

# Quantification of the South African Pork Value Chain : Phase 1

Bureau for Food and Agricultural Policy  
(BFAP)

in collaboration with  
The South African Pork Producers'  
Association

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INSIGHT

Despite rapid growth over the past decade, pork consumption in South Africa remains low in the global context. Pork is one of the most consumed meat types globally, yet in South Africa, it constitutes less than 10% of the total meat consumption basket (Figure 1a).

Low pork consumption in South Africa has been attributed to many factors. Consumption preferences often differ amongst various population groups and studies such as Delpont et. al. (2017) and Taljaard (2007) have also noted a low-income elasticity as a contributing factor to low pork consumption in South Africa. This could be attributed to the fact that, despite it being a more affordable meat type, the bulk of pork consumption is ascribed to upper middle class and affluent consumers (Figure 1b). It also points to the importance of non-economic factors, often related to consumer perception regarding the product. While much has been done to improve such perceptions (Davids et al., 2014), which have changed over time, recent studies show that some consumers still regard pork as an inferior product, noting concerns such as quality, perishability and food safety (Vermeulen & Louw, 2020). Some religious groups (Such as Zion Christian Church, Muslims and Hindu's) also abstain from consuming pork products, but these are estimated to constitute less than 20% of the total population (Schoeman, 2017), implying that there is ample room for growth if perceptions towards product quality and food safety, which remain the principal concern of most consumers (Vermeulen & Louw, 2020), can be overcome.

Given pork's relative affordability, which remains appealing, the industry ought to be able to contribute meaningfully to food security. This would require the product to appeal to a broader range of consumers, making it critical to understand consumer preferences, with respect to both economic and non-economic factors. As perceptions improve, pork is gaining popularity amongst black consumers, but to grow this market segment optimally, preferences amongst these consumers must be better understood.

This report relates to the first phase of a broader initiative that aims to understand the consumption and procurement preferences of lower income consumers in the informal areas, as well as the current and future level of processing of the products. It presents a first view on possible product flows and marketing channels, based on outflow from the abattoir. Ultimately, it will inform the strategy for a second phase, which will provide a more in-depth review of where consumers procure pork products in informal regions and in which form.

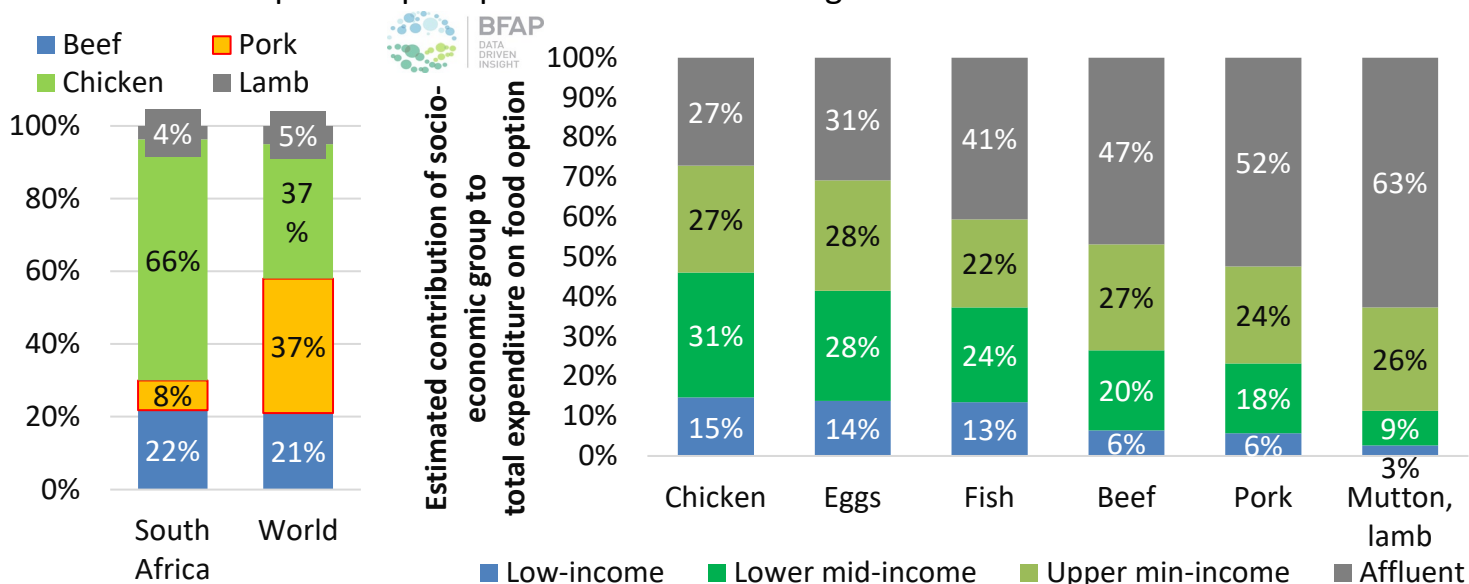
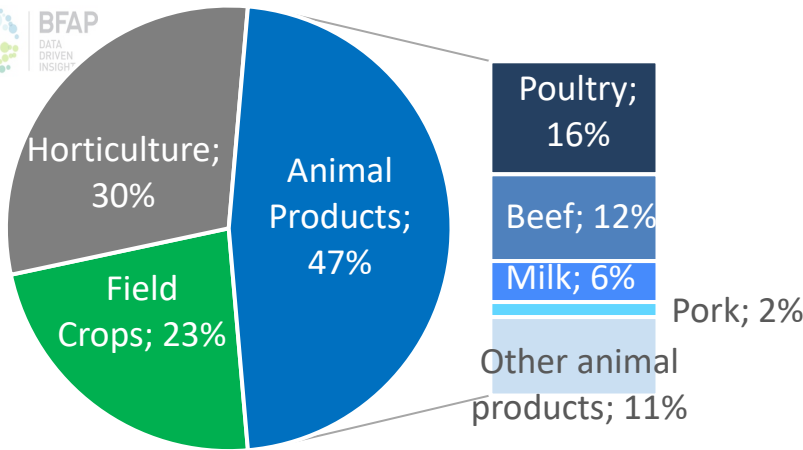


Figure 1: South African meat consumption relative to the world: Average 2018-2020 (a) and disaggregated by income group (b)

Source: Compiled from BFAP (2020), OECD-FAO (2020) & Stats SA (2016), 2018 – 2020 Avg

# South African pork sector in context

The livestock subsector is the largest contributor of the gross production value of agriculture. The subsector constituted almost half (47%) of the gross agricultural production value, on average between 2018 and 2020. Within the livestock subsector, the poultry industry is the largest contributor (34%), followed by the beef industry (26%), which is more than four times larger than the sheep (5%) and goat (1%) meat industries (considering the formal market). The pork sector contributed only 2% to the gross agricultural production value (Figure 2), and 5% to the gross value of animal production. Although relatively small, the pork industry has been growing – adding 9% to gross production value on average per annum for the last 10 years.



Though impressive, this only makes it the fourth fastest growing industry within the livestock subsector (Figure 3), almost on par with beef (10%), but behind mohair (15%) and wool (12%).

Over the same period, consumption has been growing by an annual average of 3%, faster than chicken (2.5%) and beef (1%), the more traditional sources of animal protein in South Africa.

