TRADE & INDUSTRIAL POLICY STRATEGIES

OPTIONS FOR LOCALISING STEEL INPUTS FOR THE INFRASTRUCTURE BUILD PROGRAMME

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ABBREVIATIONS

AMS	ArcelorMittal South Africa
APDP	Automotive Production and Development Programme
B-BBEE	Broad-Based Black Economic Empowerment
dtic (the)	Department of Trade, Industry and Competition
EU	European Union
IDC	Industrial Development Corporation
MYBPS	Medium Term Budget Policy Statement
OEMs	Original Equipment Manufacturers
SABS	South African Bureau of Standards
SARS	South African Revenue Service
SAISI	South African Iron and Steel Institute
SOC	State-Owned Company
US	United States

1. INTRODUCTION

The steel value chain has been in a long-term downturn since the mid-2000s. Only the mini mills, which produce long steel, and parts of downstream manufacturing have grown (Makgetla 2024). The new public infrastructure build programme, especially for electricity and rail, should support recovery by boosting domestic demand. It may, however, just fuel imports unless accompanied by policies to promote sustainable local procurement.

These developments point to the need to review existing strategies to promote localisation in the provision of public infrastructure. The aim is both to identify where policies can be strengthened, and to address changing conditions. In this context, a critical shift is the proposed increased reliance on private providers.

More effective support for localisation requires an understanding of the current obstacles to local procurement as well as adaptation to secure support from private investors. Blockages include:

- Historic biases built into public and private procurement systems;
- The ability of South African producers to compete with imports on price and quality; and
- The limited scope, partial implementation and corrupt abuse of existing policies to promote local procurement.

This paper starts by reviewing the economic logic behind localisation and experiences in the public infrastructure push in the 2010s. It then outlines the main instruments currently in place to support localisation – that is, tariffs, product designations, and support for actual and potential suppliers. An assessment of the costs, benefits and risks of these instruments follows. The final section indicates some next steps.

2. THE LOGIC OF LOCALISATION

The fundamental economic logic behind localisation is that, given affordable support, South African producers can replace imports at a reasonably comparable price and quality. As applied to the steel value chain, it incorporates the following theory of change.

1. The new build programme could help boost demand along the steel value chain because it requires large amounts of steel-based inputs, primarily in the form of machinery, structural steel and other basic products such as cables and fasteners.

2. If investors in the new build programme identify and buy steel goods from local producers at a cost and quality that is reasonably comparable to imports, local production of steel products will expand without unduly burdening investors or consumers of public infrastructure. In some cases, these initiatives would enable new investment to supply new or higher quality goods.

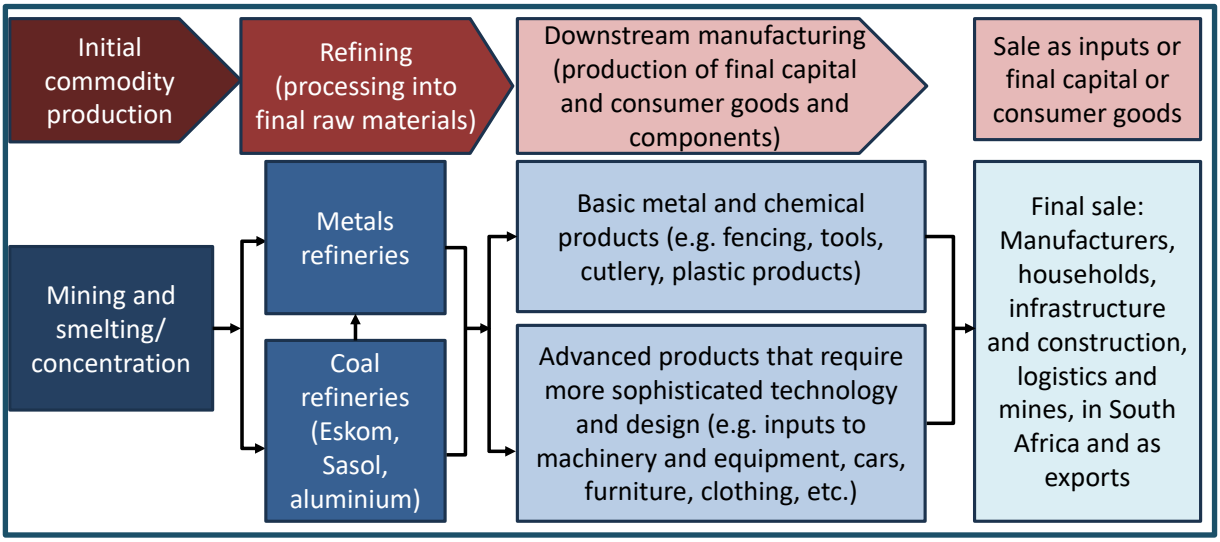
3. Increased sales of steel-based products will encourage new investment and employment as well as increasing domestic value added. After the build programme has ended, the new capacity in steel manufacturing should ideally find other markets, sustaining more dynamic growth along the value chain in the longer run.

The economic implications of local procurement vary significantly depending on whether it applies to crude steel or more advanced products. As Figure 1 indicates, steel manufacturing has two main phases:

- Basic refining by ArcelorMittal South Africa (AMSA) and the mini mills, and
- More advanced downstream manufacturing that processes crude steel into inputs for construction and infrastructure as well as machinery, plus basic household products such as hand tools and kitchenware.

From the standpoint of job creation and industrialisation, localising downstream products has significantly greater multipliers than just boosting demand for crude steel. It also, however, requires greater technological and design capacity. (See Makgetla 2024) By extension, success in localisation should be measured initially by growth in sales and capacity for basic steel products and machinery, rather than on crude steel.

Figure 1. Beneficiation in the mining value chain in South Africa



Source: Neva Makgetla. Beneficiation and Industrial Policy. 2024. Page 4. TIPS Policy Brief. Accessed at www.tips.org.za in November 2024.

3. EXPERIENCE TO DATE

This section first outlines the extent of production, imports and employment along the steel value chain as an entry point for understanding the potential for boosting GDP growth and employment. From this standpoint, localisation of downstream products, especially machinery, is far more important than crude steel. By extension, efforts to support crude steel should centre on reducing output costs rather than protection. A brief assessment of the economic impacts of localisation in the massive public infrastructure programme of the mid-2010s follows.

3.1. The scope for localisation in the steel value chain

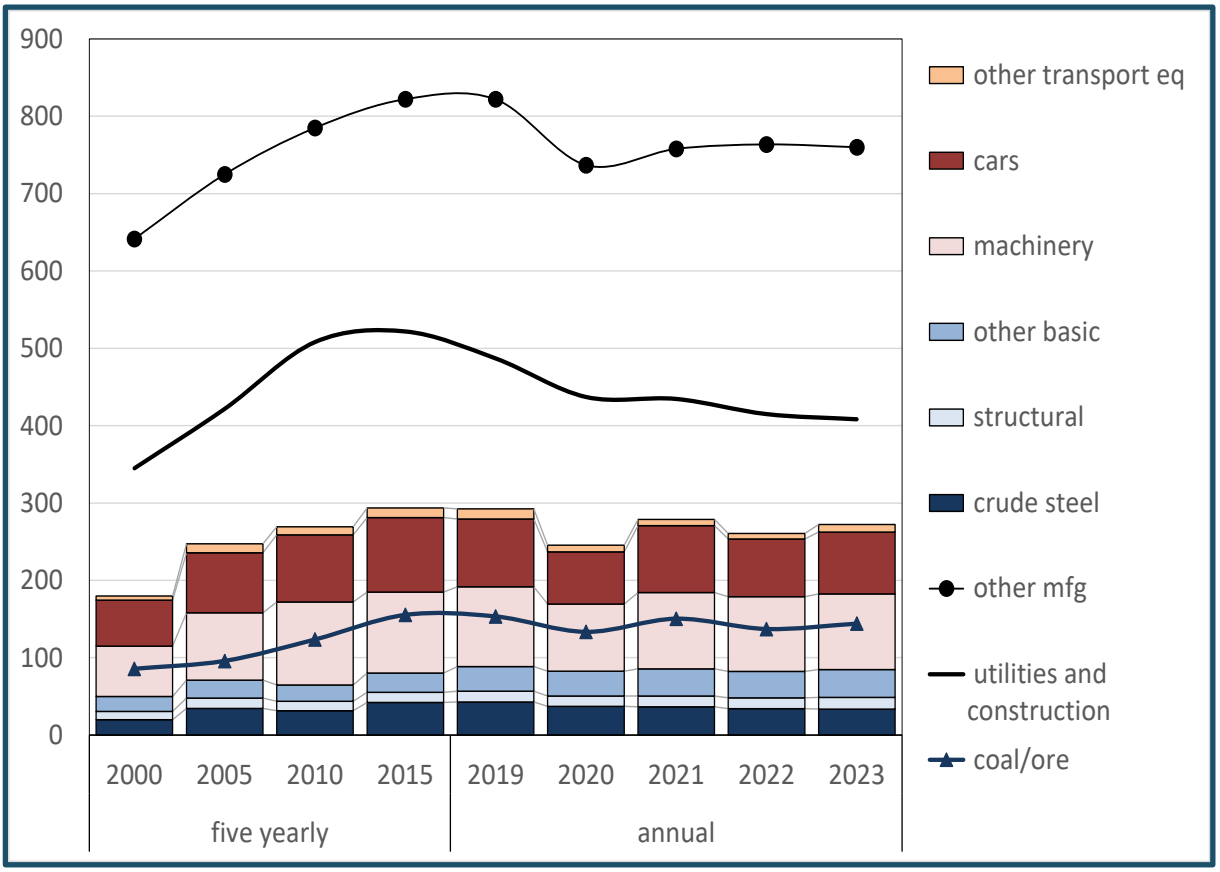
The potential of localisation in the steel value chain for promoting more inclusive industrialisation can be understood from an assessment of the scale of the local value chain, on the one hand, and the extent of imports, on the other. In the event, the production of crude steel and basic steel products

remains fairly small in terms of the contribution to the GDP and job creation. Machinery and equipment are far more important on both of these dimensions. In terms of imports, flat steel imports climbed rapidly over the past 20 years, with far more modest increases for long steel, basic steel products and machinery. They remain small relative to imports of machinery and transport equipment, however.

3.1.1 Production and employment

As Graph 1 shows, in 2023 around two thirds of value added in steel-based manufacturing came from production of machinery and transport equipment rather than crude steel refineries. Overall, value added in steel-based manufacturing climbed from 2000 to 2015, then levelled out, mostly due to challenges facing the auto industry during and following the COVID-19 downturn. As a result, the share of steel-based industries in manufacturing fell from almost 30% of manufacturing value added in the early 2000s to 26% in the early 2020s. As a share of the total GDP, the share dropped from 6% to 4%. Crude steel alone fell from 1% if the GDP in 2000 to 0.5% in 2015, then stabilised.

