

Tradable Services, Value Chains and the Gauteng Economy



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1 Introduction

The contribution of service industries to national and regional economic development is subject to increasing debate. For centuries, manufacturing has been seen as the catalyst for growth and services as subordinate because material goods are more easily traded than services—most of which are for local consumption. It has also been simpler to raise productivity in manufacturing, and exports of goods generate larger multiplier effects (Kaldor 1967; Thirlwall 1983). However, the spread of digital technologies and the falling cost of air travel mean that service industries have become less dependent on local demand and more able to access external markets. Knowledge-intensive producer services have become increasingly important because of the improvements that they can trigger in the quality, cost and functionality of manufacturing, mining and agricultural products as well as processes (Doloreux et al. 2000). This is relevant to many African countries, which are struggling to transform from primary sectors to secondary and tertiary industries in the face of intensified international competition and weak domestic capabilities (Ghani and O’Connell 2014). Perhaps there is a complementary path to economic development through tradable services (Balchin et al. 2016; Ghani and Kharas 2010; Loungani et al. 2017; Zahler et al. 2013)?

Changing patterns of global trade and resource flows are also relevant. Concerns about the unequal effects of globalisation have provoked growing interest in regional economic integration—that is, flows of tangible goods, finance and information within continents. The latest example is an agreement signed by 44 heads of state in March 2018 to create the African Continental Free Trade Area. This is intended to simplify and standardise the rules and procedures governing intra-African trade, and

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thereby help to expand and diversify African economies. Exports of most countries continue to be dominated by raw commodities, while imports consist mostly of finished goods to which value has been added elsewhere (African Development Bank 2017). Regional integration could create larger markets to attract foreign direct investment and economies of scale in production and distribution to make African firms more competitive. Localised clusters of related firms buying, selling and servicing each other might be better placed than isolated enterprises to gain a stake in global value chains (GVCs). Regional integration could extend to a host of services or tasks such as banking, design, higher education, engineering, insurance, logistics, research, telecommunications and specialised training (Lanz et al. 2011). This would improve human capital, connectivity, access to finance and innovation across the continent.

The argument for taking tradable services seriously extends beyond their direct export opportunities to their potential for embedding GVCs. Strengthening high-order service functions could enhance the position of regions in these systems and networks by upgrading their technical abilities and simultaneously increasing output and jobs among domestic suppliers of related goods and services (Fessehaie 2017; Heuser and Mattoo 2017). In other words, high-level tradable services could bolster other industries by improving their competitive strengths and opening up new markets. For example, built-environment professionals designing major housing projects, office parks or shopping centres in other countries could smooth the path for construction firms and their suppliers to build these. Consulting engineers—designing electricity networks, renewable-energy systems and other infrastructure schemes—could open the door to manufacturers of building materials and capital equipment to supply these facilities. Further business opportunities could arise from the ongoing operation of these installations, including maintenance, repair and the logistics to ensure reliable supplies of the necessary inputs.

These issues are highly relevant to South Africa, the largest and most diversified economy in Africa. It has relatively robust capabilities in various secondary and tertiary industries and a well-developed economic infrastructure. It also has a financial system and universities that are rated highly by international standards, and accredited professional associations offering reservoirs of technical know-how and managerial expertise. In recent years traditional manufacturing sectors have suffered from international competition, whereas many service activities have performed much better (Luiz 2016). These include tradable services such as tourism and various business and financial services, which have tradable elements such as call centres and other outsourced functions. Nevertheless, the overall performance of the economy has been sluggish and unemployment is very high. In contrast, many African economies have been growing relatively quickly, matched by faster demographic growth and consumer spending than in South Africa. With the projected three-fold increase in the population of African cities by 2050, burgeoning urbanisation presents immense possibilities for supplying all kinds of tradable services.

The question arising is whether these trends offer genuine markets and customers for go-ahead firms in South Africa that face depressed domestic circumstances. In principle, superior knowledge of operating conditions on the continent should confer

an advantage over competitors from the Americas, Asia and Europe. Spatial proximity should make it easier for firms to work closely with clients to co-produce solutions to infrastructure bottlenecks and business obstacles. Working across similar time zones should also help service providers to meet the real-time needs of customers elsewhere in Africa (Stein and Daude 2007). South African companies have considerable technical proficiency and know-how in industrialisation, infrastructure planning, mining and advanced urban services that could support development on the continent. Public and private sector actors have a long-term interest and incentive to improve Africa's prosperity and governance because they stand to benefit from the commercial opportunities and social stability that would follow. The question is whether knowledge-rich producer services supplied by firms in South Africa could promote collaborative ventures, regional value chains (RVCs) and economic integration across the continent.

The purpose of this chapter is to assess the importance of tradable services to South Africa's economic heartland, the province of Gauteng: Which services are most significant, and to what extent are they engaged in international markets and value chains? Given the lack of prior research on this theme, the chapter provides a preliminary analysis to see what can be learnt from available secondary data sources. The research presented here is the first output from an ongoing study to assess the role of tradable services. Gauteng is the focus of attention as the country's (and continent's) largest city-region economy with the most potential to function as a gateway, supplying a range of high-order services within RVCs.

2 Conceptual Issues

Contemporary globalisation is characterised by the deepening and widening of economic interactions and resource flows between countries. Deepening means the fragmentation of production through heightened trade in intermediate inputs and greater specialisation of firms in narrow capabilities that make up GVCs (Kaplinsky 2013). Final goods delivered to markets emerge from a complicated series of horizontal and vertical exchanges that span continents, combine components from diverse sources and embed many different services in the whole process. Widening reflects the pervasive pursuit of policies aimed at opening up markets and levelling the playing field to facilitate trade by reducing traditional tariffs and quotas, harmonising different regulatory standards and lowering local content requirements and other non-tariff barriers.

It is no longer a question of whether to participate in the global economy but how to do so in the most advantageous manner possible (Kaplinsky and Morris 2016). Firms within developing countries often struggle to break out of the lower-value, price-sensitive parts of value chains. These countries' rich deposits of agricultural produce and minerals may be extracted without benefiting from downstream processing and value addition. Firms within advanced economies tend to locate their production in regions where the capabilities exist to generate sustained returns

on their investment. Their activities can be protected from competition through internal sources of advantage such as technical adaptation, product differentiation, innovation and/or through access to external assets—such as experienced human capital, superior infrastructure and specialised suppliers (Fessehaie 2017). Within clothing, electronics and textiles, for example, leading multinationals outsource their routine manufacturing processes and instead focus on capturing value within high-order product design and branding activities (Gereffi 1999).

