TRADE & INDUSTRIAL POLICY STRATEGIES

INDUSTRY STUDY

STEEL AND RELATED PRODUCTS

FEBRUARY 2025

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 provides an overview of the South African steel industry – looking into crude steel production and steel products.

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CONTENTS

FIGURES, GRAPHS AND TABLES

Disclaimer

ABBREVIATIONS

AfCFTA	African Continental Free Trade Area agreement
AMSA	ArcelorMittal South Africa
B&R	Bar & Rod
BCA	Border Carbon Adjustment
BOF	Basic Oxygen Furnace
CBAM	Carbon Border Adjustment Mechanism
CRC	Cold Rolled Coil
DMR	Department of Mineral Resources
DRI	Direct Reduced Iron
GCC	Galvanised Coated Coil
GDP	Gross Domestic Product
GFCF	Gross Fixed Capital Formation
GHG	Greenhouse Gas
GVA	Gross Value Added
HRC	Hot Rolled Coil
IDC	Industrial Development Corporation
IPAPs	Industrial Policy Action Plans
MEWUSA	Metal and Electrical Workers Union of South Africa
NUMSA	National Union of Metalworkers of South Africa
PL	Plate
PPS	Price Preference System
R&D	Research and Development
RB	Rebar
SAEWA	South African Equity Workers Association
SAISI	South African Iron and Steel Institute
SEIFSA	Steel and Engineering Industries Federation of Southern Africa
SP	Seamless Pipe
SS	Structural Sections
the dtic	Department of Trade, Industry and Competition

INTRODUCTION

This report examines the basic steel industry in South Africa. To understand the economic impact of the industry, it describes key economic outcomes for both crude steel production and steel-based manufacturing, which covers basic steel products and machinery (that is, SIC codes 351 and 353-359, excluding non-ferrous metals (352). The analysis, however, focuses on the challenges facing crude steel production.

The South African crude steel industry ranks between 32nd and 35th position globally, depending on the year. While the industry has shown consistent performance over time, it is struggling to adjust to structural changes. It continues to produce under capacity, and its share contribution to the economy continues to decline. The industry is still dominated by the use of Basic Oxygen Furnace (BOF) which is a technology that is highly reliant on coking coal (mostly imported), iron ore and electricity produced from coal. However, the use of electric arc furnace technologies in the industry is increasing, especially with the rise of steel mini mills in long steel production.

In the global space, the South African steel industry is finding it difficult to adjust to international pressures, with the introduction of tariff and non-tariff measures. Some of these policies include protectionism of industries in markets where South African steel products are exported; some of these polices comes in the form of environmental policies, such as the rise of border carbon adjustments (BCAs). Locally, the industry is facing structural decline in demand and increased imports from China combined with rising tariffs in the Global North. On the supply side, it has been affected by the rising price of electricity and constraints on rail and ports, as well as import-parity pricing for iron ore and for coking coal. It has been assisted by measures to hold down the domestic price of scrap, which has led to growth in output, employment and exports by mini mills producing long steel. In terms of trade, the industry produces high quality and varied products that are exported mainly to the African continent.

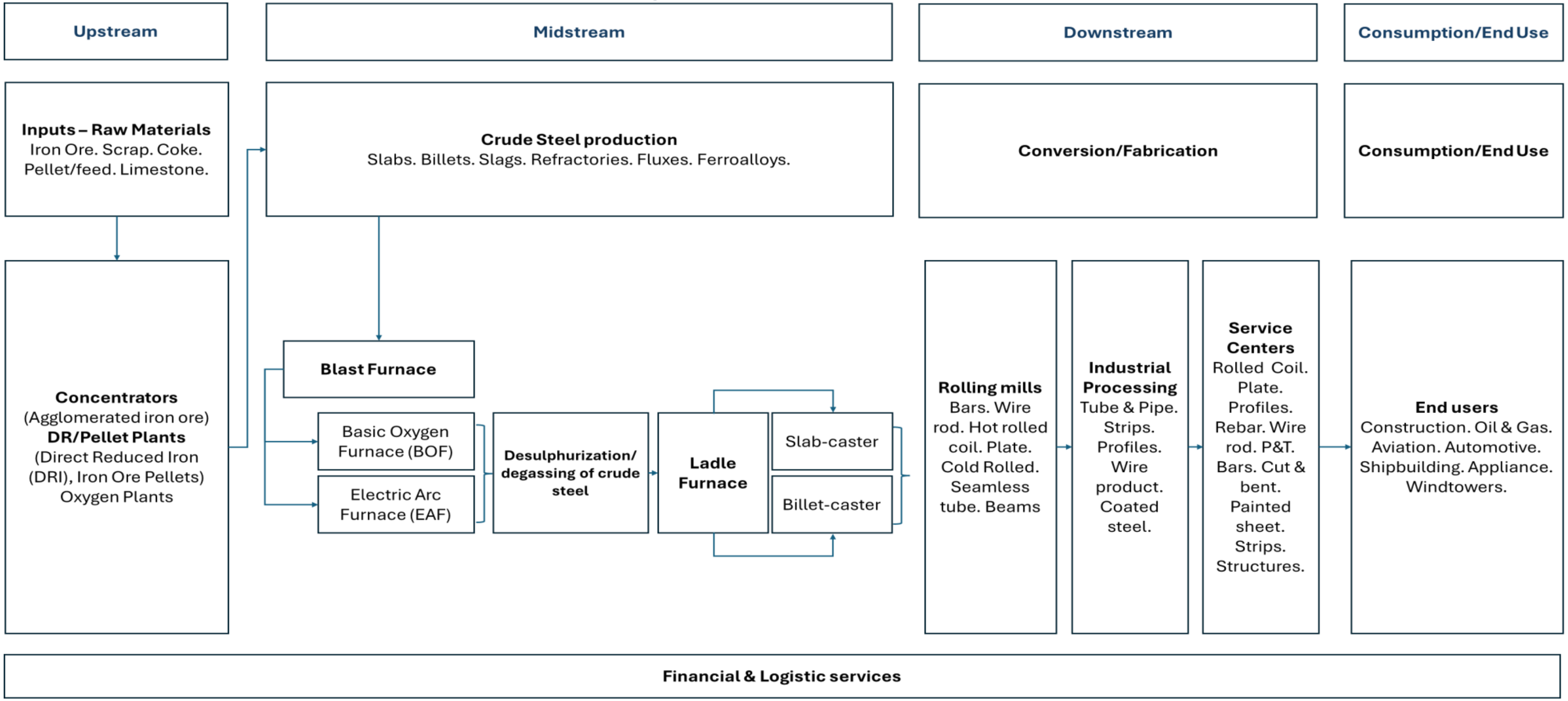
In terms of gender-race parity, the industry is still Black male dominant, with around 90% of the workforce still comprising of Black people (mostly men). The steel industry is geographically positioned in numerous industrial hubs of the country, including in Gauteng, KwaZulu-Natal, Western Cape, and some steel mills in Eastern Cape, Mpumalanga and North West.

The paper starts by describing crude steel production in South Africa. The first section explores how the steel market in South Africa is structured and describes the contribution of the steel industry to the economy in terms of GDP, investment and profitability and international trade. Thereafter, in section two of the report, employment in the steel industry is discussed, detailing the historical context of labour and its geographical situation in the industry as well as employment characteristics such as gender, race, and educational background. In this section, functional inequality is also explored. In section three governance structures and policy developments are explored. The section identifies key stakeholder organisations as well as major institutional arrangements. It also reviews major policy developments, including the master plan, scrap metal policy and some global policy developments. The last part of this report provides an analysis of the strengths, weaknesses, opportunities and threats (SWOT) for the steel value chain.

1. THE STEEL VALUE CHAIN

Figure 1 locates crude steel production in the broader steel value chain. This study focuses on basic and initial processing. The diagram includes critical parts of downstream manufacturing, which is far larger than crude steel production in terms of value added, employment and exports, under end users.

Figure 1: Steel value chain



Source: Adapted from Anglo American, 2011; Muhammed et al., 2023; SAISI, 2023.

The South African steel value chain is well established vertically and horizontally, from the exploration and mining of critical feed to the steel making and sale primarily to downstream manufacturers and construction.

The value chain starts in the upstream, where input materials for steel production are explored and mined/collected. The input materials include mined iron ore, coking coal (most of the coking coal is imported) – used for metallurgical processes, limestone – mainly used to produce crude steel and scrap which is recycled for steel production. Most iron ore is concentrated locally. In addition, production of direct reduced iron ore (DRI) is becoming more important globally and is expanding in South Africa.

In the midstream, metallurgical beneficiation and shaping takes place. In this stage of the value chain pig iron is produced, which is then used to produce semi-finished steel, including slabs, billets, and ferroalloys. The processes uses furnaces for both long and flat steel. The larger Basic Oxygen Furnaces, which mainly use coking coal and iron ore, historically dominated steel production. More recently electric arc furnaces have emerged, mostly using scrap, although they can potentially use directly reduced iron ore. The basic steel then needs to be desulfurised and degassed to maintain quality. High quality special steels, mostly for auto and machinery manufacturing, have to be particularly low carbon, which requires more advanced processing technologies. After desulfurisation and degassing, the material goes to the ladle furnaces, including the slab-casters and billet-casters, to create sellable semi-finished steel.

Semi-finished steel can be processed into flat and long steel products. Flat steel includes sheets and rolls coils and long steel include profiles, bars, and rods. Key participants in this stage of the value chain include rolling mills, industrial processors, and service centres. Service centres further add value through cutting, bending and painting basic products.

Crude steel is used directly in construction. It can be further fabricated into basic steel manufactures such as tubes and pipes coated steel, wires, hand tools and cutlery, as well as more advanced machinery.