Graph 1. Value added in the steel value chain, including construction and infrastructure, and in the rest of manufacturing in billions of constant (2023) rand (a), 2000 to 2023

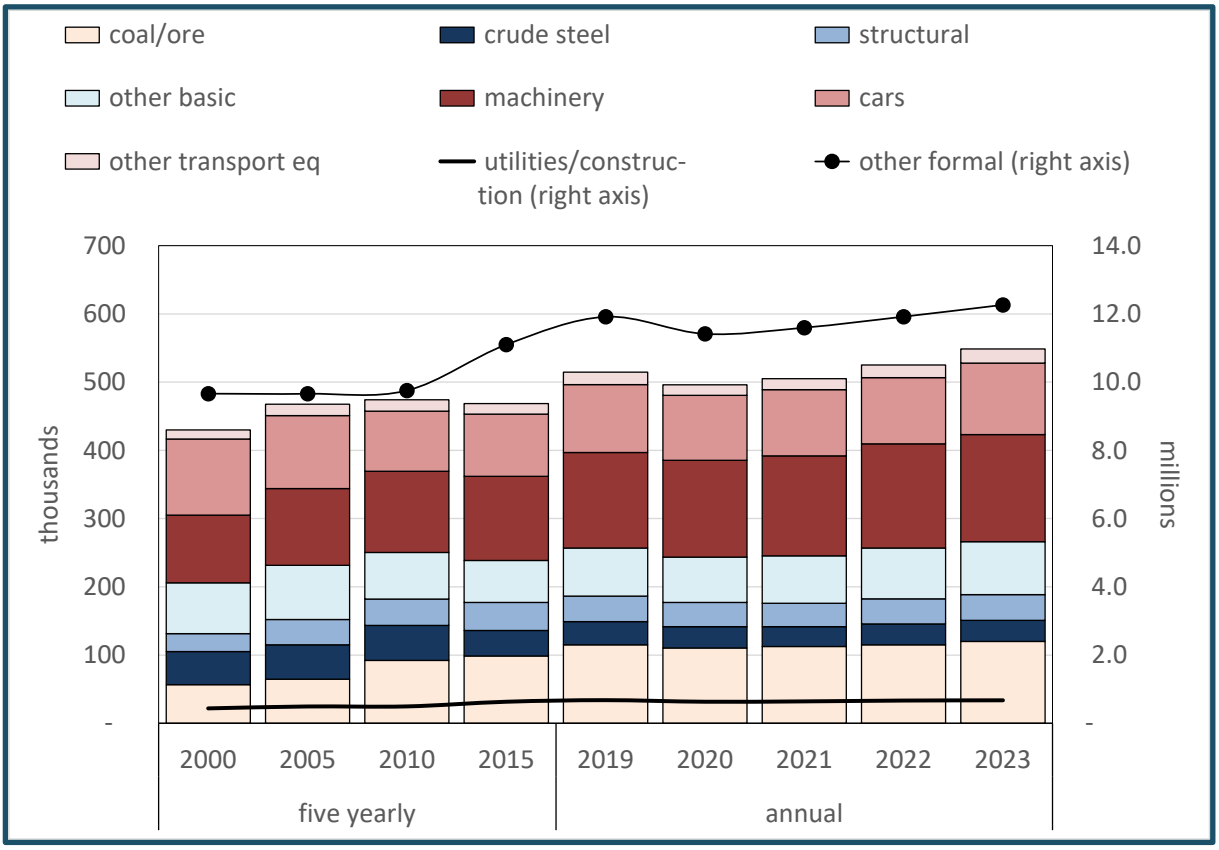


Note: (a) Calculated with implicit deflators rebased to 2023. Source: Calculated from Quantec. EasyData. Interactive dataset. Standardised industry series – inputs. Accessed at www.quantec.co.za in November 2024.

Production of steel and downstream manufacturing were relatively capital intensive. As a result, the contribution of steel-based manufacturing to total formal manufacturing employment lagged its share in the GDP, at just 3.2% in 2023. From the early 2000s to 2023, employment in crude steel production

fell from 50 000 in the early 2000s to 30 000, and auto employment also shrank. In contrast, employment in other machinery production rose. Auto and other machinery together accounted for two thirds of formal employment in the value chain. (Graph 2)

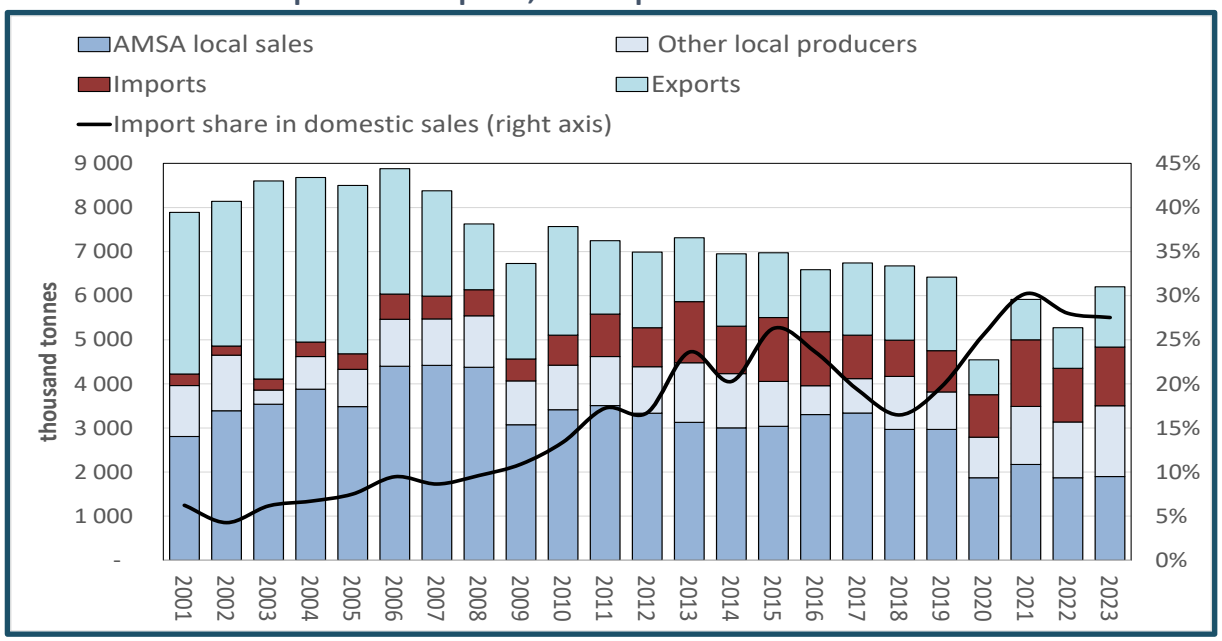
Graph 2. Formal employment in the steel value chain, including construction and infrastructure, compared to the rest of the economy, 2000 to 2023



Source: Calculated from Quantec. EasyData. Interactive dataset. Standardised industry series – employment and remuneration. Accessed at www.quantec.co.za in November 2024.

Crude steel production in South Africa has faced a crisis for the past 20 years. Demand has been flat for 50 years while exports have plummeted since the mid-2000s. The impact has differed sharply, however, for flat and long steel. In long steel, imports remained low, at around 5% of total use in South Africa. Around a dozen new mini mills emerged, expanding their market share by undercutting the historically dominant producer, AMSA, and increasing exports. In flat steel, in contrast, imports climbed to around a third of domestic use. These trends led to falling production at AMSA (Graph 3), which was formed when the international steel conglomerate Arcelor Mittal acquired Iscor in the early 2000s.

Graph 3. Domestic steel sales in thousands of tonnes by AMSA, other local producers, imports and exports, and imports as a share of total

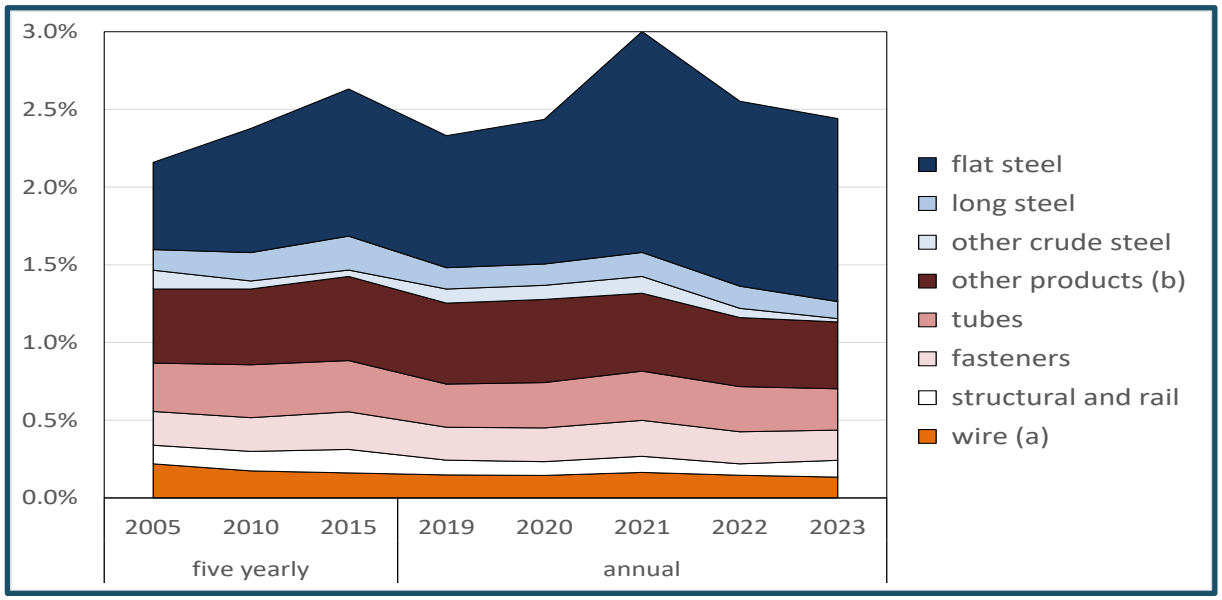


Source: Calculated from AMSA. Annual reports, and South African Iron and Steel Institute (SAISI). Source: SAISI. Historical time series. Excel spreadsheet. Downloaded https://www.saisi.org/historical-time-series/ May 2024.

3.1.2. Imports

From 2005 to 2023, imports of crude steel and basic steel products fluctuated around 2.5% of all South African goods imports. Machinery and equipment accounted for a quarter of total imports in the decade to 2023.

