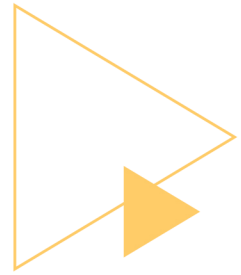




KEMENTERIAN PERDAGANGAN DALAM NEGERI,
DAN HAL EHWAL PENGGUNA



SURUHANJAYA PERSAINGAN MALAYSIA
MALAYSIA COMPETITION COMMISSION



Market Review on Food Sector in Malaysia under the Competition Act 2010

BY
MALAYSIA COMPETITION
COMMISSION (MyCC)



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LIST OF ABBREVIATIONS

| Acronym | Definition |
|---------|--|
| AANZFTA | ASEAN Australia New Zealand Free Trade Agreement |
| ACCC | Australian Competition & Consumer Commission |
| ACCCIM | The Associated Chinese Chambers of Commerce and Industry of Malaysia |
| AIC | Administration for Industry and Commerce |
| AIS | Automatic Identification System |
| AP | Approved permit |
| APMC | Agricultural Produce Market Committee |
| APMM | Agensi Penguatkuasaan Maritim Malaysia |
| ASEAN | Association of Southeast Asian Nations |
| AUD | Australian Dollar |
| AUS | Australia |
| BDA | Big Data Analytics |
| BFHI | Baby Friendly Hospital Initiative |
| BGK | Bahagian Gerakan Kepenggunaan |
| BIDS | Beef Industry Development Society |
| BL | Bill of Lading |
| BNM | Bank Negara Malaysia |
| BSE | Bovine Spongiform Encephalopathy |
| CA | Competent Authority |
| CAGR | Compounded Annual Growth Rate |
| CCI | Competition Commission of India |
| CCM | Companies Commission of Malaysia |
| CCCS | Competition and Consumer Commission of Singapore |
| CIF | Cost, Insurance, Freight |
| CIS | Customs Information System |
| COE | Code of Ethics |
| CPI | Consumer Price Index |
| CRN | Concentration ratio – number (n) |
| DBKL | Kuala Lumpur City Hall |
| DGCCRF | Direction générale de la concurrence, de la consommation et de la répression des frauds (French Competition Authority) |

| Acronym | Definition |
|----------------|--|
| DGCIS | Directorate General of Commercial Intelligence and Statistics |
| DHA | Docosahexaenoic acid |
| DOA | Department of Agriculture, Malaysia |
| DOF | Department of Fisheries, Malaysia |
| DOSM | Department of Statistics, Malaysia |
| DVS | Department of Veterinary Services, Malaysia |
| ECERDC | East Coast Economic Region Development Council |
| ECJ | European Court of Justice |
| EDI | Electronic Data Interchange |
| EEA | European Economic Area |
| EEZ | Exclusive Economic Zone |
| ESCAS | Exporter Supply Chain Assurance System |
| EU | European Union |
| FAMA | Federal Agricultural Marketing Authority, Malaysia |
| FAO | Food and Agriculture Organization |
| FAS | Federal Antimonopoly Service |
| FELCRA | Federal Land Consolidation and Rehabilitation Authority |
| FELDA | Federal Land Development Authority |
| FGD | Focus Group Discussion |
| FIFEC | Federation of Malaysian Manufacturer's Infant Formula Ethics Committee |
| FMCG | Fast-moving Consumer Goods |
| FMM | Federation of Malaysian Manufacturers |
| FOMCA | Federation of Malaysian Consumers Associations |
| FOSIM | Food Safety Information System of Malaysia |
| FSQD | Food Safety and Quality Division |
| FTA | Free Trade Agreement |
| GDP | Gross Domestic Products |
| GMP | Good Manufacturing Practices |
| GPL | Grading, Packaging and Labelling of Agricultural Produce |
| GRT | Gross Registered Tonnage |
| GST | Goods and Services Tax |
| HACCP | Hazard Analysis and Critical Control Points |
| HAS | Halal Assurance System |

| Acronym | Definition |
|----------------|---|
| HCC | Hellenic Competition Commission |
| HHI | Herfindahl–Hirschman Index |
| HORECA | Hotel/Restaurant/Café |
| HS | Harmonized System Codes |
| IBFAN | International Baby Food Action Network |
| ICDC | International Code Documentation Centre |
| ICT | Information, Communication and Technology |
| IDR | Indonesian Rupiah |
| INR | Indian Rupee |
| IQF | Individual Quick Freezing |
| ISC | Industry Standardization Committee |
| ISO | International Standardization Organization |
| ITC | International Trade Centre |
| JAIN | States Department of Religious Affairs |
| JAKIM | Department of Islamic Development Malaysia |
| JKIEKP | Jawatankuasa Kawalan Import dan Eksport Keluaran Pertanian Terpilih |
| JTED | Juvenile and Trash Excluder Devices |
| KADA | Lembaga Kemajuan Pertanian Kemubu |
| KEJORA | Lembaga Kemajuan Johor Tenggara |
| KETENGAH | Lembaga Kemajuan Terengganu Tengah |
| KPB | Konsortium Pasar Borong Sdn Bhd |
| KPDNHEP | Ministry of Domestic Trade and Consumer Affairs, Malaysia |
| KPKT | Ministry of Housing and Local Government, Malaysia |
| KPPU | Business Competition Supervisory Commission |
| LKIM | Fisheries Development Authority of Malaysia |
| LPP | Farmers' Organization Authority |
| LPPKN | Lembaga Penduduk dan Pembangunan Keluarga Negara |
| MADA | Lembaga Kemajuan Pertanian Muda |
| MAED | Malaysia Acetes Efficiency Device |
| MAFTA | Malaysia – Australia Free Trade Agreement |
| MAMPU | Malaysian Administrative Modernisation and Management Planning Unit |
| MAQIS | Department of Malaysian Quarantine and Inspection Services |
| MARDI | Malaysian Agricultural Research and Development Institute |

| Acronym | Definition |
|----------------|---|
| MDEC | Malaysia Digital Economy Corporation |
| MDTCA | Ministry of Domestic Trade and Consumer Affairs, Malaysia |
| MEA | Ministry of Economic Affairs, Malaysia |
| MED | Ministry of Entrepreneur Development, Malaysia |
| MFA | Malaysian Feedmillers Association |
| MFN | Most Favoured Nation |
| MHBN | Majlis Harga Barang Negara |
| MITI | Ministry of International Trade and Industry, Malaysia |
| MOA | Ministry of Agriculture and Agro-based Industry, Malaysia |
| MOH | Ministry of Health, Malaysia |
| MOHR | Ministry of Human Resources |
| MP | Malaysia Plan |
| MPA | Malaysian Paediatric Association |
| MPC | Malaysia Productivity Corporation |
| MPOB | Malaysian Palm Oil Board |
| MRA | Malaysia Retailers Association |
| MS | Malaysian Standards |
| MSIC | Malaysian Standard Industrial Classification |
| MT | Metric Ton |
| MTU | Mobile Transceiver Unit |
| MWFCD | Ministry of Women, Family and Community Development |
| MYR | Malaysian ringgit |
| NAFAS | Pertubuhan Peladang Kebangsaan |
| NAP | National Agro-food Policy |
| NDRC | National Development and Reform Commission |
| NEKMAT | National Fisherman's Association of Malaysia |
| NGO | Non-Governmental Organisation |
| NHMS | National Health and Morbidity Survey |
| NVWM | Nanbei Vegetable Wholesale Market |
| NYSE | New York Stock Exchange |
| NZ | New Zealand |
| OIE | World Organisation for Animal Health |
| OTH | Over-the-hook |

| Acronym | Definition |
|----------------|--|
| PBKL | Pasar Borong Kuala Lumpur |
| PCAPA | Price Control and Anti-Profiteering Act |
| PEMUDAH | The Special Task Force to Facilitate Business |
| PHP | Philippine peso |
| PKC | Palm Kernel Cake |
| PKE | Palm Kernel Expeller |
| PKR | Pakistani rupee |
| PNK | Pusat Nelayan Kawasan |
| PPP | Purchasing Power Parity |
| RISDA | Rubber Industry Smallholders Development Authority |
| RM | Ringgit Malaysia |
| RMB | Renminbi |
| RMCD | Royal Malaysian Customs Department |
| RPM | Resale Price Maintenance |
| RRP | Recommended Retail Price |
| RSP | Retail Selling Price |
| SAPFPA | South African Pelagic Fish Processors' Association |
| SGD | Singapore Dollar |
| SHMMP | Skim Harga Maksimum Musim Perayaan |
| SME | Small Medium Enterprise |
| SOP | Standard Operating Procedures |
| SPS | Sanitary & Phytosanitary |
| SSM | Suruhanjaya Syarikat Malaysia |
| SSR | Self-sufficiency ratio |
| TEU | Twenty-Foot Equivalent Unit |
| TFEU | Treaty on the Functioning of the European Union |
| THB | Thai Baht |
| TOL | Temporary Occupancy License |
| TRQ | Tariff-rate Quota |
| USD | US Dollars |
| VHC | Veterinary Health Certificate |
| VHM | Veterinary Health Mark |
| WABA | World Alliance for Breastfeeding Action |

| Acronym | Definition |
|----------------|---------------------------|
| WHO | World Health Organisation |
| WTO | World Trade Organisation |

EXECUTIVE SUMMARY

Section 11(1) of the Competition Act 2010 lays the foundation for the Malaysia Competition Commission to conduct a review into any market to determine whether any feature or combination of features of the market prevents, restricts or distorts competition.

The Commission decided to conduct a market review on the food industry as it is a crucial sector to the country's economic growth. The development of food industry in Malaysia is essential to contribute to the need and demand on food by the Malaysian population as it is continued to grow every year. In 2017, the agriculture sector contributed 8.2% to the national Gross Domestic Products (GDP)¹. Meanwhile, the economic value of the agro-food sector was RM37.4bil in 2017, which is estimated to contribute 39% to total agriculture value added. Despite the targeted growth of 5.4% per annum in the 11th MP, the recent Malaysia Productivity Report 2017/2018 has reported a lower value-added generated by the agro-food sub-sector, whereby it has only grown by 1.9% in 2017. This is much lower compared to the overall agriculture sector's performance which is 7.2%. Therefore, it is important to ensure that the objectives of the food security (i.e. food availability, access, utilization and stability) are achieved and promote sustainable development of the food sector.

There were concerns related to an inconsistency of food supply, increased trend of price and high cost for food. Hence, there was a need to determine the level of competition and to assess the prevailing industry's practices and regulations that may restrict or distort competition and cause unnecessary regulatory burden to market players.

This market review covers five (5) selected food sub-sectors namely beef, fisheries – Indian Mackerel (*Ikan Kembung*), vegetables – Mustard Leaf (*Sawi*) and Round Cabbage (*Kubis Bulat*) and Infant Formula, which were determined relevant to anti-competitive behaviours. The scope of this review focuses on understanding the regulations governing the industry, market structure, supply chain, industry players, pricing trends, market concentration / dominance and competition issues. A set of recommendations are proposed at the end of this review to address the market issues and concerns raised.

Regulations

There are various food-related policies and regulations which are governed by different ministries and government agencies with respect to the food subsectors. Some of the key regulatory requirements with regards to the food sector include the following:

- The import of animal and animal products, meat and meat products, plant and plant products require import permit which are issued by the Permit Issuing Agencies (PIAs) under the Customs Act 1967. The key government agencies responsible for issuing import permits for the food products include Department of Malaysian Quarantine and Inspection Services (MAQIS), Department of Veterinary Services (DVS), Department of Agriculture (DOA) and Department of Fisheries (DOF).

¹ Department of Statistics, Malaysia

- The government implements agricultural import and export quota control (AP) to control import and export quantity to ensure adequate supply in the domestic market, especially during peak season. Affected items include round cabbage, coconut, chicken, liquid milk and rice.
- Malaysia maintains tariff-rate quota (TRQ) systems for 17 tariff lines of agricultural products. These products incur in-quota duties of between 10% and 25% and out-of-quota duties as high as 168%. Affected items include live poultry, poultry meat, liquid milk and cream, pork, and round cabbage.
- All animals imported into the country must originate from countries that have been inspected and approved by the DVS. Meanwhile, all meat products imported must be certified halal by HALAL Organization body recognized by Department of Islamic Development Malaysia (JAKIM) and originate from slaughterhouses which have been inspected and approved by the DVS and JAKIM.
- The *Skim Harga Maksimum Musim Perayaan*² or known as SHMMP (formerly known as *Skim Kawalan Harga Musim Perayaan* or SKHMP) stipulates maximum selling prices to a number of essential goods during the festive period to prevent hefty price increases of these goods during the period.
- The marketing of infant formula is strictly governed by the Code of Ethics for the Marketing of Infant Foods and Related Products which aims to uphold the supremacy of breast milk and to assist in the safe and optimal nutrition of infants by the protection, promotion and support of breastfeeding. Under this Code, market players across the supply chain are prohibited from engaging in any forms of marketing and promotional activities for infant formula.

Market Structure and Pricing

Beef

Beef consumption in Malaysia has been on an uptrend, growing at a CAGR of 4.3% from 2010 to 2018. Despite the increasing consumption, the self-sufficiency ratio (SSR) of beef in Malaysia remains low at about 22% in 2018 and the local production has remained stagnant over the years. Due to the low local beef production, there is a need to source from importation. However, the sources of import are limited, and Malaysia relies mainly on selected key exporting countries such as India, Australia and Thailand. This leaves the local market exposed to the supply vulnerability and fluctuations in foreign exchange which will eventually affect the prices.

The cattle and beef importation business have a high barrier to entry due to cost factors such as compliance and logistic. Consequently, the import market is concentrated with few players whose volume constitute majority of the total annual import volume. There is also currently limited number of approved beef exporters in import countries (less than 10 establishments in all approved countries except for New Zealand) due to stringent import regulatory requirements from relevant authorities such as DVS/JAKIM for meat and ESCAS requirements for live animal.

² In English, it is translated as Festive Season Maximum Price Scheme

In terms of pricing, there have been significant increase in the average prices of imported cattle, local beef and imported beef over the years. Particularly for imported buffalo from India, the local prices have increased at a faster rate compared to the export value per unit buffalo from India. Besides that, Malaysia's beef price indices have been higher than both the local and global meat price indices over the last few years. The key costs incurred by feedlots are mainly on animal feed, whereas importers and wholesalers incur the highest cost on transportation and logistics.

Fish

Mackerel species is a highly consumed fish in the market; however, it has recorded a reduction in fish population with decreasing SSR ratio and higher reliance of imported fish. The SSR is seen dropping to its lowest point to only 34% in 2017 while fish landing volume dropped at a CAGR of -8% to approximately 49,000 metric tonnes in 2018.

The distribution channel structure for fresh fish is complex and often lengthy due to the geographic sources, product nature (fresh or frozen) and a wide range of market outlets for fish products. The multiple layers of intermediaries in the fisheries supply chain are one of the key factors which drive up the prices of *ikan kembung*. However, middlemen still play a key role in supporting fishermen to market their products due to fishermen's lack of resources/capabilities, although the transactions are not transparent across the multiple intermediaries. Besides that, the price is often determined based on the "experience" of the sellers as there is no proper grading system while the transactions and market volume are not transparent across the multiple intermediaries.

Approximately 50% (or more) of the fish supply in Peninsular Malaysia are distributed through one of the key distribution hubs, i.e. *Pasar Borong Kuala Lumpur* (PBKL) which is the most prominent wholesale market in Peninsular Malaysia. This has provided the wholesalers with higher bargaining power given their ability to determine the market supply/volume. The wholesalers have the greatest influence on pricing due to the information asymmetry where supply is consolidated in the wholesale market.

Given the market supply instability and product nature of fish, the market price fluctuates, and the price may change a few times within a day depending on the freshness of the fishes. Overall, the price of Indian Mackerel (*ikan kembung*) has seen an increasing trend over the past 10 years.

Vegetable

The Mustard Leaf (*sawi*) market has been relatively stable and recorded higher production over the past 10 years. Meanwhile, the domestic round cabbage market is still dependent on import despite higher production over the years. The SSR for mustard leaf is close to 100% while SSR for cabbage registered at around 42% in 2017.

Similar to the fisheries sector, the market structure is characterized by a high number of intermediaries and is primarily dominated by wholesalers. Most of the excess supply in the market is also distributed through the key distribution hubs in the Central region (PBKL), providing the wholesalers the ability to control the market supply/volume and the influential power to determine the price. As such, the bargaining power of farmers is generally low due to the dependence on middlemen, and limited price transparency.

The importation of round cabbage requires approved permit (AP). Malaysia requires approximately 121,800 metric tonnes of imported round cabbage per annum. However, there has been concerns on the lack of clarity of the approval process for AP and unethical practices whereby AP holder are selling/renting their quota.

The price of *sawi* has increased by about 6% per annum on average between 2008 to 2018 across the level of supply chain. Likewise, the price of round cabbage has also seen an increasing trend over the years, with the ex-farm price showing lesser growth as compared to other level of supply chain. Raw materials cost and equipment are the key costs affecting the price at farm level, while wastage cost account to one of the highest marketing cost incurred by the respective players in the supply chain.

Infant Formula

The World Health Organisation (WHO) and the Ministry of Health (MOH) highly recommends exclusive breastfeeding for the first six months of infancy and continued breastfeeding along with complementary food up to two years of age. However, some mothers are not able to breastfeed their infant under certain medical conditions and require infant formula as an alternative to breast milk.

Generally, the infant formula industry has a high barrier to entry, mainly due to the high capital investment and stringent regulatory requirements as the production and composition of infant formula are strictly regulated. Due to these factors, the local infant formula industry is led by established multinational players. There are two (2) product categories in the market, namely premium and mainstream brands. These product categories are differentiated based on pricing and product formulation. As the Code of Ethics prohibits market players across the supply chain from engaging in any marketing or promotional activities for infant formula, manufacturers mainly compete on non-price measures such as product innovation. Due to the absence of marketing activities, consumers especially parents are limited to advice from healthcare professionals as their official channel to obtain information on infant formulas.

Locally manufactured infant formula is dependent on importation of raw materials such as dairy ingredients. This is mainly due to insufficient domestic supply of raw materials and limited numbers of local producers. Consequently, the prices of infant formula are highly influenced by availability and cost of imported raw materials.

There is a major price difference between the premium and mainstream infant formula brands available in the market. While the mainstream infant formula brands are usually priced at about RM30/kg, the price differences among premium brands vary based on additional nutrients. Analysis on the pricing trend of selected infant formula brands have shown that the prices of infant formula have been growing consistently over the years, mostly ranging between 15 to 20% from 2014 to 2018.

Market Concentration

Market concentration, measured by the Concentration Ratio (CR) and Herfindahl Index (HHI), measures the extent to which market shares are concentrated between the number of firms within the industries. It is often taken as a proxy for the intensity for the competition. A low concentration

in the market indicates that these companies have minimal influence on the market and the industry is considered to be competitive, and vice versa.

The table below highlights the market concentration nationwide across the food subsectors. Overall, the concentration within the producer and wholesale level across the subsectors is generally low to moderate. However, for the importation market, the concentration is high for fish importer, and moderate to high for cattle/beef importers. For the retail market, the computation of market concentration was not undertaken due to the challenges in market share estimation arising from large number of industry players. Nevertheless, the retail level of all product categories covered in this study is deemed to be fairly competitive despite higher bargaining power of modern retailers.

Market concentration provides a preliminary indication of the market power of these top players (i.e. the ability to influence the supply and price of goods). However, market power is also restricted by other factors such as regulations, barriers to market entry and market conditions.

| Product Group | Level of Supply Chain | Concentration Level |
|----------------|---------------------------|-------------------------|
| Beef | Producers | Between low - moderate |
| | Importers | Between moderate - high |
| Fish | Producers | Low |
| | Importers | High |
| | Wholesalers | Low |
| Infant formula | Manufacturers / Importers | High |
| Vegetables | Producers | Between low - moderate |
| | Importers | Low |
| | Wholesalers | Low |
| All | Retail | Low |

Areas of Concerns and Conclusion

Based on the assessment conducted, several areas of concerns as well as market and policy driven issues have been identified which may require further attention from ministries and agencies.

The beef sector is highly dependent on importation due to the low domestic production. The high financial barrier has subsequently resulted in the dominance of importers in the market, giving them the influence over the market supply and price. These importers have also established long-term relationship with key exporters and may have preferential treatment or potential agreements which may impose some restrictions on other smaller importers in the market. At the same time, the stringent regulatory requirements have limited the number of approved exporters that local importer source their supplies from.

Meanwhile for the fisheries sector, the concentration of key distribution hub which controls the majority of the volume in the market suggest a potential market inefficiency which also allow them to influence the market price due to the price asymmetry along the supply chain. Besides that, there is a potential limitation of supply to influence price by market players. Sellers might take the advantage of withholding the fresh fish supply by freezing it to readjust the level of fish supply in the market and influence the market price. Moreover, there is no concerted effort to scrutinize the conducts of players freezing or storing the products.

The infant formula sector is dominated by multinational companies due to the stringent regulation and high barriers to entry. Based on the assessment and research conducted, the dominant players have an ultimate power to influence the prices of infant formula milk in the market, although the final selling price is decided by the retailers. Besides that, the industry is generally compliant to the Code of Ethics, however, there are certain circumstances whereby market players may undertake cross promotion or partnership with private health care providers to promote their products although such practices are not in line with the Code of Ethics.

Within the vegetables sector, specifically round cabbage, there has been abuse of AP by the existing holders through the practice of selling/renting their AP rights to other players. There is also a potential abuse of dominance by Chinese-incorporated companies which has gained the AP via third party importer and import cabbages via their farm from China. This has allowed them to dump the price at the local market to force out competition in the local market, which could distort the market competition. Besides that, there is a price following practice among the industry players which could lead to potential concerted practice where companies collectively set a symmetric base price for the vegetable products without having a contract, arrangement or practical cooperation.

Furthermore, there are also several other key issues on the food sector which requires attention and intervention by the government. Chief among them is the dominance of PBKL which may have given rise to geographical monopoly that allows it to influence the market price. The practices of sharing sensitive market information among the wholesalers may also suppress price competition while the charges borne by the traders in the market adds further cost to the operation, which distorts the fair market competition.

Another key issue highlighted in the report is the higher bargaining power of modern retailers. It has been identified that there is a common practice among modern retailers to impose additional fees such as rebate, sponsorship, penalty, back-margin etc. to the suppliers, who have to conform to the requirements as modern retailers are one of the key distribution channels to the consumers. This practice has added extra costs to the suppliers, which are subsequently passed on to the consumers.

A total of 17 measures are proposed following this market review to address these key areas and other challenges which may affect industry players' competitiveness, as well as to further promote competition.

1. INTRODUCTION

Section 11(1) of the Competition Act 2010 lays the foundation for the Malaysia Competition Commission (hereinafter “the MyCC”) to conduct a review into any market in order to determine whether any feature or combination of the features of the market prevents, restricts or distorts competition in the market.

The MyCC has decided to conduct a market review on competition in Malaysia’s food sector as the sector is crucial to the country’s economy and growth. The development of food industry in Malaysia is essential to contribute to the need and demand on food by the Malaysian population as it is continued to grow every year. Therefore, it is very important to ensure the objectives of the food security which are food availability, access, utilization and stability are achieved and promote the sustainable development of food sector.

The agriculture sector has been identified as an important sector which is highly contributed to food industry. In 2017, the agriculture sector contributed 8.2% to the national Gross Domestic Products (GDP)³. It was reported that the value added for the agro-food sub-sector (which consists of crops, livestock and aquaculture sub-sectors) has increased from RM28.3bil in 2011 to RM36.7bil in 2016. In addition, the output from the agriculture sector is utilized for the food processing sector which accounts for about 10% of manufacturing output in Malaysia.⁴

Given the importance of the food sector to the economic growth, food security and development of the nation, the MyCC is encouraged to conduct a market review on the food sector in order to determine the level of competitiveness, provide advocacy and promote healthier competition in the food sector.

Based on the preliminary findings, issues were highlighted related to an inconsistency of food supply and increase trend of price and high cost for food are the concern in the food sector. Against this backdrop, the market review considered the broader question that concerns the general public, i.e. the rising food cost in this country and whether it is caused by any anti-competitive conduct within the sector. Based on the above concerns, there is a need to assess the prevailing industry’s practices and regulations that restrict competition and unnecessary regulatory burden.

³ Department of Statistics, Malaysia

⁴ Malaysian Investment Development Authority (MIDA). *Food Industry in Malaysia*. August 2018

1.1 Project Objectives

The general objective of the market review is to understand the market structure and supply chain as well as identify any anticompetitive conduct in the selected area in the food sector in Malaysia. It will also provide an opportunity to assess the prevailing industry practices and regulations that restrict competition and cause unnecessary regulatory burden.

