


PUBLIC INVESTMENT CORPORATION
Research and Innovation

# Re-industrialising South Africa:

## Can institutional capital spark South Africa's next industrial boom?

**G20: PIC Perspectives**

Authored by: Mr Geoffrey Nölting (PIC)
Dr Brian O'Callaghan (University of Oxford)
Dr Kieran Brown (University of Oxford)

Reviewed by: Mr Lucky Pane (PIC)

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*Enquiries related to the paper can be addressed to media@pic.gov.za*

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## Executive summary

South Africa is at a pivotal moment in its industrialisation journey, offering institutional investors a unique opportunity to achieve competitive, risk-adjusted returns while driving measurable economic growth and job creation. This report outlines how doubling industrial investment by 2030 could add approximately R100 billion in real output and create over 250 000 jobs, leveraging the country's immense natural resources, skilled workforce, and reform momentum under initiatives like Operation Vulindlela.

### Key findings

- **Differentiated returns and portfolio diversification:** Historically, private equity funds focused on sub-Saharan Africa have generated strong net internal rates of returns (IRR) above 20%. This industry performance suggests that investments in South Africa's industrialisation can offer compelling risk-adjusted returns (Preqin, 2025). Investments can benefit from tested downside protection, reliable rule-of-law enforcement, and low correlation to US and European asset classes.
- **Economic and employment impact:** Doubling industrialisation investment by 2030 is projected to boost manufacturing growth by ~15%, add R100 billion in output, and create over 250 000 jobs. This growth is supported by latent capacity in sectors like agro-processing, mining beneficiation, and automotive manufacturing, which are poised for expansion.
- **Actionable roadmap for investors:** Three investor focus areas are identified as necessary for scaling investment:
    1. **Policy and infrastructure:** Predictable incentives, reliable power, and efficient logistics.
    2. **Financial architecture:** Blended finance vehicles, credit enhancement mechanisms, and risk mitigation instruments.
    3. **Market connectivity:** Bankable offtakes, regional trade access, and partnerships, including in critical minerals and technology.

### Sector opportunities

**Agro-processing:** Investing in South Africa's diversified agro-processing base offers stable, inflation-hedged returns and significant development impact. Investments in food processing can drive import substitution, regional supply chains, and rural job creation, supported by frameworks like the Agro-Processing Master Plan.

**Mining beneficiation:** Beneficiation of minerals like manganese, chrome, and platinum can reduce earnings volatility and align with global demand for green products. Reforms in energy and logistics are unlocking opportunities for value-added processing, supported by government policies and export incentives.

**Automotive manufacturing:** South Africa's automotive sector, already a top producer in Africa, is positioned for growth in electric vehicles (EVs) and regional value chains. Investments in local suppliers, EV production, and logistics infrastructure can enhance competitiveness and create jobs.

**Barriers and solutions**

Challenges such as energy constraints, infrastructure bottlenecks, and workforce skills gaps have been — and continue to be — major obstacles to growth and employment in South Africa. However, they are being addressed through private renewable energy generation, logistics reforms, and targeted training programs. Policy frameworks like the Automotive Production and Development Programme (APDP II) and blended finance initiatives further de-risk investments.

**International precedents**

Case studies from countries like Thailand, Indonesia, and Brazil demonstrate how targeted policies, domestic financing platforms, and infrastructure clustering can drive industrialisation. South Africa can adapt these lessons to anchor its industrial growth.

**Conclusion**

South Africa's industrialisation is not speculative — it is an execution challenge with clear upside. Institutional investors have the opportunity to achieve sustainable financial returns while driving transformative economic and social impact. By aligning priorities, deploying innovative financing structures, and leveraging existing reforms, South Africa can transition from incremental progress to sustained industrial growth. The roadmap is clear, the building blocks are in place, and the time for bold action is now.

# 1. Introduction

South Africa is building again. A keystone of government reform, Operation Vulindlela — “open the way” in isiZulu — marks a shift from policy apathy and bureaucratic inertia to a practical action agenda. Its foundation is plain: South Africa’s endowments in human talent and natural resources are immense, and in an uncertain global economy, the country offers what international capital is searching for — scale, resilience, and long-term opportunity.

This paper argues that South Africa’s industrialisation is not only a compelling destination for institutional capital, but a platform for durable shared value. We set out the analytical basis for meaningful commitments to double investment in industrialisation in South Africa and other emerging markets, with a particular focus on opportunities where reform is unlocking bankable projects. In South Africa alone, we calculate that doubling industrialisation investment by 2030 can add ~R100 billion in real output and create more than 250 000 jobs from current levels of about R2 trillion in real out which presently sustains 1.3 million formal jobs.

We suggest that each dollar of institutional capital can crowd-in roughly 3–5× in total investment, translating into greater than dollar-for-dollar gains in GDP, over the medium term. This should support significant job creation across supply chains – especially in value-adding activities such as mining beneficiation, advanced manufacturing, energy, and agriculture. The sections that follow map the pathways from capital to outcomes and outline the structures that align investor risk/return with South Africa’s growth and industrial renewal.

## a. Purpose, scope, and findings

Building on the Public Investment Corporation’s (PIC) experience as a catalytic domestic partner, this paper lays out practical routes for institutional investors to source, structure, and scale industrialisation assets in South Africa. We use case studies in automotive manufacturing, agro-processing, and mining beneficiation; however, many findings are equally applicable to sectors like advanced manufacturing, renewable energy, and logistics.

Three findings stand out:

1. **South African industrialisation offers differentiated risk-adjusted returns and meaningful portfolio diversification.**

- Investment funds focused on industrial projects across sub-Saharan Africa have generated excellent returns, historically earning more than 20% profit for investors after all fees (net IRR). More broadly, private equity across the whole continent has aimed for, and typically met, minimum profit targets of 18.2% on the roughly $15.6 billion invested over the last twenty years. (Preqin, 2025).
- Transactions benefit from tested downside protections at the project level, contracted demand, and reliable rule-of-law enforcement.
- When compared to other investments we looked at, investments linked to South African industrial growth are the most effective at providing diversification. In simple terms, their performance moves independently (or has the lowest connection) to what is happening in the U.S. and European stock markets.

2. **South African industrialisation can deliver material, near-term GDP growth, and jobs gains.**
   - Doubling industrialisation investment by 2030 is expected to boost manufacturing growth by ~15% and add ~R100 billion in output, while creating more than 250 000 jobs.
   - This is latent capacity, not conjecture. There is strong evidence of potential across three sectors studied here: agro-processing, minerals beneficiation, and automotive manufacturing.
   - For investors, exposure to industrialisation provides structural tailwinds – convergence toward global productivity frontiers, export-linked demand, and long-duration (often inflation-indexed) cash flows, supporting resilient, risk-adjusted returns.
3. **A three-pillar roadmap can help convert institutional interest into investable, repeatable pipelines.**
   - **Policy and infrastructure:** continuing to implement and maintain predictable, time-bound incentives; solutions to reliable power and transport.
   - **Financial architecture:** continuing to highlight multiple success stories; providing templated blended vehicles, credit enhancement instruments, and opportunities including local-currency green/industrial bonds.

- **Demand and market connectivity:** highlighting bankable offtakes and continent-wide market access; critical-minerals and technology partnerships that anchor local beneficiation and exports.[1]

## b. Guiding investor principles

Scaling institutional capital to support impactful projects requires alignment on principles that reliably reduce friction, broaden investor appetite, and protect value.

- **Return and risk discipline:** Projects need to clear risk-adjusted hurdles with structures that preserve investment quality. To achieve scale, this means bankable cash flows with creditworthy counterparties and proven operators, execution certainty supported by a stable political environment, and fit-for-purpose risk mitigation tools and instruments.
- **Safeguards:** Portfolio wide safeguards, including social, environmental, and governance-related issues, are essential to protect investments, accelerate underwriting and sustain a social licence to operate. Priority measures include standardising high integrity and anti-corruption controls; risk-based supply chain due diligence and proactive action to recognise labour and human rights. These should also include climate, nature and water impact assessment and appropriate environmental and social monitoring, assurance and reporting. These guardrails reduce regulatory, reputational and execution risk and improve bankability across the portfolio.
- **Development impact:** Some investors, including the PIC, are mandated to pursue development, impact, or other outcomes, alongside their fiduciary responsibilities to deliver financial returns. Beyond explicit mandates, creating material, verifiable local benefits can strengthen social licence, commercial partnerships, and reduce exit frictions. Efforts supporting industrialisation can be highly effective in advancing development thanks to their significant economic multiplier effects, especially when aligned with local community priorities.

[1] The PIC has committed a R1.35 billion funding allocation to bolster early-stage mining opportunities across South Africa and the rest of the African continent, aiming to boost exploration, support the just energy transition (JET), and drive inclusive economic growth. This capital is specifically earmarked for projects at the advanced post-scoping to bankable feasibility study stage, which typically struggle to secure traditional funding.

## 2. A compelling case for foreign investors

The fundamentals of South Africa's industrialisation opportunity are compelling. The country is both the entry point to Africa's 1.4 billion-person market and it is itself a growing economy with a young, urbanising population. Challenges in infrastructure, energy, and logistics remain significant, but they are being addressed through reform initiatives such as Operation Vulindlela and increased private participation. The trajectory is one of a market correcting its bottlenecks, not succumbing to them.

For foreign investors, the opportunity is twofold: capture differentiated, risk-adjusted returns while catalysing South Africa's industrial renewal. This alignment of profit and development — the essence of shared value — makes the case for mobilising institutional capital into the country's industrialisation both urgent and attractive.

### a. Demonstrated return

Fortunately for investors, the case rests not on promise but proven performance. Historical data show sub-Saharan African private equity funds investing in industrialisation achieved net IRRs of 20%+ over the last twenty years (Preqin, 2025). While the sample of such funds is limited, the broader record of African private equity is consistent: nearly $14.1 billion has been deployed across sectors over the last 20 years, targeting an average net minimum IRR of 18.2% (Preqin, 2025). This ranks the continent among the strongest performers globally in alternative assets. These returns are hardly surprising. They reflect not only rising consumer demand but also gains from industrialisation – value-added processing, deeper regional supply-chain integration, and expansion into export markets. Numerous companies have scaled rapidly by positioning themselves as critical enablers of Africa's industrial future.

History shows that being part of such a growth story can be highly rewarding. Consider Vietnam, which two decades ago was seen as a high-risk frontier market. Foreign capital backing manufacturing and export-oriented industries there has since benefited from sustained GDP growth above 6% per year (World Bank, 2025), rapid industrial upgrading, and deep integration into global supply chains. Early investors in Vietnam's industrialisation cycle captured substantial returns while helping to transform the country into a regional hub. Today, South Africa presents a compelling inflection point: while significant challenges remain, its relatively advanced industrial base, ongoing reform initiatives, and comparative positioning place it ahead of many frontier and emerging markets. This presents investors with a rare opportunity to deploy long-term capital where it can shift structural trajectories.

The scale of this opportunity is underscored by our Cobb–Douglas modelling of South African manufacturing (Table 1). The methodological analysis for this can be found in Appendix A. We tested two scenarios to understand what level of investment growth is required to lift output to a conservative target 2% per annum. In the first scenario, where labour growth is held constant, capital does all the heavy lifting: investment in manufacturing would need to grow by around 14–19% annually, compared with a current post-COVID trend of just over 6-7% (Stats SA, 2024). In the second scenario, where labour growth is assumed to accelerate modestly (from 0.6% to 1.2% per year), the required investment growth moderates to around 14% — well within South Africa's own historical precedents. By applying sector-specific labour-output intensities from Stats SA and the Industrial Development Corporation (IDC) modelling, which suggest that each R1 million of additional manufacturing output supports roughly 2–2.3 jobs across direct and indirect supply chains, we calculate that doubling industrial investment could deliver around 250 000 new jobs (Stats SA 2024; IDC, 2023).

| Regime | | Scenario 1: to get ΔY = 2.00, holding ΔL constant‡ | | | | | | Avg. growth of manuf. GFCF deflator |
|---|---|---|---|---|---|---|---|---|
| | | Equation 1 | | | Equation 2 | | | |
| | | Real value of ΔK | Nominal value of ΔK* | Value of ΔY | Real value of ΔK | Nominal value of ΔK* | Value of ΔY | |
| Long-term | 1974-2024 | 5.44 | 14.37 | 2.00 | 8.39 | 17.32 | 2.00 | 8.93 |
| Pre-democracy | 1974-1993 | 1.47 | 14.87 | 2.00 | 1.98 | 15.39 | 2.00 | 13.40 |
| Democracy | 1994-2024 | 8.01 | 14.05 | 2.00 | 12.52 | 18.57 | 2.00 | 6.04 |
| **Regime** | | **Scenario 2: to get ΔY = 2.00%, assuming ΔL = 1.20%** | | | | | | **Avg. growth of manuf. GFCF deflator** |
| | | Equation 1 | | | Equation 2 | | | |
| | | Real value of ΔK | Nominal value of ΔK* | Value of ΔY | Real value of ΔK | Nominal value of ΔK* | Value of ΔY | |
| Long-term | 1974-2024 | 0.60 | 9.53 | 2.00 | 0.58 | 9.51 | 2.00 | 8.93 |
| Pre-democracy | 1974-1993 | 0.60 | 14.00 | 2.00 | 0.58 | 13.99 | 2.00 | 13.40 |
| Democracy | 1994-2024 | 0.60 | 6.64 | 2.00 | 0.58 | 6.63 | 2.00 | 6.04 |

Table 1: Amount the real growth rate of capital would need to grow for real manufacturing output to grow by 2%, holding labour growth constant. (Source: Authors' own calculations based on data from Stats SA and the SARB, Eviews.)

Note:* The nominal growth rate is calculated by adding the average of the period-specific GFCF deflator to the real growth rate. ‡ In scenario 1, we assume that labour growth equals the specific regime average.