Graph 4. Crude steel and basic steel products as a percentage of South African goods imports in current rand, 1995 to 2023

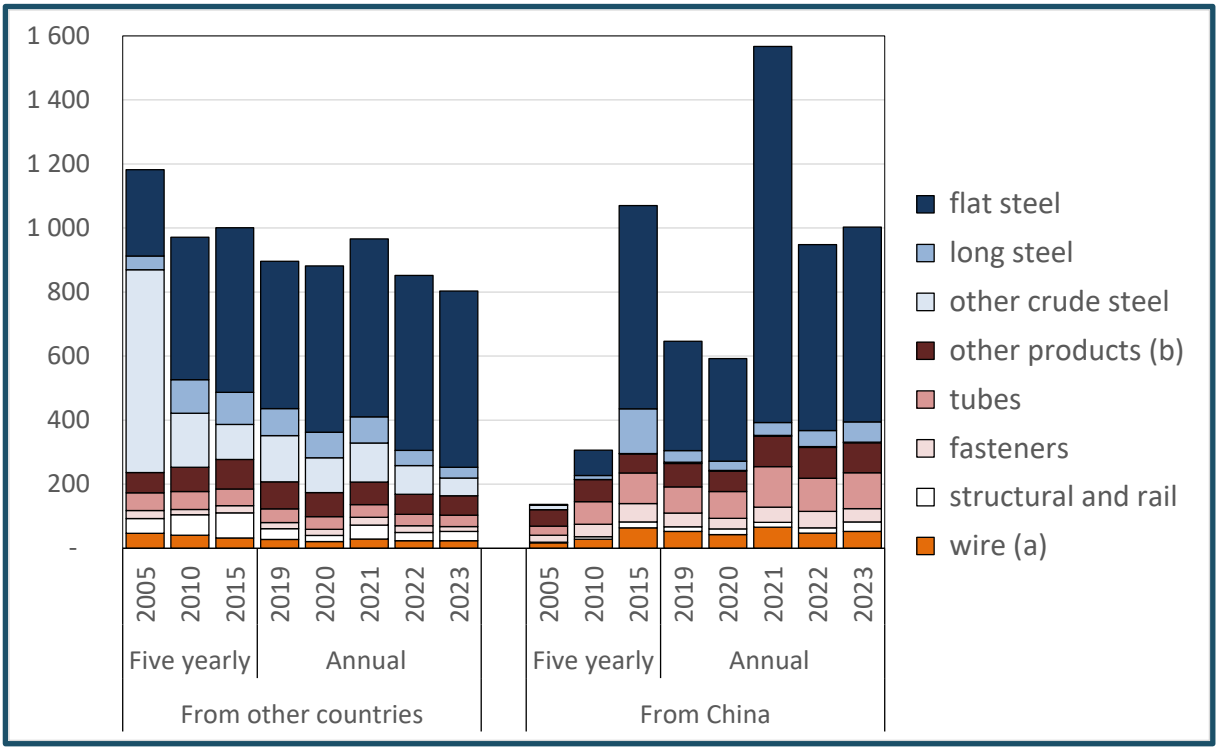


Notes: (a) Includes barbed and stranded wire. (b) For instance, hand tools, cutlery, stoves and radiators. Source: Calculated from International Trade Centre. Trade Map. Interactive dataset. Accessed at www.trademap.org in November 2024.

Within basic steel products, the share of imports of flat steel grew, while that of other basic steel products shrank. By value, flat steel imports climbed from a quarter of imports of crude steel and basic steel products in 2005 to a third through the 2010s. After 2020, they rose to almost half. Flat steel imports climbed from 0.6% of all South African imports in 2005 to 0.9% in 2015, then jumped to 1.2% in 2023. (Graph 4)

In volume terms, imports of flat steel surged from the 2000s, with most of the growth coming from China. Imports of other steel-based products grew comparatively slowly from 2010, although there was a shift to Chinese sources. (Graph 4)

Graph 4. Imports of flat steel and other crude steel products and basic steel manufactures,1995 to 2023, in thousands of tonnes

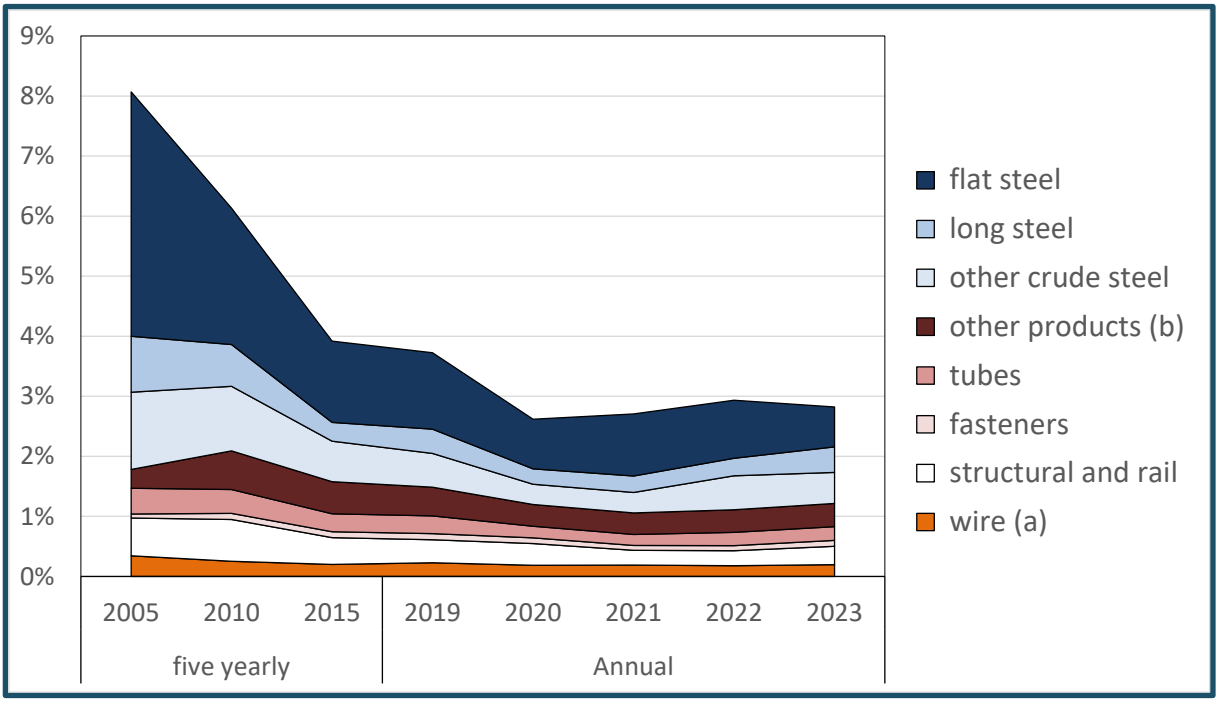


Notes: (a) Includes barbed and stranded wire. (b) For instance, hand tools, cutlery, stoves and radiators. Source: Calculated from International Trade Centre. Trade Map. Interactive dataset. Accessed at www.trademap.org in November 2024.

Exports of crude steel were essentially flat in volume terms from the late 2000s.[1] Exports of long steel increased, while exports of flat steel fluctuated. In value terms, steel-based products excluding machinery and cars fell from 8% of South African goods exports in the mid-2000s to around 3% in the early 2020s. (Graph 5) Most of the decline reflected plummeting foreign sales of flat steel.

[1] The trade data differ somewhat from the data provided by the crude steel producers association, SAISI, which is cited in Graph 3.

Graph 5. Crude steel and basic steel products as a percentage of South African goods exports in current rand, 1995 to 2023



Notes: (a) Includes barbed and stranded wire. (b) For instance, hand tools, cutlery, stoves and radiators. Source: Calculated from International Trade Centre. Trade Map. Interactive dataset. Accessed at www.trademap.org in November 2024.

3.1.3. Implications

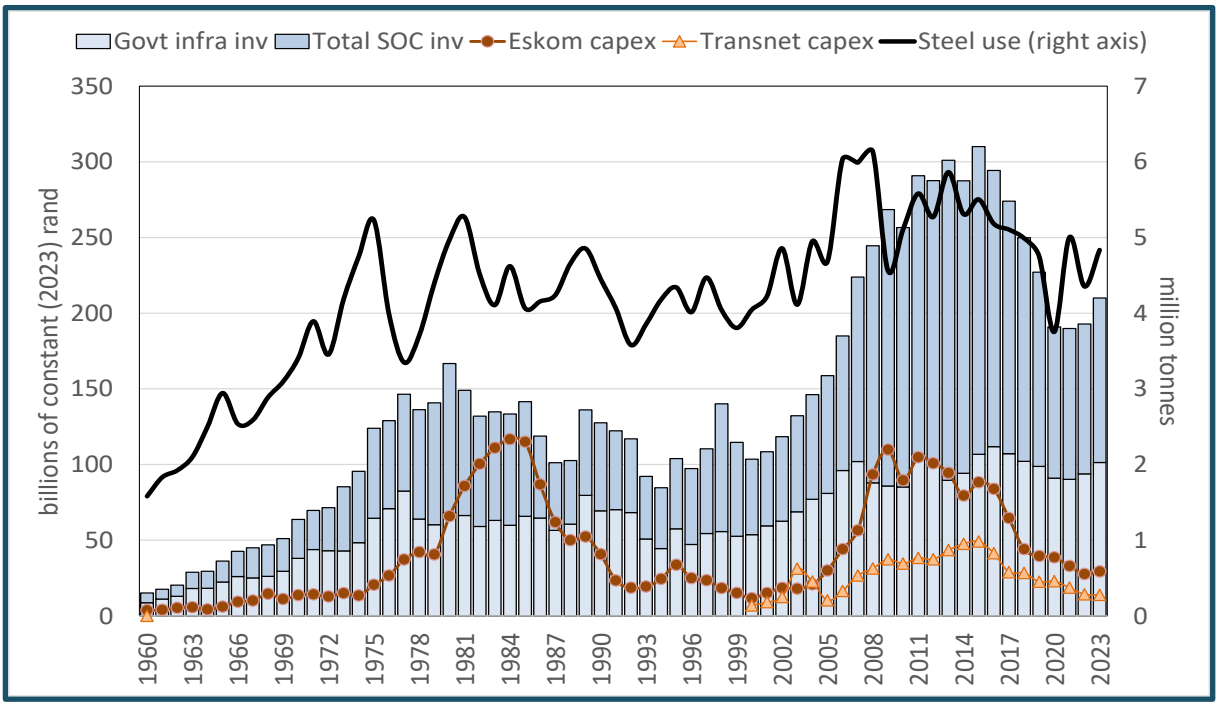
Overall, the main contribution from the steel value chain to the GDP today comes from machinery and auto production, and the construction industry. From this standpoint, maximising the developmental impact of localisation requires a focus on these relatively advanced industries. Unless crude steel producers can compete with imports, taking into account price, reliability, quality and responsiveness, hard trade-offs may emerge between efforts to sustain prices for domestic flat and long steel, on the one hand, and supporting more advanced downstream manufacturers of steel-based products, on the other.