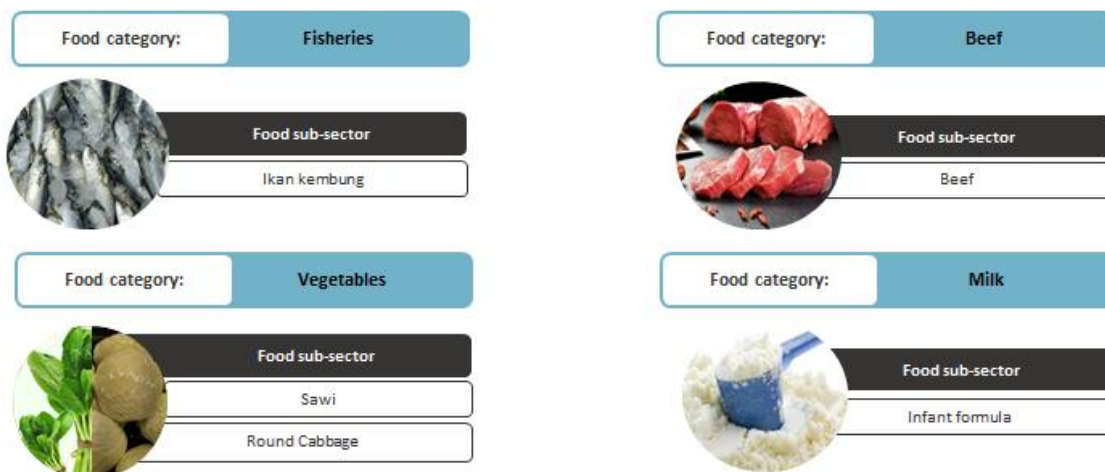
The specific objectives of the study are:

- i. To determine the market structure, supply chain and profile of industry players that are involved in the up-stream level or manufacturing, distribution and retailing in the selected area in the food sector;
- ii. To identify the prices of the selected area in the food sector across the up-stream level or manufacturing, distribution and retail level;
- iii. To assess competition in the up-stream level or manufacturing, distribution and retail levels in the selected area in the food sector;
- iv. To identify anti-competitive practices among the industry players in the up-stream level or manufacturing, distribution and retail levels in the selected area in the food sector;
- v. To determine the extent of market distortion and whether government intervention is necessary in curbing anti-competitive conduct in the selected area in the food sector; and
- vi. To recommend improvements across government agencies and regulators in the identified sector to minimise the actual or potential restrictive effect of regulations on competition.

1.2 Project Scope

1. Based on the initial scanning by the Commission, it was found that the five (5) selected food subsectors namely beefs, fisheries – Indian mackerel (*ikan kembung*), vegetables – mustard leaf (*sawi*) and round cabbage (*kubis bulat*) and infant formula were determined to be susceptible to competition concerns such as collusion in presence of dominant players, limit of production, etc.

Figure 1: The 5 Final Product Scopes



2. The market review comprises of the following aspects in selected area in food sector:
 - 2.1 Overview of the existing legislation and regulations in relation to import, export, upstream level or manufacturing, distribution and retail levels
 - 2.2 Overview of the market structure and supply chain
 - 2.3 Profile of industry players that are involved in upstream level or manufacturing and distribution levels.
 - 2.4 Identify the prices across local manufacturing, wholesale and retail levels compared to other countries.
 - 2.5 Competition in the upstream level or manufacturing, distribution and retail levels on the following aspects:
 - I. Market share and market concentration; and
 - II. Market dominance and its impact on the sector;
 - 2.6 Competition concerns in the upstream level or manufacturing, distribution and retail levels in relation to:
 - I. Anti-competitive conducts (e.g. cartel or abuse of dominant position) among the industry players; and
 - II. Any existing policy or law that impedes competition in the industry.
 - 2.7 Recommendations and conclusion

1.3 Expected Outcome

The expected outcomes of the market review are as follows:

- i. To assess overall market structure, market concentration and market behaviour and competition at different stages of the supply chain for each food sub-sectors.
- ii. To enhance the Commission's knowledge on the competition level in the food sub-sector and strengthen the enforcement activities should the industry players practice any anticompetitive conducts.
- iii. To identify the possibility of existing legislations and policies that may impede competition; and
- iv. To recommend measures to promote competition in the market of selected area in food sector and the areas where the Commission can provide its advocacy to the key stakeholders particularly to the respective government agencies or ministries on the matter.

1.4 Project Methodology

Focus Group Discussion (FGD)

Prior the active data gathering period, a focus group discussion with various stakeholders relevant for the study was held on 12th December 2018 at Kuala Lumpur aiming to achieve the following objectives:

- i. To advocate the roles and functions of MyCC through market review initiative;
- ii. To understand the current issues faced by the agencies related to food sector;
- iii. To identify market inefficiencies and challenges in the supply chain of food sector in Malaysia;
- iv. To establish rapport with stakeholders as primary data providers; and
- v. To consider recommendations from stakeholders on how to improve market inefficiencies and competition issues.

The FGD was initiated as part of the preliminary process to gather information from the respective stakeholders involved in the food sector in Malaysia. The purpose of the FGD is to identify the preliminary hypothesis relating to competition matters across the supply chain. The FGD is one of the key activities to provide baseline information for the market review.

Data Gathering Methodology

Methodology in data gathering, verification and analysis for this market review combines the insights triangulated from both secondary and primary sources:

- a. Secondary research - government publications (e.g. DOSM, MOA, DVS, FAMA, DOA, DOF, LKIM, MAQIS, MHBN, MOH); internal databases; industry reports; local, regional and international news articles; academic research publications; company websites / annual reports / press releases; and relevant market report and case law in other countries (such as the European Union, India, China, Philippines, Singapore, South Africa and others)
- b. Primary research - qualitative and quantitative (face-to-face) interviews with industry players, mostly conducted with senior management officers of the companies / associations / agencies between the period from February 2019 to June 2019. Industry players interviewed include producers, manufacturers, distributors and wholesalers, retailers, industry associations and government agencies / departments. Due to the sensitive nature of information to be obtained and clarified, the primary research process placed more emphasis on qualitative data gathering. Breakdown of the respondents are as below:
 - i. Producers/Manufacturers (n=36)
 - ii. Wholesalers/Distributors/Importers (n=78)
 - iii. Traditional/Modern Retailers/End Buyers (n=38)
 - iv. Industry associations (n=10)
 - v. Government agencies (n=10)
 - vi. Other relevant stakeholders (n=4)

The selection of qualitative interviewees was based on the type of food sub-sector, level of supply chain, size of business, involvement in the product category and their willingness to participate in the interview. Efforts have been made to approach as many of the medium to large companies as possible to ensure high level representation, within the limited time available. The quantitative interviews were conducted via face-to-face method with the industry players from the respective product groups across various geographical regions and level of supply chain (qualitative questions were also covered during the quantitative interview). Quantitative interviews were employed to complement/support the findings from the qualitative interviews (2-level analysis) and to verify gaps from the secondary research findings.

Public Consultation

Upon completion of the draft final report of this market review, public consultation was conducted from 3 June – 3 July 2019.

Feedback on the report was solicited from all relevant stakeholders during the public consultation period, via two consultation sessions which were held in Putrajaya and Kuala Lumpur as well as online. The consultation sessions involved the participation from various government and industry stakeholders, academicians as well as legal representatives:

1. Government ministries and agencies
 - Ministry of Health
 - Ministry of Entrepreneur Development
 - Malaysian Investment Development Authority (MIDA)
 - Federal Land Development Authority (FELDA)
 - Federal Land Consolidation and Rehabilitation Authority (FELCRA)
 - Malaysia Productivity Corporation (MPC)
 - Registrar of Societies (ROS)
 - East Coast Economic Region Development Council (ECERDC)
 - Companies Commission of Malaysia (CCM)
 - Ministry of Agriculture and Agro-based Industry (MOA)
 - Federal Agricultural Marketing Authority (FAMA)
 - Malaysian Agricultural Research and Development Institute (MARDI)
 - Department of Veterinary Services Malaysia (DVS)
 - Fisheries Development Authority of Malaysia (LKIM)
 - Intellectual Property Corporation of Malaysia (MyIPO)
 - Farmers' Organization Authority (LPP)
 - Royal Malaysian Customs Department
 - Strategic Planning Division
 - SME Corporation Malaysia (SMECorp)
 - The National Cost of Living Council (NACCOL)
 - Majlis Harga Barangan Negara (MHBN), KPDNHEP
 - Policy and Strategic Planning Division, KPDNHEP
 - Bahagian Perolehan & Pembangunan, KPDNHEP
 - Competition Appeal Tribunal (TRP), KPDNHEP
 - Tribunal for Consumer Claims, KPDNHEP
 - Franchise Development Division, KPDNHEP
 - Research and Policy Division, KPDNHEP
 - Consumerism Movement Division Information, KPDNHEP
 - Malaysian Economic Association (MEA)
 - Ministry of International Trade and Industry (MITI)
 - Malaysian Quarantine and Inspection Services (MAQIS)
 - Department of Fisheries Malaysia (DOF)

2. Manufacturers/producers, distributors / wholesalers, retailers
3. Industry associations
 - FIFEC Secretariat
 - Gabungan NGO Usahawan Selangor
 - Pertubuhan Sinar Cahaya Malaysia
 - Pertubuhan Usahawan Halal Muslim Malaysia
 - Perbadanan Usahawan Nasional Berhad (PUNB)
 - The Associated Chinese Chambers of Commerce and Industry of Malaysia (ACCCIM)
 - The Federation of Vegetables Farmers Association of Malaysia
4. Academicians and researchers
 - Frost & Sullivan
 - KPMG
 - Imosee Edge Consulting Sdn Bhd
 - Malaysian Industry Government Group for High Technology (MIGHT)
 - PwC Malaysia
 - University Putra Malaysia (UPM)
 - Institute of Business Excellence, UiTM
 - International Islamic University Malaysia
 - Institut Darul Ehsan Research Center Sdn Bhd
 - Institute for Democracy and Economic Affairs (IDEAS)
 - Khazanah Research Institute
 - Management Science University
 - IDE Research Centre
5. Legal representatives
 - Christopher & Lee Ong
 - Lee Hishammuddin Allen & Gledhill
 - Messrs Tay & Partners
 - Messrs. Shook Lin & Bok
 - Rahmat Lim and Partners
 - Shearn Delamore & Co
 - Skrine
 - Azmi & Associates
 - Shook Lin & Bok

1.5 Notes, Limitations & Assumptions

It is important to outline a number of general notes and limitations, which need to be taken into consideration.

1. Findings, analysis and recommendations presented in this report are based on the information gathered from the primary and secondary sources as well as the feedback from the public consultation during the period of this market review. While effort has been taken to ensure the comprehensiveness and accuracy of information as well as credibility of the sources, primary information could be limited by the knowledge or willingness of the respondents to share information and secondary information could contain unintended errors by the publishers or information gaps.
2. All information gathered is verified and analysed, to the best of our abilities, to derive the findings and recommendations necessary in fulfilling the market review objectives.
3. Pricing of the respective product groups at different level of supply chain is influenced by many factors, which have been highlighted in the report. Not all of these factors, such as prices of raw material, logistics cost, infrastructure, manpower cost, are analysed in detailed in this market review. However, a broad level of cost factors analysis is covered in the respective market assessments.
4. There were limitations in the computation of the market concentration indicators, i.e. Concentration Ratio (CR) and Herfindahl index (HHI). The data on the list of industry players across different level of supply chain were identified from various sources such as DOSM, SSM, ROS, MAQIS, LKIM, DVS, and SPEEDA. Companies were then filtered and selected based on criteria and limitation explained in detail in Chapter 7. Market concentration on the industry players for retail level of all product groups and wholesale level of infant formula and beef were not measured due to the limitation to identify the accurate list of companies involved. Please refer to Chapter 7 for the detailed explanation of these limitations, as well as the assumptions made due to the limitations.
5. On Purchasing Power Parity (PPP) analysis, there were significant data limitations which do not allow the study to make consistent comparison across different jurisdiction over a longer period of time. Despite the short period of analysis coverage, the data collected in this study are verified for consistency in terms of grades / measurement units / date of pricing collection to ensure accurate comparison across countries. Meanwhile, the benchmarked countries selected for PPP analysis were considered based on their similarity in the market structure, trade relationship with Malaysia in the respective product groups, data availability and etc.
6. Benchmarking of anti-competition cases and approaches in other countries were selected based on the countries with existing cases on similar products, and it should be noted that the benchmarked countries' market structure may differ from the competition dynamics in Malaysia.
7. Data availability for certain product groups are limited hence the content coverage in the respective market assessment chapters may differ.

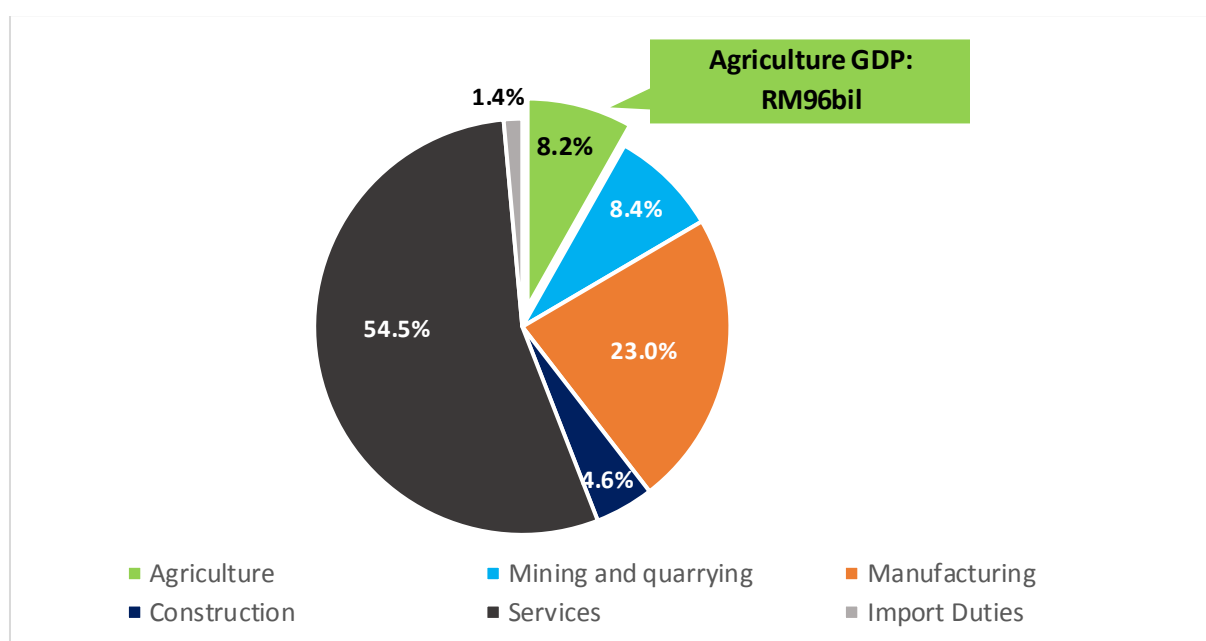
8. The study draws on trade/pricing data and calculations generated from a wide range of statistics and data shared by different agencies. For each measure, the most reliable data source has been sought.
9. In terms of determining if anti-competitive conduct exists among industry players, much of the information required is of a sensitive nature, requiring disclosure of internal company documents and candidness on the part of the companies. Hence, further examination needs to be conducted to gather the evidence and conclude the existence of any anti-competitive conduct.

2. OVERVIEW OF THE AGRICULTURAL INDUSTRY

2.1 Agriculture Sector in Malaysia

The agriculture sector has been a major contributor to the economy of Malaysia. Agriculture in Malaysia can be divided into two main sectors - industrial crops and agro-food. The industries crops consist of rubber, palm oil, cocoa while agro-food products include rice, fruit, vegetables, fisheries and livestock. In 2017, the value added of the agriculture sector was RM96bil, which contributed 8.2% to the national Gross Domestic Products (GDP)⁵. Meanwhile, the economic value of the agro-food sector was RM37.4bil in 2017, which is estimated to contribute 39% to total agriculture value added.

Figure 2: GDP Contribution by Sector, 2017

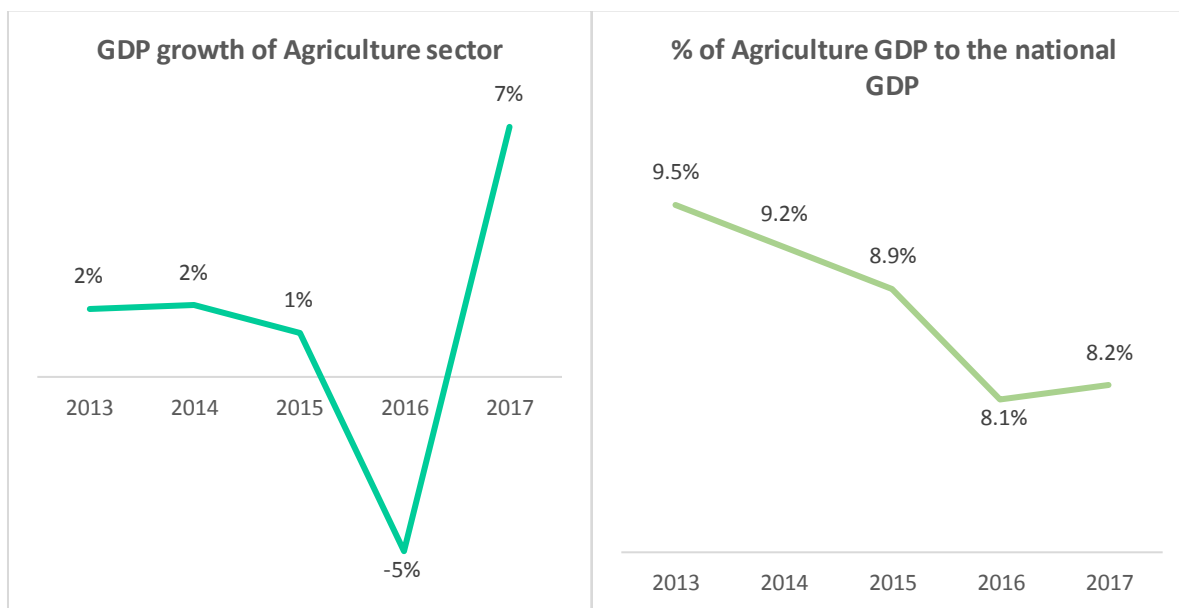


Source: Department of Statistics Malaysia (DOSM)

Since 2013, agriculture sector has experienced a slow growth at an average of 1% to 2% per annum until 2015, followed by a sharp decline of -5% in 2016 before returning to a rising trend of 7% growth in 2017. Overall, the share of agriculture sector to the country's GDP has shown a decreasing trend from 9.5% in 2013 to 8.2% in 2017.

⁵ Department of Statistics, Malaysia

Figure 3: GDP Growth of Agriculture Sector and Contribution to the National GDP

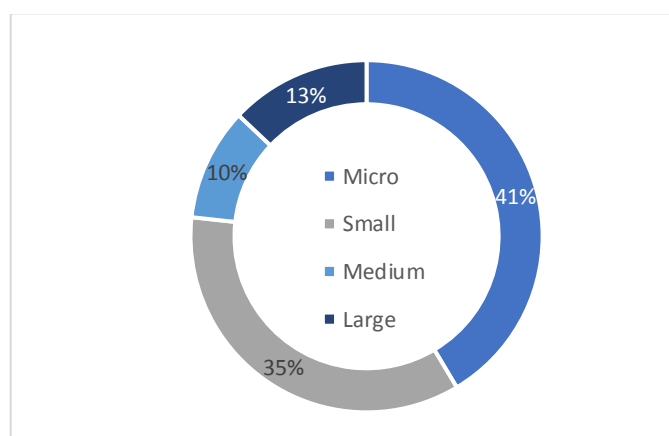


Source: Department of Statistics Malaysia (DOSM)

As shown in Table 1 below, 60% of the GDP contribution within the agriculture sector originated from the industrial commodities, and forestry and logging activities, whereas the rests are contributed by Livestock, Fishing and other agriculture activities.

According to Economic Census 2016, about 11,628 establishments are operating in the sector with a higher proportion of medium and large establishments as compared to the overall national average (11.8%)⁶. An analysis by type of activities reveal that 69% of the establishments within the agriculture sector belong to the crops activities, followed by 14% which belong to livestock activities and 11% of establishments focusing on fisheries activities.

Figure 4: Distribution of Establishments within the Agriculture Sector and Establishment Sizes



Source: Department of Statistics Malaysia (DOSM)

⁶ Economic census 2016, DOSM

Table 1: Agriculture GDP by Type of Activities, 2012 to 2017

| In RM' mil | 2012 | 2013 | 2014 | 2015 | 2016e | 2017p |
|-----------------------------|--------|--------|--------|--------|--------|--------|
| Agriculture GDP | 89,406 | 91,181 | 93,048 | 94,249 | 89,509 | 95,968 |
| Industrial crops | 50,016 | 50,280 | 49,827 | 50,916 | 44,911 | 51,688 |
| Rubber | 8,614 | 7,759 | 6,288 | 6,797 | 6,373 | 6,968 |
| Oil palm | 41,402 | 42,521 | 43,539 | 44,119 | 38,538 | 44,720 |
| Livestock | 8,315 | 9,086 | 9,806 | 10,039 | 10,407 | 10,954 |
| Poultry | 4,964 | 5,477 | 6,029 | 6,231 | 6,500 | 6,845 |
| Cattle | 890 | 975 | 996 | 912 | 899 | 936 |
| Other livestock | 2,461 | 2,635 | 2,781 | 2,896 | 3,007 | 3,173 |
| Other agriculture | 13,879 | 15,031 | 16,247 | 16,628 | 17,506 | 17,866 |
| Paddy | 2,002 | 2,073 | 2,158 | 2,136 | 2,176 | 2,077 |
| Vegetables | 5,159 | 5,707 | 6,152 | 6,377 | 6,790 | 7,023 |
| Fruits | 3,323 | 3,636 | 3,958 | 4,140 | 4,273 | 4,399 |
| Food crops | 2,747 | 2,956 | 3,242 | 3,240 | 3,513 | 3,574 |
| Others | 648 | 659 | 738 | 735 | 754 | 793 |
| Forestry and logging | 7,596 | 7,015 | 7,199 | 6,629 | 6,433 | 5,421 |
| Fishing | 9,601 | 9,770 | 9,969 | 10,036 | 10,253 | 10,040 |
| Marine Fishing | 6,356 | 6,541 | 6,639 | 6,703 | 7,016 | 6,652 |
| Aquaculture | 3,246 | 3,228 | 3,331 | 3,333 | 3,237 | 3,388 |

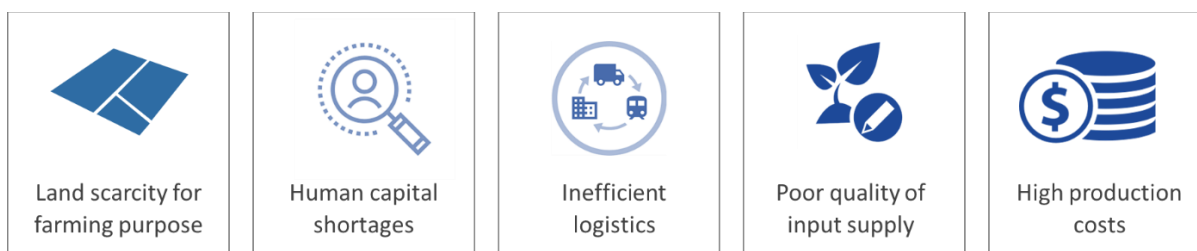
Source: Department of Statistics Malaysia (DOSM)

Under the Eleventh Malaysia Plan (2016 – 2020), the agriculture sector is expected to grow at 3.5% per annum, whereas the agro food sub-sector is expected to grow at 5.4% per annum with livestock, aquaculture and vegetables as the main contributors.

2.2 Agro Food Sub-Sector in Malaysia

Despite the targeted growth of 5.4% per annum in the 11th MP, the recent Malaysia Productivity Report 2017/2018 has reported a lower value-added generated by the agro-food sub-sector, whereby it has only grown by 1.9% in 2017. This is much lower compared to the overall agriculture sector's performance which is 7.2%. Nonetheless, the labour productivity has shown an increase of 6.1% to RM76,210 in 2017 compared to RM71,811 in 2016, due to the contracted employment within the sector by 4.0% (2016: -0.03%).

Some of the key productivity challenges for the sector include inadequate focus on value-adding activities and disconnections along the value chain, high number of inefficient small players with limited resources, deficient in product quality standards, low technology adoption and limited funding opportunities available for the players. Other issues faced by the agro-food subsector are as follows: -



In general, the industry has experienced a decrease in productivity and self-sufficiency ratio for some of the key food products. Several interventions in the form of institutional, technological, and policy factor have been implemented over the years to improve the situation.

2.2.1 Macro-economic Trends

The following will discuss some of the key macro-economic trends observed that have impacted the agro-food sector.

