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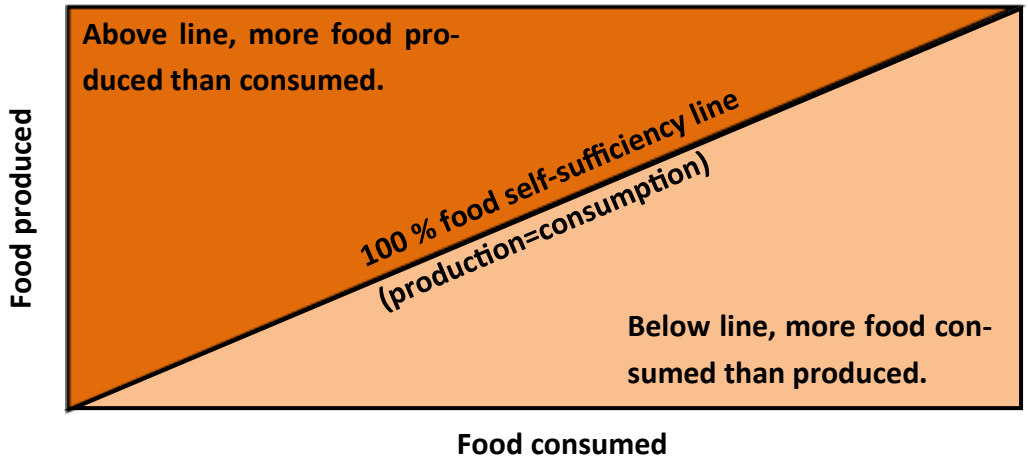
SELF-SUFFICIENCY INDEX

Directorate: Statistics & Economic Analysis

This is a new bi-annual publication by the Directorate: Statistics and Economic Analysis. The aim of the publication is to inform decision makers on the extent to which South Africa is food secure. The production of sufficient volumes of agricultural commodities forms an important part of food security in South Africa. Thus, selected commodities has been identified that will be addressed in this volume, namely red meat and poultry meat. Future issues will focus on other commodities like oilseeds (sunflower seed and soybeans), as well as fruits (deciduous fruit and citrus) and vegetables (potatoes).

What is a Self-sufficiency Index?

The concept of food self-sufficiency is generally taken to mean the extent to which a country can satisfy its food needs from its own domestic production. This understanding is illustrated in the diagram below, whereas the diagonal line indicates 100% food self-sufficiency, i.e. where food production is equal to food consumption.



The key point is that if a country is food self-sufficient, it produces an amount of food that is equal to or greater than the amount of food that it consumes. The self-sufficiency index (SSI), expresses food production as a ratio of consumption.

1. SSI of red meat, including beef, mutton and pork meat:

South Africa has the capacity to be self-sufficient in most agricultural products. In most years, South Africa produces a surplus over the domestic consumption of beef meat; historical exceptions to this have largely been the result of droughts. However, South Africa does rely on imports for other significant red meat products, including mutton and pork meat.

The first ten years of the new millennium, steady economic growth and increased average income in South Africa pushed large numbers of consumers towards protein-filled diets and convenience; as a result, meat consumption levels skyrocketed. As South Africans' disposable income grew, their buying behavior reflected their strong fondness for meat. Since 2010, however, a slowdown in South Africa's economic growth also affected the growth in meat consumption. The fundamental factors that underpin meat consumption are income levels and the resultant changes in spending power, population growth and urbanisation.

According to the latest Bureau for Food and Agricultural Policy (BFAP) Baseline Report (2019), the combination of strong meat prices and rapidly declining feed prices implied that 2017 represented a return to profitability for livestock sectors that had been under pressure for a number of years. Over the 10-year period from 2006 to 2016, beef consumption increased by 1,3% per annum. As a more expensive meat alternative, consumers tend to be more sensitive to price changes – hence, the constrained supply, which induced a 20% spike in beef prices in 2017 and thus reduced consumption significantly. Following the herd liquidation that occurred through the 2016 drought and more favourable rainfall in 2017 across South Africa's summer rainfall regions, the beef sector entered a herd rebuilding cycle. In 2017, cattle slaughter volumes declined by 7% year on year, in 2018 by a further 3,5% and over the first 4 months of 2019, a further 2,4% decline. Similar trends are evident in the sheep market, where slaughter volumes have also declined sharply as weather conditions in many production regions continue to constrain the pace of flock rebuilding.