Services have become increasingly important and profitable elements of GVCs. They may offer alternative or complementary paths to manufacturing-led export growth (Ghani and Kharas 2010; Ghani and O’Connell 2014). Service exports are the fastest growing portion of world trade, having risen exponentially from 9% of global exports in 1970 to approximately 20% thereof in 2014 (Stephenson and Drake-Brockman 2014; World Bank 2018). Technical change has reduced the friction of distance through advances in telecommunications and international travel. The Internet and other digital technologies have standardised some service and knowledge inputs, thereby diminishing certain forms of face-to-face interaction (Fessehaie 2017). As services have become more tradable, the opportunities to do business across borders have multiplied. Some developing countries appear to have successfully grown their service exports twice as fast as advanced economies (Loungani et al. 2017). South Africa may be well positioned to take advantage of such opportunities, with a highly educated section of the population and a higher share of tertiary activities in its gross domestic product than other strong service exporters such as India or the Philippines (McKinsey 2015). It also has language and time-zone advantages to compete for lower-value services such as call centres and tourism.

The role of services is bound to become even more important with the proliferation of disruptive new technologies, summed up in the notion of the ‘fourth industrial revolution’—which arises from the fusion of biological, digital and physical innovations (Schwab 2016). High-level producer services can perform a generative role in GVCs as developers and carriers of knowledge and information, as well as diffusers of innovation. They can play a part in initiating economic change, monitoring progress and enabling learning and adaptation through advances in cloud computing, smart data, artificial intelligence, the Internet of Things and machine learning (African Development Bank 2017). Knowledge-rich services help to connect distant processes, make associations between diverse phenomena and facilitate communication and relationship-building. This fosters economic interaction, negotiation and deal-making, which are vital for creativity, mutual learning and innovation (Heuser and Mattoo 2017).

The complementary, intertwined relationship between services and manufacturing is reflected in the notion of the ‘servicification’ of manufacturing (Fessehaie 2017; Hallward-Driemeier and Nayyar 2017). Services embodied within the process of production may account for a significant and rising share of total value-addition. For example, a study of the Nokia N95 phone estimated that more than half of its value could be attributed to service activities such as software (Ali-Yrkkö et al. 2011). Bamber et al. (2017) estimate that as much as 40% of gross manufacturing

exports from the European Union may comprise embodied services. Without such inputs, manufacturing may become routine and get demoted to a subordinate position in global and regional value chains. Focussing on manufacturing improvements through industrial policy represents a false dichotomy in choosing goods over services. It might better be conceived as enhancing the productive sector more broadly (Kaplinsky and Morris 2016), especially if the propulsive role of tradable services is recognised. However, like many countries, policy mandates in South Africa tend to be confined within silos such as the Department of Trade and Industry and the Department of Communications, whereas these boundaries are increasingly blurred in the real economy.

A core ingredient of the service-based upgrading of the economy involves strengthening local capabilities. Advanced knowledge and technical expertise are crucial to improving the competitive position of business processes and products over time. The accumulation of such skills and aptitudes is a better predictor of service-export competitiveness than the degree of market openness (Sáez 2010). It requires nurturing human competencies, cognitive skill sets and creative talent through local institutions and service providers that enable selected industries and economic functions to develop in particular places (Farole and Sharp 2017). Firms that cluster together can benefit from the pool of proficient labour, technology spillovers, tacit knowledge, shared infrastructure and sophisticated suppliers (Glaeser 2011; Storper et al. 2015). Core specialisations can emerge that drive productivity growth and shape the development trajectory and identity of the local economy. These places may become centres of learning and know-how that function as service hubs for much larger geographical territories.

South Africa may be well placed, then, to support development elsewhere in Africa through its capabilities. The banking sector has expanded substantially across the continent since the 1990s, reflecting the locational advantages mentioned above. About 17% of South African banking revenue is generated from these operations. The insurance industry is less advanced, but there are similar prospects for South African brokers with experience in servicing low-income groups (McKinsey 2015). Shoprite is Africa's largest consumer retailer with 143,000 staff in stores across 14 countries across the continent (Shoprite Group 2018). Yet, other South African firms have not had anything like the same success. The telecommunications giant MTN was recently heavily fined in Nigeria and Uganda for infringing local regulations. Retailers like Nando's and Woolworths have often struggled to adapt to local market conditions. Nedbank's Africa strategy has significantly underperformed compared to Standard Bank's and Barclays's (*Business Report*, 8 March 2017). Firms seem to underestimate the importance of tailoring their products to suit local circumstances and traditions. Parachuting external consultants into unfamiliar environments is notoriously problematic, and guidance from the South African government to its firms engaged in service exports appears to have been thin on the ground.

Although trade between Africa and the rest of the world has expanded four-fold over the last two decades, intra-African trade remains low at 15–18% of all exchanges (African Development Bank 2017). At first sight, South Africa seems

to punch well below its weight in services: estimates suggest it accounts for less than 2% of total service imports into sub-Saharan Africa (McKinsey 2015). South Africa's industrial policy supports manufacturing and tends to neglect opportunities in services, with a few exceptions (Draper and Scholvin 2012; Farole and Sharp 2017). In contrast, China has shown how concerted efforts by the state can pave the way for commercial opportunities and regional investment by promoting high-level cooperation, encouraging skills transfer and deploying technical expertise strategically to design and develop dams, housing and transport infrastructure in many African countries (*Financial Times*, 13 June 2017).

South Africa has experienced de-industrialisation for several decades now, with manufacturing shrinking from nearly 25% of GDP in the 1980s to less than 15% thereof in 2016 (World Bank 2018). The economy was dominated historically by the extraction of minerals and capital-intensive production of aluminium, chemicals and steel. Rapid trade liberalisation during the 1990s resulted in many factory closures and contractions in the face of foreign competition. The government subsequently increased financial support for manufacturing, but this has not reversed its trajectory. Even within the automotive industry, which receives generous state subsidies and market protection, value-addition remains essentially limited to vehicle assembly—although roughly half of production is exported (Barnes et al. 2017).

Conversely, South Africa's reintegration into the global economy after apartheid has been accompanied by the growth of services—which have expanded from roughly half of GDP in 1980 to almost 70% thereof in 2016 (World Bank 2018). The continuing expansion of business and financial services set against the decline of manufacturing and mining might be interpreted as an indication of economic adaptability and structural transformation, especially if they are traded externally. However, from the evidence presented below, it seems that these services are largely dependent on domestic demand and have not yet realised their potential to drive economic growth in a more substantial way—both at home and abroad.

3 Data and Methods

To the best of the authors' knowledge, there has been little prior research on the performance and scale of tradable services in South Africa, including the extent to which they are susceptible to international competition and trade. The paucity of official statistics and firm-level data is part of the problem. Some inferences about their significance can be drawn from detailed labour market data on the structure and occupational profile of services. Tradable services are distinct from non-tradable ones in that they can be produced in one location and consumed in another. A high

concentration of production unrelated to the local population or demand—reflected by a high location quotient—is an indicator of such tradability.¹

Identifying sector specialisations and niche skill sets requires highly disaggregated information. We make use of a novel source of pooled labour force data that combines four consecutive quarters of the Quarterly Labour Force Survey into one much larger annual survey; it is, therefore, more robust at a fine-grained scale. Capturing the monetary value of services within global and regional value chains is also very difficult. Their inherently intangible character causes complications where services are bundled together with other goods, rather than priced separately. Moreover, there is no universal accounting system for allocating value in relation to services. In this chapter, we make use of three complementary indicators for understanding the significance of knowledge-intensive tradable services: the structure of occupations and service industries respectively, and the pattern of cross-border trade in services too.