Figure 2: Contribution of pork to gross production value  
Source: Compiled from DALRRD, 2020

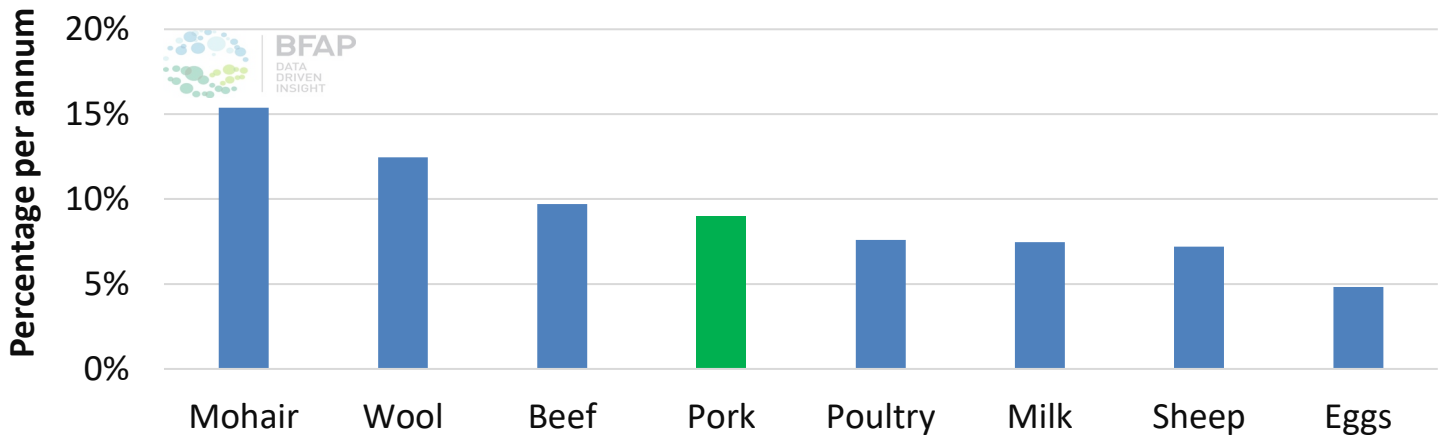


Figure 3: Average annual growth in nominal production value: 2011-2020  
Source: Compiled from DALRRD, 2021

Despite its small size, the dynamism evident in South Africa’s pork sector in recent years suggests that it has ample room for growth and development. Much of this potential lies in possibilities to grow local consumption. Despite rapid growth over the past decade, per capita pork consumption in South Africa remains low relative to other meat types (Figure 4). On average, from 2018 to 2020, pork consumption per capita was only 4 kg, compared to 13 kg and 35 kg for beef and poultry, respectively (BFAP, 2020). This is despite good relative affordability, where it is second only to poultry on a cost per kilogram basis.

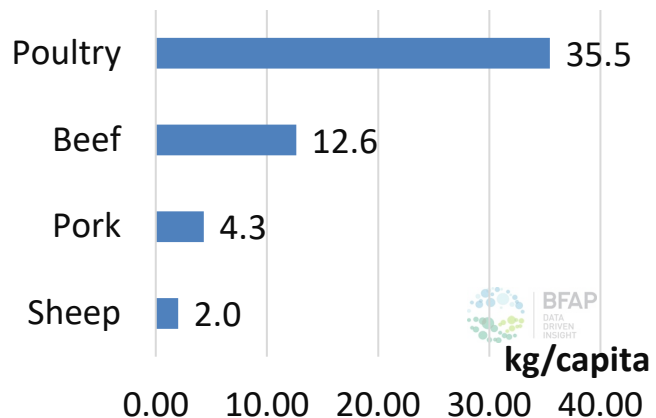


Figure 4: Per capita consumption of meat in SA: Average 2018-2020  
Source: BFAP, 2021

# Informal sector contribution underrated

The contribution and performance of the pork sector is quantified based on statistics that relate to the formal value chain. Much less is known about the informal value chain, where pigs' superior ability to convert food of any quality into pork, distinguishes them from ruminants and exemplifies their contribution to food security. While its contribution is often overlooked due to data limitations, the informal sector has been equally dynamic. According to Stats SA's Community Survey (2016), 210 504 households in South Africa were engaged in pig farming in 2015 – an increase of 87% from the 112 678 reported in 2011, implied growth of almost 22% p.a.

In addition to the information contained in the community survey, a 2013 study by Gcumisa surveyed 533 small pig farmers in the uThukela (Ladysmith) district in KwaZulu-Natal. It found that respondents kept pigs for a number of reasons, including home consumption (63%), a source of income (33%) and manure (3%). When considered as a source of income, 76% of households sold live pigs, either to neighbouring households in the community, or at pension pay points.

A separate industry survey, conducted by SAPPO, found that approximately half of small pork producers also sell pigs to abattoirs, in addition to local consumers. If one assumes that producers with 10-50 pigs (31% of the informal herd fall in this size category) are more commercially inclined and that they sell half of their pigs to abattoirs, it implies that only 18% of small producers' pigs enter the market through formal channels.

Estimates by BFAP (2020), based on a triangulation of productivity indicators contained in BFAP (2019), the size distribution (number of pigs per household) presented in the Stats SA Community Survey, and an average carcass weight of 50kg, suggests that, in 2016, informal production accounted for as much as 26 600 tonnes of pork. This implies that formal production estimates undercount national production, and therefore also consumption by around 10% (Figure 5). The sector supports thousands of livelihoods, provides affordable protein to consumers in rural areas and, based on the economics of these small producers, the asset value of the informal herd equated to approximately R1.24 billion in 2016 (BFAP, 2019).

Similar to the formal sector, which remains the core focus of this study, the informal sector has immense potential to contribute to inclusive growth.

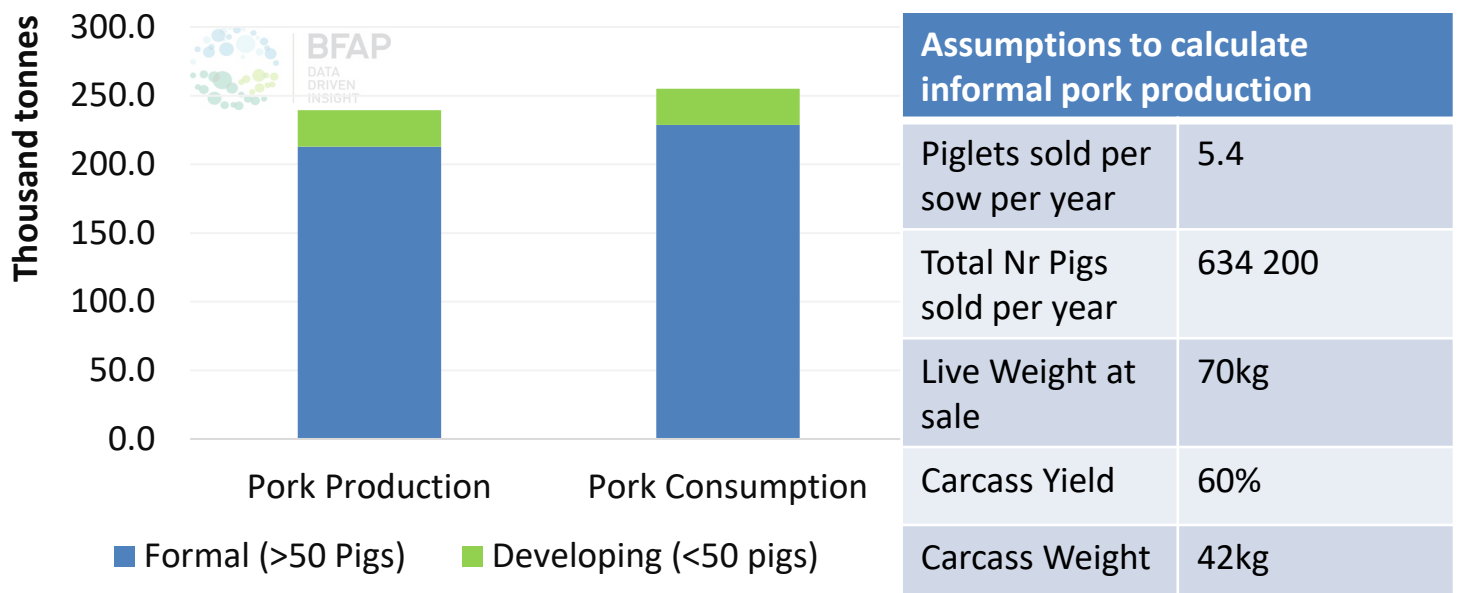


Figure 5: Contribution of the informal pig sector to national production and consumption  
 Source: BFAP, 2020

