



TRADE & INDUSTRIAL POLICY STRATEGIES

MANUFACTURING SUBSECTORS

Electronics and appliances

March 2021

Industrial policy interventions aim to promote structural transformation and structural change in pursuit of economic growth. The effectiveness of these interventions depends to a critical extent on the ability of policymakers to tailor interventions to the specific needs of individual manufacturing subsectors.

To support evidence-based policymaking, TIPS has completed a series of notes on the various manufacturing subsectors in South Africa. The aim is to provide synthesised data on the dynamics of the South African manufacturing subsectors, specifically in their contribution to the GDP, employment, profitability and assets, market structure and major companies, and international trade. The main data sources are Statistics South Africa, Quantec, Who Owns Whom, and the International Trade Centre.

This note provides an overview of the South African electronics and appliances subsector as of December 2020.

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Executive summary

South Africa's electronics and appliances industry grew significantly more rapidly and with greater stability than the rest of the economy until 2016. The industry expanded 5% a year before 2008; it declined 5% during the global financial crisis in 2008/9; but then recovered to grow at 6% a year through to 2016. It contracted about 10% through 2018 but, according to Quantec estimates, it then recovered to 2016 levels by 2019. However, the share of electronics and appliances value added in manufacturing, in constant rand, fluctuated around 1.7% a year from 1994 to 2018, then subsequently declined to 1.5% in 2019. The share declined despite rapid growth in constant rand because of differences in the implicit depreciation rate for ICT and precision instruments compared to manufacturing as a whole. Despite the growth in production, employment in electronics and appliances declined on average 10% a year from 2012 to 2015, levelling at around 50 000 in 2018.

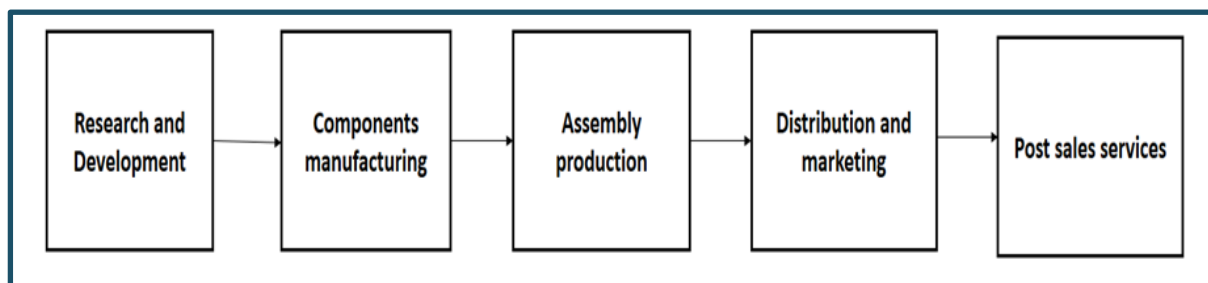
While the 2020 COVID-19 pandemic downturn was initially severe for electronics and appliances, it recovered faster than manufacturing. In April 2020, seasonally adjusted sales in electronics and appliances crashed 73% month-on-month and by 67% year-on-year. This rate was higher than the rest of manufacturing, which declined 50% month-on-month and 55% year-on-year. However, as of December 2020, sales had recovered to pre-pandemic levels.

South Africa's exports of electronics and appliances declined from 2016 to 2019 in constant rand, mainly due to the appreciation of the rand; consequently, their share in total exports declined from 4% to 3% in the period. The fall was due to a decline in cellphones, instruments and related appliances and household appliances. Electronics and appliances grew in constant rand terms from 2009 and 2019. South Africa's exports of electronics and appliances surged 20% in 2020 compared to 2019. The growth was attributed to centrifuges and medical precision instruments.

South Africa's imports of electronics and appliances declined on average 4% between 2016 and 2019. Notwithstanding the decline, South Africa remained a net importer with imports of electronics and appliances accounting for around a ninth of South Africa's total import bill, although in constant rand, the value levelled out from 2015 to 2019. Just under two-fifths of total exports were cellphones, a quarter were precision instruments, and the rest were printers, centrifuges and televisions.

South African electronics and appliances value chain

Electronics and appliances refer principally to consumer equipment products. Electronics is also a core component for capital equipment as well as business services and communications. The industry covers precision instruments, including information and communications technology (ICT). It also includes parts of electric machinery, mostly some inputs to electronics, and machinery, including domestic and office machinery.



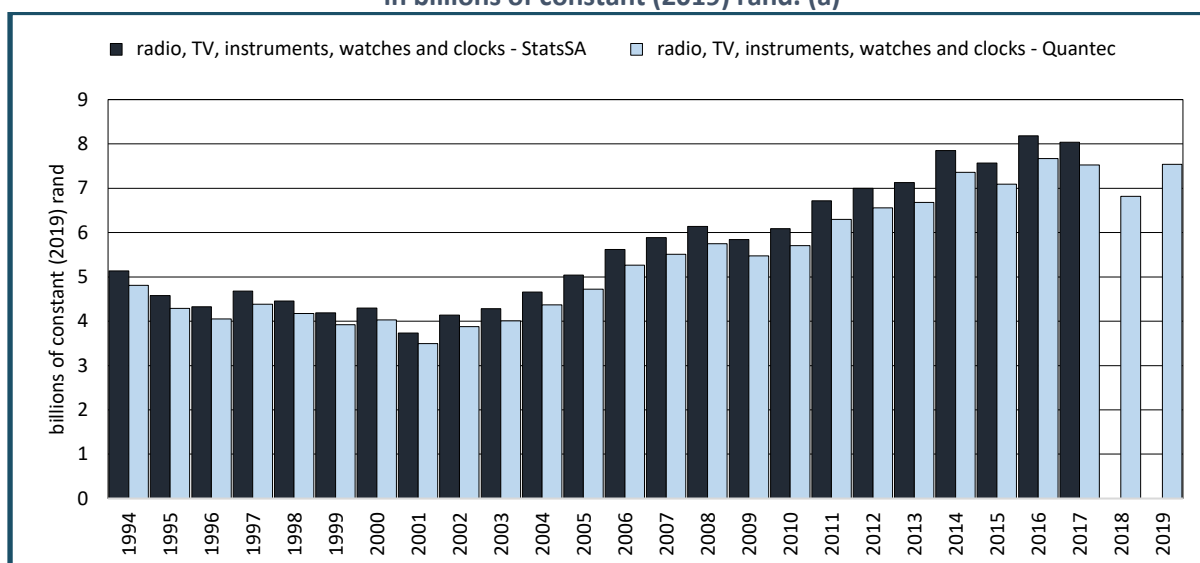
1. Contribution to GDP

Data for the contribution of manufacturing industries to the GDP (that is, for value added by industry) comes from two sources: the GDP data published by Statistics South Africa and Quantec, which develops estimates based on the Statistics South Africa figures for sales, production and employment by industry and subindustries. The figures are not identical, although they typically show the same trends. This report provides both.

Both data sources only provide information separately for value added for precision instruments (radio, TV, instruments, watches and clocks, which includes cellphones, and medical equipment). That means that the data in this report excludes household appliances and office equipment subsumed under machinery. Graph 1 refer to gross output, which is substantially greater than value added because it includes the cost of (mainly imported) inputs. Data for value added is not available separately for household and office equipment.

