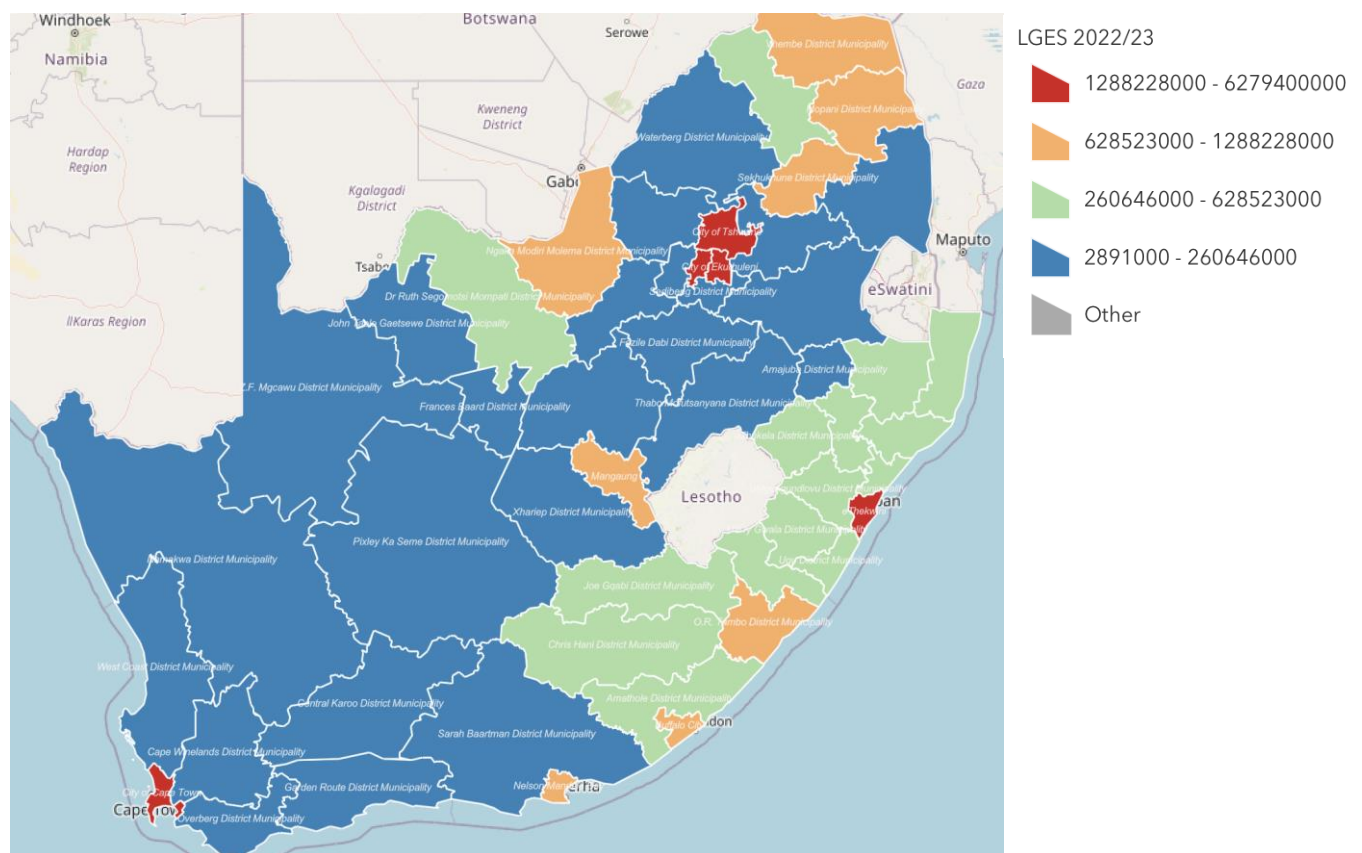
Source: Author's calculations using LGES 2022/23

Similarly, using ArcGIS mapping, Figure 9.8 below shows the LGES allocations across local municipalities. What is noticeable is that far more local municipalities in the North-East of South Africa (in provinces such as Gauteng, Limpopo and Mpumalanga) receive much greater grant allocations in Rand terms. These municipalities have been shown on the map in red, while those who receive the least allocations are shaded in dark blue. Overall, the map indicates the varied nature of the LGES and across which provinces it is more concentrated.

Figure 9.8: LGES allocations for all local municipalities 2022/23 (Rands)
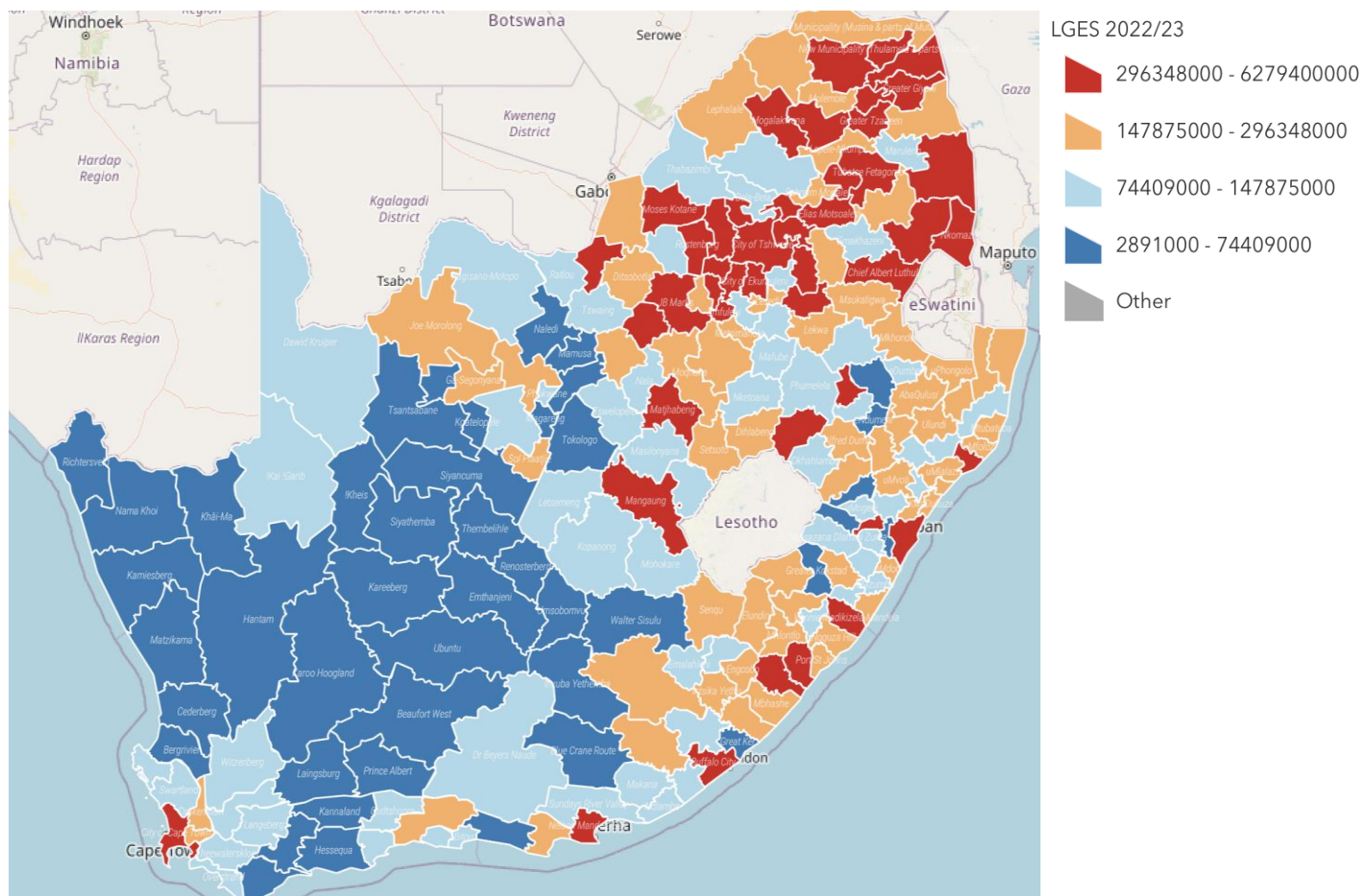
Source: Author's calculations using LGES 2022/23

In recent years, the LGES has not grown proportionately with the increased costs of bulk purchases or employee costs (Ajam, 2021) , The adequacy of the grant has been the subject of much debate.27 The Financial and Fiscal Commission has previously noted that the fairness of the vertical division of revenue remains contentious, especially since the demand for local government services has expanded significantly over the past two decades.

Besides from own revenue (discussed in more detail below) and intergovernmental transfers (such as the Equitable Share shown above), municipalities also have the power to borrow. Chapter 6 of the MFMA details the conditions for municipalities to borrow funds with respect to long-term and short-term debt.

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[27] For a concise summary on the adequacy of the LGES grant in light of escalating costs of municipal service delivery, see Ajam (2021).

The Financial and Fiscal Commission has previously noted that even though South Africa has a sound borrowing framework, the uptake of debt financing by municipalities remains low. Borrowing is concentrated largely in metropolitan municipalities due to their stronger tax bases and creditworthiness. Post-financial crisis of 2008/9, the share of municipal borrowing declined and moderated at 8 per cent of total revenue (Financial and Fiscal Commission, 2019). While borrowing should be approached with caution, given the size of their economies and stronger revenue bases, large cities and metropoles have the potential to leverage borrowing and reduce their dependency on intergovernmental transfers, particularly in the form of conditional grants used to fund the gap in capital projects, such as for infrastructure (Financial and Fiscal Commission, 2017).

The Financial and Fiscal Commission has also considered supplementary revenue instruments for municipalities (Financial and Fiscal Commission, 2019). Again, metropolitan municipalities and intermediate cities have the most potential to explore and exploit supplementary sources of own revenue, while rural municipalities have limited scope to do so.28

9.6.3   Municipal revenue base

Section 229 of the Constitution grants municipalities substantial taxation and borrowing powers. They are entitled to charge a tariff for services provided to communities, providing municipalities with significant revenue-raising powers, which should, in principle, pay for the bulk of municipal expenditure requirements. Property rates are a substantial source of taxable income to municipalities, whilst trading services (electricity, water and sanitation) contribute the bulk of municipal revenue. In Figure 9.9 below we consider how and to what extent different types of municipalities generate their own revenue, specifically through charging for basic services and property rates

Figure 9.9 illustrates the municipal revenue base across Category A, B and C municipalities for the fourth quarter of 2021. Municipal trading services such as electricity, water, sanitation and refuse removal constitute the primary source of own revenue in metros and local municipalities. Figure 9.9 shows that Category A municipalities (i.e. metros) can raise a large percentage (roughly 70 per cent) of their operating revenue from the municipal tax base. This is due primarily to the socioeconomic profile of the municipality.

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28 See Annual Submission on the Division of Revenue 2020/21, pg.50 for more detailed insights into the FFC's work on supplementary revenue sources for municipalities.

Figure 9.9: Municipal service charges and property rates as a percentage of operating revenue, 2021
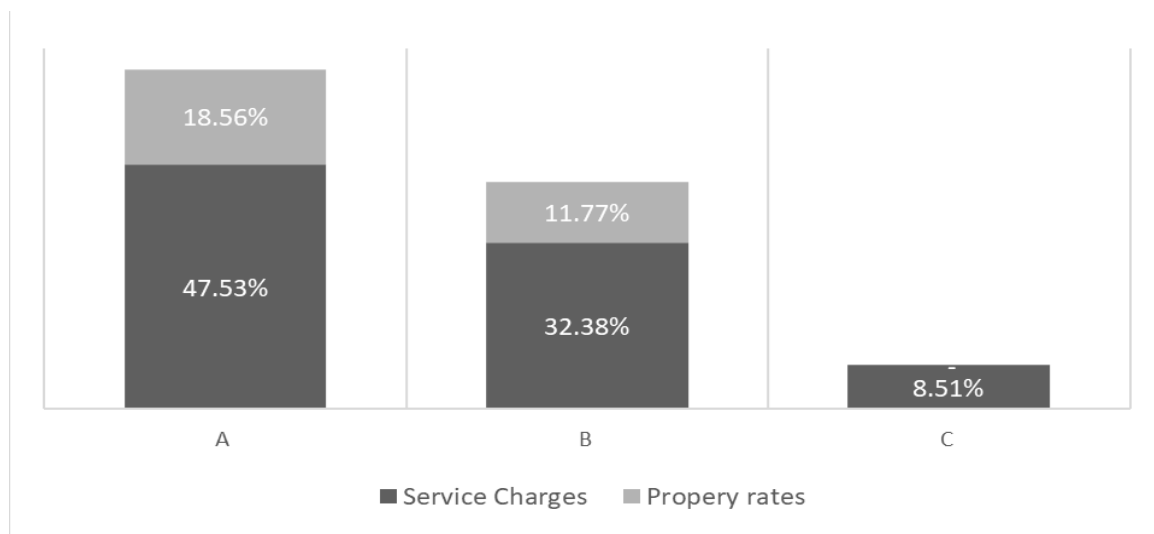
Source: 2021 4th Quarter Section 71 Reports

At the aggregate level, local municipalities raised approximately one-third of their operating revenue through service charges and only about 11 per cent through property taxes. This suggests that local municipalities raise approximately 44 per cent of their own revenue from the municipal tax base and will rely on intergovernmental transfers to fund the rest of their operating budgets (roughly 56 per cent), which contradicts the National Treasury's estimation of a 75-25 split between own revenue and transfers.

It is also evident from the diagram that district municipalities have limited revenue-raising capabilities. These municipalities generate no revenue from property rates. District municipalities also generate very little income from service charges, as some districts do not offer essential services. Fostering LED and increasing the municipal tax base of the local government sector necessitates an in-depth approach that considers individual municipality's challenges. The following sections, therefore, home in on two local municipalities, Steve Tshwete (Category B1) and Joe Morolong (Category B4), and one metro, Nelson Mandela Bay (Category A), to illustrate the nature and extent of spatial inequalities that undermine the municipal tax base and the fiscal capacity of different types of municipalities.

9.6.4 Case studies using ArcGIS mapping

The municipalities selected for further analysis are highlighted in separate colours on Figure 9.10 with Joe Morolong in the Northern Cape highlighted in pink, Steve Tshwete in Mpumalanga highlighted in green, and Nelson Mandela Bay (NMB) in the Eastern Cape highlighted in blue. Each municipality's demographic and economic profile is discussed in more detail below.

**Figure 9.10: Joe Morolong, Steve Tshwete and Nelson Mandela Bay**
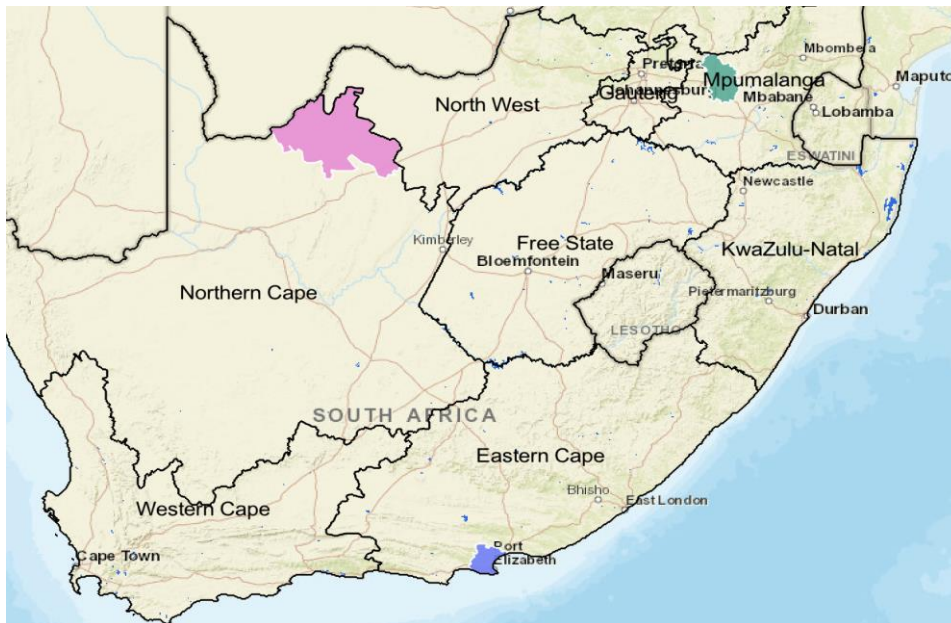
Source: Author's design using ArcGIS mapping

a) *Nelson Mandela Bay*

Geographic context and demographic characteristics are important considerations for understanding how the local government fiscal framework fairs. Figure 9.11 shows how the population within the Eastern Cape is distributed across its district municipalities. NMB is amongst the most populated in the province, demonstrated by the dark blue shaded area. Less populated districts are shown in light blue. NMB metro has a population of approximately 1.2 million, comprising roughly 19 per cent of the population of the Eastern Cape, with a total of 359 412 households (Stats SA, 2020). The area of the NMB metro is 1959 km². NMB metro is a Category A municipality and is the economic powerhouse of the Eastern Cape.

Figure 9.11: Population distribution across Eastern Cape District Municipalities
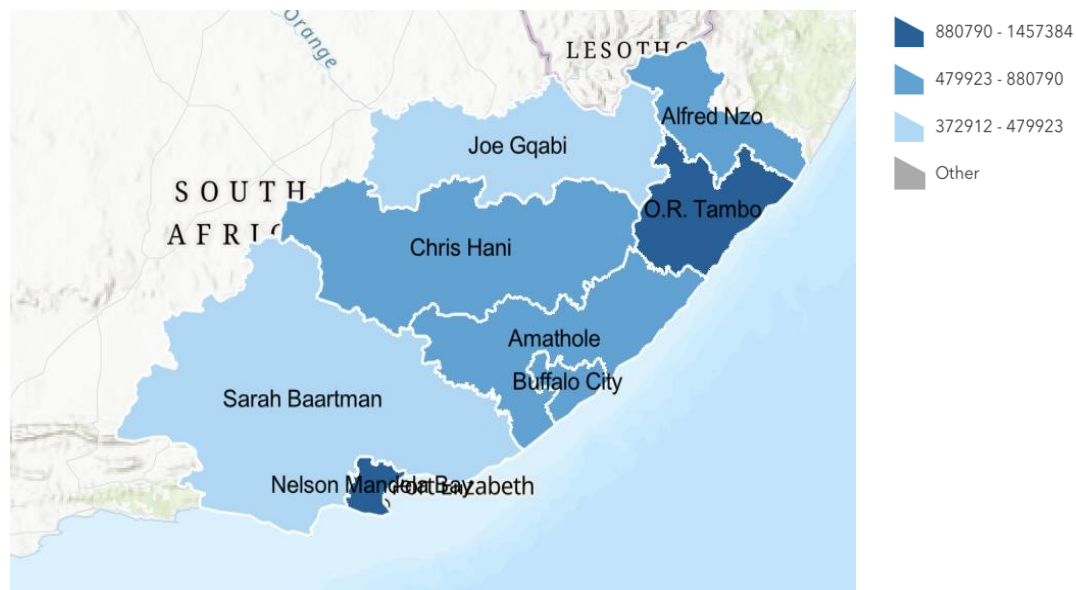

Source: Author's calculations using Community Survey 2016

The metro is a major economic player in the province with its ports, Port Elizabeth and Port of Ngqura, located in the Coega Special Economic Zone (SEZ), which enhances the municipality's attraction for trade and industry (Nelson Mandela Bay, 2022). The NMB is a prominent South African seaport and a hub for automotive manufacturing, contributing 34.9 per cent to the province's GDP in 2020 and 2.68 per cent to the GDP of South Africa (Nelson Mandela Bay, 2022). The location of the NMB metro thus presents some advantages and economic possibilities. NMB is also home to one of South Africa's Special Economic Zones, Coega, that could be an ideal location for labour-intensive export activities for three key reasons: there is infrastructure, specifically port facilities; there are a substantial number of developed sites for readily available investors; and there are large numbers of unemployed persons previously trained in labour-intensive manufacturing activities that could be well-suited for such employment (Kaplan, 2019). The manufacturing sector comprises approximately 25 per cent of the economy, with community and finance following at 23 per cent and trade and transport at 13 per cent (Municipalities of South Africa, 2022).

Figure 9.12 below provides a map of NMB and specifically distinguishes residential and industrial areas and the farming activities in the surrounding locations. Productive activity in NMB comprises various industries that drive growth and economic development in the municipality. Production, or output, per industry, may be measured with Gross Value Added (GVA). The tertiary sector, encompassing broadly four industries – community services, trade, transport and finance – together contributes the most to GVA in the metro totalling almost three-quarters of the total GVA. In 2020,

as a proportion of total GVA, community services contributed 26.4 per cent, finance 25 per cent, trade 15 per cent and transport 8.5 per cent. Another important sector in NMB is manufacturing, that broadly forms part of the secondary sector alongside electricity and construction. In 2020, manufacturing contributed roughly 20 per cent to overall GVA. Electricity and construction contributed much less to GVA, at 1.4 and 2.3 per cent, respectively. The primary sector, comprising mining and agriculture, appears to play an insignificant role in driving growth in NMB, totalling less than 1 per cent of GVA.

Figure 9.12: Industrial, residential and agricultural areas of NMB
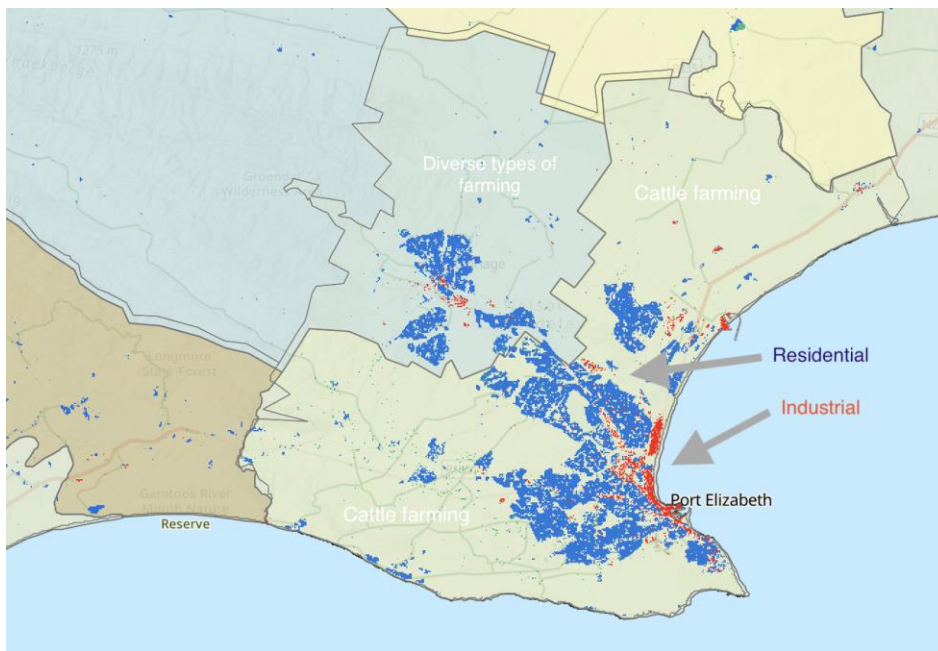
Source: Author's design using ArcGIS mapping

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to GVA, at 1.4 and 2.3 per cent, respectively. The primary sector, comprising mining and agriculture, appears to play an insignificant role in driving growth in NMB, totalling less than 1 per cent of GVA.