# Objectives of the study

## SA Pork Sector in a Nutshell

Contributes 5% of gross value of animal production, 2% of agriculture	Growth of 9% p.a. in gross production value over the past 10 years
Production: +47% growth from 2010 - 2020	Consumption: +33% growth from 2010 - 2020
Formal Sector: 170 producers	Informal Sector: 208 312 Households
4% of production exported	10% of consumption imported
0.2% of global production	0.2% of global consumption

In order to maximize the opportunities for increased pork consumption growth in future, there is a need to understand the flow of pork throughout the value chain to ensure the product gets to the right consumer and in the right product form. This first phase of the study is focused on the abattoir node, which represents an important point of product aggregation within the value chain (Figure 6). The objectives of this study, the first phase of a broader initiative, are twofold:

- Firstly, it investigates abattoir's sourcing practices, with a focus on volumes procured from large scale commercial, as well as small scale informal producers.
- Secondly, it seeks to determine the flow of products out of the formal abattoir, which has multiple aspects including the product mix (carcass, primal cuts etc.), the form in which the product will ultimately be consumed (fresh products vs. processed products) as well as the channels that the product might follow to the end market (wholesale, retail, informal hawkers etc.).

Figure 6 presents a holistic view of the structure and product flow in the South African pork industry, based on total industry volumes, on average between 2018 and 2020, the triangulated production volumes derived in BFAP in (2020) and presented in Figure 5, combined with the product flow and sourcing information gathered from this study.

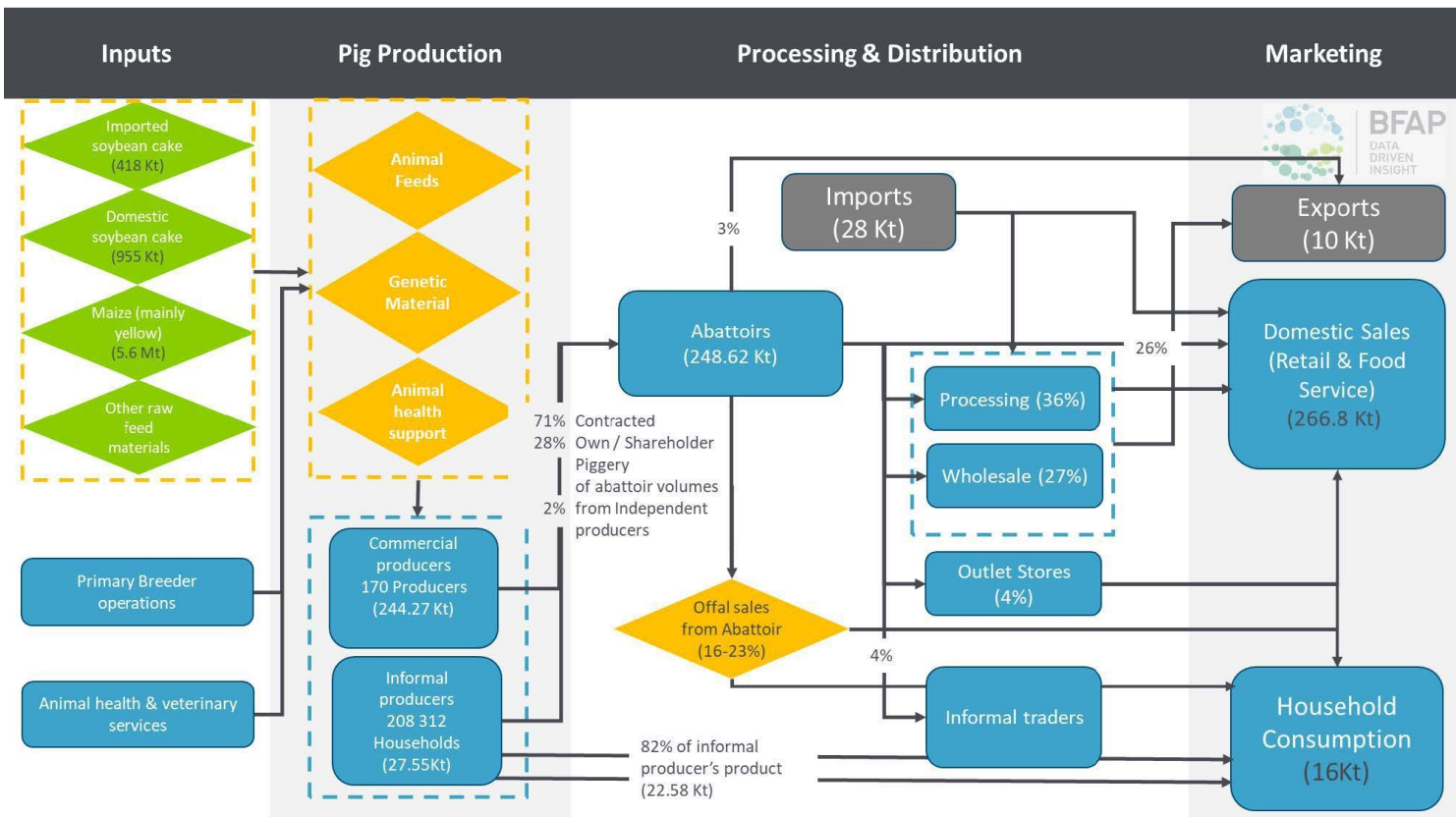


Figure 6: Structure of the pork value chain

The study collected primary data through informal interviews with abattoirs. Although the pork industry is very concentrated in nature, with only 20 abattoirs contributing as much as 75% of total pig slaughters, the study sought to obtain a broader view of the industry. As such, all abattoirs that are members of the Red Meat Abattoir Association (RMAA) were contacted for inputs.

Of the list of 112 abattoirs provided by the RMAA, only 50 participated in the study. The rest were either unreachable due to incorrect contact details provided, have exited the pork industry, do not trade pork or simply were unwilling or unable to participate in the study. Amongst those that participated in the study, 12 are amongst the top 20 abattoirs in terms of pork slaughter volumes.

The 50 abattoirs that did take part declared a total of 194 856 monthly pig slaughters, while the Red Meat Levy Administrator estimates the average monthly pig slaughters at 276 716. This implies that the 50 abattoirs that participated in the study represent 70% of national pig slaughters. The largest share of respondents were based in Gauteng and the Western Cape, which together account for 40% of all abattoir respondents. These two provinces constitute 33% of the abattoirs on the initial contact list.

To gather the required information, interviews were conducted guided by a structured questionnaire, as developed jointly by BFAP and SAPPO's Business Intelligence Unit. The questionnaire focused on the nature of the business enterprise, the procurement of animals and lastly, the marketing of pork, i.e. where it is marketed and in what form it is marketed.

