



TRADE & INDUSTRIAL POLICY STRATEGIES

INDUSTRY STUDY

Capital Goods in South Africa

March 2024

TIPS industry studies aim to provide a comprehensive overview of key trends in leading industries in South Africa. For each industry covered, working papers will be published on basic economic trends, including value added, employment, investment and market structure; trade by major product and country; impact on the environment as well as threats and opportunities arising from the climate crisis; and the implications of emerging technologies. The studies aim to provide background for policymakers and researchers, and to strengthen our understanding of current challenges and opportunities in each industry as a basis for a more strategic response.

This study maps out the capital goods value chain.

Authors:

Itumeleng Mokoena, TIPS Economist

Lucas Mthembu, TIPS Economist

Gillian Chigumira, TIPS Senior Economist

CONTENTS

Abbreviations	3
Introduction	4
Section 1: Mapping the Industry.....	4
1.1 Value chain of capital goods.....	4
1.2 Contribution to GDP and Investments	7
1.3 Profitability in capital goods	9
1.4 International trade	10
1.5 Employment	12
1.6 Employment by demographics.....	13
1.6.1 Employment by education	13
1.6.1 Employment by race	13
1.6.2 Employment by gender.....	14
1.6.3 Functional inequality.....	14
1.7 Market structure and major companies.....	15
1.7.1 Main locations of firms.....	18
1.8 History of large enterprises and SMME development of capital goods.....	19
Section 2: Governance Structures and stakeholders.....	19
2.1 Government departments and related institutions	19
2.2 Associations and unions related to capital goods	21
2.3 Main platforms for stakeholder engagement	24
2.4 Key debates in the capital goods industry.....	24
Section 3: SWOT Analysis.....	25
References	27

Disclaimer

To the fullest extent permitted by law, TIPS and its employees, directors, contractors and consultants shall not be liable or responsible for any error or omission in any of its research, publications, articles and reports (collectively referred to as reports). We make no representation or warranty of any kind, express or implied, regarding the accuracy or completeness of any information in our reports.

Our reports are made available free of charge and are prepared in good faith. Users are requested to acknowledge and correctly reference the source should they decide to use or make reference to any of our reports or any information in our reports.

TIPS and its employees, directors, contractors and consultants shall not be liable or responsible for any use, collection, processing or transfer of any of our reports or any information in our reports.

TIPS and its employees, directors, contractors and consultants shall not be liable for any damages, losses or costs suffered arising out of its reports or any information in its reports.

ABBREVIATIONS

AECMSA	Association of Electric Cable Manufacturers of South Africa
BRI	Brazil, Russia, and India
CN	China
CONMESA	Construction and Mining Equipment Suppliers' Association
CPHA	Contractors Plant Hire Association
CSIR	Council for Scientific and Industrial Research
DALRRD	Department of Agriculture, Land Reform and Rural Development
dtic (the)	Department of Trade, Industry, and Competition
EDMASA	Electronics Development and Manufacturers Association of Southern Africa
EEAIA	Electrical Engineering and Allied Industries Association of South Africa
EMASA	Electrical Manufacturers' Association of South Africa
EU	European Union
IDC	Industrial Development Corporation
ITAC	International Trade Administration
IPAP	Industrial Policy Action Plan
JP	Japan
KR	Republic of Korea
MerSETA	Manufacturing, Engineering and Related Service Sector Education and Training Authority
MMP	Mandela Mining Precinct
NTI	National Tooling Initiative
NFTN	National Foundry Technology Network
OEMs	Original Equipment Manufacturers
PGMS	Platinum Group Metals
PV	Photovoltaic
SAAMA	South African Agricultural Machinery Association
SABIF	South African Black Industrialist Forum
SABS	South African Bureau of Standards
SACEEC	South African Capital Equipment Export Council
SAFCEC	South African Forum of Civil Engineering Contractors
SAIMechE	South African Institution of Mechanical Engineering
SAMPEC	South African Mineral Processing Equipment Cluster
SEIFSA	Steel and Engineering Industries Federation of Southern Africa
SEZ	Special Economic Zone
SIC	Standard Industrial Classification
SEZ	Special Economic Zone
UK	United Kingdom
US	United States
VAMCOSA	Valve and Actuators Manufacturers Cluster of South Africa

INTRODUCTION

The capital goods industry plays a crucial cross-sectional role in the economy as the industry's output of machinery and equipment is required for virtually all goods production processes. The industry accounted for 7.1% of South Africa's total manufacturing value added in 2022. Income from the industry's seven sub-industries rose from R56.4 billion in 2011 to R135 billion in 2021 (in constant 2021 Rand), with the five largest companies in each industry contributing an average of 42% of total income contribution. Exports of capital goods surged by 69% in 2022 from the previous year owing to a 347% increase in exports of other general purpose machinery to the European Union (EU). Employment within the industry is mainly dominated by engineering services, which accounted for 74% of total employment at the end of 2022. The share of general and special purpose machinery combined was 26%.

South Africa's capital goods industry has its roots in the mineral-energy complex, benefiting from cheap electricity that promoted the country's industrialisation. The industry is supported by the Department of Trade, Industry, and Competition (the dtic) through localisation and preferential procurement. The National Tooling Initiative (NTI) and the National Foundry Technology Network (NFTN) are partnerships between the dtic and industry stakeholders to enhance the competitiveness of the industry.

The following section of this report maps out the capital goods value chain. It highlights the industry's contribution to industrialisation through economic trends and share of national outcomes.

Section two discusses governance structures and stakeholders in detail.

Section three analyses the strengths, weaknesses, opportunities, and threats facing the industry in South Africa.

SECTION ONE: MAPPING THE INDUSTRY

1.1 Value chain of capital goods

Capital goods refer to machinery and equipment used in various production processes including industrial equipment in the manufacturing process and heavy machinery in mining operations (particularly in coal, platinum, gold, and diamonds). They play a cross-sectoral role, supplying other industries including inter alia mining, construction, and agriculture with key production technologies. Recently significant demand has emerged in the alternative energy sector as a result of the energy transition.

In terms of the Standard Industrial Classification (SIC), capital goods are primarily classified under the machinery and equipment category, with some also under electrical equipment. In the SIC categorisation, machinery and equipment are divided into general-purpose and special-purpose machinery. The latter comprises machinery and equipment that is designed for a specific industry or sector such as agriculture.

Table 1 lists some examples of capital equipment.

Table 1: Types and examples of capital goods

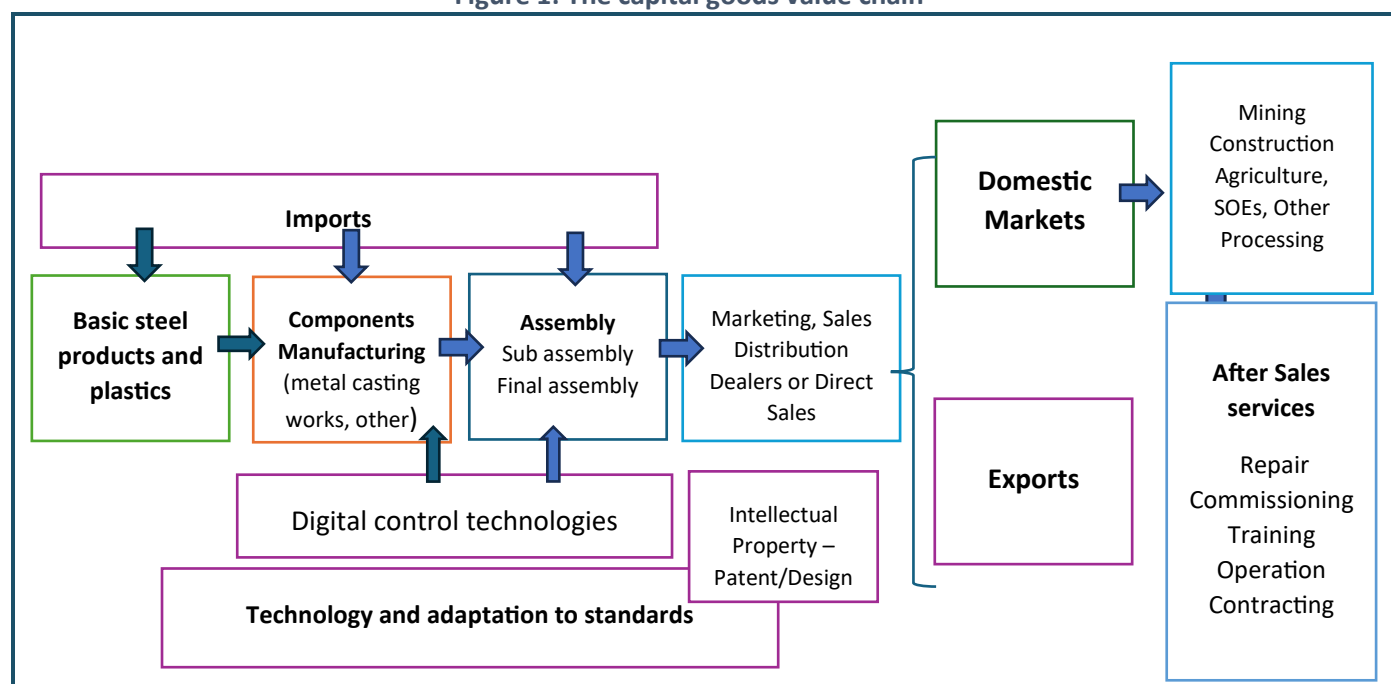
TYPE	EXAMPLE
Mining machinery including heavy excavators and drilling machines	Includes crushing and conveying equipment, underground haulers and rock loaders, dump trucks, tunnelling equipment, and equipment for treating extracted minerals, hoppers, scrapers, drill rigs, rock drills etc.
Quarrying machinery	Includes wheel loaders, dump trucks, crushers, conveyors, screens and washing plants.
Construction machinery	Includes graders, diggers and small backhoe loaders, cranes, bulldozers, dump trucks, concrete mixers, as well as compactors and other road construction equipment. graders, excavators, wheel loaders.
Agricultural and forestry machinery including tractors	Includes combine harvesting machinery; haying machinery; irrigation machinery; machines for cleaning, grading, and sorting; material handling equipment; planting and fertilising; self-loading trailers for agricultural purposes; soil preparation machinery; spraying machinery; and tractors.
Forestry machinery	Includes harvesters and feller bunchers; extracting equipment like forwarders and skidders; processing equipment delimbers; log loaders, mulchers, and timber trucks.
Generators including relatively small diesel and gas generating sets	- Includes providing power back-up for residential and commercial use, as well as mobile power for commercial and industrial use. - Solar and photovoltaic (PV) generation is steadily becoming an important part of the small-scale electricity generation industry.
Weighing machinery	Includes household, commercial, and industrial scales, as well as weighbridges and axle-weighting solutions for the warehousing and logistics sector.
Refrigeration and freezing equipment	Includes large commercial freezers and fridges, as well as temperature-controlled supply chain (or cold-chain) machinery, including refrigerated trucks, rail freight, and warehouses.
Air conditioners	Ranges from single air conditioning units to large centralised, ducted, systems for factories, office blocks, malls, and data centres.
Filtering and purifying machinery	- For liquids and gasses used particularly for bulk-water treatment at sewerage plants. - Agro-processing manufacturers also make use of this machinery to filter and purify oils, while gas and air filters and purifying equipment are widely used in the energy sector and heavy industry for dust, fume, and pollution control.
Distilling and rectifying apparatus	Used for distilling and separating liquids during the processing or manufacture of substances like crude oil, petrol and diesel, and alcohol.
Heat exchangers	Widely used in automotive radiators and in large industrial cooling.
Packaging, wrapping, and labelling machinery	Widely used in manufacturing and retail.
Industrial fans	Used primarily for air circulation and cooling in mines and factories.
Gaskets and jointing materials	For joining and sealing surfaces.
Projecting, dispersing, and spraying machinery	Represents a very broad category of equipment ranging from fire extinguishers and sprinkler systems, to paint and varnish spray guns, sand blasting and etching machines, and irrigation systems.
Calendaring and rolling machinery	Used primarily by the paper, textiles, plastics, and rubber industries to flatten, smooth, polish, or bond materials.
Parts and services	For the maintenance and upgrade of machinery in the above categories.