The entire steel value chain relies heavily on logistics and electricity, as well as material inputs. Because both inputs and outputs are bulky, freight transport is both a crucial factor in efficient production and an important cost driver. Electricity is also crucial both technically and economically. Both blast and electric-arc furnaces are continuous processes, so disruptions to the electricity supply can cause serious damage to machinery and equipment. Moreover, both technologies require substantial amounts of electricity, although in blast furnaces coking coal is also a crucial source of energy.

1.1. How the steel market is structured

The steel industry historically relied on oxygen blast furnaces, which have very large economies of scale. Historically, that meant South Africa has a single dominant firm producing crude steel, initially as the state-owned Iscor that was taken over by ArcelorMittal South Africa (AMSA). Until the mid-2010s, it produced virtually all of the country's crude steel from coking coal (mainly imported into South Africa), iron ore (sourced locally) and limestone. From the 2010s, however, smaller mini mills using electric arc furnaces to produce long steel emerged. By 2023, they accounted for 60% of all long steel production, or around quarter of total crude steel output. The mini mills produce steel from electricity and scrap. Scaw has initiated production of direct reduced iron ore as well.

Primary production

In the local steel market, especially in terms of crude steel, AMSA is the biggest player despite facing challenges. AMSA is the largest steel producer in Sub-Saharan Africa and controls 46% of the South African steel market. In 2022, the company produced over 70% of crude steel in South Africa. AMSA's steel production capacity is six million tonnes, and in 2022 the company produced only 3.1 million tonnes of steel, reflecting around 52% of capacity utilised (AMSA, 2023). In 2022, AMSA's total turnover reached R40 billion and made R3 billion profit from operations (AMSA, 2023).

Steel mini mills in South Africa also produce crude steel. The mini mills market is fragmented across many players. At least 10 mini mills are recognised in South Africa including Scaw Metals, Chung Fung Metals, Coega Steels and Cape Town Iron and Steel Works, among others. Mini mills also produce flat and long steel, but they are more dominant in long steel production, representing 60% of long steel production in South Africa (Makgetla, 2024a). AMSA is also producing both long and flat steel in addition to the production of crude steel. At its Vanderbijlpark Works, it produces flat steel products using the basic oxygen furnaces and electric arc furnaces. At its Newcastle Works, AMSA produces long steel products using basic oxygen furnaces, while at the Vaal Melt Shop in Vereeniging, long steel products are produced using an electric arc furnace. At these plants, the company produces around 200 different steel products.

The more visible mini mills in terms of production capacity include Scaw Metals, producing around 790 000 tonnes of liquid steel per annum and Cape Gate. Other notable players include Allied Steelrode, with a production capacity of 350 000 tonnes per annum, Coega Steels with a production capacity of 240 000 tonnes per annum, Pro Roof Steel and Tube (230 000 tonnes), and Cape Town Iron and Steel Works (200 000 tonnes) (Who Owns Whom, 2022). Table 1 shows key steel producers in South Africa, by geography and steel products they produce.

Table 1: Geographical setting of crude steel producers in South Africa

FIRM	TYPE OF BUSINESS MODEL (TECH USED)	PRODUCTS PRODUCED
Gauteng		
ArcelorMittal South Africa - Vanderbijlpark	Blast Furnace (Basic Oxygen Furnace)	**Flat steel**: PL | HRC | CRC | C | GCC
ArcelorMittal South Africa - Vereeniging	Electric Arc Furnace	**Long steel:** SS | B&R | RB| SP
Cape Gate – Davsteel	Electric Arc Furnace	**Long steel:** SS | B&R | RB
Scaw Metals	Electric Arc Furnace	**Long steel:** SS | RB
SA steel Mills (Pro-roof gap)	Electric Arc Furnace	**Long steel:** SS | RB
Fortune Steel	Induction Furnace	**Long steel:** SS | RB
Veer Steel (India Steel)	Induction Furnace	**Long steel:** SS | RB
Chung Fung Metals	Electric Arc Furnace	**Long Steel**
North West		
Unica Iron and Steel	Induction Furnace	**Long steel:** B&R | SS
Western Cape		

FIRM	TYPE OF BUSINESS MODEL (TECH USED)	PRODUCTS PRODUCED
Cape Town Iron and Steel	Electric Arc Furnace	**Long steel:** B&R
SA Steel Works	Induction Furnace	**Long steel:** B&R
ArcelorMittal South Africa – Saldanha	Corex/Midrex	**Flat steel:** HRC
Duferco Steel Processing	Re-rolling (cold rolling and coil coating)	**Flat steel:** CRC | GCC
Eastern Cape		
Agni Steels SA	Induction Furnace	**Long steel:** B&R | RB
KZN		
SAFAL	Re-rolling (cold rolling and coil coating)	**Flat steel:** C | GCC
ArcelorMittal South Africa – Newcastle	Blast Furnace (Basic Oxygen Furnace)	**Long steel:** B&R | SS | B&R
Mpumalanga		
Highveld Steel	Blast Furnace (Basic Oxygen Furnace)	**Long steel:** SS

Source: Adapted from SAISI 2023. **Key – Long steel**: Structural Sections (SS), Bar & Rod (B&R), Rebar (RB), Seamless Pipe (SP). **Flat steel**: Plate (PL), Hot Rolled Coil (HRC), Cold Rolled Coil (CRC), Galvanised Coated Coil (GCC), Organic Colour Coated Coil (C).

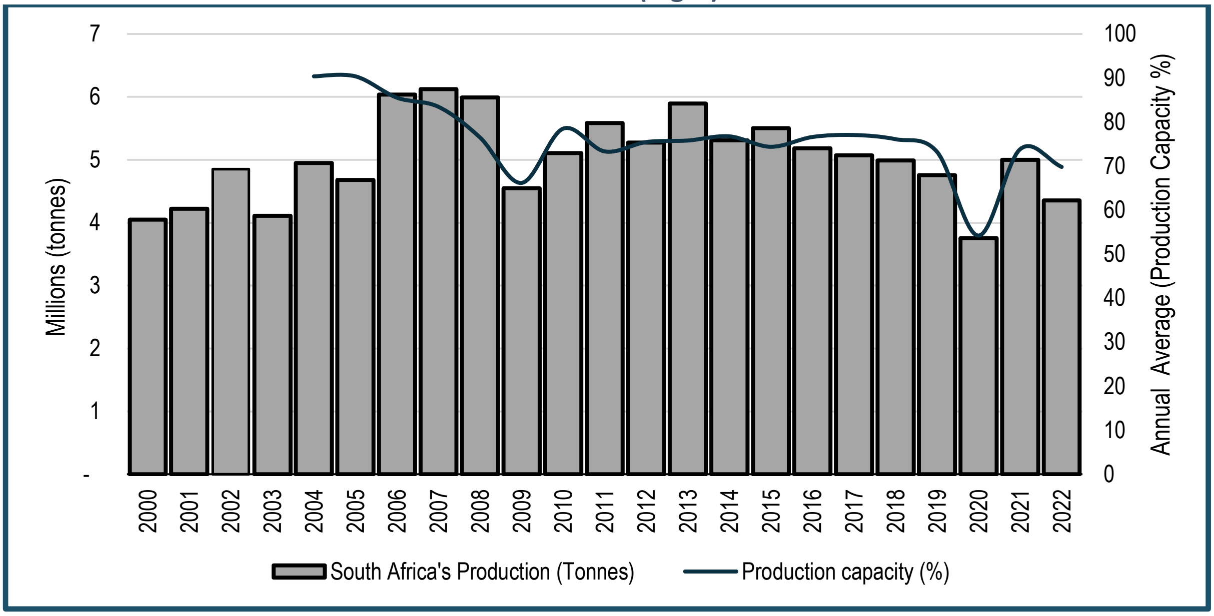
China's dominance of steel imports in South Africa

China has always been the biggest steel exporter to South Africa – more detail in section 1.2.3. China's top 10 steel producers, representing over 35% of steel producers in China, include China Baowu Group producing 67 million tonnes of steel in 2018, HBIS Group (Hesteel) (47 million tonnes), Shagang Group (41 mt), Ansteel Group (37 mt), Jianlong Group (28mt), Shougang Group(27mt), Shandong Steel Group (23mt), Valin Group (23mt), Maanshan Steel (20mt) and Benxi Steel (16mt) (International Trade Administration, 2020). These are global steel producing giants, which far exceed the production capacity of the South African steel industry. However, there are developments in China and South Africa's relationship in the steel industry. In 2023, the Industrial Development Corporation (IDC) signed a memorandum of understanding with one of the biggest Chinese steel producer – HBIS Group – to develop a project on a new low-cost iron and steel facility, projected to produce five million tonnes of steel products (IDC, 2024). While this is still at a feasibility level, the MoU highlights the potential of producing green steel.

1.2. Contribution of the steel sector to the South African economy

The South African steel industry ranks between 32nd and 35th globally. It produced over six million tonnes of steel between 2006 and 2007 before experiencing a decline due to structural challenges. Production peaked at 6.1 million tonnes in 2007 but fell to 4.3 million tonnes by 2022 (See Graph 1).

Graph 1: Production of steel (tonnes) – 2000-2022 (Left) and steel production capacity (%) 2004-2022 (Right)



Source: Steel production data, adapted from SAISI 2023. Production capacity data downloaded from Quantec sourced from Statistic South Africa (Stats SA, 2024) – Statistics South Africa - P3043.

In the upstream, South Africa's crude steel production capacity is estimated at 9.4 million tonnes per year, while downstream iron production capacity is around 5.8 million tonnes per year (Who Owns Whom, 2022). However, the industry has been operating below capacity due to persistent structural issues. Capacity utilisation has declined from 89% in 2003 to 68% in 2023.