Over the past 25 years, electronics and appliances value added fluctuated but eventually declined. From 2001 until 2008, the industry increased at a pace of 5% a year but then contracted by 5% during the 2008/9 global financial crisis. Through 2010, a considerable rebound occurred at a pace of 6% a year before growth levelled out at about R8 billion in 2016, due possibly to the regional recession that started in the latter half of 2016.

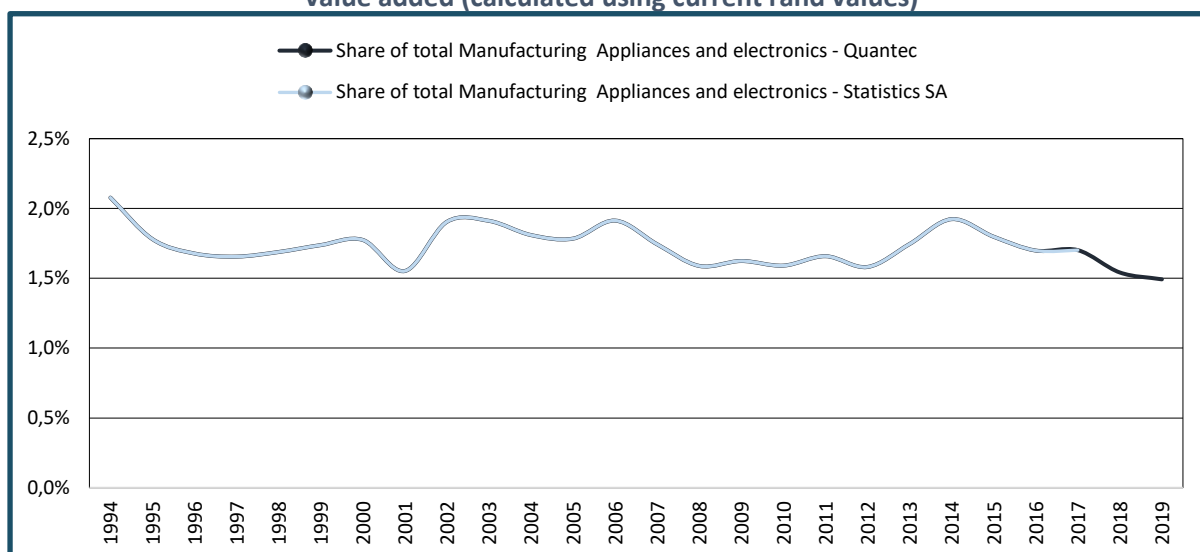
Graph 1. Value add precision instruments, 1994 to 2019, in billions of constant (2019) rand. (a)



Note: (a) Deflated by calculating the deflator used in the sources from current and constant rand figures, and then rebasing to 2019. Source: Statistics South Africa, GDP P0441. Annual quarter and regional revisions. Excel spreadsheet. Series on manufacturing subsectors in current and constant rand. Downloaded from www.statssa.gov.za in January 2021; and Quantec EasyData. Standardised regional data. Database in electronic format. Series on value-added in current and constant rand. Downloaded from www.quantec1.easydata.co.za in January 2021.

The share of electronics and appliances value added in manufacturing, in constant rand, fluctuated around 1.7% a year from 1994 to 2019, according to Quantec and Statistics South Africa data. The share declined despite rapid growth in constant rand because of differences in the implicit depreciation rate for ICT and precision instruments compared to manufacturing as a whole.

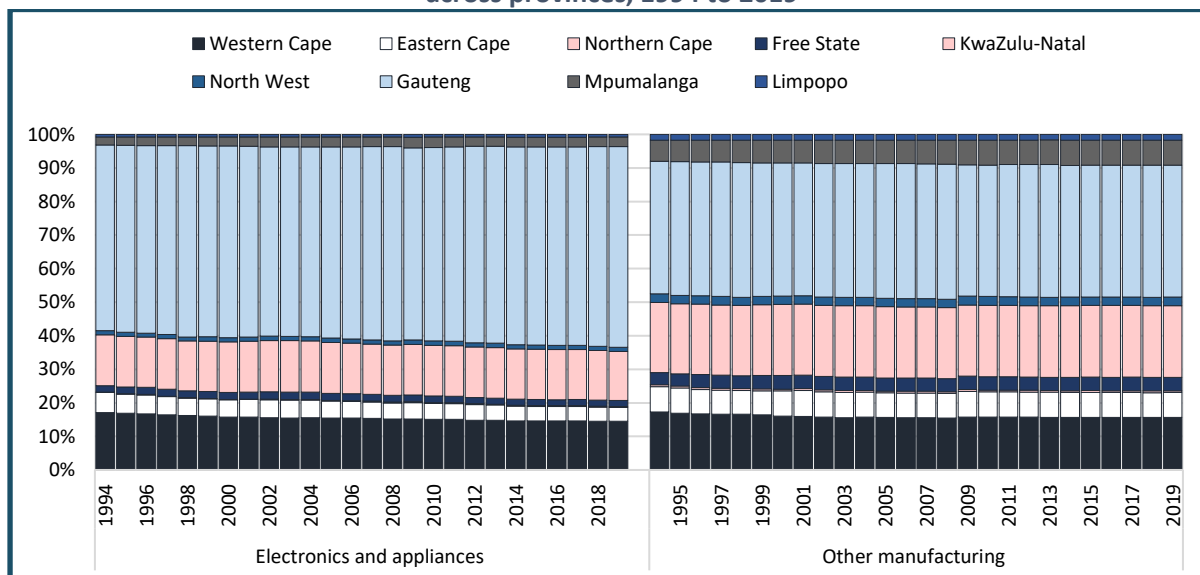
Graph 2. Electronics and appliances contribution to manufacturing value added (calculated using current rand values)



Source: Calculated from Statistics South Africa, GDP P0441. Annual quarter and regional revisions. Excel spreadsheet. Series on manufacturing subsectors in current rand. Downloaded from www.statssa.gov.za in January 2021; and Quantec EasyData. Standardised regional data. Database in electronic format. Series on value-added in current rand. Downloaded from <https://www.quantec.co.za/easydata/> in January 2021.

Gauteng dominated South Africa’s electronics and appliances subsector. Its R4.5 billion in value added was just under two-thirds of the South African total in 2019. KwaZulu-Natal province was the second-highest, followed by the Western Cape. Gauteng’s share in electronics production was significantly higher than its dominance in other manufacturing. Gauteng province hosts some of the most significant steel manufacturers as a significant input for downstream electronics manufacturers.