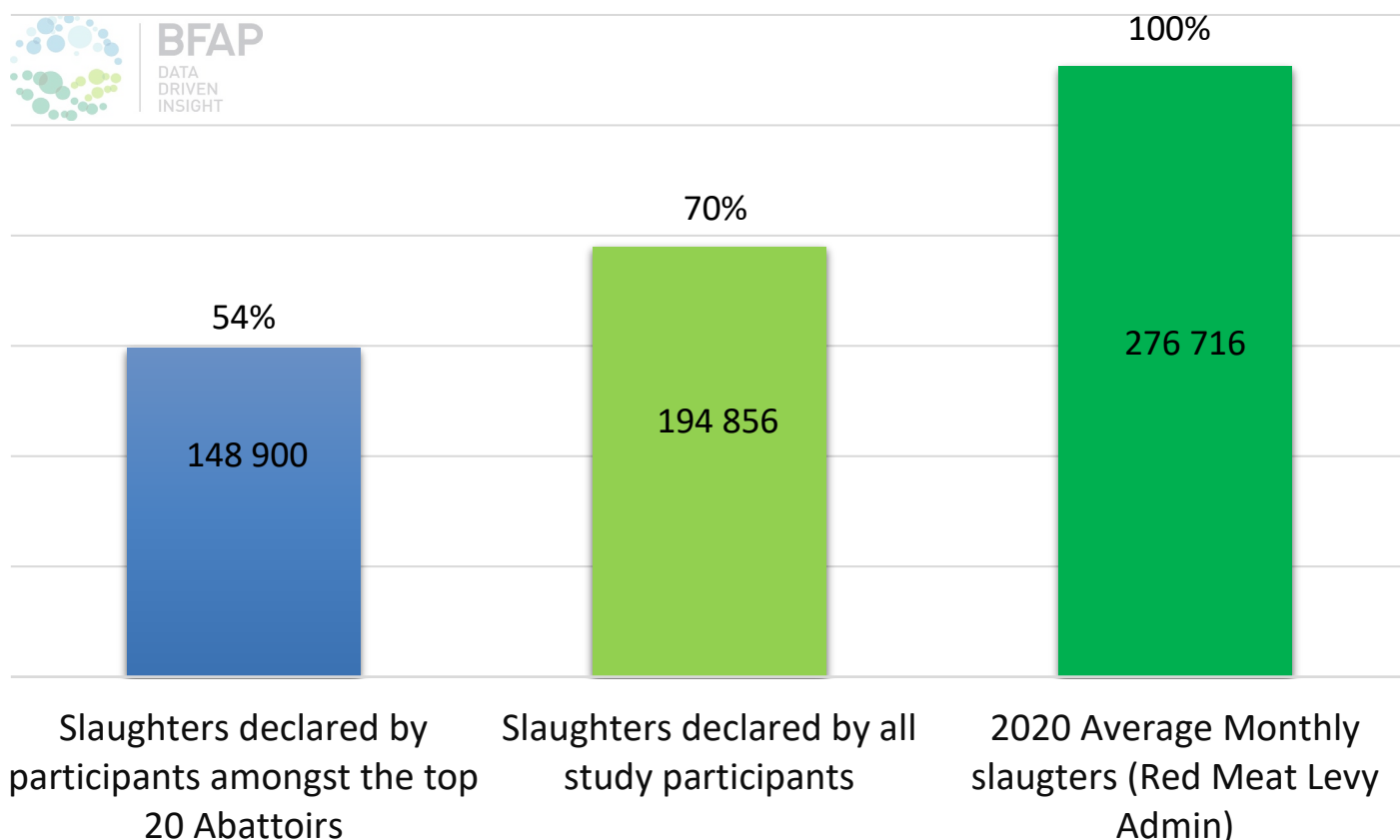


Figure 7: Representativeness of the abattoirs that participated in the study

# Description & structure of respondents

To provide a better understanding of the functioning and size of the different enterprises, abattoirs were categorised in terms of the average number of animals (pigs) slaughtered per month, as declared in the interviews. Figure 8 presents this categorisation. On the left, it shows the total number of abattoirs that fall in each relative size category and on the right it shows the total number of monthly pig slaughters attributed to each size category. Of the 50 abattoirs that participated in the study, 50% slaughter between 0 and 999 animals per month, 26% between 1000 and 4999, 16% between 5000 and 9999, and lastly, 8% slaughter more than 10 000 animals per month.

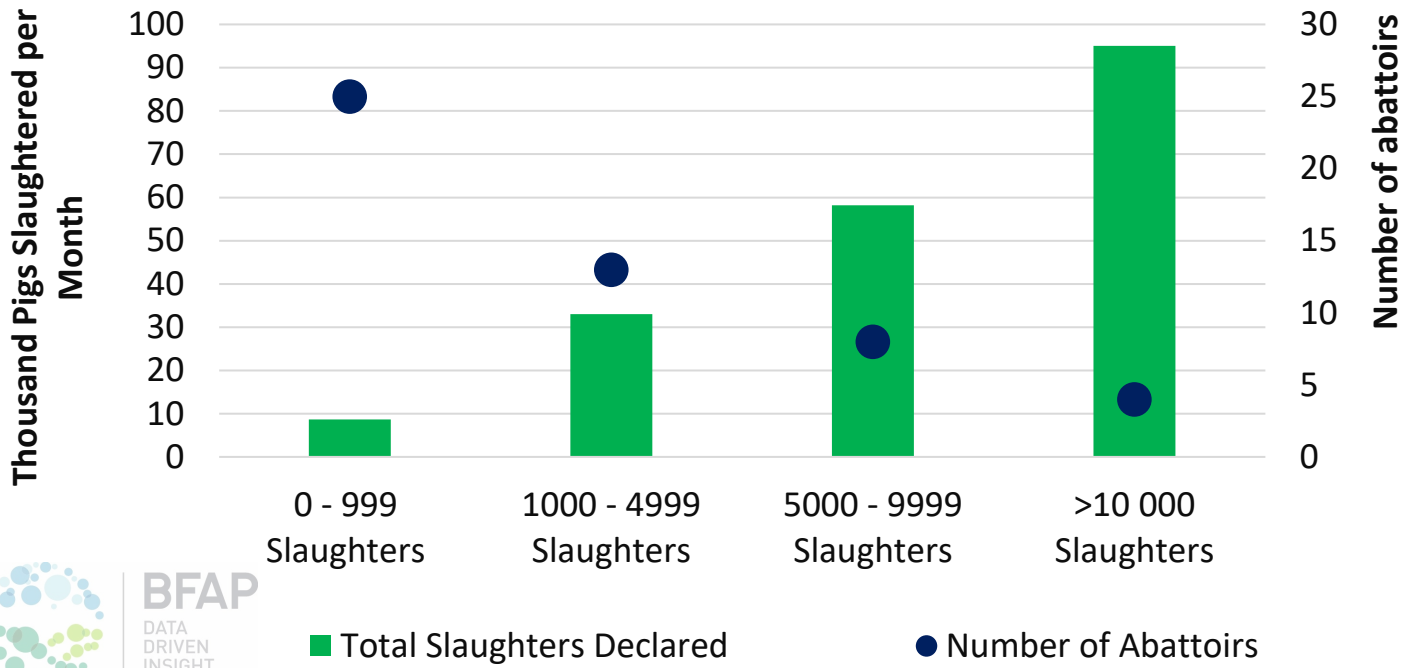


Figure 8: Structure of the abattoirs that participated in the study

Less than 25% of the abattoirs sampled in the study contribute almost 80% of the total animals slaughtered, with just 8% of the abattoirs contributing almost 50% of the animals slaughtered. These results are in line with the nature of the South African pork industry, where about 75% of national slaughters are attributed to the 20 biggest abattoirs.