TYPE	EXAMPLE
	The trade-in machinery parts, after-market support, and second-hand equipment are an important part of the overall machinery sector.
Pumps	- Includes mechanical devices used to raise or move liquids, compress the gas, or force air into inflatable objects such as tires. - Pumps are commonly used in the power generation industry, petroleum refineries, mining industry, wastewater industry, portable drinking water industry and other industries for different applications.
Electric motors	- Includes electrical devices which converts electrical energy into mechanical energy, - These devices are used to drive capital equipment such as pumps, compressors, fans, conveyor belts, mill etc. - Operated in environments and industries such as: power generation, petrochemical, water reticulation, mining, and general-purpose processes.

Source: Who Owns Whom, 2021.

Capital goods should be distinguished from consumer durables such as household appliances and cars. In addition, precision equipment used to provide services, such as specialised scientific and medical machinery and office equipment, usually does not fall under capital goods (Who Owns Whom, 2021).

Figure 1: The capital goods value chain



Source: Authors own compilation, adapted from Makgetla, 2021; and Who Owns Whom, 2021.

The production of capital goods begins with raw material inputs such as iron ore, chrome and manganese, and scrap metal, which feed into the production of basic ferrous and non-ferrous steel. Thereafter, the basic steel is passed on to component manufacturing. Component manufacturing depends heavily on fabricated metal products and, increasingly, on digital control technologies. (Rustomjee, Kaziboni and Steuart, 2018). The assembly stage includes the actual production of capital equipment. In South Africa, both components and metal inputs are often imported, although some are produced locally.

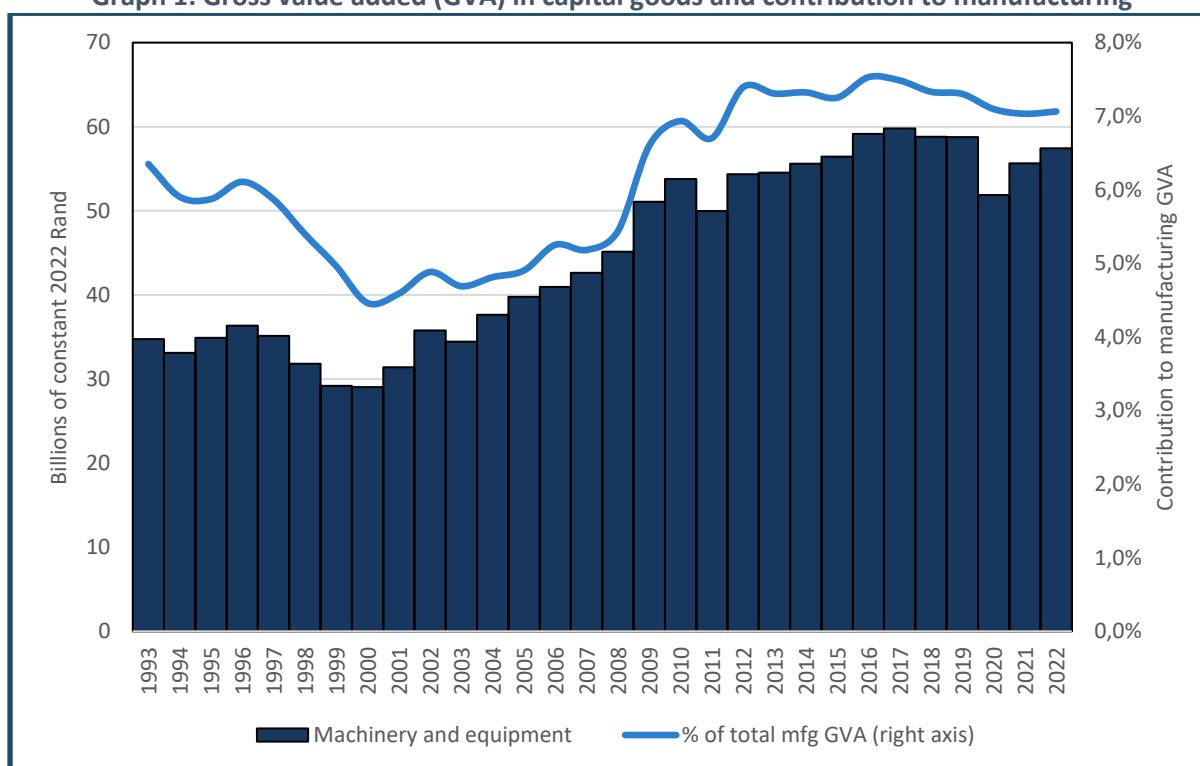
Capital goods production requires significant technological capacity to design and produce precision parts and machinery. Increasingly, capital equipment is guided by sophisticated software. In global value chains, the most advanced capital goods production has remained largely under the control of multinationals from Europe, the United States and Japan. Upper middle-income countries like South Africa and even China generally compete by specialising in some kinds of capital equipment; focusing on local and regional needs that are not well served by overseas suppliers; and relying on imports of more sophisticated parts. Because of the technology and research and development that goes into capital equipment, there is a lot of intellectual property, protected by various combinations of industrial secrets, patents, and the registration of industrial designs.

The finished capital goods are sold through distribution networks or directly to end-users both in the domestic and export markets. The main customers are both private and public in mining, construction, manufacturing, automotive, and agricultural sectors, and state-owned companies. Distributors are also largely linked to international Original Equipment Manufacturers (OEMs) and have licences to distribute across the region. Locally there are after-sales services such as training, repairs, commissioning, and operation of equipment.

1.2 Contribution to GDP and investments

Capital goods accounted for 7.1% of South Africa's total manufacturing value added in 2022.

Graph 1: Gross value added (GVA) in capital goods and contribution to manufacturing

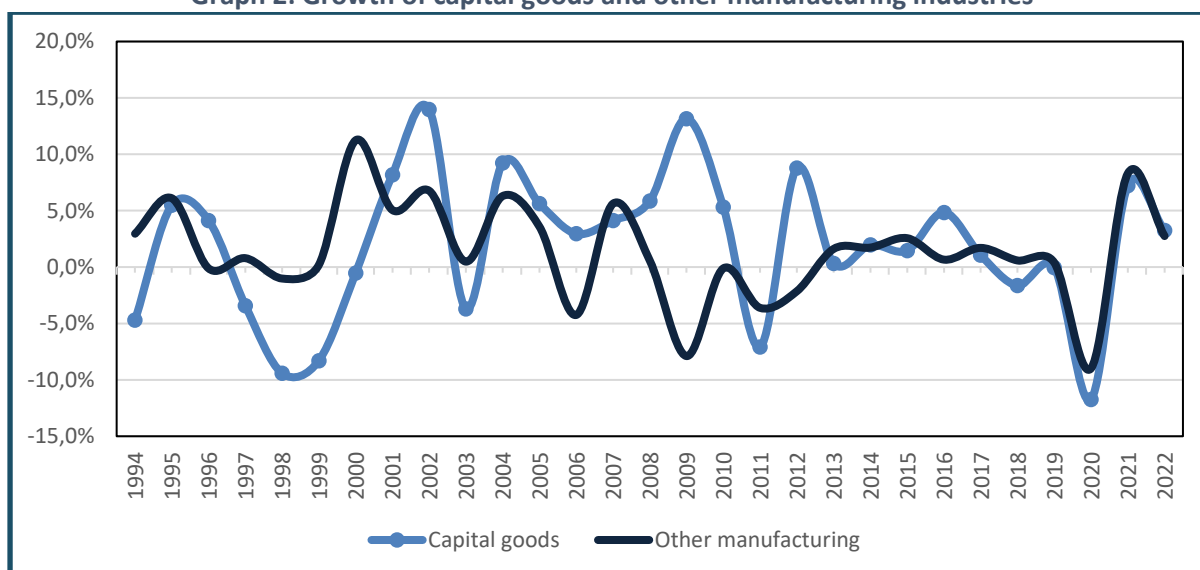


Source: Calculated from Quantec, EasyData. Machinery and equipment [QSIC 356-359]; Series on gross value added at basic prices in Regional Service. Accessed at www.easydata.co.za in March 2024. Deflated using CPI.

Graph 1 shows the production of capital goods was on an upward trend from 2000 until the late 2010s, albeit with slowing growth after the end of the global commodity boom in 2011. In the decade before that, capital goods grew 5% annually on average. Thereafter, growth started to flatten out, growing at an annual average of 3% from 2009 to 2019. With most capital goods going to the mining sector, the impressive growth of the industry in the early 2000s is attributable to the commodity boom, which increased the demand for capital equipment for mining. However, as commodity prices began to decline, the growth of capital goods also slowed. Additionally, the industry experienced a decline of

11.7% in 2020 as a result of COVID-19. Although capital goods experienced growth of 7.2% in 2021 and 3.2% in 2022, the output in the industry is yet to recover to its pre-pandemic level. Graph 2 also shows the growth of capital goods has periodically outpaced the other manufacturing industries.

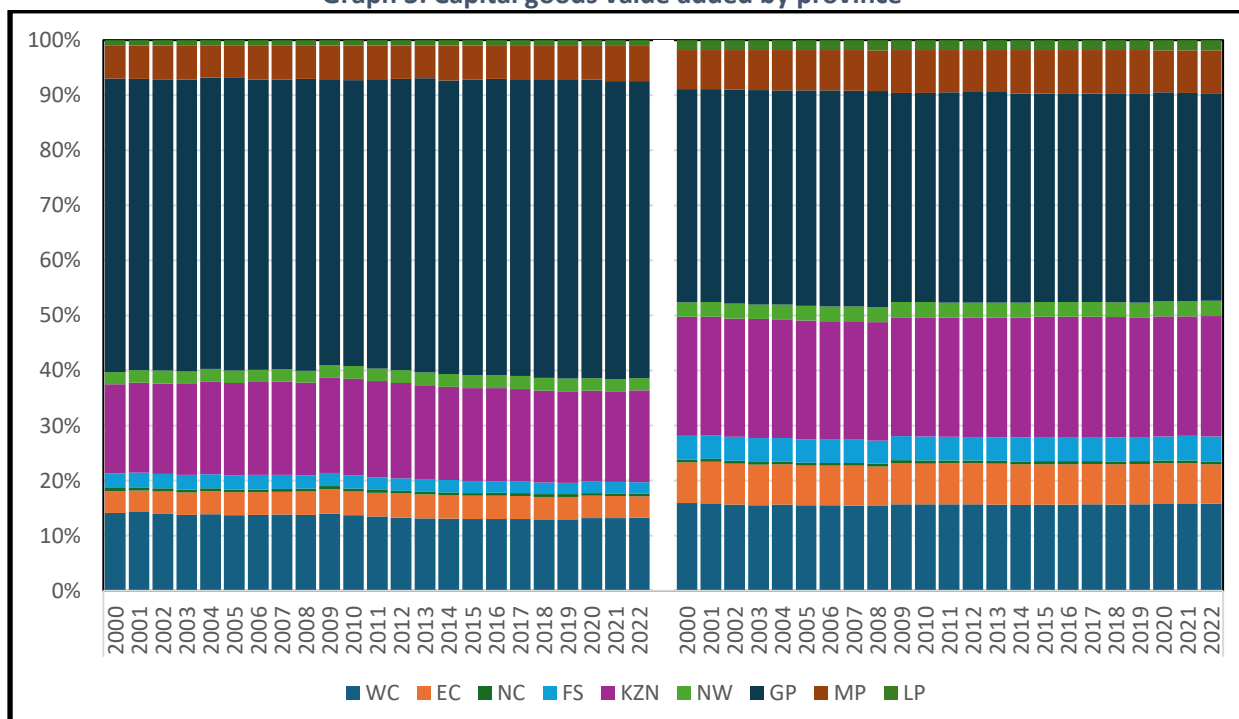
Graph 2: Growth of capital goods and other manufacturing industries



Source: Calculated from Quantec, EasyData. Machinery and equipment [QSIC 356-359]; Series on gross value added at basic prices in Regional Service. Accessed at www.easydata.co.za in March 2024. Deflated using CPI.

