



DNA Economics
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Trade under duress: Assessing South Africa's trade diversification toward China in response to U.S. tariff actions

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Why this study?

South Africa's export model is exposed on two fronts:

1. External policy shock

- U.S. tariffs (30%) and recurring AGOA suspension threats reveal the fragility of unilateral preferential access. The legal reversal does not undo the demonstrated vulnerability.

2. Structural weakness

- Export performance has stagnated.
- The basket remains concentrated in mineral and resource commodities
- Manufacturing exports have flatlined in traditional markets.

The key policy question:

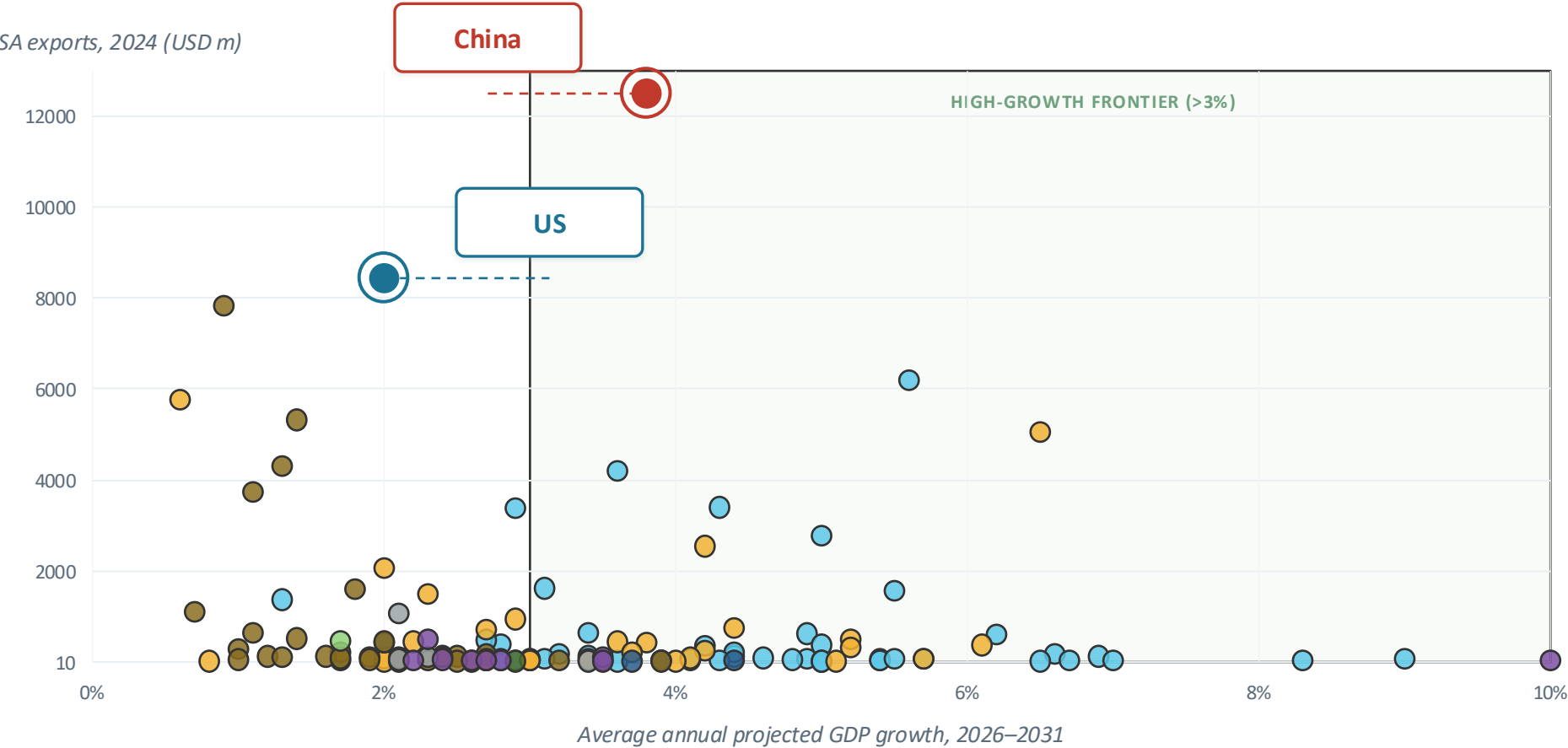
- Can deeper trade integration with China help South Africa diversify exports and reduce vulnerability to external shocks?

- 1 Motivation and roadmap
- 2 Why China
- 3 The SMART model
- 4 Results: exports vs imports
- 5 Beyond the model
- 6 Policy implications

WHY CHINA • DEMAND ANCHOR vs. GROWTH

China pairs scale with growth

Each dot is a trading partner. China stands alone in the top-right — SA’s largest market AND fast-growing (3.8%). The US matches the value at 2% growth; Europe clusters below 3%. China is the only large market inside the high-growth zone.



WHAT IT MEANS

China

-Top-right outlier: large market+ 3.8% growth — a demand anchor.
-CAEPA

US

Comparable value (\$8.4bn) but 2% growth — scale without momentum.