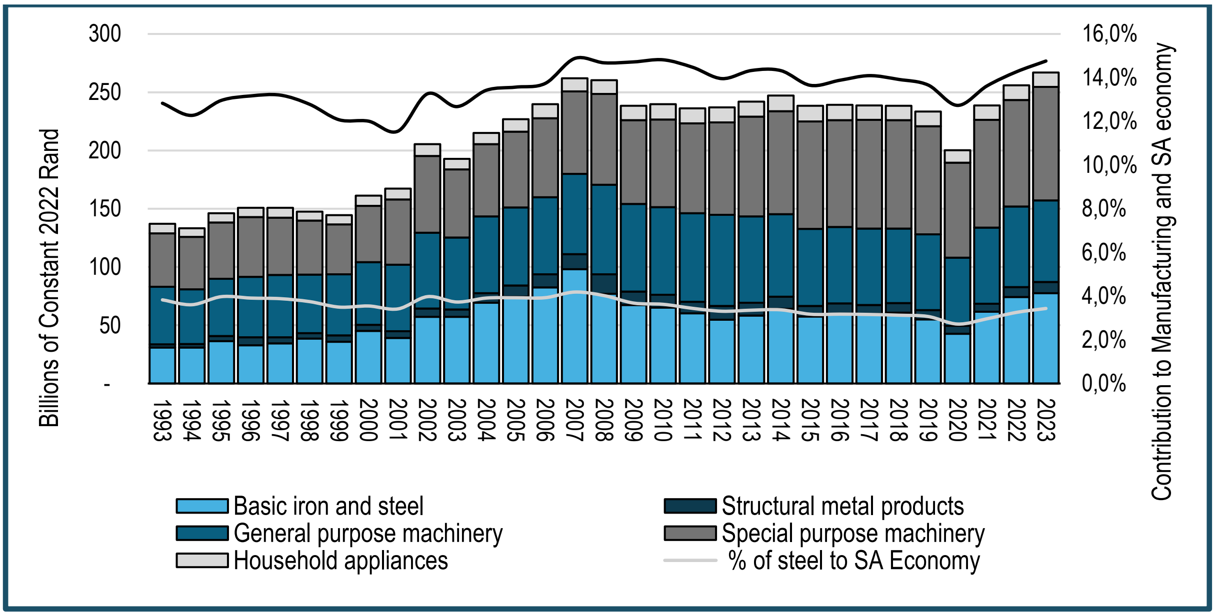
Key structural challenges include energy and logistical constraints, declining demand, reduced public infrastructure investment from the late 2010s, inconsistent enforcement of designations, increased steel imports from China, rising tariffs in the Global North, and import-parity pricing for iron ore and coking coal (Makgetla, 2024a).

1.2.1. Contribution to GDP

The sector's contribution to the South African GDP and manufacturing gross value added (GVA) has stagnated. The steel value chain in South Africa contributes around 3.5% to the South African economy on average. Basic iron and steel contributes around 1%, while the downstream contribute around 2% on average. In 2023, the steel industry, including both crude steel and fabrication, contributed 3.4% to the South African economy, in terms of GDP. The share of the steel industry to the manufacturing sector ranges between 11% and 14% based on the industry's performance. In 2023, the steel industry's contribution to the manufacturing's GVA was 14.8%. Worth noting is that value is added mostly in the downstream of the steel value chain.

As depicted in Graph 2, manufacture of general and special machinery dominates the value addition in the steel value chain. These include industrial machinery such as manufacture of engines and turbines, agriculture and forestry machinery, machine tools, machinery for metallurgy, machinery for mining, quarrying and construction, machinery for food, beverage and tobacco processing, machinery for textile, apparel and leather production, and weapons and ammunition.

Graph 2: Gross Value Added (GVA) in the South African steel industry – by industries from 1993 to 2022

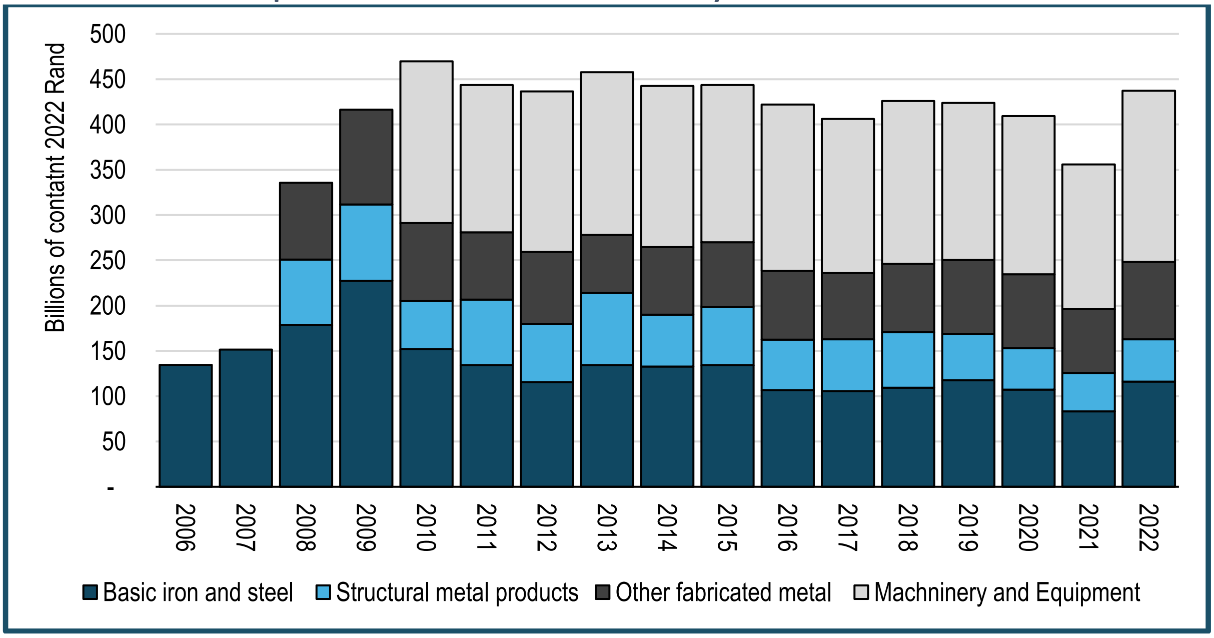


Source: Calculated from Quantec. EasyData. Standardised Industry Service. Interactive dataset. Available from www.easydata.co.za. Prices are rebased to 2022 using Stats SA's CPI data, 1993 to 2022. SIC codes 351 and 353-359.

1.2.2. Investment and profitability

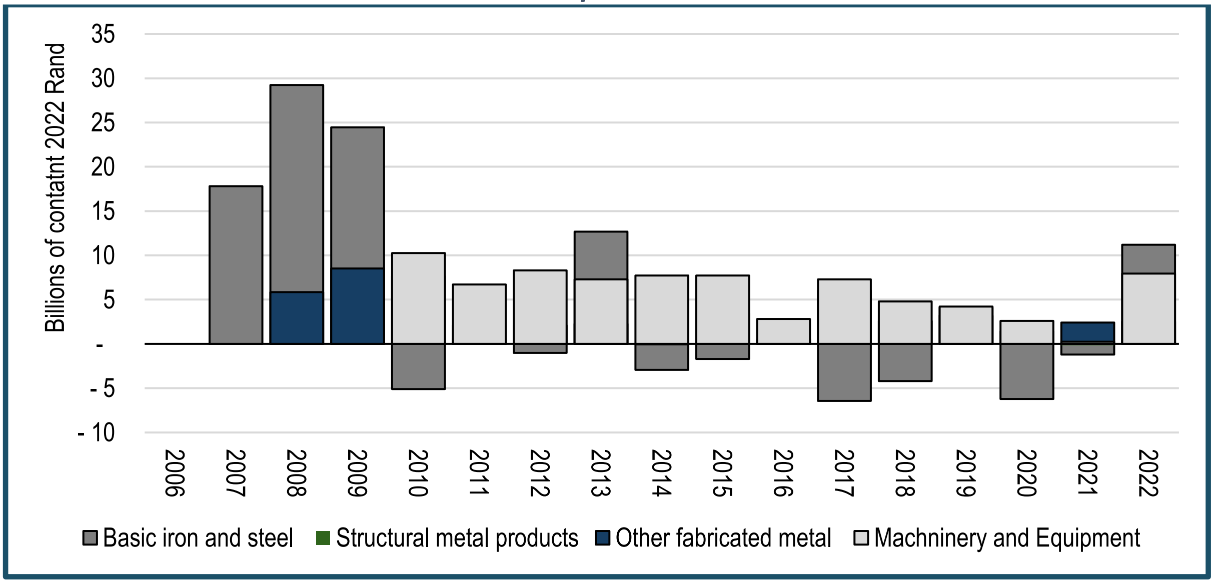
In 2022, the steel industry turnover reached R437 billion, in constant 2022 terms, and made a profit after tax and dividend of R22 billion, in constant 2022 terms. The biggest share of both turnover and profits came from machinery and equipment. In contrast, basic iron and steel experienced repeated losses, mostly due to AMSA. Graph 3 and Graph 4 shows the turnover and profitability of the South African steel industry over time, respectively.

Graph 3: South Africa's steel turnover by industries 2006-2022



Source: Data downloaded from Quantec sourced from Statistic South Africa (Stats SA 2024) – P0021D–P0021: Annual Financial Statistics by 91 industries. Prices are rebased to 2022 using Stats SA's CPI data, 1993 to 2022.