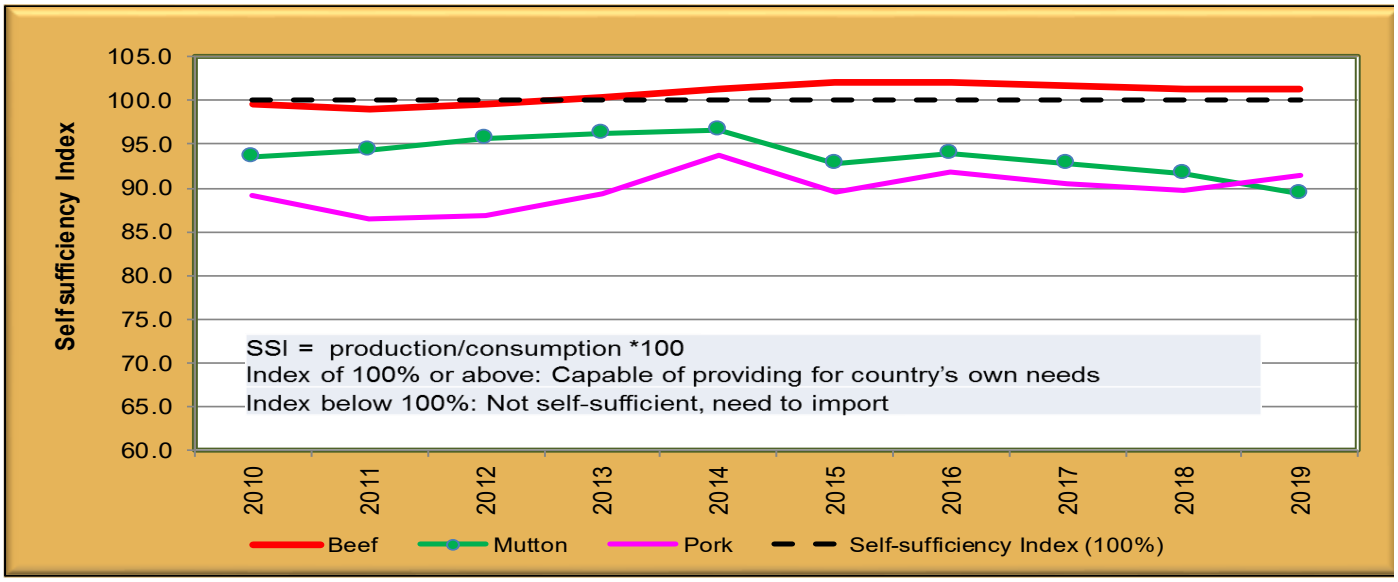
Despite the constrained supply, beef prices over the first half of 2019 have traded 10% lower than the comparable period in 2018. A number of factors contributed to the decline. Firstly, the Foot and Mouth Disease (FMD) outbreak in the FMD free zone halted exports to several markets. Secondly, products that would typically have been earmarked as exports were diverted into the domestic market, where consumer-spending power has been under severe pressure. Consequently, beef prices plummeted, all while the dry early summer raised concern as to the size of the maize harvest, which pushed feed prices higher. This combination brought feedlot margins under significant pressure, thereby also reducing the demand and subsequent prices of weaner calves.

The beef industry was not the only one affected by higher feed prices. The pork and poultry sectors, who use feed more intensively in the production process, also felt the squeeze. The relative substitutability between meat types implied that lower beef prices reduced the demand as well as the price of alternative meats. Constrained consumer spending power also contributed to weaker demand for other meats.

The South African pork industry is small compared to beef and thus price movements in the beef industry also influences pork markets. This was clear in 2019, as pork prices also declined sharply following the FMD outbreak. Following the impact of Listeriosis outbreak on pork markets in 2018, this represents the second consecutive year that the typical seasonal decline of the first quarter is exacerbated by a disease outbreak. The isolated outbreaks of African Swine Fever (ASF) in South Africa in 2019 is a cause for concern. The virus does not pose any risk to pork consumers, but with depopulation the most effective means of controlling the spread of the virus, the effect of an extended outbreak on production levels can be significant. Stringent biosecurity measures help producers curb the threat of ASF.

As the most expensive meat type, weak economic conditions are also negatively affecting the consumption of lamb and mutton. Weak consumer demand is exacerbated by the decline in beef prices and over the first half of 2019; lamb prices traded 9% below the levels of the comparable period in 2018. This reduction comes despite supply constraints, as the industry attempts to rebuild flocks following the effects of the 2016 drought. Lower prices, combined with persistent dry weather conditions in key production regions are expected to limit the rate of flock rebuilding over the next few years.

SSI of Beef, mutton and pork meat, 2010 - 2019



As South Africa is producing sufficient quantities of beef meat to satisfy local consumption, thus resulting in a positive SSI (SSI>100) for the period 2013 to 2019. The surplus of beef meat is usually exported to neighbouring SADC countries. South Africa is regarded as a net importer of mutton and pork meat as local production is not sufficient to satisfy local consumption, resulting in a negative SSI (SSI<100) for the period 2010 to 2019.

2. SSI of poultry meat, 2010 - 2019

South Africa is regarded as not being self-sufficient in the production of poultry meat and thus have negative SSI for the mentioned period, as local production is not sufficient to satisfy local consumption, resulting in the imports of poultry meat. The reasons for this situation should be further explained.

The South African poultry industry had been under considerable pressure due the devastating drought in 2016, the outbreak of highly pathogenic avian influenza (H5N8) in 2017 and only started to recover in 2018.