Similar to other manufactured goods, capital goods production is mainly concentrated in Gauteng. The share of value added by each province has remained almost constant in the last five years. In 2022, Gauteng accounted for 54% of value added; Kwa-Zulu Natal 17%; Western Cape 13%; Mpumalanga 6%; Eastern Cape 4%; North West 2% and the rest of the provinces (Free State, Northern Cape and Limpopo make up 4%.

Graph 3: Capital goods value added by province

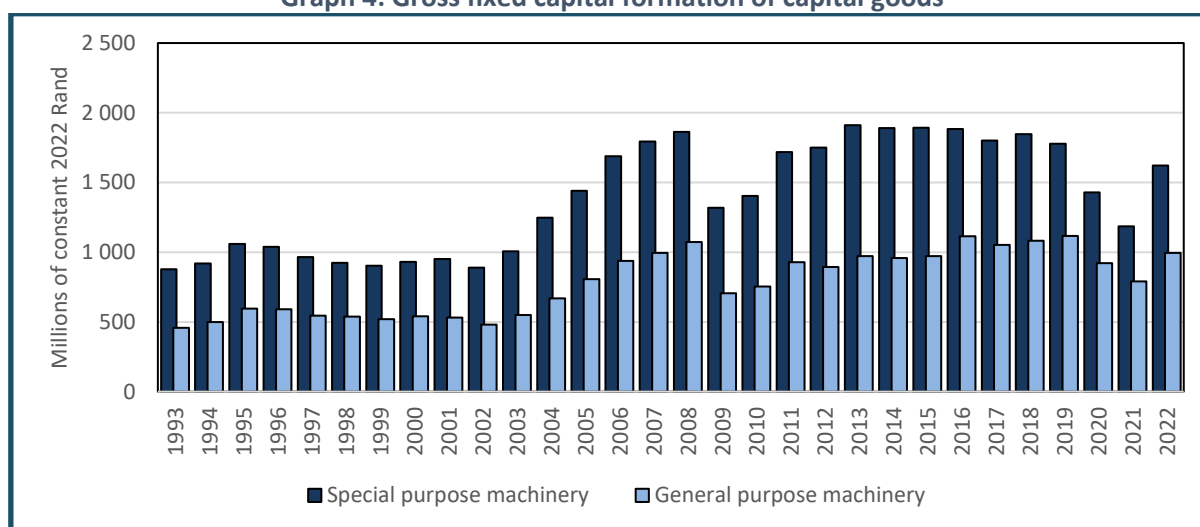


Note: WC, Western Cape; EC, Eastern Cape; NC, Northern Cape; FS, Free State; KZ, Kwazulu-Natal; NW, North West; GP, Gauteng; MP, Mpumalanga; LP, Limpopo. Calculated from Quantec, EasyData. Machinery and equipment [QSIC 356-359]; Series on gross value added at basic prices in Regional Service. www.easydata.co.za March 2024. Deflated using CPI.

The share of value added by each province has remained almost constant in the last five years. In 2022, Gauteng accounted for 54% of value added; Kwa-Zulu Natal 17%; Western Cape 13%; Mpumalanga 6%; Eastern Cape 4%; North West 2% and the rest of the provinces (Free State, Northern Cape and Limpopo) make up 4%.

Investment in capital goods rose rapidly from 2003, reaching its peak in 2008 before dipping to its historic low level in 2009. Notably, more investment is going into special purpose machinery compared to general purpose machinery. In 2020, special purpose machinery accounted for 61% of total investment in capital goods, while general purpose machinery accounted for 39%. Although the pandemic caused an average decline of 19% in the investment of capital goods, this decline is relatively small compared to that of 2008. Investment in capital goods fell further in 2021, declining by 16%. Capital goods generally account for 2% of total fixed capital in the manufacturing sector.

Graph 4: Gross fixed capital formation of capital goods

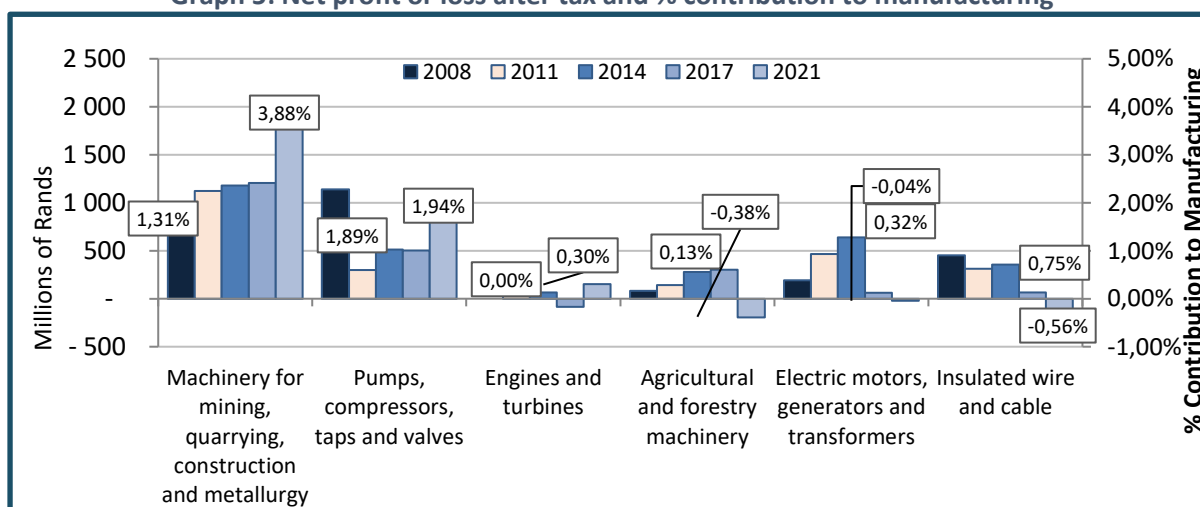


Source: Calculated from Quantec, EasyData. General purpose machinery [QSIK 356] and Special purpose machinery [QSIK 357]; Series on Gross fixed capital formation in Industry Service. www.easydata.co.za March 2024. Deflated using CPI.

1.3 Profitability in capital goods

In terms of profitability, the mining, quarrying, construction, and metallurgy industry realised better profits after tax than other industries in capital goods, contributing 3.88% or R2 billion in 2021 to total manufacturing sector.

Graph 5: Net profit or loss after tax and % contribution to manufacturing



Source: Calculated from Statistics South Africa. Manufacturing industry: Financial, 2021 Report No.: 30-02-03 (2021). Downloaded December 2023 at <http://www.statssa.gov.za>.

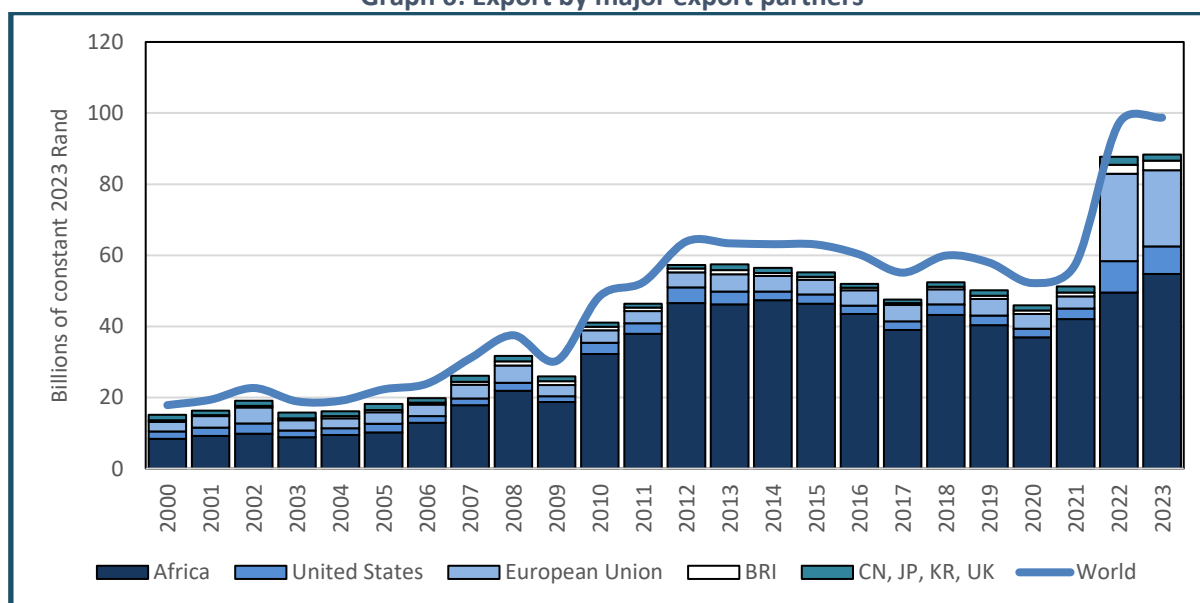
Pumps, compressors, and valves recorded profits of a billion rand and contributing nearly 2% to total manufacturing profits. Insulated wire and cables and equipment for machinery and agriculture did not perform well in 2021, however, registering some losses.

1.4 International trade

The 2000-2011 commodity boom provided the capital goods industry with a significant boost, with exports growing at an annual average of 16% (in constant 2023 Rand) between 2004 and 2011. However, as commodity prices began to decline, the growth of capital goods exports slowed down, recording an annual growth rate of 2% between 2012 and 2019. The pandemic brought a significant contraction of 10% from the previous year. Thereafter, the industry recorded an impressive recovery of 10% in 2021.

Graph 6 shows exports by major trading partners in constant 2023 Rand. African countries accounted for 55% share of South Africa's capital goods exports in 2023, amounting to R54.7 billion. The EU accounted for the second highest share at 22%, with exports amounting to R21.4 billion during the same period. The United States (US) accounted for 8% of exports amounting to R7.7 billion. Brazil, Russia, and India (BRI) accounted for 3% and China, Japan, Republic of Korea, and the United Kingdom (CN, JP, KR, UK) accounted for 2%. Interestingly, Graph 6 shows that there was a significant surge in exports in 2022 from the year. Exports of capital goods surged by 69% in 2022 and by 2% in 2023.