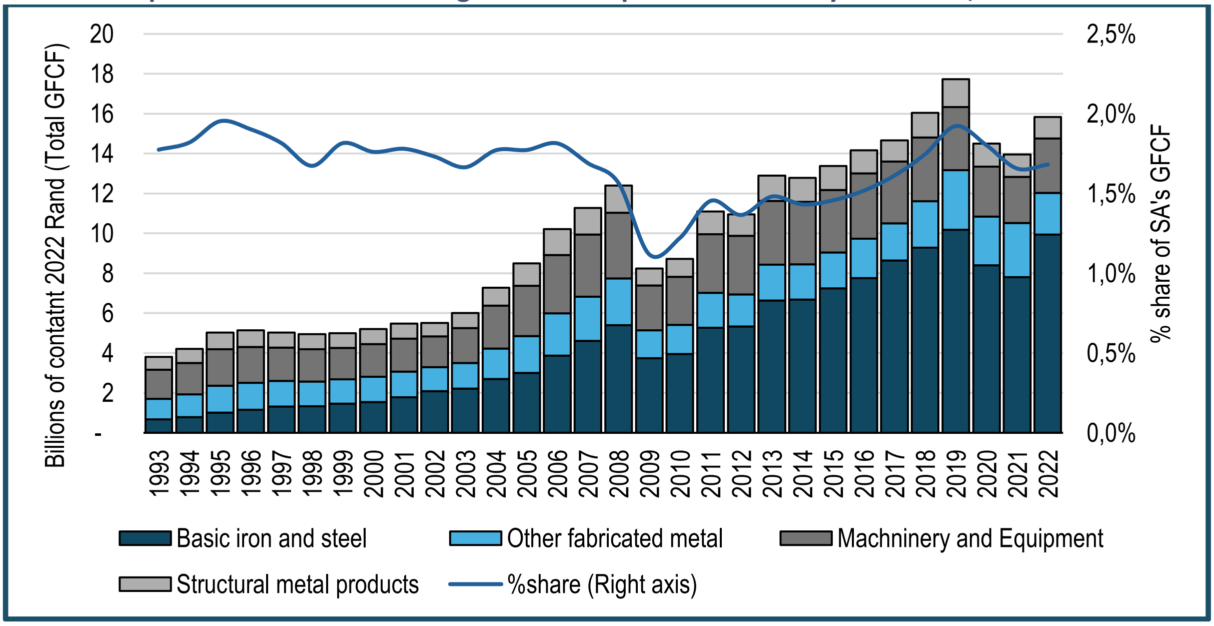
Graph 4: South Africa's steel net profit after providing for company tax and dividends – by industries 2006-2022



Source: Data downloaded from Quantec sourced from Statistics South Africa (Stats SA, 2024) – P0021D–P0021: Annual Financial Statistics by 91 industries. Prices are rebased to 2022 using Stats SA's CPI data, 1993 to 2022.

In terms of gross fixed capital formation (GFCF), the GFCF in the steel industry (mainly basic iron and steel) in South Africa has been increasing from 1993, reaching R18 billion (in constant 2022 terms) in 2008, thereafter experiencing dips in 2009 and 2020 as a result of the 2008 global financial crisis and COVID-19 pandemic. In 2019, investment in the South African steel industry reached an all-time high of R19 billion (in constant 2022 terms), before declining in 2020 as a result of the COVID-19 pandemic. Post COVID-19, the industry's investment is still recovering, and the recovery is still below the pre-COVID-19 levels. The share of steel's GFCF ranges between 1.1% and 1.8% of total South African GFCF. (Graph 5)

Graph 5: South Africa's steel gross fixed capital formation by industries, 1993-2022



Source: Data downloaded from Quantec sourced from ICAP–SA Standardised Industry Gross Fixed Capital Formation, Fixed Capital Stock and Consumption of Fixed Capital. Prices are rebased to 2022 using Stats SA's CPI data, 1993 to 2022.

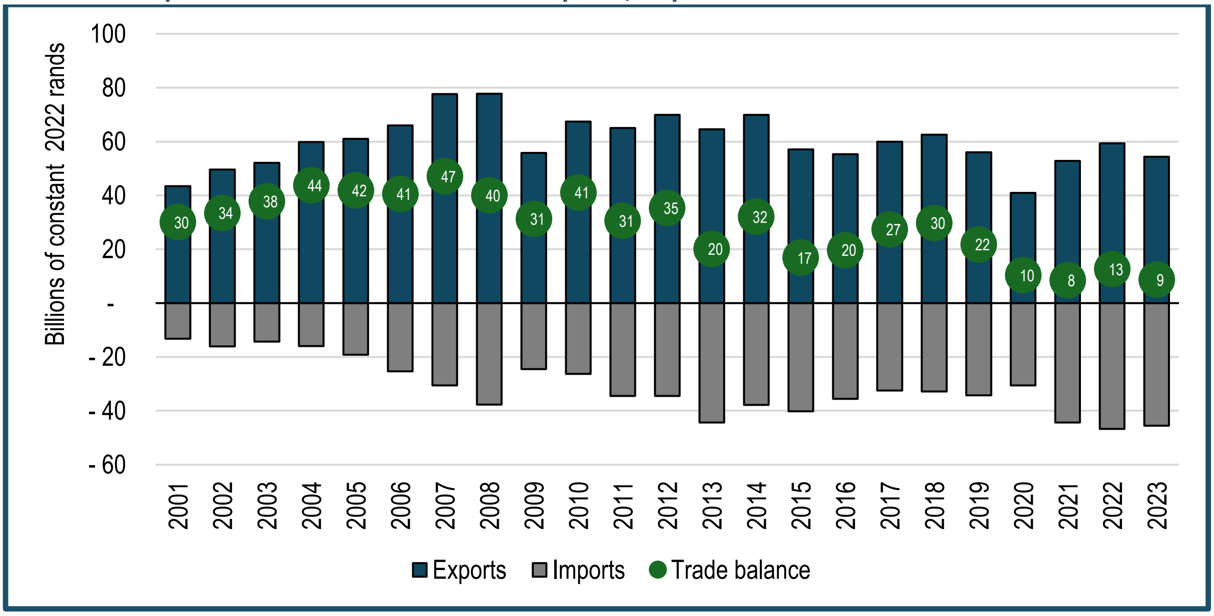
1.2.3. International trade

This section focuses on international trade in crude steel and steel products. South Africa's balance of trade has been worsening over time, with secular decline in exports and increase in imports in the 2020s. The recent increase in imports is mainly driven by increased flat steel imports and a declining competitiveness of South African steel products. This section expands on this below.

South Africa's steel trade performance has been steady and positive over time, with a maintained positive trade balance since 2001. However, the trade balance has been worsening over time. South Africa's steel trade balance decreased from R30 billion in 2001 to R9 billion in 2023, in constant 2022 terms, reflecting a 71% decline from 2001 (Graph 6). This was exacerbated post-COVID-19, when there was an increase in imports of steel (see Graph 9 below for more details), which has created a lot of issues for the steel producers in the country.

The rise in steel imports mainly from China has led to AMSA along with South African Iron and Steel Institute (SAISI) to apply for a temporary increase of 9% ad valorem on imports of hot-rolled steel products for a period of 200 days (starting from 5 July 2024 – ending in January 2025), pending the finalisation of the investigation for remedial action in the form of a safeguard against the increased imports of hot-rolled steel products (ITAC, 2024). Graph present the South African total steel exports, imports & trade balance from 2001 to 2023.

Graph 6: South African total steel exports, imports and trade balance 2001-2023

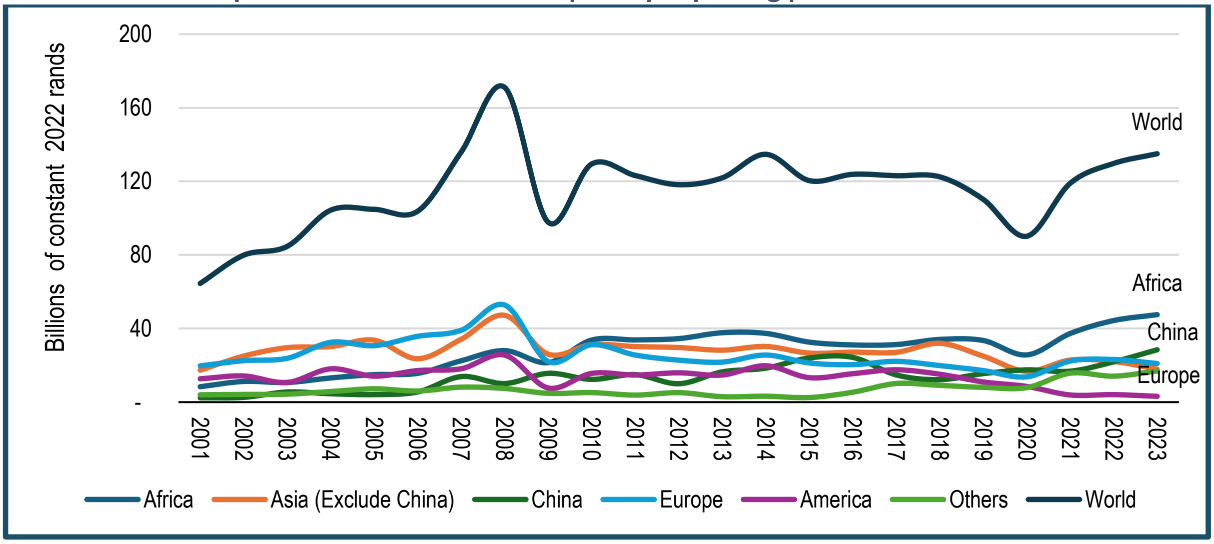


Source: Calculated from ITC Trade Map (2024). Data downloaded from https://www.trademap.org. Prices are rebased to 2022 using Stats SA's CPI data, 2001 to 2023. *Note*: Steel products include iron and steel (CN Code 72 and exclude ferro alloys – 7202) and articles of iron and steel (CN Code 73).

Exports

South Africa exported R135 billion worth of steel products in 2023, in constant 2022 terms (Graph 7). This highlights a recovery of the steel industry, above the pre-pandemic levels, but still below the 2008 rise of steel exports to the world. The exporting markets of steel from South Africa have been steady over the years. The key markets for South African steel exports include Africa, China, and Europe. Post-COVID-19, there has been a rise in exports to the African and Chinese markets, while the European market has started to see a decline.