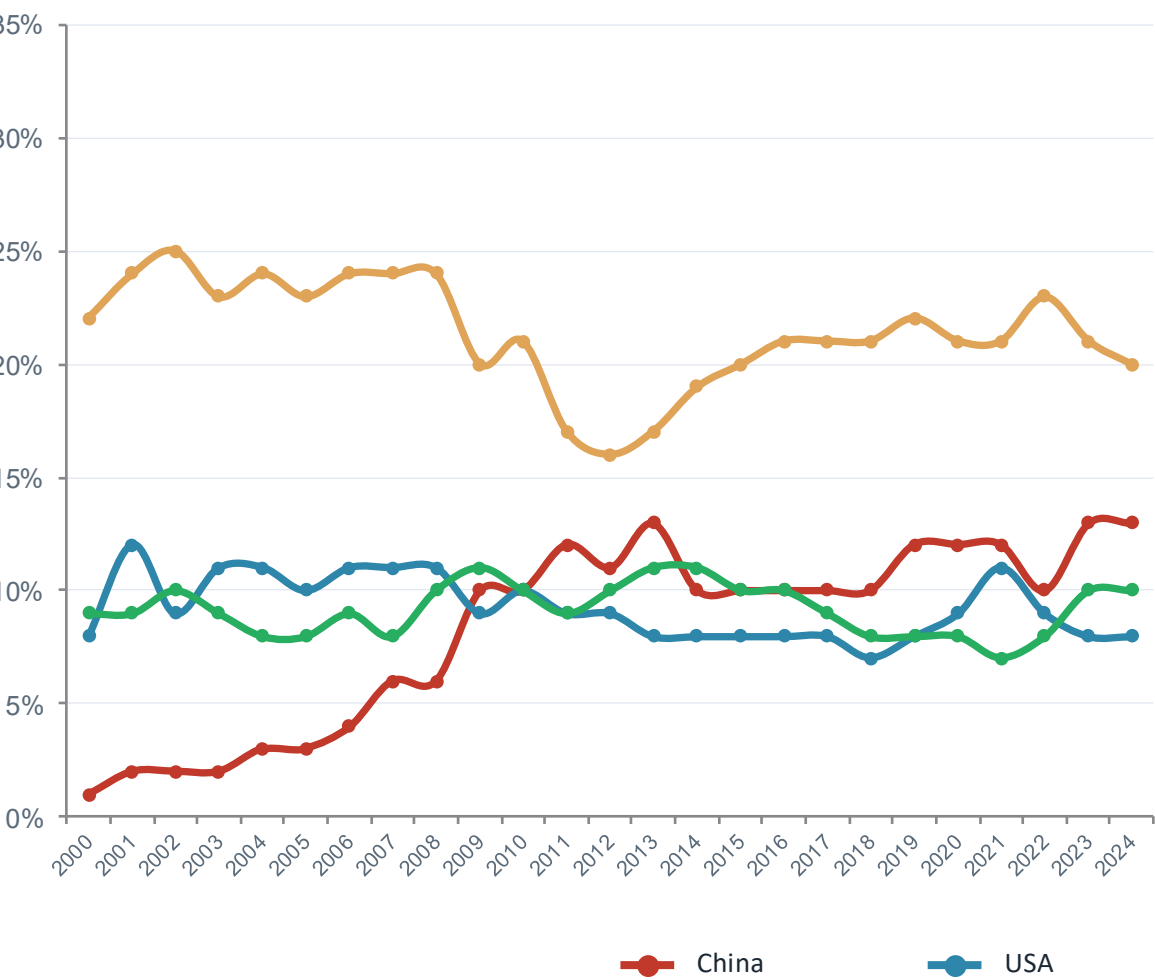
The frontier gap

Most fast-growing markets remain small for SA — the diversification frontier.

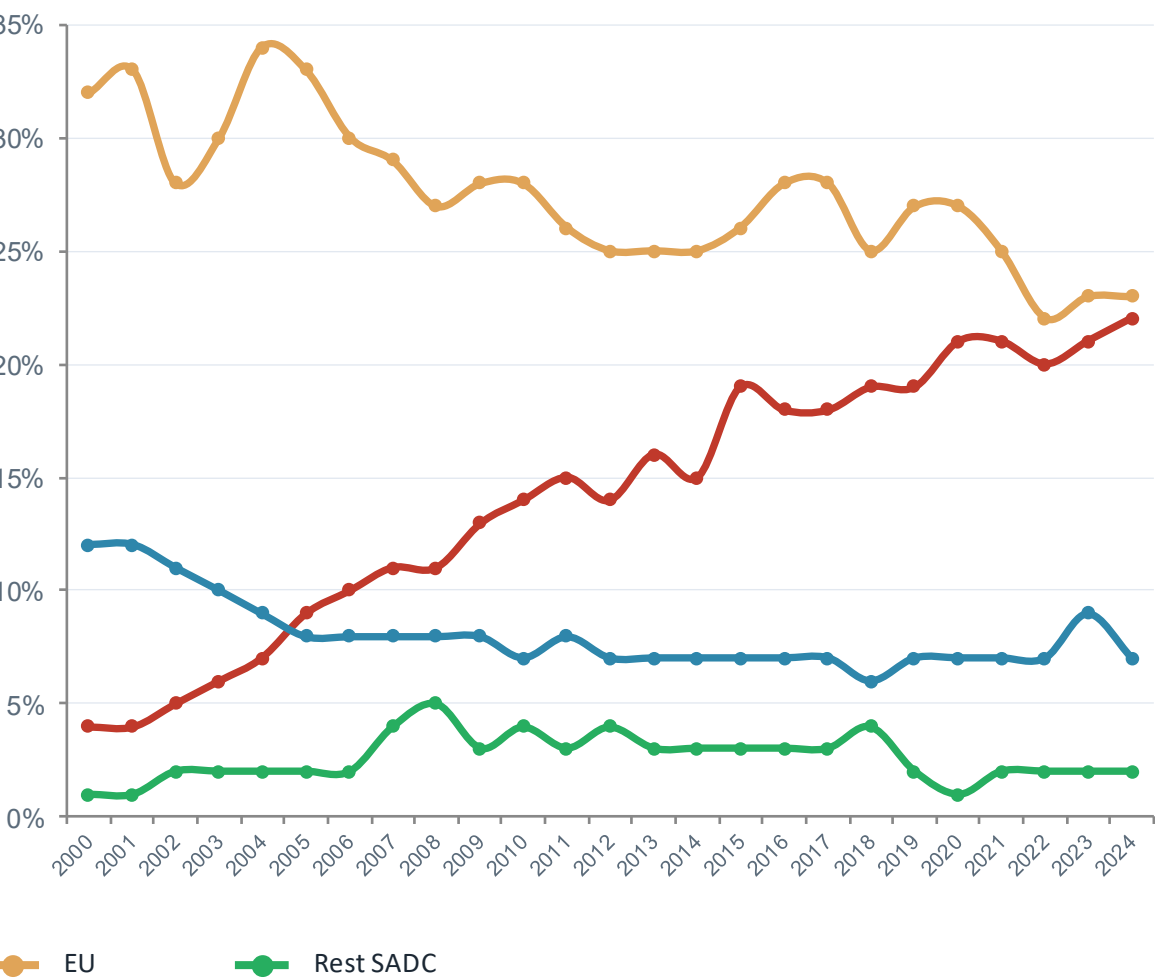
SA trade performance by key market (% share of total), 2000–2024