Graph 6: Export by major export partners



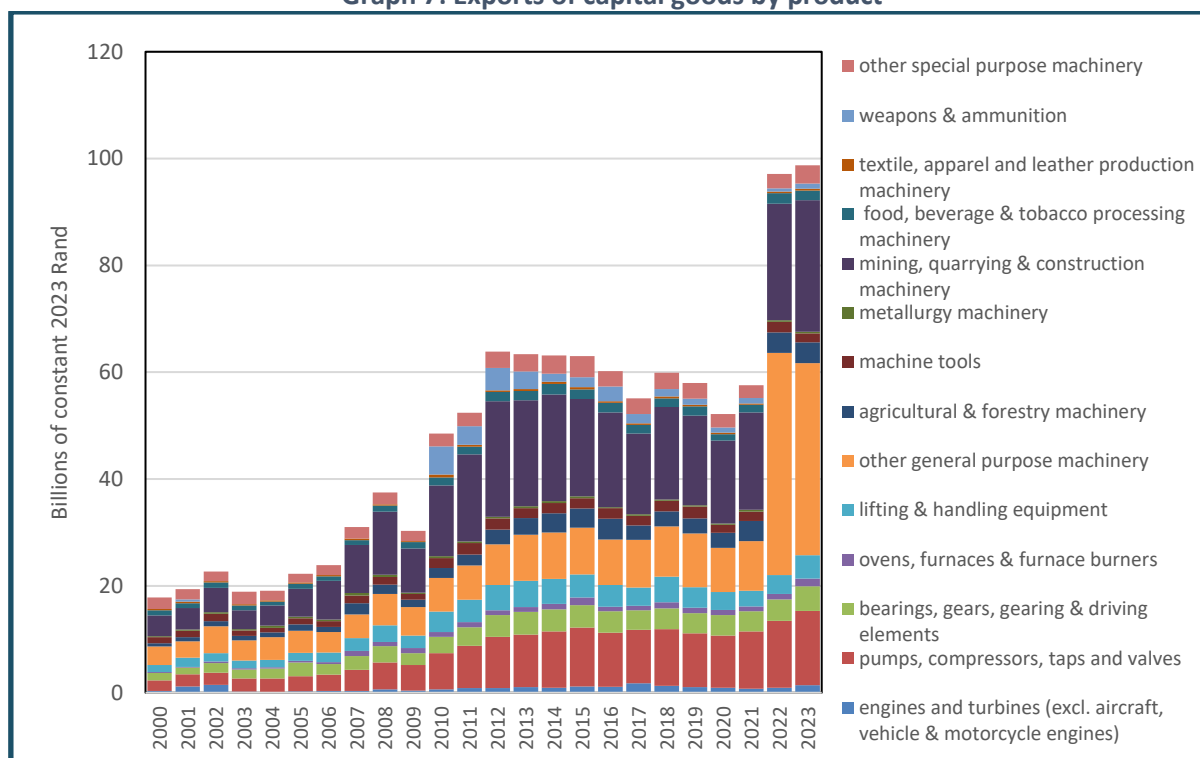
Source: Calculated from Quantec, EasyData. Series on RSA National Trade in International Trade Service. Accessed at www.easydata.co.za in March 2024. Deflated using CPI.

Graph 7 shows exports of capital goods by products. The figure shows that the source of the surge of capital goods exports in 2022 from the previous year was because a surge in other general purpose machinery, with a 347% increase of the product from the previous year. As Graph 6 shows, the surge was a result of exports to the EU. In 2023, other general purpose machinery accounted for a 35% share of exports valued at R36 billion; followed by machinery for mining, quarrying and construction at 25%; and pumps, compressors, taps and valves at 14%. The rest of the products accounted for 5% and less of the total.

Similar to exports, imports of capital goods in South Africa grew more rapidly in the early 2000s and peaked at R184 billion in 2008. Between 2004 and 2011, capital goods imports grew by 9% average

annually in constant 2023 Rand. Thereafter, imports grew by a 10% average between 2013 and 2014 and then declined by an average of 3% between 2014 and 2019.

Graph 7: Exports of capital goods by product

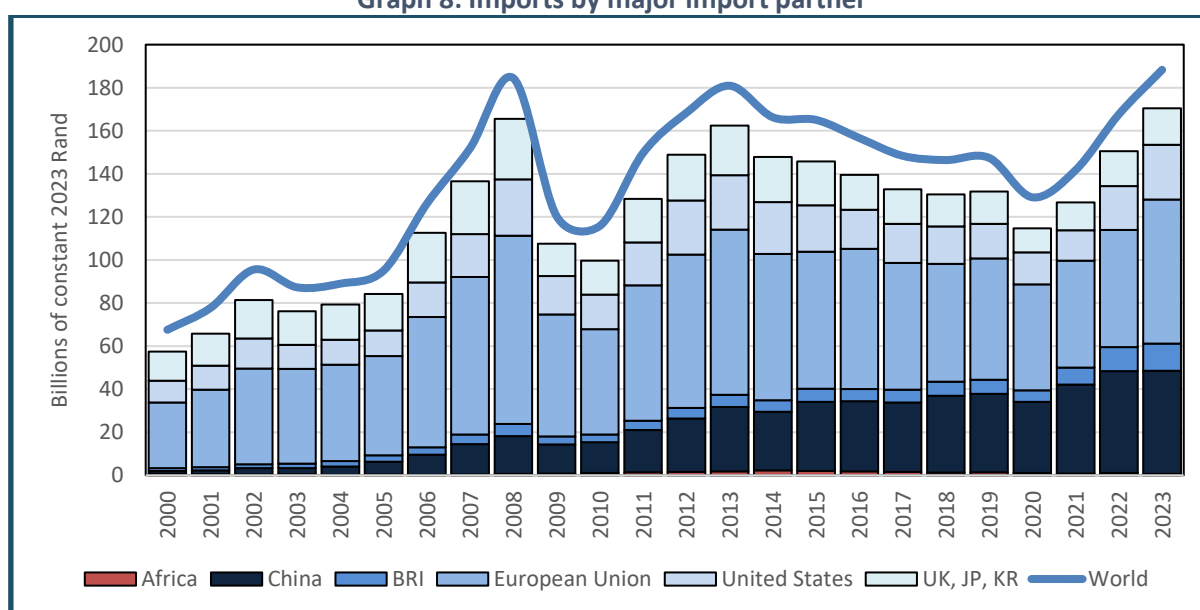


Source: Calculated from Quantec, EasyData. Series on RSA National Trade in International Trade Service.

Accessed at www.easydata.co.za in March 2024. Deflated using CPI.

Graph 8 shows imports by major import partner. The EU accounted for 36% of South Africa's imports valued at R67 billion. China accounted for 25%, US 13%, UK, JP and KR accounted for 9% of imports, and BRI for 7%. Graph 9 shows the largest imports by product. Machinery for mining, quarrying and construction accounted for 21% of 2023 imports, followed by other general purpose machinery at 15%; pumps, compressors, taps and valves at 13%; and agricultural and forestry machinery at 11%.

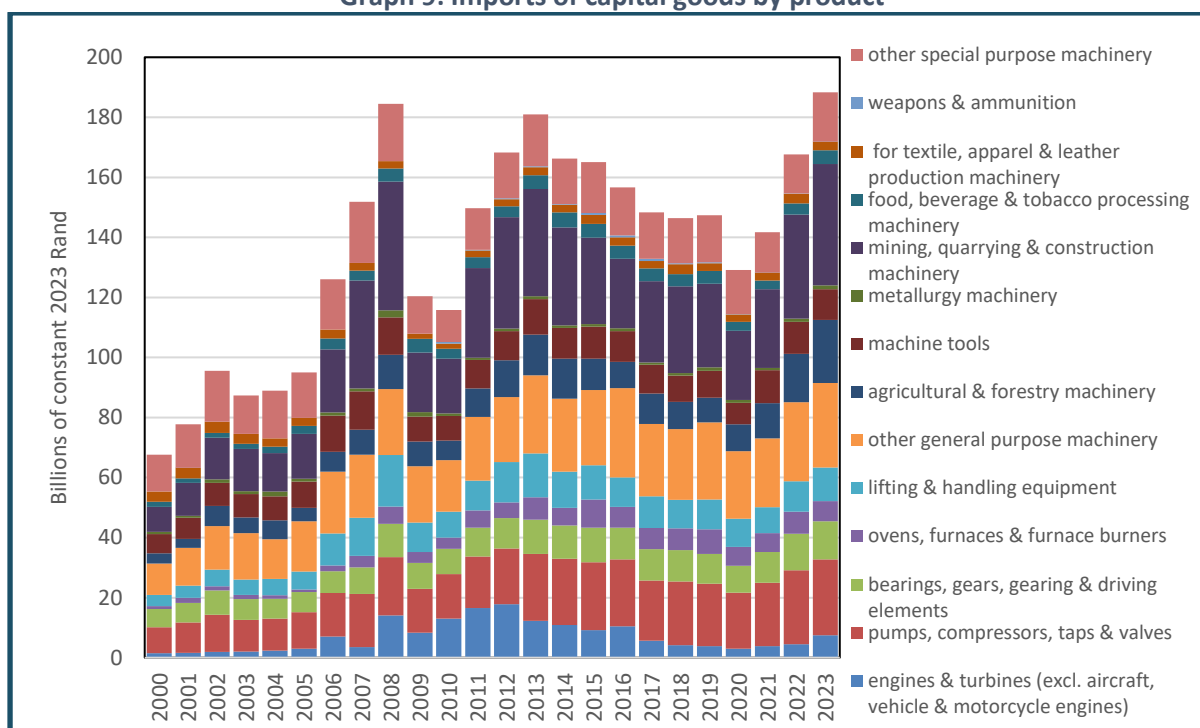
Graph 8: Imports by major import partner



Source: Calculated from Quantec, EasyData. Series on RSA National Trade in International Trade Service.

Accessed at www.easydata.co.za in March 2024. Deflated using CPI.

Graph 9: Imports of capital goods by product



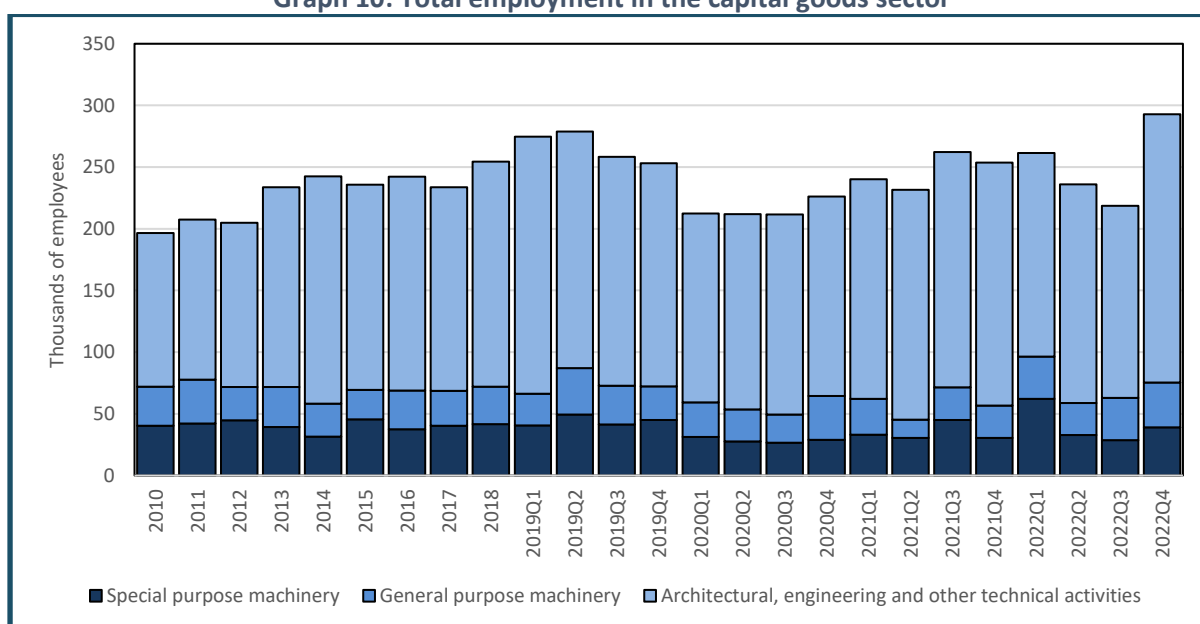
Source: Calculated from Quantec, EasyData. Series on RSA National Trade in International Trade Service.

Accessed at www.easydata.co.za in March 2024. Deflated using CPI.

1.5 Employment

In the fourth quarter of 2022, capital goods including engineering services had a total of 293 000 employees. Engineering services had 217 000 employees, accounting for 74% of total employment in the industry. General and special purpose machinery accounted for 13% each of total employment in the industry, respectively.

