PRISM

Policy Research on International Services and Manufacturing

South Africa's International Trade

Lawrence Edwards

School of Economics and PRISM, University of Cape Town

lawrence.edwards@uct.ac.za

Working Paper Series

Number 2021-1

Acknowledgments

This is a working paper version of a chapter forthcoming (2021) in the Oxford Handbook of the South African Economy, edited by Arkebe Oqubay, Fiona Tregenna and Imraan Valodia.

Recommended citation:

Edwards, L. 2021. 'South Africa's International Trade". *PRISM Working Paper 2021-1.* Cape Town: Policy Research on International Services and Manufacturing, University of Cape Town.

South Africa's International Trade

Lawrence Edwards

PRISM Working Paper Number 2021-1
University of Cape Town

Abstract

This chapter uses South Africa's integration in the global economy as a lens to understand the dynamics behind South Africa's current economic performance. It first presents the historical context, commencing from the country's position as a gold exporter pursuing an import substitution industrialization strategy, to its transition to a more open economy with the ending of sanctions and tariff liberalization from the early 1990s. The focus then shifts to a critical assessment of South Africa's trade performance and trade policy in the post-apartheid period. This covers the impact of government policies, such as the multilateral tariff liberalisation from 1994-2000, preferential tariff reform from 2000 and sector driven industrial policy from 2007, as well as the dramatic changes in the global trading order – the rise of China from 2001, and the emergence of global value chains. To illustrate these relationships, the chapter draws on new insights using disaggregated product and firm level trade data.

Key words: Exports, imports, trade liberalisation, South Africa

PRISM

POLICY RESEARCH ON INTERNATIONAL SERVICES AND MARKETING

Policy Research in International Services and Manufacturing (PRISM) is a research and policy unit located within the School of Economics. PRISM provides a lens to focus research and policy work broadly on issues of globalization, trade and industrialization. It is home to a number of related research activities, projects and programmes concerned with issues of globalization, global value chains, industrialization paths, international trade, foreign investment, the defence industry, policy governance, infrastructure development, the role of knowledge intensive services, innovation, and international competitiveness. Another feature of PRISM's work has been its applied focus, responding to economic policy questions issues in South Africa, the rest of Africa and beyond.

School of Economics Building, Middle Campus, University of Cape Town Private Bag, Rondebosch 7701, Cape Town, South Africa

Tel: +27 (0)21 650 4470

Web: www.prism.uct.ac.za

1. Introduction

South Africa faces an economic growth and employment crisis. Gross Domestic Product (GDP) grew at a lacklustre average of 1.67% per year from 2010 to 2019, down from the 3.5% per year over the prior post-apartheid period 1994 to 2009.[1] The implication has been a failure of the economy to generate sufficient employment opportunities to absorb new entrants into the labour force, resulting in sustained high levels of unemployment. One reason for this weak growth is South Africa's failure to enhance its long-run export performance, both in absolute terms and relative to its middle-income peers (Hausman and Klinger 2008). Exports volumes per capita grew at an annualized rate of only 0.45% from 1960 to 2019 compared to over 3% in other resource abundant economies such as Argentina, Australia, Brazil, Chile and Malaysia. The implication has been that that South Africa's share of world merchandise exports fell from 1.56% in 1962 to 0.4% in 2019.

There is no shortage of policy recommendations to enhance export performance in South Africa. The Integrated National Export Strategy (DTI 2016), the National Development Plan (NDP) Vision 2030 (National Planning Commission 2012), and the Department of Trade and Industry's Industrial Policy Action Plans all see raising exports and diversifying the export bundle as central policy objectives. Under the NDP, the objective is to increase export volumes by 6% per annum by 2030, with non-traditional exports growing by 10% a year.

Enhancing export growth is also an imperative from a macroeconomic and growth perspective. South Africa's macro-competitiveness - the ability of the economy to generate sufficient foreign exchange through trade to support the growth process (Thirlwall 1979) – has diminished (Bell et al. 2002). Whereas during the 1960s a current account deficit to GDP ratio of 2.1% was associated with a two-year average GDP growth rate of 6%, over the 2015-2018 period, a higher deficit ratio of 3.4% was associated with a growth rate of only 0.94% per annum. The implication of this decline in macro-competitiveness is that a much higher export growth is required to sustain a growth recovery. Should export growth not recover, South Africa faces the prospect that higher economic growth will be choked off by a lack of foreign exchange, as has occurred frequently in the past. [2]

This chapter uses South Africa's integration in the global economy as a lens to understand the dynamics behind South Africa's economic performance. It first presents the historical context leading up to South Africa's current situation, commencing from the country's position as primarily a gold exporter pursuing an import substitution industrialization strategy, to its transition to a more open economy with the ending of sanctions and tariff liberalization from the early 1990s.

The focus then shifts to a more critical assessment of South Africa's trade performance in the post-apartheid period. The post-apartheid period is characterized by shifts in government policy on international trade – multilateral liberalization from 1994-2000, preferential tariff reform from 2000 and sector driven industrial policy from around 2007 – and dramatic changes in the global trading order – the

[1] This chapter draws on data from several sources including the South African Reserve Bank, UNcomtrade data via the World Integrated Trade Systems, Statistics South Africa, World Trade Organisation database and the World Bank Development Indicator database. Unless otherwise specified, all data values presented in the chapter are drawn from these sources.

[2] Acute balance of payment crises in response to foreign exchange outflows following the 1976 Soweto riots and the debt crisis in 1985 led to the imposition of emergency measures, including surcharges and import controls, to curtail imports.

rise of China from 2001, and the emergence of global value chains in driving participation by firms in international trade. Key questions debated in the literature will be considered: How has trade liberalization contributed to structural change in the composition of trade, including 'premature deindustrialization' of the South African economy? What is the impact of the rise of China on trade, industrial production and employment? Has trade liberalization shifted South Africa onto a new export-led growth path?

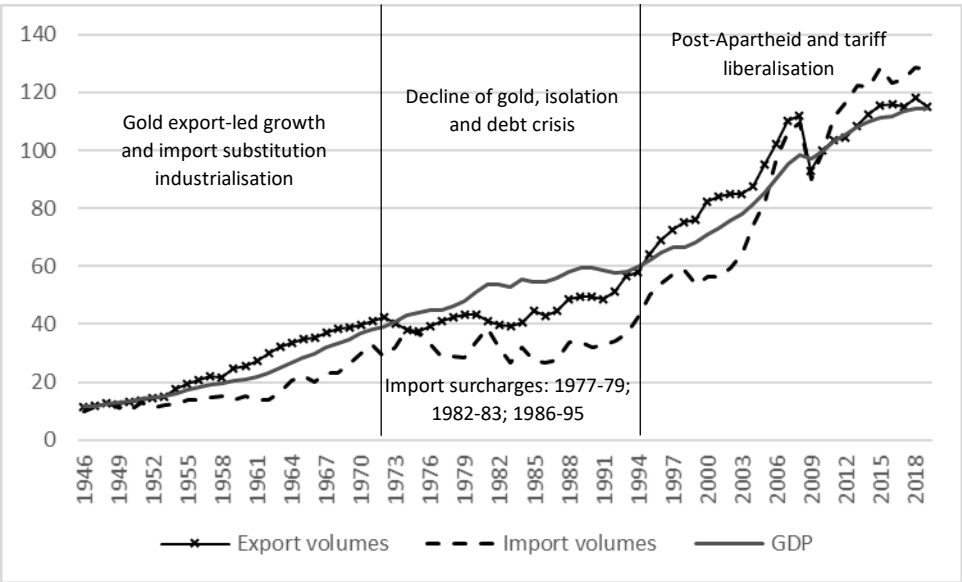
To illustrate these relationships, the chapter draws on new insights based on research using disaggregated product level trade data and firm-level data. The product level trade data provides a deeper understanding of the product and destination/origin dynamics that lie behind South Africa's growth in international trade. The firm level data provides a more nuanced understanding of the heterogeneity behind aggregate trade flows. Analysis using this data opens up new insights on participation by South African firms in international trade posing new challenges to policy makers.

The remainder of the chapter is structured as follows. Section 2 presents an overview of South Africa's historical trade performance leading up to 1994. Section 3 discusses South Africa's post-1994 programme of tariff reform and provides an overview trade performance. Section 4 then analyses the relationship between trade, production and employment in manufacturing. Section 5 concludes the chapter.

2. South African trade performance up to 1994

South Africa's historical growth process and industrial development from the late 1800s to 1994 is defined by its participation in international trade. The discovery and export of gold and to lesser extend diamonds transitioned the economy onto an export-led growth path (Feinstein 2005). Gold exports rose rapidly from close to zero in the early 1880s to 60% of total exports by 1905-09 and then 72% by 1935 (Feinstein 2005, 101). Exports were further boosted by the discovery of new gold reefs in the Transvaal and the Orange Free State from 1939, with output of gold rising from 11 million fine ounces in 1945-8 to an all-time peak of 32.2 million fine ounces in 1970 (Feinstein 2005). The associated trends in trade volumes of goods and services and real GDP (indexed such that 2010 = 100) are illustrated in Figure 1. From 1946 to 1970, export volumes of goods and services, driven by gold, grew by 7.5% per annum. Real GDP also grew strongly rising by 4.6% per year in the 1950s and 5.3% in the 1960s.