2.2.1.1 CPI & Food Price Index; Household Consumption

The food price Index can be broken down into three components as follows:

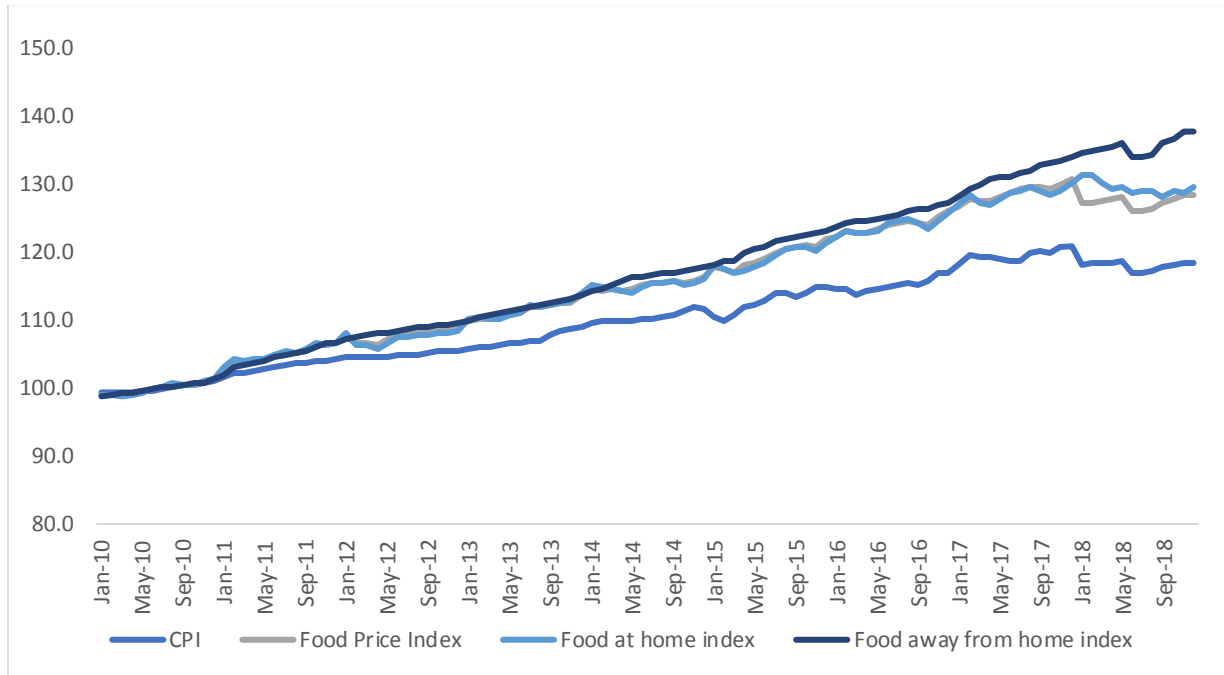
- Food at Home (which accounts for 16.9% of CPI)
- Food Away from Home (11.5% of CPI) and
- Non-Alcoholic Beverages (1.1% of CPI)

According to the chart below, Malaysia's food price index has seen a faster growing trend against the CPI trend. Specifically, the food away from home index grew much faster than food at home, overall food price and CPI index. The average household expenditure on food and beverages has also increased from RM676 in 2014 to RM726 in 2016 which is equivalent of 7% of growth over the 2 years period⁷. In 2016, the expenditure of meat, fish and seafood, and vegetables contributed to a total of 48% of household expenditure.

⁷ Household Expenditure survey, DOSM

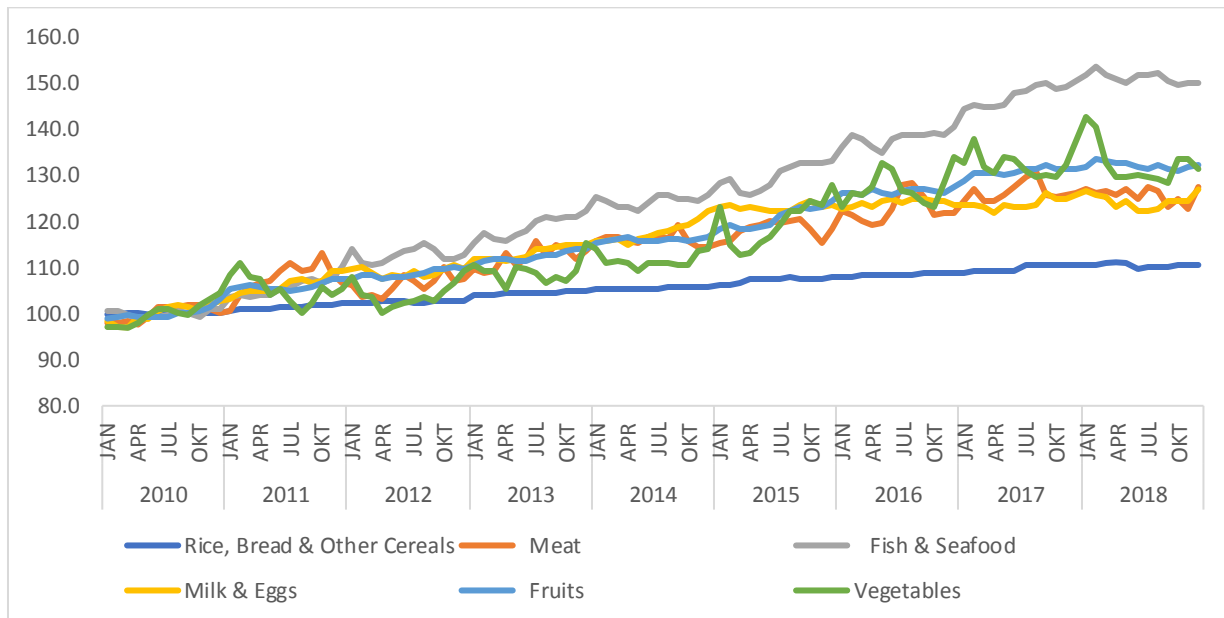
Figure 6 illustrates the price index for selected food products. As shown in Figure 6, the major mover of the food prices originates from fish and seafood, vegetables and fruits products.

Figure 5: Monthly Consumer Price Index vs Food-related Index (2010 – 2018)



Source: Department of Statistics Malaysia (DOSM)

Figure 6: Food at Home Index for Selected Products (2010 – 2018)



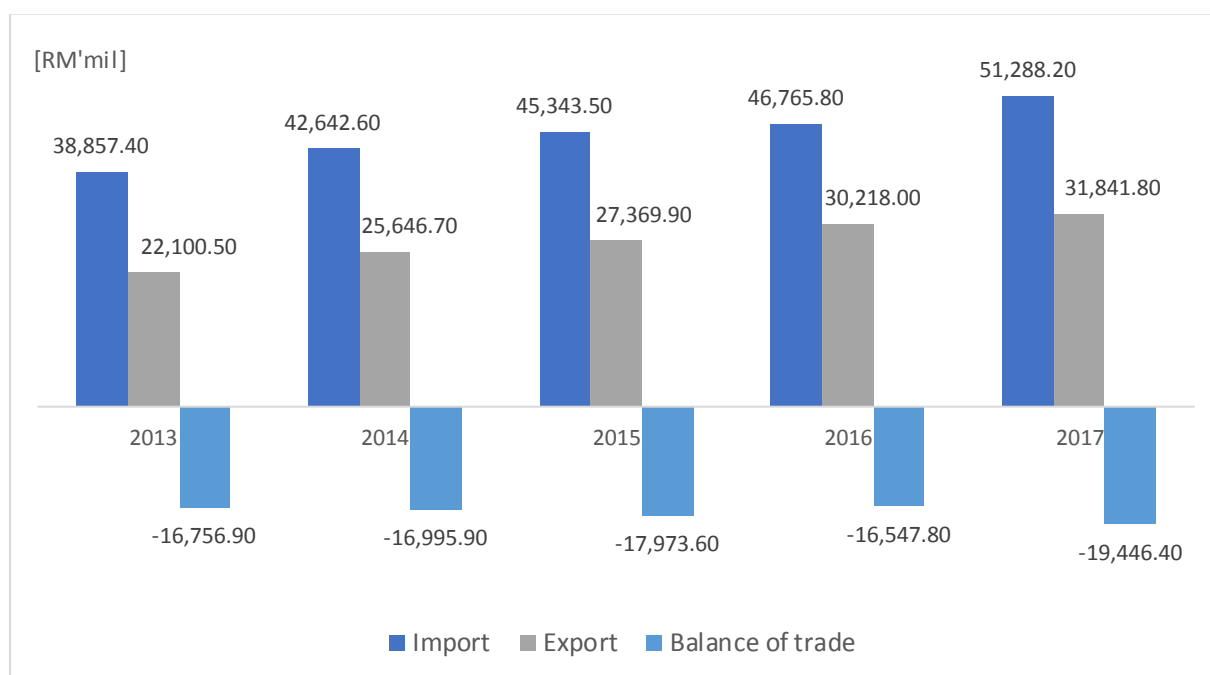
Source: Department of Statistics Malaysia (DOSM)

2.2.1.2 Trade Performance

Malaysia’s agro-food sub-sector is still being anchored as a net importer rather than a self-reliant one. Over the past 5 years, Malaysia’s food import bill has risen significantly, with total imports of food and live animals increasing from RM38.9bil in 2013 to RM51.3bil in 2017. This represents an average growth of 7% per annum. Malaysia also imports many types of production inputs such as animal feed, chemical pesticides, fertilisers, machines, and seeds. For instances, the import bill for animal feeds is even higher than the total import bill for live animals and meat products.

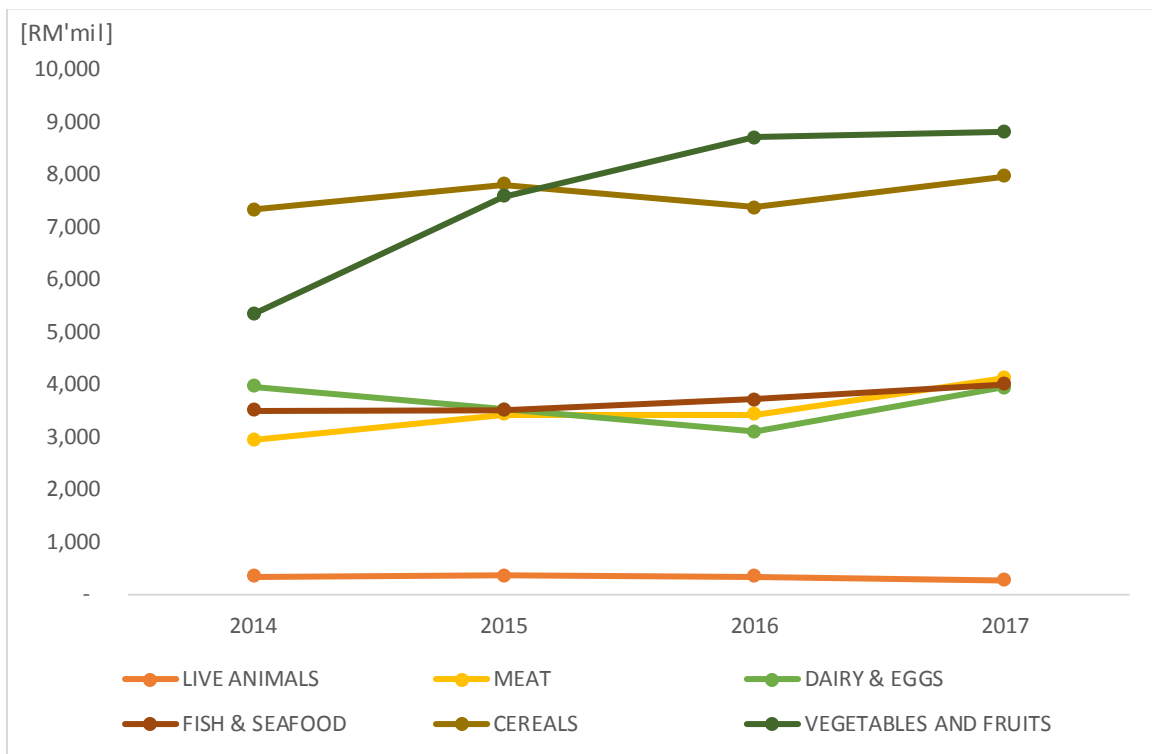
The food trade balance has been in deficit of about 4% per annum, primarily due to the heavy reliance of imported products such as animal feeds, meat and meat products, vegetables, etc. to meet the agro-food requirements in Malaysia. As shown in Figure 8, the food import bill for vegetables and fruits, meat, and fish and seafood have observed an increasing trend from 2014 to 2017.

Figure 7: Food Import & Export and Balance of Trade, 2013 - 2017



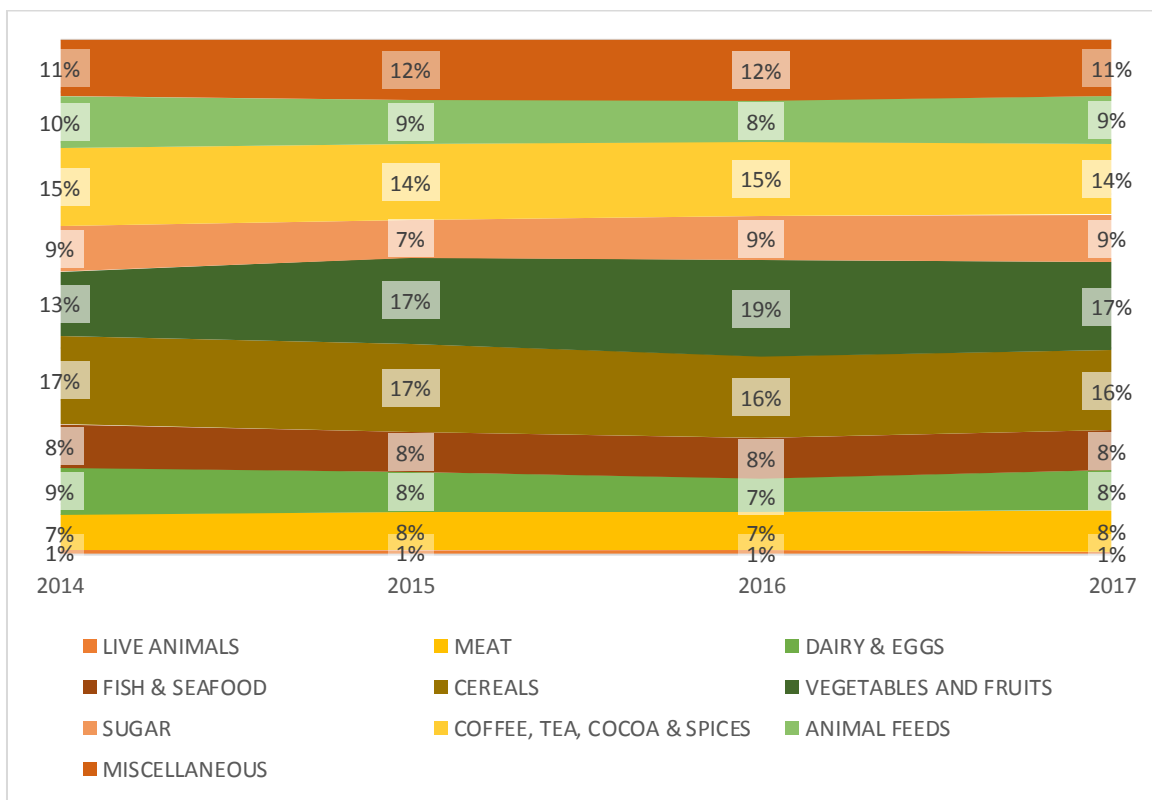
Source: Department of Statistics Malaysia (DOSM)

Figure 8: Food Import Trend in Malaysia, 2014 - 2017



Source: Department of Statistics Malaysia (DOSM)

Figure 9: Percentage of Food Import by Commodities, 2014 - 2017



Source: Department of Statistics Malaysia (DOSM)

In terms of the types of food that contributed significantly to the food import in 2017, 17% were vegetables and fruits, valued at RM8.8bil while both meat, and fish and seafood accounted for 16% of the food imports, valued at RM8.1bil.

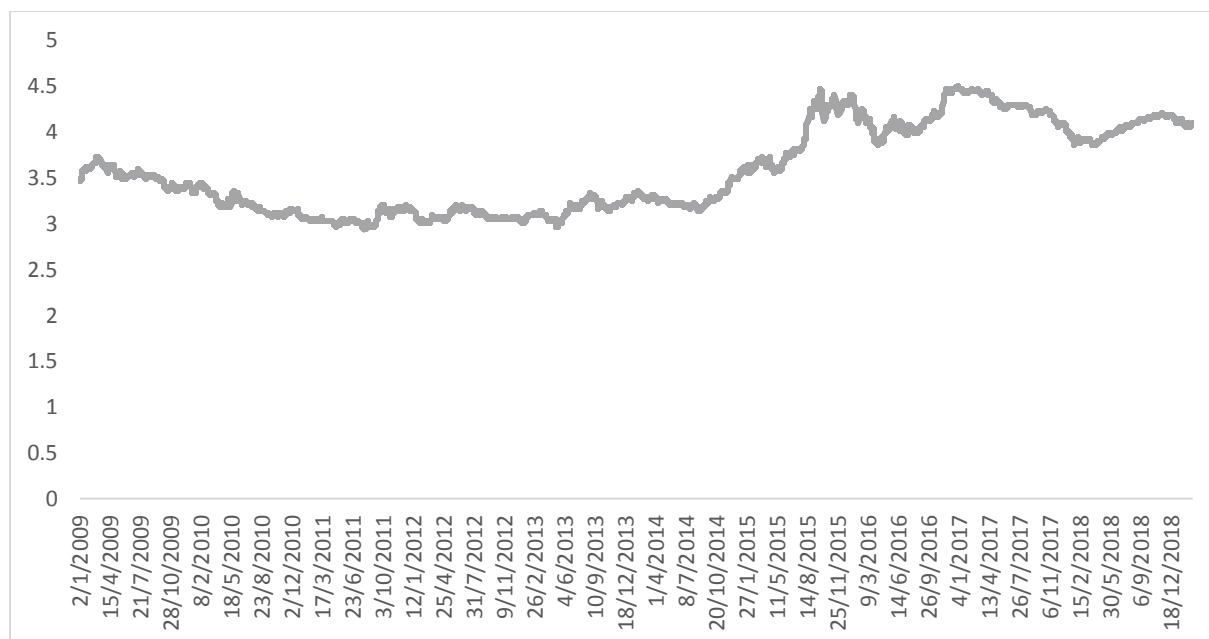
The heavy reliance on import remains as one of the long-standing problem for the nation due to the need to ensure sustainable source of food supply.

2.2.1.3 National Currency

Meanwhile, local currency (Ringgit Malaysia) has depreciated against the US dollar over the past 5 years. The heavy reliance of import as discussed earlier may pose a threat to the potential import inflation as many of the food items are sourced from overseas.

Fortunately, the Malaysian ringgit has gradually strengthened over the past two years as compared to its lowest point of MYR 4.49 per USD at the end of December 2016. However, the currency remains far from the exchange-rate level it achieved prior to its substantial and prolonged weakening, which started in late 2014.

Figure 10: Currency Trend (USD/MYR), 2009 - 2018



Source: Bank Negara Malaysia (BNM)

The weak ringgit may have contributed to an accelerated growth of food price index of 119.36 in 2015 and 128.8 in 2017. Another contributing factor towards higher food prices in Malaysia has been the government’s gradual removal of subsidies for essential items such as rice, flour, sugar, etc. as well as electricity and fuel. The lessening of cushion against price shocks may lead to higher sensitivity of food prices to exchange rates in the future, given that Malaysia is a net food importer.

2.2.2 Industry Profile

Currently, about 86% of agricultural land is used for production of industrial commodities such as oil palm, rubber and cocoa⁸. While the balance 14% is used for cultivating agro-food commodities such as paddy, fruits, vegetables and coconuts. This has resulted in competition for land between agro-food and industrial crops but agro-food sector has been on the disadvantaged end as the country prioritises industrial commodities for the export market. Furthermore, agro-food sector also competes for arable land with housing, manufacturing and services industries. Recently, more agricultural land has been converted into affordable housing, industrial and commercial uses.

The industry is characterised by many small growers, whereby 76% of the players are micro and small establishments. These establishments generated 44% of the total value added for the agriculture industry, suggesting that the market value is highly dominated by medium and large enterprises.

The agricultural sector provides job opportunities to more than 444,500 people in 2015, which increased from 390,708 in 2010. The majority of people are engaged in crops activities (82.8%), followed by livestock (7.83%), forestry and logging (5.8%) and fisheries (3.5%). However, inadequate labour force has been a pressing issue for the industry. The employment by the sector has registered a slower growth on annual basis between 2010 - 2015 as compared to 2005 – 2010. More than half of the employees (53.2%) working in the agriculture sector are foreign employees, which suggests a heavy reliance of foreign workers in this industry.⁹

Table 2: Number of Persons Engaged in Agriculture Sub-sectors

| | 2005 | 2010 | 2015 | CAGR (2005-2010) | CAGR (2010-2015) |
|-----------|---------|---------|---------|---------------------|---------------------|
| Crops | 225,030 | 335,096 | 368,002 | 8% | 2% |
| Livestock | 14,227 | 20,056 | 34,805 | 7% | 12% |
| Fisheries | 4,020 | 11,508 | 15,690 | 23% | 6% |

Source: Department of Statistics Malaysia (DOSM)

Overall, the agriculture sector still plays a major role in the economic and rural development of Malaysia, although it is facing new challenges as the country transforms towards high-income status. These challenges derive from changing consumer preferences and increase emphasis on the environment, sustainability and responsible sourcing.

2.2.3 Overall Food Value Chain

The supply chain shows the network of stakeholders involved in growing, processing, distributing and selling the food product from farm to fork. The regulatory framework affects all the businesses along the food supply chain. Depending on the relevant markets in which the firms are operating, the degree of market power differs along the supply chain. The degree of market power may impact the contractual relationships between the players along the chain and can influence the degree of

⁸ "Impacts of National Agro-food Policy Towards Agriculture Sector in Malaysia", MARDI, 2018

⁹ Department of Statistics Malaysia (DOSM)

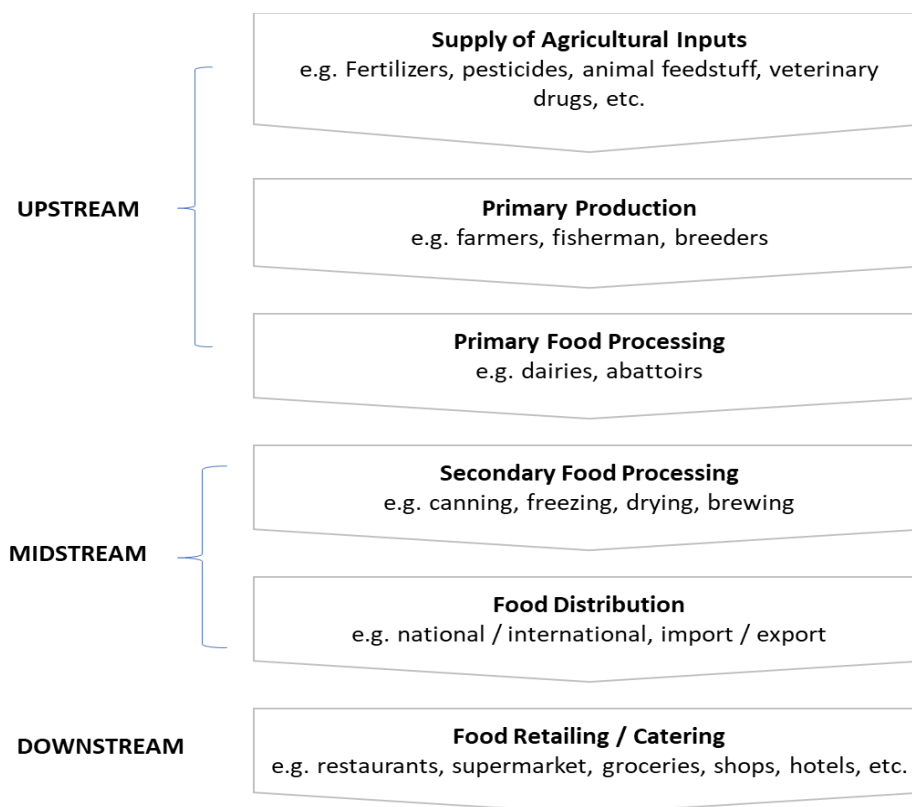
price transmission along the supply chain and subsequently, the final price consumers are to pay. The following chapter would discuss the market structure of respective food products in detail.

Figure 11 provides a general overview of food value chain in Malaysia. The food sectors include the following stakeholders:

Table 3: Overview of the Level of Supply Chain in the Food Sector

| Supply Chain Level | Key activities |
|---|--|
| Upstream: Producers | <ul style="list-style-type: none"> • Refer to farmers, fishermen, breeders, manufacturers of food products etc. • Producers primarily sell their outputs to the distributors, retailers or consumers. • They may also sell their output to the food processing industry or adjacent market (e.g. animal feed, fish bait, etc.). |
| Mid-stream: Food processing; Distributors | <ul style="list-style-type: none"> • The food processing industry, on the other hand, may include cleaning, cutting or drying (fruit and vegetables), processing or manufacturing (such as flour, bread, infant formula), slaughtering (ruminants), etc. • The midstream players such as wholesalers and distributors would then collect, package, market and dispatch the outputs from the producer or food processing stages to their customers (i.e. retailers/end buyer/consumers) |
| Downstream: Retailers | <ul style="list-style-type: none"> • Involves retailers which are the parties who interact directly with final consumers. Most of the times, they are the final link in the supply chain. • Although the distributors/retailers' main activity is the sale of products, they may sometimes carry out services for food manufacturers/producers, such as marketing of products, labelling, etc. • The flow of products from wholesalers and distributors may also reach hotel, restaurant and café players (HoReCa). • Notably, the retailer supply chain can be further divided into traditional grocery retailers such as local sundry shops and wet markets and the modern trade such as supermarket, convenience store and hypermarket. |

Figure 11: Overview of Food Value Chain in Malaysia



In general, the transfer of food products involves a series of activities which may add additional costs along the way, such as transportation, storage and logistics. Therefore, the cost structure of food production comprises of a number of other cost factors such as logistics, energy and labour besides the raw materials, which are then reflected in the final consumer prices. In addition, the structure of the food supply chain is also affected by external factors such as regulations, public policies, industry practices and the macroeconomic environments which may impact the cost structures and price developments across the supply chain.