The city is also a holiday hot spot for national and international tourists. An international airport is situated in Gqeberha, formerly known as "Port Elizabeth". The airport is located within five minutes of the city centre. However, NMB's tourism sector declined drastically in recent years following the strict lockdowns imposed during the height of the COVID-19 pandemic. While many sectors declined due to the pandemic, tourism was one of the worst impacted. In 2019, tourism in the NMB metro contributed R14 billion, or 11 per cent of the GDP (Vermeulen-Miltz, Clifford-Holmes, Snow, & Lombard, 2022). Since 2019, the metro has experienced a 72 per cent decline in foreign tourists and a 45 per cent decline in domestic tourists (Nelson Mandela Bay, 2021).

b) *Steve Tshwete*

Steve Tshwete is a Category B1 municipality with the secondary city of Middleburg, situated in Mpumalanga in the Nkangala district municipality. It is approximately 3976 km² in size. In 2016, the total population of Steve Tshwete was 278 749, and its population is expected to increase to roughly half a million by 2030 (Steve Tshwete Local Municipality, 2022). Figure 9.13 shows a heatmap of population density across all the local municipalities in Mpumalanga. It illustrates that Steve Tshwete is more populated than many municipalities shaded in dark green (e.g. Emakhazeni) but not as populated as those shaded in light blue (e.g. Bushbuckridge).

Figure 9.13: Population distribution across local municipalities in Mpumalanga
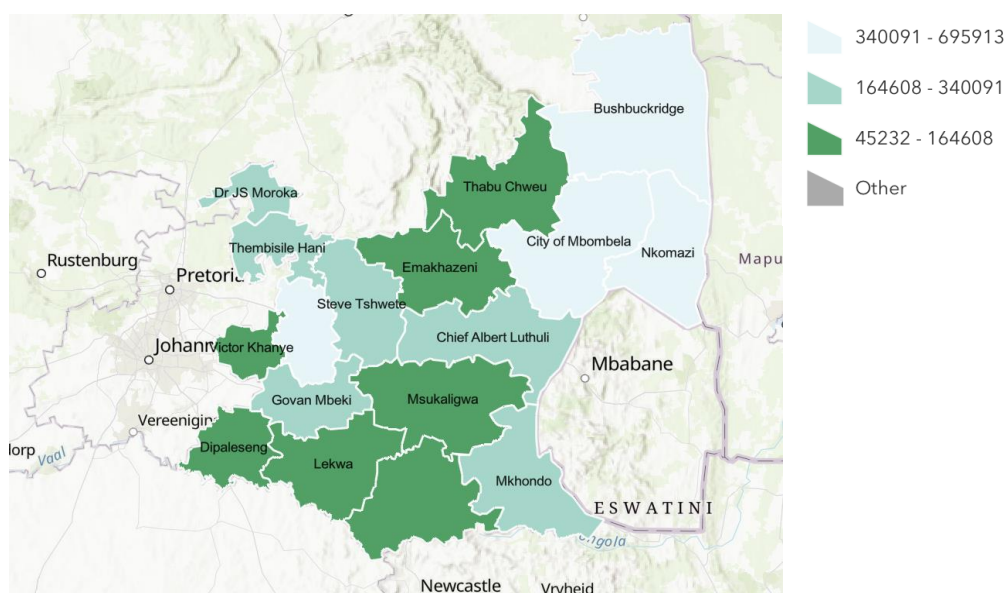
Source: Author's calculations using Community Survey 2016

In 2020, the largest industries in Steve Tshwete were mining (22.7 per cent of GDP), manufacturing (22.3 per cent) and community services (15.7 per cent) (Steve Tshwete Local Municipality, 2022). This was followed by finance and trade, contributing 12.2 and 10.1 per cent of GDP, respectively (Steve Tshwete Local Municipality, 2022). In total, the primary sector contributes 27.1 per cent, the secondary sector contributes 28.2 per cent and the tertiary sector 42.6 per cent of the total GDP in the municipality (Steve Tshwete Local Municipality, 2022).

Figure 9.14: Residential and industrial areas of Middleburg, Steve Tshwete
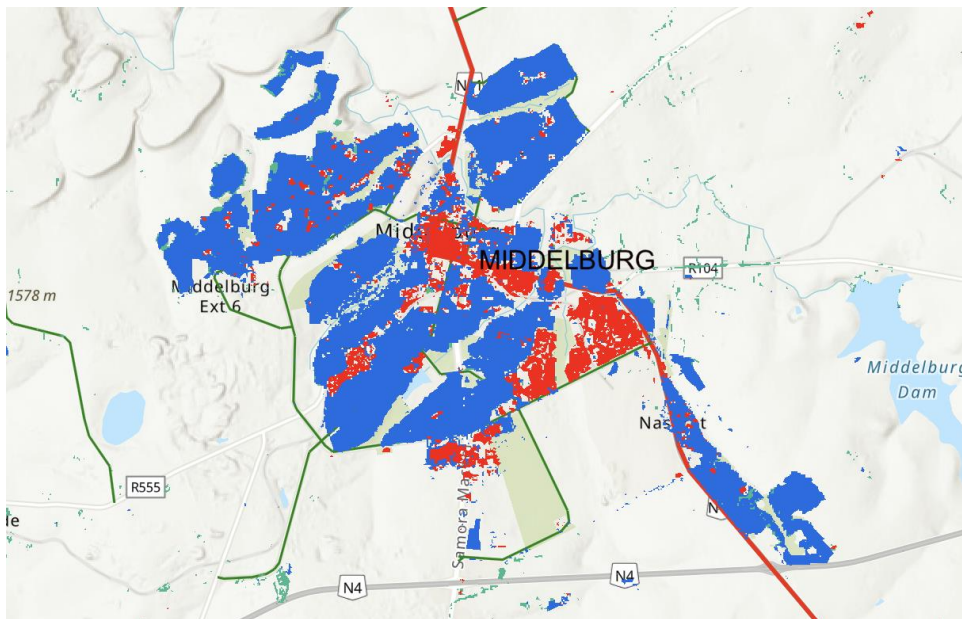
Source: Author's design using ArcGIS

The industrial areas of Middelburg, the economic hub of Steve Tshwete local municipality, are shown in red in Figure 9.15. What is noticeable from the map is that industrial areas or 'zones' are more scattered across Middelburg than they are in the NMB metro. Less concentrated industrial zones may imply that industries are less strategically placed, although the number of industries in the city of Middelburg has been growing. Figure 9.15 shows the layout of crucial infrastructure in Steve Tshwete. The municipality has the benefit of the national highway going through the middle of the municipality, with secondary and arterial routes connected. Other important features to note include an airport, which is near both Middelburg and along the national highway, and many water infrastructure points that are situated near rivers. Being more developed and populated than Joe Morolong, Steve Tshwete has more towns (shown in red below).

**Figure 9.15: Water sources and critical infrastructure in Steve Tshwete**
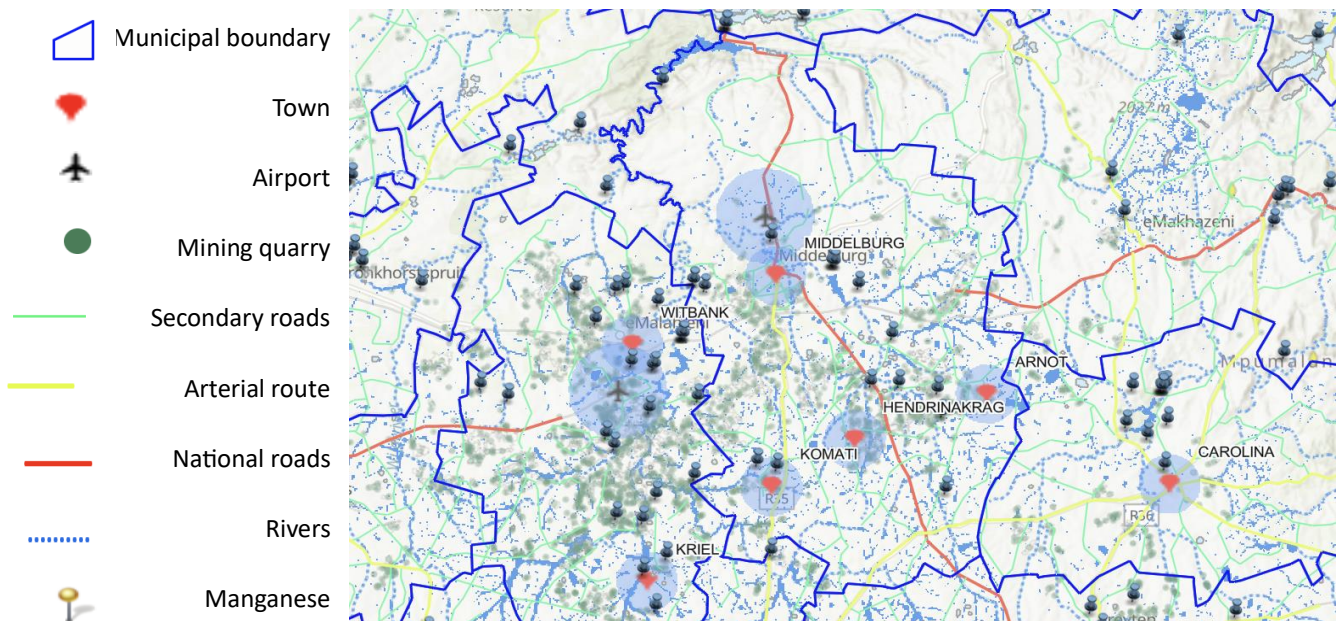
Source: Author's design using ArcGIS

c) *Joe Morolong*

Joe Morolong local municipality is a Category B4 municipality situated in the North-East of the Northern Cape province. The municipality is located in the John Taolo Gaetsewe District municipality and is approximately 20 172 km². Joe Morolong has a population of 84200 and comprises 186 traditional settlements and two small towns (Stats SA, 2016). Compared to Steve Tshwete and NMB, Joe Morolong is the least populated municipality. Category B4 municipalities are predominantly rural areas with little economic activity and industrial production compared to NMB metro and Steve Tshwete.

Joe Morolong is characterised by informal establishments connected mostly by gravel roads (Stats SA, 2016). It is regarded as the poorest area within its district. The municipality has a small economic base with high poverty and unemployment rates (Joe Morolong Local Municipality, 2021). Unlike the other two municipalities, no financial hub or large town is situated in Joe Morolong. Therefore, job opportunities are limited. The municipality also lacks the basic infrastructure to fulfil its service delivery mandate.

## Figure 9.16: Population across local municipalities in the Northern Cape
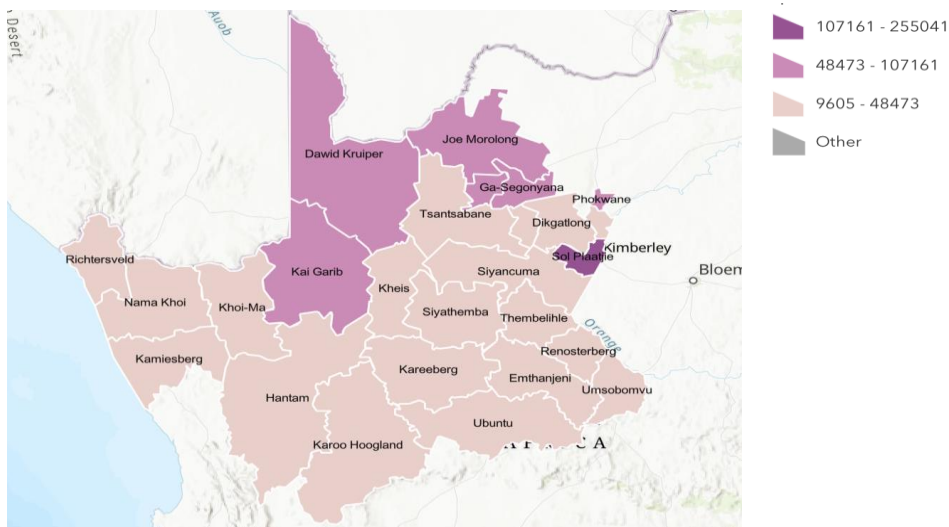
Source: Author's calculations using Community Survey 2016

Agriculture, mining and community services are the most important contributions to Joe Morolong's local economy. Tourism has the potential to grow due to attractions such as heritage sites and game farm hunting (Joe Morolong Local Municipality, 2021). Regarding vegetation, the Kalahari Plains Thorn Bushveld is the primary vegetation type within Joe Morolong's borders. The Shrubby Kalahari Dune Bushveld is found on the west, and the Kalahari Plateau Bushveld on the east. Together, these bushveld areas offer the potential for game and livestock farming of cattle and some mining potential.

Figure 9.17 below shows the type of farming activity within Joe Morolong and indicates that cattle and subsistence farming are the most prevalent.

Figure 9.17: Type of farming activity in Joe Morolong
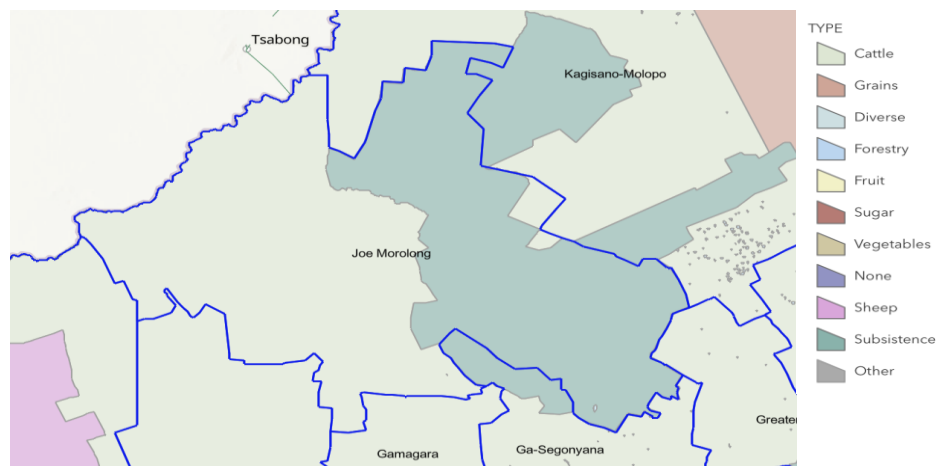
Source: Author's design using ArcGIS

The map in Figure 9.18 illustrates key infrastructure points and water sources in Joe Morolong. The Kuruman and Moshaweng rivers run through Joe Morolong municipality. We notice only two existing water infrastructure points along the Kuruman River, shown by the blue pins. Joe Morolong relies on mining, specifically manganese, which is visible by the gold pins and the green circles, which indicate manganese deposits and mining quarries, respectively. However, mining requires, amongst other things, a functioning transport network. Given the rural location of Joe Morolong, most roads are secondary routes and arterial roads, indicating that transport infrastructure is lacking. Joe Morolong has one airport situated in the west, with no surrounding towns in the vicinity.

Figure 9.18: Water sources and critical infrastructure in Joe Morolong
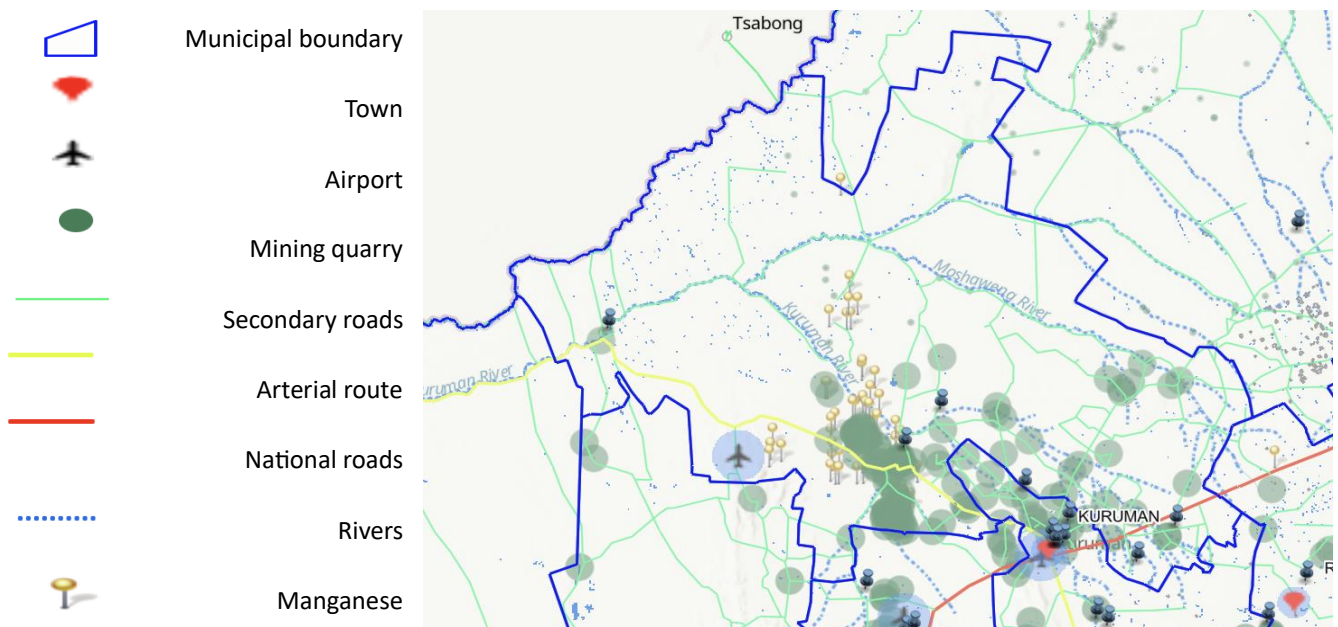
Source: Author's design using ArcGIS

9.6.5   Municipal revenue: Nelson Mandela Bay, Steve Tshwete and Joe Morolong

To function sustainably, municipalities require a solid revenue base to cover their operating expenditure and deliver services to their communities. However, as demonstrated above, municipalities have vastly different revenue-generating capabilities, given their socioeconomic, geographic and demographic circumstances. Overall, the ability to raise its own finances is heavily influenced by the extent of economic activity in a municipality (Plakkies, 2022).

Weak economic growth negatively impacts a municipality's fiscal capacity to raise revenues, resulting in increased dependence on intergovernmental transfers. Municipalities raise their own revenues by imposing property rates and charging tariffs for essential services. At the aggregate level, research

suggests that these key revenue sources have decreased over the years (Financial and Fiscal Commission, 2019). Concerning tariffs, larger municipalities have historically generated surpluses on electricity, water and sanitation sales. However, rising tariffs and increased cost of living put downward pressure on household budgets and consequently limit revenues collected by municipalities (Financial and Fiscal Commission, 2019).

Figure 9.19 provides the 2020/21 revenue breakdown for two local municipalities: Steve Tshwete and Joe Morolong. What we see are huge disparities across critical sources of revenue. For Steve Tshwete, a more economically developed municipality with a more robust revenue base than Joe Morolong, sales from electricity make up almost 40 per cent of its total revenue, and only 15 per cent of total revenue comes from intergovernmental transfers. On the other hand, 57 per cent of Joe Morolong's total revenue came from transfers and electricity sales only contributed 2 per cent. Considering Joe Morolong's lower population and rural location informs us why this municipality is much less reliant on electricity sales and more reliant on government grants to fund its operations than Steve Tshwete.

Figure 9.19: Key revenue components across Steve Tshwete and Joe Morolong, 2020/21
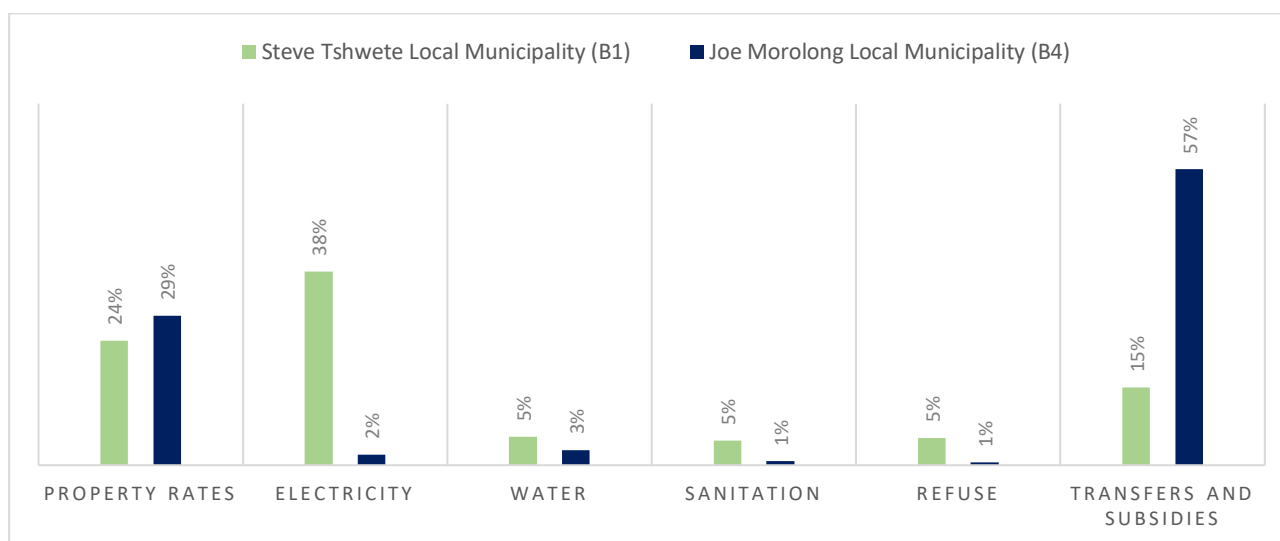
Source: Author's calculations using Section 71 reports 2020/21

Property rates across both municipalities make up a significant portion of total revenue, despite their varying geographical profiles and socioeconomic status. This finding is encouraging as it suggests that the rural nature of Joe Morolong does not entirely impede it from raising revenues through property taxes. However, property valuations remain a challenge, especially for rural municipalities where communal tenure systems are in place (Financial and Fiscal Commission, 2019). Both municipalities generally have low revenue from sanitation, water and refuse services. Payment for water services has declined over the last few years due to non-payment, inadequate billing systems,

climate change-induced droughts and decaying municipal infrastructure (Financial and Fiscal Commission, 2019). Overall, Figure 9.19 provides an example of the high level of transfer dependency for rural municipalities relative to other local municipalities.

More recent data from June 2022 was used to include NMB in the analysis since the same 2021/21 data for NMB was unavailable. Figure 9.20 shows that electricity sales for NMB make up more than half of the municipality's revenues for the quarter ending in June 2022 – notably higher than what Steve Tshwete and Joe Morolong were able to raise. Despite the collection of property rates being absent for that quarter, NMB was still able to raise over 75 per cent of its total operating revenue through own-revenue sources: water service charges (23 per cent), electricity sales (56 per cent), and sanitation (9 per cent) and refuse (4 per cent), for the quarter ending 30 June 2022.