Industrialisation investment in South Africa is a win-win for investors. It combines a proven track record of returns — with sub-Saharan Africa achieving net IRRs averaging above 20% over the past two decades — it also has a clear and calculable developmental impact: Doubling industrial investment growth by 2030 — from roughly ~6% today to 14% — would be sufficient to boost real manufacturing output by around 15%, add over R100 billion in value, and support more than 250 000 new jobs from current levels of about R2 trillion and 1.3 million formal jobs. For institutional investors, this is both a durable financial opportunity and a

chance to drive measurable social impact by aligning portfolios with one of the most significant industrial growth stories on the continent.

### b. Dislocations in risk perception

Risk — sovereign and otherwise — is part of any emerging market exposure, and South Africa is no exception. Investors are rightly alert to issues such as fiscal pressures, policy volatility, and infrastructure constraints. Yet in many cases, analysts contend that perceived risk is misaligned with actual risk (Clyde et al., 2024; Gbohoui et al., 2023), such that on a risk-adjusted basis South Africa compares favourably with peer markets. This is especially true when capital is directed toward sectors with clear macroeconomic tailwinds, such as industrial processing, renewable energy, and export-oriented manufacturing. Importantly, it remains in government's interest to enable rather than obstruct such investment, and South Africa has a record of upholding the rule of law, leveraging effective courts, and drawing on deep, sophisticated capital markets to provide the instruments investors need.

Risks are also manageable with familiar frameworks common around the world. Change-in-law protections are tested. The phrase 'in the context of investment in emerging markets' means that the legal and contractual safeguards put in place to protect a foreign investor's assets and expected returns from a change in the host country's laws or regulations are being actively challenged or stressed. Contracts often carry consumer price index (CPI) or hard-currency links. Rights to step in and cure are standard. Independent engineering oversight and milestone funding are common. Where needed, credit enhancement or political-risk cover is available. South Africa's courts and capital markets have historically supported enforceability and refinancing. Given recent global events, it hardly needs to be said that political uncertainty is not a uniquely "emerging market issue".

Diversification benefits are material (see Figure 1). South African infrastructure is a crucial element in supporting revenue streams tied to local power use, transport, and processing – drivers that move differently from North American, European, or Asian cycles. Allocations can lower portfolio volatility while adding long-duration, often inflation-linked returns.

While deriving correlation coefficients for infrastructure assets is challenging, real estate investment trusts (REITs) can be used as an imperfect proxy (see Figure 1). The NewFunds eRAFI Industrial 25 Exchange-Traded Fund (ETF) is a useful comparator in South Africa; however, since it only tracks major publicly-traded enterprises, it is an incomplete measure. In

any case, Figure 1 demonstrates that South African industrialisation proxies can provide major portfolio diversification benefits when paired with typical advanced economy asset classes.

| Asset class | US equities | US real estate | CAD equities | CAD real estate | EUR equities | EUR real estate | AUS equities | AUS real estate | Global infrastr. | SA equities | *SA real estate* | *SA industr.* | *Average correl.* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| US equities | 100% | 79% | 83% | 60% | 56% | 31% | 34% | 17% | 71% | 44% | *29%* | *21%* | ***48%*** |
| US real estate | 79% | 100% | 74% | 74% | 50% | 43% | 36% | 23% | 77% | 40% | *37%* | *23%* | ***51%*** |
| CAD equities | 83% | 74% | 100% | 72% | 65% | 39% | 44% | 24% | 78% | 55% | *36%* | *24%* | ***54%*** |
| CAD real estate | 60% | 74% | 72% | 100% | 53% | 46% | 36% | 33% | 69% | 45% | *49%* | *28%* | ***51%*** |
| EUR equities | 56% | 50% | 65% | 53% | 100% | 58% | 47% | 35% | 72% | 72% | *47%* | *38%* | ***54%*** |
| EUR real estate | 31% | 43% | 39% | 46% | 58% | 100% | 26% | 28% | 49% | 42% | *38%* | *24%* | ***39%*** |
| AUS equities | 34% | 36% | 44% | 36% | 47% | 26% | 100% | 65% | 54% | 49% | *39%* | *23%* | ***41%*** |
| AUS real estate | 17% | 23% | 24% | 33% | 35% | 28% | 65% | 100% | 39% | 39% | *42%* | *33%* | ***33%*** |
| Global infrastructure | 71% | 77% | 78% | 69% | 72% | 49% | 54% | 39% | 100% | 62% | *50%* | *33%* | ***59%*** |
| SA equities | 44% | 40% | 55% | 45% | 72% | 42% | 49% | 39% | 62% | 100% | *58%* | *47%* | ***50%*** |
| ***SA real estate*** | *29%* | *37%* | *36%* | *49%* | *47%* | *38%* | *39%* | *42%* | *50%* | *58%* | *100%* | *50%* | ***43%*** |
| ***SA industrials*** | *21%* | *23%* | *24%* | *28%* | *38%* | *24%* | *23%* | *33%* | *33%* | *47%* | *50%* | *100%* | ***28%*** |
| ***Average correlation*** | ***48%*** | ***51%*** | ***54%*** | ***51%*** | ***54%*** | ***39%*** | ***41%*** | ***33%*** | ***59%*** | ***50%*** | *43%* | *28%* | |

Figure 1: Correlation matrix for global and domestic asset classes (Source: Oxford analysis of Bloomberg data).

## c. Shared value through industrial renewal

Unlike consumption-led growth or temporary commodity booms, industrialisation offers a development path with systematic upside. Across countries and decades, manufacturing sectors have consistently shown a tendency to catch up with global productivity frontiers (Rodrik, 2013). For investors, this means exposure to the tradables/manufacturing engine taps into a broad convergence dynamic, rather than depending only on firm-specific performance. In other words, industrialisation provides a structural tailwind that investors benefit from.

What a country makes and exports matters for growth. Moving into more sophisticated, higher-productivity export baskets is statistically linked to faster future growth (Hausmann et al., 2006); upgrading along this path is the essence of industrialisation. Industrialisation also makes returns more durable. United Nations Industrial Development Organization's (UNIDO) recent synthesis finds that manufacturing-led growth episodes are more frequent, last longer, and are less volatile than other growth episodes. These attributes map well to long-horizon, liability-matching capital (Lavopa and Riccio, 2024). Integration into global value chains amplifies these effects. Evidence from the OECD suggests that while African manufacturing remains in its infancy, in the general case, global value chain participation raises productivity, supports upgrading, and improves innovation capacity (Kowalski et al., 2015). Export diversification

further underpins growth stability. Finally, spillovers from foreign direct investment tend to be stronger where local capabilities are deeper — typical of upper-middle-income settings like South Africa — supporting both firm-level productivity and resilience (Baiashvili and Gattini, 2009).

South Africa is well-placed to capture these dynamics and position itself as a strategic hub for manufacturing, logistics, and services connecting Africa, Europe, and Asia. For foreign investors, the appeal is clear: there is a visible gap between potential and realised industrialisation, creating space for first-mover advantages.

The automotive sector illustrates the opportunity. Exports of vehicles and components rose by R43.5 billion to R270.8 billion in 2023 — a 19% increase year-on-year. The sector now accounts for 13.9% of total exports and 2.7% of GDP, with local content rising from R42.2 billion in 2015 to R69.9 billion in 2019 (Wutke, 2022). Supported by around 500 local Tier-1/2/3 suppliers and frameworks such as the Automotive Production and Development Programme, and the SA Automotive Master Plan, the industry is positioned for deeper integration into global value chains, particularly in electric vehicles.

Similar opportunities are emerging in agro-processing, renewable energy, and mining-to-manufacturing value addition, each offering exposure to scalable regional and global supply chains. South Africa's geostrategic location — as a gateway to African markets, a critical shipping node, and an active member of AfCFTA, BRICS+ and AGOA — further enhances this advantage. With a labour force of 28 million, larger and more skilled than many peer emerging markets (World Bank, 2025), the country also provides a cost-competitive base for supply-chain diversification.

Importantly, there are already proof points. The PIC's investment in Siyanda Resources, a sustainable mining company, created around 6 000 local jobs. Figure 2 shows a tight correlation between private fixed investment and employment, underscoring how new capital commitments translate directly into livelihoods. The building blocks are in place: investors now have the chance not just to participate in South Africa's industrialisation, but to define its next boom.

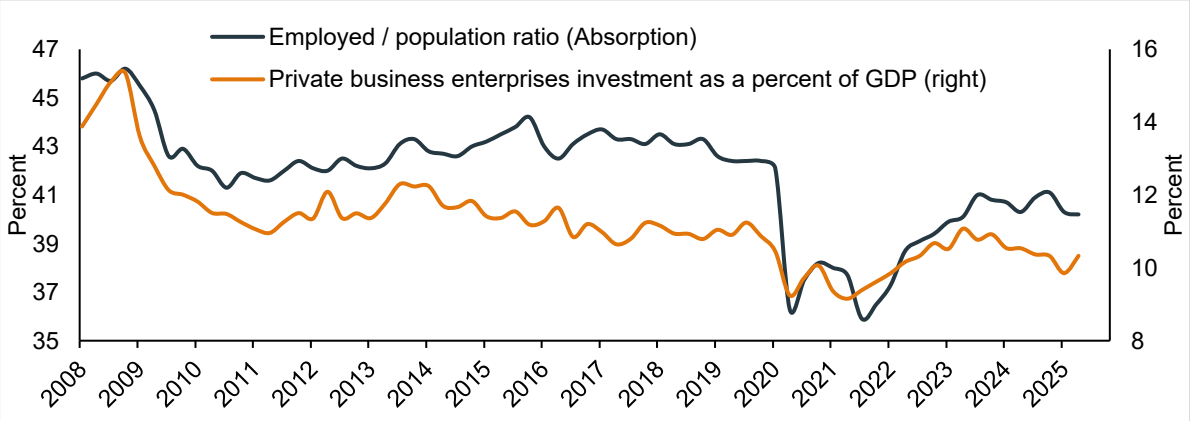



Figure 2: Employment and private fixed investment over time (Source: Statistics South Africa).

## Case study: Realising a rebound in South African manufacturing

A unique characteristic of the South African economy is its latent industrialisation potential. This is borne of a country that once developed an advanced industrial base but saw it constrained by structural and policy bottlenecks. The manufacturing sector is but one example of this. As shown in Figure 3, South Africa's manufacturing capacity utilisation has trended downward for nearly two decades. To informed investors, this presents opportunity rather than risk. The principal driver of the manufacturing downturn has been insufficient demand rather than structural limits to capacity (Stats SA, 2024), meaning factories are operating well below potential output. This latent potential can be unlocked through targeted investment and stable demand anchors. Raising utilisation even modestly presents significant opportunity for differentiated return as well as outsized GDP and employment gains.

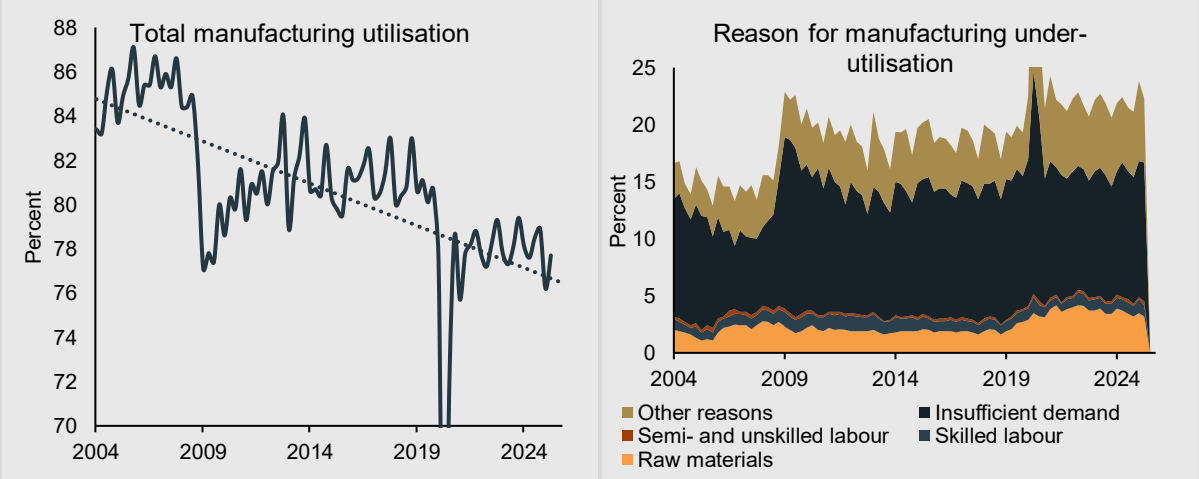



Figure 3: Manufacturing utilisation and under-utilisation rates (Source: Statistics South Africa).

Figure 4 shows that employment in the sector has fallen back to levels last seen in the early 1970s. Together, these indicators highlight how far the sector has drifted from its historic role as an anchor of output and jobs. Yet the same data also underscores untapped opportunity. The fact that manufacturing still employs over a million South Africans, despite two decades of under-investment, speaks to the resilience of the base that remains. With new demand drivers — EV supply chains, agro-processing for Africa's growing middle class, and beneficiation of strategic minerals — there is a chance to reverse the decline. Put differently, the low starting point in both output share and jobs means that even modest recovery could have an outsized impact: every percentage point regained in GDP share would translate into tens of billions of rand of added value and hundreds of thousands of jobs across supply chains. For institutional investors, this presents a double opportunity: competitive financial returns from a sector positioned for a cyclical rebound, and visible, measurable developmental impact.