3.2. Localisation and economic development in the 2010s

As Graph 6 shows, government investment tripled from 2000 to 2015. Steel use rose much less rapidly, climbing by a third. That left it lower than in the late 2010s, when a surge in export metal prices brought a boom in mining and construction. From 2015 to 2023, public investment fell over 30% and steel use dropped over 10%.

The impacts of localisation in this period can be measured on two dimensions: the extent to which the build programme laid a foundation for long-run, more inclusive growth, and the effectiveness of designations in increasing demand for steel-based products.

Graph 6. Government and total SOC investment in infrastructure and Eskom and Transnet capital expenditure in billions of constant (2023) rand (a), and steel use in millions of tonnes, 1960 to 2023



Note: (a) State-owned company (SOC) and general government gross fixed capital formation reflated using the implicit deflator for SOC infrastructure investment rebased to 2023. Transnet and Eskom capex deflated with CPI rebased to 2023. Source: SOC and general government gross fixed capital formation calculated from South African Reserve Bank. Online statistical query. Interactive database. Accessed at www.resbank.co.za in November 2024. Data on Transnet and Eskom from relevant annual reports.

The build programme began to meet long-standing backlogs in infrastructure investment. Still, it clearly did not adequately address the challenges especially in electricity and rail, which, as Graph 6 shows, were key elements in the investment surge in the 2010s. As Treasury noted in the 2024 Medium Term Budget Policy Statement (MTBPS), "Initially strong investment by public corporations has not translated into effective electricity supply and transport infrastructure, and private investment has been largely flat over the past 15 years." (National Treasury 2024:41)

This outcome resulted from a number of factors. They included poor design of new Eskom plants, combined with significant corruption and inefficiency in the procurement process. In addition, the push to increase investment fuelled a tendency to overestimate the ability of users to pay for the new infrastructure. This emerged most vividly around the Gauteng freeway improvement programme, which saw a widespread refusal to pay tolls. The challenge of designing self-financing projects will be even more difficult in the new build programme, which will rely in large part on private investors.

In this context, efforts to drive localisation through designations and contracts with private suppliers were only partially successful. To start with, designations targeted individual products or product groups. As a result, they did not cover many steel products used in public infrastructure. Table 1 shows the products that were designated in the 2010s; Annexure A provides more detail. As discussed in the next section, these designations lost legal force in 2022, and have still to be reinstated formally under the 2024 public procurement Act.

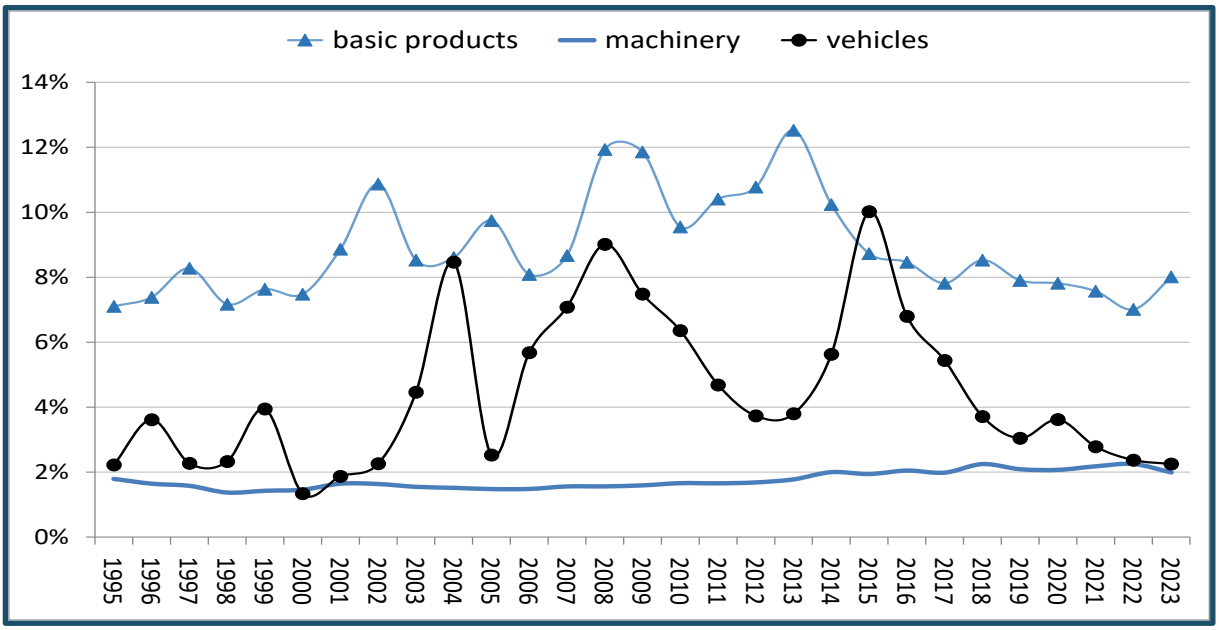
Table 1. Historically designated steel-based products (as of 2022)

PRODUCT	THRESHOLD	YEAR
Buses (Bus Body)	80%	2012
Steel pylons	100%	2012
Rail rolling stock	65%	2012
Solar water heater components	70%	2013
Valves and actuators	70%	2014
Working vessels/boats (all types)	10% - 100%	2014
Solar PV components	15% - 90%	2016
Rail signalling	40% - 100%	2016
Fire fighting vehicle	30% - 100%	2016
Steel inputs for Construction	100%	2017
Pumps	70% - 100%	2017
Rail permanent way	70% - 100%	2017
Air insulated MV switchgear	5% - 50%	2019
Bulk material handling	85%	2019

Source: Kindly provided by the Department of Trade, Industry and Competition (the dtic).

Imports of designated products averaged 8% of total imports of basic steel products from 2015 to 2023. For machinery, the figure was 2%, and for vehicles, 4%. Most of the imports in these categories went to the private sector. As **Error! Reference source not found.** shows, the percentage of steel i mports accounted for by designated categories fluctuated substantially before and after designations. Outside of machinery, the share tended to decline from the mid-2010s. The decline largely reflected the broader slowdown in construction following the end of the commodity boom in the mid-2010s.

Graph 8. Share of designated products in imports by category of steel product (a), 1995 to 2023



Notes: (a) Designations are defined here as HS 7301, 7302, 7305, 7306, 7308, 7313, 7317 and 7318 for steel products, HS 8413 and 8530 for machinery, and HS 86, 8702, 87053, 8905, and 8906 for vehicles. Source: Calculated from South African Revenue Service (SARS) data accessed via Quantec. EasyData. Series on national trade HS 8-digit. Interactive dataset. Accessed at www.quantec.co.za in November 2024.

The available evidence suggests that designations were not implemented consistently by government agencies. In some cases, tenders were issued or awarded without setting thresholds for local content. In others, suppliers simply ignored or renegotiated their initial commitments to localise inputs. This was particularly visible in the case of locomotive procurement by Transnet, which was heavily tainted by corruption.

Patchy implementation emerged from the dtic's record of tenders issued for designated products from March 2015 to October 2023. In nominal rand, they totalled R52 billion for rolling stock and R19 billion for all other steel products. (Table 2)

Table 2. Value of tenders for steel products captured in dtic/SABS database from March 2014 to October 2024

Designated product	nominal value (current R bns)	number of tenders submitted
Rail rolling stock (a)	52.0	9
Working boats	4.3	3
Buses	0.8	3
Construction (b)	7.8	648
Power pylons	2.3	11
Steel construction inputs (c)	1.8	279
Temperature control equipment and water tanks (d)	1.2	459
Valves and actuators	0.6	119
Solar water heaters	0.5	16
Total	***71.2***	***1 547***
Total excluding rail rolling stock	***19.2***	***1 538***

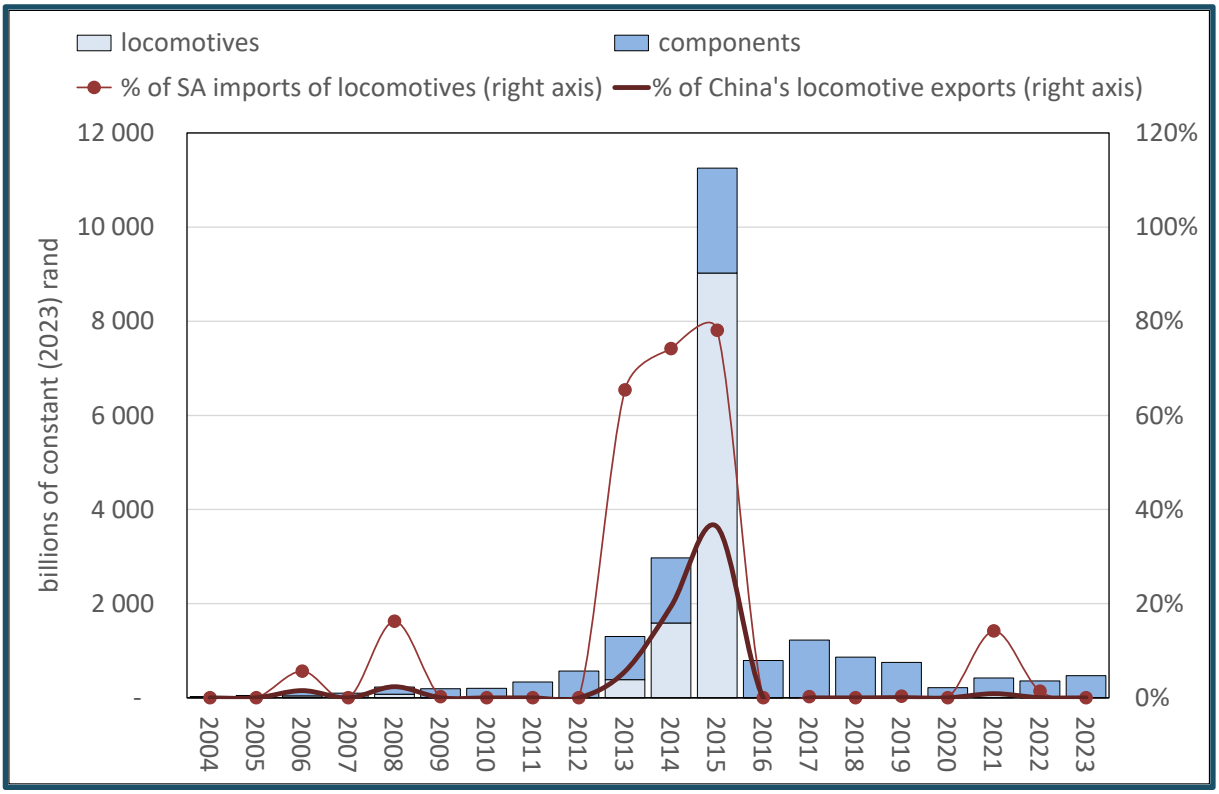
Notes: (a) No tenders were recorded for pumps or bulk material handling equipment. (b) Tenders for locomotives procured from China were verified but local content apparently not enforced by Transnet, and tenders were overvalued due to corrupt finders fees. c. It is not clear how this relates to the list of designated products replicated in Table 1. (d) These products are not listed explicitly as designated products but could be considered steel construction inputs. Source: The dtic. 2024. Briefing on the role of the Public Procurement Act in contributing to industrialisation, inclusive growth and transformation, as well as the role of the dtic in ensuring compliance – the Role of Broad-Based Black Economic Empowerment (B-BBEE) and localisation in the Public Procurement Act. Input to the Portfolio Committee on Trade, Industry and Competition. 27 November. Accessed at https://pmg.org.za/committee-meeting/39987/ in December 2024.