China grew from a negligible share in 2000 to SA's #1 export market and largest supplier (22% of imports) by 2024.

Export shares



Import shares



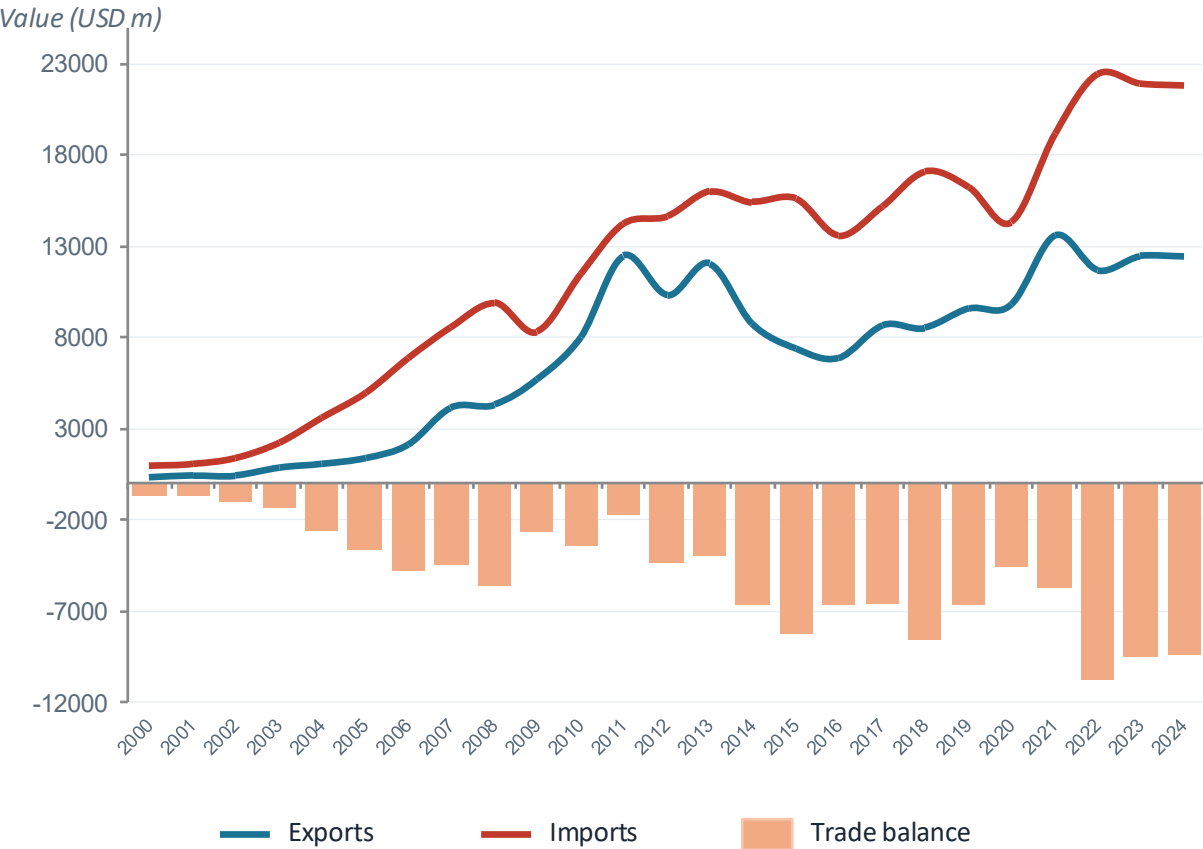
Source: authors' construction based on UN Comtrade data.