To achieve the required depth of analysis at each food product's value chain, this report will focus on the following products as highlighted in Chapter 1.

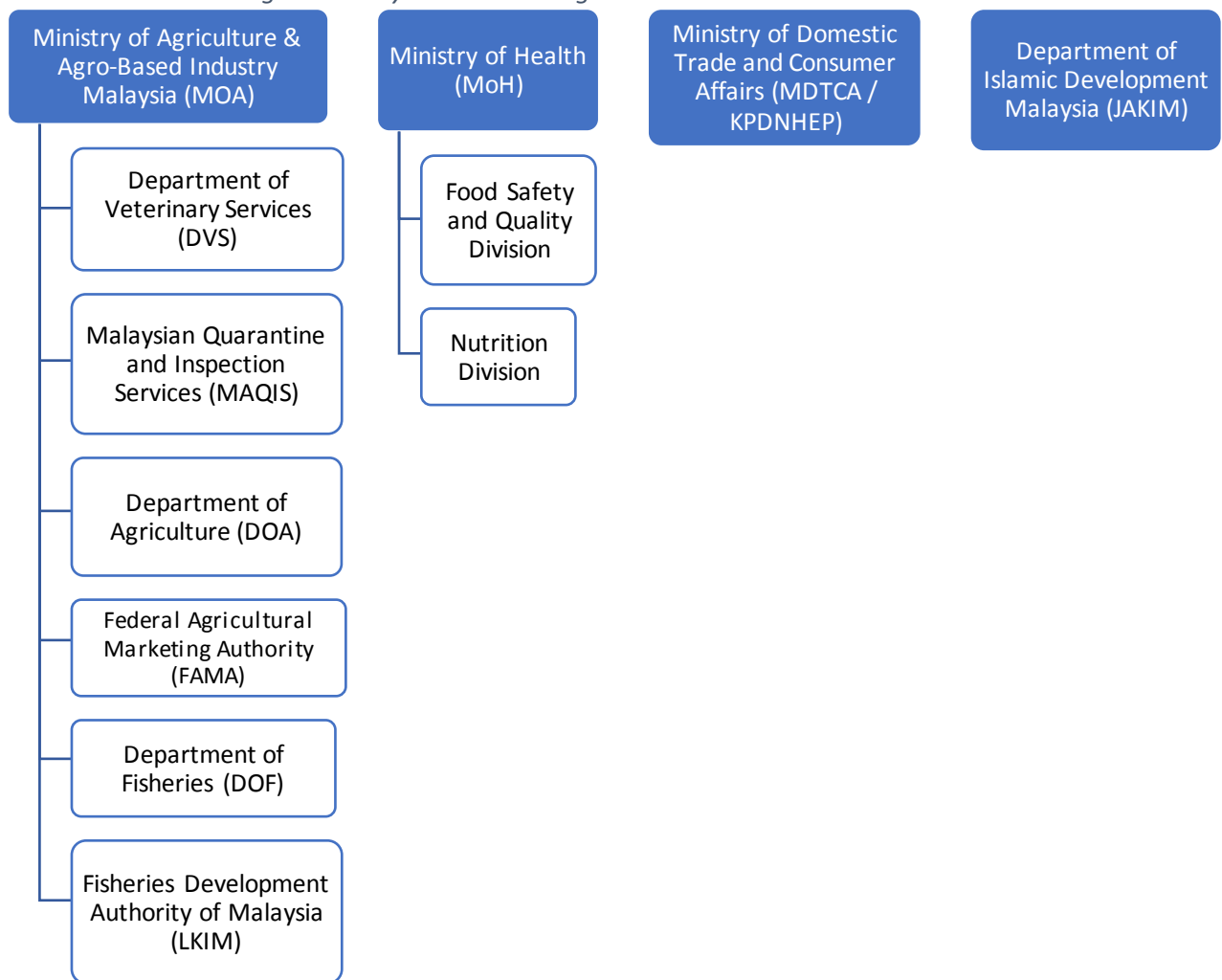
1. Beef
2. Fisheries – Indian Mackerel (*Ikan Kembung*)
3. Infant formula
4. Vegetables – Mustard Leaf (*Sawi*) & Round Cabbage (*Kubis Bulat*)

2.3 Policies Affecting the Agriculture Industry and Food Sector in Malaysia

2.3.1 Key Government Stakeholders for Food Sector in Malaysia

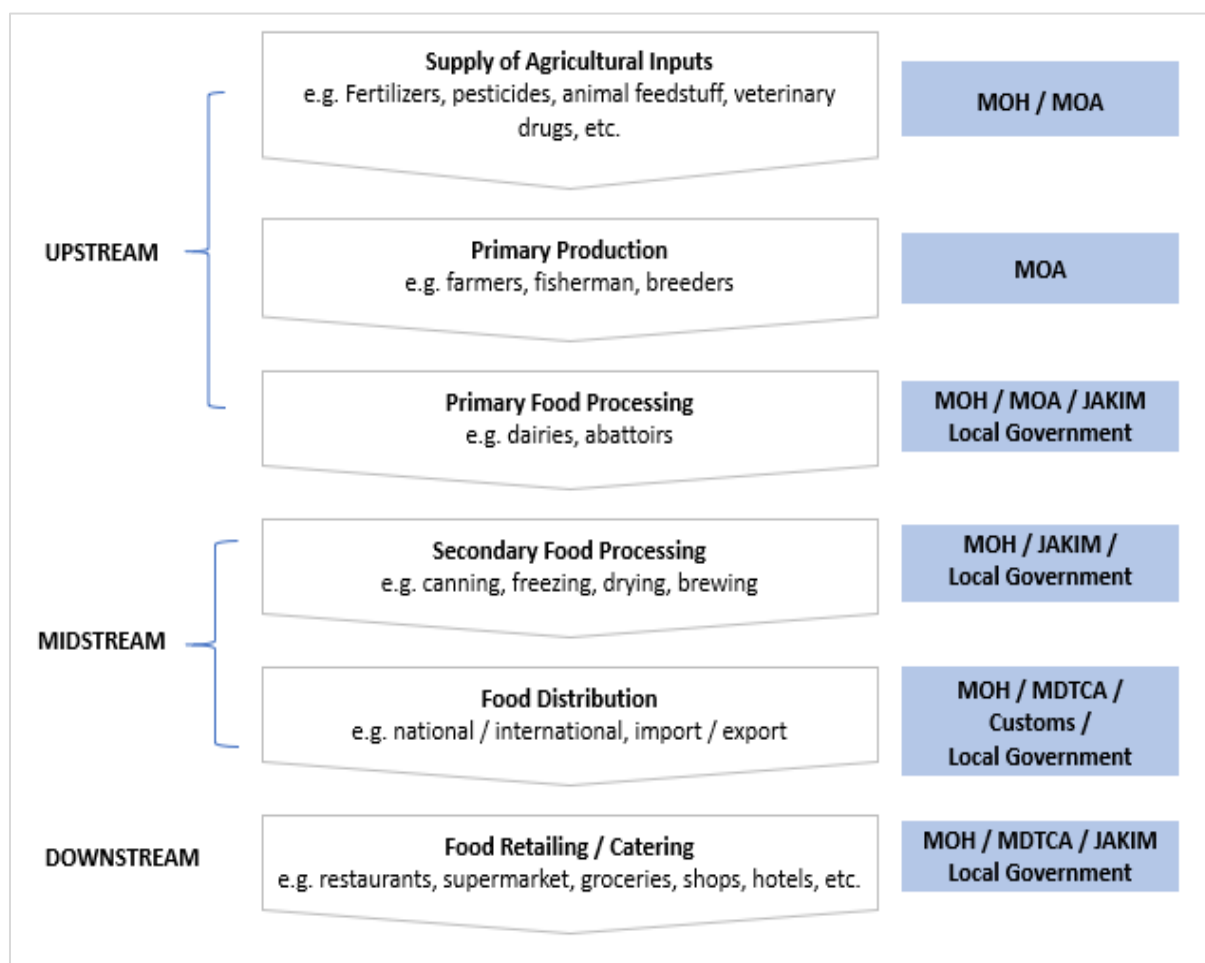
The food sector in Malaysia is governed by several ministries and agencies based on the food sectors and their responsibilities along the supply chain. The main government bodies / agencies responsible for enforcement of food-related regulations for vegetables, livestock, fisheries and milk include the following:

Figure 12: Key Government Agencies within the Food Sector



Besides the Federal government, local food authorities in each state and territory are also responsible for enforcing the relevant food laws in Malaysia. The figure below highlights the involvement of these government agencies and regulators at different levels of the food supply chain. For more information on the government agencies, please refer to Appendix 8.

Figure 13: Key Government Agencies across the Food Supply Chain



2.3.2 Regulatory Requirements for Food Sector in Malaysia

2.3.2.1 Food-Related Policies and Regulations in Malaysia

There are various food-related policies and regulation which are governed by different ministries and government agencies. The table below highlights the relevant key polices and regulations governing the food sector covered in the study:

Table 4: Key Policies and Regulations within the Food Sector

| Enforcement Agency | Key Policies / Regulations | Relevant Food Sectors |
|---|---|------------------------|
| Ministry of Agriculture & Agro-Based Industry Malaysia (MOA) | National Agro-Food Policy, 2011-2020 | All |
| | Malaysian Quarantine and Inspection Services Act 2011 | All |
| | Malaysian Quarantine and Inspection Services Regulations 2013 | All |
| | Federal Agricultural Marketing Authority (FAMA) Act 1965 | Vegetables and Fruits |
| | Federal Agricultural Marketing Authority (FAMA) Regulations 2008 | Vegetables and Fruits |
| | Animals Act 1953 | Meat and Milk Products |
| | Animal Rules 1962 | Meat and Milk Products |
| | Animal Importation Order 1962 | Meat and Milk Products |
| | Federal Animals Quarantine Station (Management and Maintenance) By-Law 1984 | Meat and Milk Products |
| | Animals (Control of Slaughter) Rules 2009 | Meat Products |
| | Fisheries Act 1983 | Fisheries |
| | Lembaga Kemajuan Ikan Malaysia Act 1971 | Fisheries |
| | Fish Marketing Regulations 2010 | Fisheries |
| Ministry of Health (MOH) | Food Act 1983 | All |
| | Food Regulation 1984 | All |
| | Malaysia Code of Ethics for the Marketing of Infant Foods and Related Products | Infant Food |
| Ministry of Domestic Trade and Consumer Affairs (MDTCA) | Price Control and Anti-Profiteering Act (PCAPA) 2011 (formerly Price Control Act 1946). | All |
| | Consumer Protection Act 1999 | All |
| | Trade Descriptions Act 2011 | All |
| | Control of Supplies Act 1961 | All |
| | Control of Supplies Regulations 1974 | All |

2.3.2.1.1 National Agro-Food Policy, 2011-2020 (NAP4)¹⁰

The National Agro-Food Policy came into effect in September 2011, effectively replacing the previous National Agriculture Policy 3. The government has established a series of National Agricultural Policies since 1984, namely National Agricultural Policy 1, 2 and 3. The current NAP covers the period of 2011 to 2020 and aims to tackle the issues of food supply and income level of agricultural producers in Malaysia. The policy is targeted on sustainable agriculture production and competitiveness of the agro-food industry with food safety and nutrition aspects along its value chain. The policy also aims to reform and transform the agro-food industry into a modern and dynamic industry. The key objectives of the NAP 2011-2020 are as follows:

- To ensure adequate food supply and food safety
- To develop the agro food industry into a competitive and sustainable industry
- To increase the income level of agricultural entrepreneurs

In order to achieve these objectives, the NAP has introduced seven strategic directions:

1. Ensure national food security
2. Increase the contribution of the agro-food industry to GDP
3. Complete the value chain
4. Strengthen human capital
5. Strengthen R&D activities, innovation and technology use
6. Create private sector led business
7. Strengthen the service delivery system

Within the first strategic thrust, the government aims to ensure food price stability through the development of a food price monitoring system and an early warning system of food supply which will help the availability and production of food that meets the demand.

The government is also currently conducting a study to draft the Agro Food Policy 2.0 (2021 - 2030) in order to spur the modernization and competitiveness of the agro-food sector in line with technological development and Industrial Revolution 4.0. The policy is expected to coordinate and streamline investments from both the government and private sectors for infrastructure development, human capital development, research, commercialisation as well as innovation in the agriculture sector. It will also realign the strategy to expedite the modernisation process apart from managing food supply and demand.

¹⁰ MARDI. *Transformation of Agricultural Sector in Malaysia Through Agricultural Policy*. February 2015.; <https://www.nst.com.my/news/nation/2018/11/433628/govt-draft-agro-food-policy-20-spur-food-sector-development>

2.3.2.1.2 Food Act 1983¹¹

The Food Act 1983 is the fundamental legislation regulating the food safety in Malaysia. It aims to protect the public against health hazards and fraud in the preparation, sale and use of food, and for matters associated with it. The Act is divided into five parts, as follows:

- I. Part 1 - Preliminary matters and definitions of basic concepts
- II. Part 2 - Administration and enforcement of the Act such as appointment of analysts and authorized officers, and powers of authorized officers in acquiring information, taking samples and ordering closure of insanitary premises
- III. Part 3 - Protection of consumers against unsafety food in respect of substances composition, false labelling and misleading advertisement
- IV. Part 4 - Importation, warranties and defences
- V. Part 5 - Miscellaneous provisions on aspects such as prosecution, legal proceedings and indemnity

2.3.2.1.3 Food Regulations 1985¹²

Food Regulations 1985 is the key supporting regulation which governs the various aspects of food safety and quality control including food standards, food additives and nutrient supplement, food packaging and labelling requirements, food hygiene, food import and export and food advertisement for over 380 food items. The Food Safety and Quality Division (FSQD) of the MOH is charged with the implementation and enforcement of the law.

All imported, and locally manufactured food, beverage and edible agricultural products are required to comply with these guidelines, and the requirements apply to imports from all countries. The Food Regulations comprise 10 parts and 30 schedules, as follows:

- I. Part 1 - Preliminary matters and definitions of basic concepts
- VI. Part 2 - Warranty
- VII. Part 3 - Procedure on taking samples for physical, chemical and microbiological analysis
- VIII. Part 4 - General requirements for labelling of food
- IX. Part 5 - Requirements on food additive and nutrient supplement
- X. Part 6 - Requirements on packages for food
- XI. Part 7 - Regulations on incidental constituent, which includes any foreign, extraneous, toxic, noxious or harmful substances that is contained or present in or on any food.
- XII. Part 8 - Standards and particular labelling requirements for a variety of food, including meat and meat products, fish and fish products, vegetable and vegetable products and milk and milk products
- XIII. Part 9 - Provisions on the use of water, ice or steam
- XIV. Part 10 - Miscellaneous provisions on aspects such as food irradiation, penalty, transitional provision and revocation

¹¹ Food Act 1983

¹² Food Regulations 1985; Malaysia Food Additive Legislative Framework, <https://food.chemlinked.com/foodpedia/malaysia-food-additive-legislative-framework>

Amendments of Food Regulations 1985 is frequent, and all amendments are published in Gazette. The regulations are reviewed and updated to be in line with Codex Alimentarius which is a collection of international standards, guidelines and codes of practice adopted by the Codex Alimentarius Commission, an intergovernmental body with over 180 members established by the Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO). The Codex aims to protect consumers' health and ensure fair practices in the food trade. MOH is a member of the Codex Alimentarius Commission.

2.3.2.1.4 Malaysian Quarantine and Inspection Services Act 2011 (Act 728)¹³

The Malaysian Quarantine and Inspection Services Act 2011 are laws relating to quarantine, inspection and enforcement at the entry points, quarantine stations and quarantine premises and certification for import and export of plants, animals, carcasses, fish, agricultural produce, soils and microorganisms. In order to enforce the Act effectively, five regulations have been gazetted on in April 2013 as follows:

- I. Malaysian Quarantine and Inspection Services (Quarantine and Inspection) Regulations 2013
- II. Malaysian Quarantine and Inspection Services (Registration of Importers, Exporters and Agents) Regulations 2013;
- III. Malaysian Quarantine and Inspection Services (Issuance of Permit, Licence and Certificate) Regulations 2013;
- IV. Malaysian Quarantine and Inspection Services (Quarantine Procedures) Regulations 2013
- V. Malaysian Quarantine and Inspection Services (Fees and Charges) Regulations 2013.

MAQIS issues permit for the importation and exportation of fishes, live animal and animal products under this Act.

¹³ Malaysian Quarantine and Inspection Services Act 2011 (Act 728); World Trade Organization (WTO). *REPLIES TO QUESTIONNAIRE ON IMPORT LICENSING PROCEDURES. March 2018*

2.3.2.2 Malaysian Food Standards¹⁴

Food standards in Malaysia are developed by Industry Standardization Committee (ISC) under the Department of Standards Malaysia which is administered by the Ministry of International Trade and Industry (MITI). The Department of Standards Malaysia is the National Standards and Accreditation Body which is governed by Standards of Malaysia Act 1996 (Act 549). The ISC develops the Malaysian Standards (MS) in 24 sectors, including food and food products sector which currently has 390 MS. In general, the whole standard system was built on the basis of standards and principles of International Standardization Organization (ISO), Codex Alimentarius and International Accreditation Forum. Standards in Malaysia are essentially voluntary standards, except those cited by regulations are mandatory. Standards are used to ensure that products are processed and manufactured in a safe and hygienic condition. A certified mark can be labelled by obtaining official certification on compliance to standards.

2.3.2.3 Halal Compliance

Halal certification in Malaysia is standardised across the country as it is governed by JAKIM, which is the sole halal certification body in the country. Malaysia halal certification scheme is divided into the following:

i. Food Product / Beverages / Food Supplement

- ii. Food Premise / Hotel
- iii. Consumer Goods
- iv. Cosmetic and Personal Care

v. Slaughterhouse

- vi. Pharmaceutical
- vii. Logistic

According to the Trade Descriptions (Certification and Marking of Halal) Order 2011, imported foods and goods marketed in Malaysia should not be described as halal unless the imported food and goods comply with the requirements or certified as halal by the foreign halal certification body recognized by JAKIM. As such, the importer or manufacturer of the foods which have been certified as halal by the foreign halal certification body recognized by JAKIM should indicate the name of the said certification body on the food products.

Every product with halal certification must ensure the halal status of the product at every stage and at every process involved in the production of the product, including logistics. As such, imported raw materials which are used in the local food production and packaging of halal certified products such as infant formula requires the appointment of reputable and reliable foreign halal certification bodies to monitor the Halal status of these raw materials.

Furthermore, the consignment of imported animal products, including beef should be accompanied by a Halal Certificate issued by HALAL organization body recognized by JAKIM. The certificate should verify that the slaughter of the cattle or buffalo has been done according to Muslim rites and that all slaughtering, chilling, freezing, storing, transportation and all other acts in connection with handling and consignment have been done separately from the other species of animals.

¹⁴ Department of Standards Malaysia; <https://food.chemlinked.com/foodpedia/malaysia-food-additive-legislative-framework>

The charges for Malaysian halal certification are based on the company/premise size classification (based on annual revenue), as highlighted in the table below:

Table 5: Malaysia Halal Certification Cost

| Company Size | Annual Turnover | Annual Fee Rate (RM) |
|----------------------|---------------------------------------|-----------------------------|
| Micro | Less than RM300,000 | RM 100 |
| Small | Between RM300,000 and RM15 million | RM 400 |
| Medium | Between RM15 million and RM50 million | RM 700 |
| Multinational | More than RM50 million | RM 1,000 |

Table 6: Malaysia Halal Certification Cost for Abattoirs (Cattle/ Buffalo)

| Premise Size | Type of Animal | Daily Production | Annual Fee Rate (RM) |
|----------------------|-----------------------|-------------------------|-----------------------------|
| Small | Chicken | 1 – 2,999 birds | RM100 |
| | Goat / Sheep | 1 – 499 heads | |
| | Cattle / Buffalo | 1 – 49 heads | |
| Medium | Chicken | 3,000 – 10,000 birds | RM400 |
| | Goat / Sheep | 500 – 700 heads | |
| | Cattle / Buffalo | 50 – 100 heads | |
| Multinational | Chicken | Over 10,000 birds | RM700 |
| | Goat / Sheep | Over 700 birds | |
| | Cattle / Buffalo | Over 100 heads | |

Nevertheless, companies which are constantly engaged in product innovation are required to register new halal certificates for each innovation for a period of 2 years for each certification. This would be equivalent to RM2,000 per certificate per innovation. Besides that, local companies that engage in repackaging of halal imported products are required to have foreign halal certification body recognized by JAKIM as well as local halal certification from JAKIM for the respective products.

Meanwhile, imported products which are re-labelled are not applicable for halal certification by JAKIM. Furthermore, multinational and medium companies / premises are also required to establish their internal Halal Committee and establish Halal Assurance System with reference to HAS 2011. This may further increase the regulatory cost and resources allocation for halal compliance.

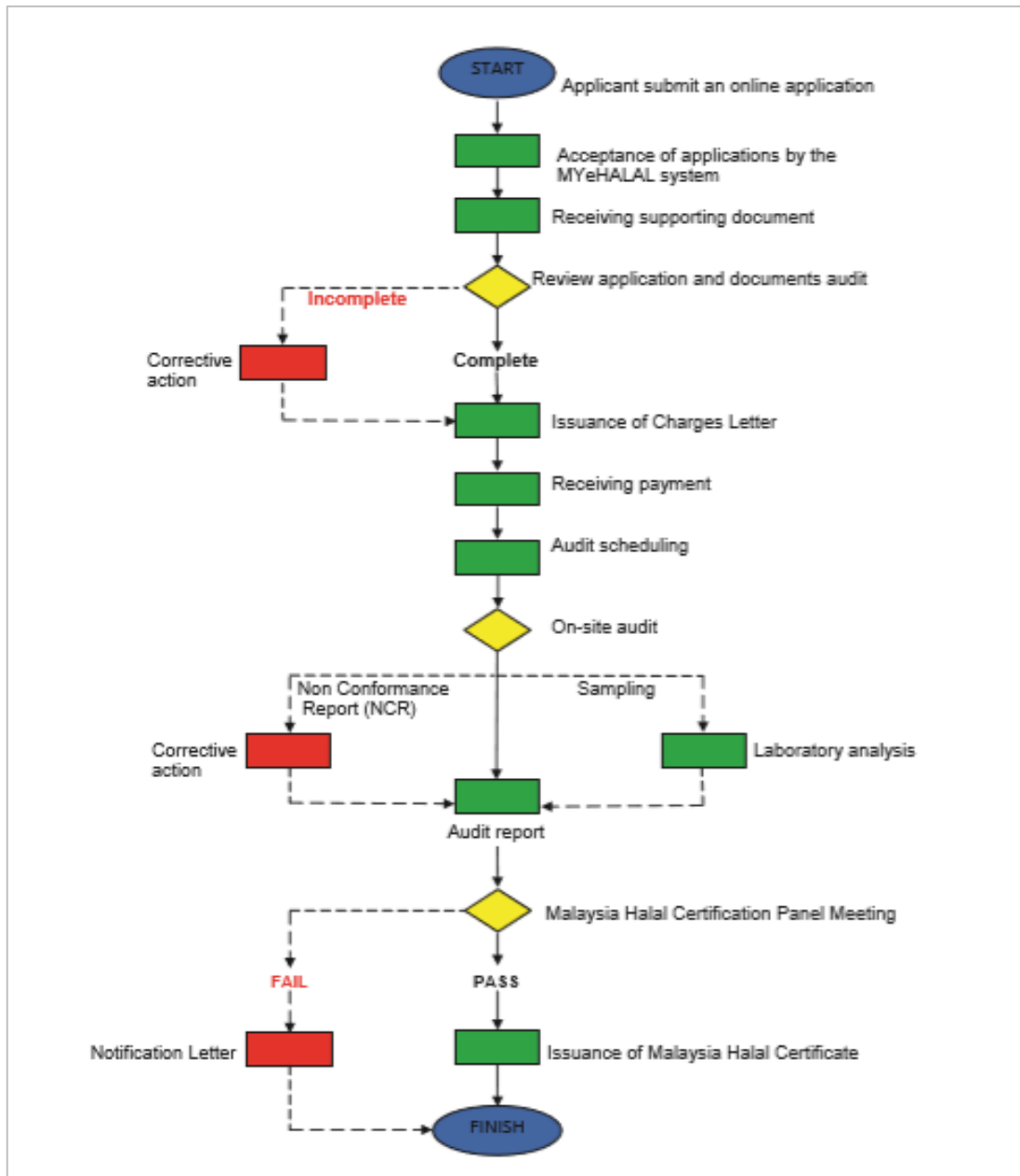
The table below highlights the specific requirements for certification in terms of management responsibilities:

Table 7: Management Responsibility for Malaysia Halal Certification

| Company Size | Food Products | Slaughterhouse |
|----------------------|---|---|
| Micro | <ul style="list-style-type: none"> • Appoint minimum of one Muslim worker for a permanent post and works fulltime in the food handling/ processing section. | |
| Small | <ul style="list-style-type: none"> • Appoint a Muslim supervisor for a permanent post and works along the supply chain of the food handling/ processing. • Appoint minimum of one Muslim worker for a permanent post and works fulltime in the food handling/ processing section. | <ul style="list-style-type: none"> • Appoint minimum of two Muslim slaughter men, with total number of slaughter men being proportional with the number of slaughter • Have slaughtering certificate/ card from MAIN/ JAIN and work fulltime throughout the slaughtering time, and attended courses related to Halal slaughter • Appoint minimum of one Muslim halal checker (except for slaughter less than 500 birds per day). |
| Medium | <ul style="list-style-type: none"> • Establish the Internal Halal Committee • Appoint the Halal Executive • Appoint minimum of two Muslim workers for permanent posts and work fulltime in the food handling/ processing section; this requirement shall apply to all shifts in the operation section of the factory • Establish the Halal Assurance System with reference to HAS 2011. | <ul style="list-style-type: none"> • Establish Internal Halal Committee with reference to HAS 2011 and membership including the Muslim Halal Checker/ certified slaughter man. • Appoint the Halal Executive/ Muslim Halal Supervisor • Appoint minimum of one Muslim halal checker • Appoint minimum of two Muslim slaughter men, with total number of slaughter men being proportional with the number of slaughter. Slaughter men should have slaughtering certificate/ card from MAIN/ JAIN and work fulltime |
| Multinational | | |

| | | |
|--|--|---|
| | | <p>throughout the slaughtering time, and attended courses related to Halal slaughter.</p> <ul style="list-style-type: none"> • Establish the Halal Assurance System with reference to HAS 2011 |
|--|--|---|

Figure 14: Malaysia Halal Certification Process Flow Chart



Source: Manual Procedure for Malaysia Halal Certification (Third Revision) 2014

2.3.2.4 Import/Export Regulations¹⁵

Import and export controls are administered by the Royal Customs Department of Malaysia, but several other ministries and government agencies are responsible for the legislation and approval of licences for import and export of food products.