Industries vary in their technical sophistication and knowledge abundance. Their importance is measured by their absolute size and relative share of formal employment. We explore how the structure of services has evolved over the last decade, and which segments have performed relatively well. Occupations reflect distinctive tasks within the economy and complement the analysis of service industries, but cover different ways in which value-addition occurs. Professional and technical know-how can be sourced externally through specialised service firms or provided through in-house expertise. The growth of high-order cognitive skills required to improve business products and achieve operational efficiencies is of particular interest. Finally, balance of payments data from the WTO-UNCTAD-ITC Trade in Services Dataset allows us to consider whether local service industries are succeeding in foreign markets.² We consider the size of service exports in relation to total trade, and whether advanced services show potential for future growth.

A logical next step would be to focus on trade flows into Africa, but the dataset does not provide the country-level information that would enable this. An avenue for future research would be to use an experimental database from the WTO: namely, the Balanced Trade in Services Dataset, which attempts to construct a complete and consistent matrix of trade in services by triangulating trade information across

¹The location quotient measures the share of employment in an industry within a region relative to the national share. A location quotient greater than 1 implies higher economic concentration. Less than 1 implies lower economic concentration.

²Flows of international service trade are identified according to the General Agreement on Trade in Services. They are classified into four modes of service supply: first, cross-border supply, meaning service delivered within the territory of the member country, from the territory of another member country; second, consumption abroad, meaning service delivered outside the territory of the member country, in the territory of another member country, to a service consumer of that member country; third, commercial presence, meaning service delivered within the territory of the member country, through the commercial presence of the supplier; and, fourth, presence of natural person, meaning service delivered within the territory of the member country, with supplier present as a natural person.

countries. One drawback to this dataset is that the period, ranging from 1995 to 2012, is somewhat dated.

4 The Significance of Tradable Services in Gauteng

Figure 1 presents a breakdown of formal employment in each of South Africa’s provinces into three broad industry sectors. The primary sector combines activities related to the extraction of natural resources (including agriculture and mining) with fairly low value-addition. The secondary sector incorporates activities that transform raw materials into higher-value manufactured goods. The tertiary sector consists of the full spectrum of activities that serve producers and consumers, including personal and government services, retail and wholesale trade, public utilities and logistics, basic services such as cleaning and security as well as more highly skilled and technically advanced professional and business-related service activities. Gauteng stands out by virtue of the sheer size and concentration of its workforce in services. They constitute almost three-quarters of all jobs, which is noticeably higher than elsewhere. Employment in secondary industries is much smaller, but still sizeable in absolute terms compared with other provinces. Predominantly rural provinces such as Limpopo, Mpumalanga and the North West tend to have more people employed in primary industries for obvious reasons.

Figure 2 examines the Gauteng economy in greater detail by mapping employment growth (y-axis), economic specialisation (x-axis) and industry size (bubble size) across a nine-sector categorisation of local industry. Distinctive economic strengths of the region are reflected in industries with disproportionate clustering of activity relative to the national distribution, measured by the location quotient of

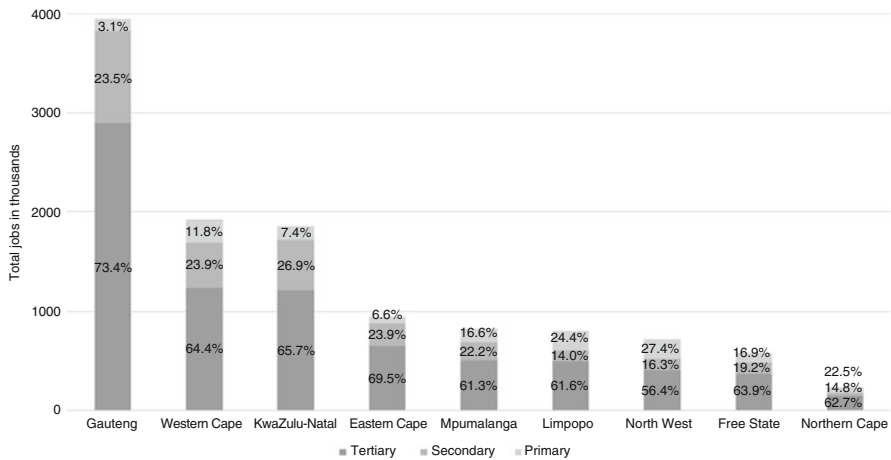


Fig. 1 Employment shares by sector and province. Source: Labour Market Dynamics in South Africa, 2008 (available online at: www.statssa.gov.za), own estimates

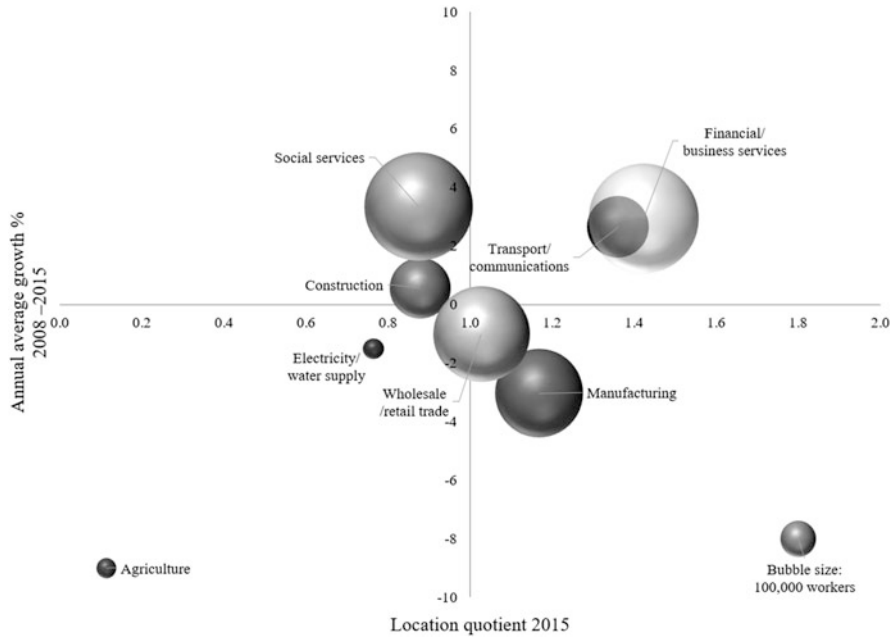


Fig. 2 Industry dynamics in Gauteng. Source: Labour Market Dynamics in South Africa, 2008 and 2015 (available online at: www.statssa.gov.za), own estimates. Note: Excessive growth in mining industry is not depicted

each industry.³ Sectors that fall within the top-right-hand quadrant have experienced employment growth over the last decade, and are more strongly represented in Gauteng than in the rest of the country.