The dtic's data base captured only submitted tenders, which meant it understated procurement of designated products. For instance, it recorded R807 000 in bus tenders from March 2015 to October 2023, totalling under R1.5 billion in 2024 terms. A search for municipal bus tenders over this period found tenders for over 1010 units, which would be worth at least R4 billion in 2024. That said, all but one of the contracts in the sample found on line specified local content thresholds that aligned with the designation. In contrast, tenders for bus services, rather than buses themselves, did not set local content thresholds for the buses used.

The most obvious shortfall in enforcing designations occurred in the procurement of over 1000 locomotives by Transnet for more than R50 billion in current rand, well over R65 billion in 2024 terms. The procurement of rolling stock accounted for 60% of all recorded tenders for designated products,

and 80% of tenders for designated steel-based goods. Although local content was verified by the South African Bureau of Standards (SABS), in practice Transnet ignored the 65% threshold set by the designation. Instead, it accepted bids ranging from 35% to 50%. Actual local content was even lower. The Zondo Commission found that the locomotives supplied by China South Rail had only 15% local content. (Zondo Commission 2022:156) Imports of locomotives from China peaked in 2015, far exceeding imports of components. They accounted for a third of all Chinese locomotive exports in that year (Graph 7; see Crompton et al. 2017:63). In addition, the price of the contract escalated by nearly 20% in the course of the procurement process. Some 20% of the contracts with China South Rail and China North Rail was corruptly paid to intermediaries. (See Zondo Commission 2022:488ff)

Graph 7. South African imports of locomotives and locomotive components, in billions of constant (2023) rand (a) and locomotives imported from China as a percentage of South African locomotive imports and Chinese locomotive exports, 2000 to 2024



Note: (a) Reflated with average annual CPI rebased to 2023. Source: Calculated from International Trade Centre. Trade Map. Interactive dataset. Accessed at www.trademap.org in December 2024.

Ultimately, despite the designation of all steel inputs into construction from the mid-2010s, at best they slowed steel imports. From this standpoint, the designation programme had two critical shortcomings. First, it covered only a small share of all steel products. Second, enforcement was poor, notably for locomotives, which had by far the largest recorded tenders for designated products.

4. THE LEGAL FRAMEWORK

This section analyses the existing framework for localisation as the basis for ensuring improved implementation in the new build programme. It starts by reviewing the obstacles to localisation for infrastructure providers and suppliers. It then outlines the existing instruments to promote

localisation, namely tariffs; designations; and industrial-policy measures. The final sub-section summarises the costs, benefits and risks of each set of instruments for infrastructure investors and users, and for suppliers along the steel value chain.

4.1. The obstacles to localisation

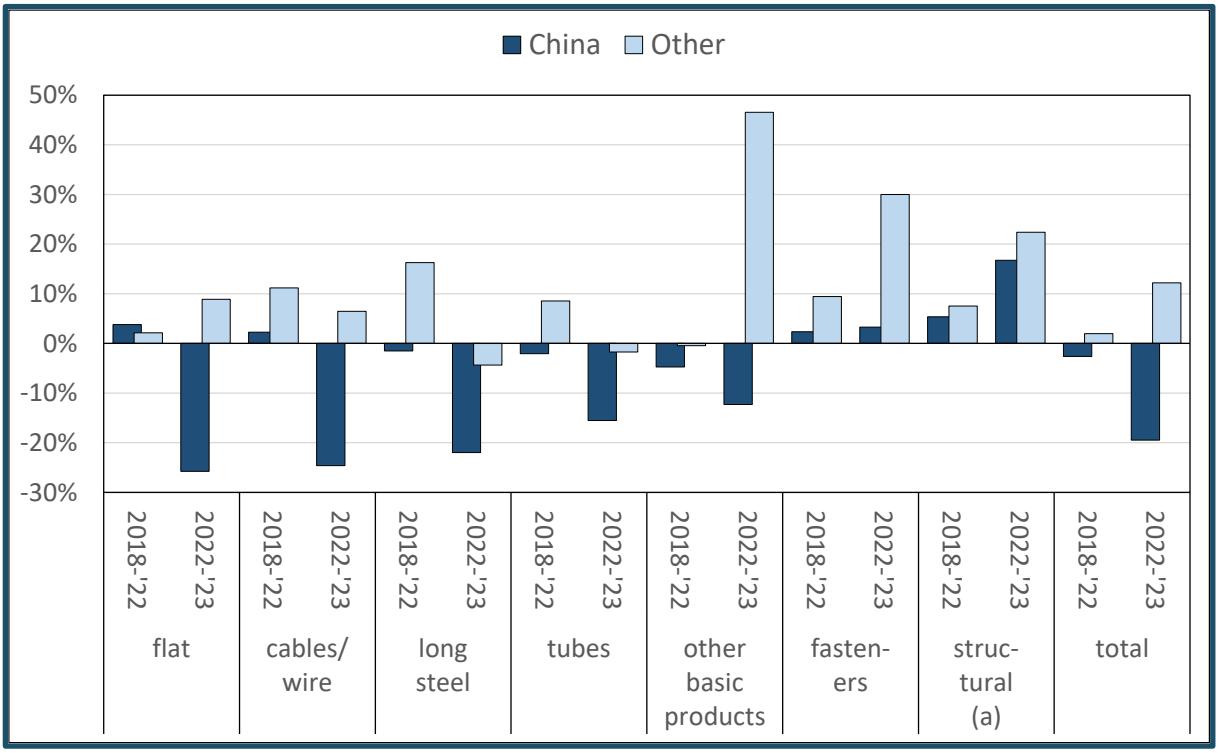
The main obstacles to localisation relate to the need to improve the competitiveness of domestic suppliers and to the difficulties inherent in building new procurement relationships.

4.1.1. Infrastructure investors

Most infrastructure investors support localisation, both because of the broader developmental impacts and because it promises shorter supply chains. Nonetheless, they may prefer imported inputs for both institutional and economic reasons.

- Many investors do not have capacity or procedures to identify potential local suppliers and work with them to meet their needs. They may have long-standing relationships with foreign suppliers, including the original equipment manufacturers (OEMs).
- Potential local producers may need time and financing to gear up for specific products. That means infrastructure investors may have to move away from standard arms' length tenders. They may have to determine needs longer in advance; modify long-standing specifications that unnecessarily favour imports or even specify foreign brands; provide technical support and expertise to new suppliers; and in some instances help mobilise investment finance.
- Even if supply chain managers provide a supportive environment, local suppliers may be unable to match import prices or quality, even if they get a price premium reflecting the advantages of shorter supply chains. In these circumstances, investors will necessarily turn to imports unless government provides additional incentives and support.
- Foreign suppliers may engage in dumping or get substantial overt and systemic subsidies. Since 2020, the slowdown in China, and especially the property crash there, has reportedly led its steel producers to pursue foreign markets more aggressively. As Graph 8 shows, from 2022 to 2023 the unit import price of most basic steel products from China fell substantially. For products where Chinese export prices climbed, the increase was lower than for other suppliers. The new US administration has threatened to increase tariffs, which will likely displace steel exports to other countries, including South Africa.
- Any factor that gives supply-chain managers greater discretion in procurement increases the risk of corruption. Localisation requires managers to decide between bidders based on factors that may be hard to quantify in advance. Difficulties include deciding whether local suppliers can reliably meet the requirements for delivery deadlines and quality; how to choose between empowered importing companies and domestic manufacturers which are not empowered; how to value the cost of disrupting long-standing relationships with well-established, branded foreign suppliers; and whether to accept foreign aid and financing if it is linked to procurement from other countries.

Graph 8. Change in unit import price for basic steel products from China and from other countries, 2018 to 2022 and 2022 to 2023



Note: (a) Includes rail, which is however comparatively small. Source: Calculated from SARS data accessed via Quantec. EasyData. Series on national trade HS 8-digit. Interactive dataset. Accessed at www.quantec.co.za in November 2024. Indices of average price per tonne for AMSA steel, imports of flat-rolled steel and exports of long steel, iron ore and coal, in constant (2023) rand per tonne (a), 2011 = 100.