As the food standards in Malaysia are currently regulated by The Food Act 1983 and the Food Regulation 1985 Malaysia, it is mandatory for all locally produced and imported food and agricultural products to comply with these guidelines. Besides that, strict import guidelines and labelling requirements are levied on meat, meat products and food products containing alcohol due to the majority Muslim population in the country. Meanwhile, exported food products must comply with regulations imposed by the importing countries.

2.3.2.4.1 Registration with MAQIS & FOSIM¹⁶

Under MAQIS regulations, all importers, exporters and agents of plant, animal, carcass, fish, agricultural products, soil and microorganisms must be registered with MAQIS as required by the MAQIS Regulations 2013 (Registration of Importers, Exporters and Agents) before applying for import permit or licence on Dagang Net.¹⁷ Upon successful registration, the importer / exporter / agent must apply for a permit through the ePermit system for commodities (plants, animals and live fish) and New ePermit for fishery commodities.

Besides that, importation of food must also always be registered with the Food Safety Information System of Malaysia (FOSIM), which is essentially the database for importers. FoSIM interfaces with the Customs Information System (CIS), allowing importers, forwarding agents and Authorized Offices to manage food importation activities electronically.

2.3.2.4.2 Import Licensing/Permit

Within the food sector, the requirement for import and export permit is dependent on the food products. The import and export of animal and animal products, meat and meat products, plant and plant products require import and export license which are issued by the Permit Issuing Agencies (PIAs) under the Customs Act 1967. The government agencies responsible for issuing import and export permits are dependent on the identity of food products and states.

The government implements agricultural import and export quota control (AP) for round cabbage, coconut, chicken, liquid milk and rice. The effort to control import and export quantity are taken to ensure adequate supply in the domestic market, especially during peak demand seasons and help prevent dumping in local markets during certain seasons. In addition, the control of import quotas is expected to help local entrepreneurs, especially agro-entrepreneurs to compete internationally.

The implementation of the AP is a follow-up negotiation with WTO and is considered by the *Jawatankuasa Kawalan Import dan Eksport Keluaran Pertanian Terpilih (JKIEKP)* and chaired by the MOA Secretary General. The table below highlights the import / export control for the selected food subsectors covered in this market review:

¹⁵ World Trade Organization (WTO). REPLIES TO QUESTIONNAIRE ON IMPORT LICENSING PROCEDURES. March 2018

¹⁶ http://www.maqis.gov.my/en_US/pendaftaran-pengimport-pengeksport-dan-ejen

Table 8: Import/Export Restriction of the Food Products

| Food Product | Import Restriction | Export Restriction |
|-----------------------------------|--|--|
| Sawi | - | - |
| Round Cabbage¹⁸ | <ul style="list-style-type: none"> • Import permit will only be issued to quota holders. Prior to applying for import, importers need to secure quota granted on monthly basis. The quantity of the quota is determined by various aspects such as the ability of the applicant to purchase (financial standing), source of supply and buyers, availability of cold storage and logistics. • MOA imposes import quota of to 6,000 metric tons per month. | - |
| Beef | The government will be imposing a minimum 30% quota for bumiputra importers to break the beef import monopoly. ¹⁹ | - |
| Ikan Kembung | - | <ul style="list-style-type: none"> • The government restricts the export of five types of fish, including <i>ikan kembung</i> due to lower supply during the monsoon season and higher demand during festive periods. • The export restrictions have been in place over the past six years and will be imposed twice this year - between Jan 1 and Feb 28, and between May 1 and June 30.²⁰ |
| Infant Formula | - | - |

2.3.2.4.3 Other Certifications / Licenses

Certain foods may also require additional licences or certificates to be imported into Malaysia. For an instance, a Health Certificate from the importing country will be required for food products such

¹⁸ http://www.maqis.gov.my/en_US/web/guest/soalan-lazim; World Trade Organization (WTO). REPLIES TO QUESTIONNAIRE ON IMPORT LICENSING PROCEDURES. March 2018.

¹⁹ <https://www.thestar.com.my/business/business-news/2017/09/11/ministry-to-impose-30pc-bumi-quota-to-break-beef-import-monopoly/#mvWc6bWqclysk7BI.99>

²⁰ <https://www.todayonline.com/world/malaysia-restrict-export-fish-twice-next-year-restrictions-unlikely-have-significant-impact>

as meat and poultry. The list of such foods and any additional requirements is continuously updated on the FOSIM website.

The table below highlights the necessary licenses and certifications required in Malaysia for the studied food subsectors:

Table 9: Import and Export Requirements of Food Products

| Food Product | Import Requirement | Export Requirement |
|-----------------------|--|--|
| Round Cabbages | <p>The importation of round cabbages is placed under the Customs (Prohibition of Imports) Order 2012 whereby importation is prohibited except in the manner provided²¹:</p> <ul style="list-style-type: none"> • Importation into Peninsular Malaysia and Labuan requires an import permit issued by the Malaysian Quarantine and Inspection Services (MAQIS) under the Malaysian Quarantine and Inspection Services Act 2011. • Importation into Sabah and Sarawak requires an import permit issued by the Department of Agriculture (DOA) in respective states. <p>Besides that, the importation of round cabbage is subjected to the following:</p> <ul style="list-style-type: none"> • Registration as an importer with the DOA. Import permit issued by MAQIS is based on the import quota approval provided by DOA. • Under the FAMA (Grading, Packaging and Labelling of Agricultural Produce) Regulations, all imported agricultural fresh produce must be accompanied by Certificate of Conformity issued by FAMA. | <p>The exportation of vegetables is subject to the following²²:</p> <ul style="list-style-type: none"> • Possession of vegetable license by FAMA if exports involve vegetables from certain areas, i.e. Districts of Johor Bahru and Kota Tinggi in Johor • Certificate of Conformity of Agriculture Produce by FAMA • Phytosanitary Certificate from Department of Agriculture (if required by the country of import) • Issuance of export permit by MAQIS |

²¹ World Trade Organization (WTO). *REPLIES TO QUESTIONNAIRE ON IMPORT LICENSING PROCEDURES*. March 2018

²² <http://www.fama.gov.my/en/web/pub/pengeluaran-lesen-sayur>; http://www.fama.gov.my/en/web/pub/panduan-mengeksport-produk-pertanian-segar?p_p_id=com.liferay.portal.content.web.portlet.JournalContentPortlet_INSTANCE_IFFfhZfCSicj&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view&com.liferay.portal.content.web.portlet.JournalContentPortlet_INSTANCE_IFFfhZfCSicj_page=3; http://www.maqis.gov.my/en_US/tumbuhan-prosedur-eksport

| | | |
|---------------------|---|---|
| | <ul style="list-style-type: none"> • Phytosanitary Certificate issued by the country of export | Phytosanitary Certificate from Department of Agriculture (if required by the country of import) |
| Sawi | Import permit is not required, but Certificate of Conformity of Agriculture Produce issued by FAMA is required. | |
| Beef | <p>Importation of live animal (cattle) and animal products / carcass is subject to the following:²³</p> <ul style="list-style-type: none"> • Importation into Peninsular Malaysia and Labuan requires import permit issued by MAQIS • Importation into Sabah and Sarawak requires import permit by Department of Veterinary Services in respective states. • Official Veterinary Health Certificate issued by competent Veterinary Authority of the country of export • Halal Certificate issued by HALAL Organization body recognized by JAKIM for animal products (all imported processed meat and livestock products must be certified halal) | <p>The exportation of live animal and animal product require²⁴:</p> <ul style="list-style-type: none"> • Export permit issued by the MAQIS • Veterinary Health Certificate issued by the DVS (for animal products / carcass) |
| Ikan Kembung | <p>The importation of live fish is subject to:</p> <ul style="list-style-type: none"> • Registration with the Department of Fisheries (DOF) Malaysia • Import permit from MAQIS (Peninsular Malaysia and Labuan), Department of Fisheries of Sabah (for Sabah) and Department of Marine Fisheries, Sarawak (for Sarawak) • Health Certification from Competent Authority of the exporting country <p>The importation of fish and fish products is subject to:</p> | <p>The exportation of live fish requires²⁵:</p> <ul style="list-style-type: none"> • Registration with the Department of Fisheries (DOF) Malaysia • Export permit from MAQIS (Peninsular Malaysia and Labuan), Department of Fisheries of Sabah (for Sabah) and Department of Marine Fisheries, Sarawak (for Sarawak) <p>The exportation of fish and fish products require²⁶:</p> |

²³ World Trade Organization (WTO). *REPLIES TO QUESTIONNAIRE ON IMPORT LICENSING PROCEDURES*.

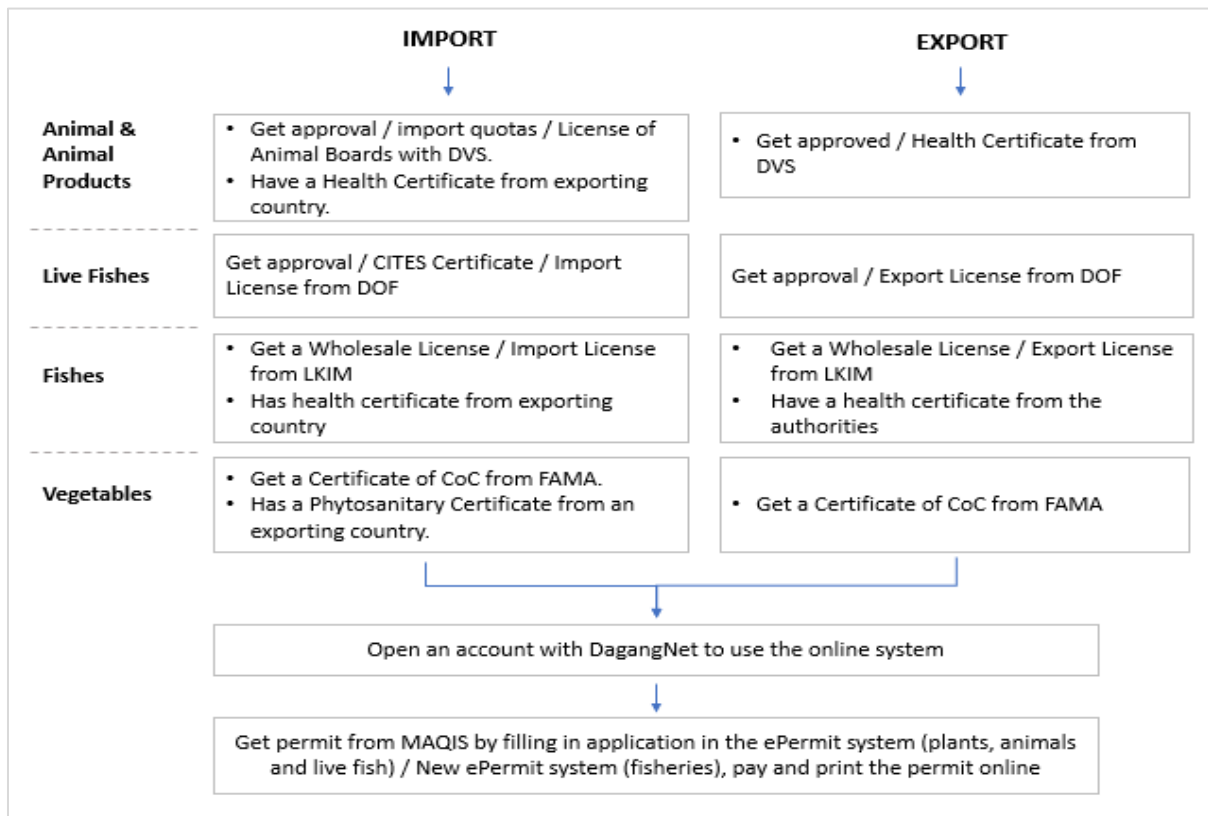
²⁴ <http://www.mytradelink.gov.my/dvs>

²⁵ http://www.maqis.gov.my/en_US/web/guest/ikan-prosedur-eksport

| | | |
|----------------------------|---|--|
| | <ul style="list-style-type: none"> • Import/wholesale license from the Fisheries Development Authority of Malaysia (LKIM) • Health Certification from Competent Authority of the exporting country • Import permit from MAQIS (for Peninsular Malaysia and Labuan), Department of Fisheries of Sabah (for Sabah) and Department of Marine Fisheries, Sarawak (for Sarawak) | <ul style="list-style-type: none"> • Export/wholesale license from the Fisheries Development Authority of Malaysia (LKIM) • Health Certificate from the Department of Fisheries Malaysia • Export permit from MAQIS (for Peninsular Malaysia and Labuan), Department of Fisheries of Sabah (for Sabah) and Department of Marine Fisheries, Sarawak (for Sarawak) |
| Infant Milk Product | <p>The importation of milk and milk-based products is subject the following:</p> <ul style="list-style-type: none"> • Importation into Peninsular Malaysia and Labuan require an import permit issued by MAQIS. • Importation into Sabah and Sarawak require an import license issued by the Department of Veterinary Services in respective states • Veterinary Health Certificate (VHC) by DVS | <p>The exportation of milk and milk-based products require:</p> <ul style="list-style-type: none"> • Export permit issued by MAQIS • Veterinary Health Certificate (VHC) by DVS |

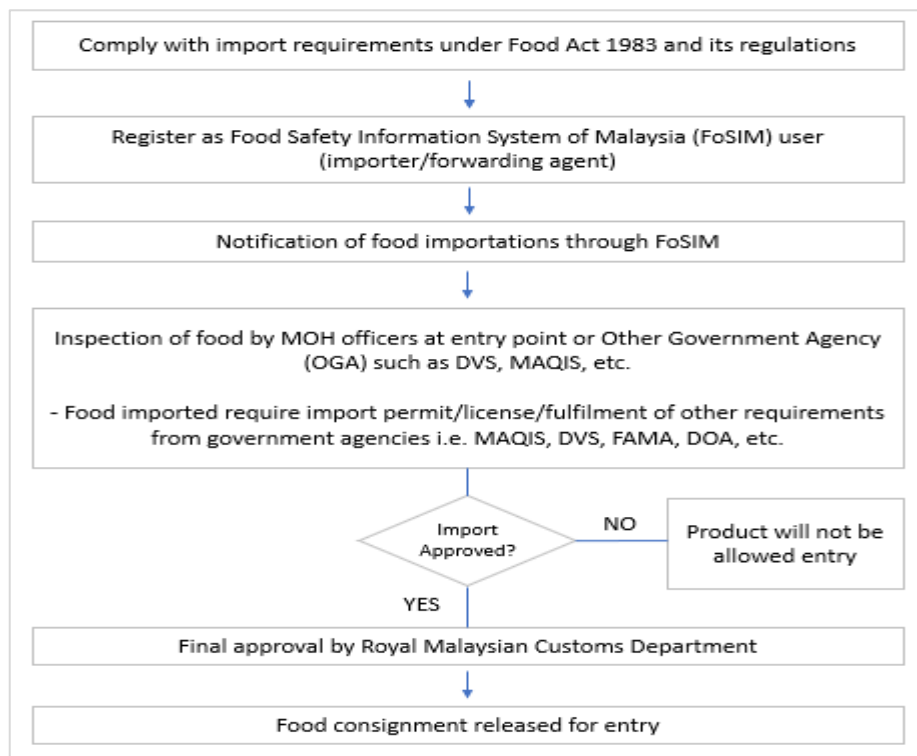
²⁶ http://www.maqis.gov.my/en_US/web/guest/ikan-prosedur-eksport

Figure 15: Procedures for Import and Export Permit



Source: Malaysian Quarantine Inspection Services (MAQIS)

Figure 16: Flow Chart on Importation of Food Products



Source: Malaysian Quarantine Inspection Services (MAQIS)

2.3.2.4.4 Import Tariff

Malaysia maintains tariff-rate quota (TRQ) systems for 17 tariff lines of agricultural products, which includes live poultry, poultry meat, milk and cream, pork, and round cabbage. These products incur in-quota duties of between 10% and 25% and out-of-quota duties as high as 168%.²⁷

The import of fresh and frozen beef meat as well as *ikan kembung* are exempted from import duties. Vegetables are also no longer subjected to import duties with the exception of certain items which includes round cabbage which has a high out-of-quota rates ranging from 20% to 90%.²⁸

The importation of infant formula is also exempted from import tariffs. Liquid milk, however, is subjected to an in and out-quota tariff ranging from 20% to 50%.

²⁷ <https://ustr.gov/sites/default/files/2013%20NTE%20Malaysia%20Final.pdf>;
<http://www.miti.gov.my/index.php/pages/view/2206>

²⁸ https://www.wto.org/english/tratop_e/tpr_e/s292_sum_e.pdf;
http://www.eria.org/RPR_FY2015_No.1_Chapter_7.pdf

The tables below highlight the Tariff Rate Quota (TRQ) for cabbage and liquid milk:

Table 10: Customs Duties Order 2017

| HS CODE | DESCRIPTION | UNIT | IN QUOTA TARIFF (%) | OUT QUOTA TARIFF (%) | IN-QUOTA VOLUME |
|--------------|---|------|---------------------|----------------------|-----------------|
| 07.04 | Cabbages, cauliflowers, kohlrabi, kale and similar edible brassicas, fresh or chilled. | | | | |
| 07.04.90.10 | Round cabbages | kg | 0 | 90 | |

Source: Customs Duties Order 2017

Table 11: MFN Tariff Rate Quota 2017

| HS CODE | DESCRIPTION | UNIT | IN QUOTA TARIFF (%) | OUT QUOTA TARIFF (%) | IN-QUOTA VOLUME |
|--------------|--|-------|---------------------|----------------------|---|
| 04.01 | Milk and cream, not concentrated nor containing added sugar or other sweetening matter. | | | | |
| 0401.10.100 | of a fat content, by weight, not exceeding 1% - In liquid form | litre | 20 | 50 | Peninsular: 1,123,340 Sabah: 300,000 Sarawak: 420,000 |
| 0401.20.100 | of a fat content, by weight, exceeding 1% but not exceeding 6% - In liquid form | litre | 20 | 50 | Peninsular: 3,878,072 Sabah: 500,000 Sarawak: 735,707 |
| 0401.40.110 | of a fat content, by weight, exceeding 6% but not exceeding 10% Litre - In liquid form | litre | 20 | 50 | Peninsular: 1,134,695 Sabah 1,010,000 |

Source: Department of Veterinary Services (DVS)

Table 12: Malaysia-Australia FTA (MAFTA) 2017

| HS CODE | DESCRIPTION | UNIT | IN QUOTA TARIFF (%) | OUT QUOTA TARIFF (%) | IN-QUOTA VOLUME |
|--------------|--|-------|---------------------|----------------------|-----------------|
| 04.01 | Milk and cream, not concentrated nor containing added sugar or other sweetening matter. | | | | |
| 0401.10.100 | of a fat content, by weight, not exceeding 1% - In liquid form | litre | Nil | 20 | 112,551 |
| 0401.20.100 | of a fat content, by weight, exceeding 1% but not exceeding 6% - In liquid form | litre | Nil | 20 | 705,791 |
| 0401.40.110 | of a fat content, by weight, exceeding 6% but not exceeding 10% Litre - In liquid form | litre | Nil | 20 | 23,185 |

Source: Department of Veterinary Services (DVS)

Table 13: ASEAN Australia New Zealand Free Trade Agreement (AANZFTA)

| HS CODE | DESCRIPTION | UNIT | IN QUOTA TARIFF (%) | OUT QUOTA TARIFF (%) | IN-QUOTA VOLUME |
|--------------|--|-------|---------------------|----------------------|-----------------|
| 04.01 | Milk and cream, not concentrated nor containing added sugar or other sweetening matter. | | | | |
| 0401.10.100 | of a fat content, by weight, not exceeding 1% - In liquid form | litre | Nil | 20 | 649,714 |
| 0401.20.100 | of a fat content, by weight, exceeding 1% but not exceeding 6% - In liquid form | litre | Nil | 20 | 3,248,570 |
| 0401.40.110 | of a fat content, by weight, exceeding 6% but not exceeding 10% Litre - In liquid form | litre | Nil | 20 | 21,657 |

Source: Department of Veterinary Services (DVS)

2.3.2.5 Price and Supply Regulation

The monitoring of supplies and prices of goods, including food items are based on the following laws and subsidiary legislation:

- Control of Supplies Act 1961
- Control of Supplies Regulations 1974
- Control of Supplies (Chicken) Regulations 1996
- Control of Supplies (Prohibition on Exports) Regulations 2011
- Price Control and Anti-Profiteering Act 2011

2.3.2.5.1 Control of Supplies Act 1961 & Control of Supplies Regulations 1974²⁹

Control of Supplies Act 1961 is an act to provide for the control and rationing of supplies, while the Control of Supplies Regulations 1974 was established to implement the Act. The regulations provide guidelines with regard to manufacturing and trading of certain controlled products. Milk including condensed milk, powdered or dried milk and evaporated milk as well as prepared or preserved fish in airtight containers have been declared as controlled articles under the Control of Supplies Act 1961. Hence, the supply of these items is monitored by the Ministry of Domestic Trade and Consumer Affairs (MDTCA)

The Act covers the following offences and requirements:

1. Selling without a licence
2. Selling greater quantity of controlled articles than required for ordinary use
3. Falsely denying possession of, or refusing to sell
4. Retailers to display licence and list of controlled materials
5. Supply of rationed foodstuffs
6. Selling with illegal conditions
7. Removal of controlled materials from business premises and storage of controlled materials in premises other than licensed business premises and dealing in controlled materials otherwise than in normal course of business
8. Unlawful possession of controlled materials

²⁹ Ministry of Domestic Trade and Consumer Affairs; Control of Supplies Act 1961; Control of Supplies Regulations 1974

2.3.2.5.2 The Festive Season Price-Controlled Scheme (SHMMP)³⁰ under the Price Control and Anti-Profiteering Act 2011

SHMMP was implemented since year 2000 under the Price Control and Anti-Profiteering Act 2011 (formerly Price Control Act 1946). The scheme aims to prevent hefty price increases of essential goods during the festive period and protect consumers against profiteering. It ensures goods are sold below the ceiling price and are readily available during the festive period. The ceiling price is usually determined around 3 months before the festive period based on historical price trend as well as consensus and consultation with industry regulators and associations.

Under this Scheme, a number of essential festive season goods are identified as price-controlled goods whereby their maximum selling price will be determined according to areas and districts for a specified period. This Scheme is enforced throughout Malaysia at the producer, wholesaler and retailer level. Types of goods affected vary according to the festival concerned. During the festive period, traders are required to affix pink coloured labels indicating the price per unit or per unit weight, the name describing the said goods and the grade or quality (if any) of such price-controlled goods to differentiate them from other goods. Traders should not sell such goods above the determined maximum price and ensure adequate supply of these goods. The festive seasons encompassed are as follows:

- Hari Raya Puasa
- Chinese New Year
- Deepavali
- Christmas
- Pesta Kaamatan and Hari Gawai

For vegetables, *Sawi* is not a price-regulated item under the SHMMP, but the prices of imported round cabbages is controlled during Hari Raya Puasa, Chinese New Year and Hari Gawai / Kaamatan period. Meanwhile, the prices of beef / buffalo (local and imported) are controlled during Hari Raya Puasa and Hari Gawai / Kaamatan while the prices of *Ikan Kembung* is only controlled during Hari Raya Puasa period. Similar to *Sawi*, infant formula is not covered under the SHMMP.

³⁰ Ministry of Domestic Trade and Consumer Affairs

3. MARKET ASSESSMENT: BEEF

RELEVANT PRODUCT MARKET

- The market review takes into account both beef and buffalo meat, including local and imported meat. Local beef is produced from local cattle and imported cattle, while imported beef refers to both chilled and frozen beef/buffalo meat.