Figure 9.20: Key revenue components for Nelson Mandela Bay metropolitan, June 2022
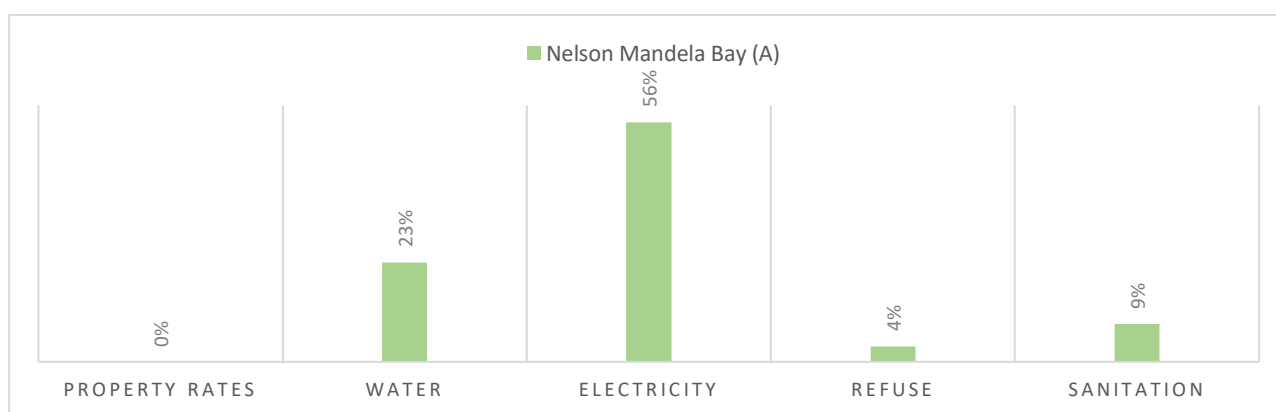
Source: Author's calculations using Stats SA Quarterly Financial Statistics for Municipalities

9.6.6   Expenditure: Steve Tshwete and Joe Morolong

Given municipalities' core service delivery mandates and the critical developmental role they are required to foster in developing inclusive economic growth, how municipalities spend their money concerns policymakers. Despite having limited resources, the Auditor-General (AG) reported that R1.96 billion in fruitless and wasteful expenditure was incurred by municipalities in the 2020/21 financial year, indicating poor management of funds (AGSA, 2022). At the aggregate level, employee compensation has continued to increase as a proportion of total expenditure, absorbing a large portion of operating budgets and crowding out spending on service delivery (Plakkies, 2022). The situation tends to be worse for rural municipalities, where on average, only 7 per cent of expenditure is geared towards delivering services, and the bulk of expenditure is for employee costs (Plakkies, 2022).

The graphs in Figure 9.21 compare two essential expenditure items, bulk purchases and employee costs, across two local municipalities. In Steve Tshwete, a secondary city, bulk purchases amounted to 29 per cent of total operating expenditure. In Joe Morolong, a rural municipality, bulk purchases consumed only 5 per cent of total operational expenditure in 2020/21. Such underspending on bulk services of vital municipal services, such as water and electricity, severely constrains a municipality's ability to fulfil its service delivery mandate.

Figure 9.21: Key expenditure components as a percentage of total operating expenditure 2020/21
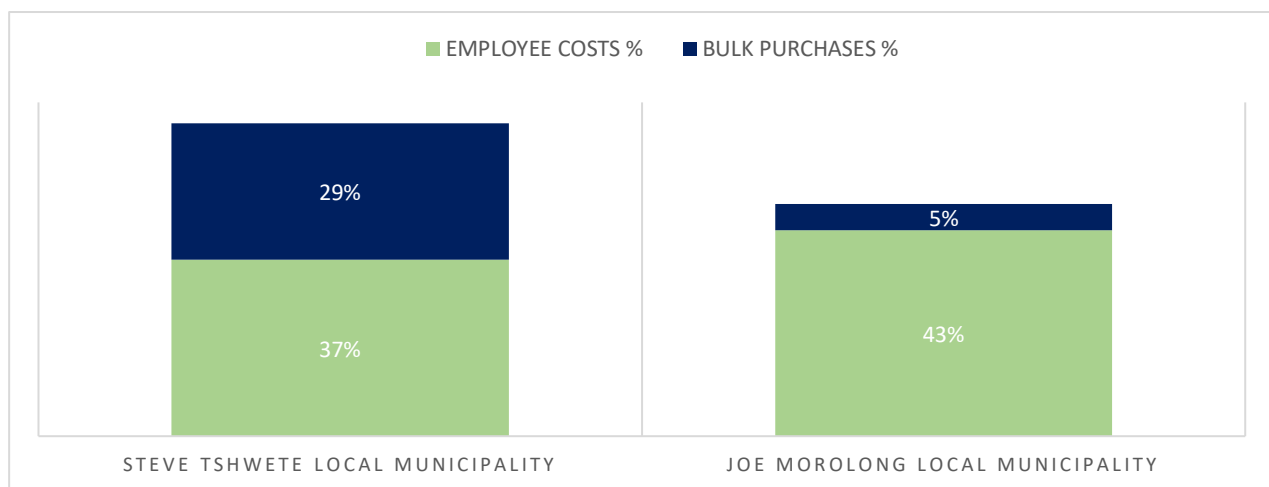
Source: Author's calculations using Section 71 Reports 2020/21

On the other hand, Figure 9.21 shows that employee costs consumed a significant proportion of operating expenditure, which amounted to 43 per cent in Joe Morolong and 37 per cent in Steve Tshwete. Both municipalities, especially Joe Morolong, spent a large portion of their budget on personnel costs, which is an administrative function. The FFC has previously stated that there is an unhealthy balance between core and non-core municipal services (Financial and Fiscal Commission, 2019). Section 153 of the Constitution requires municipalities to prioritise essential services and socioeconomic development in their budgets. While wage bargaining occurs centrally through SALGA, municipalities could arguably better manage their excessive expenditure on employee costs – and improve the balance between core and non-core municipal functions – by reducing the number of municipal employees (Ajam, 2021).

Joe Morolong is a repeatedly disclaimed municipality in the 2020/21 AG's report. A repeated disclaimer tends to suffer from leadership instability, lack of oversight by municipal councils and significant financial health problems (AGSA, 2022). These challenges further inform the poor

prioritisation of spending at Joe Morolong. The following section considers municipal conditional grant spending on infrastructure. Once again, the analysis homes in on Steve Tshwete (B1 local municipality) and Joe Morolong (B4 local municipality). The types of infrastructure grants are assessed across different types of municipalities, revealing key differences in policy priorities relating to the implementation of LED.
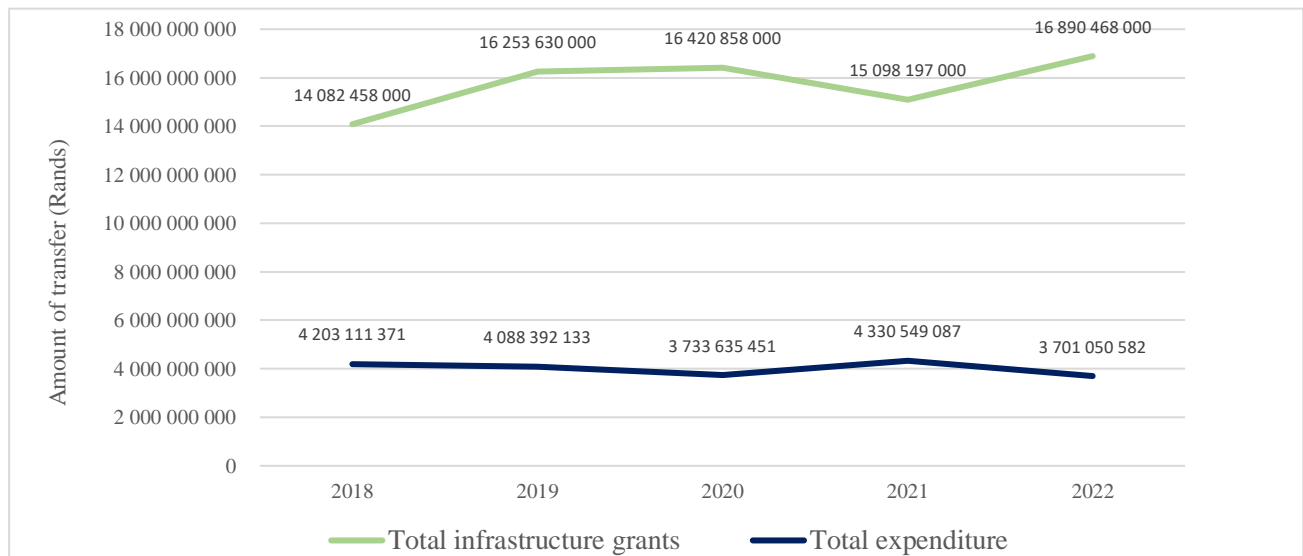
9.6.7 Infrastructure spending at a municipal level

Investment in infrastructure is a crucial pillar of the state's economic policy response to the COVID-19 pandemic and its detrimental impact on economic activity (The Presidency, 2021). The value of infrastructure assets at the municipal level that needs to be maintained totalled R491.7 billion in 2020/21 (AGSA, 2022). National Treasury standards indicate that municipalities should spend at least 8 per cent of the value of infrastructure assets on repairs and maintenance. This benchmark was not achieved, as total spending on repairs and maintenance across all municipalities amounted to only R16.82 billion, which is 3 per cent of the value of infrastructure assets (AGSA, 2022). Findings from the AGSA General Report suggest that nearly half of all municipalities spent 1 per cent or less on repair and maintenance costs on their infrastructure assets.

Municipalities require the necessary infrastructure to provide essential services. Capital investments by municipalities to implement infrastructure projects, and repair and maintain existing infrastructure, is critical for enhancing the quality of service delivery. However, even when funds are made available through conditional grants, spending inefficiencies persist at the local government level, creating challenges in implementing infrastructure projects.

The graph in Figure 9.22 indicates the gross underspending of conditional infrastructure grants across local municipalities over the past five years, based on section 71 reports. Figure 9.22 shows that even though grant allocation increased between 2021 and 2022, spending on these grants decreased over the same period, indicating severe bottlenecks in infrastructure delivery.

Figure 9.22: Infrastructure grant allocation versus spending over the past five years

Source: Author's calculations using MFMA Section 71 reports

Underspending and improper spending of municipal infrastructure grants continue to occur due to a variety of internal and external weaknesses, such as poor planning and contracting, poor project management, lack of technical capacity, inefficiencies in the procurement system and lack of intergovernmental coordination in managing and delivering infrastructure projects (Financial and Fiscal Commission, 2019). The specific grants included in the amounts in Figure 9.1 and the purpose of each infrastructure-related conditional grant are summarised in the table below.

**Table 9.1: Breakdown of municipal infrastructure grants included in the analysis**

Type of conditional grant	Purpose of conditional grant
Municipal Infrastructure Grant	To eradicate basic municipal infrastructure backlogs for poor households, microenterprises and social institutions that service poor communities
Integrated National Electrification Programme (Municipal) Grant	To implement the Integrated National Electrification Programme by addressing electrification backlog of residential dwellings and the installation of bulk infrastructure
Water Services Infrastructure Grant	To facilitate the planning and implementation of water and sanitation projects to accelerate backlog reduction and provide basic water and sanitation supply
Neighbourhood Development Partnership Grant	To plan and invest in targeted locations to attract third party capital investments aimed at spatial transformation, to improve the quality of life and access to opportunities for residents, generally in townships and rural towns.
Regional Bulk Infrastructure Grant	To develop new, as well as upgrade and replace existing bulk water and sanitation infrastructure of regional significance that connects water resources to infrastructure across municipal boundaries, and to implement bulk infrastructure with the potential of addressing water conservation and water demand management projects.
Integrated Urban Development Grant	To fund public investment in infrastructure for the poor to promote increased access to municipal own sources of capital finance, and to ensure public investments are spatially aligned.

Source: Division of Revenue Bill Schedule 2021

Different infrastructure-related grants serve different purposes. The Municipal Infrastructure Grant addresses municipal infrastructure backlogs, specifically in poorer communities, to ensure the provision of essential services such as water and sanitation (CoGTA, 2022). The grant also aims to improve infrastructure for roads and lighting for communities. However, in addition to service delivery, municipalities also have an important role to play in driving LED. The latter purpose may be achieved with conditional grants such as the Integrated Urban Development Grant and the Regional Bulk Infrastructure Grant, which are more geared towards driving and enhancing LED.

Figure 9.23 below illustrates the rand amounts of infrastructure grants received by Steve Tshwete and Joe Morolong disaggregated by the type of grant received in the 2021/22 financial year. Steve Tshwete received approximately R190 million in infrastructure-related grants, with the Integrated Urban Development Grant making up the most significant portion of this (R75.2 million), followed by the Water Services Infrastructure Grant (R55 million) and the Regional Bulk Infrastructure Grant (R45 million). On the other hand, the bulk of Joe Morolong's infrastructure grants (totalling roughly R145 million) comprised the Municipal Infrastructure Grant, which made up R85.4 million, followed by the Water Services Infrastructure Grant (R59.2 million).

Figure 9.23: Breakdown of infrastructure grants received by selected municipalities, 2021/22
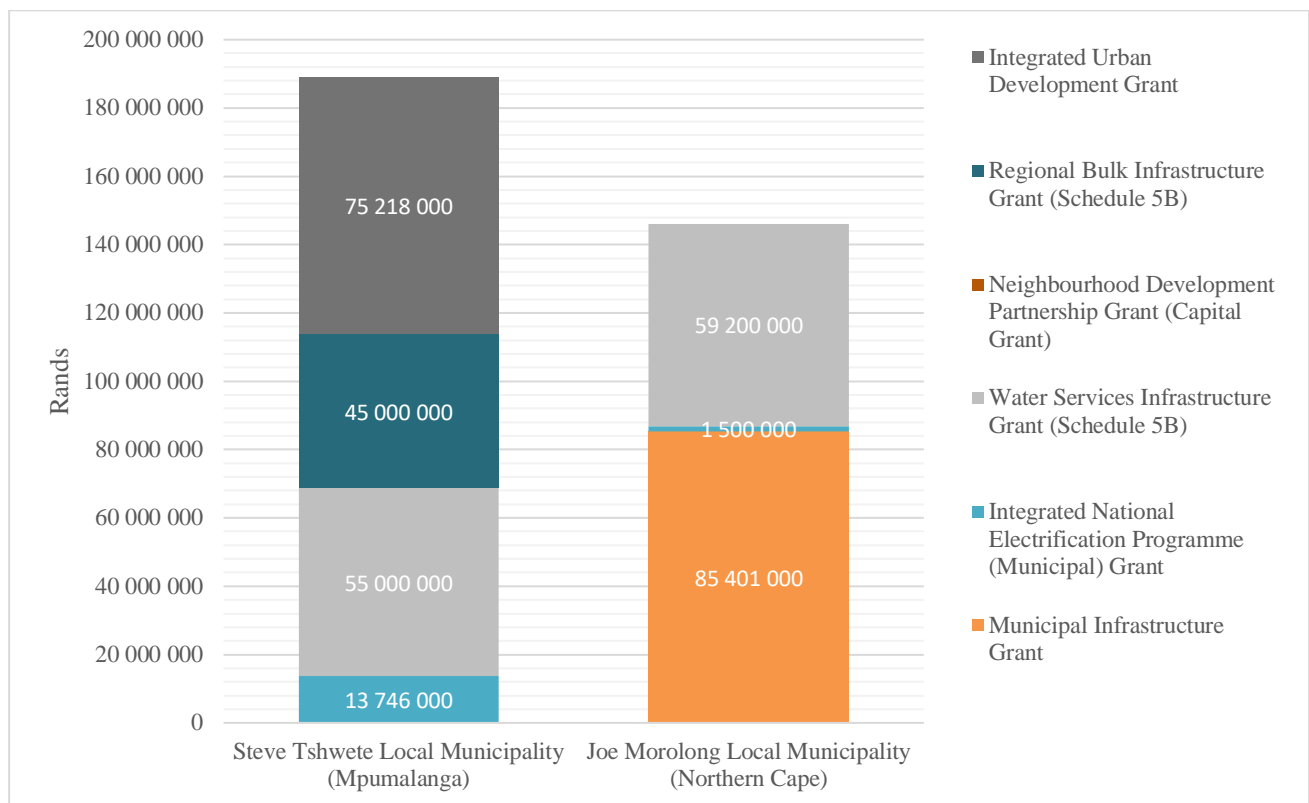
Source: Author's calculations using MFMA section 71 reports

What is clear from Figure 9.23 is that most of the funding received by Joe Morolong is intended to address backlogs in service delivery and water infrastructure, while Steve Tshwete receives funding for a much wider scope of local developmental objectives. This may suggest that B4 municipalities, which are predominantly rural areas, do not receive adequate funding support to drive LED initiatives, while more urban municipalities do.

This points to a lack of coherence in policy priorities in the local government sphere, particularly regarding the objectives of LED, since more funding appears to be granted to local municipalities that have greater revenue-generating capabilities. It could be argued that municipalities such Steve Tshwete are already financially better placed, and that municipalities such as Joe Morolong require additional support from other spheres of government, to drive LED.

However, mere financial assistance is insufficient due to capacity-related constraints that persist at the local government level. Figure 9.24 shows that despite financing provided by the national sphere of government in the form of infrastructure grants, these grants are not effectively utilised at the municipal level.

The graphs indicate that Steve Tshwete received approximately R188.9 million in infrastructure-related grants. Yet, due to either spending inefficiencies or missing data (or both), no infrastructure grant spending was recorded for the 2020/21 financial year. In Joe Morolong, R146.1 million was received, and only R41.1 million was spent.

Figure 9.24: Total infrastructure grant allocations and spending, 2021/2022
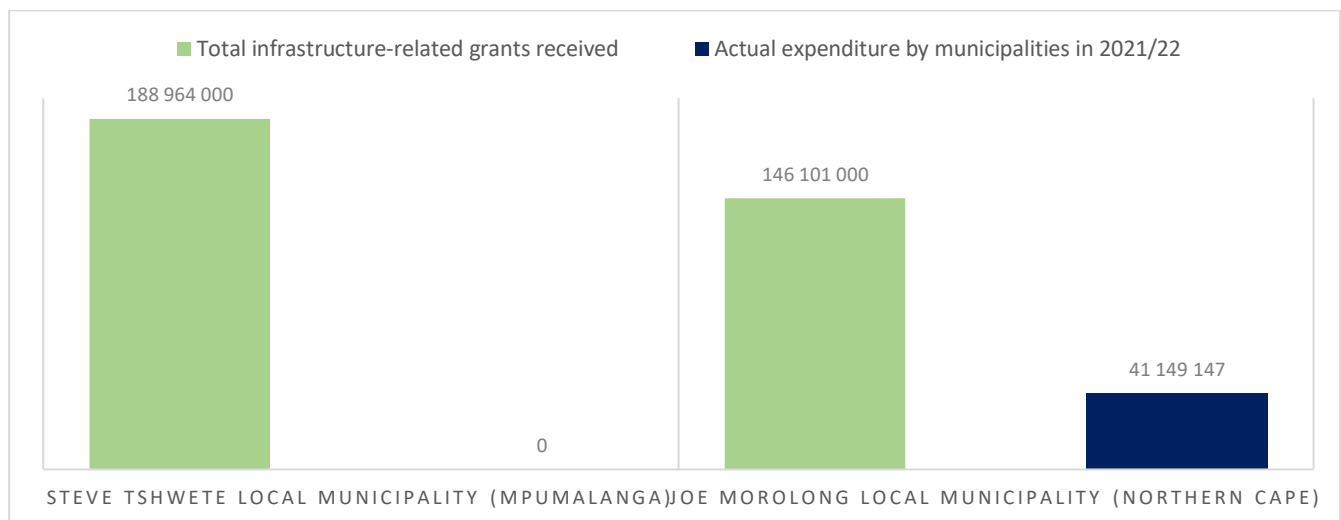
Source: Author's calculations using MFMA section 71 reports

Ineffective spending on valuable infrastructure assets means that the quality of essential services, including electricity, water, refuse, and sanitation, will likely deteriorate. The consolidated local government audit findings suggest that the same weaknesses persist year after year. Infrastructure projects are not implemented, and infrastructure assets are not appropriately managed and maintained, negatively impacting service delivery outcomes. The AG's latest report indicates that water infrastructure management is generally poor across municipalities. According to acceptable norms, 15-30 per cent water distribution losses are acceptable. Yet, the AG's report shows that average water loss across the country stood at 50 per cent, indicating that water infrastructure is being improperly managed.

9.7   Conclusion

This research sought to use ArcGIS mapping to conduct a geospatial analysis and enhance our understanding of municipal revenue streams by considering individual municipalities' economic strengths and weaknesses concerning the fiscal policy framework.

The 1998 White Paper, that sets out the fiscal policy framework for local government, aims to achieve three objectives: to address underlying financial problems municipalities face; to eradicate poverty and pursue strategies to enhance growth, job creation and competitiveness, and finally, to fulfil their constitutional mandates through the delivery of essential services. This new transformative role of local government post-1994 meant that municipalities were placed at the forefront of the developmental agenda to improve the living standards of citizens, conferring upon municipalities a wide range of responsibilities.

While the 1998 White Paper acknowledged the vital role intergovernmental fiscal transfers would play in assisting less affluent and more rural municipalities to fulfil their mandates, the policy did not foresee that decades on, prospects of economic growth would be weak, and municipalities would be struggling to fulfil their basic service delivery mandate. Many municipalities still lack the critical infrastructure to provide essential services, and where funds are available, they spend them inefficiently. The level of economic activity municipalities can attract influences their ability to generate sufficient revenue streams. Significant spatial inequalities mean that smaller, more rural, municipalities are unable to achieve the objectives of the 1998 White Paper.

The findings from the two case studies illustrate transfer dependency amongst smaller, rural municipalities such as Joe Morolong. In contrast, larger local municipalities with secondary cities are able to generate a substantial portion of their revenue from electricity sales. However, property rates are an essential source of revenue for both municipalities, despite their socioeconomic differences. Furthermore, the expenditure analysis reinforces the view that the bulk of municipal spending is administrative and used for employee compensation rather than prioritising basic services.

Fiscal policy, through its transfers to local government via the mechanism of conditional grants, is aimed at unlocking the country's growth potential through infrastructure investment but has been largely unsuccessful in doing so. It appears that financial assistance alone is insufficient for LED, due to capacity-related constraints and lack of intergovernmental coordination at the local government level. Furthermore, the analysis revealed that smaller, rural municipalities predominantly receive funding to address backlogs in service delivery and water infrastructure, while larger more urban municipalities receives funding for a much wider scope of local developmental objectives, pointing to lack of coherence in funding mechanisms to drive LED. Underspending on infrastructure grants allocated is significant due to varying capacity constraints across municipalities.

Overall, the policy objectives of the local government fiscal framework have not been realised. The framework is not sufficiently differentiated and thus does not adequately accommodate the unique challenges faced across different types of municipalities, hampering their ability to invest effectively in infrastructure and deliver basic services. The research has shown that what drives local economies and what characterises their surroundings can provide useful insights into the nature and extent of spatial inequalities across municipalities, allowing the policy to be tailored better to the individual needs of municipalities.

Understanding the potential drivers of LED within a given municipality can boost future revenue streams while simultaneously alleviating some of the strain on the fiscus by reducing reliance on intergovernmental transfers. However, spending priorities must change within municipalities, as the bulk of municipal expenditure being redirected to employee salaries is inefficient, financially unsustainable, and incompatible with municipalities' constitutional mandate. Furthermore, internal and external weaknesses that lead to technical and capacity constraints need to be addressed, and intergovernmental coordination strengthened to overcome the pressing issue of municipal underspending on infrastructure grants, as these grants are vitally important for service delivery and LED.