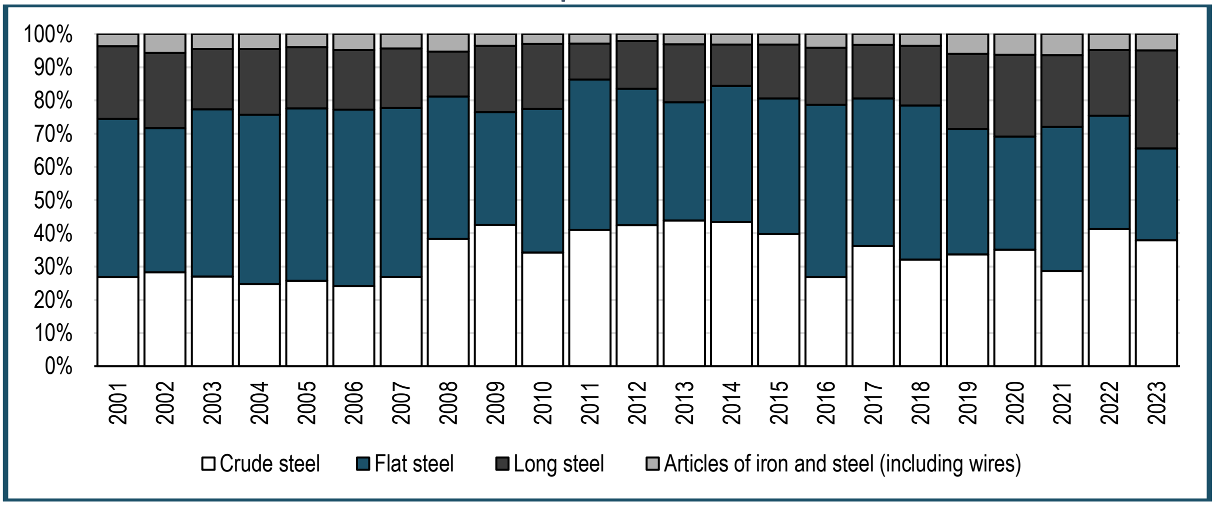
Graph 7: South African Steel export by exporting partners 2001-2023



Source: Calculated from ITC Trade Map (2024). Data downloaded from https://www.trademap.org. Prices are rebased to 2022 using Stats SA's CPI data, 2001 to 2023. Note: Steel products include iron and steel (CN Code 72 and exclude ferro alloys – 7202) and articles of iron and steel (CN Code 73).

In terms of key steel products exported (as reflected in Graph 8), South Africa exports a variety of iron and steel products. The steel export basket is dominated by flat and crude steel. Despite flat and crude steel showing fluctuations in the steel export markets, there have been an increasing share of exports in long steel products, between the years 2014 and 2023. Most of the long steel goes into the African market for construction.

Graph 8: Share of South African basic iron and steel exports by products and related products 2001-2023

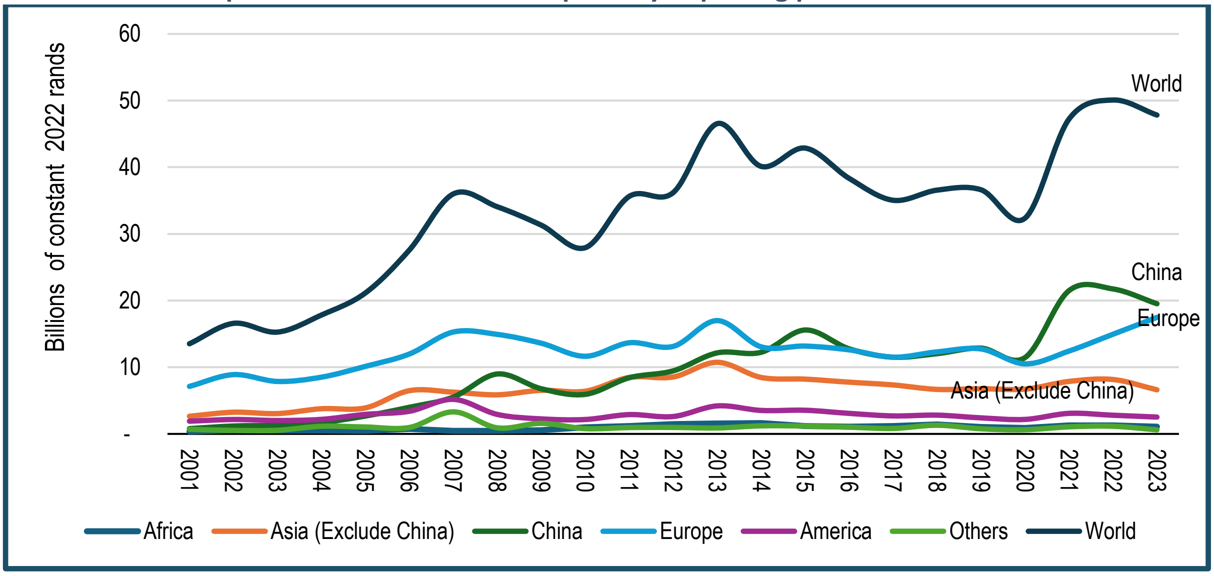


Source: Data from ITC Trade Map (2024). Downloaded from https://www.trademap.org. Prices are rebased to 2022 using Stats SA's CPI data, 1993 to 2022.

Imports

In 2023, South Africa imported R47 billion worth of steel products, in constant 2022 terms. There was a big jump from 2001 of R13 billion, reflecting around 254% increase in imports from 2001. South Africa continues to import steel from China and Europe. While imports from Europe and China have been steady overtime, the Chinese and European imports have increased post-COVID-19 at an all-time high since 2001. However, Chinese imports in 2023 slowed down, but are still higher than Europe's steel imports to South Africa. Chinese steel imports to South Africa have almost doubled from 2019 to 2022, jumping from R13 billion in 2019 to R22 billion in 2022, in constant 2022 terms. European imports of steel continued to rise – in 2019 steel imports from Europe to South Africa were R13 billion, and in 2023 the steel imports amounted to R18 billion, in constant 2022 terms. (Graph 9)

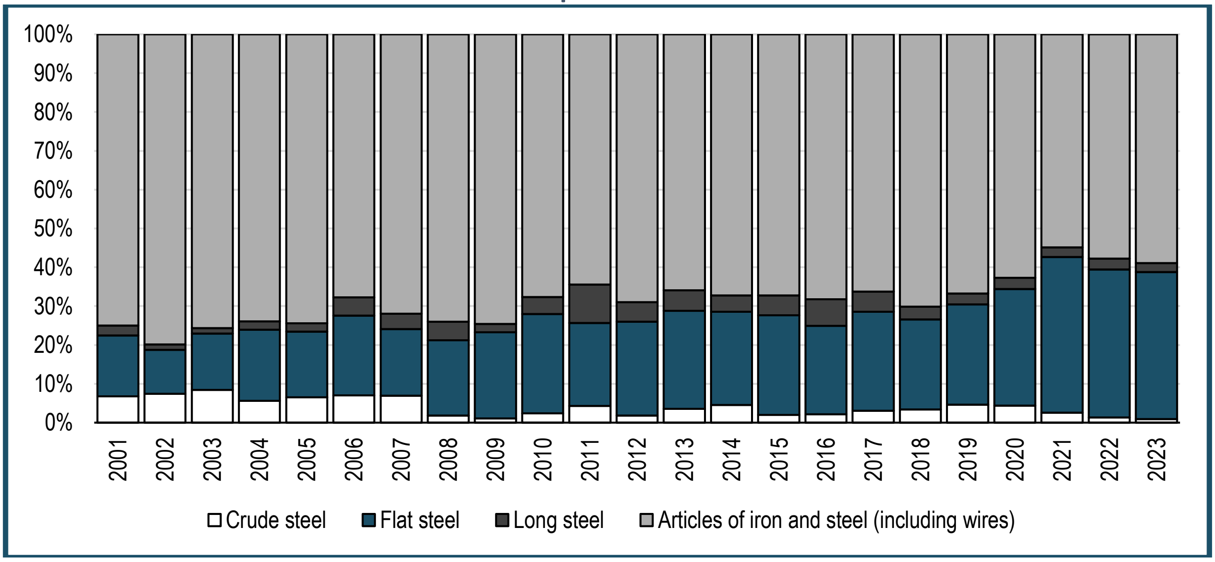
Graph 9: South African steel Imports by importing partners 2001-2023



Source: Calculated from ITC Trade Map (2024). Data downloaded from https://www.trademap.org. Prices are rebased to 2022 using Stats SA's CPI data, 2001 to 2023. Note: Steel products include iron and steel (CN Code 72 and exclude ferro alloys - 7202) and articles of iron and steel (CN Code 73).

In terms of key imported steel products, South Africa also imports a variety of iron and steel products. The biggest portion of imports comes into South Africa as flat steel and articles of iron and steel such as screws, bolts, and nuts, which take a bigger share of all the imported articles of iron and steel. In terms of flat steel, flat-rolled steel is dominating the import basket – hence the policy measure introduced by the South African government – more on this in section 3.2. The importation of these products has been steadily increasing, with a bigger increase post-COVID-19. (Graph 10)

Graph 10: Share of South African basic iron and steel imports by products and related products 2001-2023



Source: Data from ITC Trade Map (2024). Downloaded from https://www.trademap.org. Prices are rebased to 2022 using Stats SA's CPI data, 1993 to 2022.