Figure 1: Trade volumes (goods and services) and real GDP, 2010=100



Source: Own calculations using data obtained from the National Income and Production Accounts data provided by the South African Reserve Bank. GDP is measured in market prices. Trade volumes include goods and non-factor services. Income receipts and payments are not included.

In addition to its direct impact on the economy during this period, the production of gold generated large rents that served as a source of income and taxes and royalties to government revenue that financed investment in infrastructure (Feinstein 2005). Gold exports played a vital role in sustaining the country's balance of payments and earning of foreign exchange to offset the rise in imports associated with the high economic growth. The extraction of gold attracted foreign capital to South Africa leading to the establishment of large mining houses that would later play a central role in the industrialization process through diversification of their investments, provision of technical and managerial skills for manufacturing and other sectors (Feinstein 2005, 109).

Further, gold production supported and enabled the process of industrialization, serving as a source of demand for locally produced manufactured consumer and intermediate goods, a process encouraged by the Import Substitution Industrialization (ISI) policies following the enactment of the 1925 Customs Tariff and Excise Duties Amendment Act (no. 36). The ISI policies initially focused on protecting semi-durable consumer goods, but from the 1930s protection extended to industrial products such as cement and steel, and then from the 1950s into the upstream chemicals industry (Bell 1993; Fallon and Pereira de Silva 1994). The Second World War provided a further stimulus to local industry with domestic manufacturers responding to opportunities created by shortages of imported products and new demands arising from South Africa's war effort (Feinstein 2005, 123). In addition, active state intervention shaped the growth and composition of the manufacturing sector through the establishment of the Electricity Supply Commission (ESKOM) in 1923, the Iron and Steel Industrial Corporation (ISCOR) in 1928 and then later the South African Coal, Oil and Gas Corporation (SASOL) in 1950, giving rise to what Fine and Rustomjee (1996) termed the mineral-energy complex.

These policies drove a rapid increase in manufacturing as a share of GDP from 8.1% in 1926/27 to 23% by 1970s, as well as a decline in manufactured imports as a share of domestic production (101.4% in 1936/37 to 30.3% in 1967/68) (Marais 1981, 36). The impact is also evident in Figure 1 where import volumes grew slowly relative to GDP in the 1950s. While exports of manufactured goods also rose in value and as a share of exports (see Table 1), the increase was driven by the growing production capacity in the sector rather than a shift towards export-orientation (Holden 1990). Gold, and other mining products, continued to dominate exports, and manufacturing exports remained heavily oriented towards resource-based products (mainly minerals-based). Concerns regarding the continued dominance of gold in exports led to the Reynders Commission in 1969 that recommended export promotion policies to redress some of the anti-export bias of the existing tariff policies and stimulate manufacturing export growth (Ratcliffe 1975).

The period 1971/72 to 1994 signals dramatic shifts in South Africa's trade and economic performance, as can be seen in Figure 1. GDP growth fell from the highs of the 1960s, with the country entering into a recession over the period 1990 to 1992. Growth in real manufacturing gross value added also slowed during the 1970s, with the sector's share of real gross value added reaching a peak of 17.8% in 1981 (23% to 24% if using nominal values). Real manufacturing value added at the end of 1993 was actually lower than it was in 1981. The manufacturing share of non-agricultural employment also began to fall from its 1981 peak of 23%. The process of deindustrialization, or what Rodrik (2016) refers to as 'premature deindustrialization', in South Africa had commenced at a level of GDP per capita and manufacturing share of employment that was far lower than was the experience in the advanced and newly industrialized countries.[3]

Trade performance from 1971/72 period was also poor. Export volumes plateaued in absolute terms and relative to GDP, and only started a sustained recovery, driven by manufactures, after a massive depreciation of the real exchange rate from 1984. By end of 1993, the volume of goods & services exports was only 26% higher than in 1971. Import volumes also stagnated during this period (Figure 1) driven lower by weaker economic growth and the intermittent use import surcharges to deal with persistent balance of payments crises. Import surcharges were first used from 1977 to 1979 in response to the cessation of capital inflows after the Soweto riots in 1976, from 1982 to 1983 following collapse in the gold price, and then again in 1985 after a sovereign debt crisis ensued following the 'Rubicon Speech' by the then President Botha (Cassim et al. 2009). These surcharges reached up to 60% for luxury items. Like exports, by 1993 import volumes were only 28% higher than they were in 1972. This stagnation of South African trade is even more striking when compared to trends in global trade volumes that grew by 140% over the period 1972 to 1993.

[3] South Africa achieved a peak manufacturing share of total employment of 17% at 6500 US dollars per capita (1990 PPP dollars), compared to advanced economies where employment shares peaked at 25-33% at approximately 14 000 US PPP dollars per capita (Rodrik 2016)). Tregenna (2016) adopts a more nuanced view of deindustrialization that takes into account whether the level of manufacturing employment and GDP have also started to diminish. Even in this case, deindustrialization appears to have occurred from 1980 as real volumes of manufacturing collapsed, and the sectors share (real and nominal) of total GDP reached a peak. Manufacturing employment levels, however, continued to rise, only starting to decline from the late 1980s.

Table 1: South African export composition by technology classification (Values and share structure)

	1962	1970	1980	1990	2000	2010	2019
Total Value Trade (US dollar billion)	2.01	3.19	24.42	20.36	30.28	79.10	77.18
Annual growth in decade	5.8	20.4	-1.8	4.0	9.6	-0.2	5.8
Share total value (%)							
Gold	44.0	36.7	53.3	31.7	13.2	10.3	6.0
Primary, excl. gold	33.7	37.5	25.2	36.5	33.4	30.2	29.7
Total Manufacturing	22.2	25.7	21.5	31.8	53.3	59.5	64.3
Share in manufacturing exports (%)							
Resource-based	84.0	69.3	60.8	50.2	35.7	40.7	43.2
Low technology	6.3	7.2	13.8	15.9	16.6	9.8	6.9
Medium technology	9.1	22.0	17.6	29.1	41.1	45.5	46.3
High technology	0.6	1.5	7.8	4.8	6.6	4.0	3.6
Commodity manufacturing	91.8	86.0	75.8	73.8	55.2	60.0	58.7
Non-commodity manufacturing	8.2	14.0	24.2	26.2	44.8	40.0	41.3

Source: Own calculations using Feenstra et al. (2005) World Trade Flow database from 1962 to 2000, and UNComtrade data from 2001.

Notes: Categories are based on the Lall (2000) Technology Classification of exports. Excludes special transactions that range from 0 to 3% of trade values. 1960s covers the period 1962-1970. Commodity manufacturing includes Resource-based manufactures plus Process industries (Synthetic fibres, chemicals and paints, fertilisers, plastics, iron, pipes/tubes).

The principal reason for the poor growth in aggregate export volumes was the decline in gold production that close to halved over the period 1970 to 1994 (Feinstein 2005, 206). Non-gold exports of goods and services actually increased moderately. Manufacturing exports, for example, grew sharply following the depreciation of the Rand in 1985, driving up aggregate export volumes (Figure 1). However, this growth was primarily driven by vent-for-surplus sales in response to excess capacity following the domestic recession and not new investment in export-oriented production facilities (Fallon and Pereira de Silva 1994). Further, the growth in non-gold exports was insufficient to fully transition South Africa onto a manufacturing export-led growth path, unlike what was happening in Malaysia at this time (Hausmann and Klinger 2008). The implication was that the export bundle by 1994 was still heavily dependent on gold and other commodities.

Several reasons underpin this lack of transition into a manufacturing export-led growth path during the 1980s. Bell et al. (2002) argue that the composition of South African exports was primarily an outcome macroeconomic forces, including economic growth, and external forces rather than a lack of an 'export culture', or the 'anti-export bias' created by protection (Bell 1993, 1997; Bell et al. 2002). In particular, South Africa experienced its own version of the Dutch Disease effect in response to the unexpected boom in the gold price from just under 200 US dollars in 1978 to a peak of 850 US dollars in 1980. The effect was a sharp appreciation (38%) of the real effective exchange rate from 1978-1983 that undercut the relative profitability of manufacturing exports, particularly non-commodity exports. Global economic stagnation and world economic crises (e.g. oil crises) of the 1970s further reduced demand for South African manufactured goods.

These explanations, however, discounts the impact of domestic policies and the severe structural and political problems that undermined the competitiveness of the manufacturing sector. Although South Africa had already initiated several tariff reforms during the 1970s and 1980s with the tariffication of

import quotas and removal of import licences, the tariff structure remained complex and protection high (Belli et al. 1993). The late 1980s saw import barriers rise in response to the imposition of import surcharges, and the award of tariff protection to businesses struggling during the economic downturn (Holden 1992; Bell 1993; Cassim et al. 2009).[4] High effective protection rates, and tariffs on imported intermediate inputs meant that production for the domestic market continued to be incentivised as opposed to sales for the export market (Fallon and Pereira de Silva 1994). The anti-export bias arising from tariff protection was higher for non-commodity manufactures given their greater dependence on intermediate inputs in production. The consequence was that tariff protection reinforced the commodity-intensity of the manufacturing export bundle (Edwards and Lawrence 2008a, b). Finally, although new export incentives were introduced under the General Export Incentive Scheme (GEIS) in 1990 to offset some of the anti-export bias they primarily benefited the large capital-intensive manufacturers of intermediate products such as paper, steel and basic chemicals, who received huge tax-free windfalls on products they would have exported anyway (Hirsch and Hines 2005).