Gauteng’s industrial structure reveals disproportionate employment in business and financial services, and in communications and logistics. The former are particularly prominent, contributing nearly a million jobs in 2015—equivalent to 25% of the total workforce (see also Table 1 below). Manufacturing is another area of relative strength, comprising more than 610,000 jobs—equivalent to 15% of the workforce. Historically, these components of the Gauteng economy were interdependent, reflecting backward and forward linkages between service inputs and the production of goods within local and regional value chains (Harrison and Zack 2012). The strength of these linkages today is not known. Retail and wholesale trade and social services employ very large numbers of people in Gauteng, but they serve overwhelmingly local customers and households and can, therefore, be

³The location quotient calculation is purely relative. For example, Gauteng has a social services location quotient of 0.87, which means there are fewer social services workers in Gauteng relative to the rest of its economy than nationally. Yet, in absolute terms, Gauteng still has by far the largest number of social services workers of any province.

Table 1 Employment and change in employment by sector in Gauteng, the Western Cape and KwaZulu-Natal

| | Gauteng | | Western Cape | | KwaZulu-Natal | |
|---------------------------------|------------------|----------------|------------------|----------------|------------------|----------------|
| | Employment 2015 | Jobs 2008–2015 | Employment 2015 | Jobs 2008–2015 | Employment 2015 | Jobs 2008–2015 |
| Agriculture | 29,000 (0.7%) | -34,000 | 223,000 (11.6%) | 70,000 | 128,000 (6.9%) | -2000 |
| Mining | 93,000 (2.4%) | 59,000 | 3000 (0.2%) | 1000 | 8000 (0.4%) | 0 |
| Manufacturing | 607,000 (15.4%) | -145,000 | 274,000 (14.3%) | -53,000 | 302,000 (16.3%) | -50,000 |
| Electricity and water supply | 33,000 (0.8%) | -4000 | 16,000 (0.8%) | 4000 | 16,000 (0.9%) | 4000 |
| Construction | 288,000 (7.3%) | 11,000 | 169,000 (8.8%) | 3000 | 181,000 (9.8%) | 27,000 |
| Retail and wholesale | 725,000 (18.4%) | -53,000 | 374,000 (19.5%) | 16,000 | 308,000 (16.6%) | -50,000 |
| Communication and transport | 301,000 (7.6%) | 51,000 | 99,000 (5.2%) | 15,000 | 115,000 (6.2%) | -3000 |
| Business and financial services | 947,000 (24%) | 174,000 | 339,000 (17.6%) | 83,000 | 246,000 (13.3%) | -2000 |
| Social services | 919,000 (23.3%) | 189,000 | 425,000 (22.1%) | 79,000 | 547,000 (29.5%) | 125,000 |
| Total | 3,942,000 (100%) | 248,000 | 1,922,000 (100%) | 220,000 | 1,852,000 (100%) | 48,000 |

Source: Labour Market Dynamics in South Africa, 2008 and 2015 (available at www.statssa.gov.za), own estimates

regarded as essentially non-tradable. Unsurprisingly, the location quotient of these sectors is close to one for all provinces.

The overall performance of the Gauteng economy over the last decade has been lacklustre, with employment increasing by less than 1% per annum. This is slower than the growth in the working-age population, resulting in higher unemployment. Professional services outperformed most other sectors, although the rate of job creation was still unexceptional at around 3% per annum. A striking finding is that manufacturing firms in Gauteng shed almost one in five of their jobs between 2008 and 2015, meaning 145,000 in absolute terms (as shown by Table 1). These job losses were the result of factory closures and contractions, on the one hand, and higher productivity from work intensification and investment in new techniques, on the other.

The experience of the other metropolitan regions in KwaZulu-Natal and the Western Cape was similar in many respects. Total employment increased by 0.35 and 1.75% per annum, respectively. Both shed around 50,000 manufacturing jobs as well. Employment growth in KwaZulu-Natal has been very unbalanced and arguably unsustainable, with limited expansion beyond publicly funded social services. Growth in the Gauteng and Western Cape has comprised a mixture of social services and business and financial services. These are predominantly white-collar jobs, rather than the manual ones badly needed to reduce unemployment among low-skilled workers.

The sluggish performance of the overall Gauteng economy may hide important variations within a wider spread of service industries. Further disaggregation of the pooled labour force data is necessary to identify the knowledge-intensive sectors of particular interest to this chapter. Unpacking the data into 20 detailed categories is technically feasible, although the sample sizes in some instances are quite restricted. Therefore, the results should be interpreted with caution, particularly for niche industries such as architecture/engineering and advertising. Figure 3 shows that there is indeed considerable diversity across sub-sectors. Most of the employment in Gauteng's service industries seems to comprise somewhat routine and low-productivity services such as construction, hospitality, retail and wholesale trade as well as other business services. These made up two-thirds of all jobs in services, or 1.5 million workers in 2015. Roughly half of all jobs within 'other business services' are comprised of low-value and non-tradable private security services. Some of these sectors managed to create jobs at up to 4% per annum. This is respectable rather than exceptional by international standards. Meanwhile, retail/vehicle trade shed almost 100,000 jobs over the period studied.

A group of professional services are clear strengths of Gauteng. They include advertising, architecture/engineering, real estate, legal/accounting, technology and telecommunications. Their higher location quotients suggest that they are tradables and that they serve markets beyond Gauteng. Yet, the performance of most of them was pedestrian. Only a handful of seemingly unrelated services approached coveted levels of double-digit employment growth, namely advertising, air transportation and architecture/engineering. The latter is bound to be linked to the presence of South Africa's international airport hub in the province. It is the only sector with a very strong presence in Gauteng that has been growing quickly. Advertising and