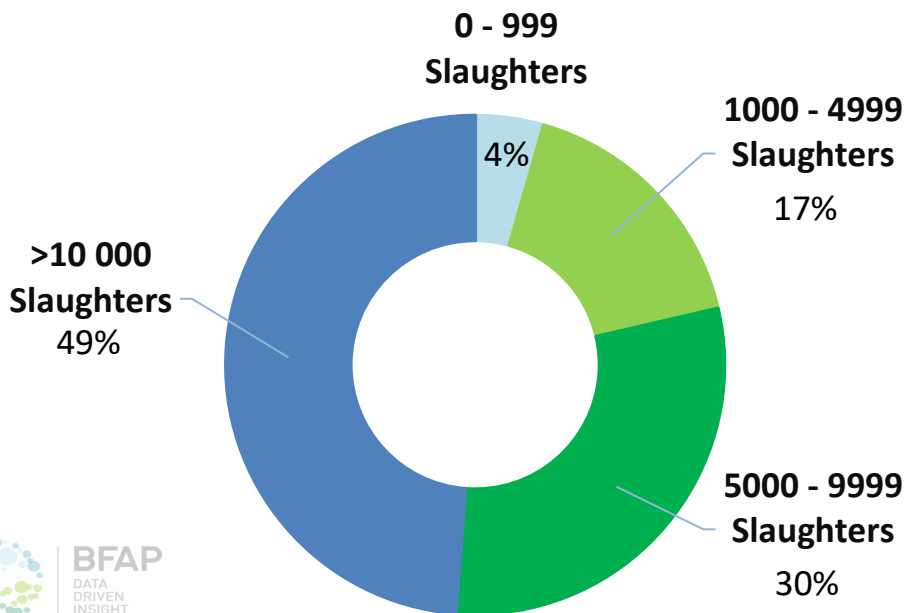


Figure 9: Share of total declared slaughters in the sample attributed to different abattoir size categories

# Sourcing of animals for slaughter

Biosecurity has become an integral part of the South African pork value chain, with the industry suffering from animal disease outbreaks as well as food borne diseases in recent years. This implies that food safety and biosecurity is paramount and for the abattoir, which aggregates pigs from various places of origin, responsible sourcing of animals is a critical factor that can influence both biosecurity and food safety. Animals must be healthy and traceable back to the source.

In addition to biosecurity and food safety standards, abattoirs require sufficient throughput to optimise the fixed cost structure (Davids et.al, 2014). Consequently, respondents described a low-risk approach, with contracting the preferred method of procurement (Figure 10). Contracting constituted 71% of total animals sourced by participating abattoirs. This not only assures sufficient throughput, but also enables abattoirs to build longer term relationships with suppliers whose piggeries and production systems are approved and familiar to them. This ensures that biosecurity requirements are adhered to, thereby reducing risks, but also contributing to improved consistency and quality standards of the products delivered by the abattoir.

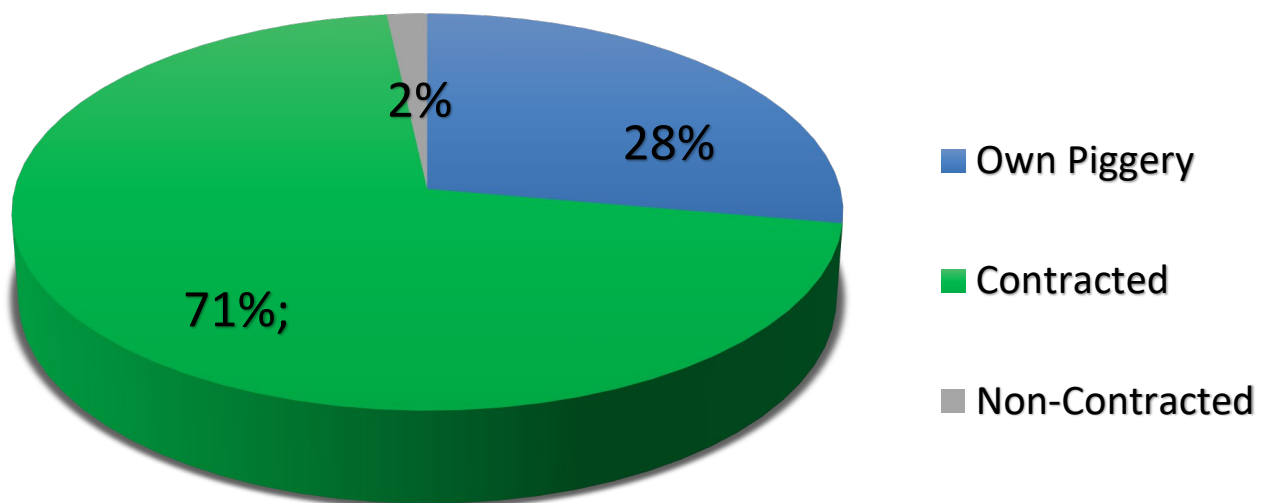


Figure 10: Sourcing of animal slaughtered

Further to the prevalence of contracting, some abattoirs follow a different model, where producers are shareholders in the abattoir. In such instances, the bulk of animals procured for slaughter are sourced from these producers, who also have a stake in the success of the abattoir. Within the total sample space, 28% of animals were sourced through this type of system (Figure 10).

Only 2% of animals sourced by abattoirs that participated in the study were from non-contracted producers. Non-contracted producers include smallholder farmers who are only able to provide small quantities of animals and provide these animals only when available.

The prevailing trend in the industry is to source from certified producers who meet the required biosecurity standards. Abattoirs slaughtering more than 5000 animals a month often source from producers who are Pork 360 approved as they are guaranteed of the biosecurity standards.



# Sourcing of animals for slaughter

The prevailing trend of sourcing high quality animals from certified producers with high biosecurity standards is good for the industry in terms of increasing consumer confidence and managing risks related to food safety. At the same time, it makes it more difficult for small producers to penetrate the formal value chain.

From the sampled abattoirs, only those slaughtering less than a 1000 animals per month indicated that they also source from non-contracted (typically smallholder) producers. Even within this size structure, non-contracted sourcing still only accounts for 7% of total animals procured. Most other abattoirs indicated that this is not a viable sourcing structure, due to issues of biosecurity and inconsistencies in timing, quality and number of animals delivered by smaller producers. Those that do source from these producers, typically only do so in a single batch at the end of a shift, in order to manage biosecurity risks.