Graph 10: Total employment in the capital goods sector



Source: Statistics South Africa. Labour Market Dynamics, 2010 – 2018 and Quarterly Labour Force Survey, 2019Q1 – 2022Q4. Series on capital goods industry employment. Electronic databases. Downloaded Nesstar: www.statssa.gov.za.

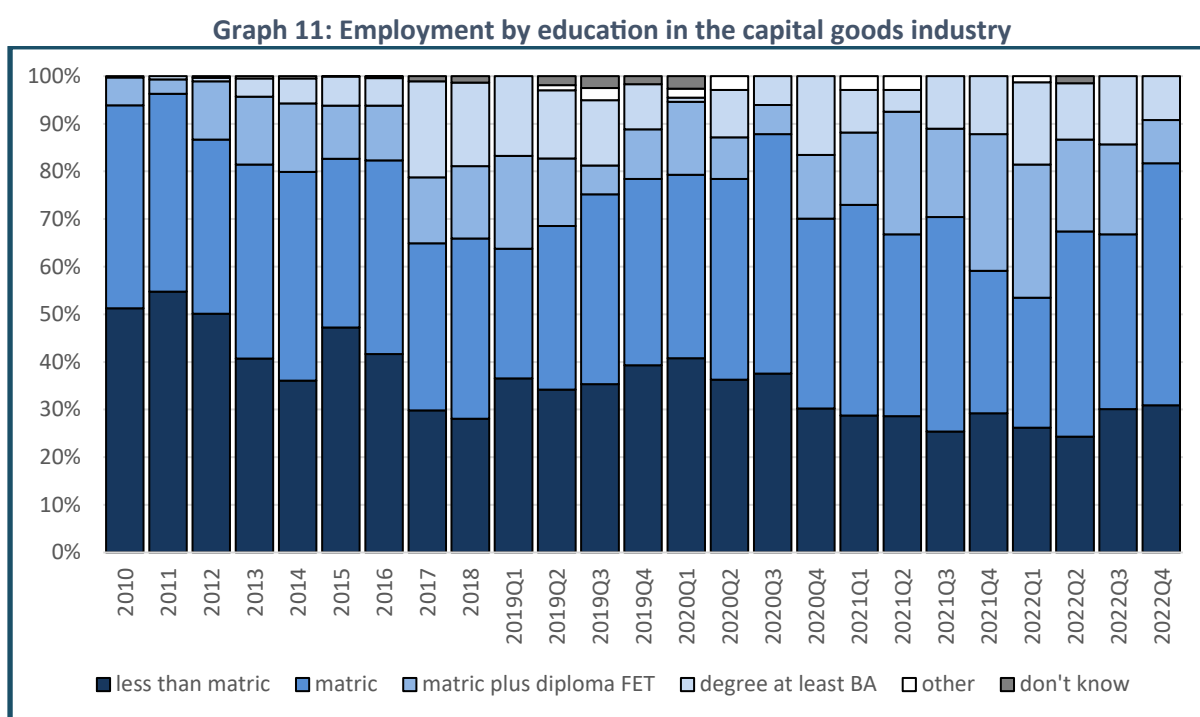
The pandemic also had a negative impact on employment in the industry, with total employment declining by 16% in the first quarter of 2020. Special purpose machinery saw the largest decline in employment over that period, declining by 31%. Engineering services had a decline of 15% mainly because highly skilled professions/occupations proved to be resilient in the face of the pandemic. General purpose machinery employment grew by 3% during the same period. In terms of recovery, employment in the capital goods sector has recovered above its pandemic level, except special purpose machinery which employed 45 000 in the fourth quarter of 2019 and 39 000 a year later.

1.6 Employment by demographics

Employment by demographics refers to employment according to education, race, and gender.

1.6.1 Employment by education

Graph 11: shows employment by education in the capital goods industry. In the fourth quarter of 2022, 51% of employees in the industry had matric; 31% had qualifications less than matric; 9% had a matric including a diploma and the other 9% had a bachelor's degree. There were comparatively fewer employees with degrees in special and general purpose machinery.

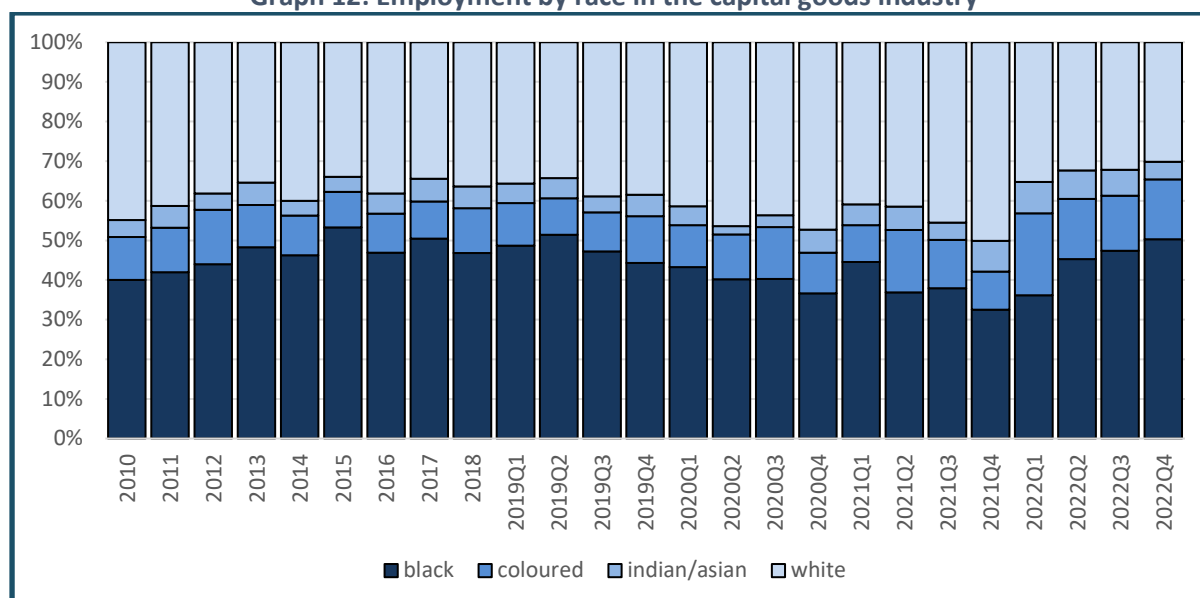


Source: Statistics South Africa. Labour Market Dynamics, 2010 – 2018 and Quarterly Labour Force Survey, 2019Q1 – 2022Q4. Series on education attainment in the capital goods industry. Electronic databases. Downloaded from Nesstar: www.statssa.gov.za Note: employment by education only included special and general purpose machinery.

1.6.2 Employment by race

Black employees account for the largest share of employment in all three capital goods industries (see Figure 14). While the share of Black, Coloured and Indian/Asian workers has increased since 2010, the share of White employees has declined. In the fourth quarter of 2022, Black workers accounted for 50% of employment in capital goods production, Coloureds for 15%, Indians/Asians 4%, and Whites for 30%.

Graph 12: Employment by race in the capital goods industry

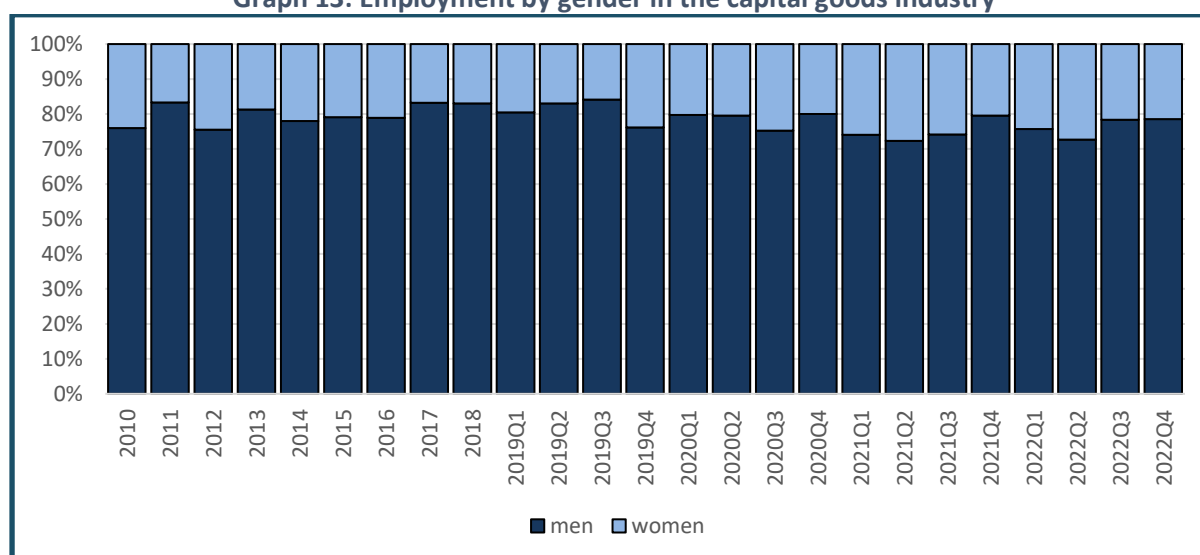


Source: Source: Statistics South Africa. Labour Market Dynamics, 2010 – 2018 and Quarterly Labour Force Survey, 2019Q1 – 2022Q4. Series on employment by race in the capital goods industry. Electronic databases. Downloaded from Nesstar: www.statssa.gov.za.

1.6.3 Employment by gender

Graph 13 shows employment by gender in the capital goods industry. Men generally dominate the manufacturing sector and the same applies in the capital goods industry. From 2010 to the fourth quarter of 2022, women averaged 22% share of employment while men averaged 78%. General purpose machinery and engineering services accounted for employment of about 200 000 men and 55 000 women in late 2022.

Graph 13: Employment by gender in the capital goods industry



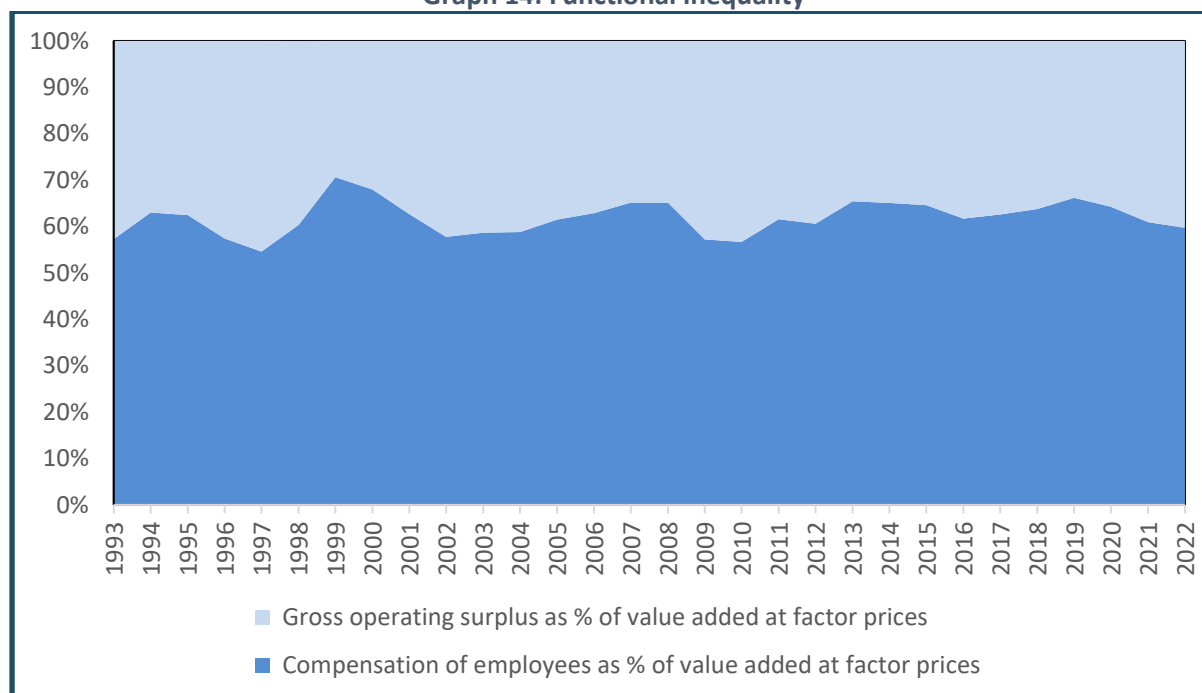
Source: Statistics South Africa. Labour Market Dynamics, 2010 – 2018 and Quarterly Labour Force Survey, 2019Q1 – 2022Q4. Series on employment by gender in the capital goods industry. Electronic databases. Downloaded from Nesstar: www.statssa.gov.za Note: employment by race only includes general purpose machinery and engineering services.