The transition into manufacturing exports was also impeded by inherent structural constraints associated with South Africa's mining and apartheid policies. The migrant labour system was inconducive to the creation of manufacturing jobs, where resident labour was required. Job reservations and education policies diminished the supply of relatively skilled labour required in manufacturing production (Feinstein 2005). These constraints revealed themselves in rising capital intensity of production and low total factor productivity growth (0.05% per annum from 1972 to 1983) (Belli et al. 1993). Rising wages without concomitant increases in productivity further increased production costs negatively affecting manufacturing export performance (Edwards and Golub 2004). The competitive basis for manufacturing to launch into exporting had not yet been achieved.

Externally imposed trade sanctions during the 1980s further constrained South African export performance, although the extent of the impact is debated as the trade sanctions were narrowly targeted (agricultural goods, uranium, coal, oil, and iron and steel) and widely circumvented by South African firms (Lipton 1988; Manby 1992; Evenett 2002). The most profound effect of the sanctions on manufacturing exports may actually be the investment ban and the pressure placed on foreign firms to disinvest from the South African economy in the late 1980s. This constrained access to foreign direct investment at a key time when this was needed to integrate South African manufacturing firms into global value chains that were to emerge as the driving force behind manufacturing trade.

3. Trade Liberalisation from 1994

The democratic election of 1994 coincided with a dramatic shift in South Africa's policies towards an open trade regime achieved through a tariff liberalisation programme negotiated during the Uruguay Round of the GATT/WTO.[5] The tariff structure was rationalised import weighted tariff rates on manufactured goods, inclusive of surcharges, fell from 19.9% in 1994 to 9.6% in 2000 (Cassim et al. 2009). Although contested in the literature (Fedderke and Vase 2001; Cassim 2003; Rangasamy and Harmse 2003), the reductions in nominal tariffs led to even larger reductions in effective protection from 43.3% to 14.9% for

[4] For a detailed overview of South Africa's tariff policies, including the political economy of tariff policy, see Holden (1992), Bell (1993-97), Casale and Holden (2002), Edwards (2005-11) and Hirsch and Hines (2005).

[5] While this section refers to South African tariffs, South Africa is part of the Southern African Customs Union (SACU) and consequently adopts the common external tariff of SACU. However, South Africa *de facto* makes tariff determinations on behalf of the other members.

manufacturing over the period 1994-2000 (Edwards 2005). Openness of the economy was further enhanced through the removal import surcharges and the ending of trade and investment sanctions.

What drove the dramatic reductions in tariff protection? One explanation is that South Africa participated as a 'developed' country during the Uruguay negotiations and was therefore required to adopt large and rapid cuts in protection. Despite this, there was broad political support for tariff reform by business, government and labour, as well as the African National Congress, who through its alliance partner the Congress of South African Trade Unions (COSATU), actively participated in the consultations leading up to the offer (Hirsch and Hines 2005). Bell (1997) argues that their interest in binding tariff reductions was to signal a clear departure in economic policies from the apartheid regime, induce industrial efficiency through the curbing of domestic monopoly power, and lower consumer prices. The apartheid regime, in turn, was interested in removing levers of industrial policy from the future government. Actual tariff cuts on clothing and motor vehicles went beyond what was required under South Africa's offer to the WTO, reflecting significant unilateral trade liberalization (Bell 1997). The government's shift towards an open regime was also reflected in several domestic reforms including the 'Growth, Employment, and Redistribution' (GEAR) macroeconomic policy in 1996 that aimed to transform South Africa into a 'competitive, outward orientated economy' (Republic of South Africa 1996), and the deregulation of agricultural marketing and control boards established under the Agricultural Marketing Act of 1968. The opening up of the economy, therefore, primarily arose from a domestic policy programme, as opposed to being externally imposed.

While multilateral tariff liberalisation largely came to a halt from 2000, aggregate protection continued to fall through preferential trade agreements. During the 1990s and early 2000s, the policy objective was to conclude free trade areas (FTAs) that covered substantially all trade. These include the Southern African Development Community (SADC) Free Trade Protocol (from 2000); the South Africa-European Union (EU) Trade, Development and Cooperation Agreement (TDCA) (from 2000), which was replaced by the SADC Economic Partnership Agreement in 2016; and a free trade agreement with the European Free Trade Association (EFTA) in 2008. The effect of these agreements was a reduction in tariffs by 2018 to 3.36% for EFTA members, 2.37% for EU members and close to zero for SADC members.[6] In the case of SADC, however, overly complex and restrictive rules of origin requirement preclude many SADC countries from accessing the South African market at these preferential tariff rates (Brenton et al. 2005).

In 2007, the then named Department of Trade and Industry launched the National Industrial Policy Framework (DTI 2007), which was followed in 2010 by the Trade Policy and Strategy Framework (TPSF) (DTI 2010). These policy documents articulate a critical assessment of the impact of tariff liberalization on the South African economy and outlined a new approach towards tariff determinations that were to be "*conducted on a case-by-case basis, taking into account the specific circumstances of the sector involved*" (DTI 2010, 3). Any tariff reductions were to be concentrated in upstream intermediate input industries, while protection on downstream industries were to be largely preserved. In addition, the TPSF outlined a narrower and more 'strategic' objective with respect to trade and investment agreements. Less emphasis was to be placed on negotiating comprehensive free trade agreements, with the focus shifting to partial scope agreements that cover a narrower range of products. Trade with the region was also to be

[6] Based on calculations using the ad valorem components of SACU tariff rates at the 8-digit level of the Harmonized System classification.

emphasised. Finally, a more defensive stance towards multilateral tariff liberalisation under the World Trade Organisation was adopted.

An important strength of the new approach towards tariff policy is that it emphasises greater coherence between the use of tariff instruments and industrial policies. While tariffs provide protection to domestic industries, complementary targeted industrial policies are often required to alleviate the fundamental supply constraints giving rise to the firm's competitiveness problems. Nevertheless, South Africa's current trade policy faces several severe limitations.

The policy is heavily focused on domestic concerns and has the danger of placing South Africa at a disadvantage as its exporters seek access to the growing emerging economies (Edwards and Lawrence 2012). On the multilateral liberalisation front, two of South Africa's explicit objectives are to enhance market access to developed countries, as well as to eliminate industrial countries' subsidies and support to agriculture. Yet, tariff barriers imposed by emerging economies on South African exports far exceed those by developed economies where in several cases South Africa already has preferential access (e.g. EU, United States under the African Growth and Opportunity Act, and Japan through the Generalized System of Preferences). The shift in focus towards partial scope trade agreements, as reflected in the agreement with the Southern Common Market (MERCOSUR) (from 2016) and a proposed agreement with India, also do not give South Africa the same market access benefits that would be achieved under a comprehensive free trade area (Edwards and Lawrence 2012).

In contrast, the prospects for improved market access into the region are stronger. SACU members commenced negotiating the establishment of a free trade area between the Common Market for Eastern and Southern Africa (COMESA), the East African Community (EAC) and the Southern African Development community (SADC). This process has been surpassed by negotiations around establishing the more extensive African Continental Free Trade Area (AfCFTA) that is due to be implemented in 2021. Subject to the agreed upon tariff phase downs, sensitivity lists, and the rules of origin, the AfCFTA agreement has the prospect of providing South African firms with improved market access into the large regional economies of Nigeria, Egypt and Kenya.

A second concern with South Africa's trade policy is that the commitment to deal with tariffs on a case-by-case basis is unlikely to resolve the complexities and inefficiencies in the current tariff structure that reflect the outcomes of historical policies. For example, Edwards and Lawrence (2008b) find high levels of differentiation in tariff rates within narrow industry groupings and argue that the tariff structure is costly in terms of supporting employment, and, given relatively high tariffs on consumer goods, is regressive in its impact on income distribution. An approach that sets individual tariffs differentially is also prone to be captured by politically connected and economically powerful vested interest groups. Edwards and Lawrence (2008b) recommend a simpler tariff structure comprising a few tariff bands, with explicit processes and rules regarding exemptions for industrial policy purposes. A simpler tariff structure would also facilitate the conclusion of regional trade agreements, in particular custom unions that are the objective of the SADC agreement as well as the AfCFTA.[7]

The more defensive approach towards tariff setting has been evident in active use of tariffs to protect domestic industries, including wearing apparel, food products (chicken, wheat, sugar), machinery (top

[7] For analysis emphasizing the importance of sub-sector specific trade and industrial policies, see Roberts (2000) and DTI (2010).

loaded washing machines) and iron and steel products (tubes, pipes, hollow profiles), amongst others. In several cases, the tariff increases are part of a package of incentives and commitments by retail outlets to source locally and producers to invest in productive capacity (e.g. the Retail-Clothing, Textile, Footwear & Leather Master Plan) reflecting the sectoral approach towards industrial policy. A shift towards a more protective stance is also reflected in the 2017 amendments to the Preferential Procurement Policy Framework Act that require all organs of the State to purchase designated products locally. As of early 2020, 27 products with local content thresholds ranging from 30% to 100% have been designated for local procurement. While localisation may have the capacity to raise demand for targeted domestic products, its limitation is that, as a programme, it is unable to deal with structural impediments to supply that cut across all industries, or serve as instrument to enhance competitive exports.