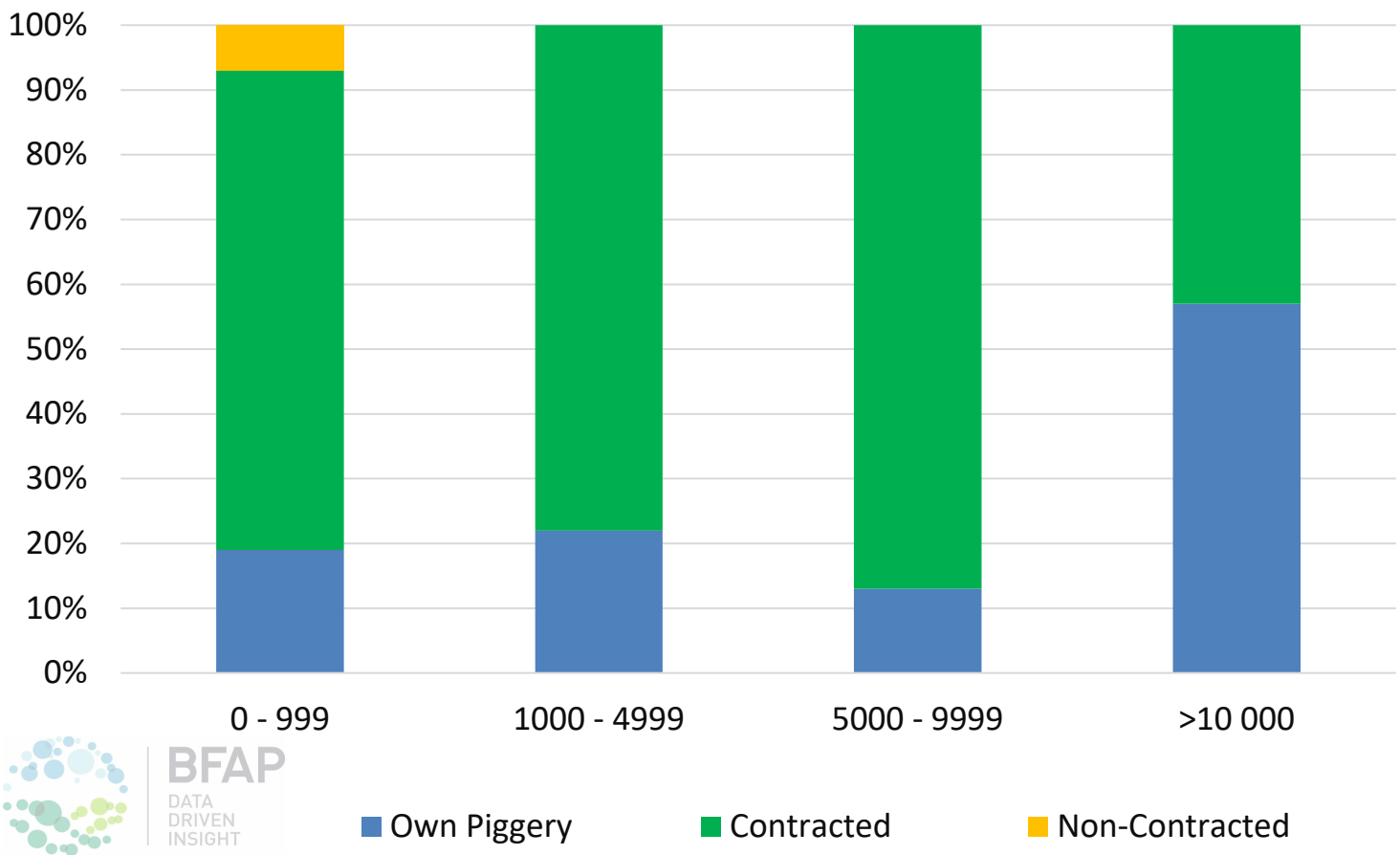


Figure 11: Sourcing preferences for different size of abattoirs

Figure 11 indicates that for abattoirs slaughtering up to 10 000 animals per month, contracted sourcing is dominant, while for the bigger abattoirs procurement from own piggeries, or those of shareholders is the dominant business model. Almost 60% of the animals slaughtered by the biggest abattoirs are sourced this way. These large abattoirs are highly specialised facilities requiring large investments to ensure the highest biosecurity and food safety standards. Sufficient throughput is critical for cost efficient running of such facilities.

# Evaluation of Marketing Channels

The second objective of this study was to gain an understanding of how the product flows from the abattoir to the rest of the value chain and ultimately the consumer, and in what form. Figure 12 presents a breakdown of distribution channels provided, expressed as a share of the total number of pigs marketed in the sample.

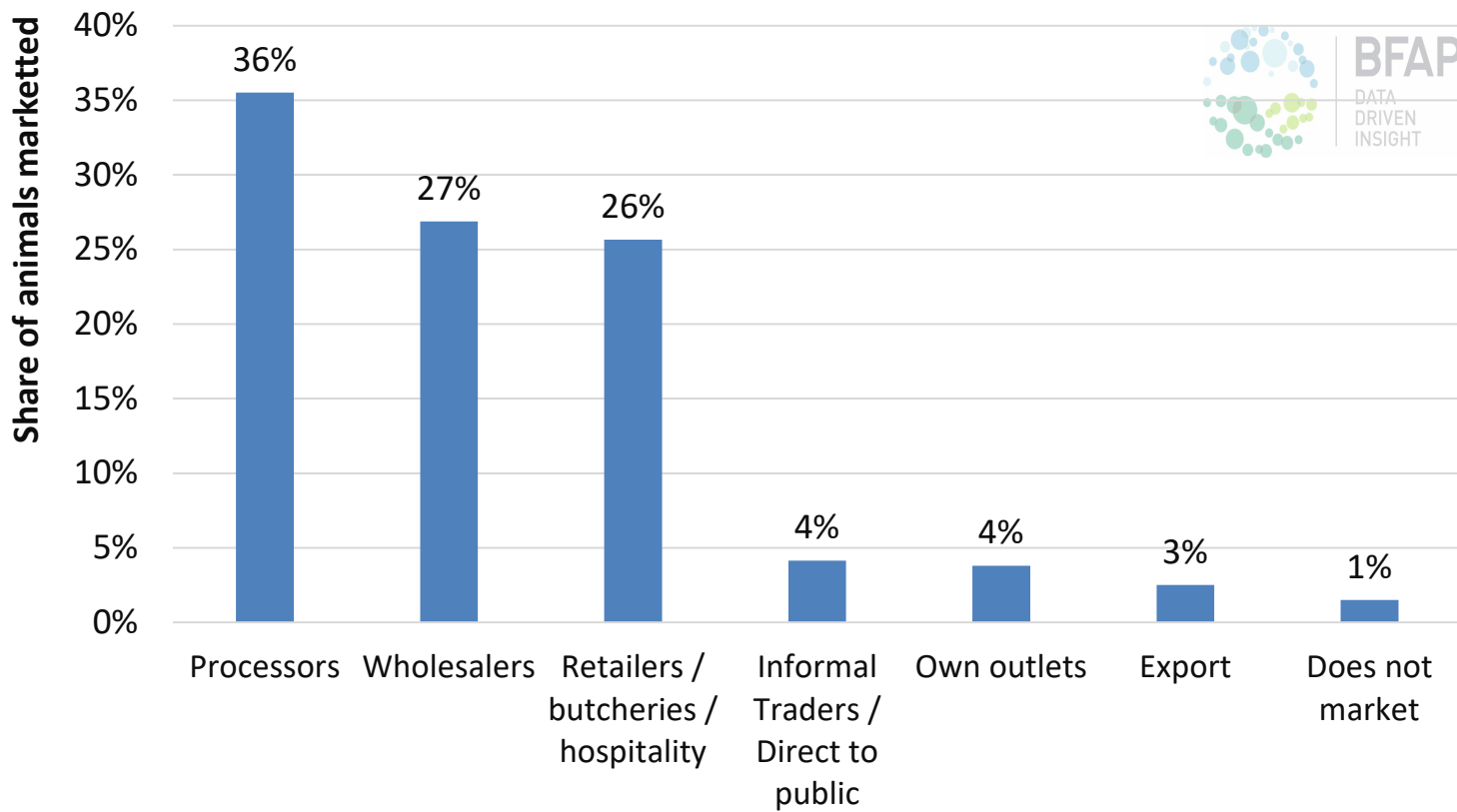


Figure 12: Marketing channels for pork products post abattoir

Of the total product volume marketed by the abattoirs included in the sample, 88% is sold to either retailers (including butcheries and the hospitality industry), processors and wholesalers. Processors account for 36% of pigs sold from the abattoir, while 27% and 26% is sold respectively to wholesalers and retailers (incl. butcheries and hospitality). Informal traders account for 4% of the product and a further 4% is sold through the abattoirs own outlet store. Merely 3% is sold directly into the export market, while the remaining 1% is not marketed by the abattoir, which typically refers to products that are slaughtered at a few, rather than procured by the abattoir.