9.8   Recommendations

The Commission makes the following recommendations:

1. *To overcome persisting challenges municipalities face in the context of the rapidly changing economic environment, the Minister of Cooperative Governance and Traditional Affairs along with the Minister of Finance should critically review the local government fiscal framework. A differentiated approach is needed to ensure the policy is well-tailored to overcome unique issues individual municipalities face. To achieve this, the fiscal framework may need to be radically, rather than incrementally, reconfigured.*

The assumptions of the 1998 White Paper are no longer credible and need to be reviewed in the context of the evidence. Revenue sources vary significantly across local municipalities, and smaller, rural municipalities continue to rely heavily on intergovernmental fiscal transfers to fund their

operations. This is unsustainable, given poor economic growth forecasts and the fiscally constrained economic environment.

To foster more sustainable revenue streams and reduce transfer dependency, the fiscal policy framework for local government needs to be better equipped to accommodate the significant spatial inequalities across different types of municipalities. To accommodate spatial inequalities, an approach is required that considers differences in geography, demographic features and economic growth potential across sectors.

A new fiscal policy framework for local government should adequately accommodate the unequal distribution of own revenue across different types of municipalities. This should be done by being sensitive to disparities in revenue-raising capabilities across rural and urban municipalities, internal capacity constraints and spending inefficiencies that persist in the local government sphere. Geospatial analysis, such as ArcGIS, may inform each municipality's unique economic, social and geographical circumstances to properly understand the nature and extent of spatial inequalities to identify logically sound opportunities for local economic development. Geospatial analysis assists in understanding spatial inequalities better and identifying potential areas of economic development or sectoral growth, given the specific circumstances in which a given municipality finds itself.

2. *The Commission is of the view that careful attention must be given to the funding mechanism of conditional grants. The Commission recommends that the Department of Cooperative Governance and Traditional Affairs and National Treasury develop an appropriate funding mechanism or funding plan in a targeted and phased approach, which enhances the capacity of municipalities to spend conditional grants effectively.*

Local government has, in many respects, failed to fulfil its transformative role in driving LED through investing in new infrastructure and maintaining existing infrastructure. Gross underspending of infrastructure grants hamper service delivery and LED. Policy intervention is urgently required to increase capacity in spending at the local government level.

Regarding infrastructure-led growth, a national policy priority, it appears only cities are receiving economic-driven infrastructure funding, while smaller, rural municipalities are predominantly funded with the Municipal Infrastructure Grant to address backlogs in service delivery. This implies that there is a focus on financing LED in areas which already have greater revenue-generating capabilities.

Continuing this approach will only exacerbate spatial inequalities, leading to further migration to cities due to the lack of opportunities in smaller, rural areas, putting greater pressure on infrastructure in urban areas. A collaborative, integrated approach with relevant national departments is needed to devise a funding model that enhances local government's capacity to overcome the non-performance of conditional grant spending.

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Appendix A: Poor households in Nelson Mandela Bay, Steve Tshwete and Joe Morolong

Figure A1: Household poverty across municipalities in the Eastern Cape
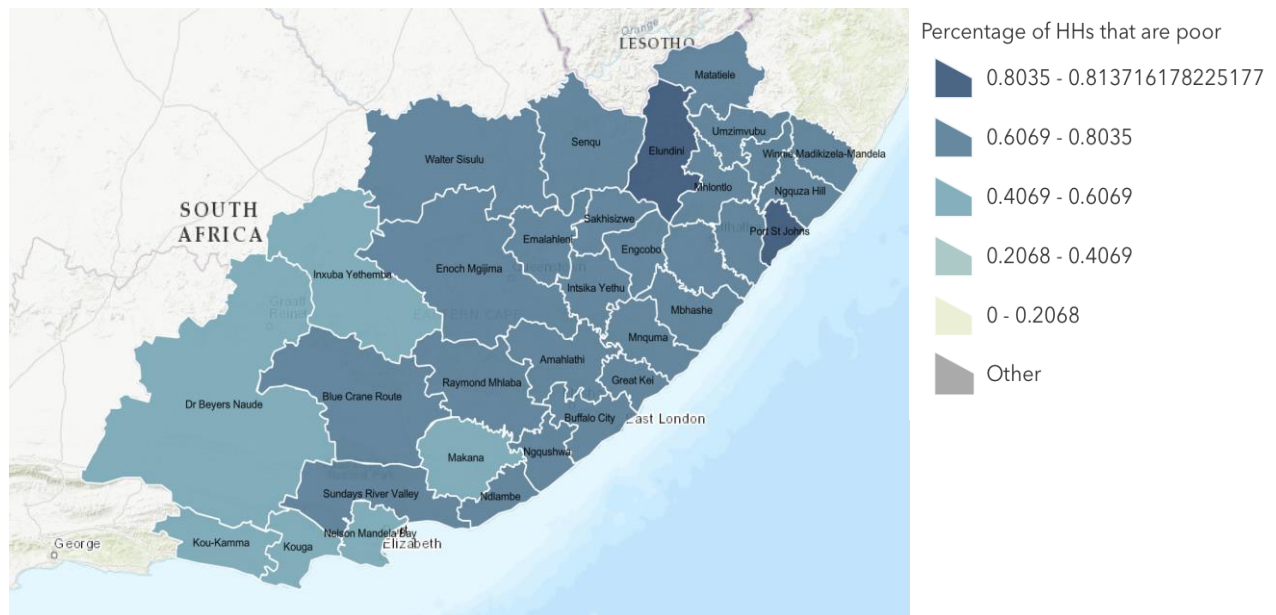
Source: Author's design in ArcGIS using LGES 2022/23 data.

Figure A2: Household poverty across municipalities in Mpumalanga
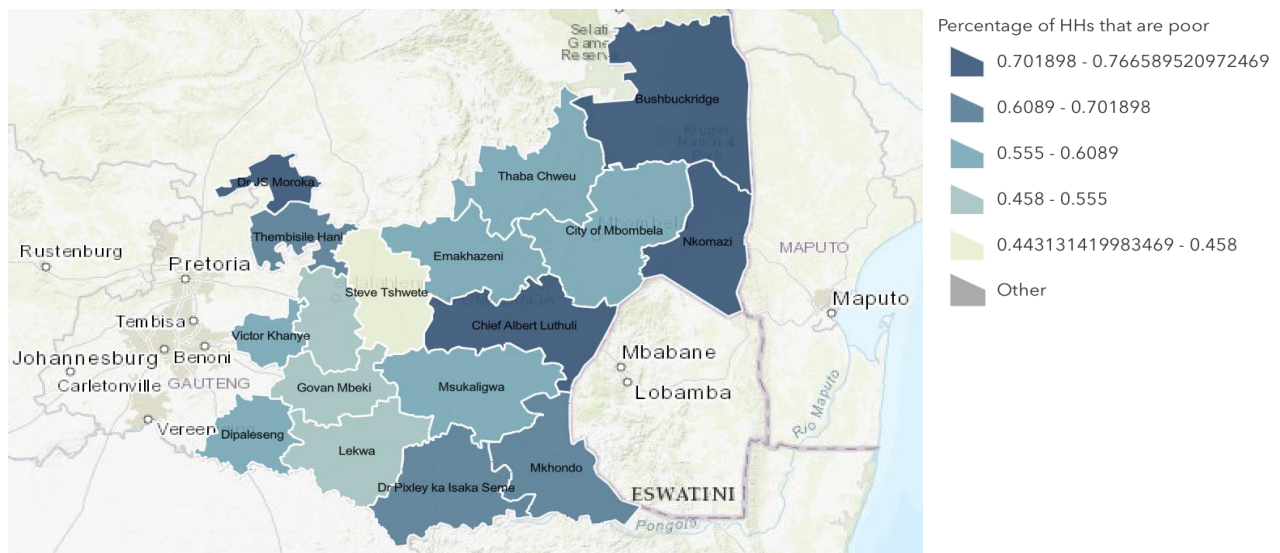
Source: Author's design in ArcGIS using LGES 2022/23 data.

Figure A3: Household poverty across municipalities in Northern Cape
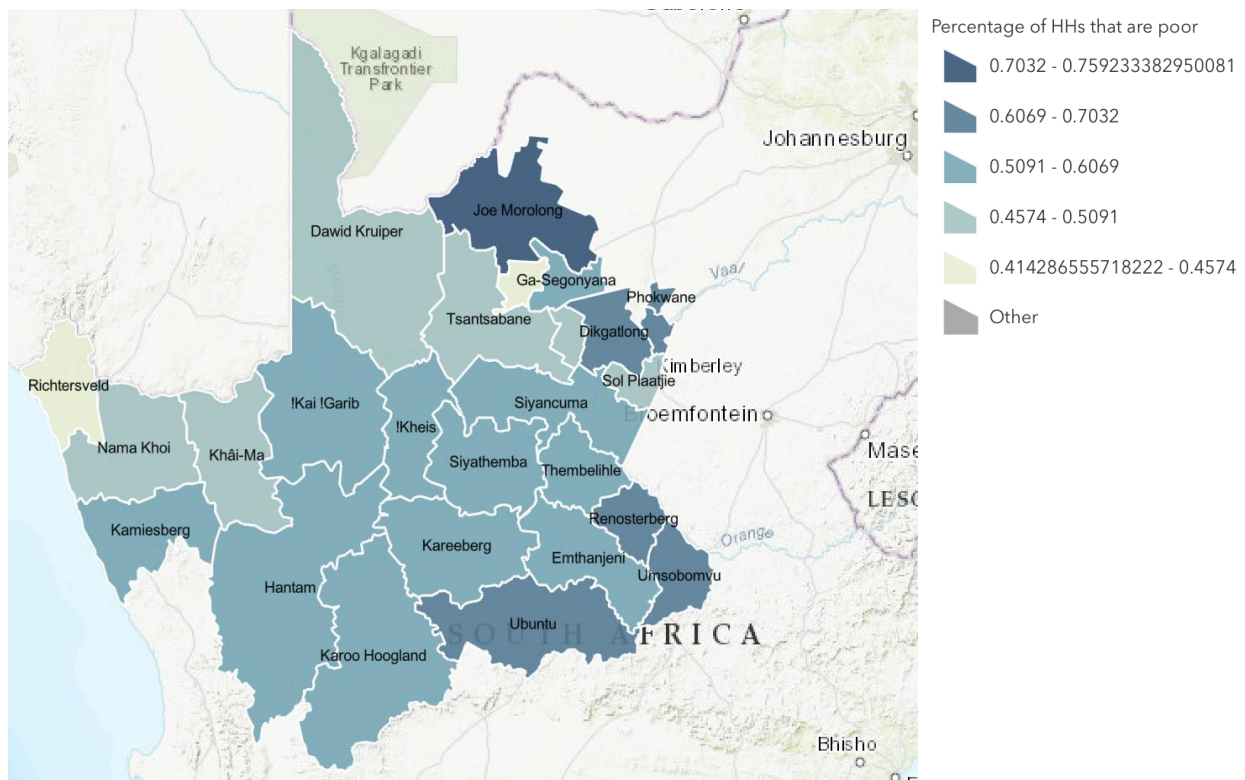
Source: Author's design in ArcGIs using LGES 2022/23 data.

Appendix B: Basic service delivery in selected municipalities

Access to water

Figure B1: Household access to water in Nelson Mandela Bay
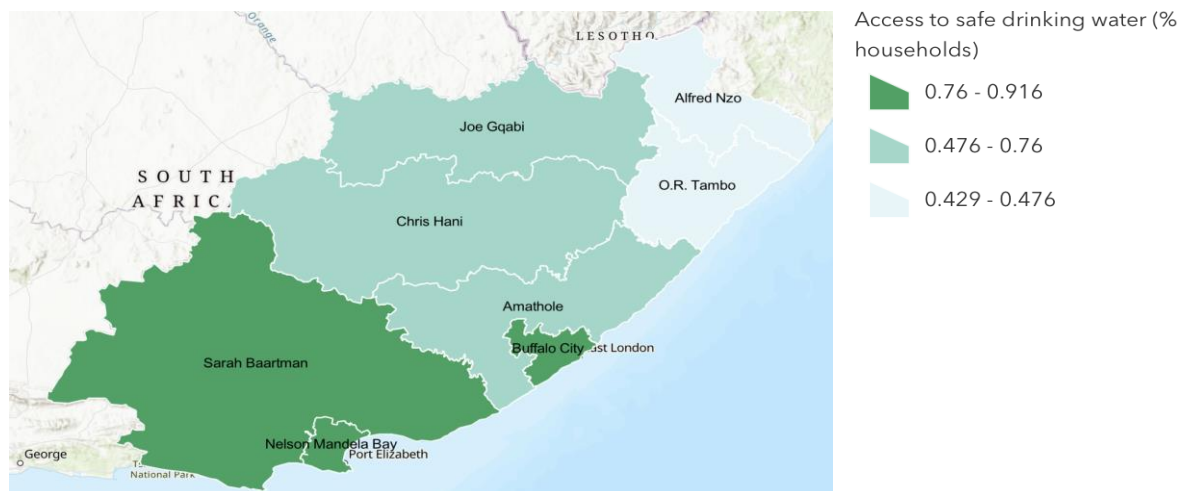
Source: Author's design in ArcGIS based on Community Survey 2016 data

Figure B2: Household access to water in Steve Tshwete
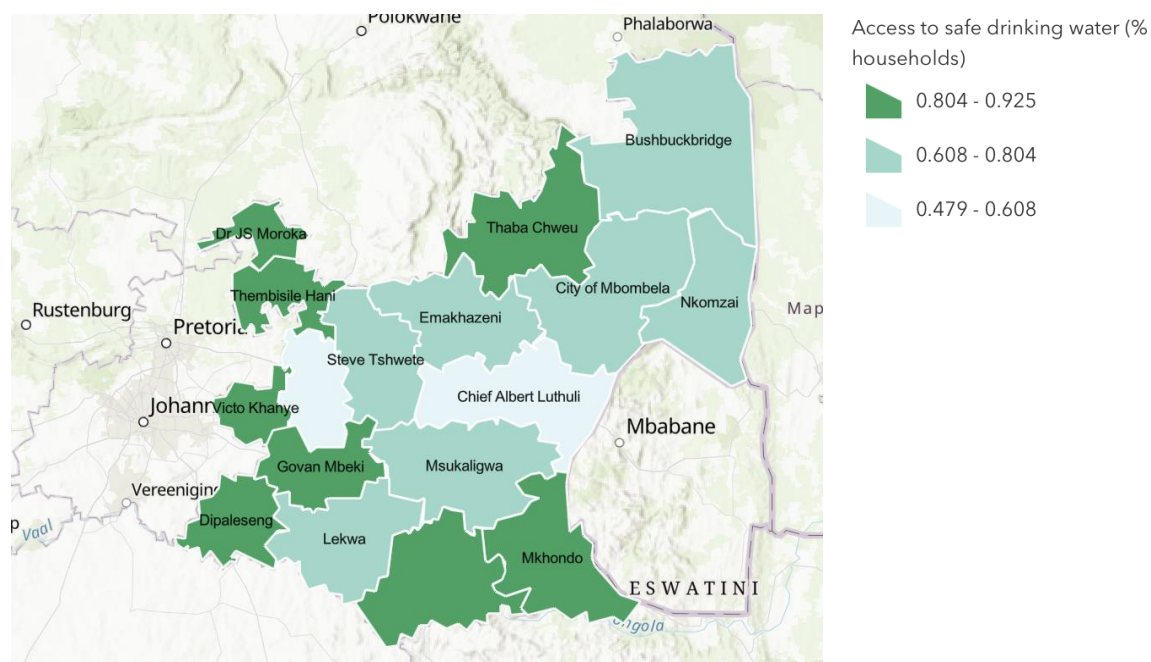
Source: Author's design in ArcGIS based on Community Survey 2016 data

Figure B3: Household access to water in Joe Morolong
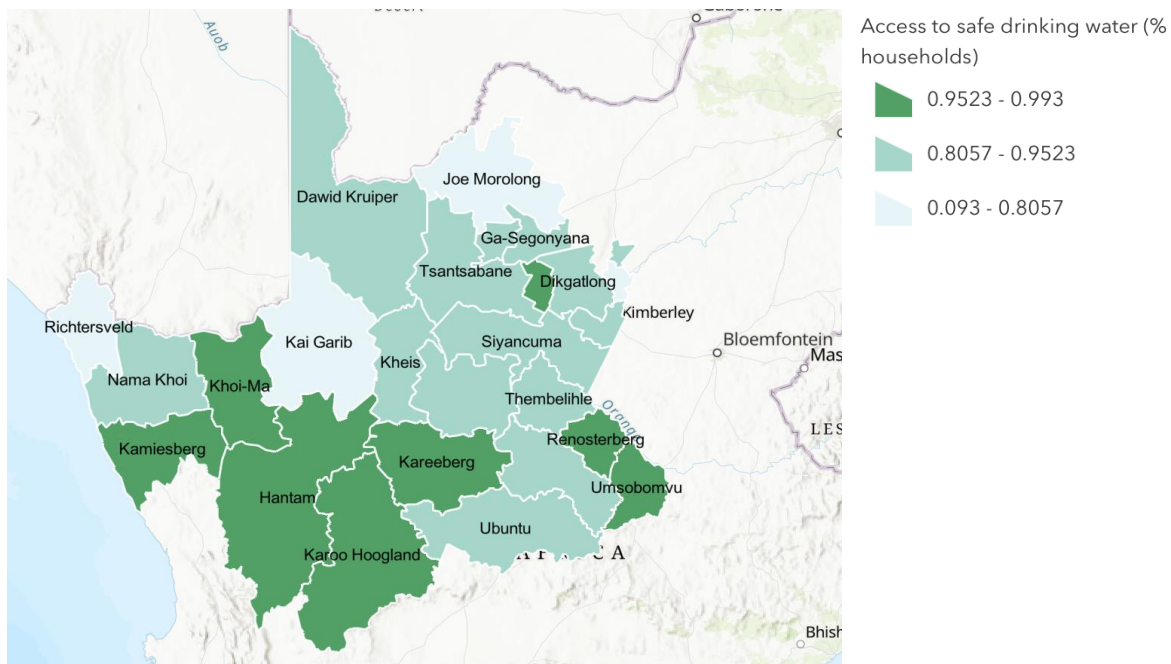
Source: Author's design in ArcGIS based on Community Survey 2016 data

Sanitation

Figure B4: Household access to saitaiton services in Nelson Mandela Bay
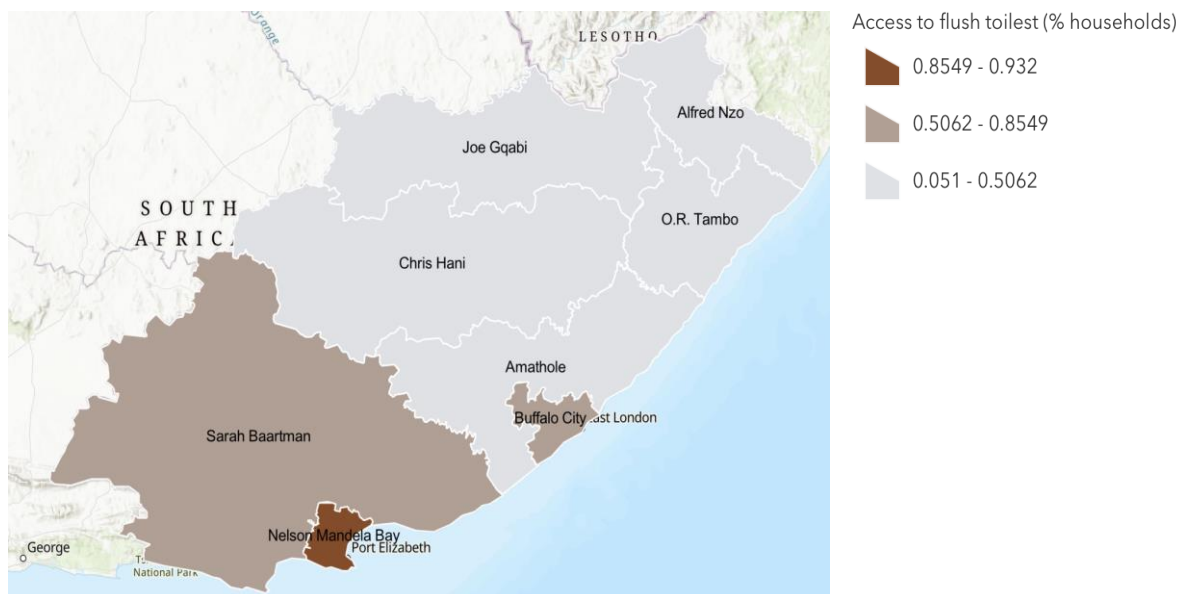
Source: Author's design in ArcGIS based on Community Survey 2016 data

Figure B5: Household access to sanitation services in Steve Tshwete
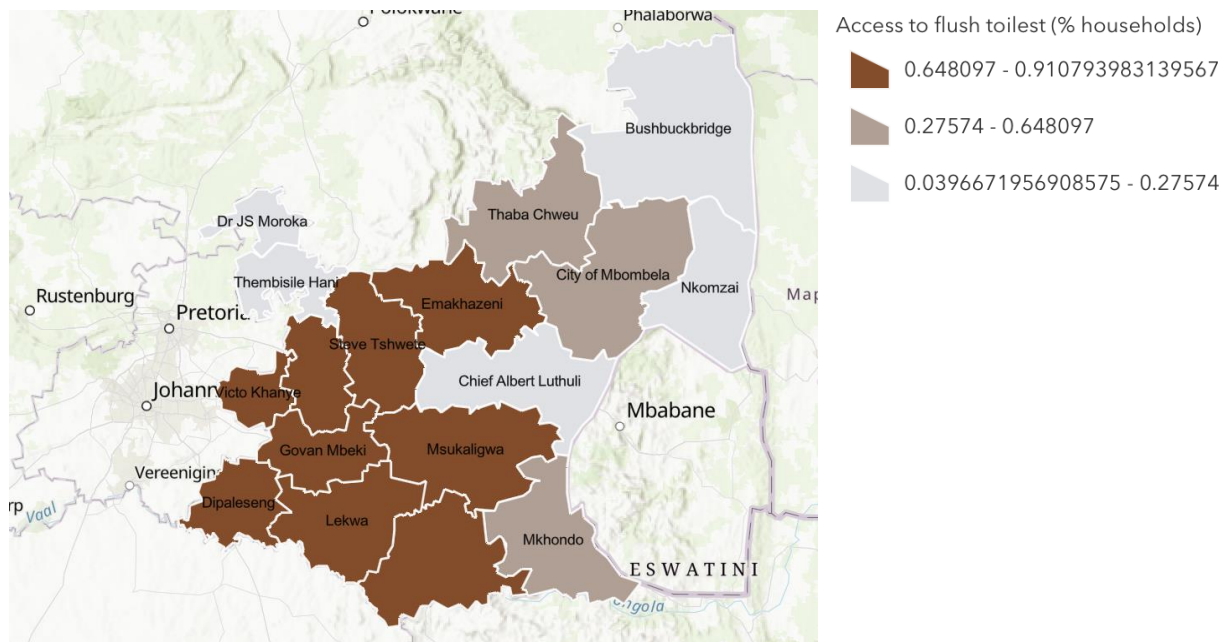
Source: Author's design in ArcGIS based on Community Survey 2016 data