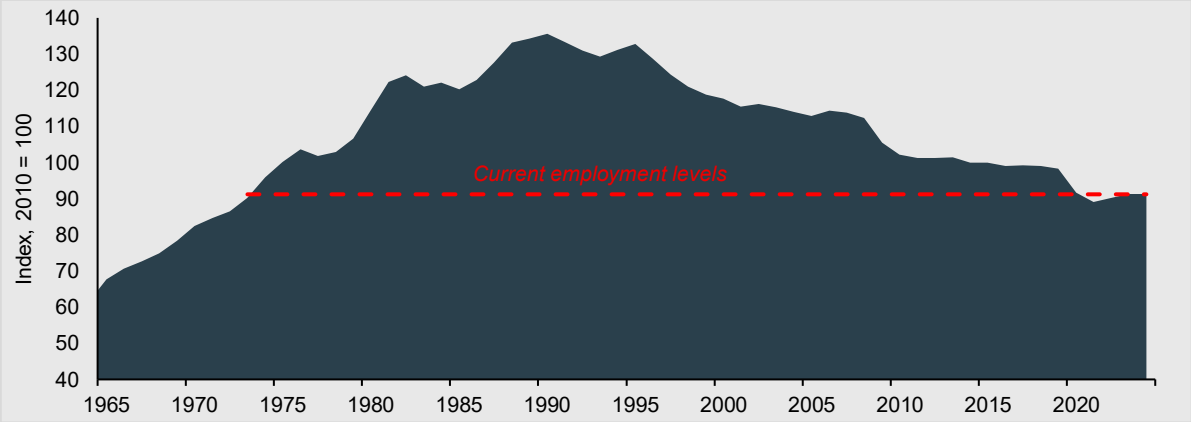



Figure 4: Manufacturing employment 1965-2025 (Source: South African Reserve Bank).

If manufacturing regained just 1 percentage point of GDP share, the economy would add roughly R65–70 billion in annual value, based on South Africa's 2024 nominal GDP of ~R6.5 trillion (IMF, 2025). Given that manufacturing adds around 13.3% of GDP, or R870 billion, that implies it generates around 1 380 jobs per R1 billion (Stats SA, 2024). Using employment intensity estimates from Stats SA's Quarterly Labour Force Survey and IDC modelling, this would support 120 000–150 000 additional jobs across direct and indirect supply chains.

| Increase in Manufacturing Share | Direct Manufacturing VA | Economy-wide GDP Impact (R bn, 1.4-1.8x) | Jobs Supported (range, '000) |
|---|---|---|---|
| 1% | R 65 bn | 91.0-117.0 | 130-150 |
| 2% | R 130 bn | 182.0-234.0 | 260-299 |
| 3% | R 195 bn | 273.0-351.0 | 390-448 |

Table 2: Estimated Job Creation by Increasing Manufacturing (Source: Stats SA 2024).

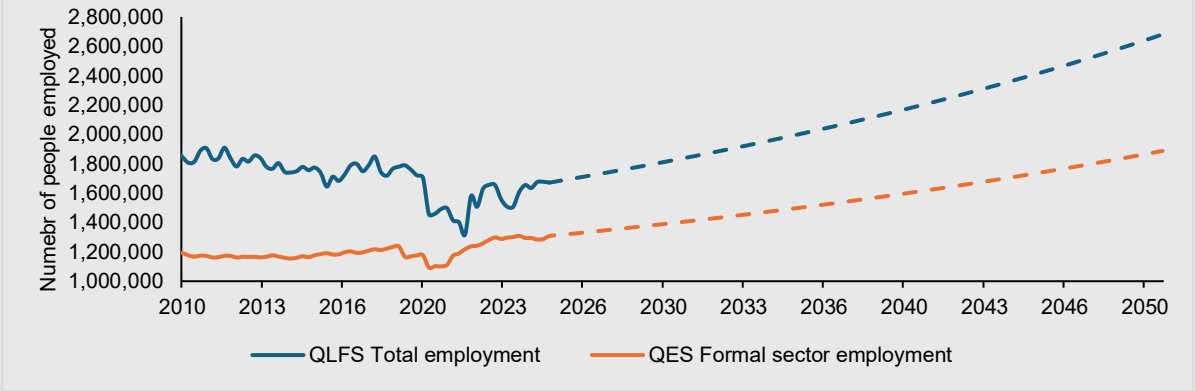



Figure 5: Implied formal and informal manufacturing employment (Source: Statistics South Africa, PIC)

Placed alongside the multiplier scenarios, Figure 5 underscores why industrialisation is uniquely impactful: every rand invested not only expands GDP but also creates disproportionate job gains, addressing South Africa's most pressing development challenge. For institutional investors, this means returns are paired with visible, verifiable social outcomes — a combination increasingly demanded by beneficiaries and global ESG standards.

# 3. Opportunities span sectors

South Africa's industrialisation opportunity mostly comes into focus in sectors where reform momentum, natural endowment, and investor appetite intersect. Case studies in automotive manufacturing, agro-processing, and mining/beneficiation suggest that institutional capital can generate competitive returns while creating jobs and embedding South Africa more deeply into regional and global value chains. But the opportunities are not confined to these sectors: hi-tech and other sectors show similar trends.

This section highlights how a) agro-processing, b) mining and mineral beneficiation, and c) the automotive industry are central to the goal of doubling industrial investment by 2030 and creating around 250 000 new jobs from current levels of 1.3 million formal jobs. The sector case studies that follow demonstrate where this capital can land most effectively to capture both returns and development impact. In agro-processing, resilient food demand, regional markets and existing investment pipelines provide stable, inflation-hedged returns. In the mining, minerals, and steel industries, beneficiation of critical minerals creates opportunities to plug directly into green and specialty value chains. And in automotive, deep original equipment manufacturer (OEM) presence and rising exports provide a base for EV and component supply chains. These examples underscore a simple point: South Africa has the assets, reforms, and latent capacity in place. With the right capital, South Africa's industrialisation can deliver returns for investors and growth for society.

## a. Food and agro-processing

### i. Risk, return, and development

Agro-processing in South Africa offers resilient, high-impact returns, combining stable cash flows with job creation, food security, and regional value-chain growth.

Agro-processing refers to the transformation of agricultural raw materials into food and non-food products. It is one of the most resilient asset classes globally, and has historically delivered stable, inflation-hedged returns, even throughout economic downturns, given the non-discretionary nature of demand (FAO, 2021). South Africa is home to the continent's most diversified agro-processing base spanning meat, fruit, beverages, sugar, wine, and dairy products. The base provides a platform for both defensive and growth-oriented strategies. The PIC's investment in Dewfresh, for example, has delivered consistent returns of 12–18% IRR

since 2019, while expanding dairy capacity and linking emerging Black farmers into the supply chain (PIC, 2020).

For investors, opportunities grounded in strong industry fundamentals and supported by a mature financial system that reduces risk and enables scale. Pension funds, Development Finance Institutions (DFIs), and corporates already have the liquidity and instruments to structure large-scale blended finance transactions that de-risk entry into agro-processing while delivering competitive, inflation-hedged returns (UNCTAD, 2023). Africa's food import bill was US$ 43 billion in 2019, and without local industrialisation it is expected to double by 2030 (AfDB, 2020). South Africa is uniquely placed to drive import substitution and intra-African supply chains; for example, processing Zambian maize or Mozambican sugar for regional markets. With AfCFTA implementation, South Africa could anchor a continental food hub much as it already does in manufactured goods (UNCTAD, 2021).

What makes this sector particularly attractive is its diversified demand base: domestic consumers, a fast-growing African middle class, and premium international markets for wine, citrus, and other value-added exports (IMF, 2023). This combination cushions investors against local volatility while offering upside exposure to regional and global markets (UNCTAD, 2023). With global food security under strain, food inflation increasingly volatile, and Africa's food import bill projected to double to US$ 90 billion by 2030 if industrialisation stalls (AfDB, 2020), investments in processing offer both a hedge against inflation and a play into rising demand.

The development case reinforces the investment logic. Agro-processing and high value agriculture has some of the strongest multiplier effects in the economy (see Figure 8), linking farms to factories, logistics, and retail. It is also more job-intensive than capital-heavy industries like mining, with particular benefits for rural development. Crucially, the sector is also central to climate resilience and sustainable growth, since value-added processing reduces waste, shortens supply chains, and enables adoption of greener technologies in food systems. The PIC's investment in Alzu Agri, for instance, has supported integrated livestock operations, generated steady dividends, and created local employment while embedding sustainable practices such as on-site renewable energy. Another PIC investment in the Lona Group not only expanded cold storage capacity, but also supported emerging Black citrus farmers, enabling inclusion across the value chain (PIC, 2022).

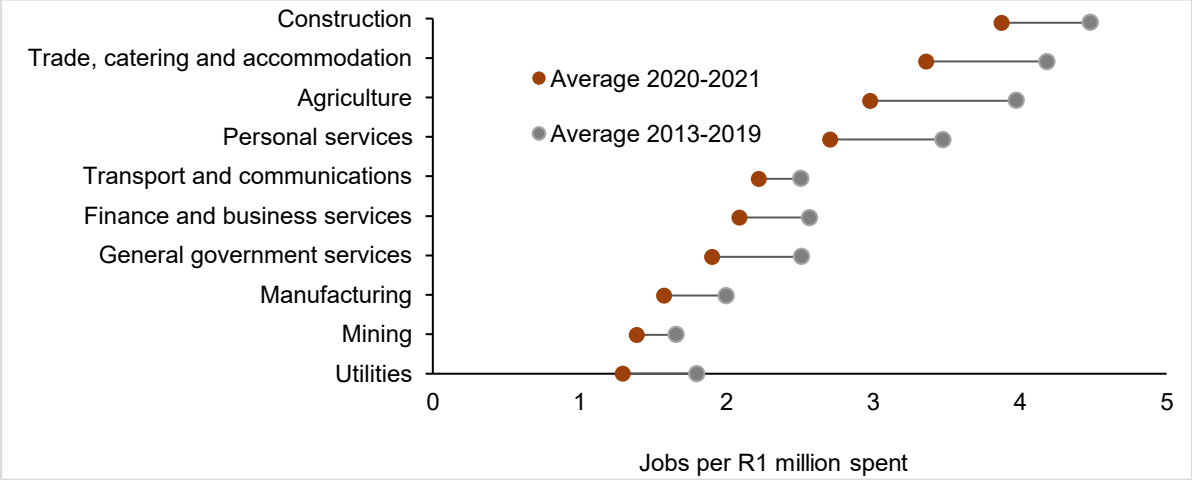



Figure 6: Sectoral employment multipliers (Source: Statistics South Africa, National Treasury 2024 MTBPS).

Figure 6 relies upon Social Accounting Matrices compiled between 2013 and 2021; the calculated employment multipliers demonstrate the causal relationship or proportional change between economic output and the resulting employment level.

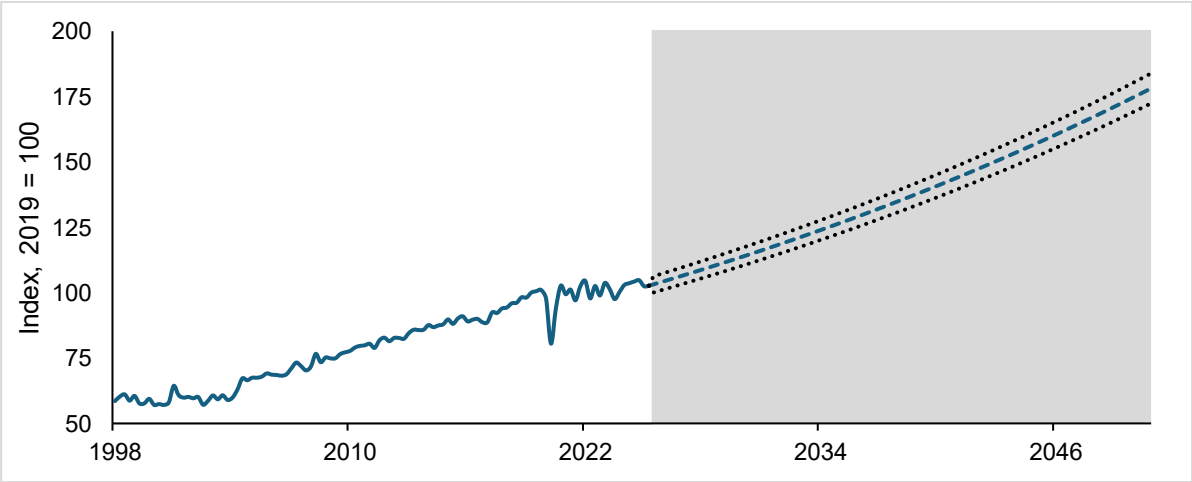



Figure 7: Agro-processing production index (Source: Statistics South Africa, PIC). Note: Black dotted lines indicate 90% confidence bands.

Our own analysis on sectoral employment multipliers (Figure 6) highlights the impact of the COVID-19 shock: across nearly all sectors, the number of jobs supported per unit of output declined between 2013–2019 and 2020–2021. In agro-processing, for example, multipliers fell from around four to nearly three, reflecting pandemic-related disruptions. The agro-processing production index tells a similar story, with a marked wobble during the crisis years. Crucially, however, forecasts point to a return toward pre-COVID levels, with the long-term trajectory continuing upward (Figure 7). The post-COVID pandemic recovery path offers an opportunity to capture both cyclical rebound and structural growth in one of South Africa's most resilient industrial sectors.

There are multiple ways for institutional investors to gain exposure to South Africa's agro-processing sector, each with distinct risk and return characteristics. At one end of the spectrum are greenfield plant expansions and capacity upgrades, which can generate strong equity-style returns but require patient capital and tolerance for construction and execution risk. For those seeking more downside-protected, income-oriented exposure, working-capital and supply-chain financing structures are increasingly attractive. Agro-processors are highly seasonal businesses with significant cash tied up in inventory and receivables. Structured working capital lines, especially when backed by trade credit insurance or partial guarantees, can generate stable, short-duration yields. Similarly, contract farming and cold-chain special purpose vehicles (SPVs) offer investors scalable entry points with contracted revenues. By financing on-farm production or cold-storage capacity under minimum-volume commitments from anchor processors (such as large fruit exporters, poultry integrators, or beverage groups), investors can secure predictable cash flows while strengthening supply-chain resilience. These structures align investor priorities with processor needs: processors secure more reliable supply and stronger supplier relationships, while investors access diversified, inflation-hedged revenues underpinned by essential food demand.