MARKET CHARACTERISTICS

- Beef consumption in Malaysia has been on an uptrend, growing at a CAGR of 4.3% from 2010 to 2018. Despite the increasing consumption, the self-sufficiency ratio (SSR) of beef in Malaysia remains low at about 22% in 2018 and the local production has remained stagnant over the years.
- Due to the low production of beef, the local beef industry is highly dependent on the importation of cattle from two countries, Thailand and Australia. Although most of the cattle imported in 2010 were sourced from Thailand, increased competition from other countries has reduced the import from Thailand over the past few years. Consequently, the proportion of cattle imported from Australia has increased. Nevertheless, the total import volume of cattle has been on an overall downtrend over the years.
- Meanwhile, the importation of beef has been increasing consistently in tandem with the growing demand for beef locally. Frozen and chilled beef are primarily imported from Australia while frozen buffalo are predominately sourced from India.
- As the cattle and beef importation business has a high barrier to entry due to cost factors and stringent regulatory requirements, the import market is dominated by few players whose volume constitute majority of the import volume.
- In terms of pricing, there have been significant increase in the average prices of imported cattle, local beef and imported beef over the years. Particularly for imported buffalo from India, the local prices have increased at a faster rate compared to the export value per unit buffalo from India. Besides that, Malaysia's beef price indices have been higher than both the local and global meat price indices over the last few years.

MARKET PRACTICES / REGULATORY REQUIREMENTS

- The importation of cattle and beef are subjected to various standards and requirements, especially by the DVS and JAKIM. Besides that, industry players are also subjected to external compliance for importation of cattle from Australia which imposes additional costs and regulatory burdens on both exporters and local importers. With regards to these requirements and compliances, exporters need to allocate significant resources and cost in meeting these standards. This may have restricted the entry of new exporters, leaving the market dominated by limited number of exporters (less than 10 in respective key import countries). In fact, some of the approved abattoirs in certain countries are owned by the same exporter.
- Besides regulatory aspect, cattle importation also requires high capital and therefore, smaller cattle breeders (i.e. feedlots) usually source imported cattle from major importers which may also operate huge-scale feedlots.

- Similarly, the importation of frozen buffalo from India is usually sourced by meat wholesalers and traders from local importers who serve as the principal distributors or representative agents for the key exporters in India.
- Wholesalers and retailers of local beef generally refer to the price ceiling under SHMMP as a guideline or reference point to devise their prices accordingly.

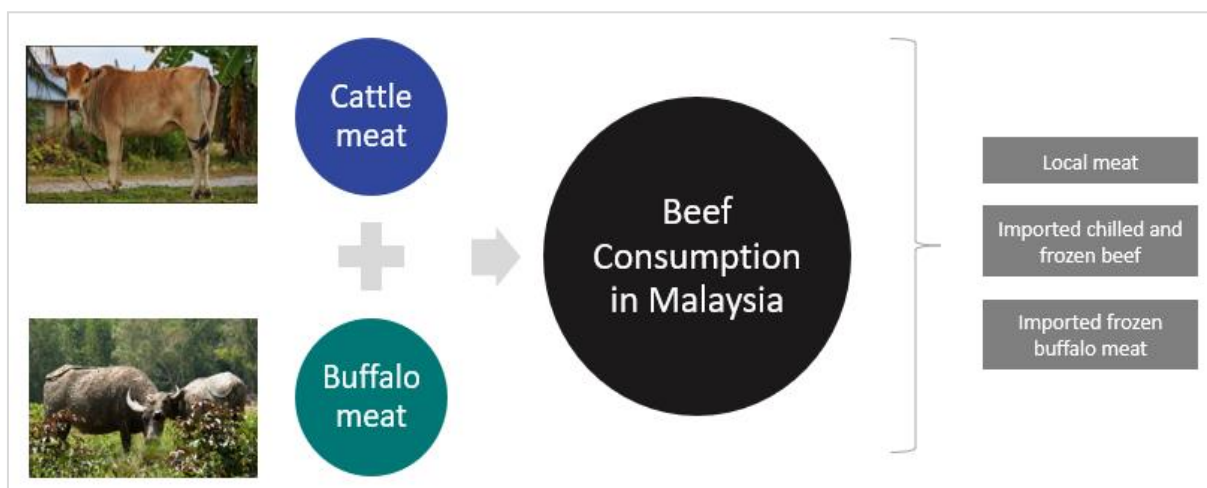
AREAS OF CONCERNS

- While Malaysia is highly dependent on importation, the sources of import is limited and not diversified as it relies primarily on two key countries for both cattle and beef. This leaves the market vulnerable to the supply and price fluctuations in these countries.
- There is also currently limited number of approved exporters in these key import countries, mainly due to the stringent regulatory requirements by the DVS/JAKIM as well as ESCAS compliance by the Australian government. These have led to the oligopoly among exporters that supply to Malaysia.
 - The dominance of overseas exporters may have given them some influence to impose certain purchasing conditions which have restricted the participation of other players. For example, a key retailer has made effort to import buffalo meat directly from the exporters but to no avail as the exporters primarily deal with their principal agents and impose a purchasing volume that cannot be fulfilled by the player.
- The commercial beef industry has a high barrier to entry, mainly due to the huge capital requirement for importation and logistics. These have resulted in the dominance of few importers whose volume constitute majority of the market, giving them the influence in dictating the market supply and price.
 - Given the reliance of distributors and retailers on the importers, these players tend to be price takers and have limited ability to counter price increases by the importers. The reliance also gives importers the advantage to impose certain purchasing criteria which may not be in favour of their buyers, thereby reducing the bargaining power of the buyer.
 - The key importers have also established long-term relationship with the exporters and may have preferential treatment or exclusive agreements which may impose some restrictions on other smaller importers in the market. For example, these importers may have the advantage in securing regular supplies at competitive prices.
 - As the key importers tend to compete on the basis of volume, they can potentially minimize competition by decreasing the prices below competitive levels. This will pose barriers to the entry of new and smaller players who do not have the capacity to import huge volume and compete at a lower price.

3.1 Relevant Product Category

Beef consumption in Malaysia is made up of meat derived from cattle and buffalo. Thus, the market review takes into account both beef and buffalo meat, including local beef as well as imported beef. Local beef is produced from both local cattle and imported cattle, while imported beef refers to both chilled and frozen beef/buffalo meat. Frozen buffalo meat is a cheaper substitute to cattle meat and is widely consumed by the population.

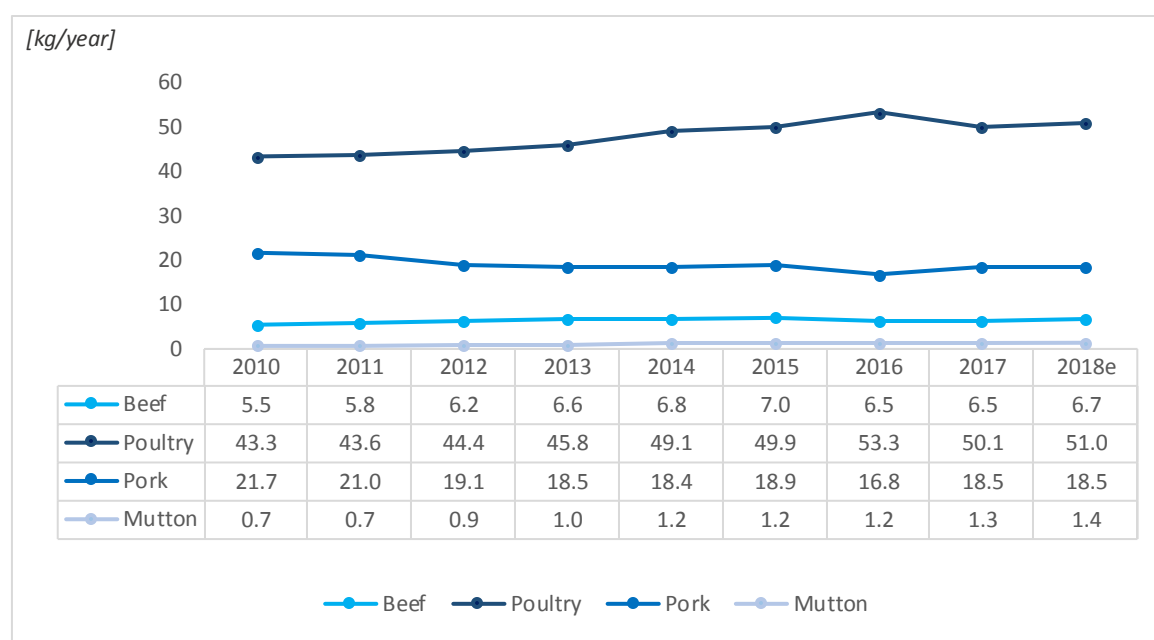
Figure 17: Product Coverage for Beef



3.2 Sector Overview

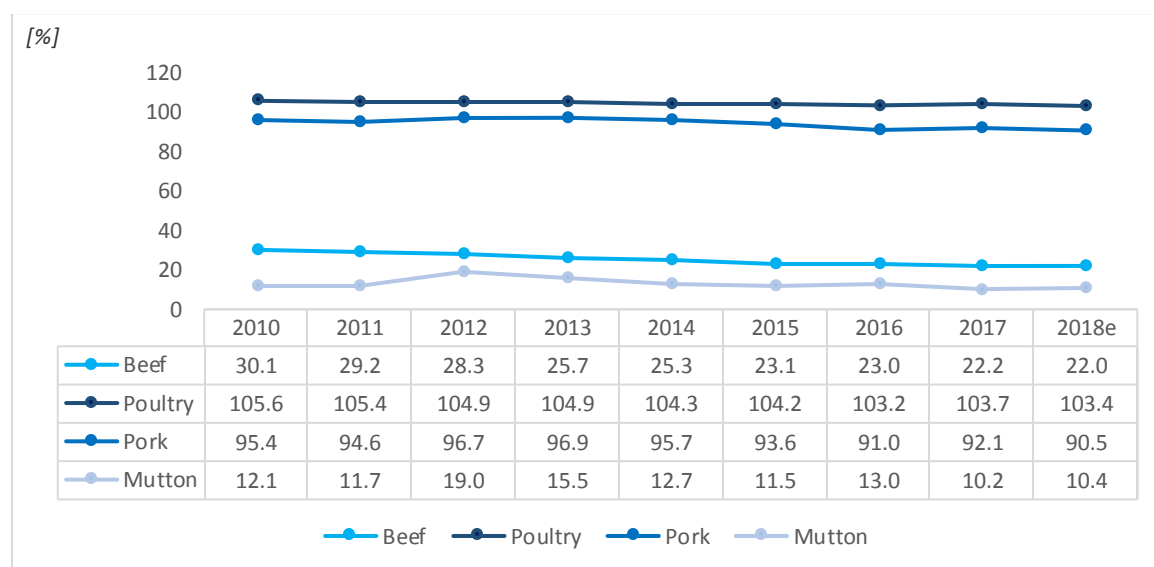
Beef is the third most consumed livestock product in Malaysia with per capita consumption of 6.5kg in 2017. The most widely consumed beef meat in Malaysia is imported frozen buffalo meat from India due to its affordability compared to local fresh meat. However, there is also demand for fresh and premium beef which is categorized as niche market that is primarily comprised of consumers from upper middle-class group and above. Despite an increasing trend of beef consumption locally, the self-sufficiency ratio (SSR) of beef only registered ~22% in 2017. This means that the local production of beef has not kept pace with the increasing demand and is only able to meet about 22% of the total domestic demand.

Figure 18: Per Capita Consumption of Livestock Products



Source: Department of Veterinary Services (DVS)

Figure 19: Self Sufficiency Ratio (SSR) of Livestock Products



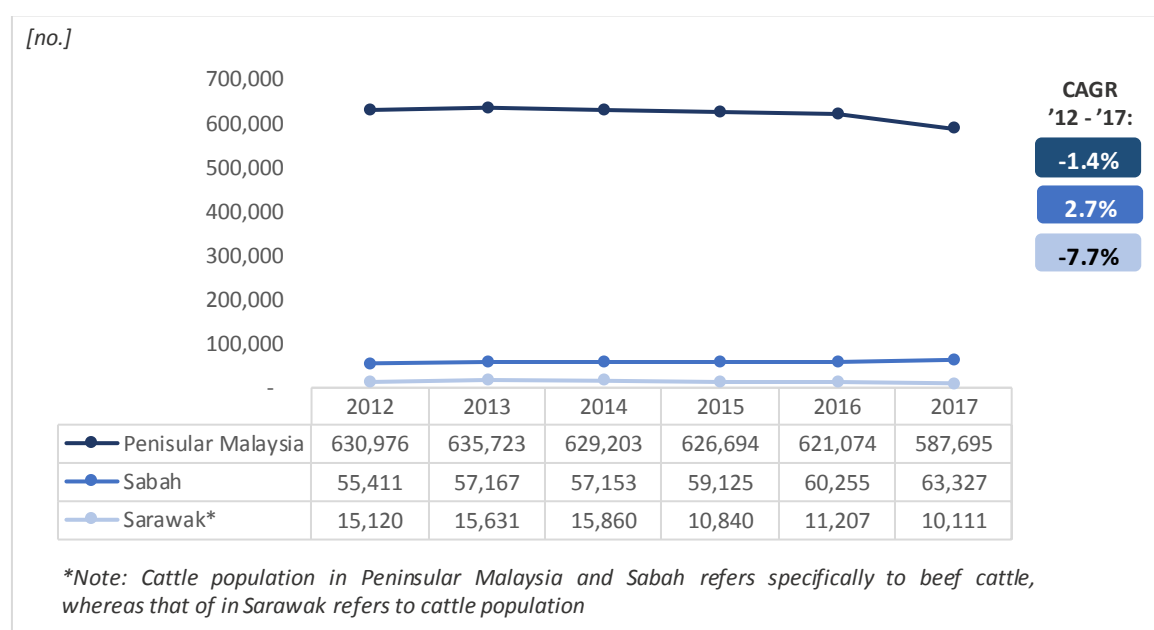
Source: Department of Veterinary Services (DVS)

One of the key factors for low production of local beef is due to limited cattle rearing in the country. This is due to the high investment of starting and sustaining a cattle farm, inadequacy of land suitable for grazing to maintain a large population of breeding cows and irregular supply of nutritious feed locally.³¹ Besides that, the local beef livestock industry is also mainly run by smallholders who do not have the capacity for economies of scale. These small farmers do not have formal pastures or facilities for their cows to graze on and consequently, would have to purchase expensive feed for their cattle.

There were about 775,146 cattle and buffalo population in 2017. The number of both beef cattle and buffalo population in the country has decreased over the years across most states, with the exception of Sabah which has seen an increase in both cattle and buffalo population.

In Malaysia, there is high concentration of beef cattle production in certain states, especially within the East Coast region. About 60% of the beef cattle population are distributed in the states of Pahang (18%), Johor (14%), Kelantan (15%) and Terengganu (13%). The high concentration of cattle in Pahang, Kelantan and Terengganu is mainly due to the long standing traditional practice among villagers in these states to rear cattle as an additional economic activity on a small scale. Meanwhile, the high concentration of cattle population in Johor may be attributed to the investment in cattle breeding stock by JCorp in Johor.

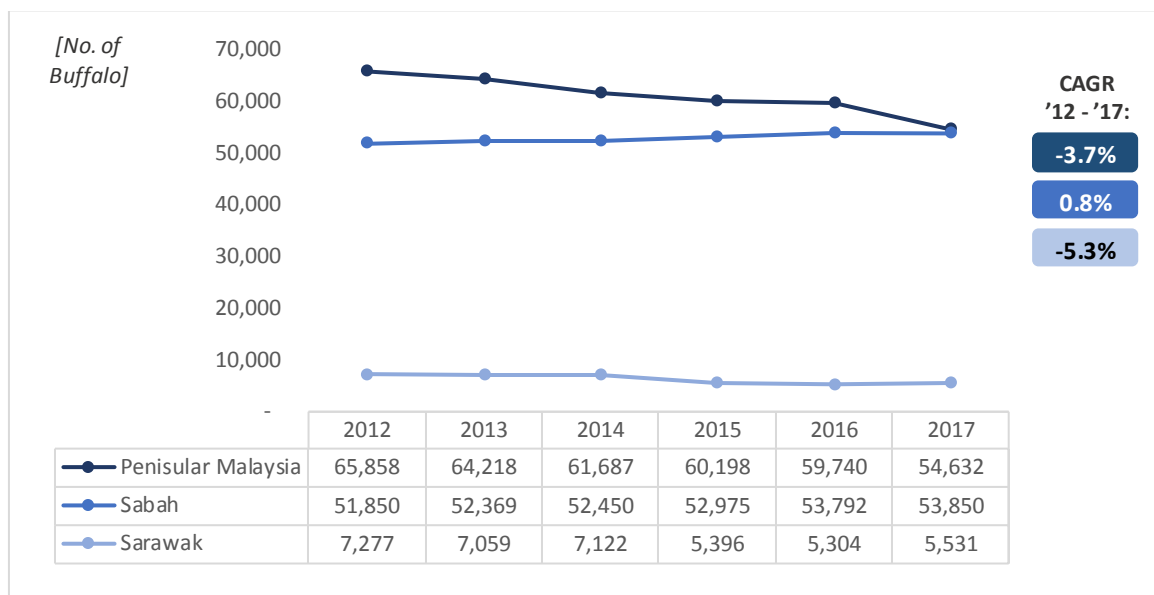
Figure 20: Beef Cattle Population in Malaysia



Source: Department of Veterinary Services (DVS)

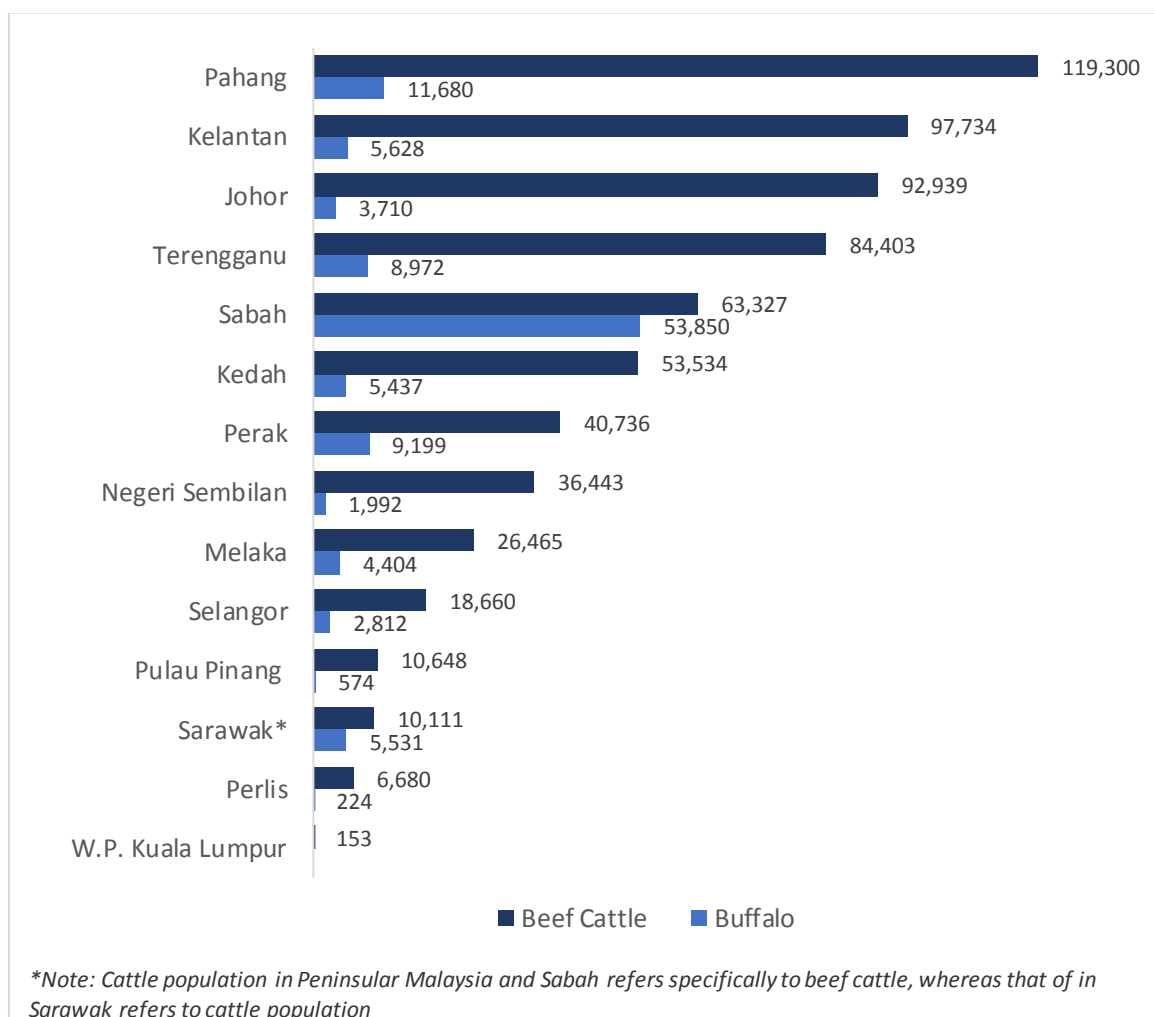
³¹ Ariff, O.M., Sharifah, N.Y., Hafidz, A.W. *Status of beef industry of Malaysia*.2015

Figure 21: Buffalo Population in Malaysia



Source: Department of Veterinary Services (DVS)

Figure 22: Distribution of Beef Cattle and Buffalo Population by States of Malaysia, 2017



Source: Department of Veterinary Services (DVS)

The shortfall in the domestic supply of beef meat is fulfilled by importation mainly from India, Australia and New Zealand. Live cattle are usually imported from Australia and Thailand. Meanwhile, most of the beef meat are sourced from India as frozen buffalo meat due to the relatively cheaper price and availability of halal meat. The minor physical difference in both beef and buffalo meat often result in consumers mistaking buffalo for beef meat. As such, buffalo meat is often substituted for beef meat by consumers due to affordability compared to alternative ruminant such as goat. Meanwhile, fresh and premium beef are mainly derived from Australia and New Zealand breeds.

The beef market has a high barrier to entry, mainly due to the huge capital requirement for running a cattle farm as well as importing beef. As a result, the market is concentrated with few key players that are involved in the beef business on a commercial scale. The competitive landscape of the market will be further discussed in Section 3.6.

Despite low production of local beef, the beef market in Malaysia is expected to increase in the coming years due to increased consumption on the back of rising disposable incomes. Under the 11th Malaysia Plan (2016 - 2020), the government has targeted to raise the SSR of beef to 50% by 2020. In tandem with this, the government would be pushing for increased local beef production by introducing programmes and initiatives on intensifying research in genetic enhancement, improving breeding techniques, ensuring sufficient supply of quality animal feed, transforming small-scale farms, etc. Nevertheless, the governments expect the industry to continue to face a shortage in local beef and become increasingly dependent on imports.³² It is therefore imperative to examine the beef market structure, supply value chain and competitiveness of the industry as beef is expected to remain as a highly demanded livestock product.

³² <https://www.nst.com.my/news/nation/2017/08/272680/malaysia-will-continue-face-shortage-local-beef>

3.3 Regulatory/Policy Landscape

A number of institutions on both federal and state levels help regulate the beef market in Malaysia. These are the **Department of Veterinary Services (DVS)** under the Ministry of Agriculture, the **Department of Malaysian Quarantine and Inspection Services (MAQIS)** under the Ministry of Health and **Jabatan Kemajuan Islam Malaysia (JAKIM)**. The section below highlights the key regulations governing the local beef sector.

3.3.1 Food Act 1983 & Food Regulations 1985

The Food Act 1983 and the Food Regulations 1985 govern the various aspects of food safety and quality control. The regulation for meat products, which include beef falls under Regulation 141 to Regulation 155. These regulations mainly stipulate the criteria and definition for the different types of meat products (e.g. fresh meat, frozen meat, chilled meat, etc.) as well as labelling requirements for the meat products.

3.3.2 Malaysian Protocol for The Halal Meat Production

Malaysian Protocol for The Halal Meat Production was developed by JAKIM to give clear guidance in the production of halal meat and poultry. This protocol is intended to support the implementation of Malaysia's requirement for halal meat, poultry and their products. This protocol is applicable to all establishments producing halal meat, poultry and their products including those intending to export to Malaysia under the Animals Act 1953 (reviewed 2006). This protocol shall be used together with the Malaysian Standard MS 1500:2009 Halal Food – Production, Preparation, Handling and Storage – General Guidelines (Second Revision). All approved establishments, be it local or overseas are required to comply to this protocol.

3.3.3 Import Regulations

The importation of live animals and livestock products into Malaysia are regulated by the DVS and MAQIS. These departments are empowered by the Animal Rules 1962, Animal Ordinance 1953, Animal Importation Order 1962 and Federal Animals Quarantine Station (Management and Maintenance) By-Law 1984 to facilitate the importation of live animals and livestock products into Malaysia.

There is currently no specific import restriction or quota for the importation of cattle or beef, however, importers are required to follow DVS' procedures and standards. Prior to the application of import permit from MAQIS, approval from the DVS and official Veterinary Health Certificate from the country of export are required for the importation of live animals and animal products. The import permit need to be obtained prior to the import and should be obtained for every consignment. The cost of import permit for cattle / buffalo is RM 5 per head, while the cost for animal carcass and products is RM10 per 100kg.