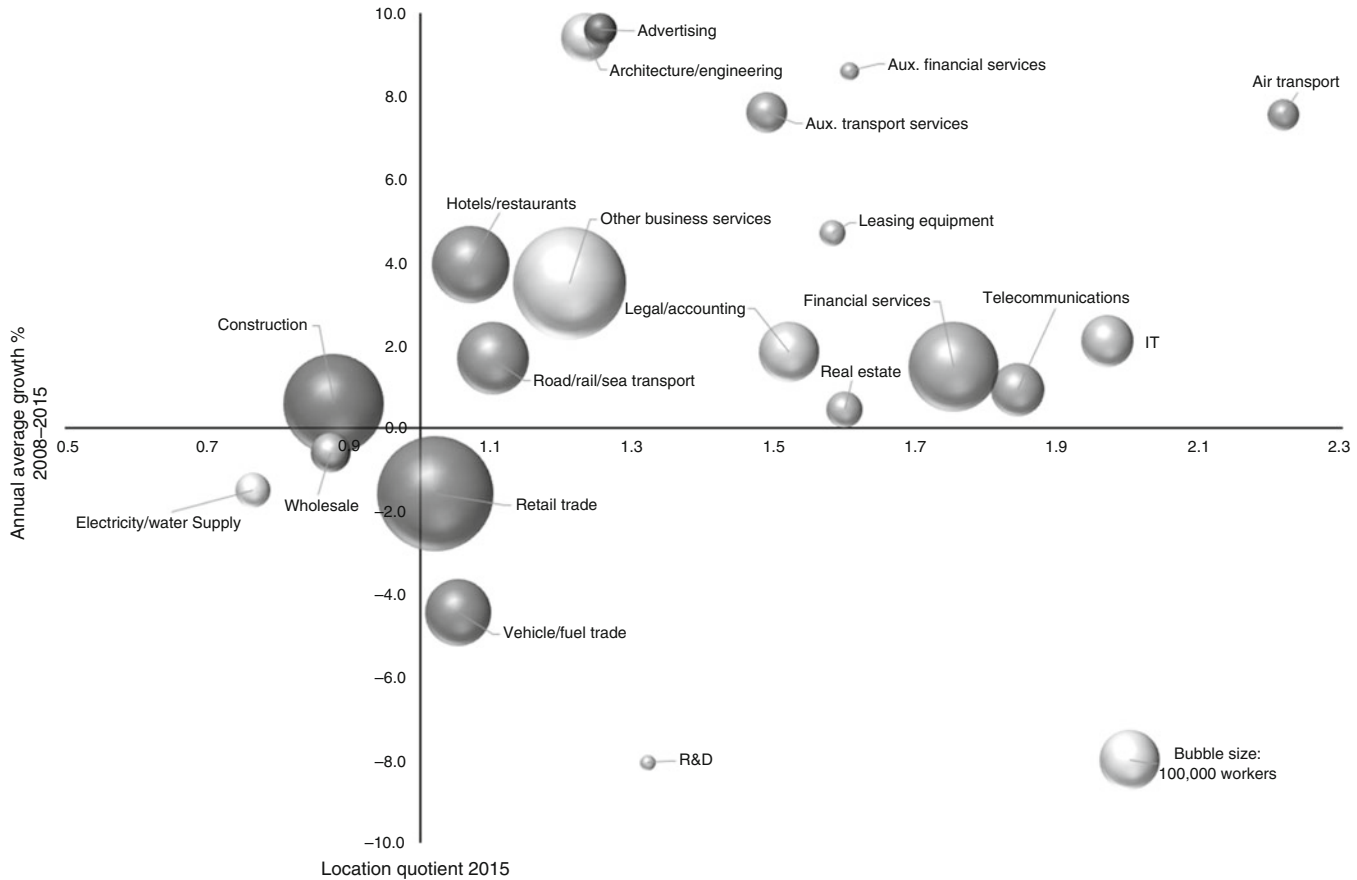


Fig. 3 Service industry dynamics in Gauteng. Source: Labour Market Dynamics in South Africa, 2008 and 2015 (available online at: www.statssa.gov.za), own estimates

architecture/engineering grew quickly, but are not particularly dominant in Gauteng. Their rapid growth certainly warrants further research.

Information technology and telecommunications are pivotal these days for competitive success in manufacturing, the creative industries, producer services and a variety of value chains, so one might have expected stronger performance than the 2% average growth that they have achieved. Financial services was by far the largest relatively skilled sector, and employed almost 235,000 workers in 2015—including many jobs in retail banking and clerical work. Employment growth in financial services was modest at 1.5% per annum, having faltered after experiencing stronger growth prior to the 2008 recession.

The picture emerging is that service industries dominate the structure of employment in Gauteng. However, the potentially tradable, knowledge-intensive component thereof seems to be a very small portion of the total. Looked at in detail, the segments of relatively rapid growth appear to be disparate and unconnected, rather than focussed on a particular cluster or small group of clusters of closely related activities with real strength. The rate of growth among most service industries has been subdued, and coincided with sizeable job losses in manufacturing. There may well have been a connection between these two dynamics, with the difficulties in manufacturing holding back the growth of services in several ways—including backward linkages and induced multiplier effects. In short, the available data does not provide strong evidence of tradable services driving the growth and modernisation of the Gauteng economy over the last decade.

5 The Significance of Highly Skilled Occupations in Gauteng

High-order services depend above all on the technical and professional capabilities of the workforce. Gaining access to global and regional value chains requires accumulating or assembling an appropriate mix of specialist expertise and tacit knowledge. Experience, know-how and talent can be supplied to clients and customers through internal corporate staff or by drawing together project teams of specialist contractors from a range of different firms for particular assignments. Over time, the changing composition of skills within the workforce is an important indicator of the evolution of service industries in a region (Storper et al. 2015).

Figure 4 outlines the broad skills profile of each South African province. Occupations are categorised by the South African standard classification of occupations. Skilled occupations include managers, senior officials, professionals and technicians. Semi-skilled occupations include clerks, plant/machinery operators, craft/trade workers and service/sales workers. Unskilled occupations include elementary workers. Gauteng has much larger and deeper skill sets than the other provinces, with 1.4 million skilled workers—representing 35% of its workforce. There are more skilled workers in Gauteng than the entire labour force of other provinces, apart from KwaZulu-Natal and the Western Cape. In contrast, elementary workers make up less

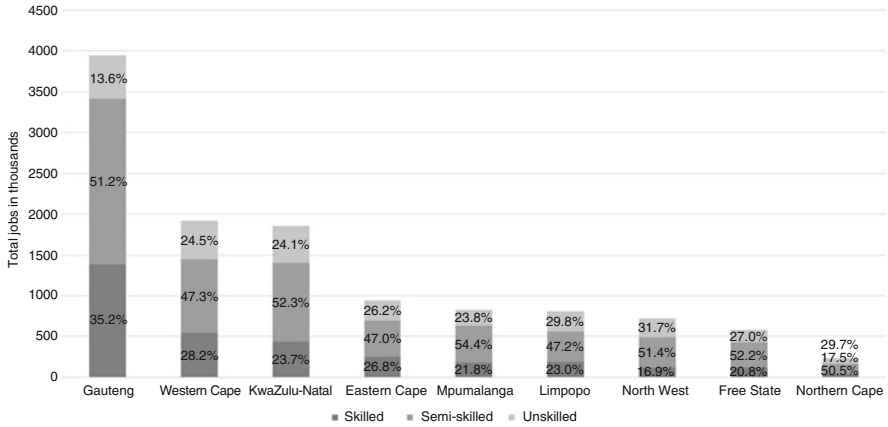


Fig. 4 Employment shares by skill level and province. Source: Labour Market Dynamics in South Africa, 2008 and 2015 (available online at: www.statssa.gov.za), own estimates