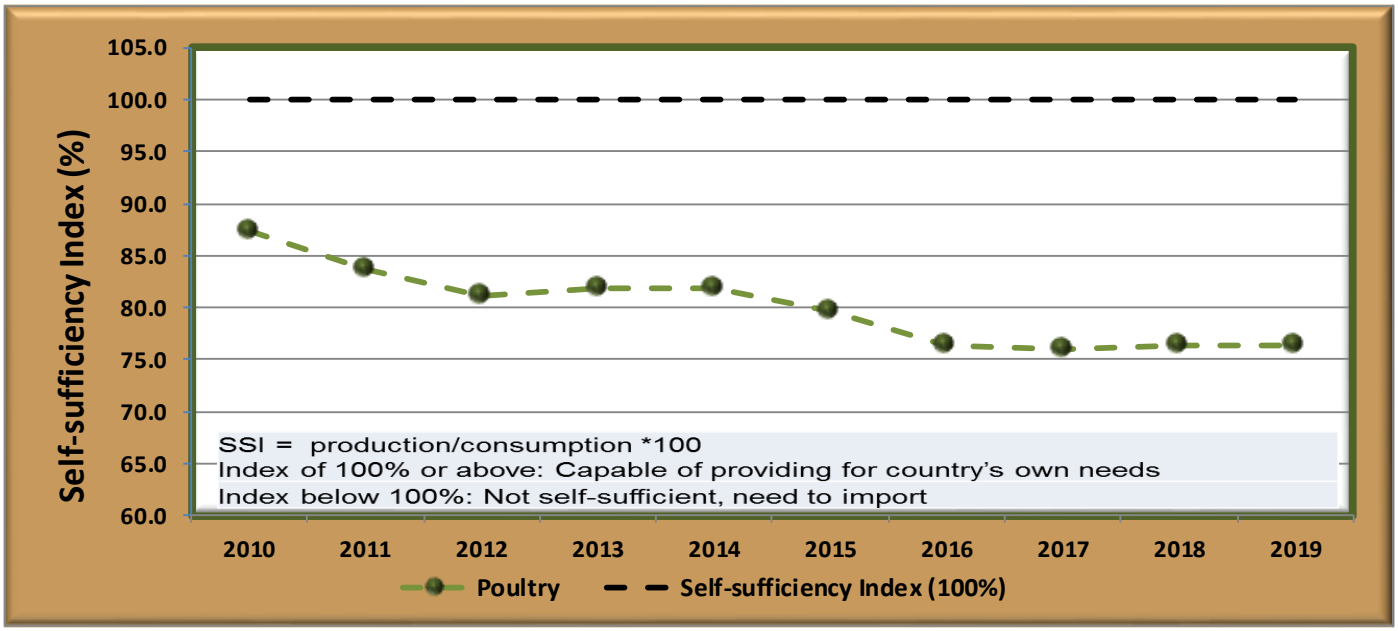
Feed cost is the major cost factor in the poultry industry and contributes more than 70 percent to the total cost of a poultry producer. Maize is the primary ingredient (more than 50 percent inclusion rate) in poultry feed, and any change in the price of maize impacts directly on the profit margin of poultry producers. Feed input costs increased considerably in 2019 on higher maize prices due to unfavorable weather conditions. In addition, constrained consumer demand and an expected decrease in exports are putting downward pressure on producer prices leading to an under recovery of higher input costs.

Poultry meat represents approximately 60 percent of total meat consumption in South Africa. As poultry meat is relatively inexpensive and easily accessible, it has grown to be the most important protein source in the diet of the majority of South Africans. This is especially true in low-income households, who constitute the majority of consumers.

South Africa's economic growth is expected to remain sluggish in 2019 due to structural and policy constraints. Economists estimate economic growth of less than 1 percent in 2019, which will limit an excessive increase in the demand for chicken meat. Three fundamental characteristics distinguish South Africa's chicken meat market from many other countries. The first characteristic is the predominant demand for bone-in (brown meat) chicken cuts compare to breast meat. Bone-in chicken cuts are mostly sold as "individually quick frozen" pieces in the form of low-priced 2kg and 5kg mixed packs. Brining is the second characteristic. Almost all locally produced frozen chicken contains brine in order to preserve and enhance the quality of the meat. In 2016, the Department of Agriculture, Forestry and Fisheries (DAFF) introduced a regulation to restrict the brined content to a maximum of 15 percent of the mass sold. Prior to 2016, brining levels of up to 43 percent were recorded, which resulted in higher water content per package of frozen chicken meat. The third characteristic is the relative small demand for fresh (not frozen) chicken meat. Fresh chicken meat represent less than 10 percent of total consumption of chicken meat in South Africa. These characteristics reflect the predominance of a lower-income consumer base, as fresh chicken meat is usually sold at a premium over frozen and brined bone-in chicken pieces.

Due to the high demand and limited domestic supplies, South Africa has continued to import chicken meat annually, with frozen bone-in chicken and mechanically deboned meat as the leading products. Chicken meat imports (mechanically deboned meat included) represent about 28 percent of South Africa's local consumption of chicken meat. Brazil is the major supplier of chicken meat to South Africa followed by the United States and the European Union (EU).

SSI of poultry meat, 2010 - 2019



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