The consignment of imported live animals and meat should be accompanied by the following:

| Live Cattle / Buffalo | Meat Products |
|---|---|
| <ol style="list-style-type: none"> 1. Valid import permit issued by MAQIS (for Peninsular Malaysia and Labuan) or DVS (Sabah and Sarawak) permitting the importation of such animals into the country. 2. A certificate containing a full description or identification of the animals 3. The animals shall be tagged with ear tag for identification and traceability 4. Veterinary Health Certificate issued by the competent Veterinary Authority of the country of export within 7 days of export | <ol style="list-style-type: none"> 1. Valid import permit issued by MAQIS (for Peninsular Malaysia and Labuan) or DVS (Sabah and Sarawak) permitting the importation of such animals into the country 2. Veterinary Health Certificate issued by the competent Veterinary Authority of the country of export within 7 days of export 3. Halal Certificate issued by HALAL organization body recognized by JAKIM. The certificate should verify that the slaughter of the cattle or buffalo has been done according to Muslim rites and that all slaughtering, chilling, freezing, storing, transportation and all other acts in connection with handling and consignment have been done separately from the other species of animals. |

3.3.3.1 Approval of Foreign Abattoirs and Processing Plants by DVS and JAKIM³³

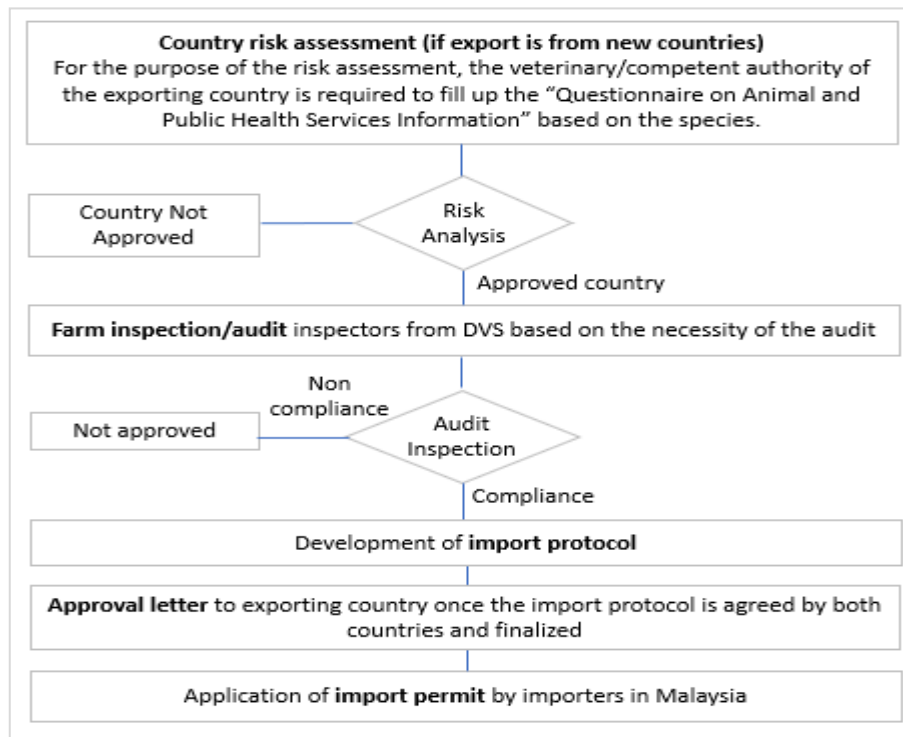
Under the Control of Slaughter Rules 1975, all meat and livestock products imported into the country must be certified halal and the products must originate from slaughterhouses in foreign countries which have been inspected and approved by the local inspection team, which is comprised of officers from DVS / JAKIM / MOH.

The establishments are assessed primarily on their compliance to Malaysian requirements on sanitary, food safety and halal compliance by respective officers. With regard to this, the veterinary inspection focuses on Sanitary & Phytosanitary (SPS) requirements, the effective implementation of GMP (Good Manufacturing Practices) and the food safety assurance program such as HACCP (Hazard Analysis Critical Control Points). The inspection procedures follow the program on VHM (Veterinary Health Mark) scheme by DVS and Halal Certification by JAKIM on local establishments. Please refer to Appendix 11 for more information on the SPS and Veterinary requirements by DVS and halal requirement by JAKIM. The regulatory requirements are based on Sanitary & Phytosanitary (SPS), World Organisation for Animal Health (OIE) and Codex which stipulate minimum requirements for food safety and prevention of animal disease spread into the country.

Upon approval of all the departments, the abattoirs and processing plants will be listed in the Malaysian approved plants list. The approved establishments are subjected to inspection by the DVS and JAKIM at any time as and when deemed necessary. The halal certificate issued by the recognised certification body will only be valid upon approval from the Malaysian authority. The procedure for the importation of live animals and meat products are highlighted in the figures below:

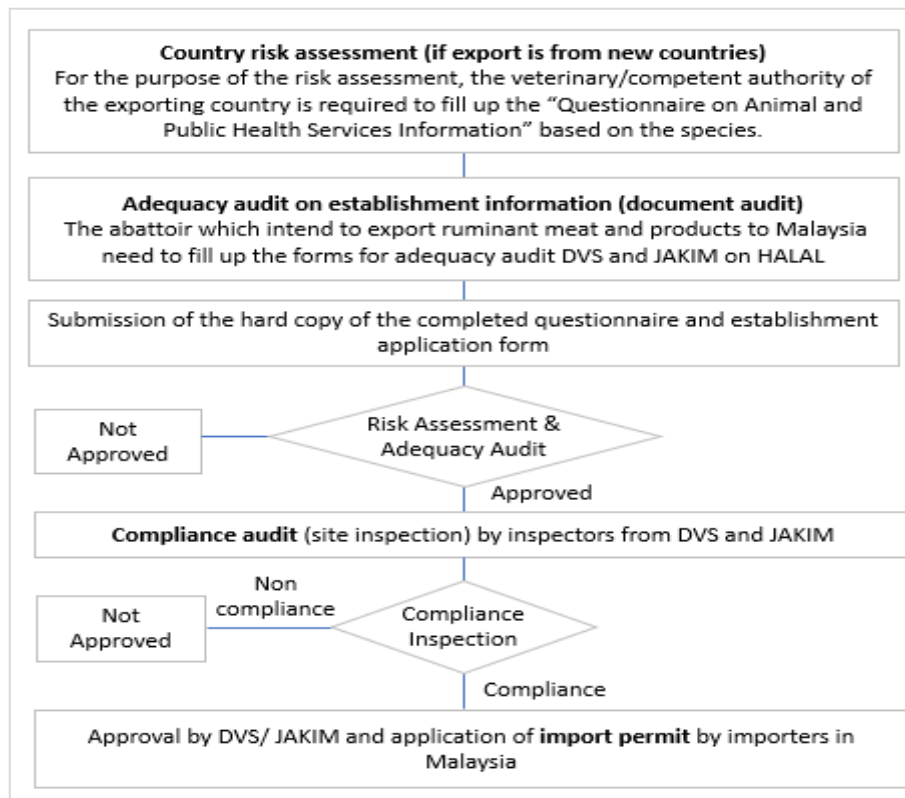
³³ <http://www.dvs.gov.my/dvs/resources/auto%20download%20images/560b9bca7240c.pdf>;
http://www.halal.gov.my/v4/index.php?data=bW9kdWxlcy9jZXJ0aWZ5X2JvZHK7Ozs7&utama=CB_PROC

Figure 23: General Procedure to Import Livestock to Malaysia



Source: Department of Veterinary Services (DVS)

Figure 24: General Procedure to Import Ruminant Meat/Products to Malaysia



Source: Department of Veterinary Services (DVS)

3.3.3.1.1 Inspection Fees

Establishments which are intending to export are required to bear the cost of the inspection of their premises. The inspection fee for foreign abattoirs and processing plants are based on cost recovery basis and processing fees, as follows:

- I. Cost recovery fee covers all expenses including return airfares, accommodation and in-country transportation during inspection period which will be borne by the exporting establishments, while other expenses will be borne by Malaysia Authority. This cost may be shared among the abattoirs and processing establishments involved in the inspection schedule.
- II. Establishments to be inspected for the purpose of compliance or review audit will be charged with processing fee of RM5,000.

3.3.3.1.2 List of Certified Abattoirs

The table below shows the list of certified establishments in selected key countries of import. These establishments operate slaughterhouse/abattoirs and are involved in the trading of the beef products. For example, Frigerio Conserva Allana Private Limited operates a slaughterhouse-cum-meat processing unit as a subsidiary of Allansons Private Limited, which is the FMCG division of Allana Group.

Currently, Malaysia has 7 approved countries for the importation of beef while South Africa and Argentina are in the process of being approved as potential countries which fulfill the SPS requirements for beef importation. There is currently limited number of exporters in key import countries mainly due to the non-compliance to SPS and halal measures as required by the DVS/JAKIM as these regulations are crucial in ensuring food safety and prevention of animal disease spread into the country. As seen from the table below, New Zealand has 10 approved abattoirs for beef, Australia has only 6 approved abattoirs, followed by India with 7 approved abattoirs for buffalo meat. In fact, 3 out of the 7 approved abattoirs in India are owned by the top exporter, Allana while 5 out of the 8 approved abattoirs in Brazil are owned by the same company, Minerva. This reflects a lack of competition among exporters which supply to Malaysia.

Table 14: List of Certified Establishments for Beef / Buffalo in Import Countries

| Countries | Name of Establishments | Products Approved |
|------------------|--------------------------------------|---|
| India | M/S Al Noor Exports | Frozen deboned and deglanded buffalo meat |
| | M/S Frigerio Conserva Allana Limited | |
| | M/S Indagro Foods Pvt Ltd | |
| | Amroon Foods Pvt Ltd | |
| | Frigerio Conserva Allana Pvt Ltd | |
| | Frigorifico Allana Pvt Ltd | |
| | Al-Quresh Exports | |
| Australia | Wodonga Rendering Pty Ltd | Frozen / chilled carcass, cuts, edible offal, fat, deboned meat of cattle |
| | GBP Exports Pty Ltd | Frozen / chilled bone in, boneless beef, cuts, offal, tripe, fat and mechanically |

| Countries | Name of Establishments | Products Approved |
|--------------------|--------------------------------------|--|
| | | deboned meat of cattle |
| | Ralphs Meat Company Pty. Ltd. | 1. Frozen / chilled beef and beef parts 2. Edible offal of cattle |
| | Victoria Valley Meat Exports Pty Ltd | 1. Frozen / chilled boneless beef 2. Frozen / chilled bone in beef and offal |
| | G&K O'Connor Pty Ltd | Bulk frozen beef, chilled packaged beef offal, frozen beef offal, chilled and frozen cut primal beef cuts, frozen layer beef cuts |
| | Stanbroke Beef Pty. Ltd. | Beef carcasses, bone in and boneless beef primal, beef trimmings, beef mince, beef red and green offal, edible fat, beef portioned, portioned steaks, beef stir fry pieces |
| New Zealand | Affco NZ Limited, Affco Wairoa | Frozen / chilled carcass, cuts, parts, deboned meat & offal of cattle, sheep and goat |
| | Taylor Preston Limited | |
| | Crusader Meats New Zealand | |
| | South Pacific Meat Limited | Frozen / chilled carcass, cuts, parts, deboned meat & offal of cattle and sheep |
| | Tekuiti Meat Processors | |
| | Greenlea Premier Meat Limited | Frozen / chilled carcass, cuts, parts, deboned meat & offal of cattle |
| | Greenlea Premier Meat Limited | |
| | Affco Horotiu | |
| | Universal Beef Packers Ltd | |
| | Affco New Zealand Limited | |
| Pakistan | Tata Best Foods Ltd. | Frozen deboned and deglanded meat (cattle and buffalo) |
| | The Organic Meat (Pvt) Ltd. | |
| | Fauji Meat Limited (FML) | |
| | Zenith Associates | |
| Brazil | Mafrig Alimentos S/A | Frozen deboned and deglanded beef meat |
| | Minerva S. A | |
| | Minerva S/A | |
| | JBS S/A | |
| | Minerva S/A | |
| | Minerva Ind. E Com. De Alimentos S/A | |
| | JBS S/A | |
| | Minerva Ind. S/A | |

| Countries | Name of Establishments | Products Approved |
|-----------|--|--|
| Japan | [SLAUGHTERHOUSE] National Federation of Reclamative Agricultural Cooperative Associations Hitoyoshi Meat Center | Frozen / chilled beef meat (Japanese beef meat) |
| | [CUTTING PLANT] Zenkai Meat Co. Nishiawa Beef Ltd. | |
| USA | Thunder Ridge Beef Company | 1. Frozen / chilled boxed beef 2. Frozen / chilled beef offal |

3.3.3.2 Transportation

There are also requirements on the transportation of the live animals and meat product from the establishment to point of exit. The consignment of animals shall be accompanied by a certificate from the master/captain of the ship or aircraft stating that no ruminants or swine other than the approved consignment from the country of origin were taken on board the ship or aircraft. Cattle / buffalo should not be transported with *najs mughallazah* as defined in MS 1500:2009 (i.e. pigs or dogs and their products) under no circumstances.

For meat product, the refrigerated vehicle/container used for the transportation of the meat should be solely for halal meat and therefore, must be segregated from non-halal conformance products. The refrigerated vehicle/container used for the transportation of the meat must be in hygienic conditions and at temperature of 0°C to 4°C for chilled or at -18°C for frozen.

3.3.3.3 Quarantine

Upon arrival in Malaysia, all imported animals from the consignment are subjected to quarantined at approved quarantine station or farm. The minimum quarantine period is between 10 to 15 days, depending on the country of origin. During the quarantine period, the animals will be monitored for any evidence of infectious or contagious diseases and subjected to clinical examinations and laboratory tests as deemed necessary.

Upon release from the quarantine, the animals shall be taken directly to the DVS approved abattoirs for slaughter. While in the abattoir, the animals shall be subjected to the Control of Slaughter Rules 1975, Meat Inspection Rules 1985 and Standard Management Procedures as adopted. The imported animals that are not slaughtered immediately shall be held in a holding yard or farm of the importer approved by DVS. Animals which are intended for feedlot should be confined and observed in the farm/holding yard for a period of six months and every precaution must be taken to ensure that no contact be made with other animals.

The table below highlights the cost associated with quarantine procedures:

Table 15: Cost of Quarantine Services

| Items | Cost |
|--|-----------------------------------|
| Quarantine Fee | RM2 per head / day |
| Quarantine Certificate | RM2 per head |
| Examination Fee | RM 1 per head |
| | |
| The mileage of supervision of quarantine procedures includes the delivery or accompanying work | RM 1 per kilometre |
| The quarantine procedure supervision work includes shipping or accompanying | RM 10.00 per hour |
| Parking within MAQIS for storage of plants, animals, fish, carcasses, agricultural produce, soil and microorganisms | RM 10.00 per day |
| Disposal of plants, animals, fish, carcass, agricultural produce, soil and microorganisms | RM 2.00 per kilogram |
| Storage in the cold room | RM 100.00 per 1000 kilogram / day |

3.3.3.4 Exporter Supply Chain Assurance System (ESCAS)

In addition to the local requirements, the Australian government also imposes requirement on Australian livestock exporters through the Exporter Supply Chain Assurance System (ESCAS) which requires the exporter to have an approved system on animal welfare in place for the relevant market.

ESCAS was designed to ensure that Australian livestock exported for feeder and slaughter purposes are handled in accordance with international animal welfare standards and to provide a mechanism to deal with animal welfare issues when they occur. It places responsibility on exporters to guarantee measurable animal welfare outcomes throughout the entire supply chain in overseas market places, through to the point of slaughter ESCAS was implemented in Malaysia on 1 September 2012. Australian livestock exporters seeking a permit to export feeder and/or slaughter livestock must show that their supply chain:

- Meets World Organization for Animal Health (OIE) guidelines for animal welfare
- Enables animals to be effectively traced or accounted for by exporters within a supply chain through to slaughter
- Has appropriate control through reporting and accountability; and
- Is independently verified and audited

Where breaches of the ESCAS occur, immediate action is taken to remedy the situation. Failure to comply with the ESCAS could result in a range of compliance measures and sanctions including

additional audits or conditions on supply chains, failure to receive approval for future consignments, or an exporter losing their license to export livestock.

ESCAS pose regulatory barriers for both Australian exporters and Malaysian importers and may limit the number of players within the market. As at 31 August 2018, there were only about 10 Australian exporters with approved supply chains to export livestock to Malaysia. Nonetheless, ESCAS is also meant to reduce the risk of a future market-wide ban as it allows the regulator to shut down individual facilities or supply chains instead of whole markets in the event of a non-compliance.

3.3.4 Price Regulation

There is currently no control mechanism on the pricing of imported beef except during the festive period under the Festive Season Price-Controlled Scheme (SHMMP). Beef is included in the list of essential food items whose price is controlled by the Government during the festive season, especially during Hari Raya Puasa period. The price ceiling will be determined through consultation and agreement with the regulators and industry associations before announcement to the public. The impact of SHMMP on beef pricing will be further examined in Appendix 3.

3.3.5 Regulatory Impact

1. Potential cost and regulatory barriers due to importation requirements and halal compliance

As discussed in this section, the importation of cattle and beef are subjected to various standards and requirements, especially by the DVS and JAKIM. Although these requirements pose regulatory barriers to overseas suppliers, it is crucial in ensuring food safety and prevention of animal disease spread into the country. As such, exporters may need to allocate significant resources and cost in meeting these standards. Some of the key regulatory areas which may pose barriers include:

- Compliance to SPS and veterinary requirements by the DVS and halal standards by JAKIM.
- Operation of halal production throughout all the supply chain (dedicated Halal) and the development of internal Halal Assurance System (HAS) within the abattoir to ensure effectiveness and implementation of halal system.
- Adherence to ESCAS compliance for importation of cattle from Australia ESCAS which imposes additional costs and regulatory burdens on both exporters and local importers.
- Quarantine of live animals, which require a minimum quarantine period is between 10 to 15 days, depending on the country of origin. The quarantine of animals is hence, subjected to fees arising from quarantine services and procedures.

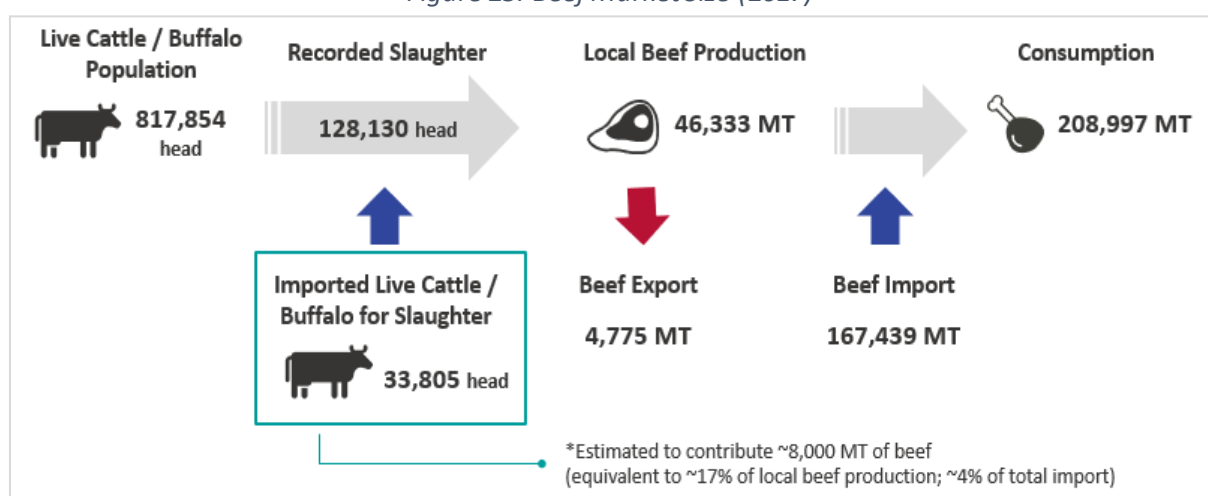
2. Limited entry of exporters / abattoirs leads to dominance among exporters

Considering the import dependence on beef, the number of approved abattoirs in key countries such as Australia and India are less than 10 respectively. In fact, 3 out of the 7 approved abattoirs in India is owned by the same key exporter, which is the Allana Group while 5 out of the 8 approved abattoirs in Brazil are owned by Minerva. Although DVS / JAKIM does not limit the number of applications for exporters, only few were able to meet the SPS, GMP, HACCP and Halal requirements. These requirements are vital in ensuring diseased animals or products carrying disease due to poor animal health and food safety standards are not allowed into the country. Meanwhile, under ESCAS, there are only about 10 Australian exporters with approved supply chains to export livestock to Malaysia as at 31 August 2018. Limited overseas suppliers in the market restrict competition and results in the dominance among these key exporters which may pave way for anti-competitive practices on local players who are highly dependent on them.

3.4 Market Size: Production, Consumption, Import, and Export

The beef market size in Malaysia in terms of consumption was reported to be 208,997 metric tonnes in 2017. Almost 80% of the beef are imported in the form of chilled, frozen and processed meat. Meanwhile, the local beef production which constitutes meat derived from both local and imported slaughter cattle and buffaloes only contributes 22% of the overall beef consumption. In 2017, about a quarter of the recorded slaughter of cattle and buffaloes are imported, which is estimated to yield about 8,000 MT of beef out of the total 46,333 MT beef produced locally. This is equivalent to about 17% of total local beef production and less than 5% of total import in 2017, indicating that the country is more heavily reliant on the importation of beef meat instead of importation of live cattle and buffaloes for local beef production.

Figure 25: Beef Market Size (2017)



*Based on the assumption that average weight of live cattle is 450kg prior to slaughter and yields 50% meat carcass (~200kg)

Source: Department of Veterinary Services (DVS), MyCC analysis

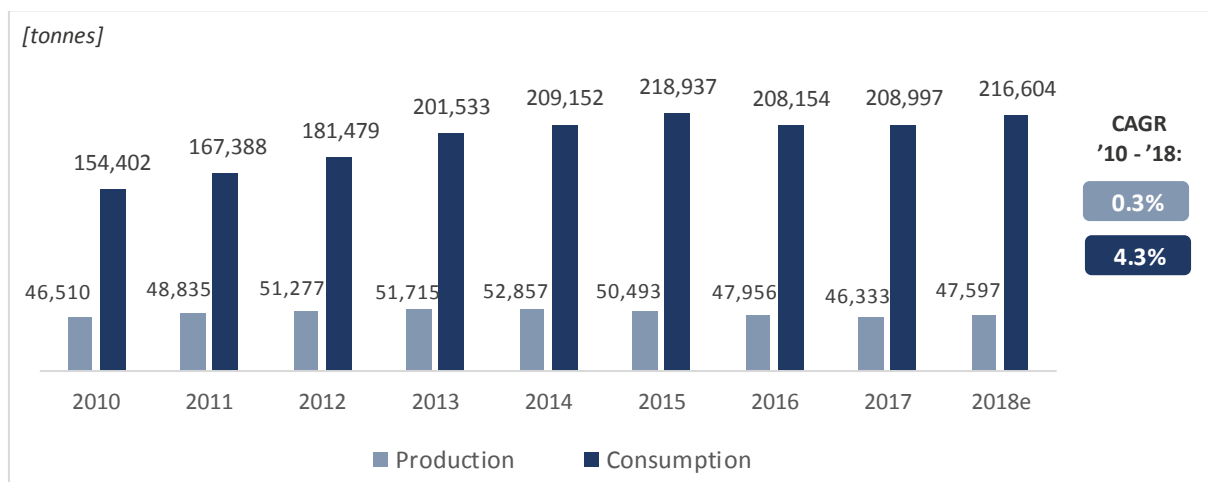
3.4.1 Production and Consumption of Beef

The consumption of beef has grown at a CAGR of 4.3% from 2010 to 2018, reaching 216,604 MT in 2018. However, the local production of beef meat has remained quite stagnant within the same period, reaching only 47,597 MT in 2018. The number of recorded slaughters of both cattle and buffalo has only increased marginally over the years, growing at a CAGR of about 1% from 2010 to 2018. Some of the key factors for the low production of beef in the country is mainly attributed to the high investment of starting and sustaining a cattle farm, inadequacy of land suitable for grazing to maintain a large population of breeding cows and low supply of nutritious feed locally.³⁴ Although Malaysia has sufficient land area, it does not establish large scale pasture area to graze cattle as cash crops such as oil palm and rubber occupy most of the developed agriculture lands in the country.³⁵

³⁴ Ariff, O.M., Sharifah, N.Y., Hafidz, A.W. *Status of beef industry of Malaysia*.2015