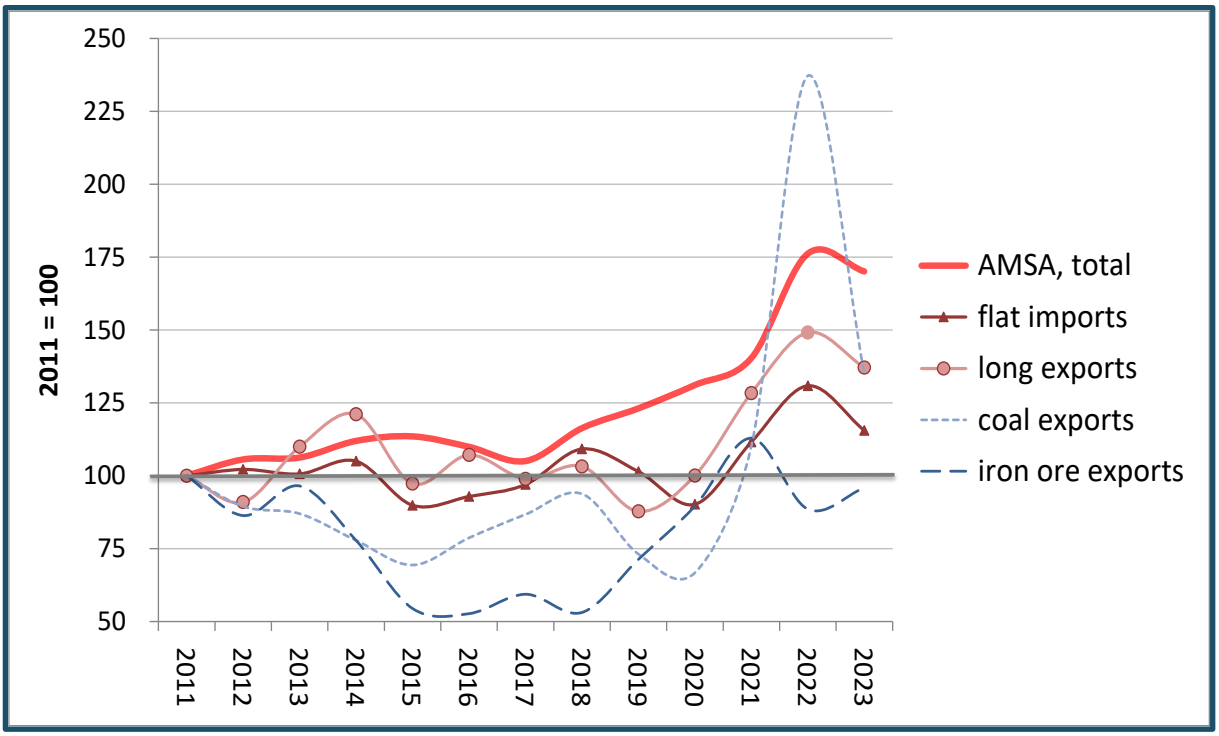
4.1.2. Suppliers of steel-based inputs

Suppliers of steel-based inputs for infrastructure benefit directly from localisation policies. Their ability to take advantage of them, however, depends in large part on whether they hear about tenders, and can match the price and quality of imports. Local manufacturers may also be unable to match the empowerment scores of some importing companies.

Factors behind high domestic manufacturing costs include the price of crude steel and the cost of acquiring competitive technologies, as well as disruptions to electricity and port delays. Unit prices for crude steel are in turn affected by the prices of iron ore, coking coal, and to a lesser extent freight transport and electricity.

As Graph 11 shows, for the past decade, unit prices for AMSA have risen more rapidly than either import prices of flat steel or export prices for long steel. All of them climbed sharply in the early 2020s as international for iron ore and coal spiked.

Graph 9. Indices of average price per tonne for AMSA steel, imports of flat-rolled steel and exports of long steel, iron ore and coal, in constant (2023) rand per tonne (a), 2011 = 100



Note: (a) Reflated with CPI. Source: For AMSA, Annual Reports. For unit prices, calculated from Quantec. EasyData. Interactive dataset. Series on national trade at HS-8 digit level. Accessed at www.quantec.co.za in December 2024.

AMSA prices rose sharply from the 2010s, even before the spike in input prices in the early 2010s. In part, this was because it lost control of its iron ore supplier after Iscor was acquired by ArcelorMittal in the mid-2000s. As a result, its input prices climbed to international levels, which were well above domestic production costs. In effect, it ended up competing with Chinese steel producers for South African iron ore. At the same time, AMSA largely lost its export markets in Europe and Asia, in part due to new competition from Eastern Europe and China, and in part to avoid competing with other ArcelorMittal subsidiaries. The two thirds fall in AMSA's total output over the past 20 years cut its capacity utilisation to between 50% and 60%, raising its unit costs. In this context, AMSA reportedly limited its new investment, making its technologies increasingly uncompetitive and dependent on grid electricity.

In contrast to AMSA, the mini mills in long steel used scrap rather than ore. That limited the impact of the price bump in commodities in the early 2010s. Moreover, from 2013, the government required scrap exporters to reduce the price to domestic users nearer to production costs, rather than matching export prices. In effect, it moved the rents from the scrap suppliers to the mini mills.

As of 2024, the mini mills could not provide some special long steels supplied by AMSA, mostly for machinery and equipment, including auto. By weight, these products accounted for around a quarter of total long-steel use. The mini mills could upgrade their inputs and downstream processing to

manufacture most, but likely not all, of these needs but would require months or even years. (See Makgetla 2024)

Besides the price of raw materials, local manufacturers face additional obstacles in meeting the needs of the build programme. They include the following:

- Because the local steel industry is small by world standards, it may not produce all of the products required for new infrastructure investments. Developing the necessary competencies and ensuring quality output may need time and in some cases new investment.
- Local suppliers may not be certified by OEMs to produce some machinery components. That may mean they are barred from providing components or spare parts for some machinery. Obtaining certification can be an onerous process. In the auto industry, it may take up to two years.
- Investment to develop new product lines and, when necessary, gain OEM certification may be uneconomic for once-off or uncertain infrastructure investments. In these cases, potential local producers may decide the revenues from the tender are too small to compensate for the cost of upgrades.

Finally, procurement systems for infrastructure may unnecessarily block local suppliers.

- Both public and private procurement systems generally do not include sufficient time for potential local suppliers to invest in new product lines or meet new specifications. In the public sector, supply chain managers are usually barred from engaging with potential suppliers on specifications or cost before they issue a tender. As a result, local producers may not have time to meet tender requirements.
- Government agencies sometimes include specifications that unnecessarily rule out local producers, including brand names or materials that are not available locally. This situation may result when supply chain managers copy specifications from earlier tenders or from the existing suppliers' product description.
- Hundreds of government agencies gazette contracts that require steel inputs, from municipalities to state-owned companies and independent agencies to national departments. Monitoring the information flow requires significant effort, which may not be worth it for manufacturers that are already producing near capacity. Shifting to private investors may aggravate this problem, since they are not required to follow standardised tender procedures.
- Public sector procurement rules often make payment dependent on deliverables. That can make it harder for suppliers to invest in new lines.
- Foreign companies often lobby for their products, exaggerating quality differences, providing overseas trips to visit production sites and sometimes making corrupt payoffs.

4.2. Tariffs

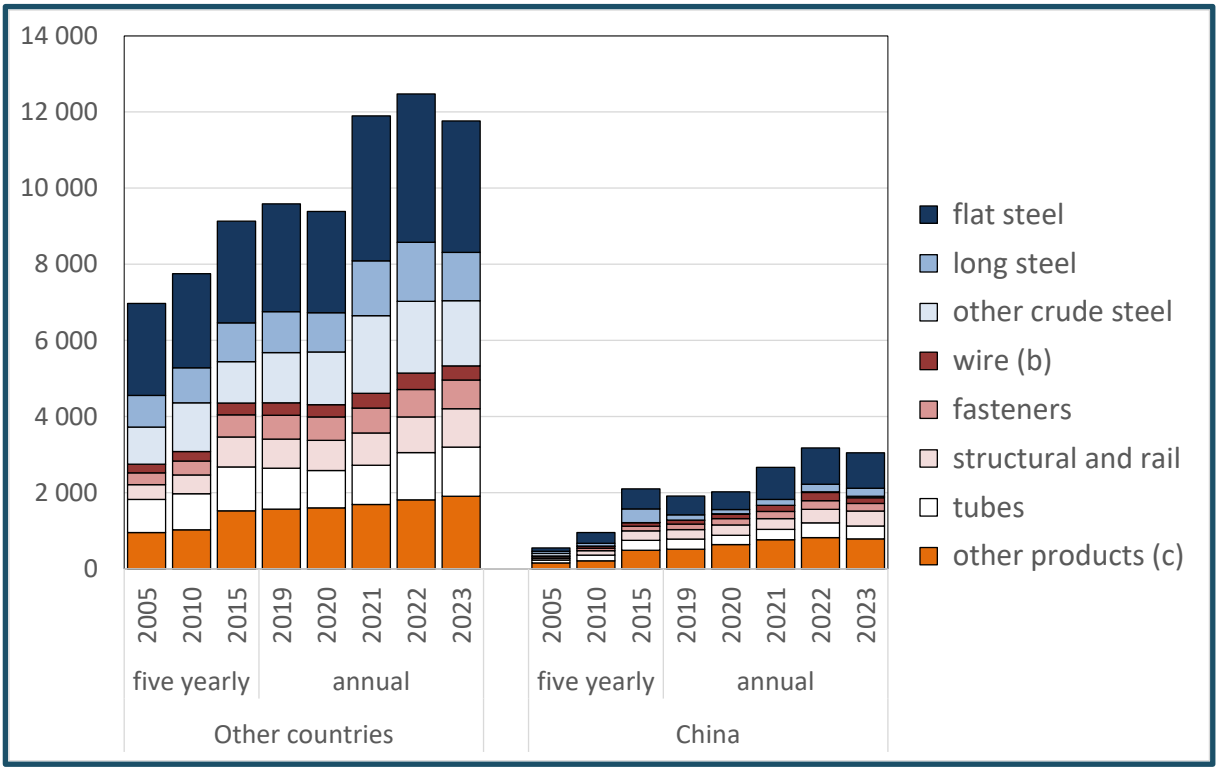
Tariffs have historically been the main way to encourage local procurement by private businesses and households. For steel, the leading measures in the past decade have been temporary anti-dumping duties to protect crude steel, targeted primarily at rapidly increasing Chinese imports. The result has generally been higher input costs for downstream manufacturers. Tariff protection for these manufacturers has been more targeted and complex, reflecting their more complicated production systems. The most explicit link to localisation of inputs has been in auto over the past 70 years, most recently through the Automotive Production and Development Programme (APDP).

South Africa imposed a variety of tariffs on crude steel imports from the mid-2010s. In 2024, it had a 9% anti-dumping tariff on flat steel. Downstream users could in theory get a rebate on steel products that were not available locally. The process required individual manufacturers to apply separately, however, adding administrative burdens and delays.