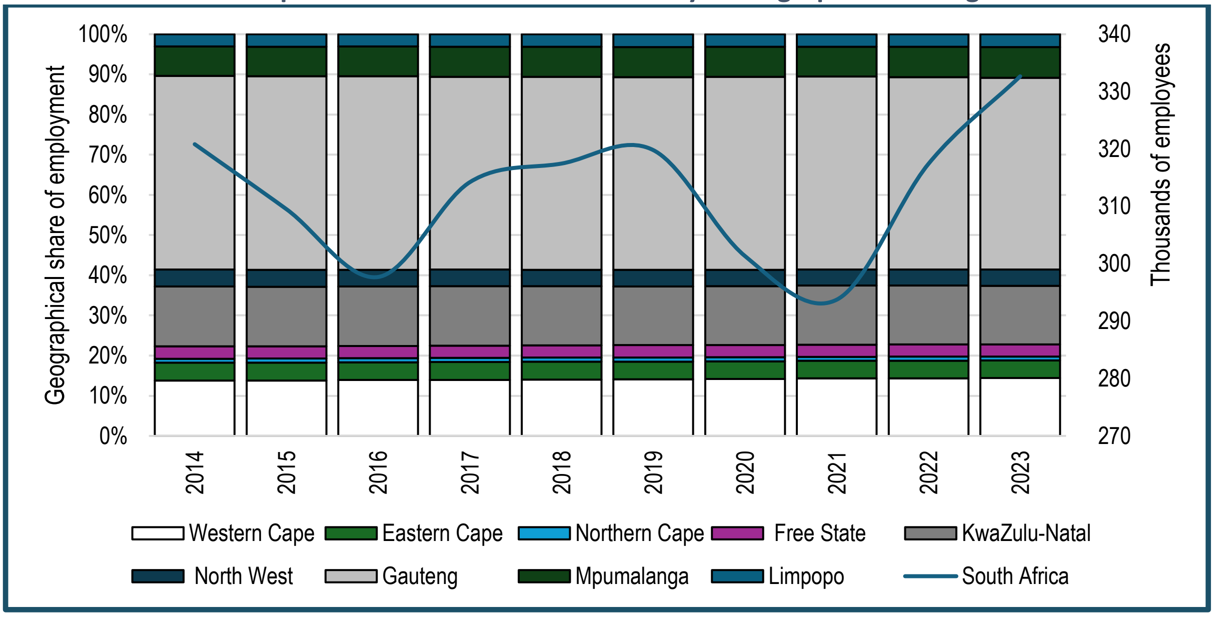
2. EMPLOYMENT IN THE STEEL SECTOR

This section looks at employment in the South African steel industry. It starts by providing the geographical setting of employment in the steel industry, highlighting the characteristics of employment in the industry by race, gender, and educational levels, and concludes by highlighting the functional inequality in the steel value chain.

2.1. Historical context

Since 2014, employment in the steel value chain has been fluctuating, with dips in 2016 and 2021. However, the geographical setting of the steel industry has not changed much since the steel industry was established. Gauteng, Mpumalanga, KwaZulu-Natal, and the Western Cape remains labour marketplaces for employees wanting to work in the steel industry. Gauteng dominates the industry as most of the steel firms are located in the province (See Table 1 for more details on the steel firms operating in South Africa).

Graph 11: South African steel industry – Geographical setting

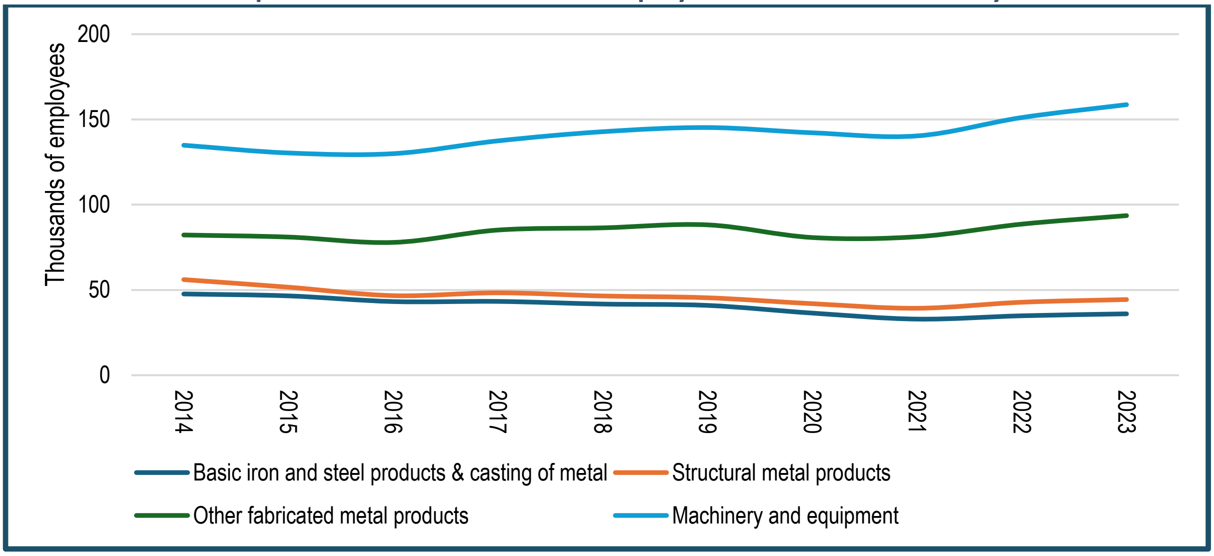


Source: Data downloaded from Quantec sourced from REMP–Labour – Employment and compensation by skill level, industry and 2011 local municipal/ward-based metro region level. Basic iron and steel products; casting of metal [QSIC 351, 353], Structural metal products [QSIC 354], Other fabricated metal products [QSIC 355], and Machinery and equipment [QSIC 356-359].

In terms of sector breakdown, the downstream, mainly in machinery and equipment and other fabricated metals products, has created sustained jobs in the steel industry. In contrast, structural metals and basic iron and steel including casted products (crude steel) have been shedding jobs from 2014 (even before).

The basic iron and steel industry has lost jobs faster than any other sector in the steel industry. The basic iron and steel (crude production) industry employed 47 000 people in 2014, and in 2023 the jobs had declined to 36 000. Graph 12 presents the sector breakdown of the defined steel sector.

Graph 12: Sector breakdown of employment in the steel industry



Source: Data downloaded from Quantec sourced from REMP—Labour. Employment and compensation by skill level, industry and 2011 local municipal/ward-based metro region level. Basic iron and steel products; casting of metal [QSIC 351, 353], Structural metal products [QSIC 354], Other fabricated metal product [QSIC 355], and Machinery and equipment [QSIC 356-359].

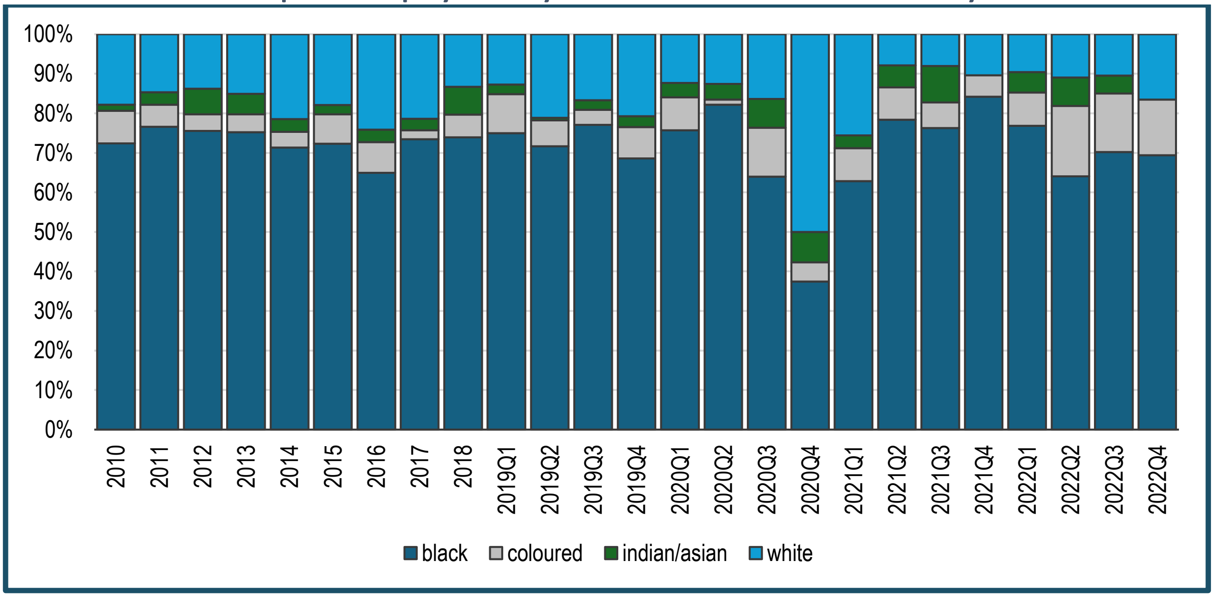
2.2. Employment and inequality

Employment

Employment by race

Black people dominate the South African steel industry's employment. Around 70% of the employees in the industry are Black (Graph 13). This proportion is followed by White, Coloured, and then Indian. During COVID-19 lockdowns (first quarter of 2020), Black people's share of employment in the steel industry decreased dramatically, with White people maintaining a bigger share. However, post-COVID-19 lockdowns, the employment share of Black people stabilised in the steel industry.