Graph 3. Share in electronics and appliances vs other manufacturing across provinces, 1994 to 2019

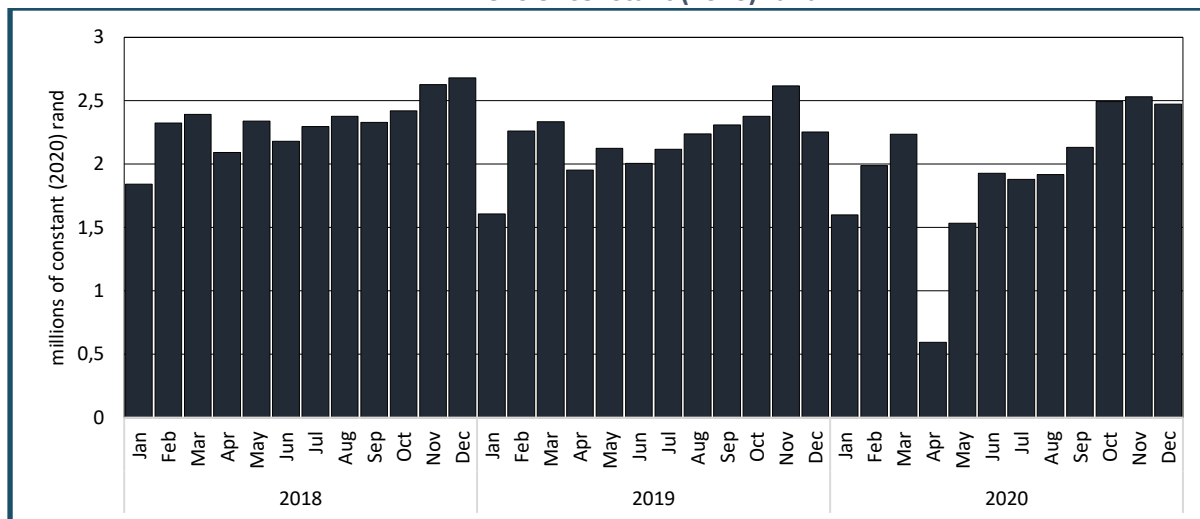


Source: Quantec EasyData. Standardised regional data. Database in electronic format. Series on value added in current and constant rand. Downloaded from <https://www.quantec.co.za/easydata/> in January 2021.

Electronics and appliances were severely affected by the COVID-19 lockdown imposed in the latter part of March 2020. According to Statistics South Africa’s monthly production and sales data, in April 2020, seasonally adjusted sales in electronics and appliances fell 73% month-on-month and

by 67% year-on-year. This was higher than the rest of manufacturing, which declined 50% month-on-month and 55% year-on-year. However, by December 2020, sales had recovered to pre-pandemic levels.

Graph 4. Seasonally adjusted electronics and appliances sales (value) in millions of constant (2020) rand

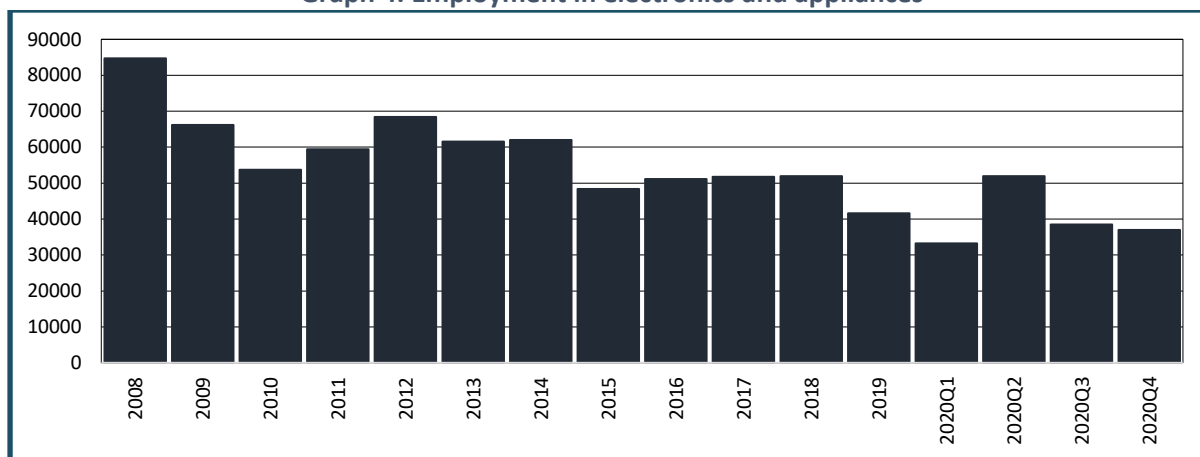


Source: Calculated from Statistics South Africa, P3041.2. Excel spreadsheet. Downloaded in January 2021 from www.statssa.gov.za.

2. Employment

Employment data provided in this section draw on Statistics South Africa’s Quarterly Labour Force Survey, which was introduced in 2008. Its annual figures, in the Labour Market Dynamics, are averages of the quarterly findings. Employment in electronics and appliances dropped sharply from 2008 to 2010, falling from 85 000 to under 55 000 jobs. Since 2015 employment in electronics and appliances has fluctuated around 50 000 with a further decline in 2019.

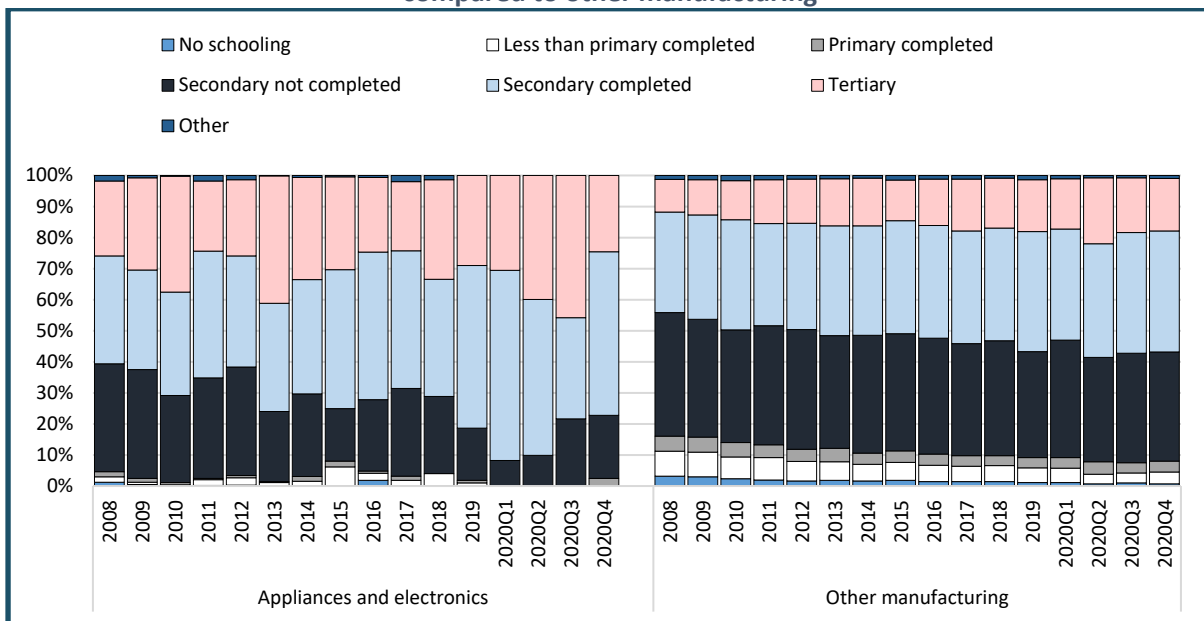
Graph 4. Employment in electronics and appliances



Source: Calculated from Statistics South Africa. Labour Market Dynamics. 2008 to 2019. Series on employment by industry. Electronic databases. Downloaded from www.statssa.gov.za Nesstar facility in January 2021; and Quarterly Labour Force Survey. Q1 2020 to Q4 2020. Series on employment by industry. Electronic databases. Downloaded from www.statssa.gov.za Nesstar facility in January 2021.