1.6.4 Functional inequality

Graph 14 compares gross operating surplus of enterprises to compensation of employees to determine functional inequality within capital goods. The graph shows that employees have historically had a higher share of value addition compared to enterprises. Value added of employees

in 2022 was 60% compared 40% of enterprises. Compensation of employees averaged 62% from 1993 to 2022, peaking at 71% in 1999, with the trend showing a decline in the two years (61% in 2021).

Graph 14: Functional inequality

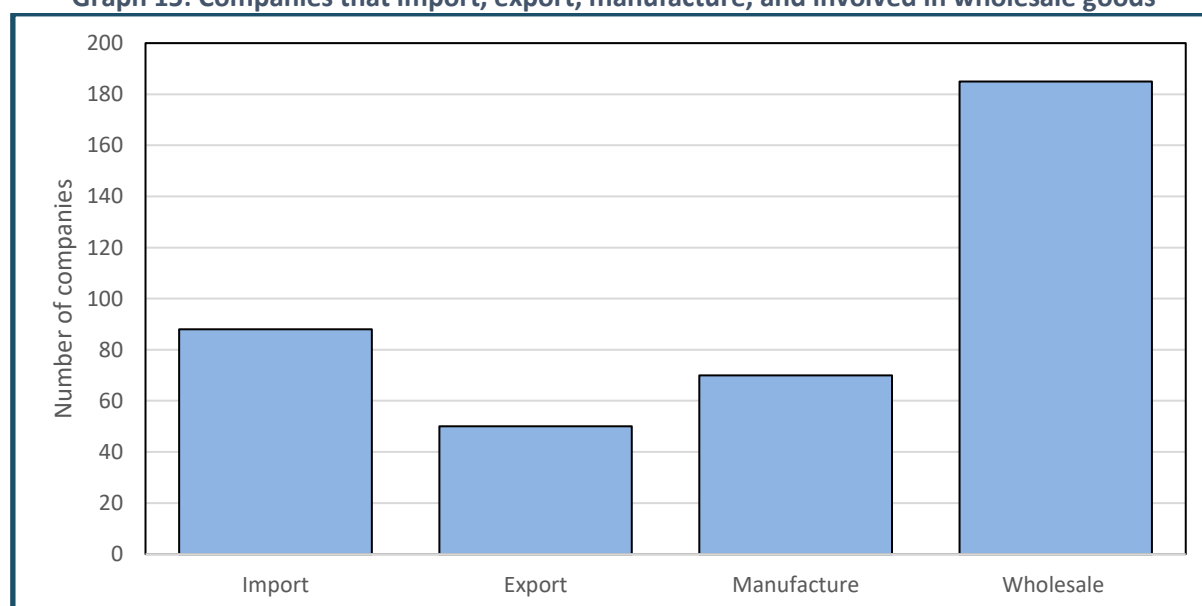


Source: Calculated from Quantec, EasyData. Machinery and equipment [QSIC 356-359]; Series on Value added at factor cost in Regional Service. Accessed at www.easydata.co.za in March 2024.

1.7. Market structure and major companies

Multiple companies manufacture, assemble, or distribute in more than one category. For example, a company can manufacture as well as import and export. Graph 15 highlights the approximate number of notable companies in each category.

Graph 15: Companies that import, export, manufacture, and involved in wholesale goods



Source: Who Owns Whom, 2021.

Table 2: Companies involved in manufacturing, imports, exports, and wholesale of capital goods

TYPE OF GOODS	PURIFYING/ FILTRATION	DISTILLING/ RECTIFYING/ HEAT EXCHANGERS	GASKETS	REFRIGERATION	AIR- CONDITIONERS, HUMIDIFIERS AND DEHUMIDIFIERS
Number of Companies	13	12	4	10	11
Type of Goods	Projecting/ Dispersing/ Spraying	Gas Generators	Calendaring/ Roller Machines	Centrifuges	Pumps / Valves
Number of Companies	8	3	2	4	32
Type of Goods	Agricultural	Control and Instrumentation	Industrial Parts	Industrial Fans	Weighing
Number of Companies	26	39	21	6	4
Type of Goods	Fire Extinguishers	Generators/ Transformers	Mining and Construction	Packaging/Wrapping Labelling	
Number of Companies	5	42	46	6	

Source: Who Owns Whom, 2021.

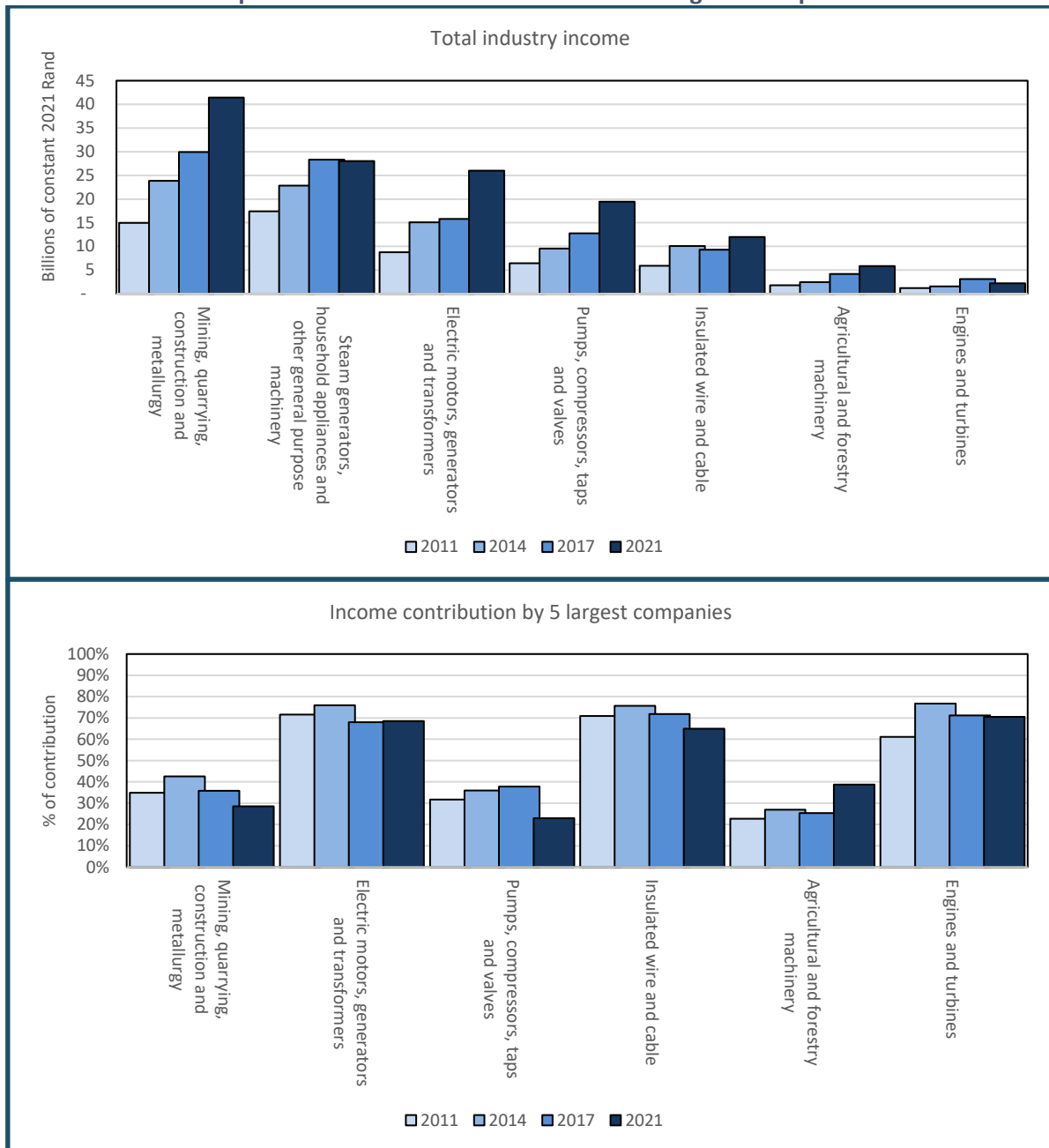
Some of the largest industries in capital goods are involved in mining, quarrying, and construction machinery; electric motors, generators, and transformers; engines and turbines; pumps, compressors, taps and valves; insulated wires and cables; agricultural machinery; and forestry.

In 2021, income of the capital goods industry was concentrated in mining, quarrying, construction, and metallurgy, valued at R41 billion (constant 2021 Rand). The five largest companies contributed 29%, as Graph 16 shows. Steam generators, household appliances and other general purpose machinery's income was R28 billion, with the contribution of the five largest companies not reported. Electric motors, generators and transformers' total income was R26 billion, and the five largest companies accounted for 69%.

Pumps, compressors, taps and valves' total income was R19 billion, with the five largest companies contributing 23%. Insulated wires and cables' total income was R12 billion and the top five accounted for 65%. Agricultural and forestry machinery's total income was R5.8 billion, with the five largest enterprises contributing 39%.

Lastly, engines and turbines' total was R2 billion, with the five largest enterprises contributing 71% of total income.

Graph 16: Total income and income of five largest enterprises



Source: Calculated from Statistics South Africa. Manufacturing industry: Financial, 2021.

Downloaded in December 2023 at <https://www.statssa.gov.za>.

Table 3 details some of the largest firms according to industries, year of establishment, number of employees in South Africa, shareholding, and domicile.