South Africa's agro-processing sector has seen the fastest growth in fruit juice and Ready-to-Eat (RTE) meals, with the RTE market projected to surge to US$ 5.4 billion by 2032. Currently, South Africa is the second-largest exporter of citrus (and a leading grapefruit exporter) (see Figure 8), and the world's leading producer and exporter of macadamia nuts. The majority of domestically produced nuts are destined for international markets like China and the US and the country remains a significant global competitor. As a response to recent US tariffs, South Africa is pursuing a dual strategy of active diplomatic engagement and aggressive market diversification, with an eye to high-demand regions in Asia, the Middle East, and the rest of Africa.

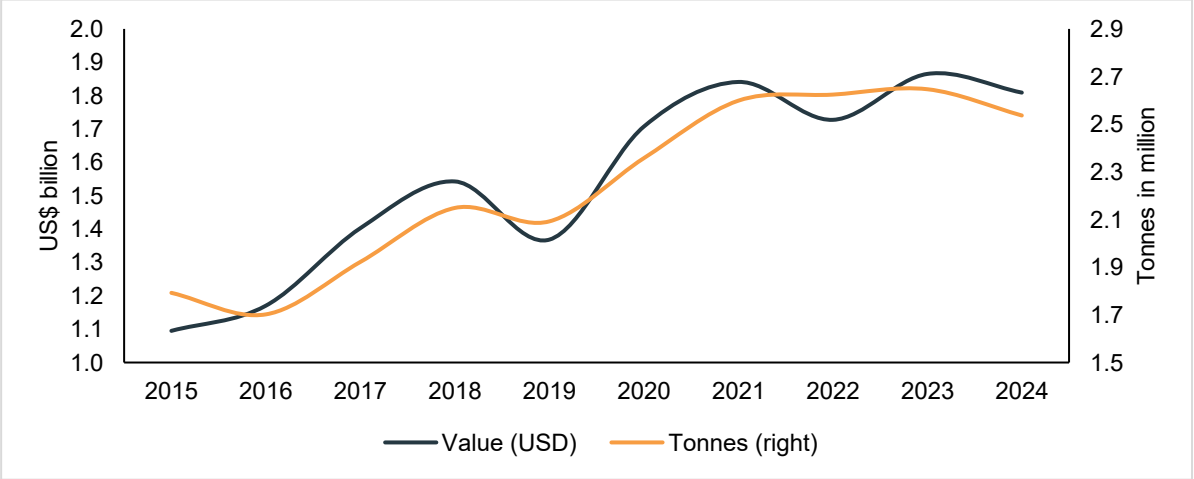



Figure 8: South Africa citrus exports (Source: Trade Map).

### ii. Value Chains and Comparative Advantage

South Africa's diverse agricultural base — from maize to livestock and fruit — underpins its processing capacity. Combined with established brands, advanced cold storage and port infrastructure, and a sophisticated financial and insurance sector, the country has a head start over many peers in the region (UNCTAD, 2021). There are opportunities to be unlocked in high value agriculture.

The country's agro-processing sector is underpinned not only by abundant agricultural inputs and well-developed infrastructure, but also by one of the deepest and most liquid financial markets in the Global South. The country has sophisticated banking, insurance, and capital markets, which reduce financing risks for industrial and agro-processing investments (World Bank, 2022). Crucially, this financial depth provides a platform to mobilise domestic capital at scale. South African corporates are estimated to hold more than R1.5 trillion in cash reserves on their balance sheets, a reflection of both balance-sheet strength and underutilised investment potential (Daily Investor, 2024). With the right enabling environment — regulatory certainty, energy reliability, and competitive trade facilitation — these pools of capital could be unlocked to support industrial projects including agro-industrial expansion.

### iii. Barriers and de-risking

Challenges remain for scaling agro-processing in South Africa, particularly around water stress, electricity supply, and infrastructure bottlenecks at border posts. As explored further in the final case study on the automotive industry, private access to renewable energy is rapidly scaling, reducing dependency on the local electricity provider, Eskom. Investors can co-finance

on-site generation, making agro-processing more resilient while aligning with the green industrialisation agenda. As one example, Alzu Agri has already installed solar power systems to lower costs and emissions (PIC, 2020). In support of cross-border transportation, new one-stop border posts are beginning to ease logistics (DTIC, 2023), as demonstrated by clearance time reductions in Beitbridge (Vilakazi & Paelo, 2017) and the expectation is that challenges around movement of goods will continue to be reduced.

Skills gaps in food science, packaging, and food safety standards are being addressed through the Agro-Processing Master Plan (2021), which provides targeted incentives for localisation and industrial upgrading. Import competition, particularly in poultry and dairy, remains a pressure point — but policy alignment and blended finance support from entities like the Industrial Development Corporation of South Africa (IDC) and the Development Bank of South Africa (DBSA) are increasingly geared to level the playing field and support investor entry. Blended finance vehicles like those provided by the IDC and DBSA are already offering credit enhancements to derisk entry. The PIC's investments in Dewfresh and the Lona Group used DFI co-financing, scaling commercially viable, high-impact projects. For investors seeking both stable cash yields and developmental upside, South African agro-processing offers a proven, scalable, and strategic opportunity.

**International precedents:** Malaysia offers a powerful precedent for how pension assets can underpin long-term industrialisation. Since the 1990s, the Employees Provident Fund (EPF) has been a cornerstone investor in greenfield infrastructure, financing projects such as the North-South Expressway, Kuala Lumpur Airport, and independent power producers (Ragayah, 2002). While not explicitly targeting food processing, these investments lowered logistics and energy costs and created the enabling environment in which Malaysia's agro-industries — from palm oil and rubber processing to food manufacturing — could flourish. Crucially, the EPF's participation demonstrated how long-term domestic capital can crowd-in foreign direct investment by signalling policy stability and financing capacity (Athukorala & Menon, 1999).

Namibia provides a more direct African comparator. Through Regulation 29, pension funds are required to allocate at least 45% of their assets domestically, with a portion channelled into infrastructure, agriculture, and industrial development (NAMFISA, 2019). This regulatory framework has steered contractual savings into local agro-industrial projects and demonstrated how institutional investors can strengthen food security, support farmer incomes,

and catalyse processing industries. Our expectation is that there have been significant gains through these investments.

South Africa already has its own proof points worth highlighting. The PIC's investment in Dewfresh, a dairy and juice processor based in Mpumalanga, has delivered 12–18% IRR since 2019, while also creating jobs, supporting emerging Black farmers, and bolstering rural food security (PIC, 2020). This demonstrates how institutional capital can both unlock competitive financial returns and deliver measurable development outcomes in the agro-processing sector.

## b. Metals and mining beneficiation

### i. Risk, return, and development

South Africa's mineral endowment underpins a scalable thesis for value-adding beneficiation — moving from ore exports towards semi-finished and finished products. A comparative abundance of minerals, including platinum group metals (PGMs), manganese, chrome, iron ore, and vanadium, are of interest for beneficiation to a range of outputs. These include alloys, steel and battery precursors. For investors, beneficiation reduces earnings volatility versus raw ore exposure by linking revenues to diversified end-markets (construction, automotives, renewable infrastructure) and, increasingly, to policy-supported "green" premiums (e.g., low-carbon steel and alloys sold into greener markets, including those pursuing carbon border adjustment mechanisms [CBAMs]). The government has long framed beneficiation as a pillar of industrial policy (Department of Mineral Resources, 2011; dtic, 2020). On the development side, beneficiation deepens domestic value-added and employment linkages relative to extraction alone; recent empirical work shows mining's local job multipliers are real but modest unless linked to processing and manufacturing, strengthening the case for forward integration (Van Rensburg & Turok, 2025).

Reform momentum improves the bankability of beneficiation assets. Operation Vulindlela has unlocked private energy investment and is opening rail/port access to private operators — both pivotal for metals logistics and power-intensive processing (National Treasury, 2025; The Presidency, 2024). As of 2025, energy reforms have supported 9.5 GW of NERSA-registered private projects since the licensing threshold was raised (National Treasury, 2025). Rail and port reform is progressing via open access and private participation frameworks, with the adjudication for new train operating companies completed in August 2025 (SAnews, 2025).

These steps support the execution certainty institutional capital requires. (National Treasury, 2025; The Presidency, 2024; SAnews, 2025).

Beneficiation assets can be structured around contracted or quasi-contracted revenues (off-takes, availability payments for logistics, indexed tariffs), with de-risked inputs (embedded power PPAs; rail slots under access agreements) and policy tailwinds (export access, CBAM readiness). The PIC has recently commitment R1.35 billion for investments in early-stage mining projects, with an emphasis on critical minerals like copper and lithium. This move strategically aligns with the Just Energy Transition Investment Plan (JETP), where these minerals are crucial inputs for EV manufacturing and battery storage, positioning South Africa as a player in global low-carbon value chains.

At a policy level, South Africa is actively pursuing industrialisation and beneficiation of its mineral wealth to counter potential impacts of global trade dynamics, including US tariffs. At the time of writing, the government is engaging in continued negotiations with the US and has established an Economic Response Package, including an Export Support Desk and a Localisation Fund Support to assist affected companies and promote export market diversification. The PIC's investment into mining projects serves as a tangible anecdote of channelling capital into key resource sectors to bolster domestic and future-facing industry capacity.

### ii. Comparative advantage and value chains

There are several areas of competitive advantage underpinning increased focus on beneficiation opportunities in South Africa, among them:

- **Resource base:** South Africa is a top global producer of manganese, chrome and PGM, with significant iron ore and vanadium deposits (Minerals Council SA, 2024/2023). This depth and diversity of mineral resources provides a secure long-term feedstock base, reducing supply risk for downstream processors.
- **Established industrial and logistics infrastructure:** The nation's industrial ecosystem includes operating smelters, legacy steel capacity (Vanderbijlpark, Newcastle, Saldanha), and metallurgical expertise built over decades. This is complemented by engineering services, testing facilities, and deep financial and legal markets able to structure and fund large-ticket industrial projects (Minerals Council SA,

2024). Ports and rail corridors, while in need of reform, already provide a backbone that can be modernised rather than built from scratch.

- **Policy alignment:** South Africa's Beneficiation Strategy and the minerals value-chain work of the Department of Trade, Industry and Competition (dtic) seek to capture more value domestically while building manufacturing linkages (Department of Mineral Resources, 2011; dtic, 2020). This policy direction is increasingly reinforced by industrial master plans and blended-finance support from DFIs, signalling long-term government commitment to beneficiation.
- **Regional demand and upside through the AfCFTA:** Rising African demand for construction steel, long products, renewables hardware, and automotive inputs (body panels, fasteners, stainless steel) provides a natural outlet for South African semi-finished and finished metals. It also provides a source for other minerals useful to downstream manufacturing. The AfCFTA framework provides a platform for tariff reduction and market access, positioning South Africa as a regional hub for value-added metals.

**Global demand shifts and green premiums:** Global megatrends supporting sustainability-aligned products like electric vehicles, battery storage, and green hydrogen, are boosting structural demand for processed metals. In particular through manganese, nickel, vanadium and PGMs, South Africa can move "up the stack" into battery precursors, specialty alloys and hydrogen-related components — often smaller-scale, higher-margin niches suited to institutional growth equity (dtic, 2020; CRSES, 2023). In parallel, consumer preferences are driving many mining giants to shift towards lower-carbon supply chains. Furthermore, with the EU Carbon Border Adjustment Mechanism (CBAM) slated to transition from a reporting phase (2023–2025) to a levy phase, where carbon intensity will be priced into import costs, producers able to demonstrate lower embedded emissions can secure margin resilience (European Commission, 2025; Butscher & Camiña, 2024).

### iii. Barriers and de-risking

While barriers to the rapid scaling of beneficiation exist in South Africa, many are easing, creating space for new opportunities:

- Beneficiation is energy-intensive, and South Africa's grid constraints and tariffs have historically eroded competitiveness. Mitigation strategies are ongoing and significant, with options for operators including behind-the-meter PPAs with storage, wheeling through municipal grids, and relying on portfolio-level renewable procurement that CPI-

indexes energy costs and improves uptime (all underpinned by the post-2021 embedded generation reforms [National Treasury, 2025]). Where feasible, process electrification and direct reduced iron–electric arc furnace (DRI-EAF) routes can also lower emissions intensity (Wessels, 2025; Trollip, 2024).

- Infrastructure bottlenecks constrain logistics, raising costs and reducing reliability. Ore, fluxes, and steel products are rail- and port-dependent, and underinvestment has left both systems struggling with congestion, delays, and high costs. Current initiatives, including the open-access rail policy, private participation at terminals, and the national freight roadmap, aim to ease these constraints and to lift capacity and reliability. Milestones achieved by 2025 include the selection of new private Train Operating Companies (Department of Transport, 2025; SAnews, 2025; The Presidency, 2024). For investors, bankability improves when infrastructure access is locked in through multi-year rail access agreements, throughput-based port contracts, and step-in rights embedded in concessions.
- Policy uncertainty can be a barrier, but frameworks are increasingly supporting predictable, market-compatible incentives. The Minerals Council supports beneficiation when economically viable, cautioning against mandates that inadvertently harm the primary mining base and underscoring the need for market-compatible incentives rather than coercive quotas (Minerals Council SA, 2025). For investors, an attractive mix generally includes investment allowances, accelerated depreciation, export facilitation, and expectations for clear monitoring, verification, and reporting (Minerals Council SA, 2025; dtic, 2020).
- Some industries are still in their infancy, for example, green hydrogen. Barriers include high costs, challenges to scale, and the lack of infrastructure. These are binding variables in the near term for some inputs to certain forms of beneficiation, especially green beneficiation (Wessels, 2025; McGregor & Young, 2025). Phased approaches are often looked for delivering energy intensity reductions now, while keeping hydrogen-ready configurations for future fuel switching (Wessels, 2025; Trollip, 2024; McGregor & Young, 2025).