Education levels in electronics and appliances were significantly higher than in the rest of manufacturing. In 2019, 80% of workers in the subsector had an education level equivalent to matric and higher, compared to around 55% of manufacturing workers, and 30% had a post-matric education, compared to around 15% in the rest of manufacturing.

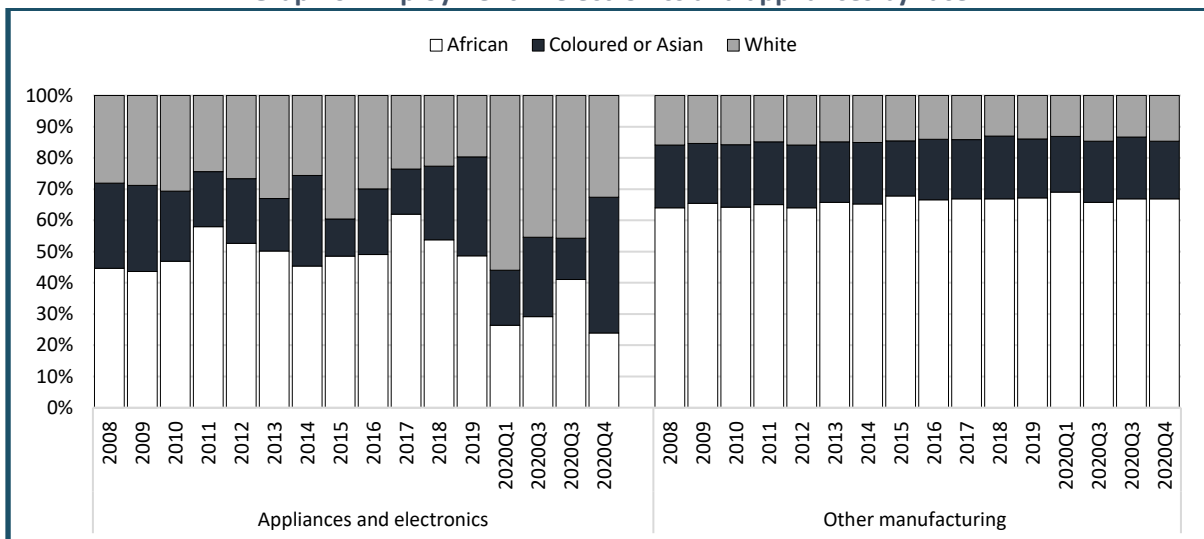
Graph 5. Employment by education level in electronics and appliances compared to other manufacturing



Source: Calculated from Statistics South Africa. Labour Market Dynamics. 2008 to 2019. Series on employment by industry. Electronic databases. Downloaded from www.statssa.gov.za Nesstar facility in January 2021; and Quarterly Labour Force Survey. Q1 2020 to Q4 2020. Series on employment by industry. Electronic databases. Downloaded from www.statssa.gov.za Nesstar facility in January 2021.

Workers in electronics and appliances were less likely to be African compared to the rest of manufacturing. In 2019, Africans constituted 49% of employment in electronics and appliances, compared to 68% in other manufacturing. In contrast, 30% of workers in the industry were white, compared to 14% in manufacturing.

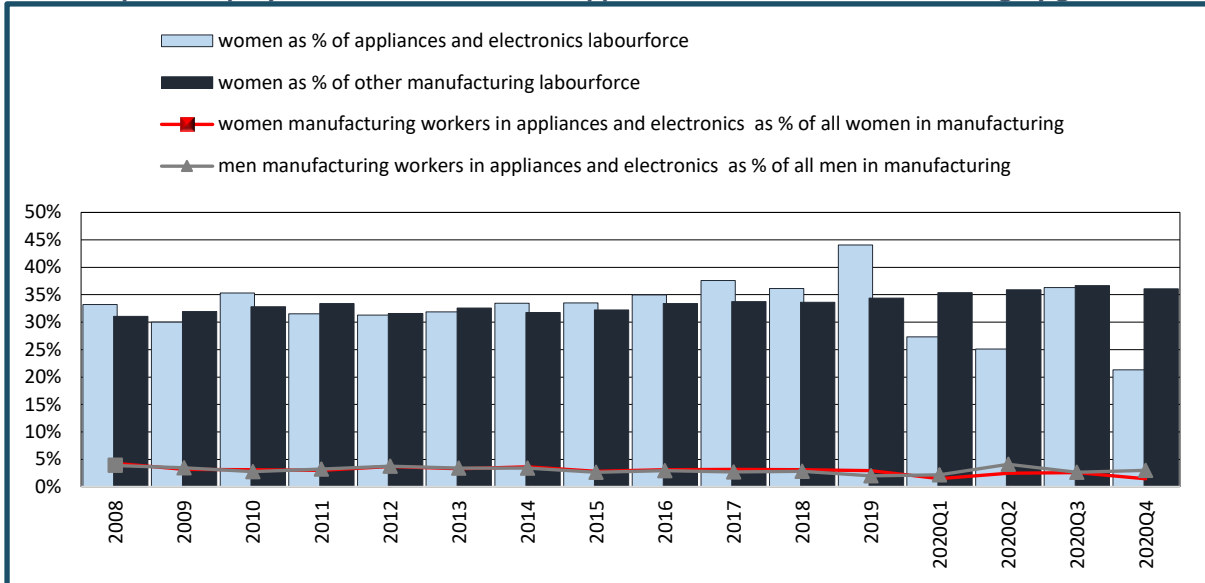
Graph 6. Employment in electronics and appliances by race



Source: Calculated from Statistics South Africa. Labour Market Dynamics. 2008 to 2019. Series on employment by industry. Electronic databases. Downloaded from www.statssa.gov.za Nesstar facility in January 2021; and Quarterly Labour Force Survey. Q1 2020 to Q4 2020. Series on employment by industry. Electronic databases. Downloaded from www.statssa.gov.za Nesstar facility in January 2021.

Women made up around 36% of the labour force in electronics and appliances in 2018. This proportion was 2% higher than the other manufacturing average of 34%. Women manufacturing workers in electronics and appliances accounted for 3% of total manufacturing jobs in 2019.