4. Trade performance from 1994

Post-1994 trends in South African trade flows have been studied extensively using aggregate and industry level data. Increasingly the focus has shifted towards analysing product and firm level data as this data has become available. A common theme in much of the literature has been the extent to which exports have grown and diversified (Roberts 2000; Hausmann and Klinger 2008; Purfield et al. 2014; Bhorat et al. 2019).

The aggregate trends in trade flows post-1994 are show in Figure 1. Export and import volumes rose strongly relative to GDP from 1994, but faltered during the 1997 Asian and 1998 Russian financial crises, and then again in the early 2000s. From 2004-2007, exports grew very strongly driven by the commodity boom, but imports rose even more sharply leading to a current account deficit of 5.5% of GDP in 2008. Towards the end of 2008, trade volumes collapsed in response to the global financial crisis. While import growth recovered relatively quickly, growth in export volumes has been tepid, even lagging the weak GDP growth. By 2019, export volumes were only 3% higher than they were in 2008 and comprised a lower share of real GDP (29.5% vs 32.5%), whereas import volumes were 17% higher leading to continued pressure on the current account.

Behind these aggregate trends lie important changes in the geographic, industry, product and firm composition of trade flows. These aspects are discussed in the following sub-sections.

Diversification of exports - Industry, product and firm dynamics

Table 1 shows evidence of broad changes in the industry composition of South Africa's export bundle from 1990. The importance of gold continued to decline with manufacturing emerging as the dominant source of exports, reaching 64% of goods exports in 2019. The industry composition of manufacturing exports also saw some diversification, with the share of medium-technology products rising from 29% in 1990 to 46.3% in 2019. The principle determinants of this increase are exports of motor-vehicles and machinery & equipment. Motor vehicles and other transport equipment alone made up 28.5% of the total value of manufacturing exports in 2019. Much of this growth can be attributed to the export and investment incentives provided under the Motor Industry Development Programme (1995-2012) and the Automotive Production Development Programme (APDP) from 2012 (Black 2011; Madani and Mas-Guix 2011).

Export growth, however, was not only concentrated in the vehicle industry. Using data for manufacturing at the 3-digit Standard Industrial Classification (SIC) level reveals that exports rose as a share of sales in

almost all industries reflecting the broad-based re-orientation of production towards exports.[8] These broad-based outcomes, in part, reflect the outcome of reductions in the anti-export bias arising from lower import tariffs. Edwards and Lawrence (2008a), for example, calculate that reductions in the implicit export tax from tariff liberalisation from 1988 to 2003 was equivalent to an improvement in export profitability of 34 percent for commodity manufacturing and a much higher 60% for non-commodity manufacturing. Further, their estimates reveal that a significant portion of manufacturing export growth and diversification into non-commodity products from 1990 to 2002 can be attributed to reductions in the anti-export bias from trade liberalization.[9]

Drilling down to the firm-level, also reveals widespread participation in exporting irrespective of the industry classification (Matthee et al. 2018), as well as a close association between exporting and importing (Edwards et al. 2018, 2020). Manufacturing exporters that import are also more productive, are less likely to exit from exporting, have higher average export values (R14.4 million vs. R2.2 million), export more products per destination (9.4 vs. 7.6),and to more destinations per product (2 vs. 1.4) compared to exporters that do not import (Edwards et al. 2018). The implication is that improved access to imported intermediate inputs and the backward integration of exporters into global intermediate input supply chains that was made possible by tariff liberalisation has played a prominent role in driving South Africa's post-1994 export performance.

For a further disaggregated perspective, Table 2 presents several measures of concentration, competitiveness and export sophistication based on disaggregated product level export data (3 or 4-digit level of the Standard International Trade Classification or 6-digit level of the Harmonized System(HS)) for South Africa. These indicators provide further evidence of changes in South Africa's export bundle. South Africa exports a wide range of products with an export presence in over 90% of possible 6-digit HS lines in all years. The range of countries it exports is high and increased from 194 in 1995 to 218 in 2019. The number of product varieties (defined as 3-digit SITC product-destination combinations) rose from 11633 to 18345 over the period reflecting a diversification of South Africa's export bundle. More than half of this increase took place from 1995-2000 when tariffs fell most strongly. According to the Revealed Comparative Advantage measures, the number of 4-digit SITC products that South Africa is revealed to be competitive in, rose from 179 to 253 from 1995 to 2000, but this number then declined to 177 by 2019.

The concentration of exports, however, has risen, as is reflected by the rising share of total exports accounted for by the top 5 destinations (36.9% to 43.2%) and the top 5 products (at 3-digit level, excluding gold) (32.3% to 43.5%) over the period 1995 to 2019 (Table 2). Concentration levels are even higher when using trade transaction data. Purfield et al. (2014, 21) use South African customs & excise transaction data

[8] Exports as a share of total sales rose in 36 of the 44 industries from 1995-2010, with an average increase of 7.6 percentage points. Very large increases (over 20 percentage points) were experienced in machinery, electrical equipment and moto vehicle industries.

[9] Other studies that find statistically significant positive relationship between aggregate or industry level exports and tariff reductions include Tsikata (1999), Alves and Edwards (2006) and Edwards and Lawrence (2008a). These findings contrast with the argument by Trevor Bell who, in several articles, argued that the performance and composition of exports was primarily an outcome macroeconomic forces, including economic growth and changes in the real exchange rate associated with international commodity prices (particularly gold) rather than a lack of an 'export culture', or the 'anti-export bias' created by protection (Bell, 1993, 1997; Bell et al. 2002). The results also contrast with the argument made by the DTI (2010: xiii) that trade liberalisation reinforced export specialisation in resource-based products that reflect South Africa's 'static comparative advantage'.

for 20 000 firms from 2001 to 2012 and find that the top 5 percent of South Africa's exporting firms account for more than 90 percent of its exports – a comparatively high share compared to many other emerging economies. Relatively low entry rates compared to many other emerging economies (Purfield et al. 2014; Edwards et al. 2018) as well as a large degree of churn amongst smaller exporters (Matthee et al. 2018) imply that new entrants fail to make a substantive impact on export concentration. As a consequence, the contribution of new exporters and products to export growth remains low (and falling) (Purfield et al. 2014; Matthee et al. 2016a).

The firm level data therefore point to a lack of dynamics in the firm-composition of South African exports that is inhibiting the diversification of South Africa's export bundle. South Africa also appears to differ from other emerging economies where the concentration of exports is truncated by too few large exporters (Fernandes et al. 2016). In contrast, the relatively high export concentration amongst firms in South Africa points to the presence of a 'missing' middle. More firm level research is required to understand the dynamics behind this, but this feature of trade is consistent with arguments that market power and concentration in South Africa have inhibited the emergence of competitive small and mid-size firms.

Table 2: **Table: Indicators of export concentration and complexity**

	1995	**2000**	**2010**	**2019**
Measures of concentration				
Number 6-digit HS products exported	4696	4690	4551	4451
(as % total possible lines)	(93%)	(94%)	(94%)	(95%)
Number destinations	194	208	212	218
Number 3-digit STIC product-destinations	11633	15310	17616	18345
Share top 5 destinations	36.89	39.48	39.19	43.22
Share top 5 products, excl. gold	32.3	34.8	41.2	43.5
Measures of competitiveness and complexity				
Number of products with RCA	179	253	195	177
Economic Complexity index	0.31	0.27	0.13	-0.02
Complexity Outlook Index	1.24	2.25	1.60	1.37
World market share: merchandise exports (%)	0.58	0.50	0.60	0.48
World market share: manufacturing exports (%)	0.36	0.34	0.47	0.38

Notes: RCA denotes Revealed Comparative Advantage and is based on 4-digit SITC Rev. 2 data. A value greater than 1 implies that the share of the product in South African exports exceeds the share of that product in world exports. The Complexity Outlook Index (COI) is a measure of how many complex products are near a country's current set of capabilities. A high COI value reflects an abundance of nearby, complex products that rely on similar capabilities as those present in current production. The Economic complexity index is a measure of the knowledge in a society as expressed in the products it makes. The economic complexity of a country is calculated based on the diversity of exports a country produces and their ubiquity, or the number of the countries able to produce them (and those countries' complexity). The higher the index, the greater the economic complexity.

Source: Own calculations using data from Uncomtrade via World Integrated Trade Solution, Harvard Growth Lab's ATLAS of Economic Complexity (https://atlas.cid.harvard.edu/) and the World Trade Organisation (https://data.wto.org/).