### iv. International precedents

Indonesia has rapidly repositioned itself from a raw ore exporter to a hub for nickel smelting and battery materials. By banning unprocessed nickel ore exports in 2014 and again in 2020, the government forced ore into domestic processing, anchoring industrial parks with bundled power, ports and permitting (IEA, 2025; USITC, 2024). The results were swift: foreign direct

investment rose to US$ 55.3 billion in 2024, with base-metal refining among the top sectors (Reuters, 2025a). Flagship projects include the Hyundai–LG joint venture, which began EV battery production in 2024 (Ministry of Investment, 2024).

Long-term offtake agreements made projects bankable. Indonesia's success shows the power of decisive policy and infrastructure clustering, but also the risks of policy disputes and over-reliance on one bloc of investors (Lowy Institute, 2025). For South Africa, the lesson is to combine performance-based incentives and CBAM compliance with diversified capital partnerships (with the PIC available to anchor), rather than rely on restrictive export bans.

On the other hand, Brazil demonstrates how resource wealth can underpin an integrated steel sector. Through companies such as CSN, Usiminas and Gerdau, and with long-term local-currency finance from the Brazilian Development Bank (BNDES), the country built a globally competitive industry that attracted sustained investment (BNDES, 2023). In 2024, the launch of the Nova Indústria Brasil plan committed BRL 300 billion to reindustrialisation, with BRL 100 billion in new steel projects announced within months, many focused on low-carbon production (Government of Brazil, 2024a; 2024b).

Investors are now financing electric-arc furnace modernisation, scrap logistics and renewable PPAs, positioning Brazil's mills for green steel markets (GEM, 2024). While tariff protections have occasionally shielded local producers, experience suggests that transparent, time-bound incentives work better for crowding in institutional capital (OECD, 2024). For South Africa, the key lessons are to build a DFI-backed financing spine through the PIC, IDC, and DBSA, to signal long-term decarbonisation policies that attract private capex, and to tie support to measurable efficiency gains.

Taken together, Indonesia and Brazil show that beneficiation success depends on policy certainty, catalytic domestic finance, and credible demand signals. Indonesia highlights the value of clustering industrial parks, securing offtakes and moving quickly into new value chains such as batteries. Brazil demonstrates how a strong development-finance platform and a clear low-carbon strategy can sustain investment through cycles. For South Africa, the opportunity lies in blending these lessons: anchoring beneficiation through PIC-led platforms, embedding projects in SEZs with green power and logistics, and offering investors transparent, performance-based incentives aligned with CBAM and AfCFTA markets.

## c. Automotive manufacturing

### i. Risk, return, and feedback loops

South Africa's automotive sector combines a strong export base, supportive policy frameworks, and underdeveloped supplier capacity, offering investors a pathway to attractive risk-adjusted returns while delivering jobs and development impact.

The sector is not immune to global disruption, however. The industry worldwide is undergoing a structural shift, driven by China's rapid expansion in electric vehicles and compounded by tariff frictions in markets such as the US. These dynamics have weighed on local performance, with plant closures and job losses reported in recent years (Moneyweb, 2025). Yet they also open space for renewal. The dtic is actively courting new investment, including advanced talks with three Chinese automakers to establish or expand plants in South Africa (News24, 2025). Indian manufacturer Tata is also re-entering the market after its 2019 exit, underscoring renewed confidence in the country's role as a production hub. For investors, this signals not retreat but repositioning: South Africa is leveraging its established base and policy support to attract the next wave of global manufacturers, particularly in EVs.

South Africa already produces around 600,000 vehicles annually, ranking it as the largest automotive producer in Africa and a top 25 player globally (NAAMSA, 2023). Roughly two-thirds of production is exported, with the EU, UK, and Asia as key markets. In 2023, vehicle and component exports rose 19% year-on-year to R270.8 billion, representing 13.9% of total exports and ~2.7% of GDP (NAAMSA, 2023). This scale and consistency demonstrate the industry's entrenched role in global markets.

The sector already enjoys deep foreign investment from OEMs such as Toyota, VW, Mercedes-Benz, Ford, and BMW, who have established South Africa as their hub for right-hand drive vehicles (NAAMSA, 2023). OEMs have expanded local production capacity, such as Ford's R16 billion investment in Silverton, Pretoria, to produce the Ranger bakkie (pickup truck) for export (Ford, 2022), and Volkswagen's R4 billion investment in their Eastern Cape plant to produce a new SUV model from 2027 (Reuters 2024). Their continued presence signals above-average productivity levels and competitive returns compared to other emerging markets.

Auto manufacturing already accounts for a considerable number of jobs and contractor expertise in South Africa:

- **Job creation:** roughly 110 000 direct jobs in OEMs and component suppliers, and an estimated 400 000 indirect jobs across dealerships, logistics, and services (NAAMSA, 2023).
- **SME participation**: ~500 Tier-1/2/3 local suppliers feeding into OEM production, with potential for significant localisation gains (NAAMSA, 2023).
- **Skills transfer:** engineering, mechatronics, and technician skills pipelines supported by strong OEM-led training academies (dtic, 2021).
- **Regional integration**: SA's role as the gateway for automotive trade in Southern Africa, and the rest of the continent, could strengthen local demand and production linkages across Africa (SAAM, 2021).

Scaling investment to the automotive sector is a proven play in South Africa: returns are visible, OEM presence is entrenched, policy support is aligned, and the next wave of industrialisation (EVs, battery supply chains, regional value chains) is already on the horizon. Institutional capital can therefore scale a tested model, rather than betting on an untested idea (NAAMSA, 2023; dtic, 2021; Ford, 2022; SAAM, 2021).

### ii. Value chains and comparative advantage

The global automotive industry, and specifically the South African market, faces a severe existential crisis as traditional players struggle to compete with the aggressive pricing and rapid innovation of Chinese manufacturers. High sticker prices from legacy automakers are driving price-sensitive South African consumers to more affordable, feature-rich vehicles from brands like Chery, Mahindra, and GWM, which are primarily imports. This surge in imports undermines domestic manufacturing, leading to job losses and factory closures in the local auto sector.

Adding to this domestic pressure are international trade challenges, such as the EU's carbon emissions regulations, which require costly and rapid transitions to EV production. Western manufacturers are struggling to finance these shifts while also contending with high input costs and intense competition from Chinese EV makers. At the same time, recent US tariffs on automobiles and auto parts raise operational costs, disrupt supply chains, and further erode profitability. These combined pressures threaten the long-term viability of traditional manufacturers, leaving them increasingly exposed to competition from China's more affordable and technologically advanced EV industry.

Despite these challenges, South Africa's automotive sector is well positioned to leverage its comparative advantages. With abundant mineral resources, skilled workforce, strategic

logistics infrastructure, and supportive policy frameworks, the country has the potential to become a leading force in regional automotive value chains. Achieving this, however, will require targeted and strategic investments to address existing gaps across the value chain.

South Africa currently imports a significant portion of automotive components that could be manufactured locally. For instance, components including electronic control units, battery cells for electric vehicles (EVs), and specialised metal parts are predominantly sourced from international suppliers (Wutke, 2022). This dependency highlights a substantial opportunity for domestic manufacturing. For example, institutional capital could play a role by supporting Tier-2 and Tier-3 suppliers, thereby fostering the growth of local suppliers and reducing reliance on imports. Such investments not only enhance the resilience of the supply chain but also contribute to job creation and economic growth within the country (NAAMSA, 2023).

The African Continental Free Trade Area (AfCFTA) presents a significant opportunity for South Africa to serve as the backbone of Africa's automotive market. With the continent's rapidly growing middle class and increasing vehicle ownership, South Africa's established manufacturing capabilities can meet the rising demand for vehicles across the region (UNECA, 2022). In 2024, South Africa accounted for 28.4% of Africa's automotive market, underscoring its central role in the continent's automotive industry (Standard Bank, 2024). By leveraging this position, South Africa can expand its market share and influence within the African automotive sector.

South Africa is endowed with critical minerals essential for EV production, including platinum, manganese, cobalt, and nickel (UNECA, 2022). These resources can be used to develop local supply chains for EV batteries, reducing the need for imports and enhancing the country's competitiveness in the global EV market. The government's commitment to supporting the EV sector is evident in its investment of R1 billion to incentivise local EV production, with expectations to crowd-in R30 billion in private sector investment (Reuters, 2025). This initiative aligns with the country's broader strategy to transition towards sustainable mobility solutions. South Africa's well-developed ports and roll-on/roll-off shipping facilities provide further competitive advantage in exporting vehicles to international markets (Vilakazi and Paelo, 2017). Further investments in freight and logistics infrastructure can amplify this advantage, reducing lead times and costs associated with exports.

The automotive sector's positive trade balance, reaching R21.1 billion in 2023, reflects the success of these logistics capabilities in facilitating exports (NAAMSA, 2023). Continued

investment in infrastructure will bolster this trend and support the sector's growth. South Africa's unique combination of mineral resources, skilled labour, strategic logistics infrastructure, and supportive policies position it to lead regional automotive value chains. However, to fully capitalise on these advantages, targeted investments are necessary to develop local suppliers, enhance EV production capabilities, and improve logistics infrastructure (Wutke, 2022; UNECA, 2022; NAAMSA, 2023). By addressing these gaps, South Africa can strengthen its position as a dominant force in the African automotive industry, driving economic growth and development across the continent

### iii. Barriers and de-risking strategies

South Africa’s historic power outages have been a constraint for automotive and industrial production, but reforms and private renewable generation are easing these pressures (IEA, 2023). OEMs are already installing on-site solar and storage solutions, reducing operational disruptions and creating opportunities for co-financing by institutional investors (Green Jobs Report, 2022). The successes of the nation’s Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) are also relieving pressure on South Africa’s energy grid and opening the way for scaling-up automotive manufacturing. By participating in these green energy upgrades, investors can simultaneously de-risk operations and support sustainable industrialisation.

While technical skills in manufacturing still lag behind demand, investor–OEM–government partnerships can help fill the gap. Examples include apprenticeship schemes, supplier development programs, and initiatives like the JET Skills Development Programme (JET Education Services, 2022) which focus on industrial and technical training. By funding skills development alongside capital investments, investors not only secure a pipeline of qualified workers but also reinforce local supply chain resilience.

Perhaps the greatest barrier to rapidly scaling domestic EV and related manufacturing in South Africa is the absence of a local battery manufacturing ecosystem. While the country is well endowed with raw materials, actual investment in cell and pack production has so far been limited. Globally, the countries viewed as best positioned to win in the EV manufacturing race are those that have already built scale in domestic battery production. At the same time, South Africa’s position is not fixed: ecosystems can be built quickly, and with rising demand for both utility-scale storage and vehicle batteries, there is significant scope for growth. For institutional investors, supporting the development of a local battery supply chain may represent one of the

most strategic opportunities — unlocking value from South Africa's mineral base while anchoring future competitiveness in mobility and energy.

These barriers are not insurmountable; they are manageable with structured, co-invested solutions. The Automotive Production and Development Programme (APDP II, 2021–2035) and the South African Automotive Masterplan (SAAM 2035) are already providing stable policy incentives, including production-linked rebates, investment allowances, and localisation targets (dtic, 2021). These frameworks reduce downside risks for OEMs and suppliers, and the government has committed to aligning these incentives with the global electric vehicle (EV) transition, offering opportunities for early-mover investors in the EV and battery ecosystems (dtic, 2021; SAAM, 2021). These commitments could be further aided by the automotive sector's transition to EU carbon emissions standards, without which the industry may struggle to maintain and enhance its export competitiveness. Power, skills, trade, and currency risks can all be mitigated through similar targeted de-risking measures, making South Africa's industrialisation a durable, high-potential investment opportunity.

### iv. International precedents

Thailand's rise as the "Detroit of Asia" offers valuable lessons for South Africa's automotive sector. Today, it is the world's tenth-largest automotive producer, with over 50% of vehicles exported globally (JETRO, 2022). The country's success stems from a deliberate policy framework: sustained incentives for foreign OEMs, robust localisation targets, and the creation of supplier ecosystems around Special Economic Zones (SEZs). Japanese carmakers in particular used Thailand as a regional production hub, investing in assembly and component plants that plugged directly into global supply chains (Natsuda & Thoburn, 2013).

What stands out for investors is that Thailand's model combined policy stability with investor confidence. Incentives under the Board of Investment (BOI) framework, such as tax holidays and import duty exemptions, were paired with a clear export-oriented strategy. This enabled significant FDI inflows – automotive FDI accounted for around 20% of Thailand's total inward investment in the 2000s (Natsuda & Thoburn, 2013). Local content in vehicles also grew steadily, creating a multiplier effect through supplier industries and stable employment.

Like Thailand, SA already produces globally competitive bakkies/pick-ups, hosts German and Japanese OEMs, and has policy support via the APDP II and the SA Automotive Masterplan. With institutional capital backing supplier development and logistics infrastructure, South Africa

could position itself as the “Detroit of Africa” — a strategic hub in global and regional automotive value chains.

Namibia offers a different but equally relevant lesson. Under Regulation 29, pension funds must invest at least 45% of their assets domestically, a mandate that has mobilised long-term capital for infrastructure, housing, and industrial development (NAMFISA, 2021). This approach shows how regulatory certainty can direct institutional savings into national priorities without undermining returns. In Latin America, countries like Brazil and Chile have mobilised pension assets through public–private partnerships and government guarantees. Chile’s pension funds invested heavily in privatised utilities and transport infrastructure in the 1990s and 2000s, supported by credit enhancement mechanisms that de-risked projects (Rudolph et al., 2010). Similarly, Brazil used tax incentives and state-backed infrastructure funds to attract pension and insurance capital into transport and energy projects (World Bank, 2018). A lesson here is that with the right blend of incentives, guarantees, and regulatory frameworks, institutional capital can be unlocked at scale for industrialisation.