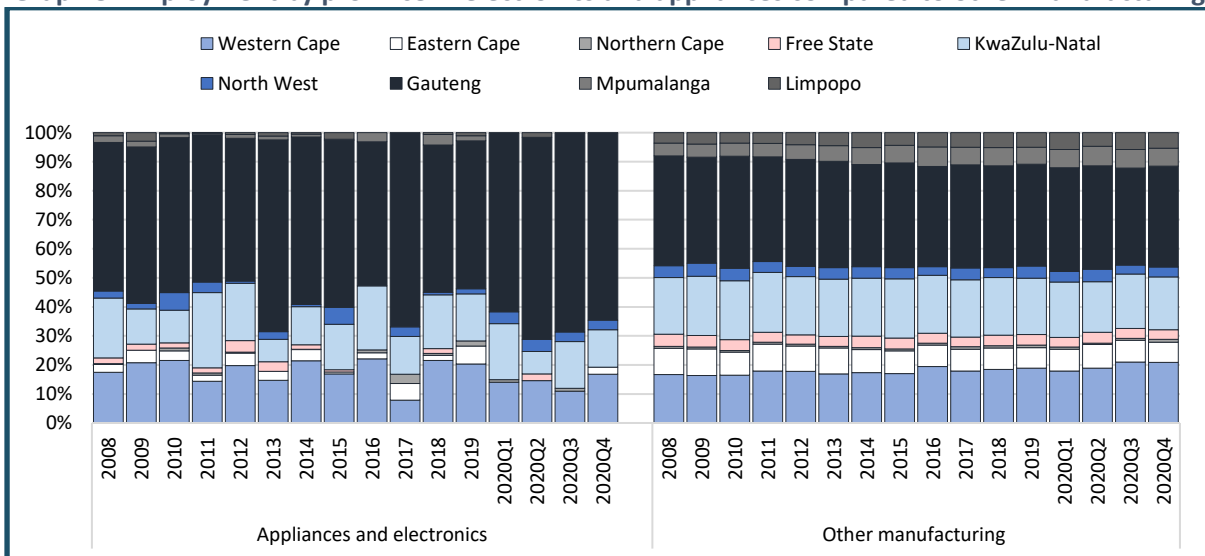
Graph 7. Employment in electronics and appliances and other manufacturing by gender



Source: Calculated from Statistics South Africa. Labour Market Dynamics. 2008 to 2019. Series on employment by industry. Electronic databases. Downloaded from www.statssa.gov.za Nesstar facility in January 2021; and Quarterly Labour Force Survey. Q1 2020 to Q4 2020. Series on employment by industry. Electronic databases. Downloaded from www.statssa.gov.za Nesstar facility in January 2021.

Statistics South Africa provides information on employment by province. As Graph 8 shows, Gauteng was by far the largest employer in electronics and appliances. It accounted for around half the labour force in 2019, compared to just over a third in manufacturing as a whole. The following two most important provinces were the Western Cape and KwaZulu-Natal. KwaZulu-Natal was less important for electronics and appliances employment than it was for other manufacturing. The location of manufacturing can also be understood in how it was embedded in apartheid geography. Today, only a tenth of manufacturing employment is in the former so-called “homeland” regions, where around a quarter of the population lives. In electronics and appliances, around 3% of total employment was in the former “homeland” regions from 2008 to 2019 – a third the level of manufacturing as a whole.

Graph 8. Employment by province in electronics and appliances compared to other manufacturing

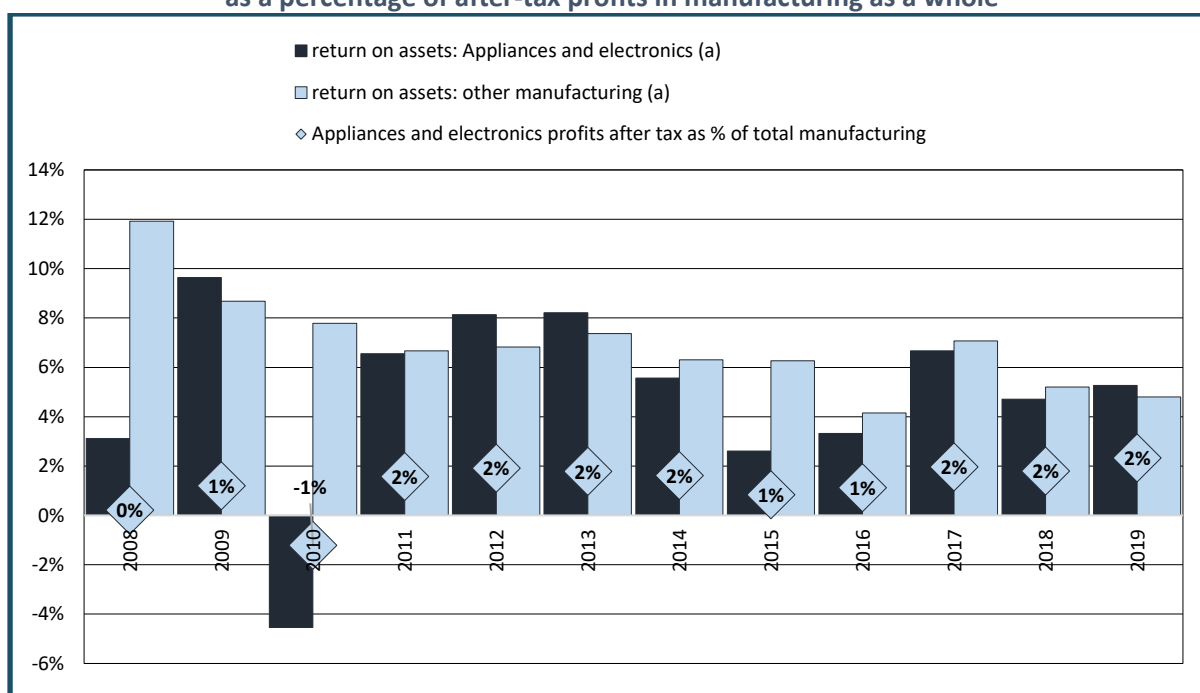


Source: Calculated from Statistics South Africa. Labour Market Dynamics. 2008 to 2019. Series on employment by industry. Electronic databases. Downloaded from www.statssa.gov.za Nesstar facility in January 2021; and Quarterly Labour Force Survey. Q1 2020 to Q4 2020. Series on employment by industry. Electronic databases. Downloaded from www.statssa.gov.za Nesstar facility in January 2021.

3. Profitability and assets

Statistics South Africa’s Annual Financial Statistics provide information for the appliance and electronics industry, excluding office and household machinery. The after-tax returns on assets for appliances and electronics were around the same as in manufacturing. However, the industry saw a substantial fall in profits in 2008/9 during the global financial crisis. It also reportedly declined sharply in 2014 and 2015 but then recovered in 2017. Electronics and appliances accounted for 2% of manufacturing after-tax profits in 2019.

Graph 9. Return on assets (a) appliances and electronics and other manufacturing, and after-tax profits appliances and electronics as a percentage of after-tax profits in manufacturing as a whole



