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Unlocking Manufacturing Growth in South Africa:
Firm Productivity, Labour Mobility and Participation

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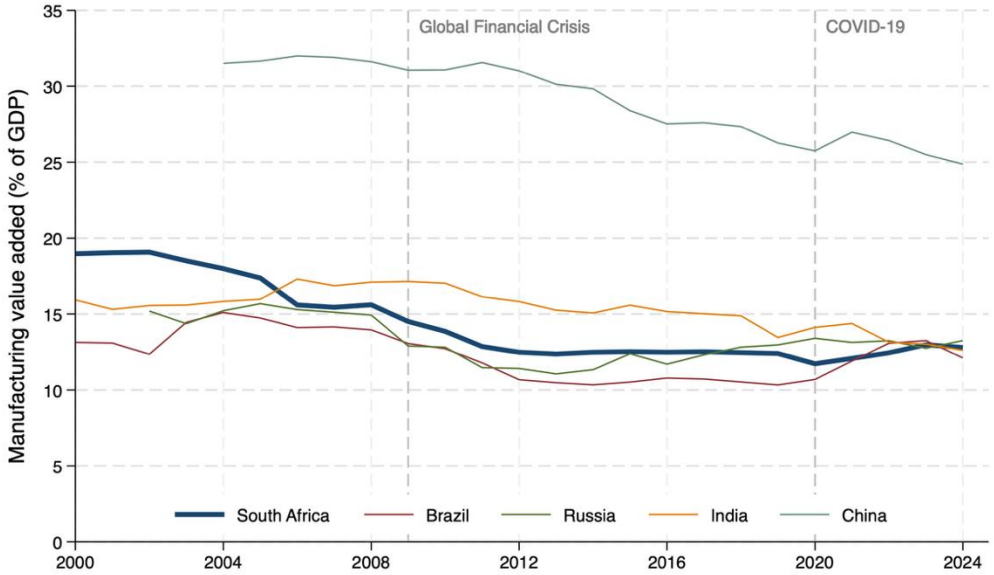
Manufacturing's shrinking footprint

Manufacturing is central to growth, productivity and formal employment

Yet over two decades the sector has been in decline in South Africa

Sustained decline in output share: an earlier and more persistent contraction than BRICS peers

Figure 1: Manufacturing value added as a share of GDP 2000-2024



Source: World Bank, *World Development Indicators*. Manufacturing value added as a share of GDP (NV.IND.MANF.ZS), latest available data.

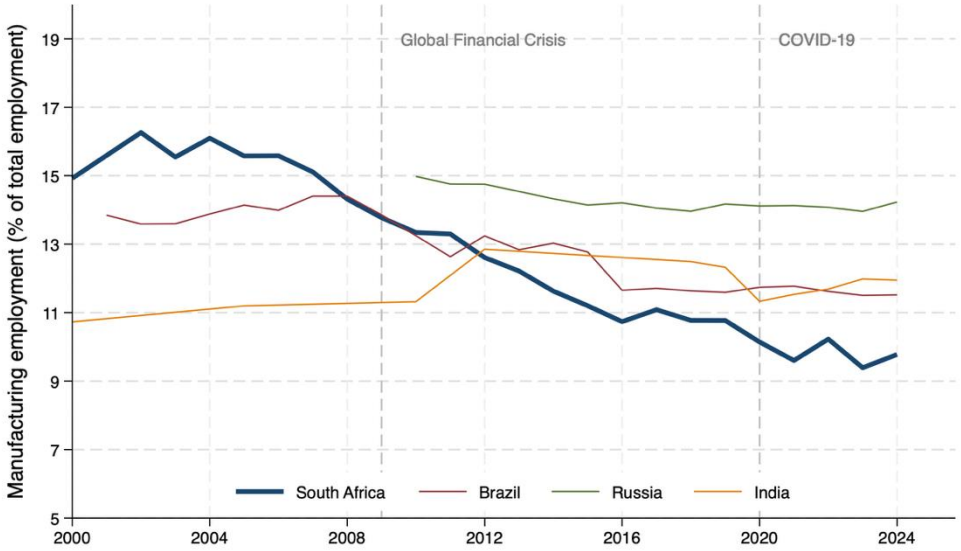
Manufacturing's shrinking footprint

Parallel contraction in employment: loss of jobs in SA manufacturing much more pronounced than peers

Losses concentrated in labour-intensive subsectors

Manufacturing's role in providing stable formal employment has weakened

Figure 2: Manufacturing share in total employment 2000-2024



Patterns are mirrored in measures of firm performance (profits and income) and investment

Source: ILOSTAT (International Labour Organization). Employment by economic activity (ISIC Rev.4), manufacturing, as a share of total employment.