A CLOSER LOOK · BILATERAL TRADE BALANCE

Two markets, two trajectories

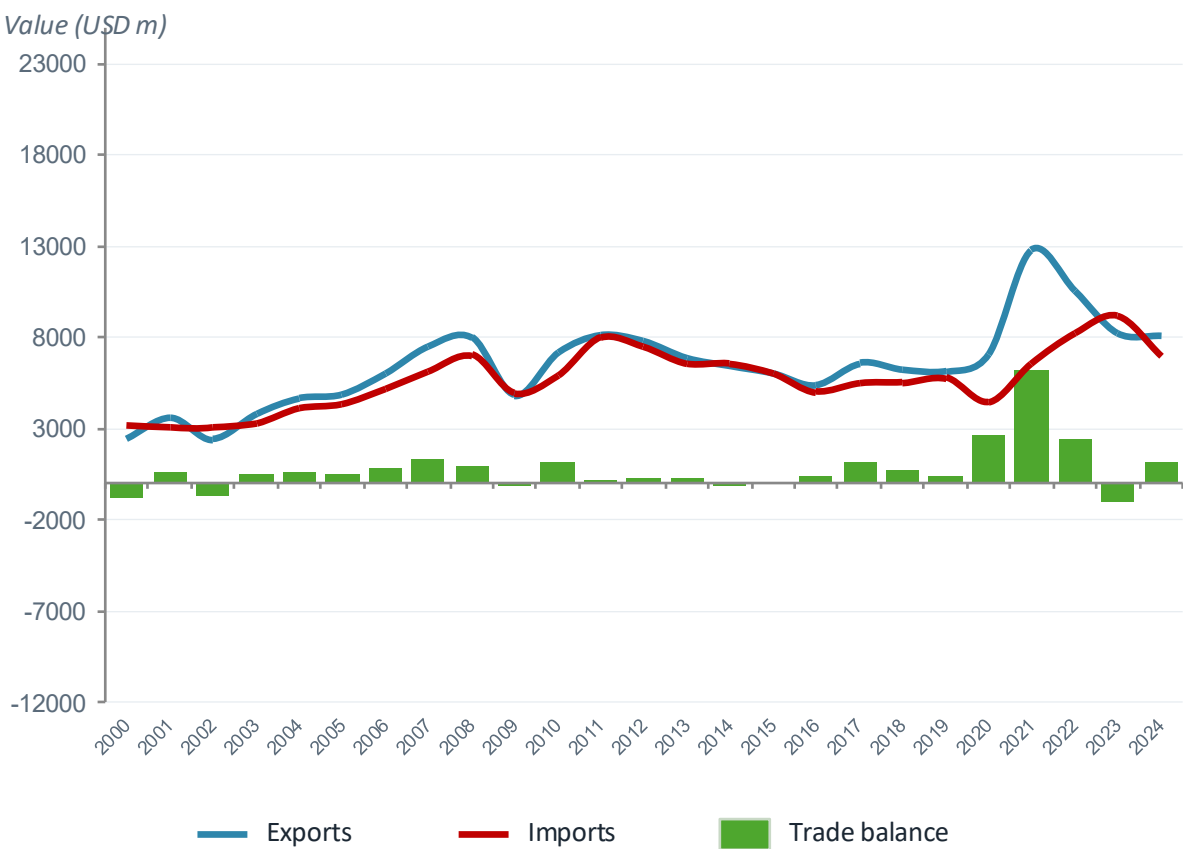
Trade with China has surged on both sides but runs a persistent, widening deficit. Trade with the USA is smaller and broadly balanced, with recurring surpluses — the two are complementary, not substitutes.

South Africa – China



China deficit 2024: **-\$9.4B** (rising over time)

South Africa – USA



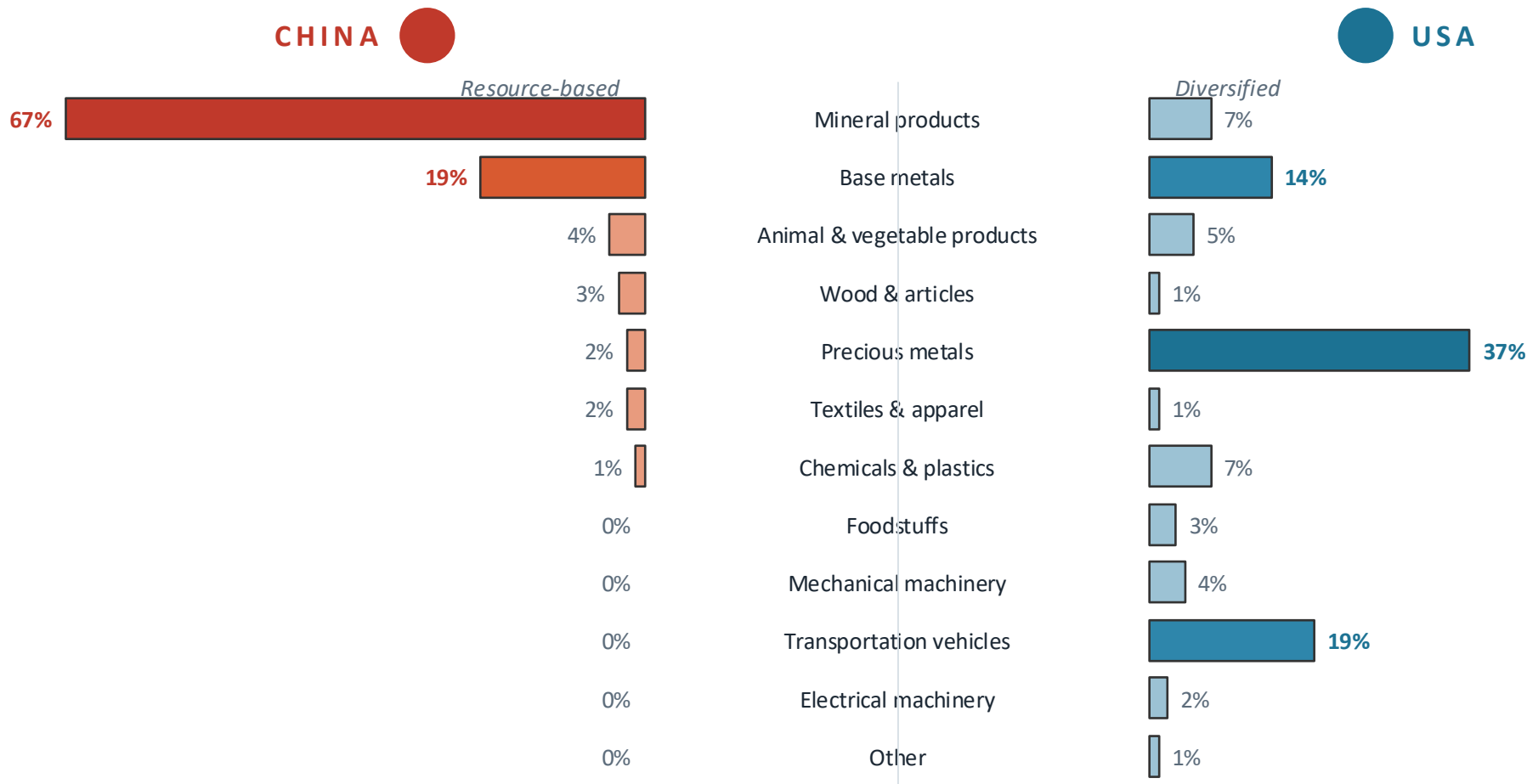
USA balance 2024: **+\$1.1B** (broadly balanced over time)