Graph 13: Employment by race – South African steel industry

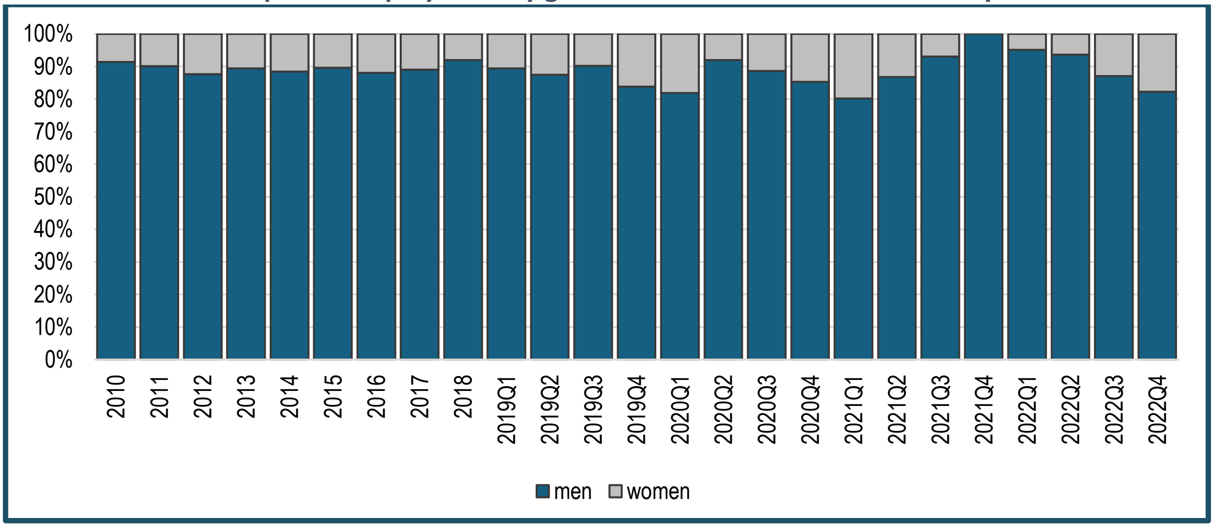


Source: Statistics South Africa. Labour Market Dynamics, 2010-2018 and Quarterly Labour Force Survey, 2019Q1-2022Q4. Series on employment by race in the steel industry. Electronic databases. Downloaded from Nesstar: www.statssa.gov.za.

Employment by gender

The South African steel industry is dominated by men, reflecting around 90% share of the South African steel industry employment (Graph 14). In quarter one of 2021, the steel industry only employed men, however, women started coming back to the sector. The share of women in the steel industry increased, in the last quarter of 2022, after a dramatic decrease during COVID.

Graph 14: Employment by gender – South African steel industry

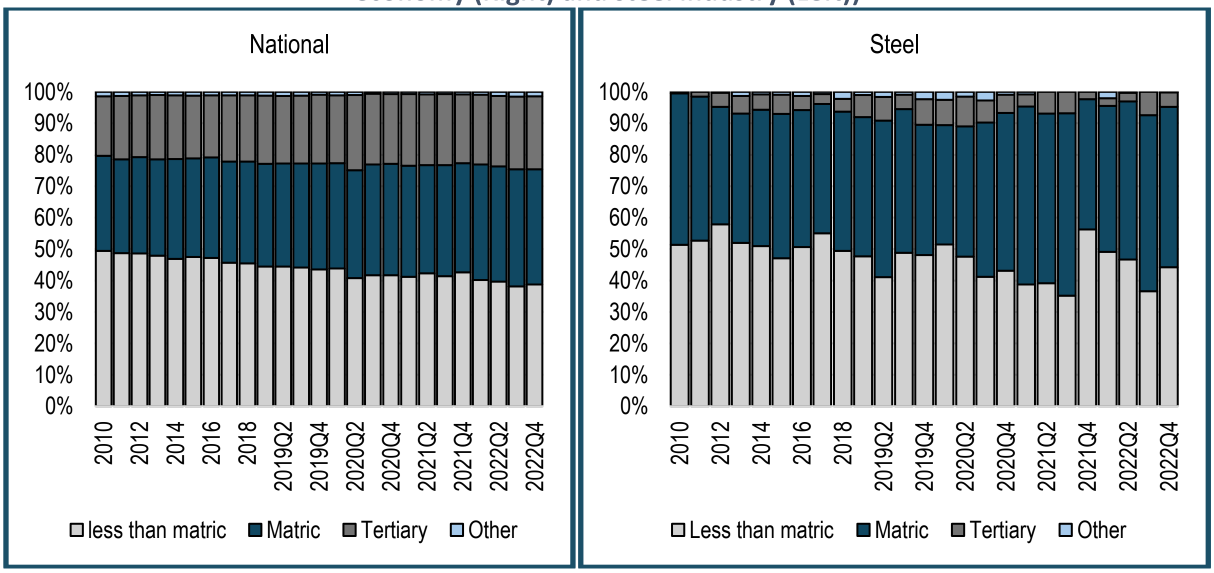


Source: Statistics South Africa. Labour Market Dynamics, 2010 – 2018 and Quarterly Labour Force Survey, 2019Q1-2022Q4. Series on employment by gender in the steel industry. Electronic databases. Downloaded from Nesstar: www.statssa.gov.za.

Employment by education level

In terms of educational outcomes, the steel industry in South Africa employs mostly people with matric or less. This is different from the national picture, which highlights that, most people employed in the economy have matric and tertiary education. (Graph 15)

Graph 15: Employment by education level (share of total employment in the South African economy (Right) and steel industry (Left))

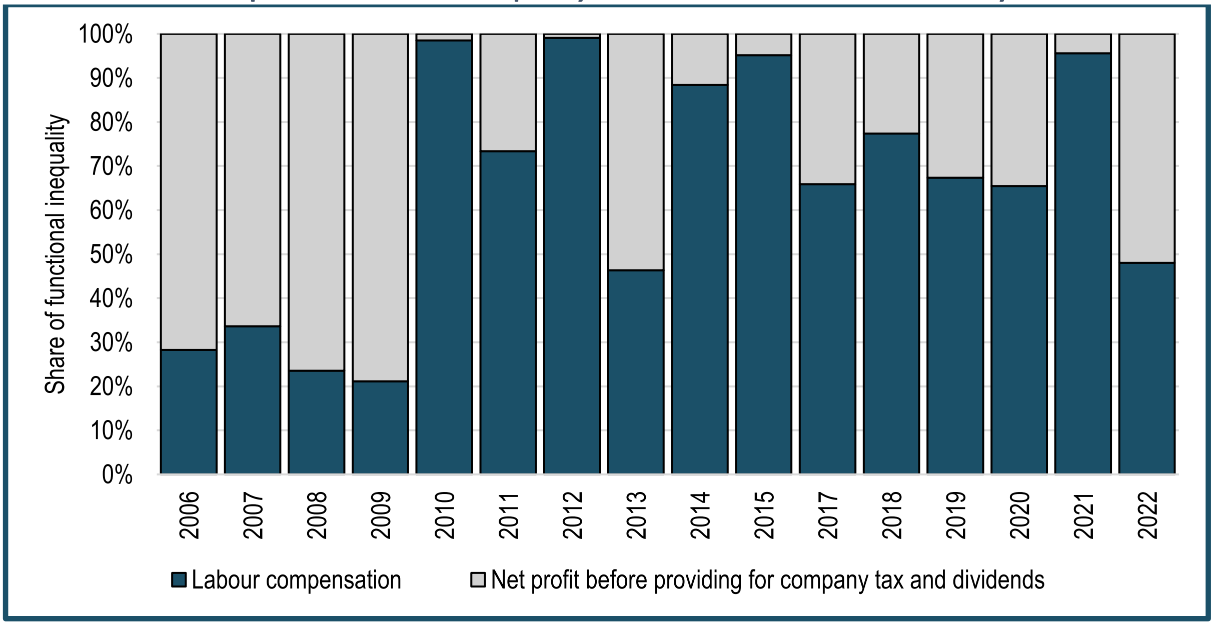


Source: Statistics South Africa. Labour Market Dynamics, 2010-2018 and Quarterly Labour Force Survey, 2019Q1-2022Q4. Series on employment by skills in the steel industry. Electronic databases. Downloaded from Nesstar: www.statssa.gov.za.

Functional inequality

Graph 16 compares net profit before tax and dividends and labour compensation in the South African steel industry to determine functional inequality. While the South African steel industry has been struggling to operate since 2014, the industry had negative operating profit in six years for the 10 years 2013-2022 – the loses were driven by basic iron and steel as reflected in Graph 4. The share of labour compensation has been fluctuating since 2006, adding a bigger share compared to the industry in most of the years. In 2010, 2012, 2014, 2015 and 2021 employees added over 90% of value in the industry.

Graph 16: Functional inequality in the South African steel industry



Source: Data downloaded from Quantec sourced from IEMP—SA Standardised Industry Employment and Labour Remuneration.

3. GOVERNANCE STRUCTURES AND POLICY DEVELOPMENTS

This section provides details of the institutional arrangements within the steel industry, on how the industry is governed, and how key stakeholders interact with each other. It identifies the key stakeholder associations and sets the stage for an examination of the platforms that drive dialogue (and lobbying) in the industry.

3.1. Key stakeholders and institutional arrangements

In the South African steel industry, two key business associations are active at a high level of engagement with key firms in the industry. These are South African Iron and Steel Institute (SAISI) – for primary production, and the Steel and Engineering Industries Federation of Southern Africa (SEIFSA) – more for downstream. These are further supplemented by other associations such as the Association of Steel Tube and Pipe Manufacturers of South Africa, Southern Africa Stainless Steel Development Association and the Steel Tube Export Association of South Africa.

South African Iron and Steel Institute (SAISI)

SAISI has been the primary steel association in South Africa since the 1960s. It represents the collective interests of South African primary steel businesses – i.e., upstream, steel producers. SAISI is a non-profit, pro-competition and non-governmental representative organisation serving the collective interests of the primary steel industry in South Africa. SAISI's membership includes four primary carbon steel producers and South Africa's only primary stainless-steel producer. These include ArcelorMittal South Africa Ltd with plants in Vanderbijlpark, Vereeniging and Newcastle, Cape Gate (Pty) Ltd in Vanderbijlpark, Columbus Stainless (Pty) Ltd in Middelburg, Mpumalanga, Evraz Highveld Steel and Vanadium Ltd in Witbank and Scaw Metals Group in Germiston. Among other functions, SAISI provide a platform for engagements for its members. On a regular basis, it also provides strategic trade development details through statistics and information relating to the local and international steel industry, matters related to international trade actions, and the monitoring and influencing of trade policy.

Steel and Engineering Industries Federation of Southern Africa (SEIFSA)

SEIFSA was established in the 1940s in South Africa. The Federation represents 18 Employer Associations, which collectively represent in excess of 1 300 companies with 170 000 employees in the metals and engineering sector – mainly in the downstream. The primary function of the federation is to lobby and advocate on behalf of its members for a conducive and business friendly economic environment. The federation mainly focuses on the downstream of the steel value chain.