Despite some diversification of the export bundle, resource-based products remain a salient feature of the country's export profile accounting for 43.2% of manufacturing exports in 2019 (Table 1). If mining and agricultural sector exports are included, their combined value makes up 63% of the total value of South Africa exports of merchandise goods. Given South Africa's abundance in natural resources, resource-based products are expected to be a prominent feature of South Africa's export bundle. Nevertheless, several factors worked to amplify the contribution of resource-based products to South African exports post-1994. Industrial policy, particularly in the 1990s, continued to incentivise large-scale capital-intensive projects in minerals-intensive industries such as the non-ferrous metals and basic iron & steel sub-sectors. These incentives took the form of accelerated depreciation allowance (e.g. to Columbus Stainless Steel and the Saldanha Steel plant), tax relief under the Strategic Industrial Projects programme, artificially low electricity prices by ESKOM, and investment support for large-scale mineral beneficiation projects by the state-owned Industrial Development Corporation.

As will be discussed later, the rapid growth of China and its demand for resources in the 2000s reinforced this trend. The resultant commodity boom re-orientated South African exports towards resource-based and primary products, while Chinese exports crowded out South African manufacturing exports in third markets (Edwards and Jenkins 2014, 2015b). Chinese competition also displaced domestic manufacturing production undermining the supply base (Edwards and Jenkins 2015b). This initiated a particular form of deindustrialization – a shift of the economy into extractive industries, rather than into services (Imbs 2013).[10] A further contributing factor is market power by entrenched lead firms in the upstream petro-chemical and metals industries. This has resulted in above competitive price levels for intermediate inputs, thus undermining the competitiveness of downstream industries.

One important caveat to the above analysis is services trade that is not shown in Table 1. According to South African Reserve Bank data, the growth in exports of services exceeded that of goods from the mid-1980s, with their share in the value of total exports rising from 9% in 1985 to 14% in 2019 (with a peak of 18% in 2003). The bulk of these services exports comprise travel and transport services (over 70% share), but with the rise in trade through global value chains, the share of business and financial services has risen in importance. The contribution of services to exports is even more important if indirect linkages are taken into account. In value added terms, services account for close to 40% of South Africa's exports, indicating the intensive dependence of exporters on services inputs.[11]

Geographical diversification

A further avenue for diversification is through the expansion of exports into new markets. At the aggregate level, there have been substantial changes in the geographical composition of South African exports. In 1995, the United Kingdom was the primary export destination accounting for 11% of South Africa's export value (excluding gold, platinum and unspecified products), but by 2019 it had fallen out of the top five destinations. China, which ranked as the 18th most important destination in 1995, emerged

[10] Based on South African Reserve Bank data, the share of mining in nominal gross value added rose from 7.4% in 2000 to 9.2% in 2008. The share of mining in real GDP, however, fell from 13% to 9.4% over this period, reflecting a very weak real output response in mining to the commodity boom.

[11] Own calculations drawing on the OECD Trade in Value Added data obtained from https://stats.oecd.org.

as South Africa's top export destination from 2009/2010 accounting for 15% of the country's exports of goods in 2019.

For manufacturing goods, diversification into Africa, driven initially by the ending of sanctions and from 2001 by the reductions in tariffs under the SADC FTA together with relatively strong economic growth in the continent, has been a major contributor to export growth. The share of SADC countries (excluding exports to other Southern African Customs Union (SACU) members) in total South African exports rose from 7.1% in 1994 to a 13% in 2019. If SA exports to other SACU members are included, the SADC share is a high 26% in 2019. These exports are 'desirable' from an industrialization perspective as they are strongly oriented towards manufactured goods. The implication is that, including SACU exports, Africa accounts for around half of South Africa's nonmineral exports (Purfield et al. 2014). In addition to being a source of demand manufactured goods, this trade has been accompanied by rapid growth in services alongside significant foreign direct investment (FDI) from South African countries in sectors such as retail, banking, insurance, transport and business support services (Arndt and Roberts 2018). The establishment of the South African retail chains in the region has been particularly effective as a conduit for South African goods to enter into the African markets.

The product and firm level growth dynamics behind South African export trade to the region also differs from that to the rest of the world. Using South African Revenue Services (SARS) administrative data for on average 29000 firms (5700 exporters) per year from 2010-2013, Matthee et al. (2018) find that firms exporting to SADC and other African countries export a smaller proportion of their output, export less sophisticated products, are more capital-intensive, pay lower wages and present no productivity premium between them and domestic-orientated firms. Using transaction data over the earlier 2001-2012 period, Purfield et al. (2014) find that exports to Sub-Saharan Africa are less concentrated (top 1% account for 46% of export value, vs 80-85% for BRICS and EU), and the average export spell of products is shorter, the value of new exporters lower and growth of surviving exporters also lower. However, the survival rates of firms exporting to Africa is higher than other regions.

The African market will continue to play an important role in driving the growth and diversification of South African exports considering its rising population and the proposed implementation of the African Continental Free Trade Agreement. The expectations are high. As President Ramaphosa declared in his acceptance statement on assuming the Chair of the African Union for 2020 on 9 February 2020, AfCFTA is expected to "…*reignite industrialisation and pave the way for Africa's integration into the global economy as a player of considerable scale*."[12] However, the nature of the products exported and ad hoc use of the African market by South African firms —exporting when opportunities come rather than seeking them out (Purfield et al. 2014) – suggests more moderate expectations may be required of the potential of trade with Africa to serve as a springboard for South African industrialisation and entry into highly competitive global markets.

Structural transformation at the product level

Other research on exports has focused on the implications of structural shifts in the product composition of South African exports for growth and factor usage (Hausmann and Klinger 2008; Purfield et al. 2014; Bhorat et al. 2019). For example, Purfield et al. (2014) uses product-level indicators of revealed factor

[12] http://www.thepresidency.gov.za/speeches/acceptance-statement-president-cyril-ramaphosa-assuming-chair-african-union-2020

intensity to show that South Africa's exports are concentrated in products with human capital and physical capital intensities beyond the country's endowments (see also Matthee et al. 2016b). This finding corresponds with that of Alleyne and Subramanian (2001) who use industry data during the 1990s to show that South Africa is paradoxically revealed through trade to be relatively capital abundant and a net exporter of capital-intensive goods. Similarly, at the firm level, compared to domestic-oriented firms, manufacturing exporters are larger, more productive, pay higher wages, and are more capital- and skill-intensive (Matthee et al. 2016a; Edwards et al. 2018; Matthee et al. 2018, 104). The product and firm composition behind South Africa's exports thus gives rise to a mismatch between the intensity of factors demanded in exports and the endowments available. The implication of this finding is that continued export growth under the current structure is unlikely to absorb less-skilled labour that accounts for much of South Africa's unemployed.

Hausman and Klinger (2008) and Bhorat et al. (2019) present an alternative approach to analysing South Africa's structural transformation and path dependence by locating its exports within a Product Space representation of the relatedness of products developed by Hidalgo et al. (2007). Within this network are core areas where products are proximate, plentiful and easy for economies to transition into, and peripheral areas where products (typically primary products) are more distant with fewer connections. Rapid development is associated with transition into the dense part of the network (Hidalgo and Hausman 2009).

Bhorat et al. (2019) use graphical visualisations of the product space to illustrate key features of South Africa's export structure. Products where South Africa has a comparative advantage are rooted in commodities (platinum, iron ore & concentrates, coal, gold and diamonds), horticulture (citrus, apples, potatoes, sugars) and agro-processing (juices, sugar products, edible products, eggs, jams, etc.) that are largely in the periphery of the product space and have weak links into the dense part of the network. Only a few products, such as passenger vehicles, filtering & purifying machinery, construction & mining machinery, pumps for liquids, are located within the dense part of the network.

Using similar diagrams, Hausmann and Klinger (2008) illustrate that there was some re-orientation of the export basket towards the center from 1995 following trade liberalization, but the transition was weak relative to countries such as Malaysia that developed capabilities in the export of electronics related goods from the 1980s. Bhorat et al. (2019) extend this analysis to compare 1995 with 2015 and also find evidence of weak structural transformation. They argue that South Africa actually experienced declines in the complexity of its export bundle (Economic Complexity Index) and proximity to unexploited product diversification opportunities (Opportunity Value Index) over this period, but a closer look at these measures presented in Table 2 shows that the decline takes place after 2000. The period 1995 to 2000, is characterized by rising or stable indicators of Economic Complexity and Opportunity Value. Nevertheless, the overall implication drawn from the analyses is that South Africa's endowments in natural resources combined with its location on the periphery of the product space has impeded structural transformation.

The post-1994 period thus presents a mixed picture with respect to growth and diversification of South Africa's export bundle. The overall picture is one in which there was relatively strong growth and diversification of exports from 1995 to 2000, with stagnation or reversal in some of these gains subsequently. The following section looks at the implications of these trends for output and employment in manufacturing.

5. Trade, labour and deindustrialisation

The liberalization of the economy has had far reaching implications for production, productivity, prices, trade and employment, amongst others, and has initiated considerable debate on the merits of the policy. This is to be anticipated as the impact of trade liberalization does not fall equally across all in society. A comprehensive evaluation of the impacts of liberalisation on the economy is beyond the scope of this chapter. Rather, this section updates the prior reviews by Edwards (2006) and Cassim et al. (2009) and presents new data to analyse the relationship between trade, production and employment.