Source: authors' construction based on UN Comtrade data. USD billion.

THE COMPOSITION OF SA'S EXPORT, 2024

Two very different markets: Commodities to China, diversified manufactures to the USA

Exports to China are overwhelmingly resource-based (67% minerals); exports to the USA are far more diversified.



COMPLEMENTARY, NOT SUBSTITUTES

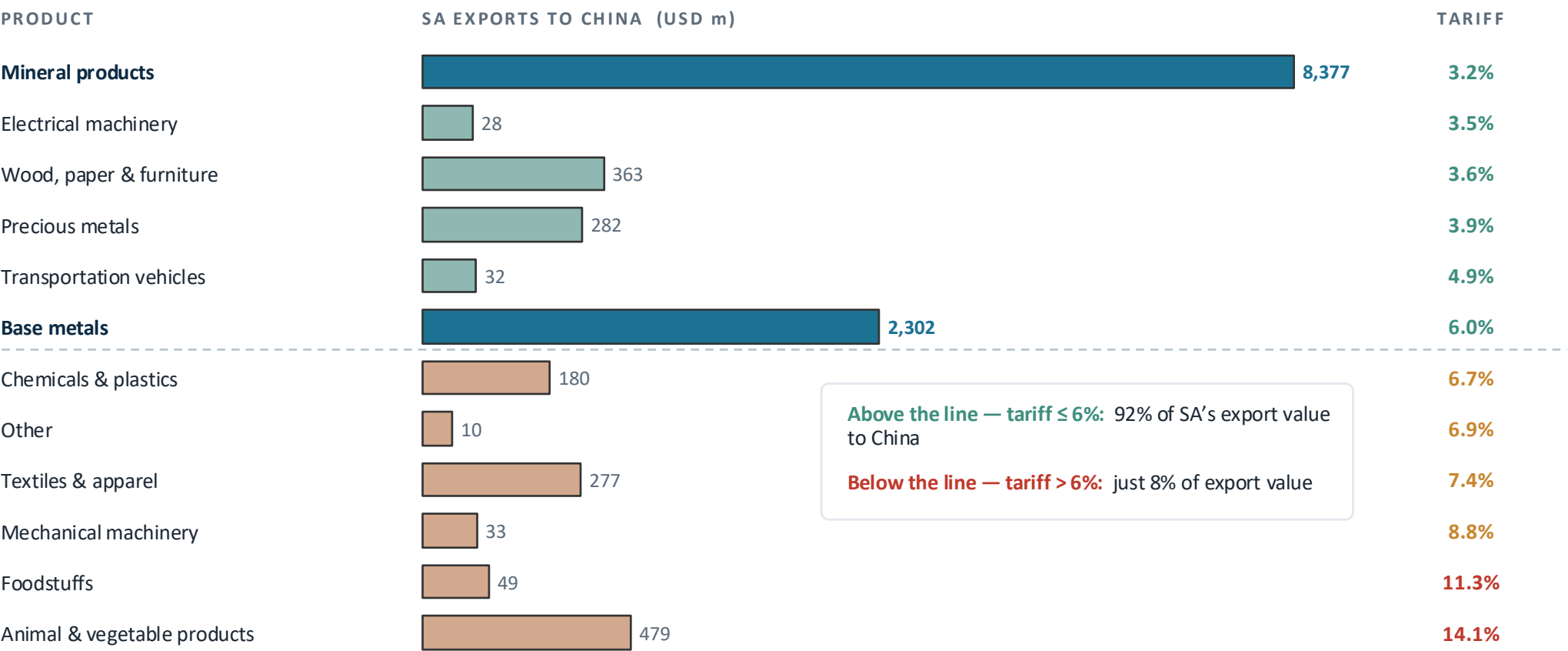
Each market absorbs a different kind of export. Deeper China engagement should add to — not replace — US access

Source: authors' construction based on UN Comtrade data, 2024.

CHINA’S TARIFFS ON SA EXPORTS • TARIFF vs. TRADE VALUE

South Africa exports where China’s tariffs are lowest

Products ordered by tariff (low → high): the two biggest earners — minerals and base metals — sit at the lowest tariffs, while the high-tariff lines carry almost no trade.