**Case study: The IDC as a driver of industrialisation in South Africa**

The Industrial Development Corporation (IDC) is a wholly government-owned Development Finance Institution (DFI) tasked with fostering sustainable industrial capacity across South Africa and the broader African continent. As a key agency, the IDC plays a catalytic role in addressing South Africa's economic challenges, including low growth, high unemployment, and deindustrialisation, by financing projects that promote diversification, inclusivity, and environmental sustainability.

With assets exceeding R161 billion and a portfolio spanning multiple sectors, the IDC aligns its efforts with national frameworks such as the National Development Plan (NDP), Medium-Term Development Plan, and United Nations Sustainable Development Goals (SDGs), while also contributing towards regional integration through the African Continental Free Trade Area (AfCFTA) and Southern African Development Community (SADC).

The IDC's primary objectives centre on driving inclusive and sustainable employment-creating industrialisation in South Africa and the region, while maintaining financial sustainability. It aims to generate balanced economic growth, promote entrepreneurship, and empower historically disadvantaged populations through competitive industries built on sound business principles.

Key strategic priorities include deepening industrial development impact, advancing economic transformation, and fostering low-carbon transitions via green industries like renewable energy and critical minerals.

The IDC adopts a value chain approach, targeting upstream enablers (e.g., agriculture, mining, energy) and downstream manufacturing to optimise linkages, localisation, and export potential.

In its FY2026–FY2030 Strategic Plan, the IDC emphasises diversification into high-potential sectors such as new energy vehicles, green hydrogen, and battery minerals, while addressing spatial equity and climate resilience to align with the Just Energy Transition Investment Plan and AfCFTA. Overall, the organisation seeks to catalyse private investment, preserve jobs in distressed sectors, and contribute to socioeconomic development, with transversal goals like ESG compliance and partnership building.

The IDC has supported a diverse array of projects across sectors, focusing on capacity expansion, startups, and restructurings to build resilient value chains. In agro-processing and agriculture, initiatives include the Poultry Industry Masterplan and Sugar Masterplan diversification into bioplastics, alongside R260 million for hatcheries and R158 million from the Agro-Industrial Fund for Black-owned businesses. Some key projects are listed below:

- In automotive and transport, the IDC backed Black-owned component manufacturers and the Stellantis plant at Coega SEZ (50 000 vehicles annually, 70% exports), while Project Ukuvuselela upgrades rail logistics for efficiency.
- Green energy projects highlight the IDC's sustainability focus, including 26% derisking of REIPPPP projects (1.4 GW capacity) and the Ishwati Emoyeni Wind Farm (140 MW, offsetting 500 kilotonnes CO2 annually).
- In green hydrogen, flagship initiatives like Prieska Power Reserve and the SA-H2 Fund position South Africa in global markets.
- Infrastructure projects for water augmentation and subsea fibre optics, while regional ventures like Namibia's beef abattoir and Tanzania's chlor-alkali plant enhance African value chains.

The IDC has effectively advanced South Africa's industrialisation agenda by financing transformative projects that enhance economic diversification, job creation, and sustainability. While achievements in funding, employment, and green transitions are notable, external reports underscore needs for deeper SME inclusivity, reduced legacy emissions, and policy alignment to maximise impact. As South Africa navigates global shifts, the IDC’s value chain strategy positions it as a vital engine for inclusive growth.

## 4. Immediate action

As the preceding case studies demonstrate, South Africa offers institutional investors a rare opportunity to achieve differentiated, risk-adjusted returns while driving measurable industrial growth. Realising this potential — doubling industrial investment by 2030 and delivering 250 000 new jobs — requires coordinated action across three fronts: policy and infrastructure, financial architecture, and market connectivity (see Figure 9). Each reinforces the others — policy builds predictability, finance manages risk and return, and supply chains anchor demand. Together, they form a roadmap for institutional investors, including the PIC, sovereign wealth funds, and other asset managers to move from interest to immediate action.

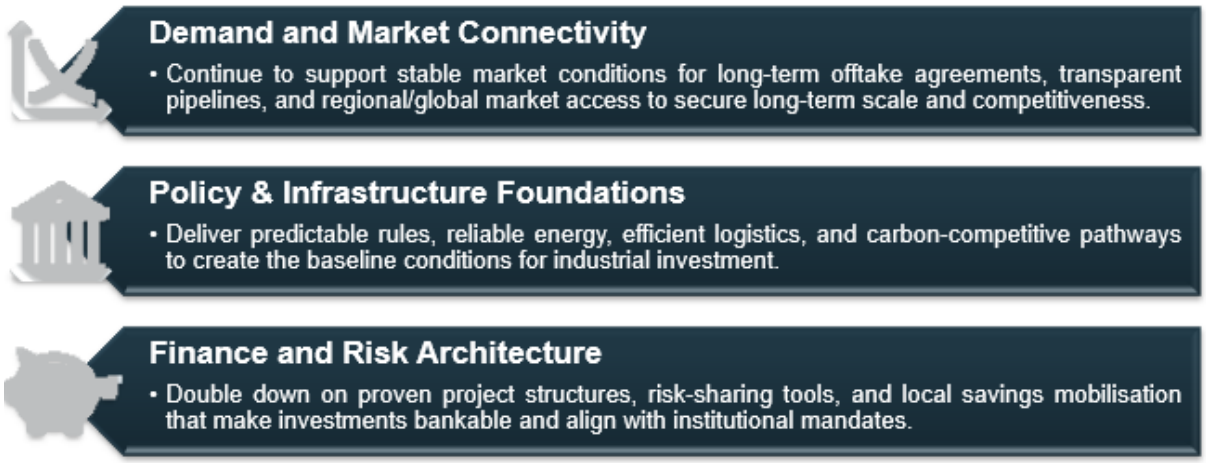


Figure 9: Three Part Roadmap to Industrialisation.

### a. Policy and infrastructure foundations

For institutional investors, the first requirement is an enabling environment that reduces uncertainty and locks in confidence. Predictable incentive frameworks — for example, covering new SEZs, localisation programs, and tax credits — should be clearly set out and remain stable over time. They should have simple rules of origin and compliance requirements that align with international regimes such as AfCFTA and the African Growth and Opportunity Act (AGOA) (and, where relevant, BRICS). When incentives are transparent, time-bound, and administratively straightforward, cross-border capital can price risk more accurately and scale commitments.

Investors also look for a forward-integration agenda that points capital toward higher value-added chains over the next decade. In South Africa's case, this means credible pathways from platinum to hydrogen technologies, from manganese to battery precursors, and from agricultural produce to branded food products. Publishing sector roadmaps and long-dated

policy compacts — 10 to 15-year frameworks that spell out incentive stability, grandfathering, and review mechanisms — would lower policy-risk premia and give investors the visibility they need to underwrite long-term returns. Fast-track channels for land use, permitting, and SEZ access can sit behind these compacts to shorten development timelines and demonstrate execution reliability.

Power is the non-negotiable infrastructure foundation for industrial projects. Investors need firm, cost-competitive electricity and clear routes to contract it. For example, corporate PPAs (with storage) and wheeling arrangements where available, alongside transparent grid-connection processes and bankable tariff indexation. Where industrial decarbonisation is material to export access, enabling options such as process electrification and hydrogen-ready DRI-EAF pathways can protect margins in carbon-constrained markets. The key investor signal is procurement and interconnection clarity: standard terms, visible queues, and reliable timelines.

Freight logistics must offer similar predictability. Heavy industry depends on reliable rail, efficient terminals, and fast border processes. Without these, costs and working-capital needs escalate. Investors will look for bankable access instruments: multi-year rail-access agreements, throughput-linked port contracts, performance-based concessions with step-in rights and for operational transparency (digitalised customs, corridor service standards). For export-facing assets, support for credible measurement, reporting, verification aligned to CBAM-style requirements is increasingly part of the bankability stack, ensuring products can reach premium markets without unexpected carbon penalties.

### b. Finance and risk architecture

The second pillar is financial innovation that matches institutional mandates while delivering scale. “Innovation” need not be interpreted as new instrument types or protections. As discussed, there is already a long history of successful investment in South Africa’s industrialisation using all manner of traditional structures. If, however, the intention is to rapidly expand investment, a new blended industrialisation facility could provide a platform to do so. Such a facility could facilitate senior debt tranches (potentially guarantee-wrapped) for pension funds seeking low-volatility income; mezzanine for sovereign funds targeting enhanced yield; and catalytic first-loss from DFIs to crowd in private capital. The point is not novelty but repeatability — templated tranche structures, standard disclosure, and programmatic issuance that allow capital to deploy at pace across a pipeline rather than one-off deals.

Beyond pooled vehicles, local-currency green industrial bonds that are optionally backed by partial guarantees and benchmarked into recognised green indices can tap ESG demand for inflation-linked yield, while keeping currency risk manageable for domestic holders. KPI-linked notes (with coupon step-downs tied to verifiable milestones such as job creation, localisation, or emissions intensity) align financial performance with development outcomes without sacrificing transparency. Warehoused industrial REITs (or analogous permanent-capital vehicles) can bundle long-duration assets into listed instruments, broadening access and providing liquidity for pension and insurance allocations.

Clear risk allocation is what makes projects bankable. Investors look for proven structures, like those pioneered under the REIPPPP, with predictable indexation (CPI and, where relevant, partial FX linkage), robust offtake credit, and standard protections such as step-in rights and tested dispute resolution. Availability-style payment mechanics, where appropriate, add further certainty to cash flows. Residual risks can be right-sized through political-risk and credit guarantees, receivables securitisation for working-capital cycles, and insurance products. Finally, standardised measurement, reporting, and verification for carbon intensity ensures that South African exports can compete in CBAM-exposed markets without unexpected price shocks, making industrial assets more resilient and attractive for long-term capital.

Finally, currency and macro tools are important for foreign mandates. Options include SARB-facilitated or multilateral swap/guarantee lines where feasible, hard-currency revenue components for export-linked assets, and tenor-matched hedging only where pricing is efficient — otherwise prioritising natural hedges (US$ revenues vs. ZAR costs) and CPI-linked local-currency structures. Pairing these tools with domestic savings mobilisation, through listed/unlisted credit funds, green bond programmes, and guarantee-supported vehicles, allows local pensions and insurers to scale alongside global capital. In combination, these instruments and conventions turn diversified interest into bankable, scalable commitments.

### c. Demand and market connectivity

What ultimately converts projects into investable assets is credible demand, whether through long-term purchase agreements that lock in revenues, or through clear access to fast-growing regional and global markets. What matters is visibility: investors need confidence that products will move, customers exist, and markets are accessible at scale. For some industries — such as power, logistics, or industrial processing — bankable offtakes with creditworthy buyers remain essential. For others, like food processing, consumer goods, or niche manufacturing,

the anchor comes from demonstrated growth in domestic and regional consumption. South Africa's role as a regional hub amplifies these dynamics, giving investors a platform to serve African and global demand simultaneously.

Regional and global connectivity reinforces this visibility. South Africa combines advanced logistics, deep financial markets, and preferential trade agreements, allowing products to flow into African, European, and Asian markets. The investment case strengthens when logistics access is predictable: multi-year rail agreements, throughput-linked port contracts, and digitalised customs processes reduce delays and working-capital strain. Harmonised standards through AfCFTA and alignment with carbon-border regimes such as the EU's CBAM further enhance competitiveness. For investors, these are not abstract policy wins; they are direct signals that exports will move at stable cost and retain margin in premium markets.

Critical mineral and technology partnerships extend the same logic to future-facing industries. South Africa's reserves of platinum, manganese, vanadium, and other inputs position it to integrate into EV, battery, and hydrogen supply chains. Joint ventures or structured partnerships with global corporates can ensure that beneficiation occurs locally before export, capturing more value domestically while aligning with structural shifts in global demand. For investors, these partnerships combine the upside of new-economy industries with the downside protection of contracted offtake or premium market access.

Supply-chain resilience also depends on people and digital systems. A pipeline of skilled workers, including technicians and engineers, ensures that industrial expansion is not held back by labour shortages, while co-funded training partnerships can align skills supply with investor pipelines. At the same time, digitalisation of logistics, trade finance, and receivables management brings transparency and efficiency to exports. Fintech-enabled platforms that integrate invoicing, customs documentation, and payment cycles reduce friction and shorten cash-conversion timelines that directly improve return profiles. In combination, these factors can turn South Africa's geographic and resource advantages into reliable demand connectivity, making revenues both scalable and durable.

## 5. Conclusion

South Africa's industrial story is not a leap of faith — it is an execution challenge with clear upside. Neither is it a bet on "new" sectors; it is an extension of momentum in industries like automotive manufacturing, agro-processing, and mining/steel beneficiation, where reforms and investable pipelines are already in motion. For investors, the implication is clear: the gap between current and potential output is vast, and closing even part of it represents a multi-trillion-rand opportunity with measurable employment and supply-chain impact. Put simply, we believe that there are three investment pillars crucial for positive industrialisation returns in South Africa:

1. **Outperformance and portfolio resilience**: South African industrial assets offer the combination investors prize with credible return premia and protections that translate into resilient, often inflation-linked cash flows, and correlations that move differently from U.S. and European cycles.
2. **Near-term macro and employment dividends**: Doubling industrialisation investment by 2030 is expected to boost manufacturing growth by ~15% and add ~R100 billion in output, while creating more than 250 000 jobs.
3. **An actionable playbook**: policy and infrastructure enablers, fit-for-purpose financing architecture, and demand/market connectivity together convert interest into repeatable, bankable deal flow — no reinvention is required.

Taken together, the three paths outlined above — policy and infrastructure, finance architecture, and market connectivity — form an immediate roadmap for accelerating South Africa's industrialisation. The specifics of potential policies, instruments, and partnerships have already been detailed, but the key message here is simple: none of these steps require reinventing the wheel. The building blocks already exist. What is needed now is coordination between institutional investors, the PIC, and government to align priorities, deploy innovative financing structures, and anchor South Africa into global supply chains.

