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Structural transformation to grow high-value exports and jobs: the case of fruit

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Growth in fruit production and exports

Structural transformation of the economy to move productive resources to higher value activities cuts across the traditional boundaries of manufacturing, agriculture and services. This is illustrated by the substantial scope for changes in agriculture to apply more sophisticated technologies to produce higher value crops such as fruits and supply them to markets around the world. Such changes require building industrial capabilities and bringing together design and production, with logistics, branding and marketing. The potential is exemplified by the huge shifts in South Africa's fruit industry to grow exports and move into higher value products, increasing employment. Fruit therefore represents an interesting case study because it shows that the process of industrialisation is not limited to manufacturing but extends to primary agricultural products.

Structural transformation within the fruit value chain has different dynamics to traditional manufacturing activities. Higher value is not associated with more processing, but with functional and process upgrading



to maintain quality and preserve the shelf life of fresh fruit, as the highest value product. This is referred to as 'industrialisation of freshness' and entails investments in pack houses, cold chain facilities and logistics, as well as growing the most desirable fruit varieties. The process of exporting fresh fruit to international markets requires more technological sophistication, packaging, temperature and disease control, and computerised logistics than exporting lower value processed fruit juice.²

Fruit generates the highest returns per unit of land cultivated relative to other agricultural activities. For instance, in 2011, the real gross value of production per hectare of fruit was R169,597 while field crops and livestock production generated only R9,715 and R1,221 per hectare respectively.³ Of course, not all land is appropriate for fruit production, but maximizing the farming of the land which can be used will have substantial returns in value created and employment.

Fruit has the largest potential to contribute to employment in agriculture as most harvesting is done

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² Cramer, C., & Sender, J. (2015). Agro-processing, wage employment and export revenue: Opportunities for strategic intervention. Trade and Industrial Policy Strategies (TIPS).

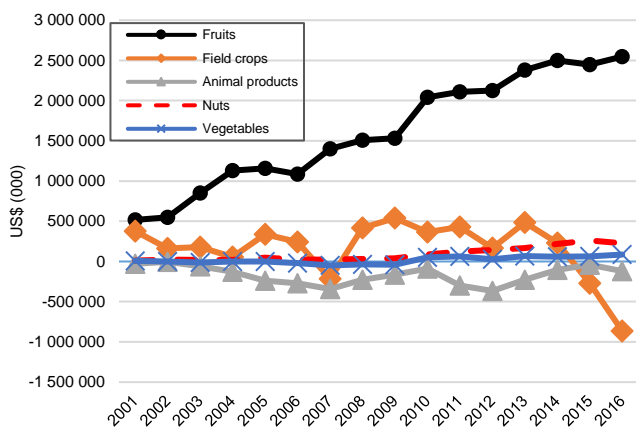
³ Nominal gross value of production in 2011 adjusted to real prices using CPI All items index. Base year=2016

by hand. On average, fruit employs an estimated 1.6 workers per hectare while field crops and animal products employ just 0.02 persons per hectare.⁴ The fruit sector is further linked to a range of ancillary activities such as packaging, logistics and cold chain facilities, which creates services jobs throughout the value chain. The fruit sector growth is a key contributor to the increase in agriculture employment with an estimated 179,948 people directly employed in fruit farming in 2015.⁵ This accounts for approximately 10% of the overall employment in the agricultural sector.⁶ An additional estimated 8,000 people directly provide services to the fruit industry with a further 109,000 people employed in downstream service activities in 2015.⁷

Creating value

Exports of fruit from South Africa have grown substantially between 2002 and 2016, becoming the largest contributor to agricultural exports (Figure 1). The fruit sector shows the potential benefits from integrating into international markets. After the dissolution of the marketing boards in 1997, which opened access to new markets, the producers grew into a globally competitive industry.