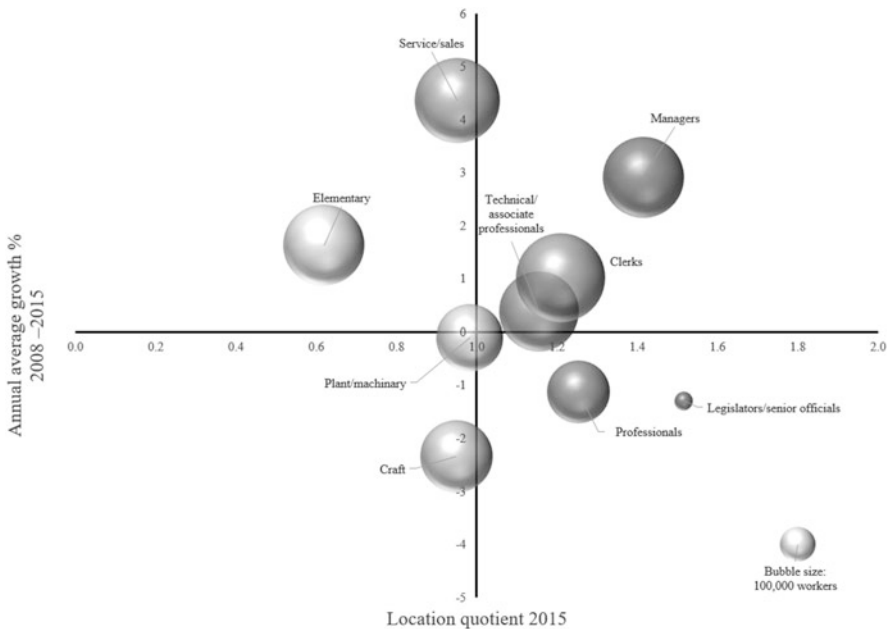


Fig. 5 Occupational dynamics in Gauteng. Source: Labour Market Dynamics in South Africa, 2008 and 2015 (available online at: www.statssa.gov.za), own estimates. Note: Skilled agricultural workers are an outlier, losing half of all jobs; they are not depicted

than 14% of total employment in Gauteng, compared to about one-quarter of the workforce in most other provinces. The stronger aggregate skills profile of Gauteng is consistent with the disproportionate number of jobs it has in manufacturing and tradable services.

Figure 5 below provides a more detailed analysis of occupational change in Gauteng by calculating location quotients for nine occupational classes (x-axis), combined with job growth (y-axis) and occupation size (bubble size). Occupational location quotients estimate the extent of regional clustering of occupations compared to the national skills profile. The figure confirms some specialisation of high-order occupations within Gauteng, particularly among managers and—to a lesser extent—professionals. Yet, changes in the aggregate skills composition of the workforce over the last decade do not provide strong evidence of professionalisation. In fact, there was a net loss of 26,000 professionals and almost no change in the number of associate professionals and technicians, while the number of workers with more generic managerial skills increased. Occupations with less demanding cognitive requirements, including sales, clerical and elementary work accounted for most of the employment growth that occurred. The available data does not provide strong evidence of the amassing of human capital and technical know-how. Instead, it seems more likely that there has been some combination of deficient demand for and constrained supply of highly skilled workers.

Table 2 compares changes in the occupational profile of Gauteng with the other two key provinces. The Western Cape reflects a similar pattern of restrained skills evolution, losing some of its professional/technical base but growing the number of clerical and managerial workers. KwaZulu-Natal lost skilled and semi-skilled jobs across the board, except for some growth in sales and personal services workers. There was a sizeable increase in the number of jobs for elementary workers in all three provinces.

Summing up, the available evidence on occupations suggests that Gauteng possesses a sizeable concentration of skills. However growth over the last decade has been in relatively routine tasks (service/sales) and generic skills (managers), rather than in the sought after category of professional and technical workers, who would support advanced service industries and other high-productivity tasks. Further research is required to explore the decline in skilled professional employment that is apparent in the data.

6 Trade Opportunities in Knowledge-Intensive Service Exports

Analysing balance-of-payments data enables identification of the kinds of firm that engage in external trade, and the types of good or service that they provide. Service exporters are likely to be more competitive and technically advanced than service providers who are confined to domestic markets. The former are, therefore, more likely to have potential to induce backward linkages to domestic producers and integration into RVCs. This section considers how opportunities for trade in services have grown, and the extent to which these relate to more valuable, knowledge-intensive activities.

Figure 6 shows the contributions from merchandise and services trade to South Africa's total exports over the last two decades. Services constitute only a

Table 2 Employment and change in employment by occupation in Gauteng, the Western Cape and KwaZulu-Natal

| | Gauteng | | Western Cape | | KwaZulu-Natal | |
|---|--------------------|-------------------|--------------------|-------------------|--------------------|-------------------|
| | Employment 2015 | Jobs 2008–2015 | Employment 2015 | Jobs 2008–2015 | Employment 2015 | Jobs 2008–2015 |
| Legislators/senior officials | 26,000 (0.7%) | -2000 | 3000 (0.1%) | -6000 | 8000 (0.4%) | -2000 |
| Managers | 530,000 (13.4%) | 97,000 | 209,000 (10.9%) | 64,000 | 117,000 (6.3%) | -11,000 |
| Professionals | 318,000 (8.1%) | -26,000 | 137,000 (7.1%) | 6000 | 99,000 (5.3%) | -10,000 |
| Associate professionals and technicians | 514,000 (13%) | 14,000 | 193,000 (10.1%) | -15,000 | 214,000 (11.5%) | -36,000 |
| Clerks | 641,000 (16.2%) | 44,000 | 265,000 (13.8%) | 27,000 | 208,000 (11.3%) | -1000 |
| Sales and service workers | 593,000 (15%) | 153,000 | 289,000 (15.%) | 93,000 | 327,000 (17.7%) | 90,000 |
| Skilled agricultural workers | 5000 (0.1%) | -8000 | 14,000 (0.8%) | -1000 | 13,000 (0.7%) | -2000 |
| Craft/trade workers | 425,000 (10.8%) | -76,000 | 204,000 (10.6%) | -38,000 | 196,000 (10.6%) | -29,000 |
| Plant/machinery workers | 358,000 (9.1%) | -3000 | 136,000 (7.1%) | -4000 | 224,000 (12.1%) | -7000 |
| Elementary workers | 535,000 (13.6%) | 57,000 | 471,000 (24.5%) | 95,000 | 445,000 (24.1%) | 57,000 |
| Total | 3,946,000 (100%) | 250,000 | 1,922,000 (100%) | 220,000 | 1,852,000 (100%) | 49,000 |

Source: Labour Market Dynamics in South Africa, 2008 and 2015 (available online at: www.statssa.gov.za), own estimates

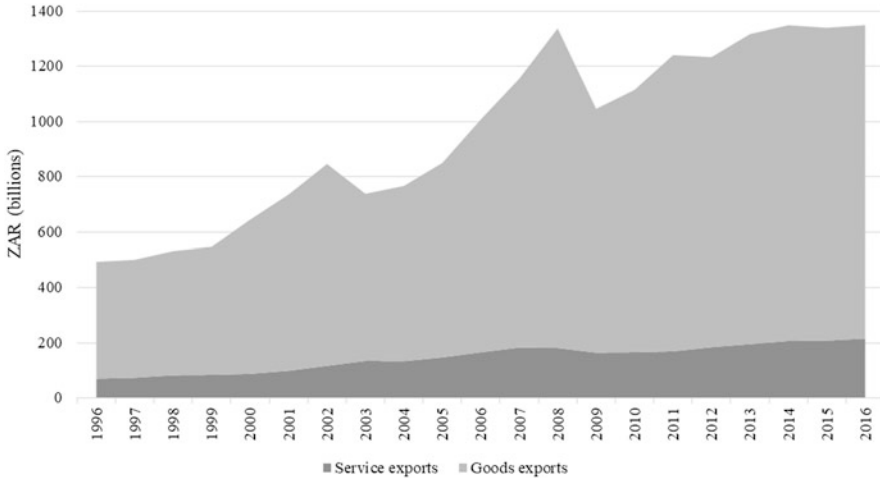


Fig. 6 Exports of goods and services from South Africa. Source: Open trade and competitiveness indicators, 2017 (available online at: tcddata360.worldbank.org). Note: Exports are measured in constant 2016 prices

small proportion of total export revenue, which is dominated by agricultural produce, manufactured goods and minerals. Tradable services are clearly no substitute for the export of goods, although they may of course have greater potential in the future. Nevertheless, services increased steadily over the period at an average growth rate of 6% per annum. They increased their share of total export revenue from 13.5% in 2000 to 16% thereof in 2016. Merchandise exports accelerated during this period until the recession of 2008 hit, then suffered a major setback; only recently have they regained their previous peak.