Figure B6: Household access to sanitation services in Joe Morolong
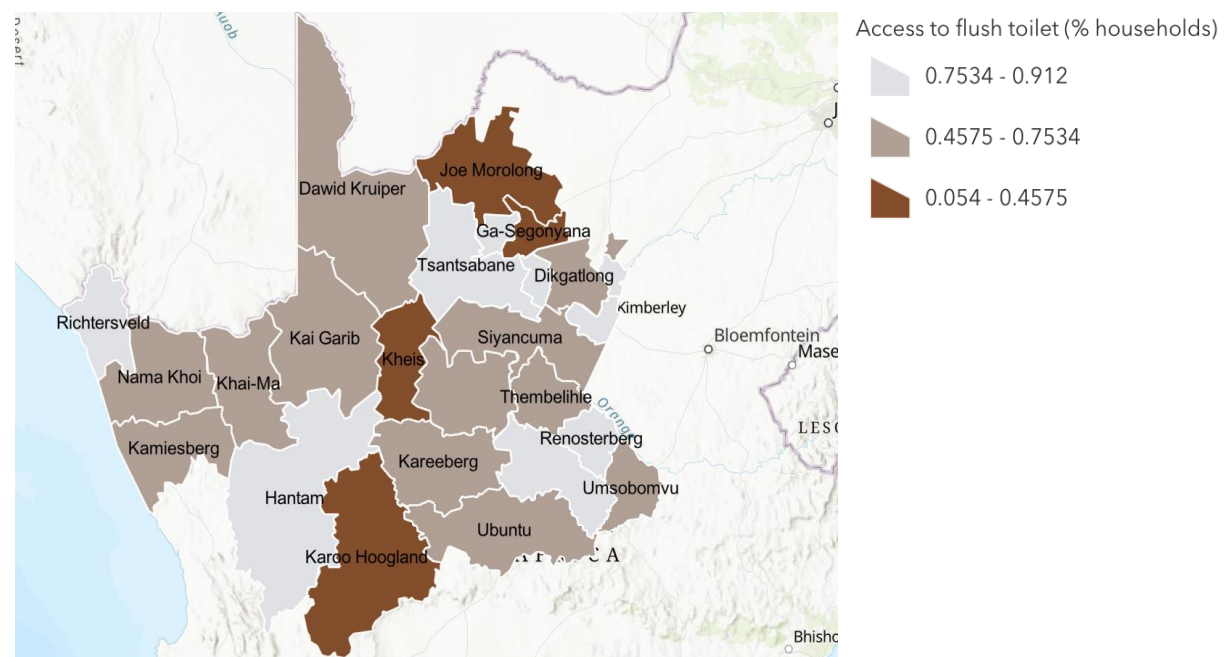
Source: Author's design in ArcGIS based on Community Survey 2016 data

Access to electricity

Figure B7: Provision of electricity in Nelson Mandela Bay

Source: Author's design in ArcGIS based on Community Survey 2016 data

Figure B8: Provision of electricity in Steve Tshwete

Source: Author's design in ArcGIS based on Community Survey 2016 data

Figure B9: Provision of electricity in Joe Morolong
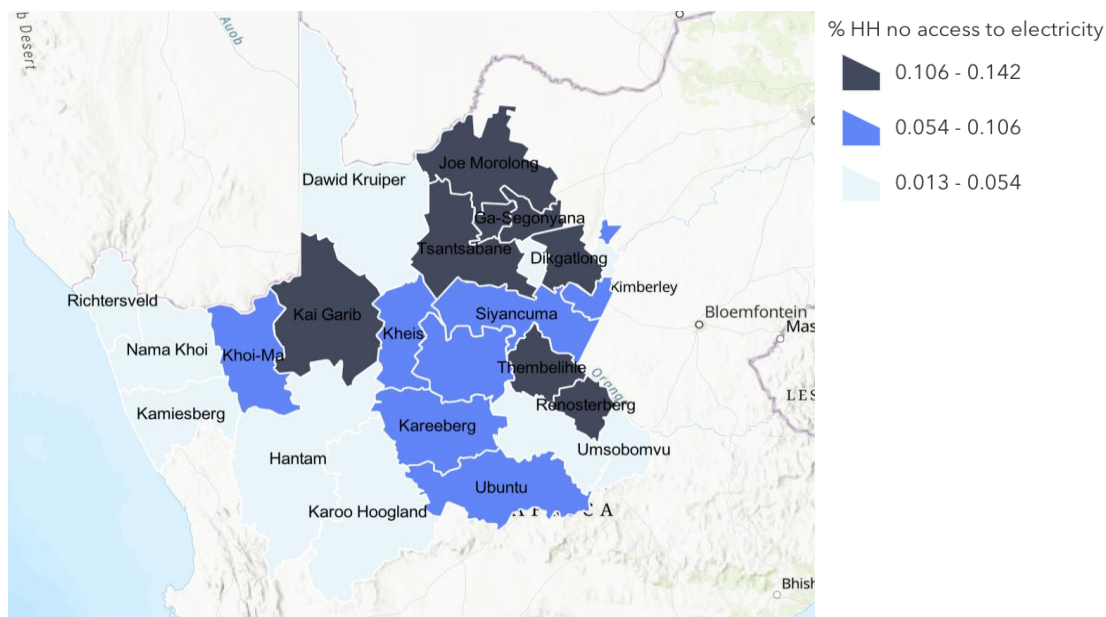
Source: Author's design in ArcGIS based on Community Survey 2016 data

Refuse

Figure B10: Provision of refuse services in Nelson Mandela Bay
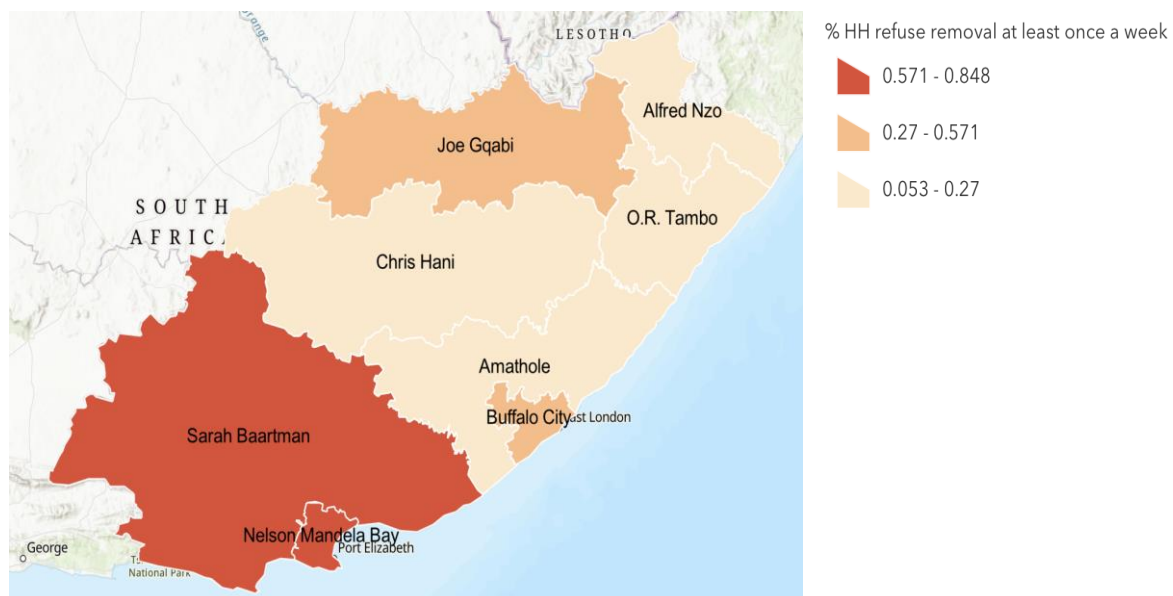
Source: Author's design in ArcGIS based on Community Survey 2016 data

Figure B11: Provision of refuse services in Steve Tshwete
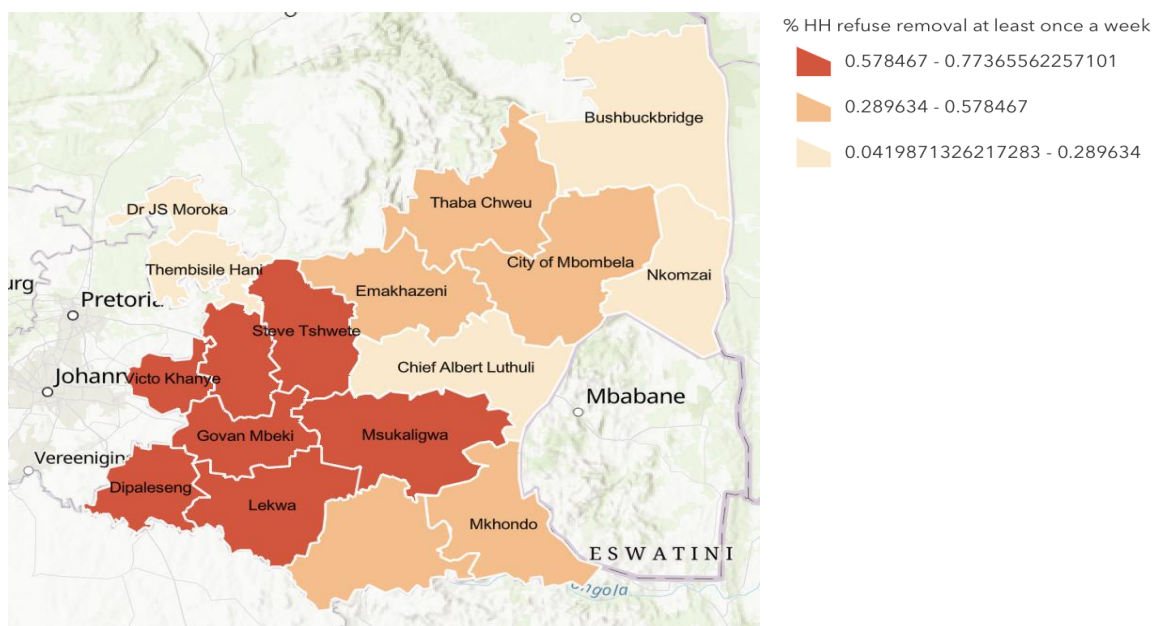
Source: Author's design in ArcGIS based on Community Survey 2016 data

Figure B12: Provision of refuse services in Joe Morolong

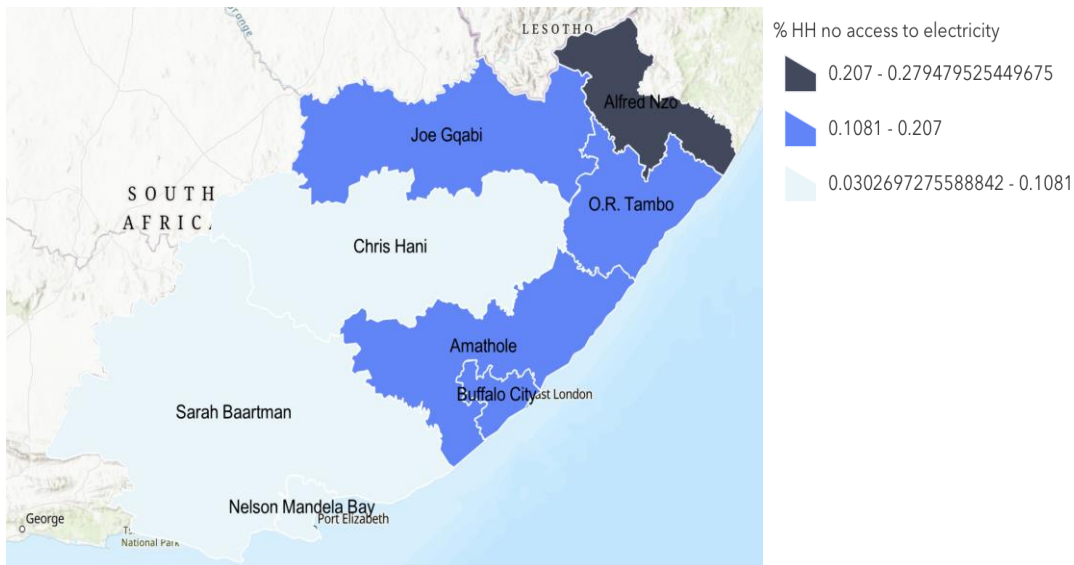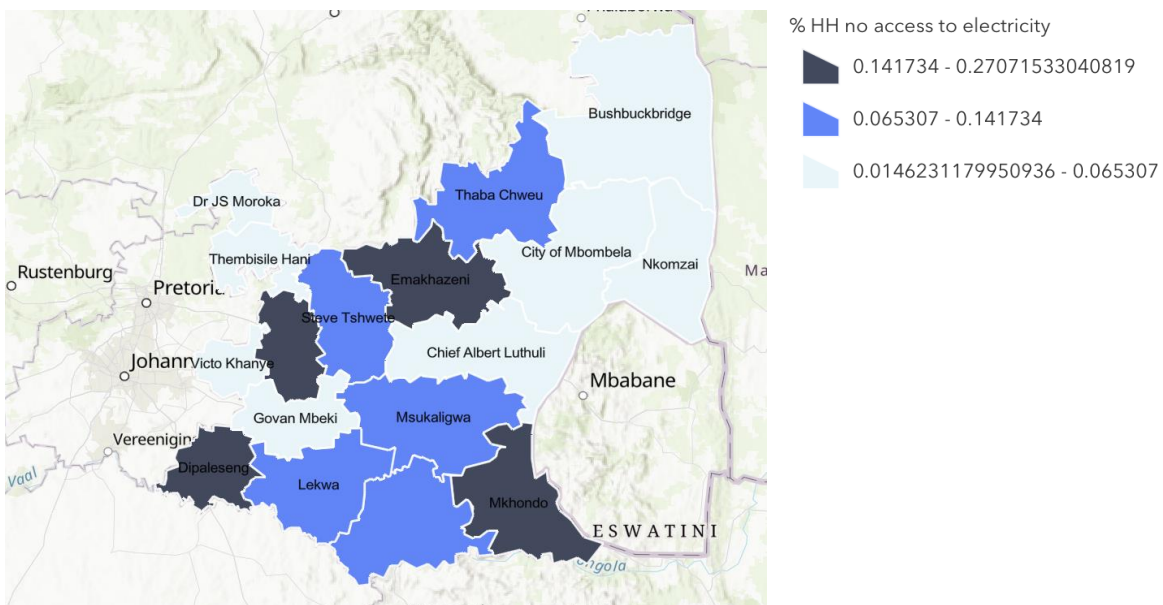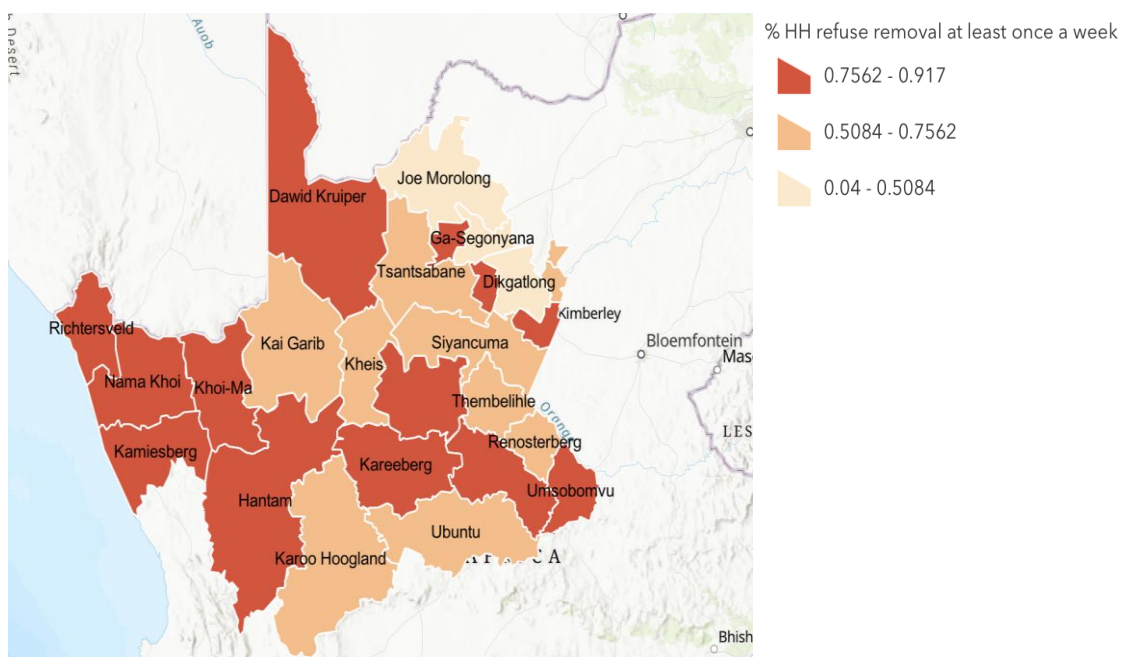Source: Author's design in ArcGIS based on Community Survey 2016 data

CHAPTER 10:

MUNICIPAL COST RECOVERY AND THE AFFORDABILITY OF BASIC SERVICES

Chapter 10

Municipal Cost Recovery and the Affordability of Basic Services

Noxolo Mahlalela, Khutso Makua and Neo Malungane

10.1 Introduction

Municipal cost recovery is important for the sustainability and maintenance of services and is an important indicator of the overall financial health of municipalities. Municipalities that do not recover the costs of providing services typically encounter financial challenges resulting in inefficient operations that commonly lead to low revenue collection rates, low infrastructure maintenance levels, high distribution losses, and low levels of service provision (National Treasury, n.d.). Without recovering the costs of providing services, municipalities will not have the funds required to maintain and invest in infrastructure upgrades and renewal for future service provision.

Cost recovery is broadly achieved when average tariffs align with the average cost of services. Municipalities largely rely on tariffs to obtain the revenue required for the provision of services, however a significant challenge affecting them is inadequate revenue collection, primarily owing to widespread non-payment (Fjeldstad, 2004). Due to non-payment, municipal consumer debt has escalated. As at December 2022, aggregate municipal consumer debt amounted to R305.8 billion, of which household debt accounted for 71.1 per cent (National Treasury, 2023). As a result of rising consumer debt, several municipalities are unable to settle their bills to service providers such as Eskom and water boards. Thus, the magnitude of municipal consumer debt is a serious concern.

Municipalities generally use historical costs as a guide for setting tariffs and adjust tariffs incrementally or with inflationary increases (National Treasury, n.d.). However, as municipal infrastructure deteriorates and maintenance costs rise, historical costs are no longer a reliable guide for municipal budgeting and tariff determination. Consequently, there is a growing gap between the actual cost of providing services and revenue generated from services. Historically larger municipalities have typically generated surpluses on electricity, water, and sanitation services, enabling them to subsidise some of their services. These surpluses have been confronted with

increasing pressure over the years. Electricity surpluses will be eroded further by loss of revenue due to heightened loadshedding and the migration from the grid to alternative energy sources.

Declining and stagnant own revenues impact municipal sustainability. Previous research from the Commission noted that various factors contribute to declining revenues including slow economic growth, increasing unemployment, the inability of customers to pay for services, poor revenue collection, and the "culture of non-payment" (Financial and Fiscal Commission, 2020). The decrease or stagnation in own revenues has led to an increasing dependence on transfers. However, transfers are also under pressure owing to fiscal consolidation measures and slow economic growth. Furthermore, even with transfers several municipalities still struggle to fulfil their increasing expenditure responsibilities.

National Treasury notes that municipalities may struggle to recover the costs of providing services due to tariffs being unaffordable (National Treasury, n.d.). It is argued that if tariffs are too high, affordability will decrease, which may adversely impact cost recovery (Marah, Martin, Alence, & Boberg, 2003). Recently, affordability has been impacted by high inflation due to the global supply chain disruptions caused by the Covid-19 pandemic and Russia-Ukraine conflict. These economic shocks have increased the cost of living and exacerbated poverty levels.

The Eskom tariff increase of 18.65 per cent approved by the National Energy Regulator of South Africa (NERSA) for the 2023/24 financial year will aggravate the cost-of-living crisis by impacting the affordability of electricity. Consequently, this will affect the ability of municipalities to generate revenue from electricity services (South African Local Government Association, 2023). Unaffordable services worsen the issue of non-payment, which in turn negatively impacts revenue collection, cost recovery, the financial viability of municipalities, and sustainable service provision.

10.2   Literature Review

10.2.1 Defining cost recovery

Literature broadly defines municipal cost recovery as the ability to recover the costs involved in the provision of services through tariffs, while also allowing for some subsidisation (Marah, Martin, Alence, & Boberg, 2003; Calfucoy, Cibulka, Davison, Hinds, & Park, 2009; Brown, 2005). The World Bank's cost recovery framework defines three different perspectives, financial, fiscal, and economic

(Huenteler, et al., 2022). Each perspective consists of three levels, which include operating cost recovery, limited capital cost recovery, and full cost recovery. The financial perspective only considers the financial costs covered by municipalities, such as operating and maintenance (O&M) costs, financing costs for existing capital expenditure, and O&M costs for new capital investments needed to meet future demand (Huenteler, et al., 2022). The fiscal perspective considers whether part or all the financial costs of service provision should be covered by consumers and includes costs that are covered by government on behalf of municipalities through intergovernmental transfers and the provision of subsidised services. Lastly, in addition to financial costs, the economic perspective considers the opportunity and environmental costs and benefits to society, as well as the associated externalities of service provision (Huenteler, et al., 2022; Cardone & Fonseca, 2003).

While it is important that all costs should be recovered through tariffs, there are instances where it may be required to recover less than the full cost of services. National Treasury's Costing Methodology for Local Government guideline notes that under-recovery of the full cost can be justified through policy, for example to account for affordability considerations and where support is provided to indigent households (National Treasury, n.d.). Nonetheless, it is important that municipalities know the full cost of providing services so that tariff decisions are made with complete knowledge of the cross-subsidy needed and provided from other sources of revenue (National Treasury, n.d.).

a) *Cost reflective tariffs*

Based on a narrow definition, cost reflective tariffs reflect the actual cost of providing services with no dependence on subsidies (National Treasury, 2019). In South Africa, some dependence on subsidies is accepted. National Treasury's tariff setting methodology notes that municipalities generally apply two types of subsidies (National Treasury, 2019). The first type of subsidy are external operating grants and transfers that are used to subsidise specific services and customer categories. The second type of subsidy is cross-subsidisation. There are two ways in which municipalities can cross-subsidise. The first involves cross-subsidising between services, where municipalities accept a deficit on a service, while generating a surplus on another service and using the surplus generated to cover the deficit. The second method involves cross-subsidising between customer categories within a service, where a subsidy is provided to a specific customer category, such as indigent or low-consumption households.

This is done through the Inclining Block Tariff (IBT) tariff structure, where customers who consume high volumes of electricity or water are charged more per unit consumed compared to households that consume low consumes of these services. As a result of cross-subsidisation, tariffs levied on some customer categories or services will be lower than the cost of providing the service, while tariffs levied on other customer categories or services will be above cost. It should be noted that decisions regarding cross-subsidisation are at the discretion of the municipal council and are detailed in municipalities' tariff policies.