Firm landscape and market structure

Highly unequal firm landscape:

- Large firms dominate income (77%) but not employment (42%)
- Small and micro firms dominate employment (40%) but not income (12%)
- Large productivity gaps between large and small firms

Source: Stats SA (2023)

Income concentrated among few firms

- Top 20 firms account for over 30% of income
- Dominant incumbents in capital intensive sectors co-exist with fragmented labour-intensive activities

Source: Stats SA (2023)

High and uneven pricing power

- Markups high by international standards: small group of firms charge high markups
- High and uneven market power weakens competitive pressure and resource reallocation

Source: Kreuser et al. (2024)

Firm landscape and market structure

Limited firm churn and limited expansion

- Low entry and exit rates into and out of manufacturing
- Ageing firm population with very limited upward size mobility
- Employment growth driven mainly by incumbents
- Weak post entry growth

Source: Aterido et al. (2019); Tsebe et al. (2018)

A narrow and weakening external orientation

- Manufacturing exports peaked pre-2008
- Muted recovery after Global Financial crisis
- Prolonged decline from mid-2010s
- Export participation highly concentrated among a few firms that are larger and more productive

Source: World Bank, World Development Indicators; Edwards (2024); Matthee et al. (2018)

The manufacturing challenge

Overall picture

- Long-run decline in GDP share, employment share and export dynamism
- Increasing concentration of income, investment and export activity
- Labour-intensive sub-sectors contracting sharply
- Limited firm dynamism and weak reallocation
- High and uneven market power

This raises two core questions:

- What mechanisms are driving this trajectory?
- Are current policy approaches addressing the right constraints?

Roadmap

Part I: Three underlying mechanisms

1. Within-firm productivity constraints
2. Between-firm resource allocation
3. Labour mobility and participation

Part II: Policy architecture and implications

- Mapping current industrial policy onto these mechanisms
- Identifying areas for policy alignment

Roadmap

Part I: Three underlying mechanisms

1. Within-firm productivity constraints

Productivity generation within firms

Core question: Are firms improving how efficiently they produce?

Evidence shows weak within-firm productivity growth in SA

- Persistently weak TFP growth post-2009
- Large and persistent productivity dispersion
- Limited convergence: low productivity firms don't catch up and high productivity firms do not scale sufficiently

Source: Kreuser and Newman (2018); Kreuser and Brink (2001)

Within-firm productivity constraints:

- Innovation and technology adoption
- Productivity spillovers
- Reliability of inputs
- Management and worker capabilities

Within-firm productivity constraints

Innovation and technology adoption

- Innovation widely recognised as a core mechanism for firm-level productivity growth.
- For SA evidence shows that:
  - R&D investments are associated with higher firm TFP
  - Product and process innovations are linked to higher labour productivity
  - Automation investments increase output, value added, TFP, employment and wages
- But, R&D adoption and investment remains limited in SA
- Policy measures, such as Section 11D increase reported R&D expenditure but there is no robust evidence of productivity effects

Source: Kreuser and Newman (2018); Kahn et al. (2022); Steenkamp et al. (2018); Kilumelume et al. (2025); Naidoo (2020) Avenyo et al. (2024); World Bank (2019)

Within-firm productivity constraints

Productivity spillovers

- Productivity spillovers arise when firms benefit from external knowledge, technologies, and practices generated by other firms.
- Typical sources: FDI, engagement in trade, worker mobility
- In South Africa the evidence shows knowledge diffusion operates primarily through:
    - Vertical linkages between upstream input-supplying foreign-owned firms
    - Engagement in trade, in particular, firms that export and import
    - Selective labour mobility: high productivity firms gain while low productivity firms more likely hire workers from other low-productivity firms yielding negative spillovers
- Spillovers accrue disproportionately to firms that are already productive or are already connected to foreign suppliers and foreign markets
- Rather than driving convergence, these mechanisms appear to reinforce existing capability differences.