While the post-1994 period saw increases in trade volumes and export-orientation, these trends corresponded with declines in manufacturing employment both in absolute levels and as shares of total employment. Depending on the data used, total employment in manufacturing fell from 1.43 million in 1994 to 1.3 million in 2000, and then further to 1.2 million in 2019.[13] Manufacturing's share of non-agricultural employment also fell from between 17-19% in 1994 to under 12% by 2019. Some of the decline in manufacturing employment can be attributed to outsourcing-type reallocation and reclassification of services such as cleaning and security (Tregenna 2010). Nevertheless, the relatively poor manufacturing employment growth raises concerns that trade liberalization accelerated the process of deindustrialization that had commenced from the early 1980s.

To study the relationship between trade, production and employment over the period 1992-2019, Table 3 presents a Chenery-style decomposition of output growth and employment growth in manufacturing into Final Demand, Exports, Import Penetration, and Technology.[14] The decomposition extends the work of Edwards and Jenkins (2015a) and therefore also isolates how China affects output and employment. While these decompositions face several limitations (Edwards and Jenkins 2015a), they are informative in providing a broad overview of structural changes in demand, trade and technology in the economy and how these relates to output and employment growth.

[13] The data for 1994 and 2000 are obtained from Statistics South Africa Survey of Employment and Earnings (P0271), while the data for 2019 are obtained from the Quarterly Employment Statistics (P0277).

[14] The decomposition method is described as follows: Gross output (X) is expressed as $X = dD + E$, where d is the ratio of domestically produced goods to total demand, D is total demand (inclusive of imports) and E is exports. This relationship can be decomposed into changes in demand (ΔD), export expansion (ΔE) and import penetration (ΔdD) as follows: $\Delta X = d\Delta D+\Delta dD+\Delta E$. To method can be extended to study change in employment by decomposing total employment (N) into $n\Delta X+\Delta nX$, where n is employment per unit output X. The final term, ΔnX, is an indicator of how technological change affects employment.

Table 3: **Contribution to output and employment growth in manufacturing as share initial total output or employment, 1992-2019**

	1992-2001	2001-2010	2010-2019	1992-2019			
				Total	*Ultra-L intensive*	*Medium L-intensive*	*Capital-intensive*
Decomposition of output							
Growth of Domestic Demand	19.8	17.1	9.4	54.6	32.7	59.7	61.1
Increased exports	17.0	3.4	6.8	30.8	6.9	16.9	47.0
(of which exports to China)	*0.3*	*0.6*	*0.3*	*1.4*	*0.2*	*0.6*	*2.3*
Increased import penetration	-10.2	-9.4	-6.9	-31.9	-25.7	-29.0	-35.7
(of which imports from China)	*-1.2*	*-5.5*	*-4.4*	*-14.3*	*-16.1*	*-18.8*	*-11.5*
Net trade	6.8	-6.0	-0.2	-1.1	-18.8	-12.1	11.3
% Change in Output	26.5	11.1	9.2	53.5	13.9	47.5	72.4
Change Output (Rmill)	142.1	74.9	69.6	286.6	16.1	64.1	206.4
Decomposition of employment							
Growth of Domestic Demand	12.8	17.9	7.5	34.3	23.1	43.7	41.5
Increased exports	13.0	0.8	2.7	15.9	8.2	13.4	28.3
(of which exports to China)	*0.2*	*0.3*	*0.3*	*0.7*	*0.2*	*0.4*	*1.7*
Increased import penetration	-8.3	-9.0	-8.7	-23.2	-20.8	-23.8	-25.9
(of which imports from China)	*-1.5*	*-7.0*	*-5.3*	*-11.9*	*-12.9*	*-11.0*	*-11.3*
Net trade	4.6	-8.2	-5.9	-7.3	-12.6	-10.4	2.4
Productivity	-31.4	-14.5	2.5	-41.8	-45.0	-36.9	-41.5
% Change in Employment	-13.9	-4.8	4.1	-14.7	-34.5	-3.6	2.5
Change Employment ('000)	-197.6	-58.6	48.0	-208.3	-205.8	-13.4	11.0

Source: Own calculations extending Jenkins and Edwards (2015a) using trade data obtained from UNComtrade via World Integrated Trade Systems, and employment and output data obtained from Statistics South Africa.

Notes: Based on 44 manufacturing industries at the 3-digit level of the SIC. Ultra-labour-intensive and capital-intensive groups comprises of the top and bottom 1/3, respectively, of industries according to average sales per worker from 1992-2019. Medium-labour-intensive makes up the remaining industries. Output and trade data are deflated using industry producer price indices obtained from Statistics South Africa. The calculations assume common deflators for output and trade values within each industry.

Several key features regarding South Africa's post-1994 growth in manufacturing can be identified from Table 3. Output growth, which initially grew by a high 26.5% from 1992-2001, declined sharply over the following two periods 2001-2010 and 2010-2019. The dominant driver of this trend is domestic demand which accounts for most of the aggregate growth in the sector. Growth in exports also contributed significantly towards raising output, particularly in the first period 1992-2001 where it raised output growth by 17%. However, export growth only raised employment by 15.9% over the full period – less than half its impact on output. This reflects the capital-intensity of South Africa's export bundle as well as the much stronger contribution of exports from capital-intensive industries to growth in output (47%) and employment (28.3%) compared to exports from ultra-labour-intensive industries (6.9% and 8.2%, respectively).

The contribution of exports to output growth over the full period, however, was completely offset by rising import penetration that resulted in a small negative 1.1% net trade impact. Looking within

manufacturing, net trade reduced output and employment growth in the ultra-labour-intensive and medium-labour-intensive industries, but contributed positively toward growth in capital-intensive industries. This structural shifts in net-trade towards capital-intensive and skill-intensive sectors is also found in the factor-content analyses of Bell and Cattaneo (1997) and Edwards (2001a).

Looking across the sub-periods, net trade had a positive impact on output and employment growth from 1992 to 2001 when tariff liberalization was at its most intense, as is also found by Edwards (2001a, b), Jenkins (2008), Dunne and Edwards (2007) and Edwards and Jenkins (2015a). The contribution of net trade only turned negative from 2001 as import penetration continued to rise very strongly and export growth slowed. China is a central factor behind this change. Following its entry into the World Trade Organisation in 2001 and its rapid economic growth, commodity prices boomed, and Chinese exports grew sharply. This had direct and indirect effects on the South African economy. Indirectly, the commodity price boom improved South Africa's terms of trade initiating a rise in commodity exports and improvements in South Africa's growth that stimulated demand for manufactured imports. The real effective exchange rate appreciated depressing growth in non-commodity manufactured exports that declined as a share of trade (see Table 1).

More directly, imports from China rose rapidly and by 2009 China had become South Africa's most important trading partner, surpassing the United States as a destination for exports, and Germany as a source of imports. Although increased imports from China partly replaced imports from other countries, Edwards and Jenkins (2015a) find that most of the increase in Chinese penetration of the market was at the expense of local production. The decompositions in Table 3 show that import penetration by Chinese goods reduced output (employment) by 5.5% (7%) from 2001-2010 and by 7% (5.3%) from 2010-2019, with the strongest impact in the ultra-labour-intensive sectors. In contrast to the impact of imports, exports of manufactures to China did not add significantly to industrial growth. The net export effect of exports to China, may actually be lower than presented in Table 3, as Edwards and Jenkins (2014, 2015b) estimate that Chinese competition crowded out South African exports, particularly in African markets, with the strongest effects in medium- and low-technology products.

As found in the other similar decomposition studies (Edwards, 2001a; Jenkins, 2008; Dunne and Edwards, 2007; Edwards and Jenkins, 2015a), the primary source of employment losses are productivity improvements within industries that lowered manufacturing employment by 41.8% (or half a million jobs) from 1992-2019. However, some of this productivity improvement is itself explained by international trade, as is found at the aggregate level by Jonsson and Subramanian (2000) and Fedderke (2006). Productivity improvements associated with international trade are also found at the firm level. Using SARS administered firm data from 2010 to 2013, Matthee et al. (2018) estimate total factor productivity premiums of 5% for exporters compared to firms only selling to the home market. This rises to 8-10% for firms that export outside of Africa and is also higher for multi-destination exporters. Edwards et al. (2020) also use the SARS administered data, and show how the use of imports by manufacturing firms raises productivity through access to a wider range of inputs and technology transfer. These results suggest that compositional shifts towards exporters and increased use of imported intermediate inputs in response to liberalisation or competition from China account for some of the job losses through productivity growth shown in Table 3.

Trade may also have contributed towards the persistence in wage inequality that has been a dominant contributor to the rising Gini coefficient in South Africa (Wittenberg 2017). South African manufacturing

exporters pay higher wages and employ relatively skilled labour compared to non-exporters (Matthee et al. 2018). The within-firm dispersion of wages is also higher amongst exporters (Matthee et al. 2017). Growth in manufacturing exports will thus have raised the relative demand for skilled and high wage workers, placing additional pressure on wage inequality.