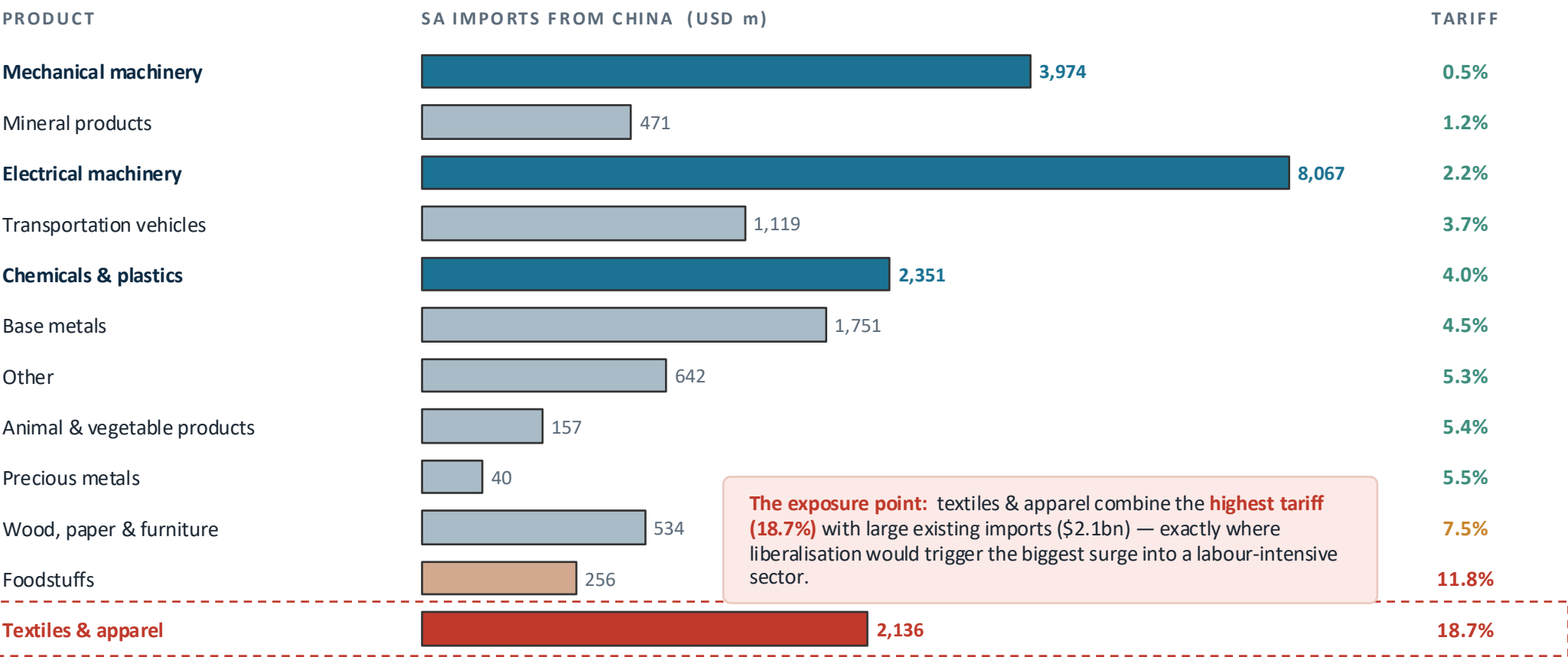


92% of SA’s exports to China already enter at tariffs of 6% or less — so an FTA offers little uplift on existing trade. Diversification gains lie in the few high-tariff agro-processing lines.

Source: authors’ construction based on UN Comtrade data. China’s simple-average applied tariffs on imports from South Africa, by product group.

Imports flow in despite protection in textile and apparel

Machinery enters near-duty-free and dominates imports — but textiles & apparel carry SA's highest tariff (18.7%) and still bring in \$2.1bn, signalling where liberalisation would unleash the sharpest import surge into a labour-intensive, vulnerable sector.



Most imports (machinery, electronics) already enter at low tariffs, so an FTA changes little there — the real adjustment falls on textiles, clothing and footwear, where high tariffs still shield domestic producers from a China import surge.

Source: authors' construction based on UN Comtrade data. South Africa's simple-average applied tariffs on imports from China, by product group.

The SMART partial-equilibrium framework

A product-level (HS6) World Bank–UNCTAD model simulating how trade flows, government revenue and welfare respond to tariff changes.

- **Trade creation**
 - Imports increase because lower prices replace higher-cost domestic production.
 - Generally welfare-enhancing.
 - Reflects new demand generated by liberalisation.
- **Trade diversion**
 - Imports shift from existing suppliers to the FTA partner.
 - May reduce efficiency if more competitive third-country suppliers are displaced.
- **Two complementary simulations**
 - China removes tariffs on SACU exports: effect on SACU export expansion.
 - SACU removes tariffs on Chinese imports: effect on import penetration and revenue.

THE HEADLINE RESULT

Liberalisation is strongly import-expanding and only weakly export-expanding



SACU EXPORTS TO CHINA

+4%

Modest — most exports already face zero/low tariffs.