Table 3: Major companies

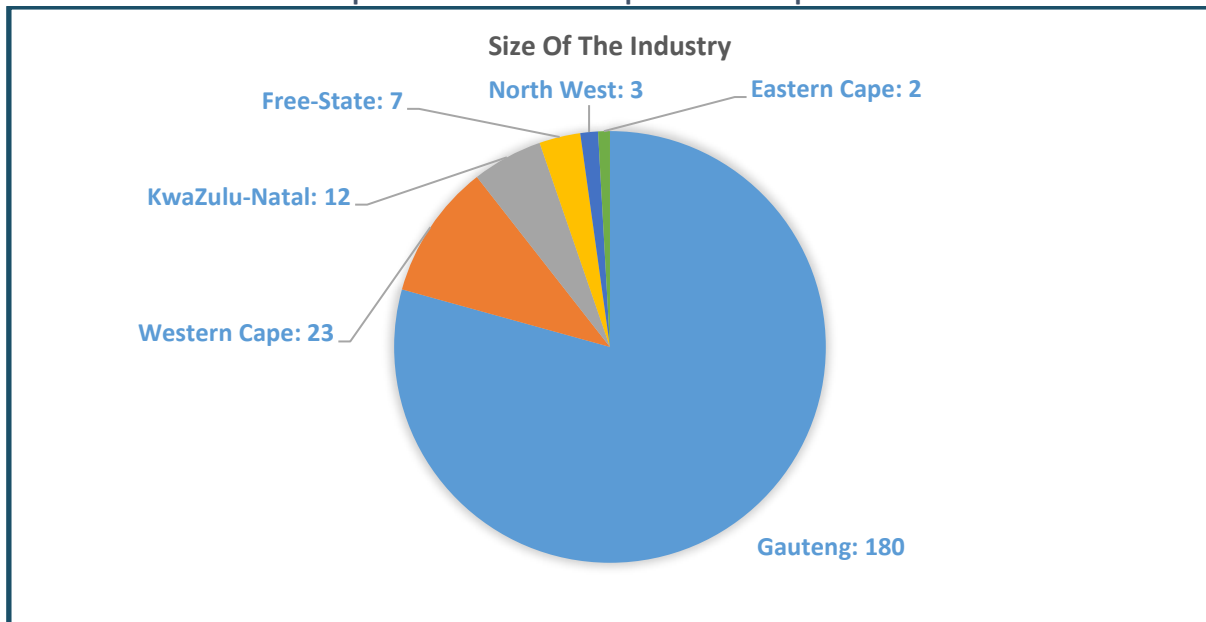
INDUSTRY	FIRM	YEAR ESTABLISHED	NUMBER OF EMPLOYEES IN SOUTH AFRICA	SHAREHOLDER	DOMICILE
Mining, quarrying, and construction machinery	Barloworld	1918	6 872	Institution	Gauteng
	Invicta Holdings Ltd	1966	4 046	Private	Gauteng
	Bell Equipment Company S A (Pty) Ltd	1966	2 500	Private	KwaZulu-Natal
	Master Drilling Group Ltd	2011	2 224	Private	Gauteng
	Multotec (Pty) Ltd	1973	1 500	Foreign	Gauteng
Pumps, compressors, taps and valves	Aveng Africa (Pty) Ltd	1931	12 358	Private	Gauteng
	Distribution and Warehousing Network Ltd t/a DAWN	1984	1 939	Private	Gauteng
	LIXIL Africa (Pty) Ltd	2004	1 490	Private	Gauteng
	ABB South Africa (Pty) Ltd	2001	1 472	Private	Gauteng
	Torre Holdings (Pty) Ltd	1982	1 271	Private	Gauteng
Agricultural and forestry machinery	Senwes Ltd	1997	4 986	Private	North West
	Vincemus Investments (Pty) Ltd /a The Kempston Group	1973	4 000	Private	Eastern Cape
	Bell Equipment Company S A (Pty) Ltd	1966	2 500	Private	KwaZulu-Natal
	Bell Equipment Sales South Africa Ltd	2007	605	Private	KwaZulu-Natal
	Agrico (Pty) Ltd	2002	800	Private	Western Cape
Generator and transformer	Barloworld Ltd	1918	6 872	Institution	Gauteng
	ACTOM (Pty) Ltd	2008	7 700 (Group)	Private	Gauteng
	ABB South Africa (Pty) Ltd	2001	1 472	Foreign	Gauteng
	Siemens (Pty) Ltd	1923	1 410	Foreign	Gauteng
	SGB Smit Power Matla (Pty) Ltd	1951	1 305	Foreign	Gauteng

Source: Who Owns Whom, 2018; 2022a; 2022b; 2023.

1.7.1 Main locations of firms

Most companies are situated in Gauteng and the Western Cape as shown in figure 21. By ownership, 40% are private companies, 36% are foreign companies and 4% are institutions, (Who Owns Whom, 2021).

Graph 17: Number of companies across provinces



Source: Who Owns Whom, 2021.

1.8 History of large enterprises and SMME development of capital goods

Industrialisation during the apartheid era was led by the mineral-energy complex. Discovery of precious minerals such as gold and diamonds kicked off a process of mining and mining-linked industrialisation based on coal mining for power generation (Zalk, 2014). During this time, the establishment of notable firms began. For example, Bell Equipment started off from agricultural inventions with self-loading sugar trailers, and later adaptations and innovative engineering enabled it to move into mining machinery. Today, Bell Equipment is a global equipment supplier operating in over 80 countries around the world (Bell, 2024). Others notable players are Barloworld, formed in 1918; Invicta in 1966; Multotec in 1973; and Aveng in 1931. Barloworld has operated in Africa for over 100 years, and is backed by JSE-listed Barloworld Limited, with secondary listings on the London and Namibian Stock Exchanges (Barloworld, n.d.). Aveng has a rich history over the last 130 years, rooted in the development of the South African economy development of railways, ports, mines, marine design and construction and bridges, and now with global footprint in Africa, Asia, Australia, and New Zealand (Aveng, n.d.).

SECTION 2: GOVERNANCE STRUCTURES AND STAKEHOLDERS

2.1 Government departments and related institutions

Department of Trade, Industry and Competition (dtic)

The dtic is the primary government department responsible for supporting the capital goods industry. Capital goods falls under the Metal Fabrication, Capital and Rail Transport Equipment Sector Desk at the dtic. The industry was a priority in Industrial Policy Action Plans (IPAPs), and the department still supports the sector through a variety of measures. The dtic supports and prioritises localisation and procurement of capital goods in agriculture equipment, mining equipment, green economy inputs and components for infrastructure inputs, components, and equipment. Particularly for pumps and medium voltage motor and associated accessories, there is a minimum threshold for local content of 70%.

Invest SA, a division of the dtic, promotes both local and international investment in the capital goods sector. On the supply side, the steel masterplan also addresses issues of pricing, security of supply of steel among others.

The dtic has also collaborated with industry partners to develop initiatives to enhance competitiveness in the industry. These initiatives include the NTI and the NFTN, which focus on skills development, technological development, supporting enterprise development and export promotion. The Capital Projects Feasibility Programme, a cost-sharing grant capped at R8 million, contributes to the cost of feasibility studies likely to lead to projects that will increase local exports and stimulate the market for South African capital goods and services. These projects include strengthening international competitiveness of South African capital goods sector and allied industries.

The dtic offers incentives to the Black Industrialists Programme, ranging from 30% to 50% of the cost of a project, capped at R50 million with a pre-requisite that a co-founder (either a commercial bank or developmental funding institution) match the grant funding. The funding covers capital investments (machinery and equipment, owned or leased buildings, commercial vehicles and assets purchased from business development services). The Manufacturing Competitiveness Enhancement Programme's Pre/Post-dispatch Working Capital Facility offers a working capital facility up to a maximum of R30 million for a period of up to four years, at a preferential fixed interest rate of 6%. The Sector Specific Assistance Scheme compensates for costs of approved activities aimed at the development of South African emerging exporters through events. This incentive provides financial support for physical and digital events participation by qualifying emerging exporters.

Lastly is the support of companies in Special Economic Zones (SEZs) that receive an array of benefits, such as tax incentives, as well as scope for participation in debt and equity financing arrangements to cover capital equipment among others. A new SEZ in Bojanala in the North West Province, once operational, will target platinum group metal (PGM) beneficiation, mining equipment and machinery, renewable energy products and components and logistics.

The dtic also supports the Export Credit Insurance Corporation of South Africa. It facilitates and encourages South African export trade by underwriting export credit loans and investments outside South Africa and enabling South African contractors to secure capital goods and services in other countries. Financing is particularly important for capital goods trade, which often involves very large transactions.

South African Bureau of Standards (SABS)

Generally, SABS is a government institution that develops and maintains the quality standards of all South African goods and services. In addition to quality assurance, SABS plays a crucial role in promoting localisation through standardisation and local content verification services.

Industrial Development Corporation (IDC)

The IDC has a unit dedicated to providing funds to the capital goods sector called IDC Machinery and Equipment Strategic Business Unit. The unit offers funding for the following industries: electrical generation and transmission, mining and construction, pump valves and instrumentation, logistics, and electrical equipment and household appliances. The funding aims to support industrial activities and manufacturing capital goods.

Council for Scientific and Industrial Research (CSIR) and Mandela Mining Precinct (MMP)

The CSIR has a cluster that supports innovation in capital equipment. CSIR Future Production: Manufacturing focuses its science, engineering, and technology base on contributing towards South Africa's re-industrialisation by developing or facilitating the uptake of new technologies that will improve the competitiveness and productivity of strategic local economic sectors. The clusters include localising and developing transformative and efficient ways of manufacturing existing and new products. The outcome includes more local original equipment manufacturers, expanding exports, and capturing a larger share of global high-value manufacturing. MMP is a private public partnership with the Department of Science and Innovation and the Minerals Council of South Africa. Its goal, among others, is the Mechanised Drill & Blast Programme, which is fostering global leadership in narrow-reef, hard rock mining machinery and systems through partnerships in R&D and the creation of a competitive local machinery manufacturing sector. (Who Owns Whom, 2021 and MMP, 2023).

International Trade Administration Commission (ITAC) and South African Revenue Services (SARS)

ITAC assists with regulating the movement of specific goods and services in South Africa under the import and export control unit.

SARS helps to facilitate awareness and understanding of the SARS Authorised Economic Operator Programme. SARS links industry with companies that are involved in the international movement of goods and approved by SARS Customs as complying with World Customs Organization or equivalent compliance and supply chain security standards.

Department of Agriculture, Land Reform and Rural Development (DALRRD)

DALRRD has blended funds that support procurement for capital goods in farming. The funds are used to blend with the loan that the Land Bank will issue to black smallholder and medium-scale commercial producers – a 60% grant for smallholder producers but not exceeding R15 million per transaction, and a 50% grant for medium scale commercial producers but not exceeding R30 million per transaction (Parliamentary Monitoring Group, 2022).

2.2 Associations and unions related to capital goods

Several associations cover the capital goods sector. They range from contracting equipment, manufacturing, engineers in the industry, exporting of capital goods, and business advocacy.

Table 4: Associations in the capital goods industry

ASSOCIATIONS	NUMBER OF MEMBER(S)	BRIEF DESCRIPTION
Mining and Construction		
Contractors Plant Hire Association (CPHA)	Not reported	• The CPHA was established in 1970 to promote the equipment hire industry and protect the interest of its members. • The association represents the collective voices of its members on a wide array of issues that involve construction machinery and equipment on a rental basis.
Construction and Mining Equipment Suppliers' Association (CONMESA)	26 members	• The primary aim of CONMESA is to promote the development of manufacturing /assembly and construction of mining capital equipment.

South African Forum of Civil Engineering Contractors (SAFCEC)	350 ordinary members and 85 associate members ¹	- SAFCEC is a representative body for civil engineering contractors in South Africa. - It aims to promote the image of the civil engineering industry by fostering professionalism, employees' safety and welfare, environmental safety, and community development.
South African Capital Equipment Export Council (SACEEC)	99 members	SACEEC represents the capital equipment, machinery and equipment and project sector. The Council promotes the exports of capital goods from South Africa, as well as facilitates the network opportunities for its members to export their goods to the international markets.
The South African Mineral Processing Equipment Cluster (SAMPEC) Under SACEEC	12	- SAMPEC plays a critical role in the development of appropriate national policy and incentive levers and will assist members to identify opportunities for import replacement and local beneficiation both up and down the value chain and export market. - SAMPEC is housed under SACEEC.
Valves, Pumps, Compressors		
The Valve and Actuators Manufacturers Cluster of South Africa (VAMCOSA)	7	- Works within the dtic designated cluster parameters. - VAMCOSA's focus is to bring local valve and actuator manufacturers together and Promote Localisation, promote export of locally manufactured valves and actuators, promote transformation, and create a respected quality marque.
The Hydraulic and Pneumatic Export Cluster Under SACEEC		The Hydraulic and Pneumatic Export Cluster is the newest. The objective of the cluster to strengthen local manufacturing companies with their exports into the global market.
Southern African Pump Systems Development Association		- The main focus is to develop local manufacturing, increase the local content of products, export, and skills development through training . - Deals with pumps, electrical motors and drives, sealing systems, bearings, couplings and mechanical drives, control valves, electrical cables and electrical controls and switch gear.
Agriculture		
The South African Agricultural Machinery Association (SAAMA)	26 members	Is the official body representing new agricultural machinery manufacturers, importers, and builders. SAAMA was founded in 1985.
Cables and wires		

¹ Ordinary member is an employer that is directly involved in civil engineering activities. Associate member refers to a firm that provide services to civil engineering contracting industry.