Source: Sorensen (2020); Edwards (2024); Hlatswayo et al. (2020)

Within-firm productivity constraints

Reliability of inputs as a productivity wedge

- South Africa's high-cost operating environment has become a significant constraint on within-firm productivity growth.
- Large literature showing negative impact of electricity shortages jobs and productivity – also in the long-term
- Logistics bottlenecks raise trade costs
- Key constraint is lack of **reliability** which affects:
    - Capacity utilization
    - The returns to technology investments
    - Export competitiveness
    - Investor confidence

Source: OECD (2025); Ndubuisi et al. (2024); Bhorat and Kohler (2025); Fried and Lagokos (2023); Edwards (2024)

Within-firm productivity constraints

Management and worker capabilities

- International research shows that management and organisational capability are central to firm performance and productivity
  - Well-managed firms scale and adopt faster
  - But, we know very little about the quality of managers in SA

- Training and skills of workers are also important and are associated with higher productivity and stronger technology adoption
  - International evidence shows that capability upgrading can work through well designed programmes (apprenticeships, incentives, soft-skills, etc)
  - In SA, weaknesses in the education and training system limit appropriate skill supply - employment growth in manufacturing has been skill-biased, with expansion concentrated in higher-skilled occupations
  - Learnerships were introduced to address this but show only modest and short-lived employment gains

Source: Bloom et al. (2007, 2012, 2025); Bruhn et al. (2018); Rankin et al (2014); Bhorat and Rooney (2017)

Roadmap

Part I: Three underlying mechanisms

1. Within-firm productivity constraints
2. Between-firm resource allocation

Between-firm resource allocation

Core question: Are labour and capital flowing towards the most productive firms?

Evidence shows that a large share of productivity differences reflect allocative efficiency not technological progress (Kreuser and Brink, 2001)

- Cross-country evidence shows that misallocation depresses aggregate TFP – often by a significant amount
- In SA labour and capital misallocation reduced TFP by 16-22% 2010-2014
- Distortions affect small and medium sized firms most

Source: Newman et al. (2019); Hsieh and Klenow (2009); Restuccia and Rogerson (2017); Bun et al. (2023)

Productive Firms Alone Are Not Enough

Even if some firms are highly productive, aggregate performance will remain weak if:

- Labour and capital do not shift toward them; low-productivity firms persist; high-productivity firms fail to scale

Between-firm resource allocation

Types of distortions that generate misallocation:

- Statutory distortions: regulations or taxes that vary by firm size or sector
- Discretionary distortions: preferential treatment, subsidised credit, corruption-linked advantages
- Market imperfections: monopoly power, weak property rights, incomplete financial markets

Sources: Restuccia & Rogerson (2017); Bartelsman et al. (2013); Asker et al. (2014); Uras & Wang (2024)

Between-firm resource allocation

Sources of misallocation identified (so far) in SA:

1. Policy induced wedges

Recent SA evidence shows that higher import tariffs are associated with greater capital misallocation – a 1SD increase in import tariffs reduces productivity by 3-6%

Trade protection aimed at supporting domestic industry can unintentionally weaken allocative efficiency

2. Market power and weak competitive churn

Co-existence of high mark-up incumbents and low-productivity low-markup firms implies weak competitive selection at both ends of the distribution

3. Historical legacies

Recent SA evidence shows that apartheid-era labour regulations that restricted occupational and geographic mobility are associated with 4-14% higher labour misallocation today

Sources: Kreuser et al. (2024); Kreuser and Brink (2021); Kilumelume at al. (2025); Neongano et al. (2026)

Roadmap

Part I: Three underlying mechanisms

1. Within-firm productivity constraints:
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Labour mobility and productivity

Why mobility matters

Labour mobility can enhance productivity when it:

- Reallocates workers from low- to high-productivity firms
- Facilitates diffusion of skills and organisational routines
- Supports sustained wage progression

But mobility only raises productivity when it reflects progression, not instability.

Important conceptual distinction:

- **Job churn:** frequent movement between firms or into/out of employment
- **Job progression:** sustained movement into more productive or higher-paying firms

Cross-country evidence shows:

- High labour market dynamism in developing economies often reflects instability rather than progression (Donovan et al., 2023)

Mobility may reflect a *"slippery job ladder"* rather than advancement (Donovan et al., 2023)

Labour mobility in South Africa

What the data show

- Transitions (Hlatshwayo et al., 2020):
  - ~10% of manufacturing workers switch employers annually
  - Nearly one-third leave their new firm within one year
  - Transitions into lower-productivity firms are as common as upward moves
  - Mobility is substantial — but often short-lived and not upward.