Government

From government, the Department of Trade, Industry and Competition (the dtic) is a key stakeholder in the steel industry. The department is the custodian of the South African Steel and Metal Fabrication Master Plan. Relevant government institution also include the Department of Mineral Resources (DMR), which houses the Mineral and Petroleum Resources Development Act 28 of 2002, which is relevant for regulating the access to essential mineral resources, supporting economic stability, promoting sustainable practices, and aligning with broader industrial strategies such as the Steel Master Plan. Under the DMR, there is Mintek, a South African national mineral research organisation, established in 1934, specialising in research and development (R&D) of mineral processing, extractive metallurgy, and related fields. Aligned to Mintek, the Department of Science and innovation, along with its agency the Council for Scientific and Industrial Research (CSIR) also support the steel industry through R&D and innovation support among others.

Labour Unions

Labour is also organised within the steel industry. About five key unions represent the voice of labour in the steel industry. These include the Metal and Electrical Workers Union of South Africa (MEWUSA) – established in 1989, National Union of Metalworkers of South Africa (NUMSA) (1987), Solidariteit/ Solidarity (1902), South African Equity Workers Association (SAEWA) (2000), and UASA – the Trade Union (1996).

3.2. Policy development

There have been numerous policy developments in the steel industry. These include global policy shifts, which impact the local industry, as well as the local policy shifts taking place in South Africa. This section expands on these policy developments in the steel industry. It first explores policy developments locally, starting with the IPAPs and goes on to the Master Plan, and highlights policy developments in the scrap space. Thereafter it focuses on the global policy shifts coupled by tariffs, BCAs, and the local carbon taxes.

Industrial Policy Action Plans (IPAPs)

The steel industry in South Africa has always been prioritised for industrial policy support through different iterations of the South African industrial policy. Since 2007, the sector has been prioritised in the IPAPs – annual strategies that set out specific actions for priority industries, particularly in the manufacturing sector, through the National Industrial Policy Framework setting out the strategic direction for South Africa's industrialisation (Mthembu, 2024).

South African Steel and Metal Fabrication Master Plan

As the policy shifted to master plans, the South African Steel and Metal Fabrication Master Plan was developed and signed on 11 June 2021. The Master Plan is intended to establish a stable and predictable trajectory for the steel industry, so that businesses and investors can invest with confidence in building up production capacity, innovation, skills, and expertise. From an institutional perspective, the steel master plan did not set up a platform for engagement within government and, in practice, intergovernmental engagements often ran into delays (Makgetla, 2024b). However, the master plan has a project management unit, designed to facilitate the implementation of the Master Plan. As AMSA has announced its potential closure of its Newcastle plant – which produces around a third of its long steel outputs, challenges in implementing the Master Plan have emerged (Makgetla, 2024b). Makgetla (2024b), in evaluating the Master plan, noted that to paint an accurate picture of the outcomes of the Master Plan remains difficult as global metals prices have been cyclical in nature.

Scrap metal policy

South Africa's economy faces challenges, including scrap metal theft, which damages infrastructure and disrupts rail transport and electricity, hindering production, economic growth, and service delivery (the dtic, 2022). To address this, the government has introduced policies affecting the iron and steel value chain. These measures include a price preference system (PPS) restricting scrap metal exports in 2013, a temporary export ban in 2020, an export tax in 2021, and additional actions from 2022.

In late 2024, developments emerged around the export tax on scrap metals, initially introduced in 2021. The proposed tax is set at R1000 per tonne, aiming to replace the 2013 PPS, which required scrap metal to be offered to domestic buyers at a discount before export (Ensor, 2024).

This tax has sparked a dispute between mini mills and AMSA, South Africa's largest crude steel producer, which primarily uses iron ore. Mini mills, relying on electric arc furnaces, argue they have cleaner production processes than AMSA and produce at a lower cost. In this view, ensuring that domestic manufacturers can buy scrap at the cost-plus price effectively aims to move rents to downstream manufacturing, in line with a basic strategy in South Africa's industrial policy. AMSA, in contrast, argues that the restrictions effectively represent an unfair subsidy to the mini mills, enabling them to undercut it.

Tariffs, carbon taxes and border carbon adjustment

As imports of steel and steel products increased post-COVID-19, the international Trade Administration Commission of South Africa (ITAC, 2024) launched an investigation in July 2024 for a remedial action in the form of a safeguard measure against the increased imports of certain flat-rolled products. This action was brought forth by SAISI and AMSA to protect the domestic steel industry.

In parallel, there have been policy developments from global and local fronts, in terms of environmental issues. Locally, South Africa passed the Carbon Tax Act 15 of 2019, which came into effect from 1 June 2019. Carbon tax is a levy/tax on the carbon dioxide (CO_2) equivalent of greenhouse gas emissions, emitted in sectors/activity that emit CO_2 emissions. The main objective of the tax is to limit or disincentive greenhouse gas (GHG) emissions, especially looking into the emitting of carbon dioxide. The South African Carbon Tax Act covers a wide range of sectors. Some of the sectors included in the tax include the energy sector (specifically looking into fuel combustion activities, such as electricity production, petroleum refining, and manufacturing in industries such as iron and steel and chemicals), transport, oil and natural gas, and emissions from energy production, such as coal-to-liquids processes and gas-to-liquids processes, amongst others (Maimele, forthcoming).

Globally, there is a growing shift toward low-carbon production, particularly in hard-to-abate sectors like the iron and steel value chain. Efforts to decarbonise steel production are being explored to reduce emissions from traditionally high-pollution processes. Alongside decarbonisation, environmental tariffs, such as border carbon adjustments, are being introduced, primarily in the Global North. The European Union's Carbon Border Adjustment Mechanism (CBAM) is the first of its kind and is currently in transition, with implementation set for 2026. Other countries, including the United Kingdom (UK), the United States, Japan, Australia, and Canada, are also considering similar measures (Maimele, 2024a). The UK, for instance, plans to implement its CBAM in 2027, a year after the EU (Maimele, 2024b).

4. SWOT ANALYSIS

Table 2: SWOT analysis

Strength	Weaknesses
1. Available and cheaper input materials for mini mills (i.e., available scrap – which have lowered price of steel locally). 2. Industrial policy support from government (i.e., subsidies for mini mills) 3. Increased participation, especially of mini-mill – more competition. 4. The steel industry produces a range of quality steel products that is also exported. 5. Well-established linkages with end user/markets such as the auto and construction industries locally and regionally. 6. South Africa has high-quality, low-cost iron ore and coal.	1. Iron ore prices for AMSA are linked to international prices, while electricity and freight have increased in price in the past five years. As a result, it has become less and less competitive with both mini mills in long steel and imports in flat steel. 2. Too much reliance on fossil fuels for production of iron and steel and related products (coal generated electricity). 3. Constant disruption of infrastructure, energy, and freight/transport infrastructure. 4. High reliance on old technology (i.e., BOF) to produce steel (long) – which is considered dirty steel. 5. Lack of human capital – there has not been development in engineers working in the space. 6. High reliance on imported coking coal . 7. Excess capacity in long steel.
Opportunities	**Threats**
1. Potential to increase market share in the African continent to mitigate global issues presented by Global North countries – the biggest market for South African iron and steel and related	1. Introduction of BCAs which will increase cost of exporting and the costs of South African iron and steel and related products – deeming them uncompetitive. 2. Rise of cheaper iron and steel and related imports, mainly from China and Europe.

products – Utilisation of the African Continental Free Trade Area agreement. 2. Technological change – moving to electric arc furnaces. 3. Greening the South African grid to allow reduction of carbon in electricity and potentially develop green steel. 4. Setting up a system that ensures that AMSA has access to local iron ore at a cost-plus price.	3. Slow roll out of public infrastructure projects 4. Struggling economy – low levels of economic growth affecting steel demand 5. Increased competition for scrap metals.

Source: Author's compilation with extracted inputs from Muhammed et al., 2023; SAISI, 2023; Who Owns Whom, 2022.

The steel industry in South African faces several threats, while the global steel industry continues to evolve. Countries mainly global north countries are introducing BCAs to move towards low carbon and cleaner production methods. The introduction of these will increase the cost of exporting and the costs of South African iron and steel and related products – deeming them uncompetitive. The South African steel industry should consider changing its technologies to green production methods. Doing so will increase the global competitiveness of steel in the longer term.

While the steel industry is well established, the industry currently is facing many domestic issues, including the rise of cheaper iron and steel and related imports, mainly from China and Europe, slow roll out of public infrastructure projects, struggling economy coupled with low levels of economic growth affecting steel demand, and energy and logistical issues. Again, for the steel industry to still remain the dominant steel industry in Sub-Saharan Africa, it need to fix its domestic issues.

The weaknesses of the steel industry include high operating costs especially for the main producers of steel in South Africa, high reliance on fossil fuels for production of iron and steel and related products (coal generated electricity), constant disruption of infrastructure – looking into energy and freight/transport infrastructure, lack of human capital, there has not been development in engineers working in the space for some time, and high reliance on imported coking coal. Turning these into strengths, would present a huge opportunity for the steel industry to utilise the opportunities the industry has.

Opportunities include investing and developing green steel, increasing market share in the African continent to mitigate global issues presented by global north countries – the biggest market for South African iron and steel and related products through the utilisation of the African Continental Free Trade Area agreement (AfCFTA). Also, the steel industry should change technologically, including moving to electric arc furnaces, and being less reliant on BOFs. Another entry point is the greening of the South African grid to allow reduction of carbon in electricity produced for steel mills in the country.

The steel industry in South Africa needs to restructure itself to leverage economic opportunities presented by the global structural change that is taking place. To do this, it needs to restructure itself domestically and start investing in the development of viable technologies and human capital. In this process, inclusivity needs to be considered. Inclusivity in terms of gender, and the development of future workforce for the industry, is evident that the industry has not managed to change for an exceptionally long time.

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