This is the moment for catalytic commitments. Take bold action, and South Africa shifts from incremental progress to a sustained industrial upswing — one that delivers durable, risk-adjusted returns and development outcomes. The opportunity is investable, the roadmap is clear, and the upside, for both portfolios and for people, is significant.

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## Appendix A: Cobb-Douglas analysis of SA manufacturing

To understand the drivers of manufacturing output, we focus on real gross value added (GVA) as our measure of output (Y), with capital and labour as the key inputs. Capital is measured through real gross fixed capital formation (GFCF) in manufacturing, while labour is captured by combining the SARB's long-run employment index with Stats SA's Quarterly Employment Statistics.

We apply the Cobb–Douglas production function ($Y = AK^{\alpha}L^{(1-\alpha)}$), which breaks output into contributions from capital (K), labour (L), and total factor productivity (A). This framework, central to the Solow growth model, allows us to decompose growth into factor inputs while distinguishing between capital widening (replacing or adding equipment) and capital deepening (increasing capital per worker).

To estimate the investment required to achieve a target growth in manufacturing output, we use the growth-rate version of the Cobb–Douglas function, which expresses output growth (ΔY) as a function of changes in investment (ΔK), labour (ΔL), and productivity.

**Equation 1:** $\Delta Yt = C + \alpha(\Delta Kt) + \beta(\Delta Lt) + \varepsilon t$

Where:

- ΔY = Target growth rate of real manufacturing output.
- ΔK = Required growth rate of net investment.
- ΔL = Growth rate of labour input.
- α = Investment's share of output.
- β = Labour's share of output.
- $\varepsilon_t$ = Residual error, which partially captures TFP.

(We then refined Equation 1 by adding time-specific dummy variables (λDUMMY) to capture periods of unusual volatility, Equation 2: $\Delta Yt = C + \alpha(\Delta Kt) + \beta(\Delta Lt) + \lambda DUMMYi,t + \varepsilon t$. This adjustment significantly improved the model's fit: the adjusted R-squared rose from 0.38 to 0.72, meaning the updated specification now explains around three-quarters of the variation in manufacturing output growth).

In our model, output growth (ΔY) is partly determined by the growth of the capital stock (ΔK), weighted by capital's share of output (α). By tracking how investment growth adds to the capital stock, we can then estimate the level of investment required to achieve a given rate of output growth. Our modelling approach facilitates two key scenarios:

1. **Singular Variable Analysis:** This simplified analysis assumes labour growth remains constant.
2. **Dual Variable Analysis**: A more complex scenario where we simultaneously vary both independent variables — investment growth and labour growth — to assess how these combined assumptions influence the economy's ability to meet its targeted growth level.

We have assumed an average manufacturing growth of about 2% a year — a deliberately conservative target. Even achieving this 2% target will require doubling industrial investment growth from ~6% today to around 14%.

To test feasibility, we applied a quasi-Cobb–Douglas framework to estimate the investment growth needed to deliver this output and employment trajectory. The model uses three historical regimes to reflect different efficiency environments: the long-term (1974–2024), the pre-democracy era (1974–1993), and the democracy era (1994–2024).

In Scenario 1, where labour growth is fixed at historical averages and capital bears the adjustment, achieving 2% output growth would require nominal investment growth of 14–19% per year. This is above the long-term average of 12.1% but consistent with the pre-democracy average of 15.7%, indicating that such growth rates are ambitious but historically attainable.

| Regime | | Scenario 1: to get ΔY = 2.00, holding ΔL constant‡ | | | | | | Avg. growth of manuf. GFCF deflator |
|---|---|---|---|---|---|---|---|---|
| | | Equation 1 | | | Equation 2 | | | |
| | | Real value of ΔK | Nominal value of ΔK* | Value of ΔY | Real value of ΔK | Nominal value of ΔK* | Value of ΔY | |
| Long-term | 1974-2024 | 5.44 | 14.37 | 2.00 | 8.39 | 17.32 | 2.00 | 8.93 |
| Pre-democracy | 1974-1993 | 1.47 | 14.87 | 2.00 | 1.98 | 15.39 | 2.00 | 13.40 |
| Democracy | 1994-2024 | 8.01 | 14.05 | 2.00 | 12.52 | 18.57 | 2.00 | 6.04 |
| **Regime** | | **Scenario 2: to get ΔY = 2.00%, assuming ΔL = 1.20%** | | | | | | **Avg. growth of manuf. GFCF deflator** |
| | | Equation 1 | | | Equation 2 | | | |
| | | Real value of ΔK | Nominal value of ΔK* | Value of ΔY | Real value of ΔK | Nominal value of ΔK* | Value of ΔY | |
| Long-term | 1974-2024 | 0.60 | 9.53 | 2.00 | 0.58 | 9.51 | 2.00 | 8.93 |
| Pre-democracy | 1974-1993 | 0.60 | 14.00 | 2.00 | 0.58 | 13.99 | 2.00 | 13.40 |
| Democracy | 1994-2024 | 0.60 | 6.64 | 2.00 | 0.58 | 6.63 | 2.00 | 6.04 |

Table A1: Amount the real growth rate of capital would need to grow for real manufacturing output to grow by 2%, holding labour growth constant. (Source: Authors' own calculations based on data from Stats SA and the SARB, Eviews.)

Note: * The nominal growth rate is calculated by adding the average of the period-specific GFCF deflator to the real growth rate. ‡ In scenario 1, we assume that labour growth equals the specific regime average.

| Regime | | Nominal | Real | Deflator | Real + Deflator |
|---|---|---|---|---|---|
| Long-term | 1974-2024 | 12.09 | 3.05 | 8.93 | 11.98 |
| Pre-democracy | 1974-1993 | 15.68 | 2.38 | 13.40 | 15.78 |
| Democracy | 1994-2024 | 9.78 | 3.49 | 6.04 | 9.53 |
| Pre-GFC | 1998-2008 | 12.69 | 5.38 | 6.96 | 12.34 |
| Post SWC-Pre C19 | 2010-2019 | 9.78 | 4.76 | 4.87 | 9.63 |
| Post-C19 | 2022-2024 | 16.27 | 6.05 | 9.52 | 15.57 |

Table A2: Average growth of manufacturing GFCF investment by regime. (Source: Authors' own calculations based on data from Stats SA and the SARB)

This increase in the labour growth rate significantly reduces the required capital growth rate across all regimes compared to Scenario 1. In scenario 2, we find that nominal investment growth would need to average 14% per year which is only slightly above the Long-term average but below the Pre-democracy average. Figure A1 plots manufacturing investment over time, comparing nominal to real gross fixed capital formations (GFCF), with a deflator that adjusts for inflation.

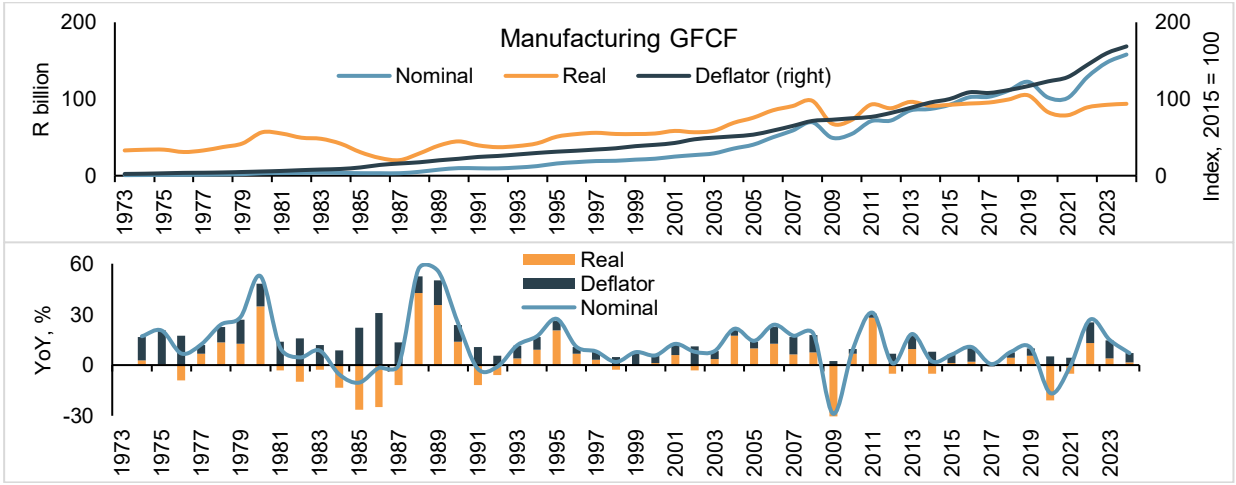



Figure A1: Manufacturing investment (i.e. GCFC), nominal, real, and deflator. (Source: Stats SA and SARB)

Table A3 summarises how manufacturing output, investment, and labour have behaved across different historical periods (1974–2024). It shows average real growth rates, the volatility of those growth rates, and how strongly each factor correlates with output. Over the long term, manufacturing output has grown by around 1.7% annually, driven by average investment growth of just over 3%, while labour growth has been flat to negative in recent decades. Volatility is highest in investment, reflecting its cyclical nature, while output is relatively more stable. The correlations confirm that both capital and labour are positively linked to output growth overall, though the strength of these relationships varies by period – for example, labour was more closely tied to output in the pre-democracy years, while capital has been more strongly correlated in the post-1994 era.

Table A3 indicates that manufacturing investment has been growing at about 6% a year in real terms post-COVID 19. By modelling two scenarios — one with labour growth held constant and another with labour growth doubling from 0.6% to 1.2% per year — we estimated the rate of investment growth required to achieve a conservative output target of 2% per annum. Both scenarios pointed to a threshold of around 14–19% nominal investment growth, implying that doubling the current rate would close the gap.

| Average growth rates and volatility | | | ΔY | ΔK | ΔL |
|---|---|---|---|---|---|
| *Average growth rates (YoY, %)* | Long-term | 1974-2024 | 1.7 | 3.1 | -0.1 |
| | Pre-democracy | 1974-1993 | 1.9 | 2.4 | 1.0 |
| | Democracy | 1994-2024 | 1.5 | 3.5 | -0.8 |
| | Pre-GFC | 1998-2008 | 3.5 | 5.4 | -0.5 |
| | Post SWC-Pre C19 | 2010-2019 | 1.2 | 4.8 | -0.3 |
| | Post-C19 | 2022-2024 | -0.1 | 6.1 | 0.8 |
| *Volatility (standard deviation)* | Long-term | 1974-2024 | 4.5 | 14.3 | 3.5 |
| | Pre-democracy | 1974-1993 | 4.8 | 18.9 | 3.4 |
| | Democracy | 1994-2024 | 4.4 | 10.8 | 3.5 |
| | Pre-GFC | 1998-2008 | 3.0 | 6.4 | 4.9 |
| | Post SWC-Pre C19 | 2010-2019 | 2.1 | 9.4 | 1.4 |
| | Post-C19 | 2022-2024 | 0.4 | 6.1 | 0.7 |
| *Correlation (Pearson coefficient)* | Long-term | 1974-2024 | 1.00 | 0.53 | 0.51 |
| | Pre-democracy | 1974-1993 | 1.00 | 0.44 | 0.71 |
| | Democracy | 1994-2024 | 1.00 | 0.69 | 0.39 |
| | Pre-GFC | 1998-2008 | 1.00 | 0.47 | 0.34 |
| | Post SWC-Pre C19 | 2010-2019 | 1.00 | 0.41 | -0.80 |
| | Post-C19 | 2022-2024 | 1.00 | -0.31 | 0.42 |

Table A3: Average real growth rates, volatility, and correlation by different regimes. (Source: Authors' own calculations based on data from Stats SA and the SARB)

Using this investment requirement, we then translated output growth into value and jobs. A sustained increase in capital formation to ~14% would raise manufacturing output by roughly 15% relative to baseline. Given current gross value added of about R870–900 billion, this equates to more than R100 billion in additional output. Applying sectoral labour-output intensities from Stats SA and the IDC — approximately 2–2.3 jobs supported per R1 million of manufacturing output – yields an employment impact of over 250 000 new jobs across direct and indirect supply chains.

In sum, the model shows how a step-up in industrial investment growth from ~6% to ~14% by 2030 could transform South Africa's manufacturing trajectory, add R100 billion in addition output and create around 250 000 jobs — combining attractive, risk-adjusted returns for investors with measurable GDP and employment gains.