In terms of legislation related to tariff setting, section 74(2) of the Municipal Systems Act 32 of 2000 states that tariffs should "reflect the costs reasonably associated with rendering the service" (Municipal Systems Act, 2000). Setting cost reflective tariffs ensures that municipalities can raise sufficient revenue to fully cover costs, sustainably provide services, and invest in infrastructure needed for local economic development. Section 74(2)(b) - (e) of the Municipal Systems Act further states that the tariff policy should reflect several principles, namely (Municipal Systems Act, 2000):

(a) the amount individual users pay for services should generally be in proportion to their use of that service;

(b) poor households must have access to at least basic services through:
   i.   tariffs that cover only operating and maintenance costs
   ii. special tariffs or life-line tariffs for low levels of use or consumption of services or for basic levels of service; or
   iii. any other direct or indirect method of subsidisation of tariffs for poor households;

(c) tariffs must reflect the costs reasonably associated with rendering the service, including capital, operating, maintenance, administration and replacement costs, and interest charges;

(d) tariffs must be set at levels that facilitate the financial sustainability of the service, taking into account subsidisation from sources other than the service concerned;

In addition to the Municipal Systems Act, various government departments regulate tariffs for municipal services including the National Energy Regulator of South Africa (NERSA); the Department of Water and Sanitation (DWS); and the Department of Environmental Affairs (DEA).

National Energy Regulator of South Africa (NERSA)

Section 4(a)(ii) of the National Energy Act, 2004, states that the National Energy Regulator of South Africa (NERSA) is required to regulate electricity prices and tariffs (National Energy Act, 2004). NERSA decides on a suitable tariff guideline increase annually, which is announced to municipal

distributors as a guide to determine their annual electricity tariffs (NERSA, 2022/23). The guideline increase helps municipalities prepare their budgets. In addition, NERSA assesses tariff benchmarks and recommends new benchmarks that should be used in the assessment of municipal tariff applications.

As noted in NERSA's Tariff Guideline Paper 2022/23, electricity tariffs should accurately reflect the cost of providing electricity to ensure the financial viability of the electricity sector. For this to be achieved, tariffs should be set at a level that will ensure that the utility generates enough revenue to cover the full costs of providing a service, including a reasonable margin (NERSA, 2022/23). The Electricity Pricing Policy seeks to achieve a balance between the objectives of cost-reflective tariffs and affordability, particularly for low-income households.

NERSA has consistently applied the benchmarking approach, which aimed to ensure that tariffs do not differ greatly between electricity distributors. However, this approach does not clearly show the relationship between municipal cost structures and tariffs. To resolve this issue NERSA attempted to benchmark municipal tariffs to Eskom's tariffs, but these tariffs do not lead to municipality-related rates, but rather Eskom-specific cost-related rates (NERSA, 2022/23). This meant that an approach is required that translates municipalities' cost requirements to tariffs.

The Electricity Pricing Policy notes that electricity distributors are required to conduct a Cost of Supply (COS) study every five years, or when substantial licensee structure changes occur, such as changes in sales volumes or changes in the customer base (NERSA, 2022/23). NERSA is enforcing this requirement by moving away from benchmarks to cost-based pricing. Thus, moving forward, NERSA will no longer approve the introduction of new tariffs, tariff restructuring or above guideline increases without a COS study (NERSA, 2022/23). In addition, NERSA will establish updated benchmarks based on approved COS studies.

The NERSA Tariff Guideline Paper 2022/23 lists indicators that will be used to evaluate the financial performance of municipal electricity distributors. These indicators include the electricity price margin, energy losses, revenue collection rate, repairs and maintenance, and the net surplus margin. The expectation is that municipalities operating within these benchmarks will be able to run an efficient and sustainable electricity business. A brief description of each indicator is provided in the paragraph below.

The electricity price margin is a useful indicator of any affordability issues that municipalities could be facing concerning the average bulk tariff bought from Eskom compared to the average selling price to its customers. The energy losses percentage is used to measure the efficiency of a municipality's network and billing functions to ensure the efficient management of technical losses. In terms of revenue collection, a municipality's proportion of billed revenue collected is measured against a benchmark of 95 per cent to assess the efficiency of its' revenue collection (NERSA, 2022/23). The repairs and maintenance percentage is used to measure a municipality's investment in its infrastructure and maintenance. Lastly, the net surplus margin is used to assess a municipality's electricity business performance. The benchmark for the net surplus margin is 15 per cent, and municipalities are expected to fall within a range of 10 to 20 per cent (NERSA, 2022/23).

Department of Water and Sanitation (DWS)

The Water Services Act No. 108 of 1997 and the National Water Act No. 36 of 1998 both regulate domestic water and sanitation in South Africa. In accordance with the acts, municipalities are responsible for the delivery of water and sanitation services (Water Services Act, 1997; National Water Act, 1998) .

Tariffs for water and sanitation services are determined annually by the Department of Water and Sanitation (DWS) in consultation with National Treasury (Department of Water and Sanitation, 2017). As with electricity, the DWS (2017) norms and standards emphasises the importance of cost recovery for water and sanitation services. Specifically, tariffs must be set to cover operational, maintenance, and capital expenditure. Regarding the tariff setting procedure for water services, the DWS notes that water services authorities must estimate the revenue required to provide water services sustainably; estimate future water consumption; and propose a tariff structure to meet the revenue requirement (Department of Water and Sanitation, 2015).

The DWS norms and standards (2015, 2017) state that for both water and sanitation services, tariffs must be set such that revenue, inclusive of grants and transfers allocated to the water and sanitation services respectively, is sufficient to recover all reasonable costs associated with the operation, maintenance, refurbishment and development of the water and sanitation services, and to recover payments needed to redeem loans obtained for the water and sanitation service over a reasonable period. In addition, the DWS (2017) norms and standards state that tariffs must be set such that a net surplus of a minimum of 6 per cent per annum is achieved for both services respectively.

Department of Environmental Affairs (DEA)

In terms of refuse services, the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) makes provision for regulating waste management in South Africa (Waste Act, 2008). The Department of Environmental Affairs (DEA) and its provincial departments are responsible for the overall implementation of the Waste Act. The Act establishes minimum requirements for handling waste and improving the licensing of waste management activities. The National Waste Management Strategy (NWMS) is a legislative requirement of the Waste Act developed to achieve the objectives of the Act (Department of Environmental Affairs, 2011).

The NWMS acknowledges the importance of full cost accounting as a basis for municipal financial sustainability, which is crucial for delivering refuse services efficiently and effectively (Department of Environmental Affairs, 2011). Full-cost accounting is used to determine the full cost of providing refuse services. These costs include operational and capital costs such as "collection, transportation, landfill development and closure, street cleansing, fee collection, credit control, monitoring and enforcement costs, interest payments and depreciation" (Department of Environmental Affairs, 2011). As noted by the Department of Environmental Affairs, costing refuse services adequately is important for developing a sound tariff strategy and provides the funding required for the maintenance, renewal, and expansion of infrastructure (Department of Environmental Affairs, 2012).

i. *Tariff structures*

There are various tariff structures available ranging from simple to complex. The simplest tariff structure is a fixed charge. Fixed charges are not linked to the volume of a service consumed by customers and are effective for recovering the fixed costs of providing a service, but not useful for recovering variable costs (National Treasury, 2019). Consumption-based tariffs are charged per unit of a service consumed by customers and can only be applied where it is possible to measure the volume of a service consumed. Consumption-based tariffs are regarded as equitable as customers who consume more of a service pay more for the service (National Treasury, 2019). The most common types of consumption-based tariffs are uniform (or single) rate tariffs and inclining block tariffs. For uniform (or single) rate tariffs, customers are levied the same price per unit of a service consumed irrespective of the volume consumed. Inclining block tariffs (IBTs) are structured in blocks with the price per unit increasing with each block, thus customers using a high volume of a service will on average pay more per unit of the service consumed.

More complex tariff structures include time of use tariffs, seasonal tariffs, and Small-Scale Embedded Generation (SSEG) tariffs. For time of use tariffs, which are mostly used for electricity, the amount levied on customers varies with the time of day and seasonal tariffs vary between winter and summer months. Small-Scale Embedded Generation (SSEG) tariffs apply to power generation systems located on industrial, commercial or residential properties, where the electricity generated is also consumed (National Treasury, 2019). SSEG systems mostly include solar photovoltaic (PV) systems but also include other renewable energy sources such as biogas and wind. Customers with SSEG systems use electricity generated by their systems and feed the electricity generated back into the grid. SSEG customers largely remain connected to the grid and use electricity from the grid during certain hours of the day when their systems generate insufficient electricity. SSEG tariffs generally have three parts: a fixed charge, an import tariff, and an export tariff. The import tariff is the consumption-based tariff that SSEG customers pay to municipalities for the electricity that they consume from the grid. While the export tariff or Feed-In-Tariff (FIT) is the tariff that the municipality pays to customers for electricity that customers feed back into the grid.

With the worsening electricity crisis in the country, SSEG has gained prominence and is widely recognised as a feasible option to assist in addressing the country's power crisis. Although SSEG systems may alleviate the pressure on the grid, Shumba et al. (2019) notes that the uptake of SSEG reduces municipal revenue by decreasing the volume of grid electricity sales. By generating their own electricity, SSEG customers purchase less grid electricity which negatively impacts municipal revenue (South African Local Government Association, 2023). However, SSEG systems could also result in reduced costs for municipalities through a reduction in bulk power purchases given that electricity would be fed back into the grid. In addition, municipalities would have the opportunity to purchase electricity from SSEG customers at a lower rate compared to the average bulk tariff bought from Eskom (SSEG, 2019).

10.2.2 Empirical literature on cost recovery

Studies have emphasised that effective municipal cost recovery depends on several factors including a municipality's social and institutional context, its' ability to accurately measure consumption levels of a service, effective credit control measures, an effective administrative system, and the operation of a payment collection system (Brown, 2005; Loots, 2003; Marah, Martin, Alence, & Boberg, 2003).

Certain characteristics of a municipality's socio-economic profile that influence cost recovery are poverty levels, the extent of inequality, urban versus rural geographical location, as well as the history

of local politics and institutions (Marah, Martin, Alence, & Boberg, 2003). A municipality's socio-economic characteristics should therefore be taken into consideration when assessing cost recovery outcomes.

A study by Marah et al. (2003) identified key factors for effective cost recovery for water services in South Africa. The study undertook a national survey of municipalities and identified key determinants that explain a municipality's ability to recover costs for water services. The study used payment rates and debt ratios as indicators of cost recovery outcomes. A payment rate is the proportion of households who routinely pay their municipal bills on time, while a debt ratio is the ratio of current to total consumer debt (Marah, Martin, Alence, & Boberg, 2003).

The results indicated that the variance in payment rates and debt ratios between municipalities that perform relatively well with cost recovery and those that perform poorly can be explained by variations in social and institutional circumstances, service infrastructure, as well as billing and payment practices. Factors largely considered to support effective cost recovery, such as private and metered connections, good credit control measures, convenient payment facilities, and effective administration of billing and payment systems, were shown to contribute to higher payment rates and debt ratios. The analysis found that the major constraints to cost recovery are poverty levels, and poor service infrastructure.

A study by Huenteler et al. (2022) conducted case studies of power utilities in 17 countries to understand the determinants that contribute to success or failure in recovering costs in the power sector. The findings indicated that electricity tariffs are seldom high enough to cover the full costs of providing services, even in cases where the cost-of-service provision is low. More specifically, the analysis indicated that tariffs in only two out of the 17 countries cover the full cost of service provision, while tariffs in seven out of the 17 countries did not even recover operating costs of the electricity service (Huenteler, et al., 2022). The study also found that full cost recovery is often higher in countries with higher GDP per capita.

Briceno-Garmendia and Shkaratan (2011) evaluated the performance of electricity tariffs against various policy objectives including cost recovery and affordability in 27 Sub-Saharan African countries. The study found that while most African countries have made efforts to set tariffs at levels that enable cost recovery and the provision of affordable electricity to low-income households, this objective is challenging and has not been achieved in several of the countries included in the analysis.

The authors note that difficulties include, amongst other reasons, costly operational inefficiencies and large proportions of the population being unable to pay for tariffs set at cost-recovery levels (Briceno-Garmendia & Shkaratan, 2011). The authors further noted that some countries perform well for cost recovery but poorly for affordability, and conversely other countries perform well for affordability but poorly in terms of cost recovery. Countries such as Uganda, Rwanda, Mozambique, and Chad were found to achieve good cost recovery outcomes but performed poorly for affordability. While countries such as South Africa, Tanzania, Zambia, and the Democratic Republic of Congo were found to perform relatively well for affordability and equity but poorly for cost recovery.

10.2.3 Non-payment for municipal services

A significant challenge impacting cost recovery outcomes is non-payment for municipal services. Non-payment for municipal services is a widespread issue confronting municipalities across South Africa. There are various reasons that explain the issue of non-payment. As noted in the literature, these include the inability to pay for municipal bills due to poverty or unemployment, the absence of awareness campaigns to educate households about the importance of paying for municipal bills, dissatisfaction with service provision, the perception that municipal workers are corrupt and mismanage municipal finances, poor governance and maladministration by municipal workers, the culture of non-payment or entitlement, and lack of collaboration between councillors and municipal workers resulting in councillors' not engaging residents about the importance of paying for services (Fjeldstad, 2004; Van Schalkwyk, 2012; Worku, 2018; Enwereji & Uwizeyimana, 2020; Enwereji, 2019).

Previous work from the Commission assessed factors impacting non-payment for property rates (Financial and Fiscal Commission, 2020). The qualitative analysis included a sample of 15 urban and rural municipalities. Factors considered to impact non-payment included poor billing and credit control systems, unaffordability and unwillingness to pay, and poor institutional capacity. In several municipalities, poor billing and credit control systems were recognised as one of the key constraints affecting property revenue collection. A major reason for inaccurate billings was due to unreliable and unavailable data.

An additional issue noted is the difficulty that municipalities have enforcing payment in areas supplied by Eskom due to the absence of enforcement mechanisms (Financial and Fiscal Commission, 2020). Municipal respondents in those areas pointed out the unwillingness of Eskom to

assist with disconnections. The impact of this is that even if a municipality has an effective credit control policy in place, it cannot be implemented if the municipality is not in charge of the enforcement mechanism. The issue of affordability was listed as another constraint impacting non-payment. Respondents noted that in some instances consumers were willing to pay property rates but could not afford to do so (Financial and Fiscal Commission, 2020).

Low-income levels and subdued economic activity were noted as the main reasons impacting affordability (Financial and Fiscal Commission, 2020). Low economic activity results in lower levels of income, increases poverty and unemployment, and makes it difficult for households to prioritise the payment of property rates. The Commission also found that in some cases consumers were unwilling to pay because of dissatisfaction with service provision, inaccurate billing, and lack of awareness campaigns about the importance of paying for property rates.

The University of the Free State's Centre for Development Support conducted a survey that included 1,600 households across 32 rural and urban localities in South Africa to examine the reasons for non-payment (CDS, 2001, cited in Fjeldstad, 2004). The study found that non-payment is mainly an issue of inability to pay. The study argued that the poverty of households make them unable as opposed to unwilling to pay for services. However, an earlier survey carried out by the Hellen Suzman Foundation found that widespread non-payment exists as a result of an 'entitlement culture', and 'culture of non-payment' passed down from the apartheid era (Johnson, 1999, cited in Fjeldstad, 2004). Fjeldstad (2004) noted that for both surveys, big differences in payment levels occur both within communities and between communities that have similar socio-economic features, including income levels.

Thus, Fjeldstad (2004) argues that the issue of non-payment is more complex and is only partly explained by the ability to pay argument and the culture of non-payment. Fjeldstad (2004) posits that trust relations between the government and society and within local communities may influence payment behaviour, specifically trust that municipalities will use revenues for the provision of services, trust that other citizens pay their share for services, and trust that the distribution of services and procedures for revenue enforcement will be fairly and reasonably established.

Revenue enforcement procedures, such as service cut-offs, are implemented to ensure that there are penalties for non-payment. Service cut-offs are a significant enforcement mechanism that have been applied in several municipalities across the country. As noted by Fjeldstad (2004), although such

penalties are expected to result in higher levels of compliance, experiences from municipalities across the country prove otherwise, indicating that the harsher the penalty the more widespread the unwillingness to pay. In addition to enforcement mechanisms, Fjeldstad (2004) argues that payment behaviour may be impacted by social influences such as the belief that other people close to an individual i.e., neighbours, family, friends, and political associates pay for services. Fjeldstad (2004) further argues that payment behaviour may be influenced by the level of support for the government, specifically stating that "widespread support tends to legitimise the public sector and may thus impose some social norm to pay rates" (Fjeldstad, 2004).

A study by Van Schalkwyk (2012) examined the reasons for non-payment in the Vhembe District Municipality in Limpopo. The study included a sample of households in the Thulamela and Mutale municipalities. The results revealed that 38 per cent of households did not pay for services. However, only 8 per cent of respondents believed that services were completely unaffordable. Despite the large proportion of respondents who believed that services were at least affordable, the percentage of households that did not pay for services was still relatively high, which indicates that there are other factors that explain the issue of non-payment. These factors include widespread dissatisfaction with the quality of services provided, as well as the misconception that it is government's duty to provide and pay for services (Van Schalkwyk, 2012).

Worku (2018) assessed the reasons for non-payment for households in Madibeng, Mamelodi and Soshanguve. The study found that 22 per cent of households in Soshanguve, 46 per cent of households in Mamelodi, and 78 per cent of households in Madibeng were unwilling to pay for services. Unwillingness to pay was found to be largely influenced by the lack of awareness campaigns by municipal officials to educate households about the importance of paying for services, the culture of non-payment, and the false belief that payment for services is unimportant. The study also found that defaulters believed that they did not have to pay for poor and inadequate services. An interesting observation of the study is that while households in Madibeng and Mamelodi had similar socioeconomic characteristics, their willingness to pay for services varied significantly.

The table below shows the highest level of education, average monthly household income, and employment status of the household head for households included in the Worku (2018) study. Despite the similarities in these variables, only 22 per cent of the 167 households sampled in Madibeng were willing to pay for services, while 54 per cent of the 120 households in Mamelodi were willing to pay for services. Given that both municipalities have very similar socioeconomic characteristics, the

results suggest that the issue of non-payment is more complex and is only partly explained by the ability to pay argument.

Table 10.1: Characteristics of respondents

Characteristics of respondents	Madibeng (sample = 167)	Mamelodi (sample = 120)
Willingness to pay for municipal services	Yes: 22%	Yes: 54%
	No: 78%	No: 46%
Highest level of education	Matric or less: 7%	Matric or less: 9%
	Certificate: 30%	Certificate: 29%
	Diploma: 31%	Diploma: 30%
	Bachelor's degree: 24%	Bachelor's degree: 25%
	Master's or more: 8%	Master's or more: 7%
Average monthly household income	R3 500 or less: 39%	R3 500 or less: 38%
	R3 501 to R7 000: 33%	R3 501 to R7 000: 36%
	R7 001 or more: 28%	R7 001 or more: 26%
Employment status of household head	Full time employed: 12%	Full time employed: 11%
	Part-time employed: 23%	Part-time employed: 24%
	Self-employed: 38%	Self-employed: 39%
	Not employed: 27%	Not employed: 26%

Source: Adapted from Worku (2018: 104)

A more recent study by Enwereji and Uwizeyimana (2020) found that non-payment can be explained by various reasons including lack of payment enforcement, lack of implementation of credit policies, inadequate service provision, corruption, and the mismanagement of public funds by municipal officials. The authors noted that households boycott paying for services due to dissatisfaction with the quality of services provided. The intention of payment boycotts is to influence service providers to improve service delivery. Additionally, the mismanagement of public funds by municipal role-players was regarded as another contributing factor influencing payment default. The perception that municipal financial administration is poorly managed may result in residents boycotting the payment for services due to the perceived mismanagement (Enwereji & Uwizeyimana, 2020).

Concerning the implementation of enforcement and credit control policies, Powell et al. (2010, cited in Enwereji and Uwizeyimana, 2020) and Enwereji (2018, cited in Enwereji and Uwizeyimana, 2020)

note that many municipalities have failed to apply legislative provisions contained in various prescripts such as the Municipal Property rates Act (6 of 2004), Municipal Systems Act (32 of 2000), Water Service Act (108 of 1997), Municipal Structures Act (117 of 1998), Municipal Finance Management Act (56 of 2003), Municipal Fiscal Powers and Functions Act (12 of 2007), and other municipal service provision by-laws to enforce payment from residents. Enwereji and Uwizeyimana (2020) also found that discrepancies in billing and the absence of an appeal system to follow up on billing discrepancies may discourage residents from paying for services.

The culture of non-payment or entitlement is another reason noted to impact non-payment (Enwereji & Uwizeyimana, 2020). It is a commonly held view that the culture of non-payment originated in resistance to the apartheid struggle (Enwereji & Uwizeyimana, 2020; Fjeldstad, 2004; Enwereji & Potgieter, 2018). During the regime, the provision of equitable municipal services was primarily focused on white dominated areas. As part of the struggle against the regime, residents in mainly black dominated areas, civic associations and civil organisations boycotted the payment of municipal service charges. These boycotts were by means of protests which later turned into a culture of non-payment (Fjeldstad, 2004). As noted by Enwereji and Potgieter (2018), the culture of non-payment in black dominated areas became entrenched in the perceptions of citizens to the point that it became a challenge for citizens to change their attitudes about paying for services when democratic governance emerged. Currently, reversing the culture of non-payment continues to be a challenge for municipalities across South Africa. This is evidenced by the widespread non-payment for electricity in Soweto, resulting in the municipality owing billions to Eskom (Enwereji & Potgieter, 2018).

Regarding the ability to pay argument, Enwereji and Potgieter (2018) found that inability to pay is not significant in explaining the issue of non-payment. This is evidenced by consumers' ability to pay for discretionary expenses, such as DStv, clothing accounts and car instalments, as opposed to paying for municipal bills (Mabunda & Holeni, 2017). Enwereji and Uwizeyimana (2020) conducted a study looking at the main causes for non-payment across four district municipalities in the North-West province. The study included a sample of 384 residents and found that although most residents in the study earned at least R21 000 monthly income, suggesting that they can pay for municipal services, almost 30 per cent of the respondents admitted to not paying for municipal services and 40 per cent admitted to defaulting at intervals in paying for services. Enwereji and Uwizeyimana (2020) also found that some residents falsely claim to be indigent, while residents that are considered indigent do not report their indigency status to municipalities.

It is important to note the role that councillors play in enhancing a culture of payment for municipal services (Fjeldstad, 2004; Enwereji, 2019; Enwereji & Uwizeyimana, 2020). Councillors are elected to represent their constituencies and act as a communication link between communities and the municipality. In addition to serving as a communication link, their roles include informing the public about the various plans or programmes being undertaken by the municipality to increase transparency and promote public participation, communicating the needs of communities within council, ensuring the efficiency and fairness of municipal service provision, and monitoring progress on planned capital projects (SALGA & GIZ, 2006).

Enwereji & Uwizeyimana (2020) corroborate the significant role played by councillors in influencing residents' willingness to pay for services. Based on a qualitative analysis focusing on communities in the North West province, they found that municipal officials assign blame for non-payment to councillors. In particular, officials claimed that councillors protect their ward members from paying for services. On the other hand, councillors alleged that officials do not communicate with them about engaging residents. Thus, to improve payment compliance, Enwereji & Uwizeyimana (2020) recommend that officials should collaborate with councillors to increase residents' awareness about the importance of paying for services.