Although the abattoirs do not market directly in townships and informal markets, they do carry out or support industry marketing campaigns that promote product awareness and education in these areas. As such, many noted that they have noticed a rising demand for pork in communities with predominantly black consumers. The prevalence of current distribution channels from the abattoir however make it difficult to measure, at this level of the value chain, what share of the product reaches these consumers. For instance, some of the retail product volumes may end up in retail stores in these areas, as is the case for wholesalers and processors, but abattoirs do not have further information on the flow of these products within the wholesale and retail chains. Informal traders likely sell predominantly in these markets, while a substantial share of wholesale products could also move into these markets.

# Evaluation of Marketing Channels

Using the categorisation of the number of animals slaughtered in a month, it is clear that based on the size of the abattoir, the marketing strategy is different (Figure 13). Smaller abattoirs tend to market more to the retailers, mostly local butcheries and / or outlets. About 42% of pork marketed by these abattoirs is sold to retailers. A similar trend is observed for abattoirs that slaughter between a 1000 and 4999 animals a month. This category markets 59% of its products to the retailers.

Larger abattoirs market between 75% and 80% of their products to wholesalers and processors. The segment of abattoirs that slaughters between 5000 and 9999 animals, markets 34% of its products to the processors and 41% to the wholesalers, while abattoirs slaughtering more than 10 000 animals, market 57% of their products to processors and 22% to wholesalers. Among the smallest abattoirs, there is also a larger component of slaughters that are done at a fee and therefore not marketed by the abattoir. Instead, the producer pays the abattoir to slaughter the animals and then takes responsibility for the marketing of the animals. The marketing channel also, to some extent, influences the form in which the products leave the abattoir.

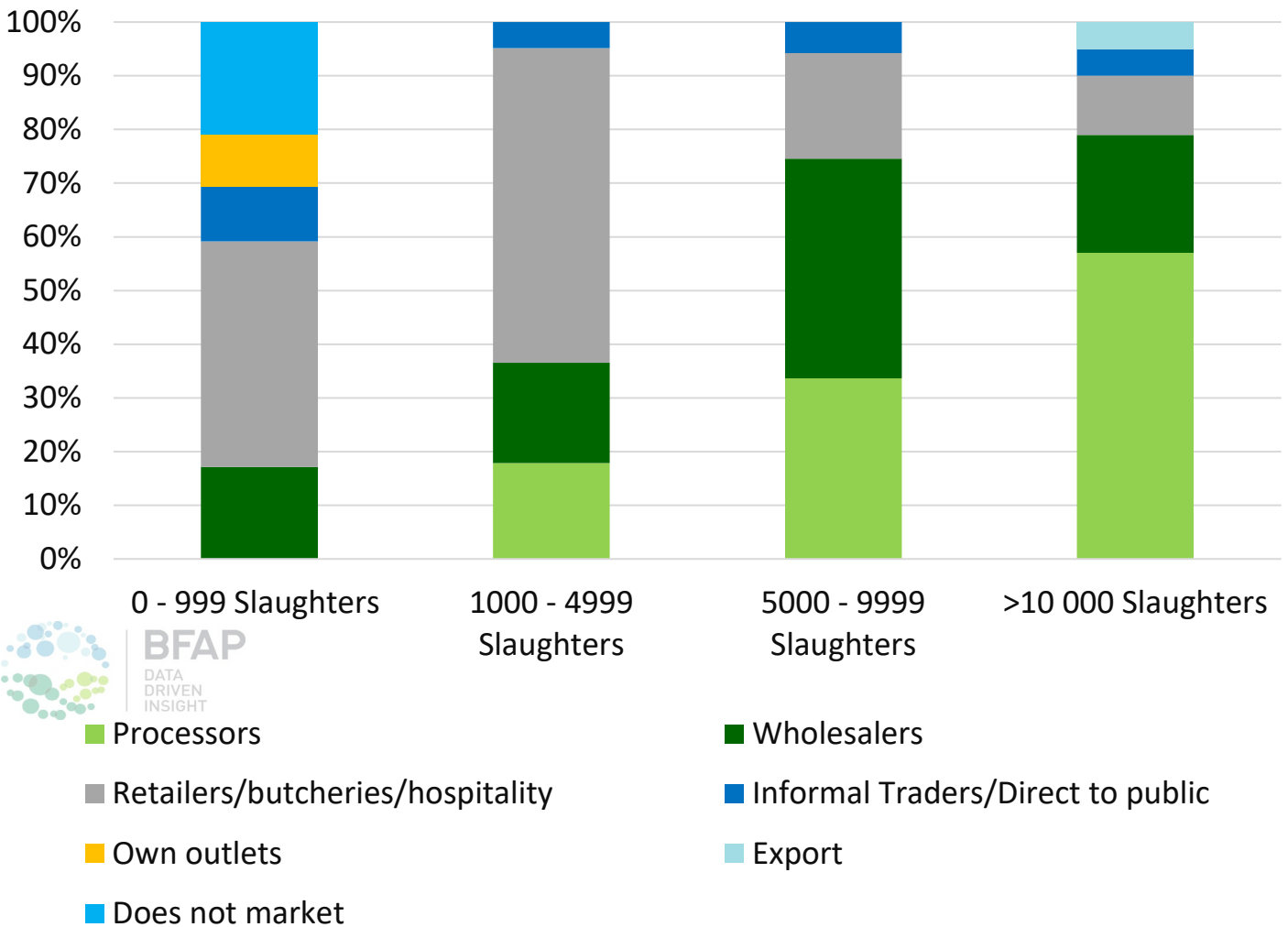


Figure 13: Marketing channels of pork products post abattoir, disaggregated by abattoir size

# Evaluation of product form

Abattoirs tend to market their products as either whole carcasses or primal cuts. More than 60% of pork slaughtered is either whole carcasses (36%) or primal cuts (27%). Which form the product takes is also dependent on where the product is being sold. Retailers buy a mixture of whole carcasses and primal cuts. Abattoirs slaughtering between 5000 and 9999 animals sell 85% of their products to retailers as primal cuts, whereas abattoirs slaughtering more than 10 000 animals, market 53% of their products to retailers as primal cuts.

Abattoirs that market to the informal sector or directly to the public also have a mixture of the products they sell, with some marketing primal cuts while others sell whole carcasses. Offal is used either in the processing of food for human consumption or in the production of pet food.



Figure 14: Product mix of different size abattoirs into different marketing channels

# Views on pork consumption trends

The South African pork industry has seen a change in the consumption of pork, in recent years. Pork has previously been considered as inferior, however, that perception is changing especially in black communities. Consumers are consuming more pork as it is a cheaper alternative to other meat types. In the last five (5) years, measured in terms of carcass prices, pork sold for about 45% less than that beef and approximately 65% less than mutton (Figure 15). BFAP (2020) projected significant growth in this space in the coming decade, albeit slower than the past given pressure on consumer spending power.