One limitation of the above research is that it ignores potentially important regional variations in the impact of trade reform. Erten et al. (2019) and Lepelle (2020) respond to this shortcoming by focussing on the local labour market impacts of trade liberalization. Using a panel of cross-sectional household data from 1994 to 2004, Erten et al. (2019) find that workers employed in districts facing larger tariff reductions experienced a significant decline in employment, driven primarily by a decline in manufacturing sector employment. The displaced workers tend to exit the labour force entirely and access government transfers, rather than transition into other sectors or migrate to less affected regions. These effects were stronger in regions with relatively high union and unemployment rates. Lepelle (2020), using more aggregated regional data over a longer period 1996 to 2011, finds similar results, but shows that declines in employment were concentrated amongst females. These papers are insightful in that they highlight how labour market rigidities to the relocation of workers across industries or locations, combined with differences in industry composition across regions, result in distinct local labour market outcomes from trade liberalisation. There is much scope for further research in this area, including a study of how growth in exports impacted on local level employment.

6. Conclusion

South Africa faces an export predicament. The country has experienced a long-run decline in its export performance relative to its peers. Its macro-competitiveness has also diminished implying that an acceleration in economic growth will not be possible without substantially improving export growth. This chapter analyses South Africa's participation in international trade as a way to better understand the dynamics behind South Africa's economic performance.

A key constraint to South Africa's growth potential that was already apparent already from the 1970s is its failure to transition out of gold exports into an export-led growth path driven by manufacturing or an alternative commodity. The chapter highlights several early reasons that underpin this failure – commodity dependence and booms, structural constraints and isolation from international markets through the imposition of sanctions and domestic policies that constrained access to imports.

The 1990s saw a dramatic opening up of the economy through trade liberalisation, and a rise in both exports and imports as a share of output and consumption. However, this did not lead to a sustained transition of the economy onto an export led growth path, as was envisaged under the GEAR macroeconomic framework. While tariff liberalization reduced the anti-export bias and stimulated export growth and diversification, these impacts were not sustained. An active industrial policy, implemented from 2007 also failed to make a significant mark on exports outside of motor vehicles. Trade liberalization also exposed South African manufacturing firms to increased competition leading to employment losses, particularly in labour-intensive industries, such as wearing apparel. The continued vulnerability of the South African manufacturing industry, that had not yet transitioned onto a competitive export-oriented growth path, was further exposed by China's export-led boom from 2001.

Although not discussed in detail in the chapter, South Africa appears to have fallen into a lower level growth equilibrium following the financial crisis in 2007/8. Export and output growth in manufacturing

and the rest of the economy has been very weak. In contrast, imports have continued to rise placing continued pressure on South Africa's balance of payments. The decline in commodity prices after 2008 and weaker global growth in trade volumes explain some of this performance. A slow recovery in global trade following the COVID-19 pandemic will place further external demand pressures on South African exports.

However, deeper and more structural supply factors are the primary constraints to an export growth recovery. The lack of supply dynamism is reflected in the firm export data that reveals low levels of entry, declining product ranges, high and rising levels of concentration (Purfield et al. 2014), and a diminished responsiveness of exports to the exchange rate (Hlatshwayo and Saxegaard 2016; Edwards and Hlatshwayo 2020). Adverse supply conditions include high trade costs linked to freight, transport and port services provided by state-owned enterprises (Purfield et al. 2014); repetitive electricity shortages; policy uncertainty (Hlatshwayo and Saxegaard 2016); and lack of competitiveness in the domestic market (Purfield et al. 2014), amongst others. As manufacturing production has become more skill-intensive, globally and locally, the education system has struggled to increase the supply of more skilled labour, a constraint that was also prevalent during apartheid. Without resolving these supply constraints, it is unlikely that export growth will improve substantially.

The AfCFTA presents an exciting opportunity to expand and diversify South African manufacturing exports. With a growing large population, the continent presents an important source of future demand for South African manufactured goods. However, South Africa's highly unbalanced trade with Africa given its low imports from the region poses a threat to the successful implementation of the trade agreement. Looking at other sectors, services trade, including maintenance and support services to the region, business process outsourcing (e.g. call centres), and tourism are identified as key opportunity to expand exports (Arndt and Roberts 2018). Realising these outcomes will require active intervention by the state to improve domestic market conditions and conclude international institutional agreements (e.g. trade, investment and services agreements) that govern trade.

References

Alleyne, Trevor, and Arvind Subramanian. 2001. 'What does South Africa's Pattern of Trade Say about its Labor Market?' *IMF Working Paper no. 01/148*.

Anand, Rahul, Roberto Perrelli, and Boyang Zhang. 2016. 'South Africa's Exports Performance: Any Role for Structural Factors?' *IMF Working Paper no. /16/24*.

Arndt, Channing, and Simon Roberts. 2018. 'Key Issues in Regional Growth and Integration in Southern Africa.' *Development Southern Africa 35* (3): pp. 297-314.

Bell, Trevor. 1997. 'Trade Policy.' In the Political Economy of South Africa's Transition, edited by J. Michie and V. Padayachee. London: *Dryden Press*

Bell, Trevor, and Nicolette Cattaneo. 1997. 'Foreign Trade and Employment in South African Manufacturing Industry.' Geneva: *International Labour Office*.

Bell, Trevor, Greg Farrell, and Rashad Cassim. 2002. 'Competitiveness, International Trade and Finance in a Minerals-Rich Economy.' In Finance and Competitiveness in Developing Countries, Chapter 7, edited by Fanelli and José María and Medhora Rohinton. *Vol. 19, 181 Routledge*.

Bell, Trevor. 1993. 'Should South Africa Further Liberalise its Foreign Trade?' In State and Market in Post-Apartheid South Africa, edited by Merle Lipton, and Charles Simkins. Johannesburg: Witwatersrand *University Press*.

Belli, Pedro, Michael Finger, and Amparo Ballivian. 1993. 'South Africa: A Review of Trade Policies.' *World Bank Informal Discussion Papers on Aspects of the South African Economy, no. 4* World Bank, Southern Africa Department.

Bhorat, Haroon, Arabo Ewinyu, Kezia Lilenstein, Christopher Rooney, François Steenkamp, and Amy Thornton. 2019. 'Economic Complexity and Employment Expansion: The Case of South Africa.' DPRU.

Black, Anthony. 2011. 'Trade Liberalization, Technical Change and Firm Level Restructuring in the South African Automotive Component Sector.' *Institutions and Economies*: pp. 173-202.

Brenton, Paul, Frank Flatters, and Paul Kalenga. 2005. 'Rules of Origin and SADC: The Case for Change in the Mid Term Review of the Trade Protocol.' *World Bank Africa Region Working Paper Series no. 83*.

Casale, Daniela, and Merle Holden. 2002. 'Endogenous Protection in a Trade Liberalizing Economy: The Case of South Africa.' *Contemporary Economic Policy 20* (4): pp. 479-489.

Cassim, Rashad. 2003. 'The Pace, Nature and Impact of Trade Policy in South Africa in the 1990s.' *South African Journal of Economic History 18* (1-2): pp. 76-95.

Cassim, Rashad, Lawrence Edwards, and Dirk Van Seventer. 2009. 'Trade Policy since Democracy.' In *South African Economic Policy Under Democracy*, edited by J. Aron, B. Kahn and G. Kingdon. Oxford, United Kingdom: Oxford University Press.

Department of Trade and Industry. 2007. 'A National Industrial Policy Framework.' *Department of Trade and Industry*.

Department of Trade and Industry. 2010. 'South African Trade Policy and Strategy Framework.' *Department of Trade and Industry, Government Printers*: pp. 42.

Department of Trade and Industry (DTI). 2016. 'Integrated National Export Strategy (Export 2030).' Pretoria South Africa: *Government Printers.*

Dunne, Paul, and Lawrence Edwards. 2007. 'Trade, Enterprise Production and Employment.' *Journal for Studies in Economics and Econometrics 31* (2): pp. 49-68.

Edwards, Lawrence. 2001a. 'Globalisation and the Skills Bias of Occupational Employment in South Africa.' *South African Journal of Economics 69* (1): pp. 40-71.

Edwards, Lawrence. 2001b. 'Trade and the Structure of South African Production, 1984-97.' *Development Southern Africa 18* (4): pp. 471-491.

Edwards, Lawrence. 2011. 'South Africa's Use of Temporary Trade Barriers: Pre- and Post-Crisis.' In The Great Recession and Import Protection: The Role of Temporary Trade Barriers, edited by Chad Bown. London, UK: *CEPR and the World Bank.*

Edwards, Lawrence. 2005. 'Has South Africa Liberalised its Trade?' *South African Journal of Economics 73* (4): pp. 754-775.

Edwards, Lawrence, and Phil Alves. 2006. 'South Africa's Export Performance: Determinants of Export Supply.' *South African Journal of Economics 74* (3): pp. 473-500.

Edwards, Lawrence, and Stephen Golub 2004. 'South Africa's International Cost Competitiveness and Exports in Manufacturing.' *World Development 32* (8): pp. 1323-1339.

Edwards, Lawrence, and Ayanda Hlatshwayo. 2020. 'Exchange Rates and Firm Export Performance in South Africa.' UN-Wider University, Helsinki: *SA-TIED Working Paper* 89*.*

Edwards, Lawrence, and Rhys Jenkins. 2015a. 'The Impact of Chinese Import Penetration on the South African Manufacturing Sector.' *The Journal of Development Studies 51* (4): pp. 447-463.

Edwards, Lawrence, and Rhys Jenkins 2015b. Is China 'crowding out' South African exports of manufactures.' *European Journal of Development Research 27* (5): pp. 903–920.