Disaggregating service exports into their different components reveals that the bulk (70%) of international services trade relates to the traditional sectors of tourism and transport services, as shown by Fig. 7. Tourism dominates the picture, and consists of regular tourism (personal travel) and business travel (including conferences and conventions). Assuming that all other tradable services comprise modern professional ones—including business, finance, government, IT and telecommunications ones—only ZAR 1 out of every ZAR 25 of goods and service exports involves knowledge-intensive activities. This amounts to ZAR 57 billion worth of turnover in absolute terms, but only a fraction of the ZAR 1.32 trillion total value of goods and services exports in 2016.

Among higher-value tradable services, the financial sector contributed ZAR 11.8 billion to export revenues. Figure 8 below shows that financial services enjoyed a strong net trade surplus of ZAR 10.5 billion, whereas other knowledge-intensive sectors tended to incur trade deficits. This is an important indicator of whether or not particular sectors are internationally competitive. Intellectual property stands out as particularly imbalanced, with ZAR 29.6 billion in service imports and only ZAR 1.6 billion in service exports. Overall, South Africa experienced more imports of advanced services than exports thereof. The scale of this should be kept in perspective,

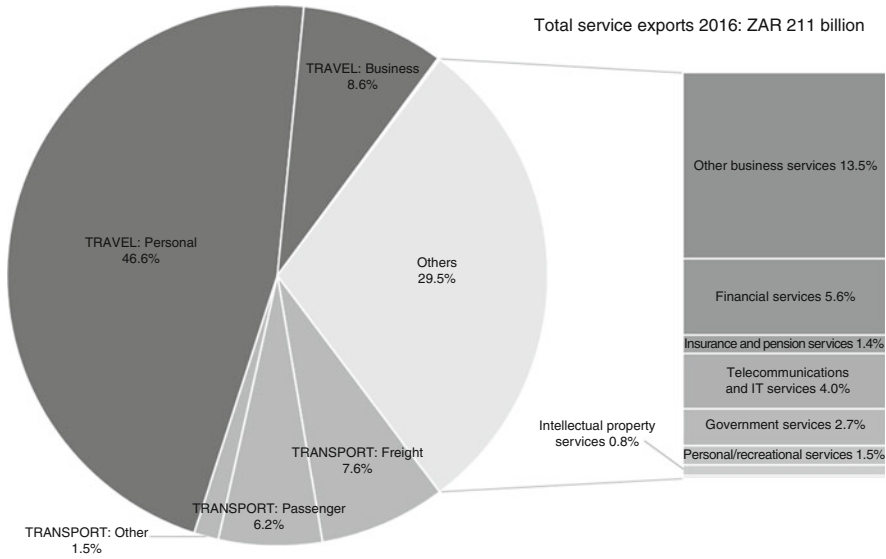


Fig. 7 Composition of South African service exports. Source: WTO-UNCTAD-ITC trade in services dataset (2017), own estimates

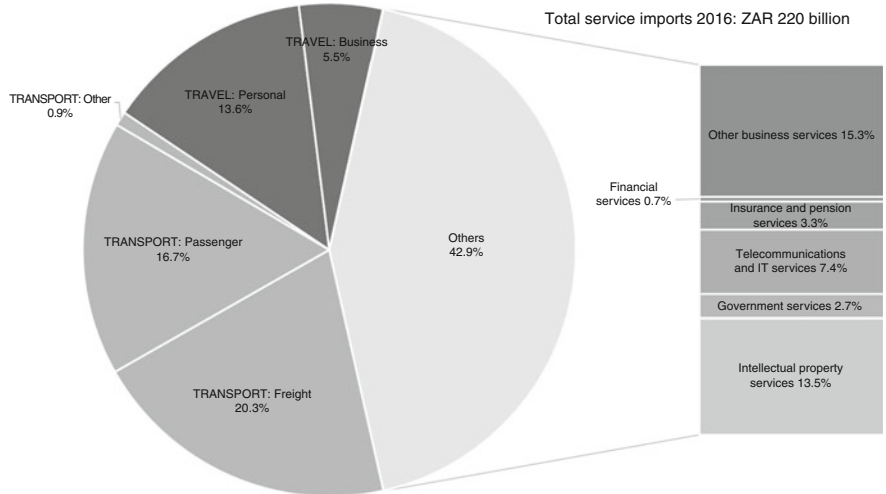


Fig. 8 Composition of South African service imports. Source: WTO-UNCTAD-ITC trade in services dataset (2017), own estimates

however. Transport services incurred a much larger deficit than this (reflecting the dominance of foreign-owned airlines and shipping companies). Tourism enjoyed a much larger surplus (reflecting South Africa’s popularity as a tourist destination).

Figure 9 shows the export performance of each service sector between 2005 and 2015, in order to identify the areas of particular strength and weakness. The y-axis