Figure 1 Trade balance of agricultural products

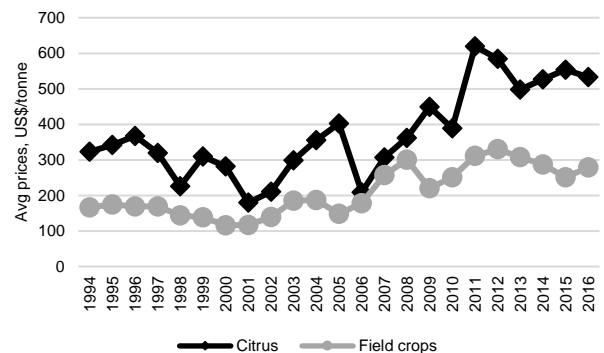


Source: DAFF

Growth in fruit exports is associated with important shifts within and between fruit products. The major export fruits by volume and value are citrus, apples and grapes accounting for 82% of total fruit export earnings in 2016. Within citrus, the production and export of higher value items including lemons and limes and mandarins and tangerines have grown faster than other products, which shows a shift to higher value activities within the fruit sub-sector itself. This has contributed

towards higher real export prices (Figure 2). In addition, some of the fastest growing fruits include niche fruits such as berries with high growth potential in export markets, growing at a compound annual growth rate of above 20% between 2002 and 2016.

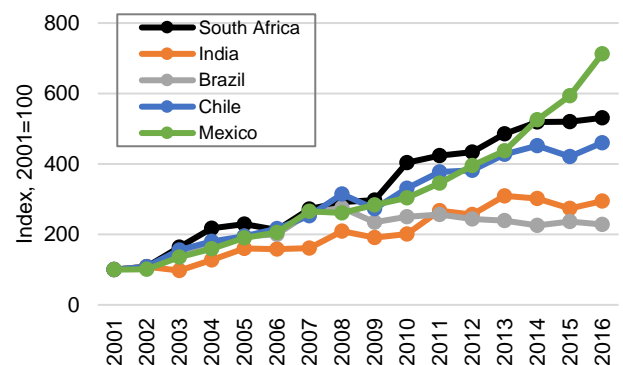
Figure 2 Average Prices of field crops and citrus fruits



Source: DAFF

South Africa's exports of fruits have grown at a similar pace to countries such as Chile and Mexico although Mexico has grown quite faster in recent years (Figure 3). The experience of Chile to grow the local fruit industry through extensive government support suggests the potential for substantial further growth in South Africa's fruit industry given the fact that the South African success has been achieved with relatively little support. The experience of Mexico further demonstrates that small-scale intensive farmers can be very important participants in fruit value chains. This depends on the appropriate linkages being built and support for the investment required to ensure the necessary levels of quality.⁸

Figure 3 Fruit exports (index 2001=100)



Source: DAFF

A strong industry association, Fruit South Africa, which is the umbrella body representing five fruit-producer

⁴ BFAP. (2011). The contribution of the agro-industrial complex to employment in South Africa. Bureau for Food and Agricultural Policy.

⁵ Fruit South Africa. (2015). Overview of the South African Fruit Industry. Available [here](#).

⁶ See footnote 5 above.

⁷ See footnote 5 above.

⁸ Olson, P. (2013). Mexico: Berry sector's growth has important consequences for the Campo. Global Agricultural Information Network (GAIN). (GAIN Report Number MX3030). Available [here](#).

organisations, has driven the upgrading and market access in South Africa's fruit industry.⁹ Fruit South Africa is instrumental in addressing market and trade issues affecting the industry through liaising with government on policy and regulatory matters and ensuring that market access is granted on conditions that are favourable to the industry. In addition, the industry association provides producers with information on standards and requirements in different markets.¹⁰

Industrial policies

Success in this sector requires investments in capabilities along the value chain. South Africa's growth, and especially the participation of smaller farmers, has been limited by inadequate infrastructure, particularly transport and logistics, pack-houses and cold storage facilities. This causes costly delays and breaks in the cold chain, and limits entry and expansion into export markets.¹¹ As an export oriented industry, stringent import regulations in developed markets in the form of import tariffs, import permits and sanitary and phytosanitary standards constitute key barriers to trade in fresh fruit. This is further worsened by lack of harmonisation or equivalence between multiple private standards, and between private standards and official standards resulting in suppliers having to acquire multiple audit certifications.¹²