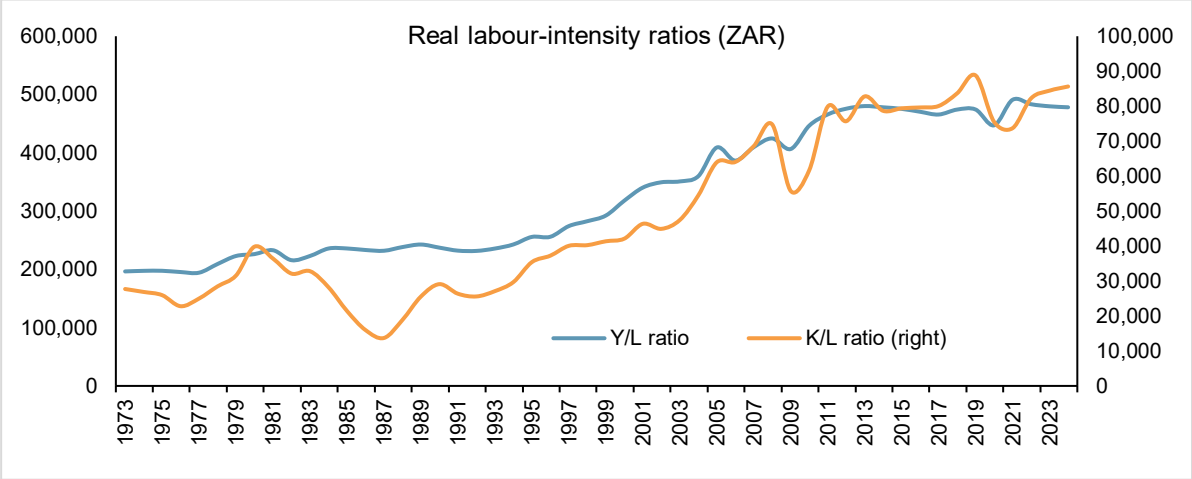



Figure A2: Real manufacturing output, investment, and employment indices and Output and capital labour-intensity ratios. (Source: Authors' own calculations based on data from Stats SA and the SARB)

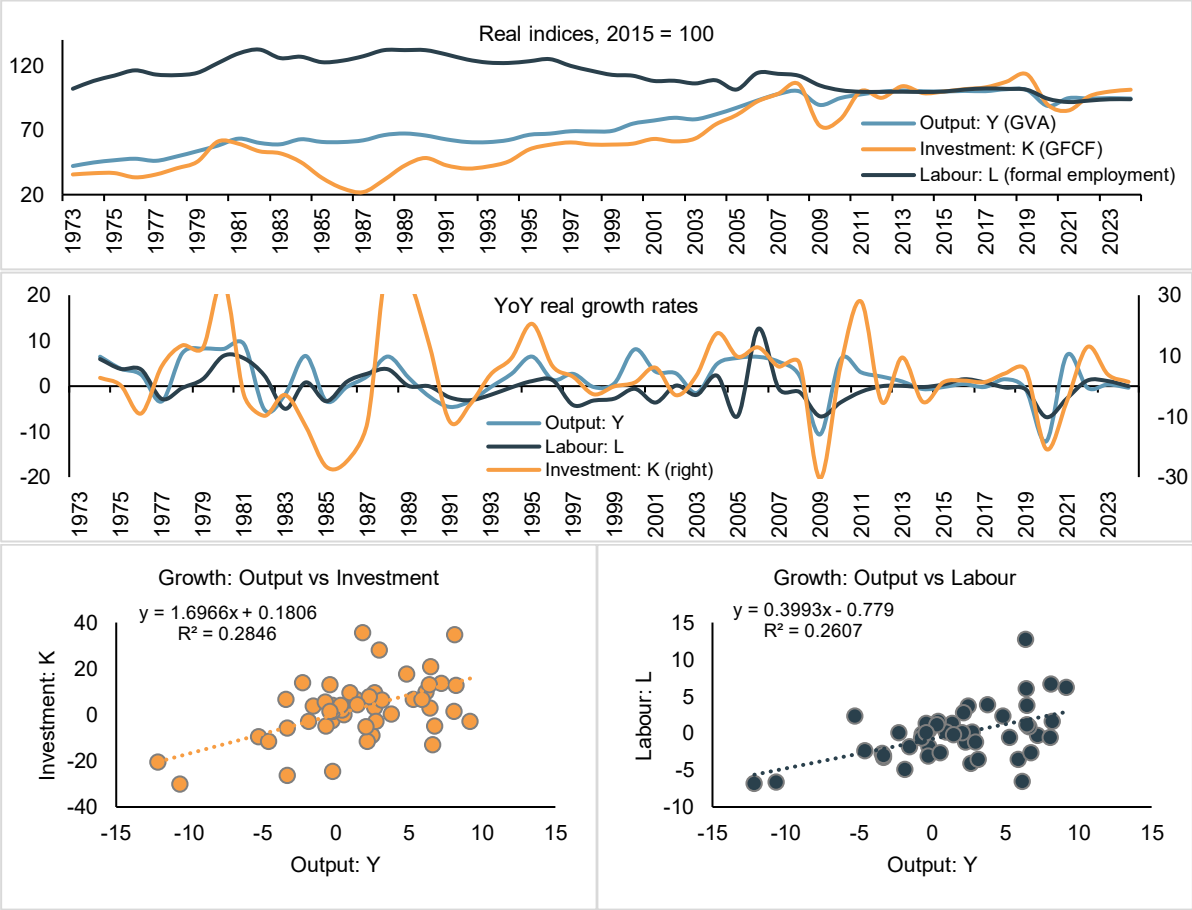
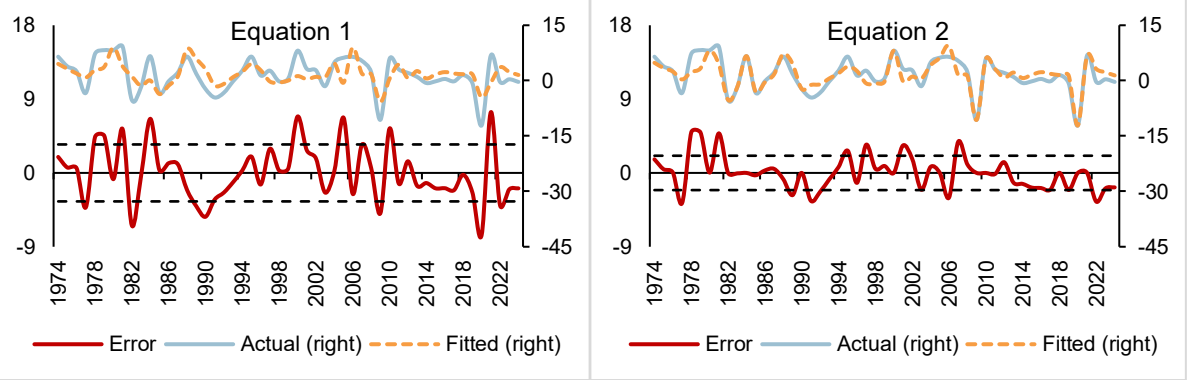



Figure A3: Manufacturing real output and production factors. (Source: Authors' own calculations based on data from Stats SA and the SARB)

| Equation 1: ΔY = C + α(ΔK) + β(ΔL) + ε | | | | |
|---|---|---|---|---|
| Dependent Variable: Y | | | | |
| Method: Least Squares | | | | |
| Date: 09/11/25 Time: 11:43 | | | | |
| Sample: 1974 2024 | | | | |
| Included observations: 51 | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| C | 1.35180 | 0.51032 | 2.64893 | 0.01090 |
| K | 0.12803 | 0.03715 | 3.44658 | 0.00119 |
| L | 0.47620 | 0.15106 | 3.15234 | 0.00279 |
| R-squared | 0.40734 | Mean dependent var | | 1.69403 |
| Adjusted R-squared | 0.38265 | S.D. dependent var | | 4.50906 |
| S.E. of regression | 3.54285 | Akaike info criterion | | 5.42476 |
| Sum squared resid | 602.48720 | Schwarz criterion | | 5.53840 |
| Log likelihood | -135.33151 | Hannan-Quinn criter. | | 5.46819 |
| F-statistic | 16.49542 | Durbin-Watson stat | | 2.22022 |
| Prob(F-statistic) | 0.00000 | | | |

| Equation 2: ΔY = C + α(ΔK) + β(ΔL) + Dummy + ε | | | | |
|---|---|---|---|---|
| Dependent Variable: Y | | | | |
| Method: Least Squares | | | | |
| Date: 09/11/25 Time: 13:48 | | | | |
| Sample: 1974 2024 | | | | |
| Included observations: 51 | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| C | 1.28244 | 0.38857 | 3.30039 | 0.00207 |
| K | 0.09229 | 0.02794 | 3.30311 | 0.00205 |
| L | 0.55320 | 0.11578 | 4.77791 | 0.00003 |
| DUM1982 | -6.85923 | 2.45232 | -2.79704 | 0.00797 |
| DUM1984 | 6.12530 | 2.45461 | 2.49543 | 0.01692 |
| DUM1990 | -4.78345 | 2.41389 | -1.98163 | 0.05460 |
| DUM2000 | 7.02792 | 2.40252 | 2.92522 | 0.00571 |
| DUM2005 | 7.66802 | 2.54860 | 3.00872 | 0.00458 |
| DUM2009 | -5.43461 | 2.63649 | -2.06131 | 0.04598 |
| DUM2010 | 5.99722 | 2.44685 | 2.45100 | 0.01883 |
| DUM2020 | -7.73164 | 2.57719 | -3.00002 | 0.00469 |
| DUM2021 | 7.49931 | 2.43098 | 3.08489 | 0.00373 |
| R-squared | 0.78438 | Mean dependent var | | 1.69403 |
| Adjusted R-squared | 0.72356 | S.D. dependent var | | 4.50906 |
| S.E. of regression | 2.37076 | Akaike info criterion | | 4.76662 |
| Sum squared resid | 219.19916 | Schwarz criterion | | 5.22117 |
| Log likelihood | -109.54882 | Hannan-Quinn criter. | | 4.94032 |
| F-statistic | 12.89734 | Durbin-Watson stat | | 1.72662 |
| Prob(F-statistic) | 0.00000 | | | |




| Average growth rates | | | ΔY | ΔK | ΔL | Equation 1 | | Equation 2 | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Y-fitted | Error | Y-fitted | Error |
| Average growth rates (YoY, %) | Long-term | 1974-2024 | 1.7 | 3.1 | -0.1 | 1.69 | 0.00 | 1.51 | 0.19 |
| | Pre-democracy | 1974-1993 | 1.9 | 2.4 | 1.0 | 2.12 | -0.17 | 2.04 | -0.09 |
| | Democracy | 1994-2024 | 1.5 | 3.5 | -0.8 | 1.42 | 0.11 | 1.17 | 0.37 |
| | Pre-GFC | 1998-2008 | 3.5 | 5.4 | -0.5 | *Sample size (n) < 30* | | | |
| | Post SWC-Pre C19 | 2010-2019 | 1.2 | 4.8 | -0.3 | | | | |
| | Post-C19 | 2022-2024 | -0.1 | 6.1 | 0.8 | | | | |

Figure A4: Regression results and output. (Source: Authors' own calculations based on data from Stats SA and the SARB, EViews).
Note: *Black dotted lines indicate ± one standard deviation of the residual error.

# Appendix B: South Africa's manufacturing indices weights

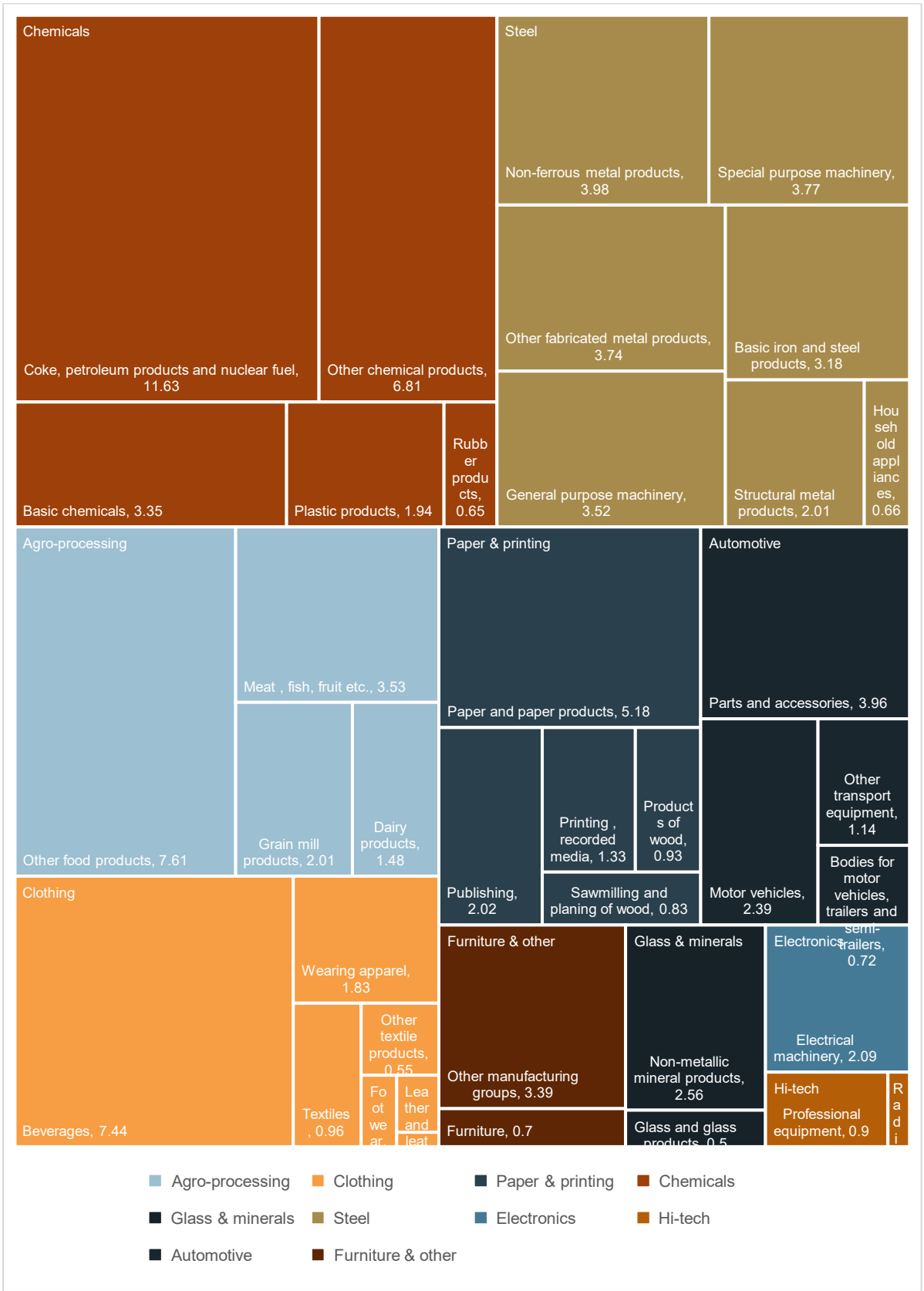



Figure B1: Manufacturing production indices industry weights (Source: Statistics South Africa, PIC)

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