Most high and middle-income countries with a significant steel industry imposed similar tariffs in the mid-2010s, often renewing them in the early 2020s. Only around 20 countries plus the EU were involved, including the original BRICS and the US. (Calculated from WTO 2024) They accounted for over 90% of global steel production. The countries listed as targets of anti-dumping measures contributed 90% of global steel production. (Calculated from WorldSteel 2023)

Most anti-dumping actions on crude steel, including in South Africa, aimed primarily at China. China's share in world steel production climbed from under 10% in the 2010s to over half in the early 2020s. Its share in exports was much smaller, but its huge capacity meant it could also grow rapidly if the domestic Chinese market shrank. China's exports of crude steel peaked at 16% of the global total in 2015, then fell to 10% in 2019, presumably in part due to the increase in tariffs. From 2020 to 2023, however, as the Chinese economy slowed following the COVID-19 pandemic, China's exports of flat steel almost doubled, rising from 33 million tonnes to 60 million. Other countries also increased steel exports, but not as rapidly. As a result, China's foreign sales of flat steel climbed from 15% of the world total in 2019 to 21% in 2023. Its share in exports of basic steel manufactures was higher, and rose through 2022. For most products, however, the share fell back in 2023, possibly due to renewed tariffs. (Graph 10)

Graph 10. Global exports of steel-based products by China and other countries, in billions of constant (2023) rand (a), in 2005, 2010 and 2015, and annually from 2019 to 2023



Notes: (a) Reflated with average annual CPI rebased to 2023. (b) Includes barbed and stranded wire. (c) For instance, hand tools, cutlery, stoves and radiators. Source: Calculated from International Trade Centre. Trade Map. Interactive dataset. Accessed at www.trademap.org in November 2024.

Crude steel producers are often able to lobby effectively for tariff protection because they are large, historic companies. Moreover, many big integrated mills are located in secondary towns with limited alternative production clusters. If these mills threaten to close down, it is often easier for governments to impose tariffs than to attempt a just transition. Finally, the Chinese steel industry is partially state owned and largely state supported, making it easier to justify tariffs.

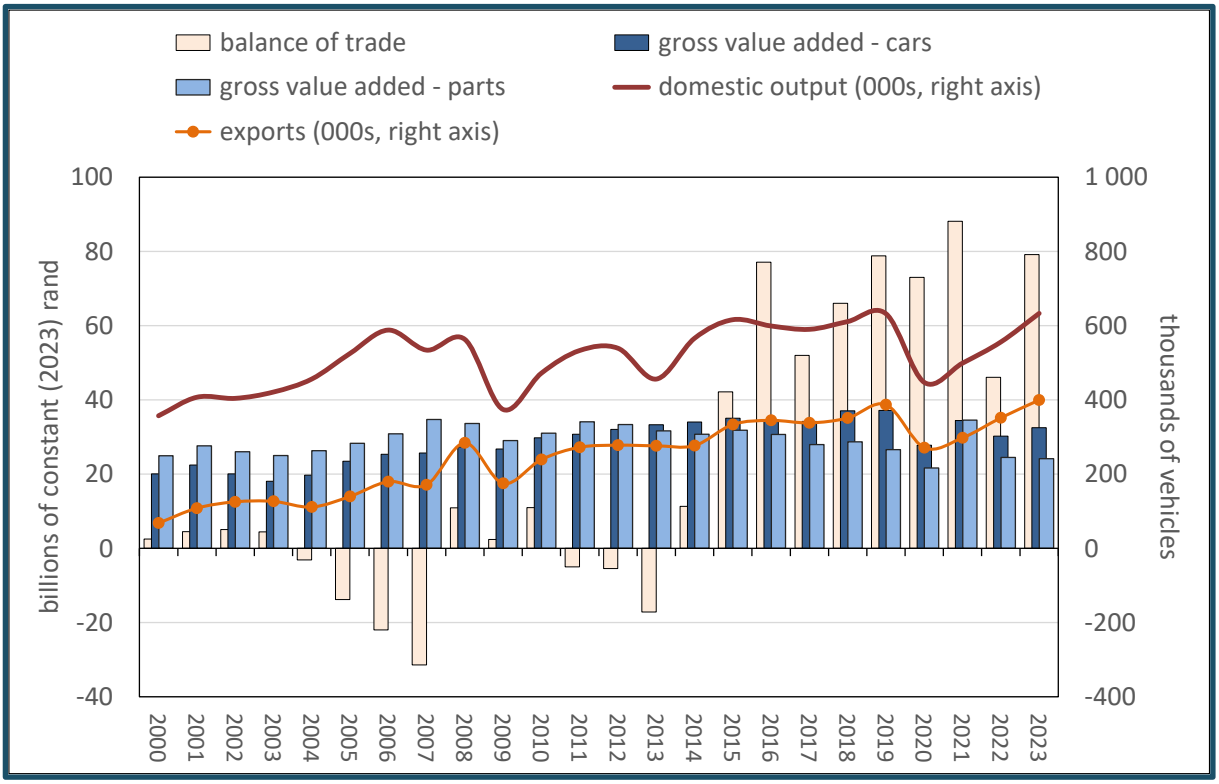
That said, import tariffs on crude steel contradict the principle of holding down raw material costs for higher value-add downstream manufacturing. But downstream manufacturers are typically relatively small and dispersed, making it more difficult for them to lobby government. In these circumstances, the standard compromise – also found in South Africa – has been to introduce rebates for products that are not produced locally. That process, however, inherently puts the burden on downstream manufacturers to apply and to prove that no local source can meet their requirements.

Finally, tariffs on crude steel may have the unintended consequence of enabling the steel refineries to avoid cutting costs. Absent conditionalities to promote greater competitiveness, they can entrench inefficiencies across the steel value chain.

In contrast to the anti-dumping measures on flat steel, South Africa's tariffs on the auto industry were integral to an industrial policy aimed at promoting localisation of inputs as well as increased exports. Under the APDP, which builds on policies going back to the 1950s, companies that assemble cars for export and meet a threshold for local components get a certificate to import other vehicles duty free.

There is no definitive evaluation of the costs and benefits of the APDP from the standpoint of inclusive industrialisation. It provides an effective tax subsidy for the auto industry valued by the National Treasury at over R30 billion. As Graph 11 shows, the costs and benefits beyond that are mixed. South Africa developed a strong surplus on the balance of trade for auto from the mid-2010s, as exports soared while domestic demand flattened out. High-grade low-carbon steel for auto production accounted for around a fifth of AMSA's total long-steel output by weight. On the down side, total auto sales by local assembly plants, combining exports and imports, plateaued over most of the past decade at around 600 000 a year, well below the national target of a million. More worryingly from the standpoint of localisation, value added in components production has declined for most of the past decade, according to Quantec estimates.

Graph 11. The balance of trade and gross value added for components and assembled vehicles in billions of constant (2023) rand (a), and local assembly and exports in thousands of vehicles



Note: (a) Reflated using implicit deflator rebased to 2023. Source: Gross value added and balance of trade calculated from Quantec. EasyData. Standardised industry series. Accessed at www.quantec.co.za in November 2024. Output and exports from naamsa|The Automotive Business Council. Naamsa Quarterly Reviews for relevant quarters. Accessed at https://naamsa.net/quarterly-reviews/ in November 2024.

4.3. Procurement rules

The new Public Procurement Act No. 28 of 2024 introduces substantial changes that affect the ability of the central state in general, and the dtic in particular, to require government agencies to buy local inputs. The new law still does not apply directly to purely private suppliers of public infrastructure, for instance road freight or mobile phone services. Government could, however, make local procurement a condition for licences or access to national networks.

The new procurement Act reforms the designation process as well as modifying the general framework. Its general objectives include "to advance transformation, beneficiation and industrialisation" and to stimulate economic development by supporting "goods that are produced and services provided in the Republic" and "procurement which is developmental in nature." (Paras 2(2)(c) and (d)) In this context, in Sections 21 and 22, the Act separately permits procuring institutions to promote "sustainable development" and employment creation, beneficiation, innovation and small enterprises, as long as the Minister of Finance has published enabling regulations. These regulations are expected in 2025.

Section 20, on designations, introduces the following changes.

- The Minister of the dtic may introduce designations only where there are at least three local producers. This appears to be a fixed requirement, but it is not clear if it refers to actual or potential producers.
- The Minister must consider the impact on employment and on the agents and distributors of the imported goods.
- Generally, the Minister must take into account the "economic impact on imported goods". Presumably the regulations will clarify what this means, as the Act does not give a definition.
- The Act introduces set-asides for black-owned businesses, without requiring that they produce the goods supplied locally. This could set up a tension for designations for industries or products where the only viable manufacturers are not empowered.

The new Act aims to reduce compliance burdens by empowering government agencies to decide individually whether sufficient locally produced goods are available. In these circumstances, the procuring agency can re-tender without local-content requirements if it informs the dtic within 14 days (para 20(7)). Absent the regulations, it is not clear if a procuring agency can use excessive prices or poor quality to indicate inadequate supply, rather than a physical shortage.

The Finance Minister can also exempt agencies from any provision of the Act, including designations, if she or he finds that it is "uneconomical" to comply (Para 61(1)(e)). This provision presumably would cover excessive prices or poor quality. The national procurement officer can exempt a government agency from regulations if it is "impractical" to comply or if "market conditions or behaviour do not allow effective application of the instruction" (62(1)). Finally, it appears that regulations under the Act are not binding on municipalities unless they voluntarily adopt them as by-laws.

Overall, the new Act increases the power of government agencies to decide for themselves on the costs and benefits of local procurement, including in the case of designations. It empowers government agencies generally to take local procurement into account. It does not, however:

- Set general targets for localisation that could be applied to private investors in public infrastructure, or
- Provide criteria for managing difficult trade-offs with other government aims such as ensuring the most competitive provision of public infrastructure, or in some cases black economic empowerment.

Past evaluations have found inconsistent implementation of designations as result of both regulatory and administrative factors.

1. Designations historically applied only to a relatively few products, with little pressure on government agencies to stop importing other goods and services that could be produced locally.
2. Designations focused on heavy industrial products, principally inputs to infrastructure. The only labour-intensive products included were clothing, tinned and processed vegetables, and furniture. No services were designated.
3. Government agencies sometimes privileged overseas suppliers, even where local producers were viable, including through inappropriate specifications or waivers. As discussed below, the use of waivers was particularly important for locomotives.
4. In some instances, South African producers could not compete in terms of quality, scale, timeliness and/or price, increasing costs and delays in providing public infrastructure.

Challenges also arose from the administrative system. A vast number of transactions and agencies participate in public infrastructure projects. That makes it difficult to track when relevant products were put out to tender and whether the final decision complied with the designation.

In this context, local producers could not easily identify tender opportunities, or tenders that effectively shut them out unfairly, even for designated products. There was no obvious or effective appeals route in the case of unnecessarily exclusionary tenders. Tender decision-making remained highly secretive in most cases, so that it was not possible to monitor the price and quality of imports compared to local products.

More broadly, the government did not require departments to track the share of imports in their overall procurement. In practice, agencies often buy through intermediaries, and do not know if purchased products are produced locally or not.

In contrast to tariffs, designations under the new Act, as in earlier iterations, apply only to procurement by government agencies. They should therefore cover contracted private suppliers, but not fully privatised operations even if they use government-owned network infrastructure.

4.4. Industrial policy measures

This section briefly reviews industrial policy measures that could promote localisation.