SACU IMPORTS FROM CHINA

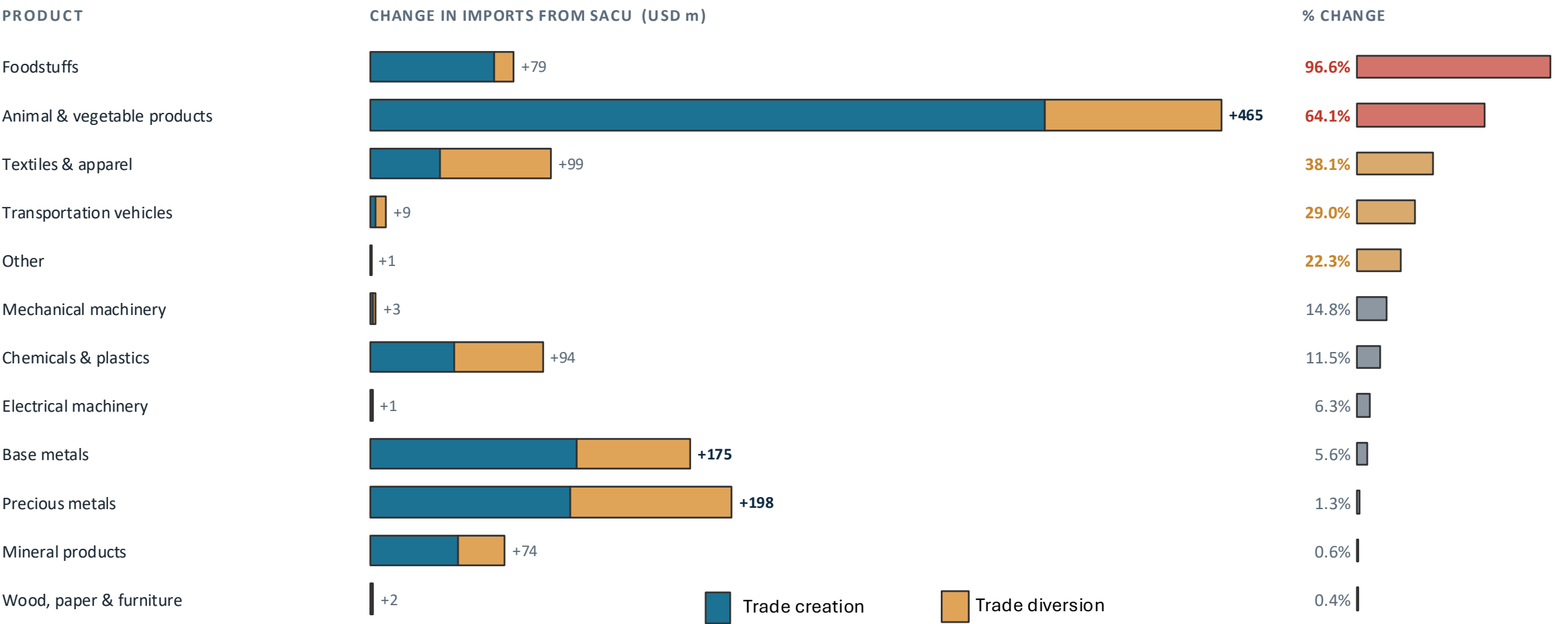
+16%

Concentrated in manufacturing where tariffs still bind.

SMART SIMULATION · EXPORT RESPONSE TO CHINA REMOVING TARIFFS

Where the export gains come from

Each bar splits a product's import gain into trade creation (new, efficient trade) and trade diversion (displacing cheaper suppliers). Sorted by % change: the largest proportional gains — agro-processing — are also the most creation-driven.

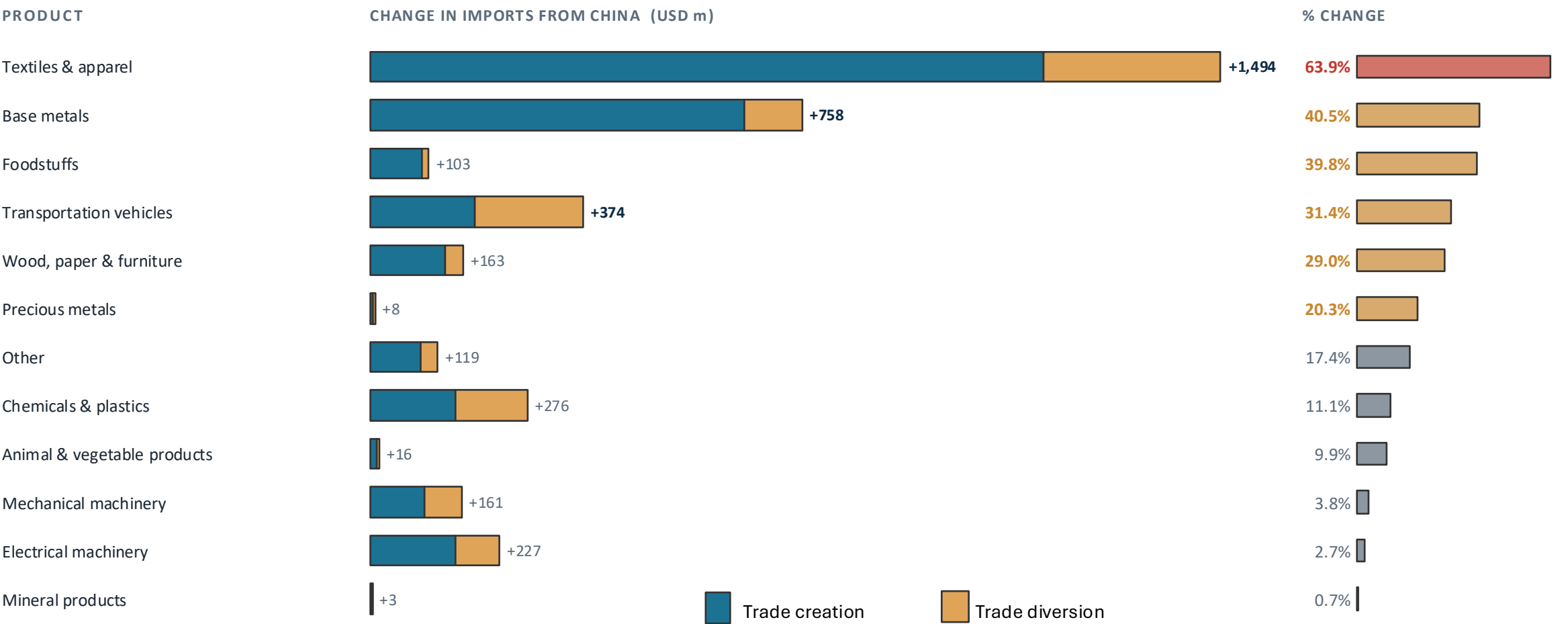


The gains concentrate in agriculture and agro-processing where Chinese tariffs still bind (fruit, beverages, cereals). Trade creation driving exports.