Based on the literature, providing adequate municipal services, applying revenue enforcement and credit control mechanisms, managing municipal finances efficiently and competently, improving billing and accounting systems, and communicating to residents about the importance of paying for services through councillors and awareness campaigns encourages payment for services. Furthermore, payment could also improve if municipal call centres are prompt in addressing complaints and faults reported regarding service delivery interruptions. This would build citizens' trust towards the efficiency of municipal processes. A significant challenge in overcoming the issue of non-payment is to deal with residents' mistrust towards municipalities (Fjeldstad, 2004). Thus, the prompt response to such queries would assist in convincing citizens that municipalities take their service delivery mandate seriously.

a) *Affordability of municipal services*

The White Paper on Local Government highlighted the importance of affordable services to achieve the objective of universal access and to ensure that municipalities would recover the costs of providing services. As previously noted, unaffordable tariffs may impact the ability of customers to pay for services and may negatively affect revenue collection. For non-domestic customers such as

commercial and industrial customers, unaffordable tariffs could also discourage local economic growth by increasing costs and impacting the sustainability of businesses. Marah et al. (2003) note that as tariff levels increase, affordability may decrease, which may negatively impact cost recovery. Therefore, tariff levels and affordability are important to consider for cost recovery.

   b) *Defining affordability*

Affordability is dependent on a consumer's ability and willingness to pay for services (Walsh, Shai, & Mbangata, 2019). Ability to pay measures whether a consumer can consume services given current prices and budget constraints. Thus, the amount of a service consumed is restricted by the income available to the consumer. On the other hand, willingness to pay measures the maximum amount a consumer is willing to sacrifice to receive a service and relates to a consumer's preferences and the acceptability of prices (Walsh, Shai, & Mbangata, 2019).

The most common measure of affordability, from an ability to pay point of view, is an affordability ratio that indicates the percentage of household income spent on municipal services. The common formula used to calculate affordability ratios is illustrated in the equation below (Walsh, Shai, & Mbangata, 2019):

$$\text{Affordability ratio} = \frac{Municipal\ bill}{Household\ income}\ x\ 100$$

The calculated affordability ratio is measured against a predetermined threshold. If the ratio is below the threshold, tariffs are regarded as affordable. Whereas ratios above the threshold are considered unaffordable.

The South African Cities Network (SACN) examined affordability in metropolitan municipalities by comparing municipal bills against household income in nine of the largest cities in South Africa (South African Cities Network, 2022). Affordability was measured by calculating the municipal bill as a percentage of household income. Municipal bills were considered affordable if the bill as a percentage of income fell below a threshold of 15 per cent of monthly household income. The results showed that services are not affordable for low-income households. Similarly, an earlier study by the SACN (2009) noted that the income group most negatively impacted by municipal bills are low-income households whose incomes exclude them from free basic services provided to indigent households. The report further noted that poor and lower-income households, with incomes above the

cut-off for indigent support, often pay over 15 per cent of their monthly household income on municipal services. Ledger (2021) argues that the SACN's approach to measuring affordability is not appropriate in the South African context, given the high levels of poverty and food insecurity. The paper proposed an approach that considers food insecurity to determine the affordability of services. Ledger (2021) reasoned that services should be considered unaffordable for households that do not have sufficient funds to purchase a basic basket of food.

Walsh et al. (2019) analysed the affordability of water for residential consumers in four South African municipalities using the affordability ratio approach. Based on a micro-level analysis, which examined affordability ratios in small area layers within each municipality, the study found a level of unaffordability in all four municipal case studies. However, the extent and factors impacting affordability were found to differ. The main factors affecting affordability were income and consumption. Areas experiencing affordability constraints either had low incomes, high levels of consumption, or a combination of the two, impacting their ability to pay for water services.

c) *Free Basic Services and cost recovery*

Free basic services were introduced in acknowledgement of the affordability issue (Brown, 2005). These services are provided to poor households at no charge and include a minimum amount of electricity, water, and sanitation adequate to meet the basic requirements of households. Only households classified as indigent qualify to receive free basic services. Households are classified as indigent based on a means test that determines whether households meet the criteria set by the municipality. Municipalities establish their own categories of subsidies (Republic of South Africa, n.d.). As an example, free basic electricity may consist of 50kWh per household per month, free basic water may include a basic quantity of at least 6kl of water per household per month, while free basic sanitation and refuse may be subsidised up to R50 per household per month or a 100 per cent subsidy. Note that these amounts may vary for different municipalities.

The Local Government Equitable Share (hereafter equitable share) is the share of nationally raised revenues allocated, in part, to assist municipalities to provide free basic services to poor households (Loots, 2004). However, equitable share allocations are unconditional, and municipalities can determine how they allocate the funds in their budgets.

A study by Calfucoy et al. (2009) evaluated municipal free basic water policies in three South African municipalities, Polokwane, Mbombela, and Rustenburg. The focus of the evaluation was on the

provision of free basic water to poor households and the recovery of costs for service provision. The three municipalities did not yet provide free basic water to all poor households within each of their municipalities at the time of the study. Therefore, the study also analysed whether the municipalities' current water tariff structures would achieve cost recovery if free basic water was extended to the remaining poor households. The study found that in Polokwane and Mbombela it would be challenging to substantially cross-subsidise tariffs from wealthier households to recover the costs of providing free basic water to the remaining poor households due to the smaller proportion of wealthier households to subsidise the comparatively large proportion of poor households.

In a similar study, Brown (2005) sought to establish how water services are made affordable to the poor and the impact of the introduction of free basic water on cost recovery levels in Mbombela. The analysis considered whether affordability was an issue before the introduction of free basic services and what the consequences of the free basic water allowance had been for affordability. The study found that cost recovery remained low in the townships despite the introduction of the free basic water allowance. Moreover, the study indicated that while free basic water had contributed towards making water services available to the poor, payment levels declined since the introduction of the free basic water policy.

10.3   Problem Statement and Research Questions

10.3.1 Problem statement

Rising municipal consumer debt levels pose a threat to the financial viability of municipalities and impact their ability to provide services in a sustainable manner. As a result of the high municipal consumer debt levels, many municipalities struggle to recover the costs of providing services. Without recovering the costs of providing services, municipalities may not have the funds necessary to maintain and invest in new infrastructure for future service provision.

A significant reason a municipality may have challenges in recovering costs is due to widespread non-payment. Various reasons explain the issue of non-payment, including the unaffordability of services or the inability of customers to pay for services. If tariff levels are too high, this negatively impacts the affordability of services, which in turn adversely affects cost recovery (Marah, Martin, Alence, & Boberg, 2003). Thus, the link between cost recovery and affordability is important to consider.

10.3.2 Research questions

This paper seeks to answer the following research questions:

1. Do municipalities recover the costs of providing services?
2. Is there a link between cost recovery and the affordability of municipal services?
3. Does a municipality's socio-economic characteristics affect the extent to which it can achieve cost recovery?

10.4 Research Aims and Objectives

The main objective of this paper is to assess the extent to which municipalities recover the costs of providing services and the relationship between cost recovery and the affordability of services. A secondary objective is to examine whether a municipality's socio-economic profile affects cost recovery outcomes. The research findings will be used to make recommendations regarding cost recovery and the affordability of services.

10.5 Research Methodology and Data

This research contributes to an understanding of whether municipalities recover the costs of service provision and the relationship between cost recovery and affordability using a sample of South African municipalities.

10.5.1 Municipal selection

Municipalities were selected using stratified random sampling, which is a probability sampling technique where the total population is divided into homogenous groups based on shared characteristics. Municipalities in South Africa are categorised (described in detail below) according to factors such as the size of their budgets, geographical location, and function. Random samples were selected from each municipal category.

Municipalities included in the sample were selected based on the availability of data reported in the Municipal Budget and Reporting Regulations (MBRR) schedules, downloaded from National Treasury's Municipal Finance Management Act (MFMA) website. Municipalities are required to submit their budget and financial data in terms of the MBRR, based on the municipal Standard Chart of Accounts (mSCOA) promulgated in 2014. The mSCOA Regulations specify the standard recording and classification of municipal budget and financial data and require municipalities to upload this

data to the local government portal (National Treasury, n.d.). It should be noted that the reliability and credibility of the data reported in mSCOA is a concern primarily due to the incorrect use of mSCOA and poor accounting practices by some municipalities (National Treasury, 2022).

Initially, the objective was to select several municipalities of different categories in each province for the period analysed. However, the sample selection was limited as some municipalities had missing MBRR schedules, some had missing and unreliable data, while others submitted MBRR schedules in an unworkable format such as PDF. As a result, these municipalities were excluded from the sample. Thus, the overall dataset consists of a sample of 88 municipalities of different categories across all nine provinces, representing approximately 34 per cent of the total number of municipalities in South Africa. Note that due to the data availability and credibility constraints provinces are not evenly represented in each of the municipal categories. Therefore, some provinces are more broadly represented within municipal categories compared to others. The table below shows the number of municipalities within each municipal category and province.

Table 10.2: Number of municipalities within each municipal category and province

	A	B1	B2	B3	B4	Total	
EC	2	0	2	4	2	10	11%
FS	1	1	3	6	0	11	13%
GT	3	1	3	1	0	8	9%
KZN	1	3	0	2	2	8	9%
LIM	0	1	1	3	1	6	7%
MP	0	3	1	0	4	8	9%
NC	0	1	1	5	0	7	8%
NW	0	3	1	7	0	11	13%
WC	1	3	3	12	0	19	22%
Total	8	16	15	40	9	88	
	9%	18%	17%	45%	10%		

Source: Commission calculations

Municipalities in South Africa are broadly categorised into three categories: category A (metropolitan areas), category B (local), and category C (district) municipalities (Municipal Demarcation Board, 2018). Further classifications are provided by the Municipal Infrastructure Investment Framework (MIIF) classification, which subdivides category B municipalities into four groups, from B1 to B4, consisting of larger municipalities that exercise more powers and smaller municipalities that have less resources and power (Municipal Demarcation Board, 2018). Category C municipalities or

districts are divided into two subgroups consisting of those that are water authorities and those that are not. In particular, the MIIF classifies local and district municipalities as follows (Municipal Demarcation Board, 2018):

- B1 municipalities are defined as secondary cities and consist of local municipalities with the largest budgets.
- B2 municipalities have a large town as the core of the municipality.
- B3 municipalities have a relatively small population with a significant proportion of the population residing in urban areas. These municipalities do not have a large town as the core of the municipality.
- B4 municipalities are largely rural with, no more than, one or two small towns.
- C1 district municipalities generally have limited-service delivery functions and are not water services providers.
- C2 district municipalities are water services providers and generally have more responsibilities.

District municipalities, categories C1 and C2, were excluded from the analysis due to the unavailability and reliability of the data reported in the MBRR schedules. Furthermore, districts differ from other municipal categories in terms of their function making them less comparable to other municipal categories.

10.5.2 Cost recovery

a) *Cost reflectiveness of each service*

Cost recovery is firstly assessed by analysing the cost reflectiveness of each service in each municipality. Cost reflectiveness is measured by calculating the cost coverage percentage for the respective service in each municipality. The cost coverage percentage is calculated using the formula below:

$$Cost\ coverage\ percentage$$
$$= \frac{(Service\ charge\ revenue - Expenditure\ + LGES\ allocation)}{Expenditure}\ x\ 100$$

Service charge revenue is the revenue generated from tariffs less subsidies provided to the municipality. Expenditure is the total amount spent for each trading service including expenditure on free basic services. The Local Government Equitable Share (LGES) allocation is added to account for the cost of providing free basic services to poor households. It should be noted that this method of calculating cost coverage does not provide a full account of the cost reflectiveness of tariffs due to the absence of secondary costs associated with the provision of services. These secondary costs include governance and administration costs.

The municipal finance data used to calculate the cost coverage percentages is from the MBRR schedules described above. Service charge revenue is from table A4, expenditure from table A2, and the LGES allocation from table A10. Note that the LGES allocation data from table A10 only includes the cost of providing free basic services to formal settlements and excludes the cost-of-service provision to informal settlements. This underestimates the total cost of providing services to indigent households.

b) *Collection rates*

Following Marah et al. (2003), the analysis considers municipal collection rates as an additional indicator of cost recovery. Collection rates measure increases or decreases in debtors against annual billed revenue and indicate the quality of a municipality's credit control and revenue management (National Treasury, 2014). Credit control is implemented to ensure the collection of bills, and revenue management provides an indication of a municipality's ability to bill accurately and set tariffs that are affordable (National Treasury, 2014). The municipal collection rate data is from supporting table SA8 in the MBRR schedules.

c) *Affordability*

The analysis assesses the correlation between cost recovery and the affordability of household municipal bills. To measure the affordability of municipal services, the analysis follows the South African Cities Network and other studies by comparing the municipal bill for each service against household income in each municipality (SACN, 2020; Walsh, Shai, & Mbangata, 2019). Data on municipal bills is from table SA14 of the MBRR schedules. Table SA14 includes three types of municipal household bills: bills for middle income households, the affordable range of bills, and bills for indigent households. These bills are based on assumptions regarding property value and household consumption levels for electricity and water. The property value and consumption thresholds for each type of bill are shown in the table below.

Table 10.3: Property value thresholds and service consumption levels for each municipal ccount

Description	Property value threshold	Electricity threshold	Water threshold
Monthly account - Middle Income range	R700 000	1 000 kWh	30 kl
Monthly account - Affordable range	Between R500 000 and R700 000	500 kWh	25 kl
Monthly account - Indigent household	R300 000	350 kWh (50 kWh free)	20 kl (6 kl free)

Source: Based on MBRR schedule SA14

Given the South African context, characterised by high levels of poverty and unemployment, the analysis considers the affordable range of bills and bills for indigent households as the basis for the affordability calculations.

d) *Income*

Median household income

Data on household incomes at the municipal level post the 2011 Census is unavailable. In the absence of better data, household income estimates are obtained from the IHS Markit Regional eXplorer (ReX). ReX provides estimates of the municipal household distribution across income categories based on Census datasets. The household income frequency is increased on an annual basis in non-Census years. The estimates are informed by various factors within each municipality. These factors include growth in the number of households, the change in the size distribution of income, and the change in total household income due to growth in the local economy and the level of employment. Although the ReX income estimates are unlikely to be completely accurate, they provide a useful measure of household incomes at a municipal level.

The ReX regional household estimates have several income categories. The annual household income brackets were divided by 12 to obtain monthly incomes. The midpoints for each income bracket were calculated and the midpoint with the highest frequency of households is assumed to be the median income for the respective municipality. The income brackets and calculated midpoints are shown in the table below.

Table 10.4: ReX household income categories and calculated midpoints

ReX annual household income categories	Calculated midpoints
R0 - R2,400	R1,200
R2,400 - R6,000	R4,200
R6,000 - R12,000	R9,000
R12,000 - R18,000	R15,000
R18,000 - R30,000	R24,000
R30,000 - R42,000	R36,000
R42,000 - R54,000	R48,000
R54,000 - R72,000	R63,000
R72,000 - R96,000	R84,000
R96,000 - R132,000	R114,000
R132,000 - R192,000	R162,000
R192,000 - R360,000	R276,000
R360,000 - R600,000	R480,000
R600,000 - R1,200,000	R900,000
R1,200,000 - R2,400,000	R1,800,000
R2,400,000+	R2,400,000

Source: IHS Markit ReX and Commission's calculations

The median incomes were adjusted by inflation to obtain the real incomes for each period, 2017/18 to 2019/20. The Figure 10.1 below shows the calculated real median household incomes per municipal category. As shown, on average metropolitan municipalities have the highest median household incomes, followed by categories B1, B2 and B3, while category B4 municipalities have the lowest. Real median incomes in all municipal categories were lower in 2019/20 due to the impact of COVID-19 on household incomes.

Figure 10.1: Real median household incomes per municipal category

	A	B1	B2	B3	B4
2017/18	R11 161	R10 261	R9 946	R9 865	R6 048
2018/19	R10 728	R9 863	R9 561	R9 531	R6 245
2019/20	R9 847	R9 546	R9 253	R9 070	R5 835
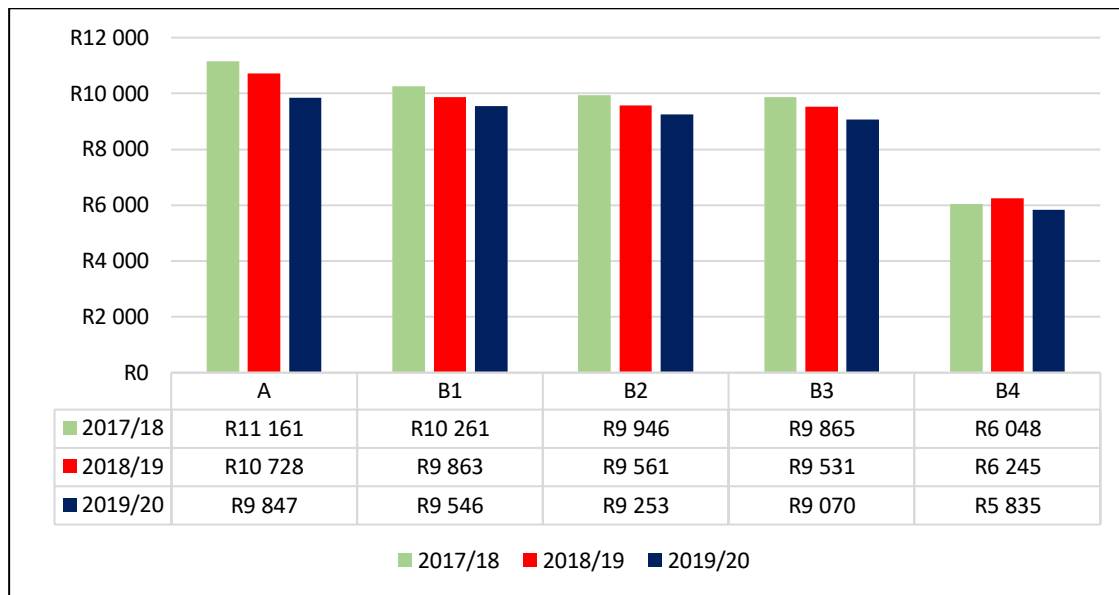
Source: IHS Markit ReX and Commission's calculations

Indigent household income

For indigent households, income for each municipality is taken as the combined income of less than two old age grants, based on National Treasury's Indigent Policy. Note that in practice municipalities have discretion in determining the income threshold for households qualifying as indigent.

10.5.4 Identification of outliers

Due to data reliability constraints, outliers were detected and excluded from the sample. Outliers are extreme observations within a dataset, which can skew the results of an analysis. One of the common methods to identify outliers in a dataset is by using the inter-quartile range (IQR). The IQR is the difference between the 25th percentile (Q1) and the 75th percentile (Q3) in a dataset. The IQR includes the values that are up to 25 per cent higher or 25 per cent lower than the median. A municipality is regarded as an outlier and excluded from the analysis if it has a value 1.5 times greater or 1.5 times less than the IQR for each of the variables analysed. Appendix A includes tables showing the number of municipal outliers and missing values excluded from the analysis.

10.5.5 Assessing the link between cost recovery and affordability

The relationship between cost recovery and affordability for each service is analysed using correlation analysis. Correlation analysis measures the extent and direction of an association between two variables (Gogtay & Thatte, 2017). The outcome of a correlation analysis is the correlation coefficient (r). The value of the correlation coefficient ranges from -1 to +1. A coefficient of -1 indicates a perfect negative relationship, a value of +1 indicates a perfect positive relationship, while a value of zero means that there is no association between the two variables. The table below provides an example of a standard approach to interpreting correlation coefficients (Schober, Boer, & Schwarte, 2018).

Table 10.5: Example of a standard approach to interpreting correlation coefficients

| Absolute value of correlation coefficients	Interpretation
0.00-0.10	Negligible correlation
0.10-0.39	Weak correlation
0.40-0.69	Moderate correlation
0.70-0.89	Strong correlation
0.90-1.00	Very strong correlation

Source: Schober, Boer, & Schwarte (2018)

10.6   Results

10.6.1 Cost coverage

The average cost coverage percentages for each service and each municipal category are shown in Figure 10.2 below.

Figure 10.2: Average cost coverage percentages for each service and municipal category
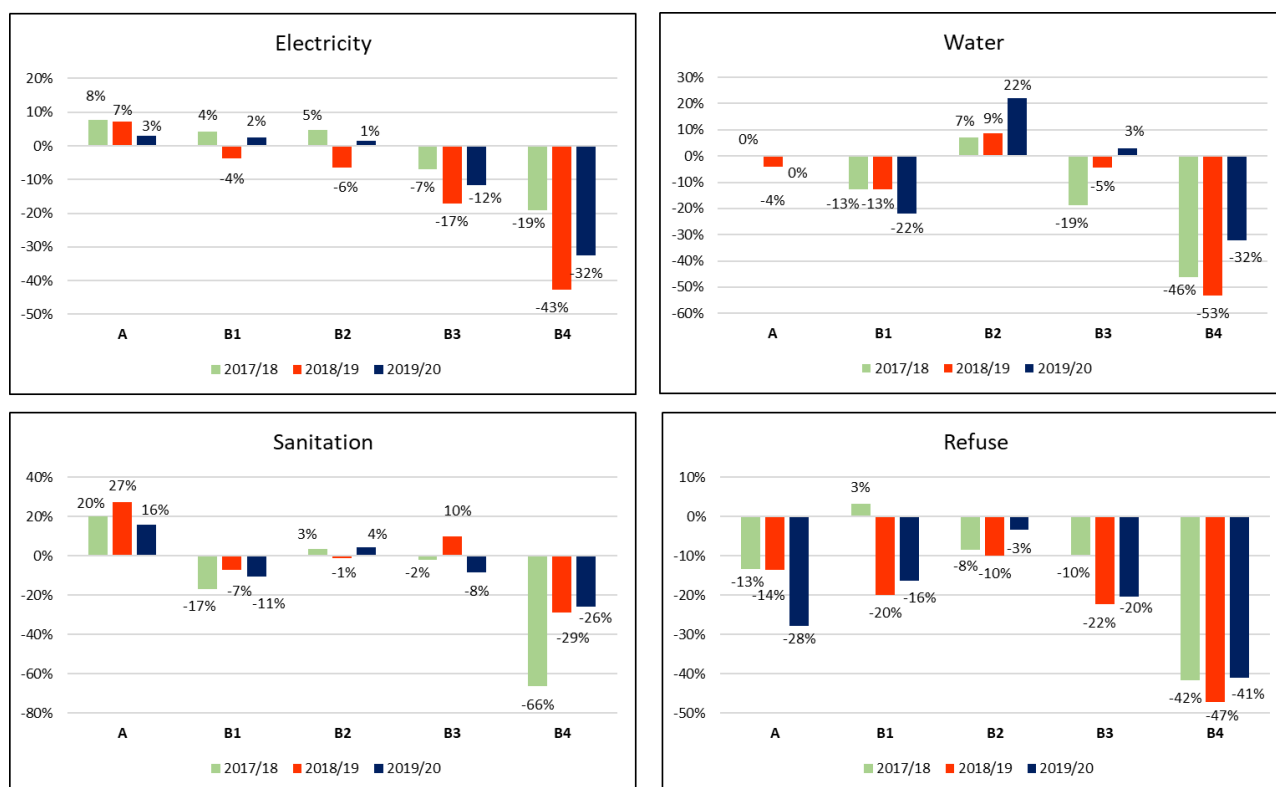
Source: Commission's calculations

Electricity

On average, excluding outliers, category A municipalities generated surpluses and had the highest coverage levels for electricity followed by category B1 and B2 municipalities, while B3 and B4 municipalities did not recover electricity costs. In terms of category A, Buffalo City experienced a decline in electricity revenue in 2018/19 due to loadshedding, the movement by more affluent consumers to off grid alternative energy sources, and the increase in meter tampering and illegal connections (Buffalo City, 2018/19). Municipalities are likely to see more customers shifting to alternative energy sources due to intensified loadshedding.