4.4.1. Promoting competitiveness

From the standpoint of industrialisation, the best way to ensure localisation would be to assist domestic producers to improve their competitiveness by cutting costs and improving product quality. From this standpoint, any measures to protect local producers should be paired with initiatives to promote competitiveness, which would hopefully obviate protective measures in the medium to long run. Critical measures include:

- Ensuring that raw materials sold in South Africa, including mining products, crude metals and basic agricultural goods, are sold at the competitive price, which is the cost of production plus a normal rate of profit, rather than at world prices, especially during global commodity price spikes.
- Ensuring that suppliers have access to affordable and efficient infrastructure. Obviously this is a priority for all producers. Where it will take time to upgrade network systems, it may be worth looking at targeted solutions, such as off-grid electricity and private rail operations, for suppliers to public infrastructure projects.

- Assisting in upgrading technology and products. The lead instruments to achieve this end are ensuring that the timeline included in tenders is sufficient for local producers to gear up, and helping with finance.

4.4.2. Information flows

As noted, the plethora of tendering agencies and products procured makes it difficult for potential suppliers to identify opportunities. It would help to develop an easily accessible database of tenders organised by the kind of product required, for instance using HS or SIC codes. Ideally regulations would require government agencies to log their tenders into such a database themselves.

4.4.3. Mechanisms to incentivise local procurement

As noted above, tariffs and designations have been the main mechanisms to promote local procurement. In addition, where private investors will provide public infrastructure services, they could be incentivised by:

- Making localisation a prerequisite for feeding into national networks (especially electricity and rail) and for licences, where relevant.
- Including targets for local procurement in contracts with private infrastructure providers where relevant.

Obviously the conditions for localisation could not be excessively onerous or businesses will not invest in public infrastructure.

4.4.4. Monitoring

There are virtually no systems in place to monitor the outcomes and impacts of localisation strategies. The new procurement Act requires that designations be reviewed every three years, but does not establish criteria or mechanisms for that purpose.

In the case of localisation, monitoring should cover:

- The share of imports in procurement, ideally for all public procurement but as a minimum for designated products and where private suppliers have contractual targets;
- The price and quality of local products compared to imports, and if there has been improvement over time;
- If local procurement has affected infrastructure costs, reliability or timelines;
- The development of new capabilities and production clusters as a result of localisation; and
- The effects on employment both directly on the suppliers and indirectly through the impacts on the cost, reliability and extent of infrastructure services.

Inevitably, monitoring requires both the development of viable reporting mechanisms and on-going analysis, which in turn need capacity and resourcing. It will only succeed if there are well-defined compliance systems for procuring agencies as well as quality controls on reported outcomes and impacts.

4.5. Costs, benefits and risks of policy instruments

This section summarises the main costs, benefits and risks of different strategies to encourage localisation for key stakeholders.

4.5.1. Tariffs and designations

Both tariffs and designations effectively aim to increase the cost of imports compared to domestic products. When the measures succeed, the benefits appear in increased industrial capacity; higher employment; and shorter supply chains. Evaluating the net impacts is always difficult because the costs appear almost immediately on the balance sheets of infrastructure providers, while the benefits are longer term and more diffuse.

Where tariffs or designations increase input costs for infrastructure projects, the managers typically try to pass the burden on to their customers, both businesses and households. The effect may be reduced services and/or higher tariffs. Regulations or consumer resistance may rule out that response. In these circumstances, both public and private agencies have typically sought (and usually received) bailouts from the National Treasury. Ultimately, if private agencies cannot make at least normal profit rates on public infrastructure projects, they will likely simply withdraw. As always, the challenge for government becomes to determine when the benefits of local supply outweigh the costs.

The impacts of tariffs and designations ultimately depend on:

- What products are targeted, which in turn determines the nature and scale of increased demand along the steel value chain. Generally, greater growth in employment and technological advances will emerge when the benefits flow to downstream manufacturing.
- The ability of domestic suppliers to provide competitive inputs. In this connection, protection for producers of crude steel raises costs for downstream manufacturing, which can lead to difficult trade-offs.
- The effectiveness of enforcement. As experience in the 2010s showed, the large number of actors involved in procurement for public infrastructure makes it difficult to monitor and ensure compliance with designations, while mislabelling of imports may reduce the effects of tariffs. The new procurement Act will make it easier for individual agencies to opt out of designations.

4.5.2. A developmental strategy for crude steel

A developmental strategy for crude steel would aim to enhance competitiveness in the short to medium term by reducing the costs of inputs, especially iron ore, coking coal and scrap; electricity; and freight transport. Measures to moderate the cost of scrap to local refineries have enabled South Africa's long-steel producers to compete with imports. A similar approach to integrated steel mills would promote localisation without imposing higher costs on the providers and users of public infrastructure.

Holding down the cost of crude steel inputs would directly benefit the refineries. If the refineries were required to supply local manufacturers and infrastructure projects at a normal rate of profit, rather than matching import prices, it would ultimately improve the efficiency of public infrastructure, lowering costs across the economy. Moreover, more competitive local steel should boost downstream manufacturing, the largest and most jobs-rich phase of the steel value chain.

The iron ore and coal mines would bear the cost in the form of reduced rents on their domestic sales. They should, however, still make a normal rate of profit on supply to downstream manufacturers. Moreover, they would still get international prices for their export sales, which in value terms constitute 5% of iron ore and 50% of coal. In practice, efforts to reduce rents from the inputs for domestic mineral products face embittered resistance from both local producers and their export partners.

The refineries have also shown limited interest in contesting long-established suppliers to reduce upstream prices. They have preferred that government instead protect them from foreign competition through tariffs and designations as well as pushing for assistance through cheaper rail freight and financing.

4.5.3. Support for downstream manufacturing

Support for downstream manufacturing can take the form of incentives and improved coordination and planning about tenders. For infrastructure investors, the benefits would take the form of competitive local suppliers, reducing the risks and delays inherent in longer supply chains. Moreover, as local manufacturing gains capabilities, responsiveness to investors' needs should improve.

The costs of implementing this kind of programme would be borne by the fiscus, which inevitably imposes trade-offs with other government priorities. The implementing agencies – principally public and private infrastructure investors, the dtic and the Industrial Development Corporation (IDC) – would have to ensure sufficient capacity to improve tender planning, communication and monitoring. A central difficulty is to identify the products that can be produced domestically without imposing excessive costs on infrastructure projects, with effective ways to support local production. The relevant manufacturers would also have to take on the risks inherent to adoption of new technologies and product lines.

5. NEXT STEPS

The analysis in this report points to three main areas for further work on localisation.

1. The system of designations and tariffs should be reviewed to ensure significant support to downstream manufacturing and to improve monitoring and enforcement. In the short run, the list of protected products should be reviewed to ensure they are appropriate. In the case of designations, they should be consolidated to minimise confusion and maximise their scope, and aligned with the requirements of the new procurement Act. In addition, the regulations for the Act should be designed to ensure designations apply as far as possible to third-party suppliers of infrastructure.
2. Opportunities should be explored to improve competitiveness in raw materials, electricity and freight along the steel value chain. A priority should be measures to reduce production costs for crude steel.
3. The potential for linking licencing and access to network infrastructure for private providers of public infrastructure should be explored. These measures would have to take into account evidence about the potential impact on profitability.

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ANNEXURE A. ALL DESIGNATIONS AS OF 2022

PRODUCT GROUP	SPECIFIC PRODUCTS	THRESHOLD	YEAR
Buses (bus body)		80%	2012
Steel pylons	Steel power pylons, monopole pylons, steel substation structures, powerline hardware, street light steel poles, steel lattice towers	100%	2012
Rail rolling stock		65%	2012
Valves products/actuators		70%	2014
Working vessels/ boats	Boats	60%	2014
Working vessels/ boats	Components	10%-100%	2014
Solar PV components	Laminated PV modules Module frame Dc combiner boxes Mounting structure Inverter	15% 65% 65% 90% 40%	2016
SWH components		70%	2013
Rail signalling	Rail signalling Components	65% 40%-100%	
Fire fighting vehicles	Vehicles Crew cabin Super structure Assembly	30% 100% 100% 100%	2016
Steel products and component for construction	Steel value-added products Fabricated structural steel Joining/connecting components Frames Roof and cladding Fasteners Wire products Ducting and structural pipework, gutters, downpipes & lauders Plates Sheets Galvanised and colour coated coils Wire rod and drawn wire Sections Reinforcing bars	100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100%	2017
Pumps, medium voltage (MV) motor and associated accessories	Pumps, medium voltage (mv) motor casting or frame fabrication Fabrication and winding of the rotor core accessories Assembly and testing of the fully-built unit	70% 100% 100%	2017

PRODUCT GROUP	SPECIFIC PRODUCTS	THRESHOLD	YEAR
Rail permanent way	Rail permanent way Rails and rail joints Ballasts Ballastless Turnouts/switches and crossings Railway sleepers Rail fastening and accessories Railway maintenance of way plant & equipment Assembly and testing of fully build units	90% 100% 100% 100% 100% 100% 100% 70% 100%	2017
Air insulated MV switchgear	Air insulated MV switchgear Instrument transformers Busbars Housing Switching devices	50% 15% 5% 25% 5%	2019
Bulk material handling	Bulk material handling, conveyer idlers, structural steel, rubber, conveyor belt, pulleys	85%	2019
CTFL		100%	2012
Canned / pocessed vegetables		80%	2012
Pharmaceutical products	OSD tender Family planning tender	70% (volume) 50% value	2012
Set top boxes (STB)		30%	2012
Furniture	Office furniture School furniture Base and mattress	85% 100% 90%	2012
Electrical and telecom cables		90%	2013
Residential electricity meters	Prepaid electricity meters Post paid electricity meters Smart meters	70% 70% 50%	2014
Conveyance pipes		80%-100%	2014
Transformers and Shunt Reactors	Class 0 Class 1 Class 2 Class 3 Class 4 Components and conversion activities	90% 70% 70% 45% 10% 50%-100%	2015
Two Way Radio Terminals and Associated Equipment	Portable radio Mobile radio Repeater Components	60% 60% 60% 20%-100%	2016
Wheely bins		100%	2016
Plastic pipes	Polyvinyl chloride (PVC) pipes High density polyethylene (HDPE) pipes Polypropylene (PP) pipes Glass reinforced plastic (GRP) pipes	100% 100% 100% 100%	2019

PRODUCT GROUP	SPECIFIC PRODUCTS	THRESHOLD	YEAR
Industrial lead acid batteries		50%	2019
Cement	Cem I Cem II Cem III Cem IV Cem V Masonry Cement	100% 100% 100% 100% 100% 100%	2021

Source: Kindly provided by the dtic in November 2024.