Edwards, Lawrence, and Rhys Jenkins. 2014. 'The Margins of Export Competition: A New Approach to Evaluating the Impact of China on South African Exports to Sub-Saharan Africa.' *Journal of Policy Modeling* 3*6*: pp. 132-150.

Edwards, Lawrence, and Robert Lawrence. 2008a. 'SACU Tariff Policies: Where should they Go from here?' *Centre for International Development Working Paper 169*.

Edwards, Lawrence, and Robert Lawrence. 2008b. 'South African Trade Policy Matters Trade Performance and Trade Policy.' *Economics of Transition 16* (4): pp. 585-608.

Edwards, Lawrence, and Robert Lawrence. 2012. 'A Strategic View of South African Trade Policy in Relation to the Future Global Trading Environment.' *South African Journal of International Affairs 19* (3): pp. 277-298.

Edwards, Lawrence, Marco Sanfilippo, and Asha Sundaram. 2018. 'Importing and Firm Export Performance: New Evidence from South Africa.' *South African Journal of Economics 86*: pp. 79-95.

Edwards, Lawrence, Marco Sanfilippo, and Asha Sundaram. 2020. 'Importing and Productivity: An Analysis of South African Manufacturing Firms.' *Review of Industrial Organization 57* (2): pp. 411-432.

Erten, Bilge, Jessica Leight, and Fiona Tregenna. 2019. 'Trade Liberalization and Local Labor Market Adjustment in South Africa.' *Journal of International Economics 118*: pp. 448-467.

Evenett, Simon J. 2002. 'The Impact of Economic Sanctions on South African Exports.' *Scottish Journal of Political Economy 49* (5): pp. 557-573.

Fallon, Peter, and Luiz Pereira da Silva. 1994. 'South Africa: Economic Performance and Policies.' *World Bank Discussion paper no. 7.* The Southern Africa department, World Bank.

Fedderke, Johannes. 2006. 'Technology, Human Capital and Growth: Evidence from a Middle-Income Country Case Study Applying Dynamic Heterogeneous Panel Analysis', in South African Reserve Bank, Banco de Mexico and The People's Bank of China.*' Economic Growth, Proceedings of a G20 seminar held in Pretoria, South Africa, on 4–5 August 2005*.

Fedderke, Johannes, and Prabhat Vaze. 2001. 'The Nature of South Africa's Trade Patterns by Economic Sector, and the Extent of Trade Liberalization during the Course of the 1990's.' *South African Journal of Economics 69 (3*): pp. 436–73.

Feenstra, Robert, Robert Lipsey, Haiyan Deng, Alyson Ma, and Hengyong Mo. 2005. 'World Trade Flows: 1962-2000.' *NBER Working Paper No. 11040.*

Feinstein, Charles H. 2005. An Economic History of South Africa: Conquest, Discrimination, and Development. Cambridge, U.K.: *Cambridge University Press.*

Fernandes, Ana, Caroline Freund, and Martha Pierola. 2016. 'Export Behavior, Country Size and Stage of Development: Evidence from the Exporter Dynamics Database.' *Journal of Development Economics* 119: pp. 121-137.

Fine, B, and Rustomjee Z. 1996. 'The Political Economy of South Africa: From Minerals-Energy Complex to Industrialisation.' London: *C Hurst and Co Publishers Ltd.*

Hausmann, Ricardo, and Bailey Klinger. 2008. 'South Africa's Export Predicament.' *Economics of Transition 16* (4): pp. 609-637.

Hidalgo, César, and Ricardo Hausmann. 2009. 'The Building Blocks of Economic Complexity.' *Proceedings of the National Academy of Sciences 106* (26): pp. 10570-10575.

Hidalgo, César A., Klinger Bailey, A-L Barabási, and Hausmann Ricardo. 2007. 'The Product Space Conditions the Development of Nations.' *Science 317* (5837): pp. 482-487.

Hirsch, Alan, and Sally Hines. 2005. *Season of Hope: Economic Reform Under Mandela and Mbeki*. International Development Research Centre.

Hlatshwayo, Sandile, and Magnus Saxegaard. 2016. 'The Consequences of Policy Uncertainty: Disconnects and Dilutions in the South African Real Effective Exchange Rate-Export Relationship.' *International Monetary Fund.*

Holden, Merle. 1990. 'The Growth of Exports and Manufacturing in South Africa from 1947 to 1987.' *Development Southern Africa 7(*3): pp. 363-366*.*

Holden, Merle. 1992. 'The Structure and Incidence of Protection in South Africa.' Johannesburg: *Leading Issues in South African Microeconomics, Southern Book Publishers.*

Imbs, Jean. 2013. 'The Premature Deindustrialization of South Africa.' In The Industrial Policy Revolution II, edited by Stiglitz J.E., Yifu J.L., and Patel E. London: *International Economic Association Series, Palgrave Macmillan.*

Jenkins, Rhys. 2008. 'Trade, Technology and Employment in South Africa.' *The Journal of Development Studies 44* (1): pp. 60-79.

Jonsson, Gunnar, and Arvind Subramanian. 2001. 'Dynamic Gains from Trade: Evidence from South Africa.' *International Monetary Fund Working Paper, no. 00/45 48* (1): pp. 197-224.

Lall, Sanjaya. 2000. 'The Technological Structure and Performance of Developing Country Manufactured Exports, 1985-98.' *Oxford Development Studies 28* (3): pp. 337-369.

Lepelle, Refilwe. 2002. 'Gendered Effects of Tariff Liberalisation in Post-Apartheid South Africa: A spatial analysis.' *PhD thesis, University of Cape Town, South Africa*.

Lipton, Merle. 1988. 'Sanctions and South Africa: The Dynamics of Economic Isolation.' *Economist Intelligence Unit.*

Madani, Dorsati, and Natalia Mas-Guix. 2011. 'The Impact of Export Tax Incentives on Export Performance: Evidence from the Automotive Sector in South Africa.' *The World Bank.*

Manby, Bronwen. 1992. 'South Africa: The Impact of Sanctions.' *Journal of International Affairs 46* (1): pp. 193-217.

Marais, G. 1981. 'Structural Changes in Manufacturing Industry 1916 to 1975.' *South African Journal of Economics 49 (1)*: pp. 26–45.

Matthee, Marianne, Thomas Farole, Tasha Naughtin, and Neil Rankin. 2016a. 'South African Exporters and the Global Crisis: Intensive Margin Shock, Extensive Margin Hangover.' *South African Journal of Economics 84* (2): pp. 183-198.

Matthee, Marianne, Ernst Idsardi, and Waldo Krugell. 2016b. 'Can South Africa Sustain and Diversify its Exports?' *South African Journal of Economic and Management Sciences 19* (2): pp. 249-263.

Matthee, Marianne, Neil Rankin, and Carli Bezuidenhout. 2017. 'Labour Demand and the Distribution of Wages in South African Manufacturing Exporters.' Helsinki: *WIDER Working Paper 2017/11.*

Matthee, Marianne, Neil Rankin, Tasha Webb, and Carli Bezuidenhout. 2018. 'Understanding Manufactured Exporters at the Firm-Level: New Insights from using SARS Administrative Data.' *South African Journal of Economics 86*: pp. 96-119.

National Planning Commission. 2012. 'National Development Plan 2030.' Pretoria, South Africa: *Government printers*.

Purfield, Catriona Mary, Thomas Farole, and Fernando Im. 2014. 'South Africa Economic Update: Focus on Export Competitiveness.'

Rangasamy, Logan, and Chris Harmse. 2003. 'The Extent of Trade Liberalisation in the 1990s: Revisited.' *South African Journal of Economics, 71(4):* pp. 705–728.

Ratcliffe, Anne E. 1975. 'Export Policy in Perspective.' *South African Journal of Economics 43 (1):* pp. 45–55.

Republic of South Africa. 1996. 'Growth, Employment and Redistribution: A Macroeconomic Strategy.' Pretoria: South African government printers.

Roberts, Simon. 2000. 'Understanding the Effects of Trade Policy Reform: The Case of South Africa.' *South African Journal of Economics 68* (4): pp. 270-281.

Rodrik, Dani. 2016. 'Premature Deindustrialization.' *Journal of Economic Growth* 21 (1): 1-33.

Thirlwall, Antony. 1979. 'The Balance of Payments Constraint as an Explanation of International Growth Rate Differences.' *Banca Nazionale Del Lavoro Quarterly Review* 32 (128): pp. 45-53.

Tregenna, Fiona. 2016. 'Deindustrialization and Premature Deindustrialization.' In *Handbook of Alternative Theories of Economic Development,* edited by Deshpande, A. Edward Elgar Publishing.

Tregenna, Fiona. 2010. 'The dynamics of manufacturing employment in South Africa.' In Globalization and Development: A Handbook of New Perspectives, 2nd edition, edited by A. Deshpande. *Oxford University Press.*

Tsikata, Yvonne M. 1999. 'Liberalization and Trade Performance in South Africa.' *World Bank, Southern Africa Department.*

Wittenberg, Martin. 2017. 'Wages and Wage Inequality in South Africa 1994–2011: Part 2–inequality Measurement and Trends.' *South African Journal of Economics 85* (2): pp. 298-318.