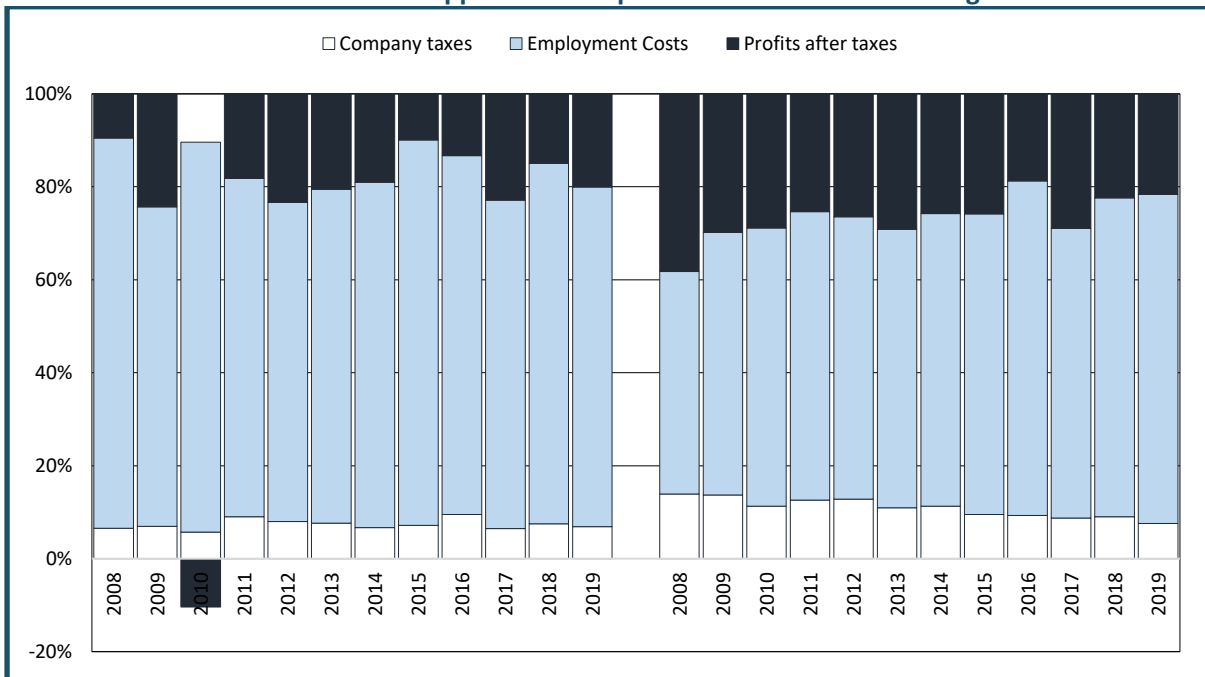
Note: (a) Profit before taxes and dividends less company tax as a percentage of total assets. Source: Calculated from Statistics South Africa. Annual Financial Statistics. Disaggregated Industry Statistics for the relevant year. Excel spreadsheet. Downloaded from www.statssa.gov.za in January 2021.

The share of profit in value add was relatively low in and electronics and appliances, averaging around 20% in most years, compared to over 25% in the rest of manufacturing.

Remuneration, in contrast, accounted for around three-quarters of value add, which was more or less the same as the rest of manufacturing.

Taxes were around 7% in both electronics and appliances and the rest of manufacturing.

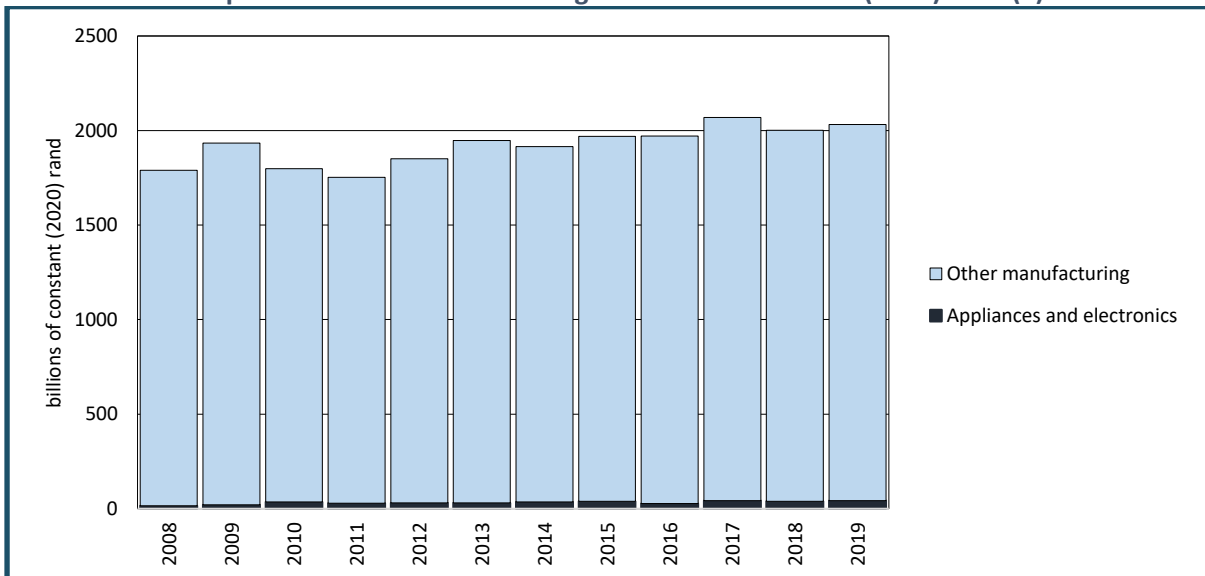
Graph 10. Share of remuneration, profits and taxation in income from electronics and appliances compared to other manufacturing



Source: Calculated from Statistics South Africa. Disaggregated Industry Statistics for the relevant year. Excel spreadsheet. Downloaded from www.statssa.gov.za in January 2021.

Of the total for manufacturing assets, the share of electronics and appliances climbed from 0.8% in 2008 to just over 2% in 2019.

Graph 11. Value of total assets appliances and electronics compared to other manufacturing in billions of constant (2019) rand (a)