Source: authors' SMART partial-equilibrium simulation; UN Comtrade. Effect of China removing tariffs on SACU exports.

The import surge lands on labour-intensive manufacturing

Each bar splits the rise in SACU imports into trade creation (new, efficient trade) and trade diversion (displacing cheaper suppliers). Textiles & apparel surges +\$1.5bn (+64%) — the sharpest hit, concentrated in a vulnerable sector.



Why the matters: the largest surges hit textiles, apparel & base metals — labour-intensive, employment-critical sectors where tariffs still bind. These are precisely the industries already under deindustrialisation pressure (Edwards & Jenkins, 2015).

Liberalisation deepens integration into China-centred value chains — but risks displacing domestic production.

Source: authors' SMART partial-equilibrium simulation; UN Comtrade. Effect of SACU removing tariffs on imports from China.

Net welfare gains — but a real fiscal adjustment



-43.5%

Tariff revenue

-USD 1.6 bn for SACU



+USD 1.77 bn

Consumer surplus

Cheaper, more varied imports



+USD 190 m

Net welfare gain

Positive — but small vs. trade flows



The distributional and fiscal catch

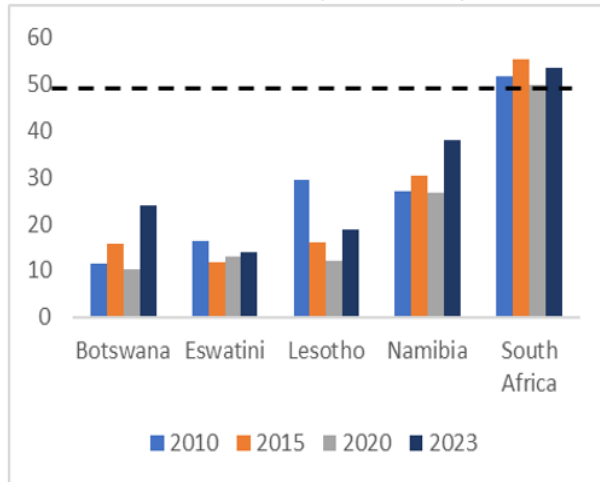
Smaller SACU members might be fiscally exposed -because the SACU revenue-sharing pool depends on customs duties, these losses are a shared adjustment challenge — China's own welfare change is negligible.

BEYOND THE SIMULATION

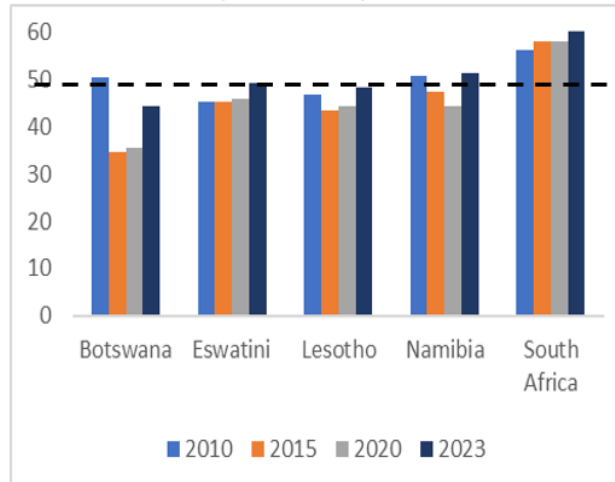
Structural indicators confirm the asymmetry

Trade complementarity index (higher = stronger fit)

SACU countries' trade complementarity with China



China's trade complementarity with SACU countries



*SACU's export structure fits China narrowly; China's fits SACU's import demand broadly.
An FTA would reinforce specialisation, not transform it.*

Revealed comparative advantage

Deep, not broad. A minority of HS6 product lines carry an RCA > 1, yet they account for about **four-fifths of exports** — concentrated in precious metals, minerals & base metals.

Apparel, textiles & electrical machinery are **less competitive** — exactly the sectors facing the biggest import surges.

China's RCA, by contrast, is broad-based across manufacturing.

Liberalisation is likely to stimulate imports more than exports

What the evidence tells policymakers

1. A SACU–China FTA yields modest export gains (4%) but a much larger import surge (16%) — an inherently asymmetric deal.
2. Export gains are real but narrow:
 - Threats to employment are also real due to import surge
3. Without complementary reforms, the FTA reinforces South Africa's role as a commodity exporter rather than transforming it.

Liberalisation is necessary but not sufficient — design matters

1. Enhance export response in high-potential sectors

- Strengthen export readiness and competitiveness at the firm level.

2. Leverage liberalisation for industrial upgrading

- Promote value addition within resource sectors through targeted incentives for downstream processing.

3. Manage import competition through strategic sequencing

- Negotiate longer phase-in periods and extended transition timelines for sensitive sectors.

4. Manage market concentration and external policy risk

- Maintain and strengthen access to the traditional markets.

5. Watch out for NTBs (particularly SPS in the agric sector).

Thank you