- Firm wage premia:
  - Workers moving to higher-paying firms experience large wage gains (Bassier, 2023)
  - Wage growth depends on accessing and remaining in better firms
  - Where mobility does not enable this, earnings trajectories stagnate

These statistics suggest a **dual labour market**:

1. An upwardly mobile group of productive workers that can transition to better job
2. A mass of low-productivity workers transitioning in and out of employment without moving up the job ladder

Labour mobility in South Africa

Participation and segmentation

Not only are there mobility constraints but labour force participation is stratified by gender, youth status and education level (World Bank, 2025; OECD, 2025)

Women, particularly low-educated women, show weaker labour market attachment.

- Sorting into lower-paying firms explains a large share of the gender wage gap (45%) (Bassier & Gautham, 2025)
- Women are less likely to transition to higher wage-premium firms (Bassier & Gautham, 2025)
- Gender-wage gaps widen over the lifecycle (Pleace et al., 2023)

Entry into the labour market does not guarantee progression to higher paying jobs

Labour mobility in South Africa

Structural constraints

- Spatial mismatch and search frictions can prevent access to employment opportunities (Banerjee and Sequeira, 2023; Van der Merwe & de Jong, 2023)
- Limited product market competition can dampen labour market dynamism (Amodio et al., 2020)
- Township economies face additional constraints – access to finance, crime, limited market access which reduce job creation (Tshuma, 2022)

Labour mobility in South Africa

Institutional constraints and levers

- Wage floors when binding limit hiring by low productivity firms while high productivity firms continue expanding (Budlender and Bassier, 2023)
- Centralised bargaining raises wages and compresses inter-firm wage gaps thus facilitating mobility within connected labour markets (Bassier, 2021)
- Affirmative action (e.g. Employment Equity Act) increased cross-sector movement for women (Landman and O'Clery, 2020)
- Hiring incentives (e.g. Employment Tax Incentive) increase entry at the margin but have limited effects on sustained progression (Budlender and Ebrahim, 2021; Ebrahim and Pirtilla, 2025)
- Contract regulation (e.g. Temporary Employment Scheme reform) increased transitions to non-TES employment for some but increased exits from formal employment for others (Cassim, 2020)

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The existing policy architecture

Industrialisation and job creation are at the centre of the Presidency's *Strategic Plan 2025-2030* - inclusive growth and job creation are top priorities

Operationalised through a *Reimagined Industrial Strategy* (DTIC, 2024)

- Revitalising industrial capacity and mobilising investment

Policy is implemented through sector Masterplans (since 2019) designed as a platform for coordination between government, business and labour and a mechanism to address sector-specific constraints

Complementary reforms in trade policy, competition law, infrastructure and logistics, labour market regulation, education and skills

- All shape the incentives and constraints facing firms and workers

Sources: The Presidency SA (2024); DTIC (2024); TIPS (2024).

Policy and within-firm productivity

Innovation policy

Current policy focusses on expanding the technology frontier:

- South Africa's industrial strategy prioritises: green industrialisation; digital transition; sector upgrading through Masterplans; Tax incentives (e.g., R&D) and investment support (DTIC, 2024)

The empirical evidence from SA suggests that the binding constraint **is the diffusion of technology**

- Depends on capabilities, skills, exporting status and foreign ownership

Policy should not only aim to expand the technology frontier, but it should also aid technology diffusion:

- Reducing fixed costs and risks of technology adoption
- Supporting domestic and non-exporting firms in process upgrading
- Aligning skills development explicitly with technology absorption

Policy and within-firm productivity

Strengthening productivity spillover channels

SA's industrial framework recognises the importance of strengthening linkages and expanding market access:

- Localisation commitments and domestic value chain strengthening; deeper regional integration; export promotion; competition reform

SA evidence shows that at the firm-level spillovers accrue disproportionately to already connected to foreign-owned suppliers and markets and higher-productivity firms

Policy Alignment: **Strengthening diffusion channels** by reducing wedges that isolate firms from learning channels - spillovers require connectivity

- Reduce tariffs and non-tariff barriers on intermediate inputs
- Ensure stability and transparency in trade policy
- Support firms in meeting export standards
- Improve labour mobility across the productivity distribution (see later)

Policy and within-firm productivity

Infrastructure reliability

Infrastructure reform is already central to industrial strategy

- Energy supply stabilisation, electricity market reform, rail/port logistics, large infrastructure investment, network rehabilitation (DTIC, 2024)

But the evidence suggests that electricity and logistics **reliability** are productivity levers – in relation to both short-term output and longer-run firm upgrading