Association of Electric Cable Manufacturers of South Africa (AECMSA)	12 members	AECMSA represents cable manufacturers in interactions with government, supplier and customer associations and other industry bodies.
Electrical Engineering and Allied Industries Association of South Africa (EEAIA)	160 companies	EEAIA was established in 1936 to promote members' interests and the industry in general. EEAIA also represents members in negotiations with trade unions
Electronics Development and Manufacturers Association of Southern Africa (EDMASA)		EDMASA aims to co-ordinate the activities of its members, the private sector and government to promote local economic opportunities, transformation, skills development and to facilitate trade initiatives through the country's capacity to design, develop and manufacture electronic goods.
Electrical Manufacturers' Association of South Africa (EMASA)		This association is a member association of SEIFSA and can be contacted through SEIFSA.
General Steel and Manufacturing		
Steel and Engineering Industries Federation of Southern Africa (SEIFSA)	1 137 members	- SEIFSA serves as a national representative for the mechanical and engineering industry, acting as a prominent voice for the sector. - It plays a crucial role in negotiating collective agreements with trade unions. These agreements cover various aspects, including wages, employment conditions, and arrangements related to social security benefits.
The South African Institution of Mechanical Engineering (SAIMechE)		SAIMechE is the senior body representing the discipline of mechanical engineering in South Africa. It covers all fields of application as diverse as automobile, energy generation, process engineering, heavy manufacture, design, management, research, mining, and education.
Manufacturing Circle	48 members	Manufacturing Circle is an association that promotes the growth and development of manufacturing sector advocacy and stakeholder engagement.

Source: Who Owns Whom. 2021. *Note:* (a) self-reported data from the unions/association.

In term of trade unions, these vary across the different industries that comprise of capital goods industry as shown in Table 5.

Table 5: Trade unions in the capital goods industry

Industry in Capital Goods	Unions
Mining, Quarry, and Construction	- National Union of Metalworkers of South Africa (NUMSA) Registered on 05/09/1968. - Solidariteit/Solidarity Registered on 17/06/2004. - UASA – The Union Registered on 23/0/1998.
Pumps, Valves, Compressors, Taps	NUMSA Registered on 5/9/1968.
Agriculture and forestry	Liberated Metalworkers Union of South Africa

	- NUMSA Registered on 5/9/1968. - Solidariteit/Solidarity Registered on 17/06/2004
Generators and transformers/ cables and wires	- Metal and Electrical Workers Union of South Africa Registered on 14/10/1961. - NUMSA Registered on 05/09/1968. - Metal, Farming, Entertainment, Retail, Electrical, Building and Allied Workers Union - Solidariteit / Solidarity Registered on 17/6/2004

Source: Authors' compilation.

2.3 Main platforms for stakeholder engagement

In terms of engagement in the private and public space the following platforms exist.

Associations

The aforementioned associations also have forums and meet as members to take up any issues through engagements with departments, for example regular meetings with the dtic sector desks dealing with capital equipment.

In addition, when government wants to implement any new proposals, amendments, regulations, there is an opportunity for comments from the public before final gazettes.

South African Black Industrialist Forum (SABIF)

SABIF serves as a platform for collective discussions on matters related to capital goods, among other industries. The forum's primary objective is to provide a space where black industrialists can engage with key stakeholders, including government and relevant partners, to address issues related to funding, transformation, and opportunities within the sector.

Manufacturing, Engineering and Related Services Sector Education and Training Authority (MerSETA)

MerSETA was established to promote skills development in alignment with the Skills Development Act No. 97 of 1998. This SETA focuses on six industries associated with capital goods including metal and engineering, auto manufacturing, motor retail, tyre manufacturing, plastics manufacturing, and component manufacturing. As a result, it serves as a crucial avenue for stakeholders in the capital goods sector to address concerns regarding skills development.

2.4 Key debates in the capital goods industry

The industry faces several notable challenges, which include the heightened competition from China, lack of innovation, the need to transition to a low-carbon economy and prevailing macroeconomic conditions. China is the largest global producer of steel and capital goods, with its capital goods exports accounting for 22% of world trade. In addition, South Africa has experienced a growing reliance on capital goods imported from China, with imports growing at an annual average of 10.4% in real terms between 2010 and 2022. In as much as imports have been a threat, the industry finds itself a difficult situation due to BRICS² as it fosters establishing deeper ties between its nations and co-operate on economic expansion, including trade.

² Trade between BRICS countries including Brazil, Russia, India, China, and South Africa. Not the expanded BRICS as of 1 January 2024.

Moreover, the capital goods industry lacks innovation. Many industries in the capital goods value chain are in survival mode and have prioritised cost-cutting measures over investment in new technologies that would enhance their competitiveness. A TIPS survey of 300 manufacturers operating in the capital goods value chain showed an alarmingly low level of technological adoption in the industry (Mokoena, 2022). Furthermore, small players in the value chain face the administrative burdens of complying with environmental laws on emissions.

Skills and expertise are crucial for the development of the industry. There have been shortages of skilled artisans, technicians, engineers, and managers in the metal fabrication, equipment, and machinery sector, identified by MerSETA.

The impact of the COVID-19 pandemic and generally difficult macroeconomic conditions since then have resulted in companies' declining revenue and profitability, which has in turn seen low investments in the mining and manufacturing and other industries. In addition, rising electricity prices, fuel and issues in logistics costs and trucking violence have a negative impact on the sector.

SECTION 3: SWOT ANALYSIS

This section presents strengths, weaknesses, opportunities, and threats (SWOT) of the capital goods industry (table 6). The strengths of the capital goods industry include South Africa's substantial share of African capital goods market through exports, with a large number of supply chains have already been established (Who Own Whom, 2022a). Government support, which includes localisation, preferential procurement, and funding from the IDC, assists with sustainability and competitiveness of the industry. The industry has well-established markets in the mining, construction, and wider manufacturing sectors in South Africa and the region.

Weaknesses of the industry include import penetration from global competitors including China, Germany, the United States, Germany, Japan, Italy, and India (Who Owns Whom, 2022a). The industry has a skills shortage which further limits its competitiveness. Capital goods is carbon intensive, and this poses new challenges as global markets such as the EU introduced carbon taxes to promote climate action. The industry is reliant on consumer demand that is driven by economic growth. High electricity prices have adversely affected the industry. The labour market is characterised by instability, with frequent wage negotiations and strikes (Who Owns Whom, 2022a). Increasingly, capital goods incorporate advanced digital technologies and software, which South Africa has historically imported rather than producing locally.

Opportunities for the capital goods industry include expansion of the regional market and possibilities for export growth in the African continent through the African Continental Free Trade Area (AfCFTA) agreement. Adoption of new technologies presents opportunities to improve competitiveness. The dtic's industrial policy instruments, such as localisation and preferential procurement, present government assistance to grow the industry. The state's commitment to spend on infrastructure projects would present more opportunities for capital goods (Who Owns Whom, 2022a).

The threats to the industry include increased competition from China, with the global competitor penetrating the African market that historically provided the main market for South African capital goods exports. The links to the mining sector, while historically critical for the growth of capital goods production in South Africa, exposes it to volatile world commodity prices. High electricity prices and increased loadshedding over the past few years have increased input costs. Environmental regulations such as the carbon tax may limit access exports to global markets in future, unless producers move away from coal-fuelled electricity. The slow economy in the past decade has generally reduced demand for capital goods. Corruption and inefficiency may also undermine government's drive to increase infrastructure investment.

Table 6: SWOT analysis

STRENGTHS	WEAKNESSES
• South Africa has a substantial share of the export market in Africa in terms of capital goods. • Continued government support for capital goods, including localisation, preferential procurement, and funding from IDC. • Established competitive abilities due to the well-established companies and the strong link with South Africa's mining sector. • Well-established markets in the mining, construction, and wider manufacturing sectors in South Africa and the region.	• Imports of capital goods in South Africa and the region have been rising rapidly since the early 2000s. • A lack of appropriate skills in the sector. • The industry is relatively carbon intensive. • The industry is dependent on sustained economic growth and high world metals prices to drive demand in key customer markets. • Competitiveness is impacted negatively by high electricity prices. • Unstable labour market, strikes, disruptions • Limited government support for financing for exports compared to competitors, including China
OPPORTUNITIES	THREATS
• Expanding regional market for capital goods and possible export growth, particularly into Africa by leveraging the African Continental Free Trade Area agreement. • The adoption of key technologies to improve competitiveness. • Localisation and preferential procurement are key industrial policy instruments to reignite the industry's growth. • Potential of state spending on infrastructure.	• Increasing competition from China, with Chinese producers increasing their penetration into Africa. • Given its links to the mining sector, the industry is exposed to the volatility of commodity prices. • The increasing cost of electricity, as well as increasing bouts of load-shedding, increases the input costs. • Environmental regulations such as carbon tax. • Economic downturns affect the demand for capital goods. • Impact of worsening finances, governance, and accountability in government, municipalities, and state-owned enterprises.

Source: Who Owns Whom, 2022a.

REFERENCES

- Aveng. n.d. Our History. Available at: <https://www.Aveng.co.za/history.php>
- Barloworld. n.d. About Barloworld. Available at: <https://www.barloworld-equipment.com/company/about-us/>
- Bell Africa. n.d. Detailed History. Available at: <https://www.bellequipment.com/miningconstruction/en-AF/about-us/detailed-history>
- Makgetla, N. 2021. Manufacturing Subsectors: Capital Equipment. Trade & Industrial Policy Strategies. Available at: https://www.tips.org.za/images/Manufacturing_industrys_capital_equipment_2021.pdf
- MMP. 2023. Programmes – Drill and Blast (MDB). Mandela Mining Precinct. Available at: <https://mandelaminingprecinct.org.za/about-us/>
- Mokoena, I. 2022. The adoption of frontier technologies in six manufacturing subsectors. Trade & Industrial Policy Strategies. Available at: www.tips.org.za
- Parliamentary Monitoring Group. 2022. Question NW4464 to the Minister of Agriculture, Land Reform and Rural Development. Available at: <https://pmg.org.za/committee-question/21074/>
- Rustomjee, Z., Kaziboni, L. and Steuart, I. 2018. Structural transformation along metals, machinery, and equipment value chain – developing capabilities in the metals and machinery segments. CCRED Working Paper No. 7/2018 Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3269724.
- Who Owns Whom. 2018. Manufacture and Wholesale of Pumps, Compressors, Taps and Valves. Available at: <https://www.woweb>.
- Who Owns Whom. 2021. The Manufacture and Wholesale of General-Purpose Machinery in South Africa. Available at: <https://www.whoownswhom.co.za/>
- Who Owns Whom. 2022a. Manufacture and Wholesale of Machinery for Mining, Quarrying and Construction in South Africa. Available at: <https://www.woweb>.
- Who Owns Whom. 2022b. The Generator and Transformer Industry in South Africa. Available at <https://www.woweb>
- Who Owns Whom. 2023. Manufacture and Wholesale of Agricultural and Forestry Machinery in South Africa. Available at <https://www.woweb>.
- Zalk, N. 2014. Industrial policy in a harsh climate: The case of South Africa. Chapter in *Transforming Economies: Making industrial policy work for growth, jobs and development*. International Labour Organization. Available at: https://www.ilo.org/wcmsp5/groups/public/---dgreports/---inst/documents/publication/wcms_315677.pdf

Trade & Industrial Policies Strategies (TIPS) is an independent, non-profit, economic research institution established in 1996 to support economic policy development. TIPS undertakes quantitative and qualitative research, project management, dialogue facilitation, capacity building and knowledge sharing. Its two areas of focus are trade and inclusive industrial policy; and sustainable growth.

info@tips.org.za | +27 12 433 9340 | www.tips.org.za