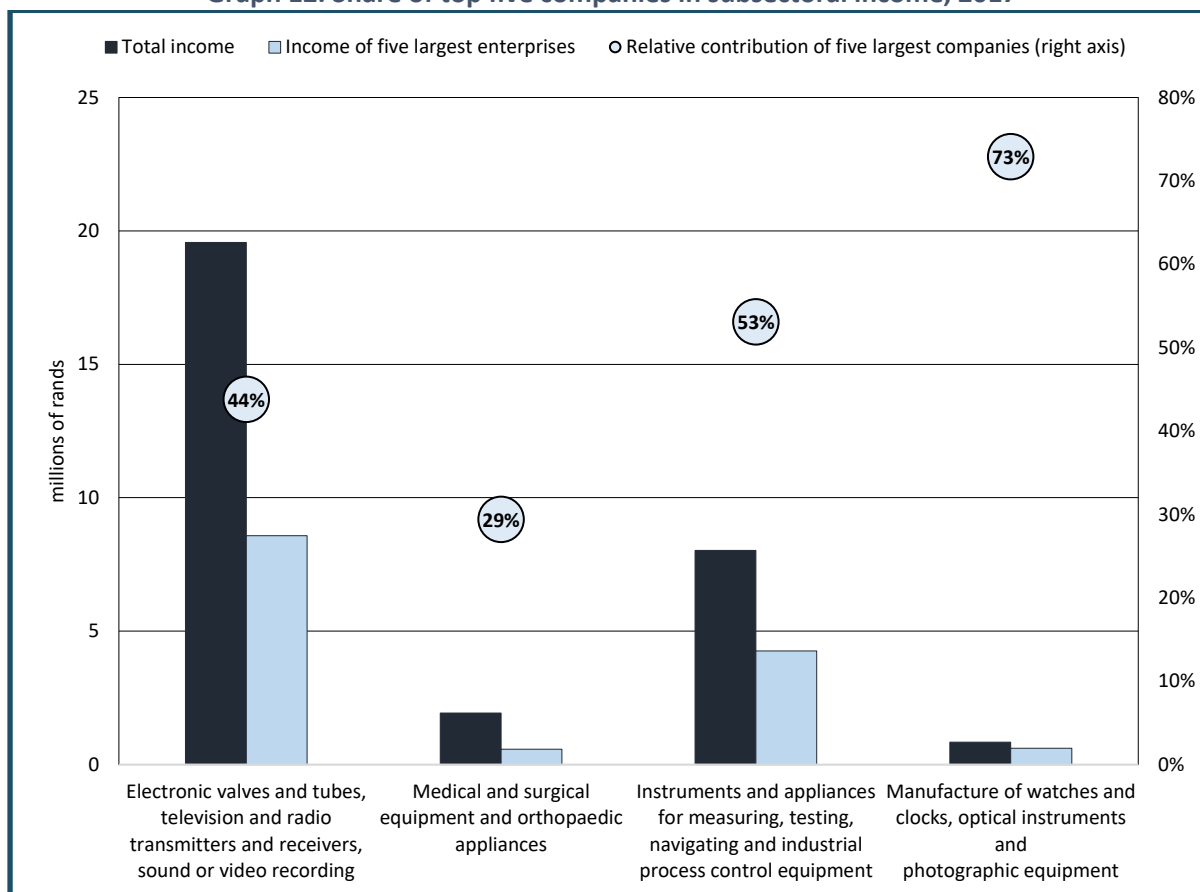


Source: Calculated from Statistics South Africa. Disaggregated Industry Statistics for the relevant year. Excel spreadsheet. Downloaded from www.statssa.gov.za in January 2021.

4. Market structure and major companies

According to Statistics South Africa’s Manufacturing Financial Statistics, in 2017, the share in the total income of the largest five companies in electronics and appliance was 53%. That is higher than the other manufacturing average of 13%.

Graph 12. Share of top five companies in subsectoral income, 2017



Source: Calculated from Statistics South Africa. 2017. *Manufacturing Industry: Financial, 2019*. Pretoria. Table 9, p 33, ff.

The largest companies in electronics and appliances are described in Table 1.

Table 1. Major companies in electronics and appliances production

Company	Employees	Operations
SAAB Grintek Defence	700	Manufactures electronic equipment for the aviation and marine defence industries.
Kwikot	650	In addition to distributing Kwikot appliances, manufactures geysers in South Africa.
Fresenius Kabi Manufacturing South Africa	580	Imports and manufactures pharmaceutical products, including some medical devices.
Altech UEC SA	457	Designs and manufactures set-top boxes and other electronic products Imports, designs, manufactures and installs ICT, air traffic management and defence products, including software and services; manufactures decoders.
CZ Electronics Manufacturing	300	Manufactures electronic assemblies for the defence, utility metering, vehicle tracking, data acquisition and telecom industries with printed circuit boards, TV components and set-top boxes.

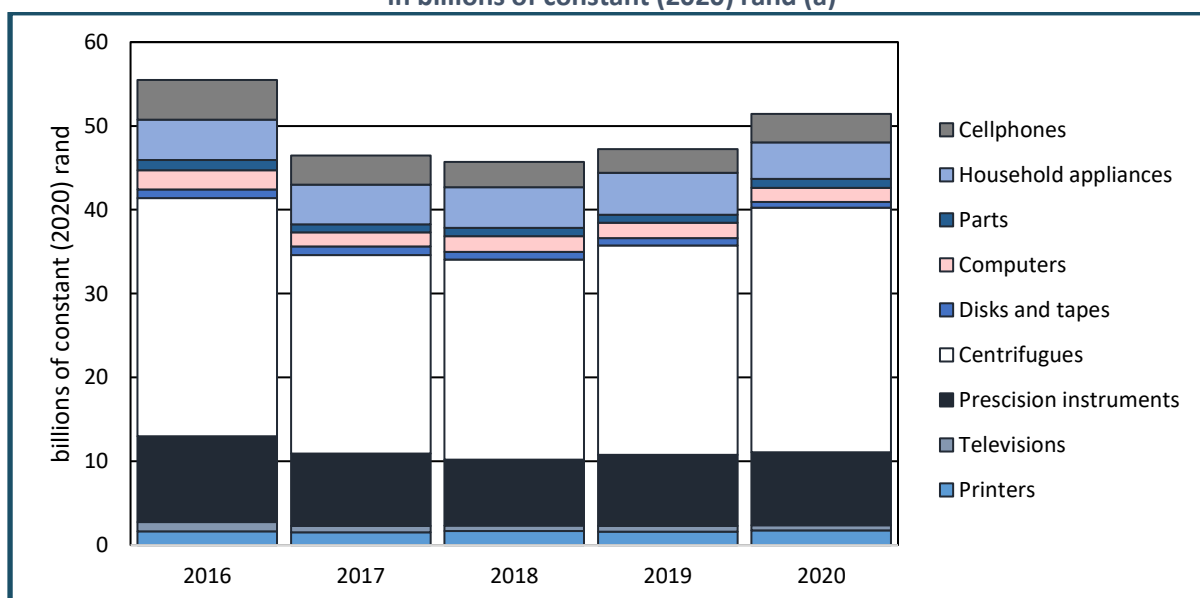
Essilor South Africa	263	Manufactures and fits spectacle lenses for the South African market.
Vektronix	252	On contract with original equipment manufacturers (OEMs), assemble decoders for flat-panel LCD/LED/plasma televisions.
Home of Living Brands	250	Manufactures and markets household appliances, including televisions, audio and visual products, and aerial and satellite equipment, mostly under licence.
Minoan Medical	206 (Group)	Subsidiaries manufacture medical stand devices, specialising in vascular technology, as well as distributing imported products.
Drager South Africa	141	Manufactures and imports medical and safety products and equipment such as monitors and incubators for South Africa and other African countries.
Southern Implants	78	Researches, designs, manufactures and distributes dental implants to dentists and distributors worldwide.
Current Automation	67 (Head office)	In addition to importing data processing and other machinery, manufactures solar components and installs off-grid and grid systems.

Source: Who Owns Whom. Report Generator. Electronic database. Downloaded from www.wow.co.za in January 2021.

5. International trade

South Africa's exports of electronics and appliances declined from 2016 to 2019 in constant rand, mainly due to the appreciation of the rand; consequently, their share in total exports declined from 4% to 3% in the period. The fall was due to a decline in cellphones, instruments and related appliances and household appliances. Electronics and appliances grew in constant rand terms from 2009 and 2019.