If reliability shapes productivity and upgrading, policy should address efficiency of operations in the sector:

- Prioritise operational reliability (grid stability, maintenance backlogs)
- Improve rail network reliability and port turnaround times
- Address SME vulnerability in energy-intensive sectors

Policy and within-firm productivity

Embedding capability upgrading in industrial policy

Current policy aims to strengthen human capital as a cross-cutting enabler of structural change

- Workforce readiness linked to digital and green transitions, STEM expansion and vocational pathways, alignment of classroom and workplace learning (DTIC, 2024)

Evidence shows that both **managerial quality** and worker skills and training are both central drivers of productivity.

- Productivity depends on the joint upgrading of worker skills, supervision, and firm organisation — not skills alone

If firm-level capability is a key driver of productivity then policy should:

- Integrate skills development with organisational upgrading: e.g. training for managers in technology upgrading, quality control, etc.
- Experiment with targeted capability-building interventions for workers and managers
- Develop systematic measurement of management practices
- Better matching of workers to jobs (see later)

Policy and between-firm reallocation

Allocative efficiency as a cross-cutting objective

Industrial policy, competition policy, tariff instruments, localisation, incentives, procurement inevitably reallocate resources.

- Alter relative prices, shift market shares, influence firm scaling, shape entry and exit dynamics

But evidence shows that Policy-induced wedges can generate misallocation

- Protection may allow less productive firms retain disproportionate resources

Policy should explicitly ask:

- Does it create distortions in the allocation of labour and capital?
- Does it affect scaling prospects for high-productivity firms?
- Does this reduce competition?

Policy and between-firm reallocation

Allocative efficiency as a cross-cutting objective

1. Protection and incentives should be:

- Conditional on improving performance (productivity, technology upgrading, export expansion, upgrading capabilities)
- Time bound and subject to review to avoid temporary measures becoming permanent
- Evaluated for their effects on capital allocation and competition
- Designed to avoid reinforcing incumbent advantage

2. Allocative efficiency depends on competitive churn. Policy focus:

- Addressing barriers to entry conditions in concentrated sectors
- Removing barriers to post-entry scaling
- Removing policies that protect incumbent advantage

Policy and labour mobility

Labour mobility: a productivity channel

Industrial policy aims to expand employment and broaden participation:

- Employment creation, inclusive growth and transformation, skills development and apprenticeships, education–workplace linkages, sectoral commitments to employment through Masterplans

Evidence shows that mobility frequently reflects **churn** rather than progression and workers do not consistently transition to higher-productivity firms – labour mobility does not reliably support allocative efficiency or wage progression

Employment expansion alone is insufficient. Policy should:

- Focus on progression, not only employment levels
- Address barriers to movement into high-productivity firms
- Evaluate reforms for their effects on worker reallocation (allocative efficiency)
- Align labour and industrial policy around “job ladder” dynamics

Policy and labour mobility

Labour mobility: a productivity channel - Examples

1. **Spatial and market access constraints**

- Policy aims to expand access to economic opportunity
- Industrial strategy recognises spatial inequality, regional integration, township enterprise development, broader economic participation
- Alleviating access constraints key to ensuring that workers can access firms where their skills are best rewarded
    - Improving transport connectivity to industrial nodes
    - Enhancing labour market information systems and vacancy transparency
    - Strengthening school-to-work and employer linkages
    - Integrating township enterprises into broader value chains

Policy and labour mobility

Labour mobility: a productivity channel - Examples

2. Wage-setting institutions

- Policy aims to protect workers and reduce inequality
- Can have unintended consequences for labour mobility, particularly at different segments of the productivity distribution
- Policy coherence could be strengthened by:
  - Monitoring hiring responses across productivity segments
  - Assessing how wage-setting affects post-entry progression

Conclusion

South Africa's manufacturing challenge is not only about firm performance, it is about **how productivity is generated, allocated and transmitted** through the economy.

Sustainable industrial growth requires:

- Strengthening within-firm productivity through diffusion, reliability and capability upgrading
- Ensuring resources flow toward high-productivity firms enabling scaling
- Aligning labour mobility and participation with progression into better firms

Embedding a **"productivity-proofing"** framework into policy design:

- How does the policy affect the allocation of capital and labour across firms?
- Does it enhance or weaken contestability and entry?
- Does it strengthen firm capability upgrading?
- Does it improve or constrain mobility of workers toward higher-productivity firms?