As part of qualitative discussions, respondents noted some aspects of pork consumption, one of which is that consumption growth has been a result of changes in pork preparation. This is considered to be an outcome of various marketing campaigns and is also a trend clearly noticed by managers of abattoirs in the correctional services. They reported that, depending on how meat is prepared and presented, inmates will consume it or state that they do not consume pork.

Respondents noted that most favoured products are braai cuts, or meat such as chops, stew meat as well as processed products such as Russians. These processed products provide a cheap source of animal protein and since the products are frozen, pre-cooked or smoked, they last longer.

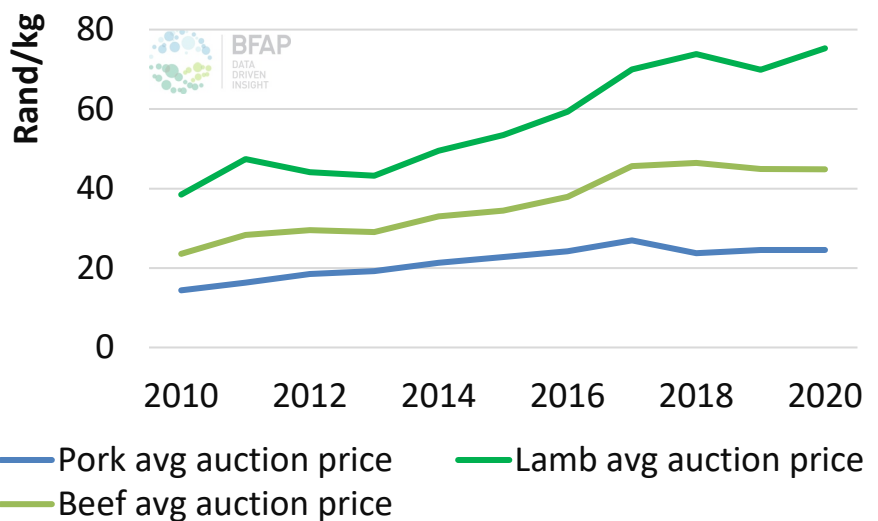


Figure 15: Relative meat prices in South Africa  
Source: Compiled RMAA, 2010 - 2021

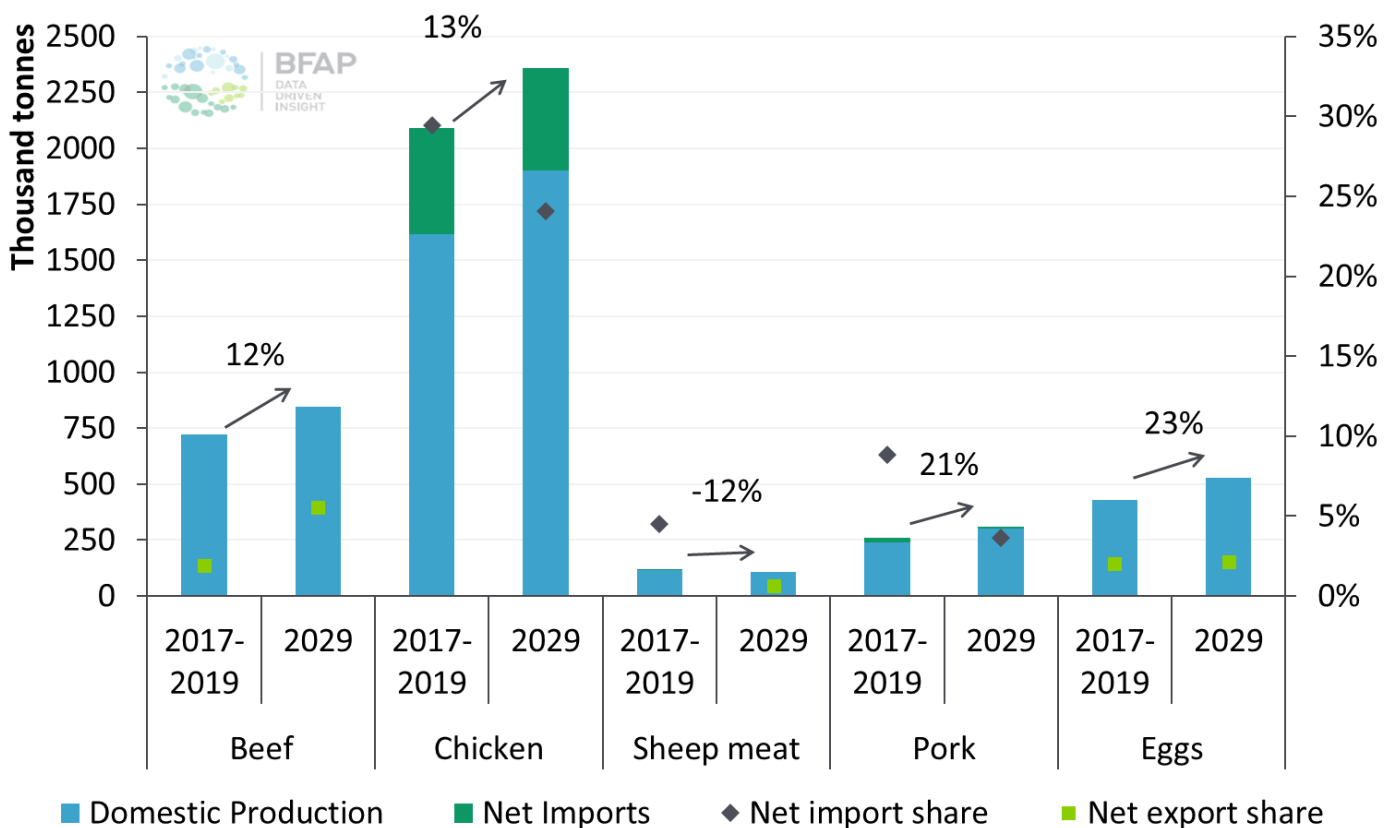


Figure 16: Projected meat consumption growth in the coming decade  
Source: BFAP, 2020

# Concluding Remarks

South Africa's pork industry is small, but possesses immense growth potential. To ignite that growth, consumption will need to increase amongst lower income consumers, and consumers that are not traditional buyers of pork products. These lower income consumers often procure products through informal channels, which are not well understood. The perception of pork products amongst these consumers has improved in recent years, but the bulk of consumption is still attributed to higher income consumers, associated with formal marketing structures. As a first step in a bigger initiative to understand the consumption and procurement preferences amongst the lower income consumers, this report provided an overview of product flow from the abattoir level. Abattoirs represent a critical point of aggregation for pork products that flow through the chain and an understanding of the marketing channel and product form that flows from the abattoirs provides useful information to inform a strategy of evaluating consumption trends in informal markets – which is often where lower income consumers buy their products.

While it provides a critical base of information related to marketing channels and sourcing preferences, the report shows a high share of products flowing into retail and wholesale level. The participants of this study thus do not interact much directly with consumers and the high share of products to wholesale and retail channels provides little information on where the products are ultimately sold and in which form. At abattoir level, the bulk of products (63%) are sold as whole carcasses (36%) or primal cuts (27%), but for the products that flow into wholesale, from where some of it is thought to move into informal markets, the bulk of products comprise whole carcasses. This suggests that the products undergo further transformation before possibly reaching informal markets and lower income consumers through this channel. This implies that a greater understanding will require a second phase of investigation with focus on wholesale, meat distribution, as well as formal and informal retail level, to provide sufficient –understanding of ultimate product mix among lower income consumers.

Parallel to the consumption trends, development of smaller producers is critical. Many consumer preferences of pork are formed around what they see from smaller producers production practices in their regions and consequently, improvements in this regard can also influence such perceptions and meat preferences.

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