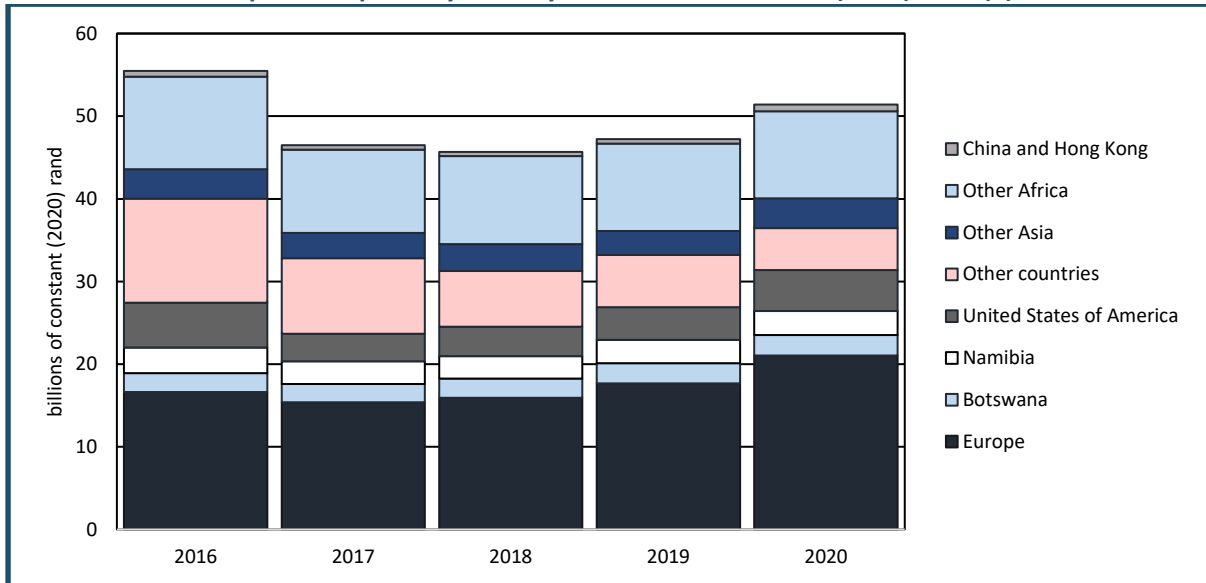
Graph 14. Exports of electronics and appliances by product in billions of constant (2020) rand (a)



Note: (a) Deflated with CPI. Source: Calculated from ITC. Trade Map. Electronic database. Series on exports in rand. Downloaded from www.trademap.org in January 2021.

A third of South Africa's exports were destined to other African countries, primarily Namibia and Botswana. A third of the total was destined for Europe.

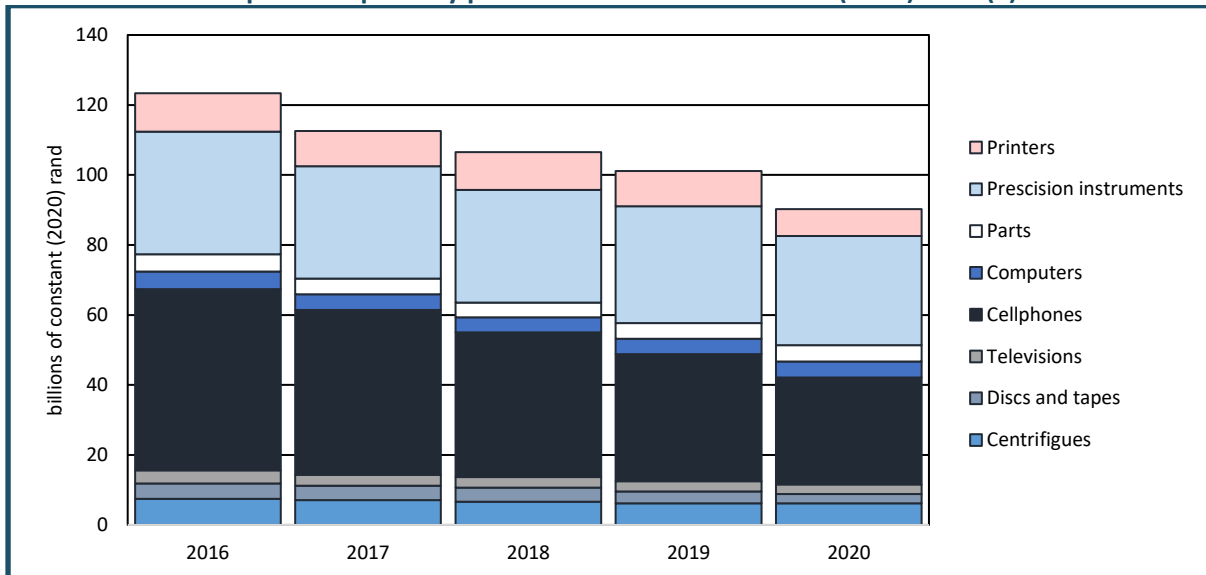
Graph 15. Exports by country in billions of constant (2020) rand (a)



Note: (a) Deflated with CPI. Source: Calculated from ITC. Trade Map. Electronic database. Series on exports in rand. Downloaded from www.trademap.org in January 2021.

Imports of electronics and appliances account for around a ninth of South Africa's total import bill, although in constant rand, the value levelled out from 2015 to 2019. Just under two-fifths of total exports were cellphones, a quarter were precision instruments, and the rest were printers, centrifuges and televisions.

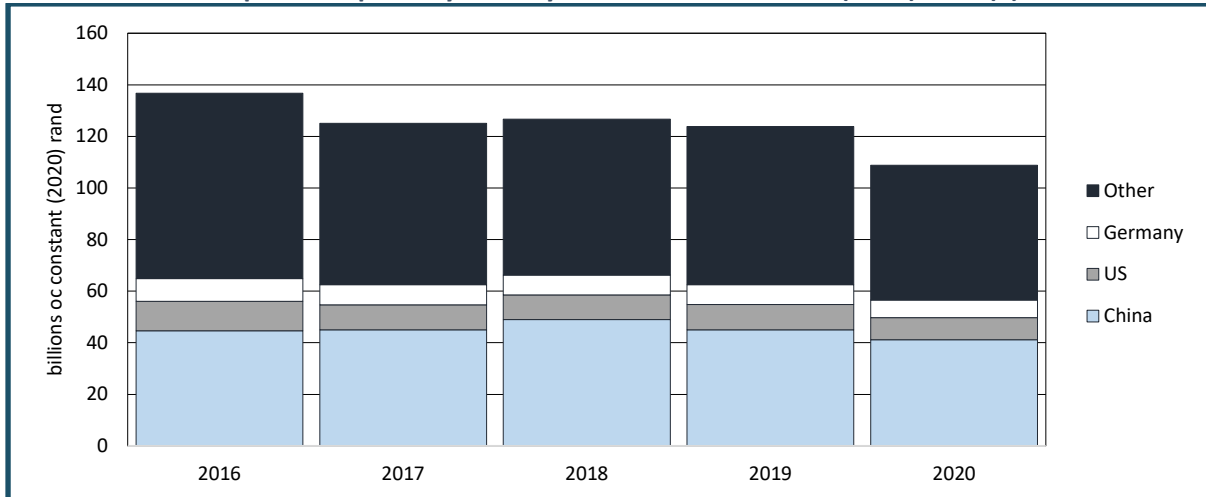
Graph 16. Imports by product in billions of constant (2020) rand (a)



Note: (a) Deflated with CPI. Source: Calculated from ITC. Trade Map. Electronic database. Series on imports in rand. Downloaded from www.trademap.org in January 2021.

China has become by far the most crucial source of appliances and electronics, accounting for two-fifths of the total in 2019, up from a third in 2016. In contrast, the share coming from the United States and Germany has remained constant from 2016.

Graph 17. Imports by country in billions of constant (2020) rand (a)



Note: (a) Deflated with CPI. Source: Calculated from ITC. Trade Map. Electronic database. Series on imports in rand. Downloaded from www.trademap.org in January 2021.

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