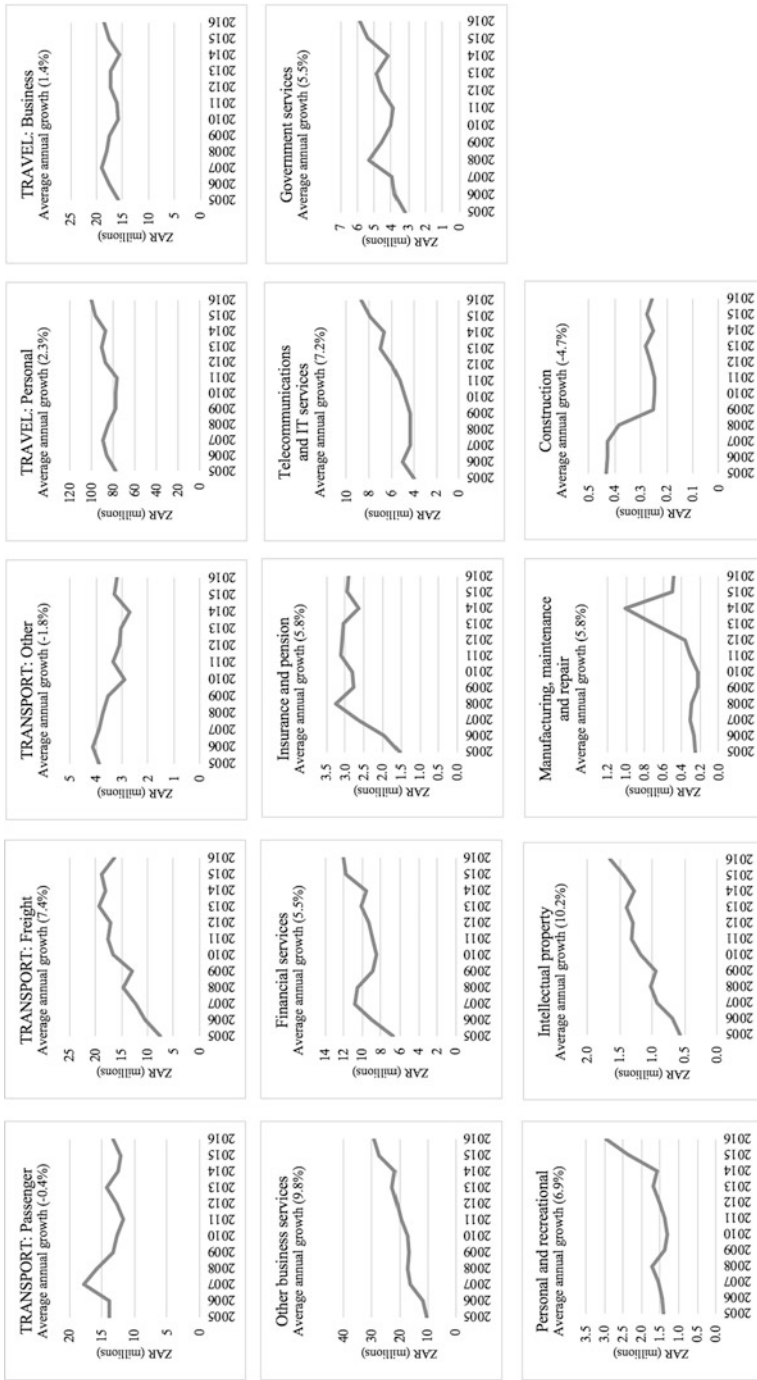


Fig. 9 Growth in South African service exports by sector. Source: WTO-UNCTAD-ITC trade in services dataset (2017), own estimates. Note: Exports are measured in constant 2016 prices. Average growth is compounded annually between 2005 and 2015

shows that personal travel was the biggest contributor to export earnings by far, followed by other business services (incorporating professional, management and engineering ones). Some of the fastest-growing exporters were linked to modern technologies such as intellectual property, IT, telecommunications and other business services. They increased their exports rapidly by 7–10% per annum. Finance and insurance services showed strong but less impressive export growth of just over 5% per annum, while construction services contracted quite sharply by almost 5% per annum. Tourism experienced surprisingly slow growth of just over 2% per annum. Overall, the growth trajectories of tradable services were very mixed, with some possible evidence of a modest shift towards knowledge-intensive sectors.

7 Conclusion and Outlook

There appear to be increasing opportunities for tradable services to contribute to economic development in Africa and elsewhere with the spread of digital technologies, falling air travel costs and more open national markets. This offers an additional growth path to the traditional emphasis on manufacturing and mining. Harnessing this potential seems important to broaden and diversify the base of African economies that depend heavily on the export of raw commodities. India's success at breaking into IT-related GVCs and that of Mauritius at growing tourism and professional services are good examples of this (Balchin et al. 2016; Eichengreen and Gupta 2011). Stronger economic ties across Africa could help to expand markets, create economies of scale in production and distribution, and to stimulate industrialisation and structural transformation. The growth of producer services could benefit both their providers and users by upgrading economic capabilities, improving the performance of public and private organisations, and by boosting output and jobs across supply chains.

Evidence from elsewhere in the world suggests that knowledge-intensive services such as design, engineering and software can enhance many different kinds of product, process and infrastructure, thereby raising productivity and innovation—and thus helping firms to move up global and regional value chains (Doloreux et al. 2000). The importance of high-order services is bound to increase with the unfolding of broader economic, environmental and technological transitions. South Africa is arguably well-positioned to provide some of these services to support development elsewhere in Africa because of its extensive skill sets and experience. There is some evidence of this happening in sectors such as banking, retailing and telecommunications, although there has been no systematic research on the subject to evaluate the actual achievements. It is also unclear whether RVCs are indeed being established, or whether services are simply being exported.

The chapter has shown that services dominate the composition of employment in South Africa, making up more than two-thirds of all jobs. Services are even more important in the economic heartland of Gauteng than elsewhere. There have been two main sectors of job growth in the last decade: business and financial services—some elements of which are tradable—as well as social services, which are

meanwhile largely non-tradable. Disaggregation of these categories reveals that the knowledge-rich component is a tiny portion of the total, and that the sub-sectors showing relatively robust growth appear to be heterogeneous and unrelated to each other. There seems to be no particular cluster of closely associated activities that indicate genuine specialisation and strength in depth, with the possible exception of financial services.

These findings are supported by the evidence on occupations. Gauteng possesses a sizeable reservoir of reasonably skilled labour. However, employment growth over the last decade has been in somewhat routine tasks (service/sales) and generic skills (managers), rather than among professionals and technical workers. These are the capabilities required to spur economic progress by stimulating creativity, efficiency and innovation. Further confirmation is provided by evidence on patterns of cross-border trade in services. Services constitute less than one-sixth of total exports, and the bulk of this stems from the traditional tradable sectors of tourism and transport. High-order tradable services are a small and disparate group with very mixed export trajectories. Yet, there are some signs of progress within the knowledge-intensive sectors of business and financial services.

The analysis presented here is only preliminary, and further research is required to substantiate the findings and delve more deeply into the underlying dynamics—including the creation of localised clusters and RVCs. A useful starting point would be to quantify the significance and size of tradable services to the national economy. Analysing the strength of their embeddedness and linkages to manufacturing, construction and other branches of the economy is part of this. The co-location of many of the key firms in places like Sandton suggests that there are interactions between them, but this still has to be firmly established as true. Comparisons with other middle-income countries would help to shed light on whether South Africa's experience is typical, and how much scope there is for future growth. Disaggregation of tradable services is vital to identify distinctive strengths within such diversity, bearing in mind wider market opportunities. The intra-African trade flows and value-chain relationships are worth special investigation, because of the potential for Gauteng to become an influential knowledge hub servicing rapid urbanisation and infrastructure development elsewhere in Africa.

Additional firm-level analysis is required to gain insights into the experiences of companies seeking to internationalise in this way. Distinguishing between the performance of multinationals and domestic enterprises could shed light on whether ownership matters to the way firms supplying tradable services grow and become embedded in RVCs. A fuller understanding of this growth process and its impediments is essential for policy purposes. It matters a great deal whether it is mainly bureaucratic procedures, state regulations and trade barriers that hamper the expansion of tradable services—or, conversely, the strategies, mindsets, financing and internal capabilities of firms themselves.

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