The fruit industry in countries such as Chile and China have benefited from extensive government support and development of strong public institutions to facilitate and monitor compliance with global food safety standards. The government facilitated access to new markets, established accreditation institutions and invested in infrastructure to integrate farmers into the transport network.¹³ Mexico has also become a key exporter of berries with much of production carried out by small-scale farmers.¹⁴ Investments in the berry sector are supported by private international berry producing and marketing companies, mainly from the United States. These companies supply financing for installation materials in greenhouses and farming inputs, training and technology transfer of management best-practices, and access to latest berry fruit varieties. Furthermore,

they provide reliable buyers with access to complete supply chains and marketing infrastructure.¹⁵

Deepening and broadening structural transformation of the fruit sector as part of the wider development of agriculture in South Africa requires supporting investments along the value chain in productive capabilities (including in inputs, pack-houses, cold chain facilities, transport and logistics). It requires linking smaller farmers to international buyers, negotiating market access, and lowering the costs of meeting standards and certification.

There are initiatives such as the Agri-Parks programme launched in 2015 and the Strategic Infrastructure Project 11 by the Departments of Rural Development and Land Reform, and Agriculture, Forestry and Fisheries. These aim to promote growth of smallholder farmers by providing key infrastructure and marketing support to emerging and marginalized farmers. However, these plans are yet to be implemented and small farmers continue to be excluded from supply chains. There is also limited capacity and skills in government to provide support and regulatory services throughout the value chain and to the point where the fruit is ready for export markets.¹⁶ The fragmentation in government across different departments and institutions further undermines the implementation of practical initiatives.

An important part of building capabilities of smaller farmers is to meet the growing local and regional demand from urban consumers. The expansion of supermarkets in the southern African region provides a route to market for smaller fruit farmers and a stepping stone to upgrade capabilities. The DTI's Agro-processing Supplier Development Programme (Industrial Policy Action Plan 2017/18-2019/20) aims to integrate smallholder farmers into supply chains by increasing procurement of smallholder farmers' produce by large retailers and processors.

Linking farmers with large producer-exporting companies that already have access to critical infrastructure and international markets is important for growing global exports. The government can incentivise large producer-exporting companies to partner with smallholder producers, as has happened in Mexico and

⁹ Citrus Growers Association; HORTGRO (pome and stone fruit), South African Table Grapes Industry, Subtrop (avocados fruit, litchi, mango), apples and pears, and Fresh Produce Exporters Forum.

¹⁰ CCRED and REPOA. (Forthcoming). Growth and development of the fruit value chain in Tanzania and South Africa. CCRED.

¹¹ See footnote 5 above.

¹² See footnote 5 above.

¹³ Fernandez-Stark, K., Bamber, P. and Gereffi, G. (2011). The fruit and vegetables global value chain: Economic upgrading and workforce development. Center on Globalization, Governance & Competitiveness (CGGC), Duke University, North Carolina, USA.

¹⁴ These include strawberries, raspberries, blackberries and blueberries.

¹⁵ Olson, P. (2013). Mexico: Berry sector's growth has important consequences for the Campo. Global Agricultural Information Network (GAIN), Report MX3030. Available [here](#).

¹⁶ CCRED and REPOA (2018). Growth and development of the fruit value chain in Tanzania and South Africa. African Industrial Development and Integration Research Programme.

China. Large companies can extend technical services and information on production and standards to small farmers. In return, the large companies may be provided with tax breaks, subsidies for investments in storage and cold chain facilities or assistance with raising capital.¹⁷ The strategy for the sector also needs to maintain an ongoing focus on developing niche, high value agricultural products in export markets, such as berries, lemons and limes and mandarins and tangerines.

The Departments of Trade and Industry, Rural Development and Land Reform, and Agriculture, Forestry and Fisheries are all working to improve access to markets for fruit producers. It is important that these departments work closely together with industry associations, such as Fruit South Africa, whose key activity is market access and has been successful in finding new markets.

¹⁷ Gale, F., Huang, S. and Gu, Y. (2010). Investment in processing industry turns Chinese apples into juice exports. United States Department of Agriculture.