The low electricity coverage levels across municipal categories in 2019/20 can be explained by the decrease in revenue collection in the last quarter of 2019/20 due to the COVID-19 pandemic (National Treasury, 2020). As a result of the economic difficulties caused by COVID-19, municipalities experienced significant challenges in collecting revenue from households. Traditional revenue sources were adversely affected by the impact that the economic contraction had on household disposable income and the ability of consumers to pay for municipal services. Additionally, municipal expenditures increased for the provision of indigent support and relief measures to customers.

Electricity coverage levels are likely to be impacted by heightened loadshedding and the 2023/24 Eskom tariff increases approved by NERSA.

Water and sanitation

For water services, on average municipalities in category B2 had the highest coverage levels, while those in category B4 had the lowest. For category A, eThekwini experienced decreases in water and sanitation revenues in 2017/18 due to the drought in KwaZulu Natal (eThekwini, 2017/18). Buffalo City experienced a decline in water revenue in 2018/19 due to challenges in meter reading in areas affected by community unrest (Buffalo City, 2018/19). Water and sanitation revenues were impacted by COVID-19 in 2019/20, which affected the ability of municipalities to read meters and bill consumers (National Treasury, 2020). In terms of sanitation, category A municipalities had the highest coverage levels.

The low coverage levels for electricity, water, and sanitation are concerning given that historically municipalities, particularly larger municipalities, typically generated surpluses on these services which enabled them to cross-subsidise some of their services. This is also concerning as the analysis does not include the secondary costs associated with these services such as governance and administration costs.

Refuse

For refuse services, on average, municipalities in all four categories generated deficits and did not recover costs for refuse services. This could be due to cross-subsidisation between trading services, where municipalities generate surpluses on some services, such as electricity and water, while accepting deficits on others. The surplus generated from a service can then be used to cover the deficit accepted on another service. As previously explained, through cross-subsidisation, tariffs levied on some services or customer categories will be lower than the cost of providing the service, while tariffs levied on other services or customer categories will be above cost. The low coverage levels for refuse services could also be due to the introduction of new legislation which led to increased costs for refuse services.

The variance in cost coverage levels across municipal categories can be explained by their difference in revenue raising capabilities. The low average coverage levels, particularly for municipalities in category B3 and B4, can be explained by their adverse socioeconomic conditions. These municipalities often have a larger share of their population living in poverty (Oosthuizen & Thornhill,

2017). As a result, these municipalities are heavily reliant on grants, such as the LGES, to provide services as they have lower tax bases compared to larger municipalities. Nonetheless, the low coverage levels can also be explained by widespread non-payment, internal municipal inefficiencies such as incorrect or poor billing systems, and failure to implement and enforce credit control and debt collection policies.

a) *Collection rates*

The chart below shows the average collection rates across municipal categories. The norm for municipal collection rates is 95 per cent based on National Treasury's Circular 71, that provides a set of standard financial ratios and norms relevant for municipalities.

Figure 10.3: Average collection rates across municipal categories
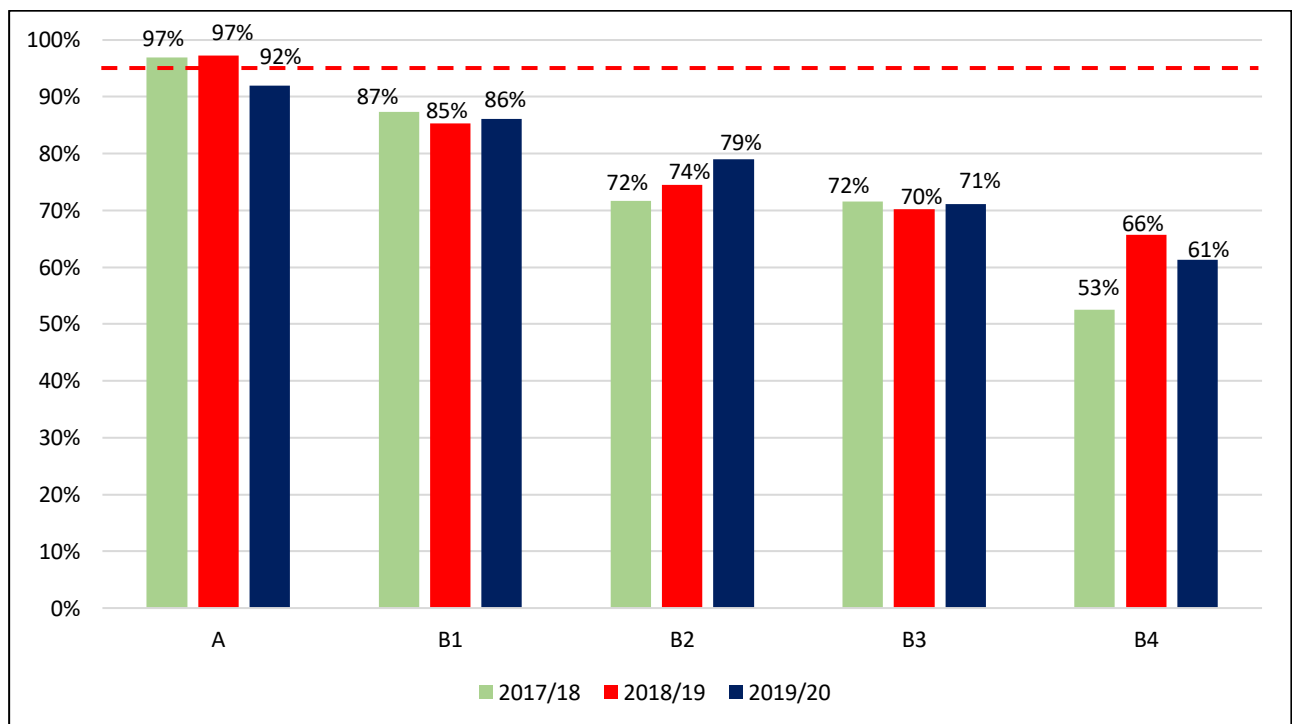
Source: Commission's calculations

In 2017/18 and 2018/19, average collection rates for category A municipalities were above the 95 per cent norm, while collection rates for other municipal categories were below the norm. Several factors can contribute to poor revenue collection including the inability of customers to pay for services, a culture of non-payment for services by communities, poor billing systems, and failure to implement adequate credit control measures (Financial and Fiscal Commission, 2020). In addition, a municipalities socioeconomic context, such as high unemployment and poverty levels, may also affect collection rates. In 2019/20, the decline in collection rates was primarily due to the impact of

COVID-19 on municipal finances in the last quarter of the 2019/20 financial year (National Treasury, 2020).

b) *Repairs and maintenance*

According to National Treasury's Circular 71, municipalities are advised to spend a minimum of 8 per cent on repairs and maintenance against the value of property, plant and equipment (PPE). The chart below shows the average repairs and maintenance ratio for different municipal categories. Although the average for category A municipalities is the highest, all categories have average ratios below the 8 per cent norm indicating that municipalities are underspending on repairs and maintenance.

Figure 10.4: Average repairs and maintenance ratios
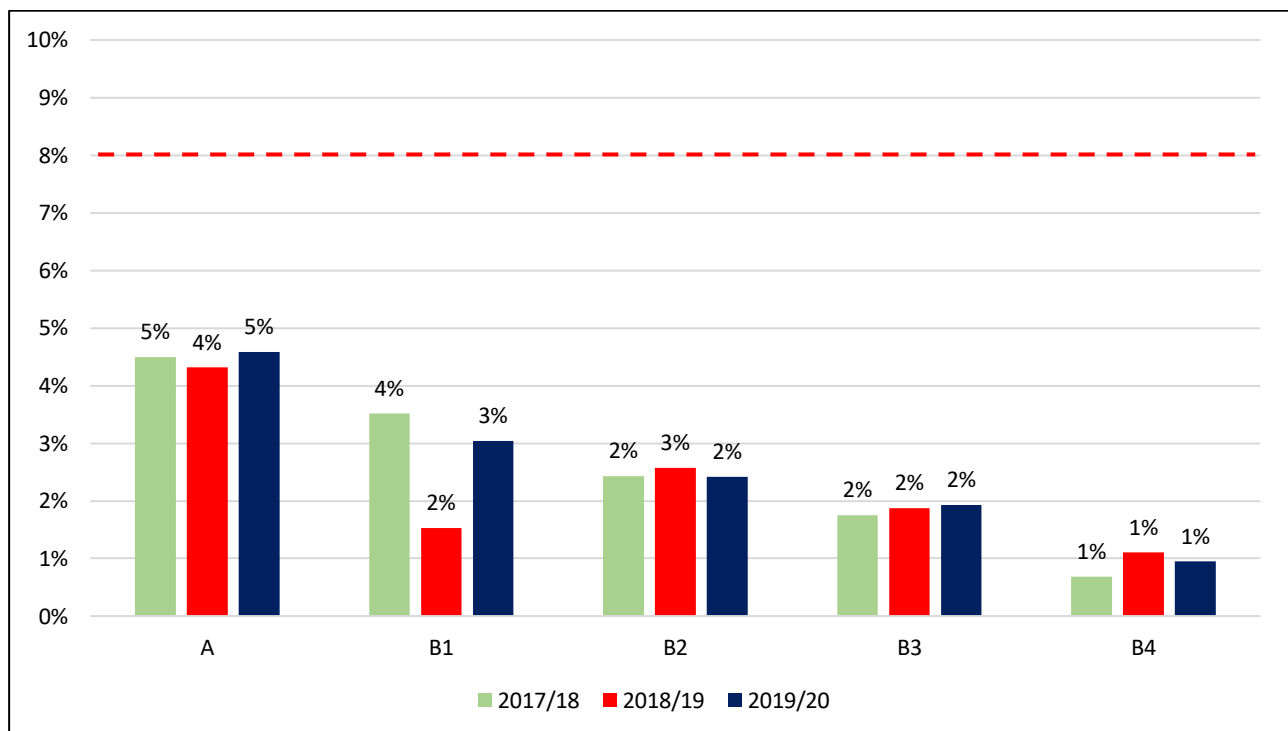
Source: Commission's calculations

Delayed maintenance can result in infrastructure breakdowns, service disruptions, and service delivery failure. Routine maintenance assists in preserving the useful life of infrastructure. The rising backlog in the maintenance needed to keep infrastructure operational has resulted in the dilapidation of infrastructure assets in many municipalities, which has led to significant electricity and water distribution losses. An infrastructure network that is badly maintained impacts service reliability and sustainability and consequently, revenue potential.

10.6.2 Correlation results

a) *Cost coverage and affordability*

The relationship between cost coverage and the affordability of municipal household bills is assessed using correlation analysis. The table below shows the correlation results per service for two types of bills: the affordable range, and bills for indigent households. For the affordable range of bills, median incomes were used to assess affordability, which is calculated by dividing the municipal bill for each service against median household income per municipality. For indigent households, affordability is calculated by dividing the indigent bill for each service by the National Treasury threshold of a combined income of less than 2 old age grants.

Table 10.6: Correlation between cost coverage and affordability

	2017/18		2018/19		2019/20	
Affordable range bill per service						
Electricity	-	0.27 **	-	0.25 **	-	0.11
Water	-	0.02	-	0.25 *	-	0.05
Sanitation	-	0.07	-	0.02	-	0.13
Refuse		0.07		0.05		0.21
Indigent bill per service						
Electricity	-	0.07	-	0.21 *	-	0.23
Water	-	0.08	-	0.20	-	0.30 *
Sanitation		0.06	-	0.06	-	0.22
Refuse	-	0.02	-	0.07	-	0.13

Note: *** p<0.01, ** p<0.05, * p<0.1.

Source: Commission's calculations

As shown in the table above, most of the correlation coefficients are negative, however the magnitude of the relationship between cost coverage and affordability for the respective services is generally weak and, in some cases, negligible. The negative sign of the coefficients suggests that on average municipalities that have more affordable bills, or lower bills as a percentage of income, tend to have higher cost coverage levels. This is consistent for both the affordable range of bills, as well as bills for indigent households. This supports the argument that if tariff levels are too high, customers will not be able to afford services which adversely impacts cost recovery.

For electricity and water specifically, some of the coefficients are significant at the five per cent and ten per cent levels of significance. Interestingly, for refuse services the direction of the relationship for the affordable range of bills is positive, suggesting that municipalities with higher refuse bills as a percentage of income, tend to have higher coverage levels. This result could be due to cross-subsidisation between trading services, where municipalities generate surpluses on some services, such as electricity and water, while accepting deficits on others. As shown in the cost coverage results, on average all municipal categories generated deficits for refuse services, which may suggest that refuse tariffs are lower than the cost of providing the service. However, the correlation coefficients for refuse services are not statistically significant.

Overall, the results suggest that on average municipalities that have more affordable municipal household bills i.e., lower bills as a percentage of income, tend to have higher cost coverage levels, particularly for electricity, water, and sanitation services.

However, it is important to note that the strength of the relationship between cost coverage and affordability across services is generally weak. This could be due to the quality of the data or sample size, but it also suggests that other factors play a greater role in explaining cost recovery outcomes. These results confirm that cost coverage levels are only partly explained by the ability to pay argument.

b) *Cost coverage and socioeconomic characteristics*

A municipality's socioeconomic characteristics may also affect the extent to which it can recover the costs of service provision. Thus, the analysis also considered the correlation between cost coverage for each service and various socioeconomic variables including median household income, GDP per capita, and the municipal unemployment rate. Data for each of the socioeconomic variables was obtained from the IHS Markit Regional eXplorer (ReX).

The table below shows the correlation coefficients for median income, GDP per capita and unemployment.

Table 10.7: Correlation between cost coverage and socioeconomic characteristics

	2017/18	2018/19	2019/20
Median income			
Electricity	0.33 ***	0.37 ***	0.27 **
Water	0.38 ***	0.25 **	0.04
Sanitation	0.30 **	0.24 **	0.21 *
Refuse	0.20 *	0.28 ***	0.14
GDP per capita (constant 2015 prices)			
Electricity	0.29 **	0.33 ***	0.24 **
Water	0.31 ***	0.18	0.07
Sanitation	0.26 **	0.04	0.15
Refuse	0.12	0.14	0.13
Unemployment			
Electricity	- 0.28 **	- 0.36 ***	- 0.29 ***
Water	- 0.29 ***	- 0.35 ***	- 0.18
Sanitation	- 0.31 ***	0.02	- 0.11
Refuse	- 0.19	- 0.21 *	- 0.22 *

Note: *** p<0.01, ** p<0.05, * p<0.1.
Source: Commission's calculations

For median income, all the correlation coefficients are positive, suggesting that municipalities with higher median household incomes tend to have higher cost coverage levels. The correlation coefficients for GDP per capita are also positive, which indicates that on average municipalities with higher GDP per capita tend to have higher cost coverage levels for each service. This is in line with the study by Huenteler et al. (2022) who found that cost recovery is higher in countries with higher GDP per capita. For unemployment, the relationship is negative, suggesting that municipalities with higher unemployment levels tend to have lower cost coverage levels. These results highlight the importance of considering a municipality's socioeconomic profile when assessing cost recovery.

10.7   Conclusion

The paper assesses the extent to which municipalities recover the costs of service provision and the relationship between cost recovery and the affordability of services. Municipal cost recovery is important for the sustainability and maintenance of services and is an important indicator of the overall financial health of municipalities.

However, most municipalities are still far from recovering the costs of service provision. It is argued that municipalities may struggle to recover costs due to tariffs being unaffordable (National Treasury, n.d.). If tariffs are too high, affordability will decrease, which may adversely impact cost recovery. Recently, affordability has been impacted by high inflation due to the global supply chain disruptions caused by the COVID-19 pandemic and the Russia-Ukraine conflict. These economic shocks have increased the cost of living and exacerbated poverty levels.

The results suggest that on average municipalities struggle to recover the costs of providing services. Using average cost coverage percentages for each service and each municipal category between 2017/18 and 2019/20, the findings indicate that on average category A municipalities consistently generated surpluses and had the highest coverage levels for electricity, categories B1 and B2 generated surpluses in some years, while municipalities in categories B3 and B4 did not recover electricity costs.

For water services, on average municipalities in category B2 had the highest coverage levels, while other municipal categories did not recover water services costs. In terms of sanitation, category A municipalities had the highest coverage levels followed by municipalities in categories B2 and B3, and category B1 and B4 municipalities did not recover sanitation costs.

For refuse services, on average, municipalities in all four categories generated deficits and did not recover refuse costs. The low coverage levels across services in 2019/20 can be explained by the decrease in revenue collection in the last quarter of 2019/20 due to the COVID-19 pandemic (National Treasury, 2020). Municipalities experienced significant challenges in collecting revenue from households because of the economic difficulties caused by COVID-19.

In terms of collection rates, the results suggest that on average collection rates for category A municipalities were above the 95 per cent norm, while collection rates for the other municipal categories were below the norm. Several factors can contribute to poor revenue collection including the inability of customers to pay for services, a culture of non-payment by communities, poor billing systems, and failure to implement adequate credit control measures (Financial and Fiscal Commission, 2020). In addition, a municipality's socioeconomic characteristics, such as high unemployment and poverty levels, may also affect revenue collection.

The paper also assessed average repairs and maintenance ratios for different municipal categories. Although the average for category A municipalities is the highest, all categories had average ratios below the 8 per cent norm suggesting that municipalities are underspending on repairs and maintenance. The rising backlog in the maintenance needed to keep infrastructure operational has resulted in the dilapidation of infrastructure assets in many municipalities (National Treasury, 2020). An infrastructure network that is not maintained impacts service reliability and sustainability and consequently, revenue potential.

Using correlation analysis, the paper assessed the relationship between cost recovery and the affordability of services and found that on average for electricity, water, and sanitation, municipalities that have more affordable municipal bills i.e., lower bills as a percentage of income, tend to have higher cost coverage levels.

However, the strength of the relationship between cost coverage and affordability across services is generally weak. These results confirm that cost coverage levels are only partly explained by the ability to pay argument. As noted in the literature, there are various reasons that explain the issue of non-payment, which affects a municipality's ability to recover the costs of providing services. Non-payment is heavily influenced by the culture of non-payment or entitlement, dissatisfaction with service provision, the absence of awareness campaigns to educate households about the importance of paying for municipal services, the perception that municipal officials are corrupt and mismanage municipal finances, poor governance and maladministration of municipal officials, and the lack of collaboration between councillors and municipal officials. Furthermore, non-payment may also be influenced by trust relations between municipalities and society.

To improve payment for services, municipalities should provide adequate services, apply revenue enforcement and credit control mechanisms, manage municipal finances competently and efficiently, improve billing and accounting systems, and communicate to residents about the importance of paying for services. Moreover, municipal call centres should promptly address complaints reported regarding service delivery interruptions to build citizens' trust towards the efficiency of municipal processes.

10.8 Recommendations

The Commission makes the following recommendations:

1. *The Commission recommends that National Treasury, in consultation with SALGA, CoGTA, and provincial governments should urge local municipalities to apply effective revenue enforcement and credit control mechanisms and improve billing and accounting systems to increase payment and cost coverage levels. Officials responsible for managing municipal finances should possess the competencies and skills required to perform their roles. In addition, municipalities should apply the prescripts of various legislation such as the Municipal Systems Act, Municipal Property Rates Act, Municipal Structures Act, Municipal Finance Management Act, and other municipal service provision by-laws to enforce payment from residents.*

The literature notes that municipalities can improve payment and cost coverage levels by improving technical efficiencies such as applying effective revenue enforcement and credit control mechanisms and improving billing and accounting systems. Payment for municipal services can also improve if councillors engage residents about the importance of paying for services. In addition, municipal call centres should be prompt in addressing complaints and faults regarding service delivery interruptions. A significant challenge in overcoming the issue of non-payment is to deal with residents' mistrust towards municipalities. Promptly addressing complaints would assist in building residents' trust towards the efficiency of municipal processes. The prompt response to such queries would assist in convincing citizens that municipalities take their service delivery mandate seriously.

2. *The Commission reiterates its' previous recommendation that CoGTA, in consultation with SALGA, should ensure that the credit control systems of Eskom and municipalities are aligned by means of a MOU, and that Eskom should assist municipalities with credit control via electricity disconnections within areas supplied by Eskom.*

A key issue noted is the difficulty that municipalities have enforcing payment in areas supplied by Eskom due to the absence of enforcement mechanisms in those areas and the unwillingness of Eskom to assist municipalities with disconnections. The impact of this is that even if a municipality has an effective credit control policy in place, it cannot be implemented if the municipality is not in charge of the enforcement mechanism. Thus, service delivery agreements between Eskom and

municipalities, in terms of the Municipal Structures Act, would enable municipalities to use electricity as a credit control mechanism.

3. *The Commission recommends that CoGTA should engage SALGA about incorporating innovative approaches in the "Asisho! Let's Say it" campaign to increase awareness about the importance of paying for municipal services. In addition to using television to disseminate the message, other forms of media such as national and community radio stations, billboards, sending prompts via WhatsApp, SMS, and email, and inserts in newspapers should be used to reach a wider audience.*

As noted in the literature review, non-payment is heavily influenced by the absence of awareness campaigns to educate households about the importance of paying for municipal services. To address this, SALGA launched the nation-wide "Asisho! Let's Say it" campaign in 2022 which is aimed at educating residents about paying for municipal services. The campaign currently includes a television programme to disseminate the message and engage local communities. The Commission recommends that CoGTA should engage SALGA about incorporating additional forms of media in the campaign to increase awareness. In addition, SALGA should urge municipal officials to collaborate with councillors to ensure that the payment culture is enhanced.

4. *The Commission recommends that National Treasury should urge municipalities to assess the affordability of the total municipal bill as part of the municipal tariff setting process. This can be done using the tariff setting tool developed by National Treasury, that includes a component for testing the affordability of tariffs to customers.*

The analysis found that on average for electricity, water, and sanitation, municipalities that have more affordable municipal bills tend to have higher cost coverage levels. Although the correlation between cost coverage and affordability was found to be weak, the results support the argument that if tariff levels are too high, customers may not be able to pay for services which may adversely impact cost recovery outcomes. National Treasury developed a tariff setting tool to assist municipalities to set cost-reflective tariffs for water, sanitation, electricity and refuse removal. The tool includes a component for testing the affordability of tariffs. The Commission recommends that testing the affordability of the total municipal bill should be part of the tariff setting process.

10.9   References

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Appendix A – Number of outliers and missing values excluded from the analysis

Table A1: Number of outliers and missing values excluded – cost coverage per service

	2017/18	2018/19	2019/20
Electricity	17	4	11
Water	19	15	14
Sanitation	25	16	16
Refuse	18	11	15

Source: Commission's calculations

Table A2: Number of outliers and missing values excluded – financial ratios

	2017/18	2018/19	2019/20
Collection rates	27	22	24
Repairs & maintenance	3	28	4

Source: Commission's calculations

Table A3: Number of outliers and missing values excluded - affordable range of municipal bills

	2017/18	2018/19	2019/20
Electricity	28	27	54
Water	29	28	55
Sanitation	30	29	57
Refuse	25	23	52

Source: Commission's calculations

Table A4: Number of outliers and missing values excluded - indigent household bills

	2017/18	2018/19	2019/20
Electricity	41	26	58
Water	27	25	53
Sanitation	27	25	53
Refuse	26	25	54

Source: Commission's calculations