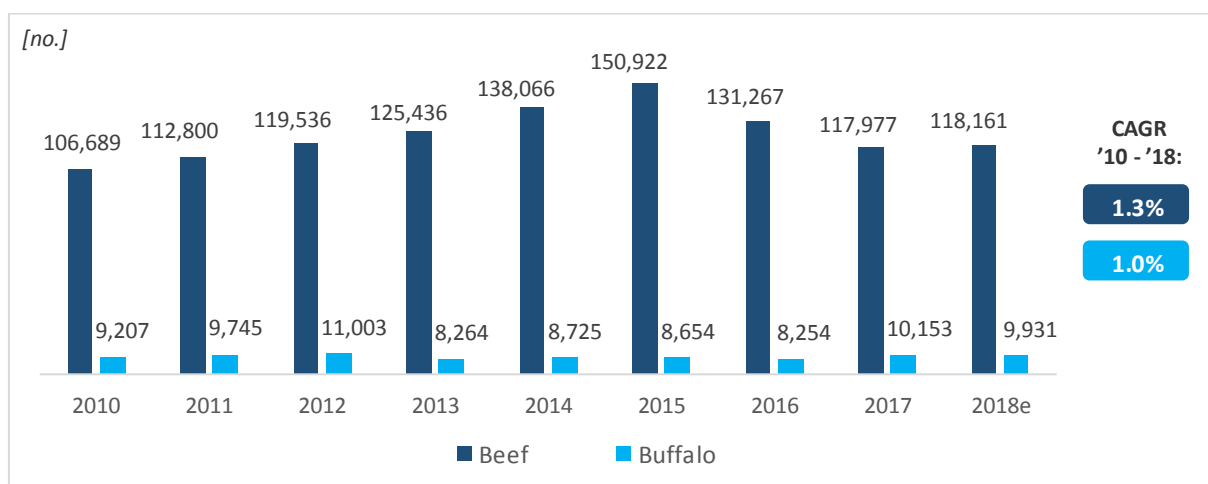
³⁵ Ibid

Figure 26: Production and Consumption of Beef



Source: Department of Veterinary Services (DVS)

Figure 27: Recorded Slaughter of Cattle and Buffalo

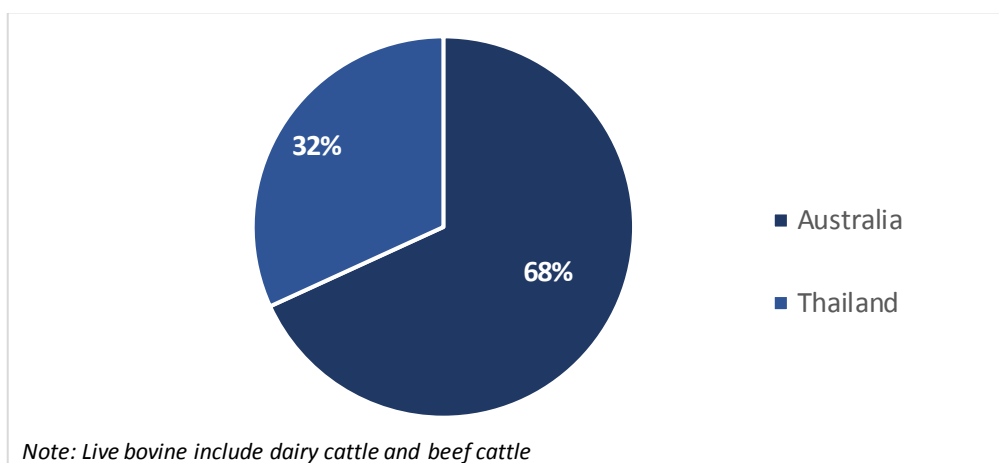


Source: Department of Veterinary Services (DVS)

3.4.2 Import and Export of Beef

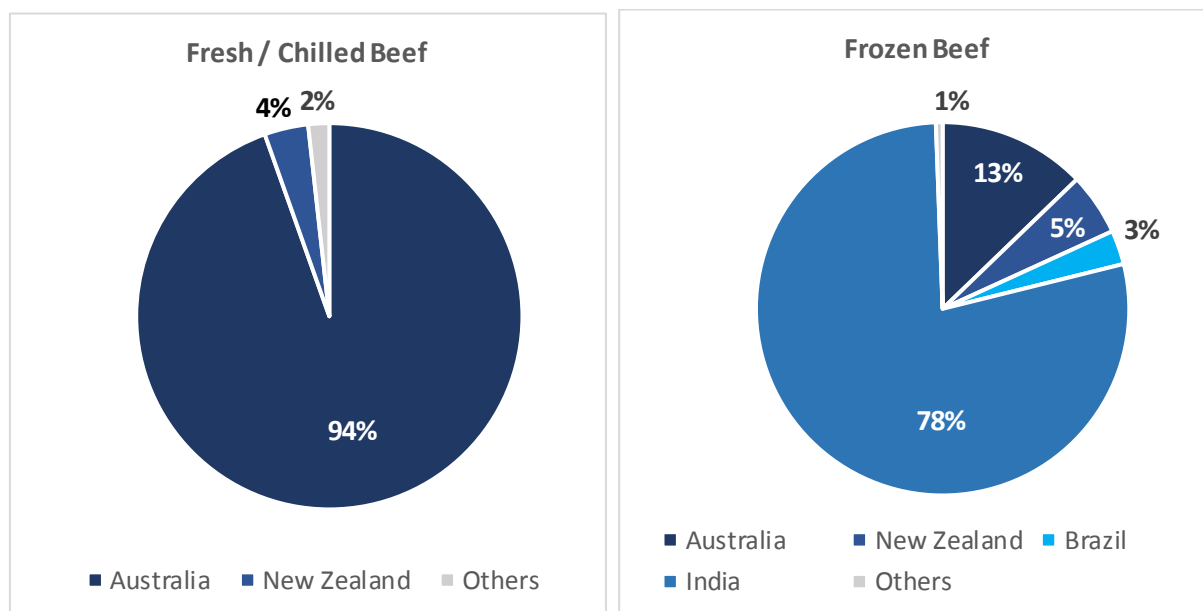
The shortfall in the domestic supply of beef is mainly fulfilled by the importation of cattle for slaughter and beef meat. Live cattle are primarily imported from Australia and Thailand, whereas beef is usually imported from Australia while buffalo meat is mainly sourced from India. As seen from the charts below, Malaysia is heavily reliant on very few countries for the importation of cattle or beef.

Figure 28: Live Bovine Imports by Country of Origin (2018)



Source: International Trade Centre (ITC)

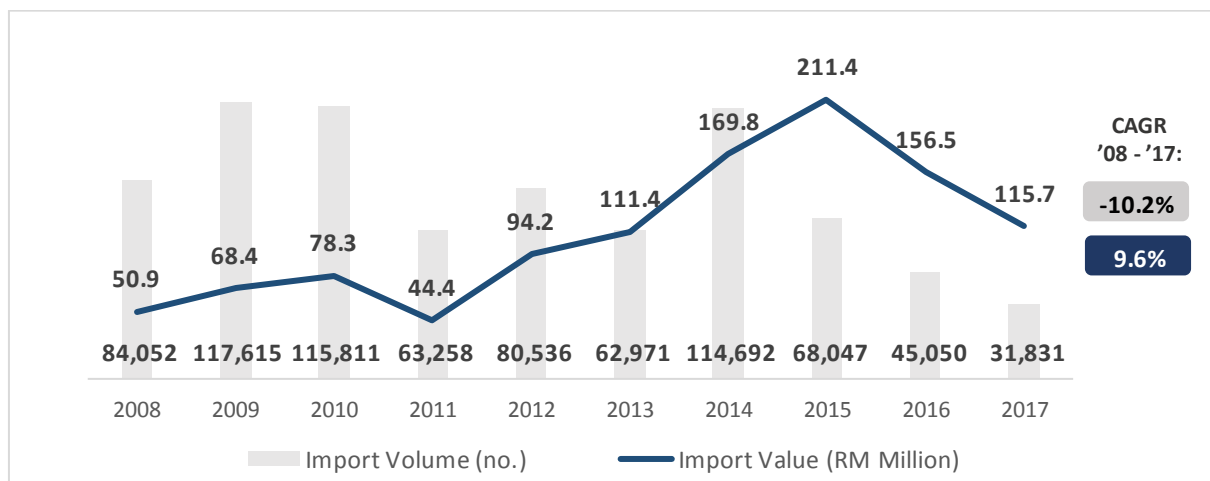
Figure 29: Beef Imports by Country of Origin (2018)



Source: International Trade Centre (ITC)

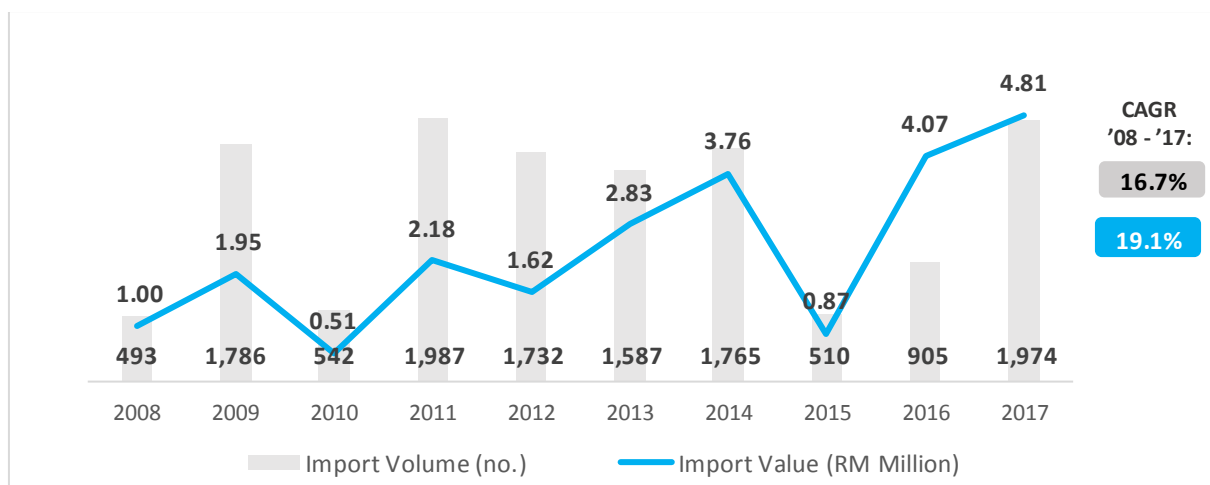
While the import volume of live cattle for slaughter has been quite inconsistent, it has been on an overall downtrend with a CAGR of -10.2% from 2008 to 2017. Meanwhile, the import value has been on a general uptrend, growing at a CAGR of 9.6% over the same period to reach RM115 million in 2017. Similar to cattle, the importation of buffalo for slaughter has also been quite inconsistent despite a much lower import volume.

Figure 30: Import of Live Cattle for Slaughter



Source: Department of Veterinary Services (DVS)

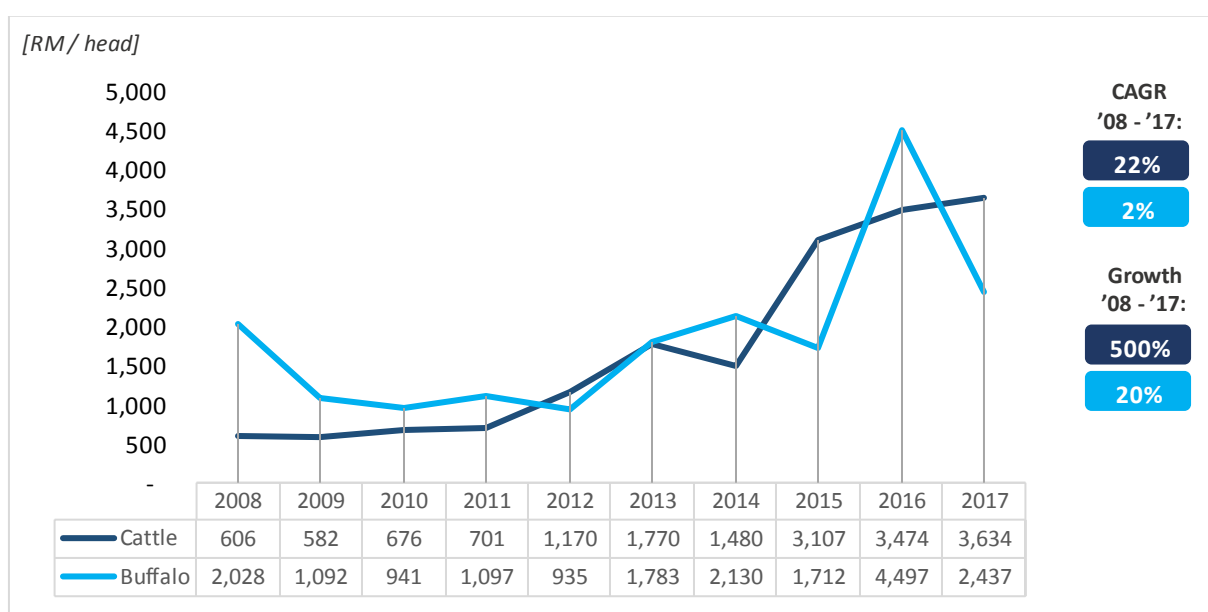
Figure 31: Import of Live Buffalo for Slaughter



Source: Department of Veterinary Services (DVS)

The import value of both imported cattle and buffalo for slaughter has been growing at a faster pace compared to respective import volumes. In fact, the import value per cattle has been increasing at a much faster rate compared to that of buffalo. As seen from the figure below, the import value per cattle has increased by 500% from 2008 to 2017, reaching about RM3,600 in 2017. The significant increase in imported cattle prices is mainly attributed to increased demand from countries such as China which has reduced the local import volume of cattle from countries such as Thailand over the past few years.³⁶ As such, Malaysia has become more dependent on the cattle importation from Australia which has increased in price due to the rise in global commodity prices and a decline in the local currency.³⁷ The preference for Australian cattle is mainly driven by logistical aspect, disease free reputation and genetically superior stock. In order to meet the local beef supply, the government has also been looking at suppliers from other countries such as Myanmar, Cambodia, Brazil and Africa.

Figure 32: Import Value per Cattle and Buffalo for Slaughter



Source: Department of Veterinary Services (DVS)

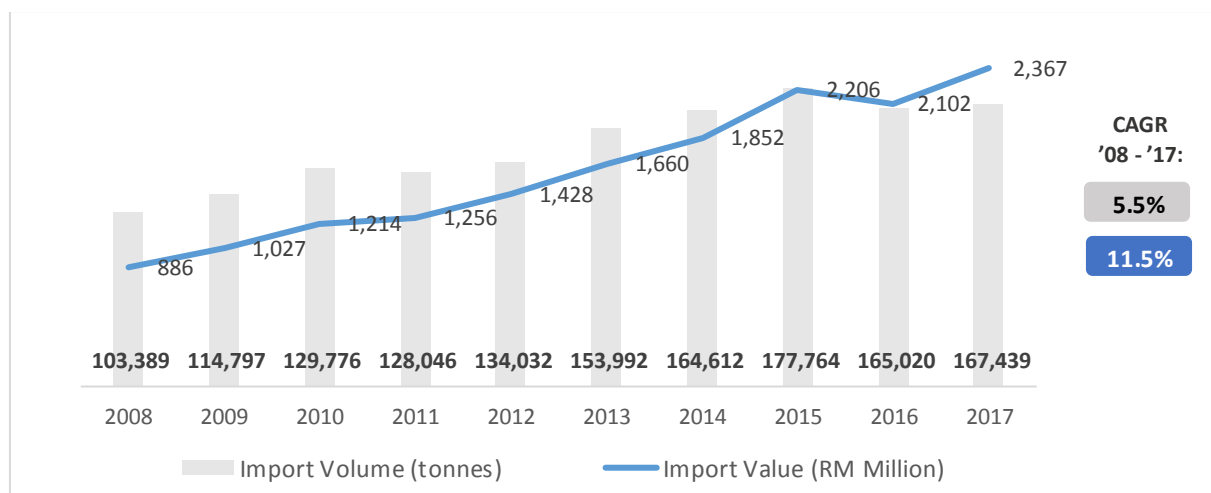
As opposed to the import of live cattle and buffalo, the importation of beef has been increasing consistently in tandem with the growing demand for beef locally. The volume of imported beef meat has grown at a CAGR of 5.5% between 2008 to 2017, reaching 167 thousand MT in 2017. The value of imported meat, however, has grown at a much faster pace with a CAGR of 11.5% within the same period while the import value per tonne beef has grown at a CAGR of 6.5%. Similar to live cattle, the increase in import value of beef may be attributed to increased global demand, especially by countries which are opening up to their market to the import of buffalo meat. For example, in mid-2016, the Indonesian government decided to allow cheap frozen Indian buffalo meat to penetrate the Indonesian market in order to boost supplies of beef and offer more affordable prices for the

³⁶ <http://www.theborneopost.com/2014/04/16/australian-cattle-to-be-slaughtered-in-malaysia-after-full-compliance-with-animal-welfare-standards/>

³⁷ Department of Veterinary Services (DVS)

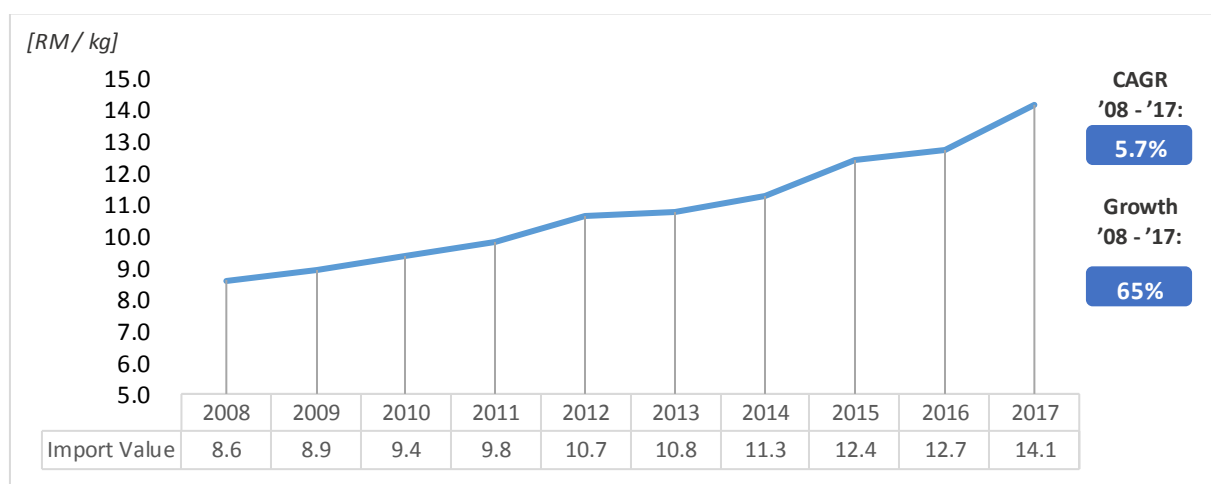
consumer.³⁸ Increase in demand from other countries may have resulted in the increase of beef prices supplied by the exporters over the years.

Figure 33: Import of Beef



Source: Department of Veterinary Services (DVS)

Figure 34: Import Value per unit Beef

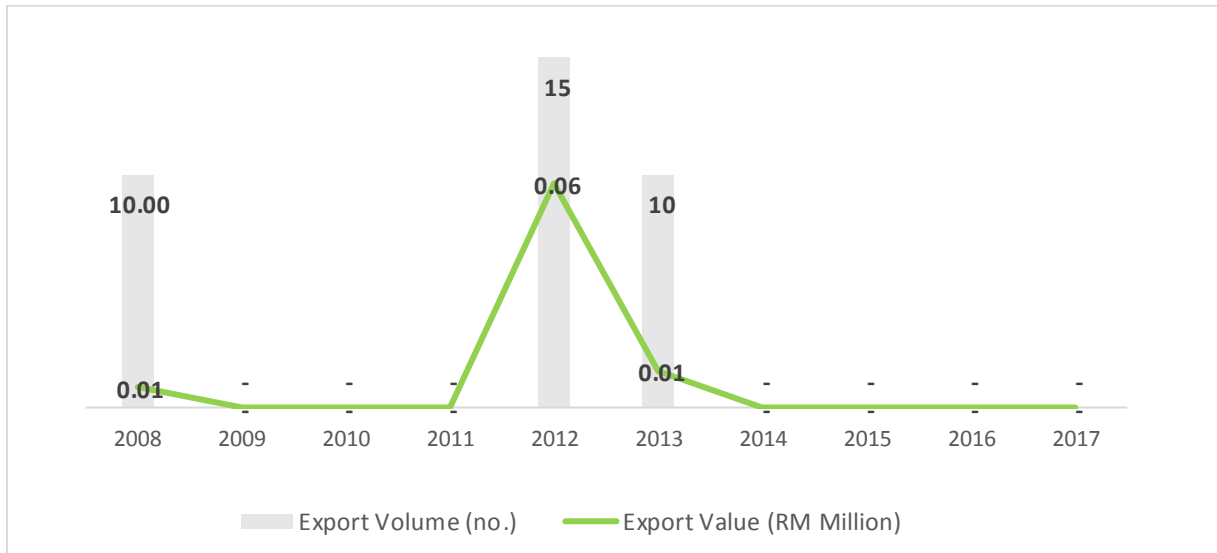


Source: Department of Veterinary Services (DVS)

³⁸ <https://www.indonesia-investments.com/news/news-columns/cartels-in-indonesia-indian-beef-imports-fail-to-push-prices-lower/item7735?>

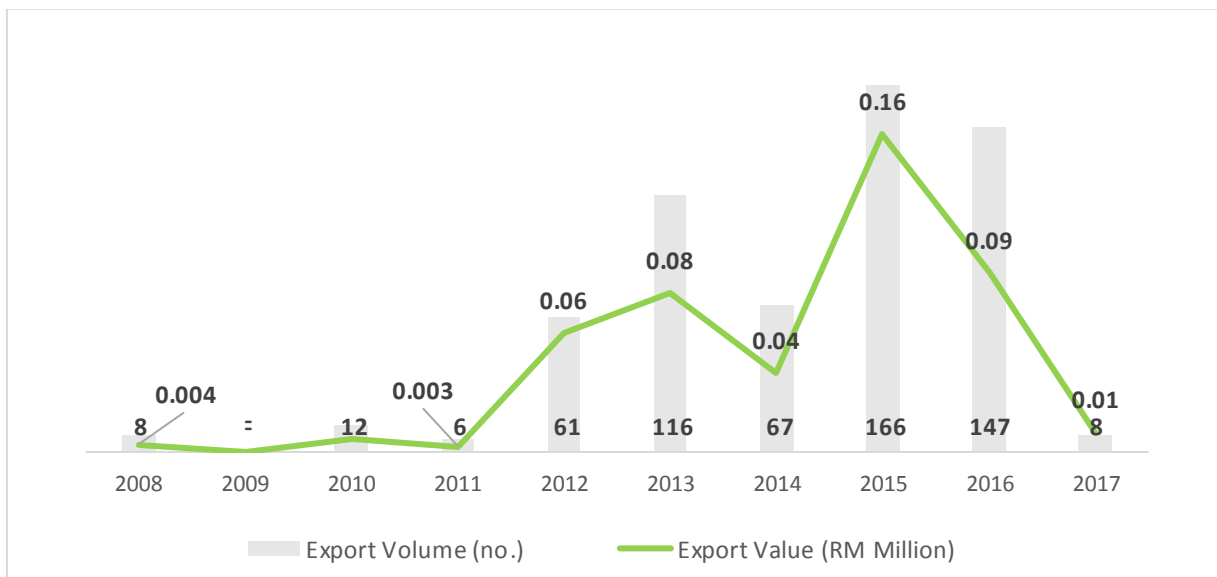
Due to the shortage of beef in the local market, Malaysia generally do not export cattle for slaughter. Meanwhile, a small volume of beef is exported, which has grown at a CAGR of only 2.2% from 2008 to 2017. However, the export value has grown at a much faster pace, i.e. the export value per tonne beef has increased by 85% over the 10 years period. The growth in the export value per tonne beef is also higher than the import value per tonne beef which has grown by 65% within the same period.

Figure 35: Export of Live Cattle for Slaughter



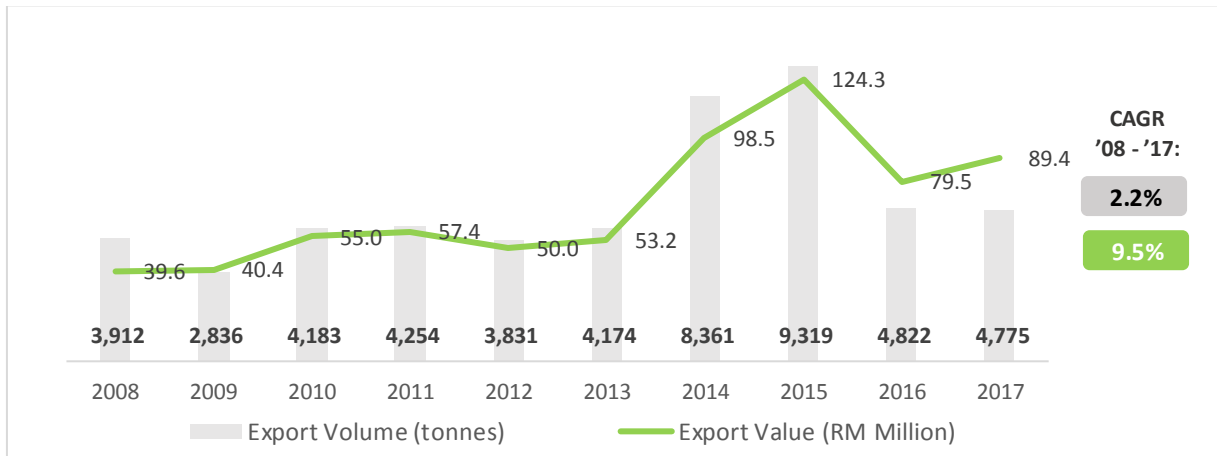
Source: Department of Veterinary Services (DVS)

Figure 36: Export of Live Buffalo for Slaughter



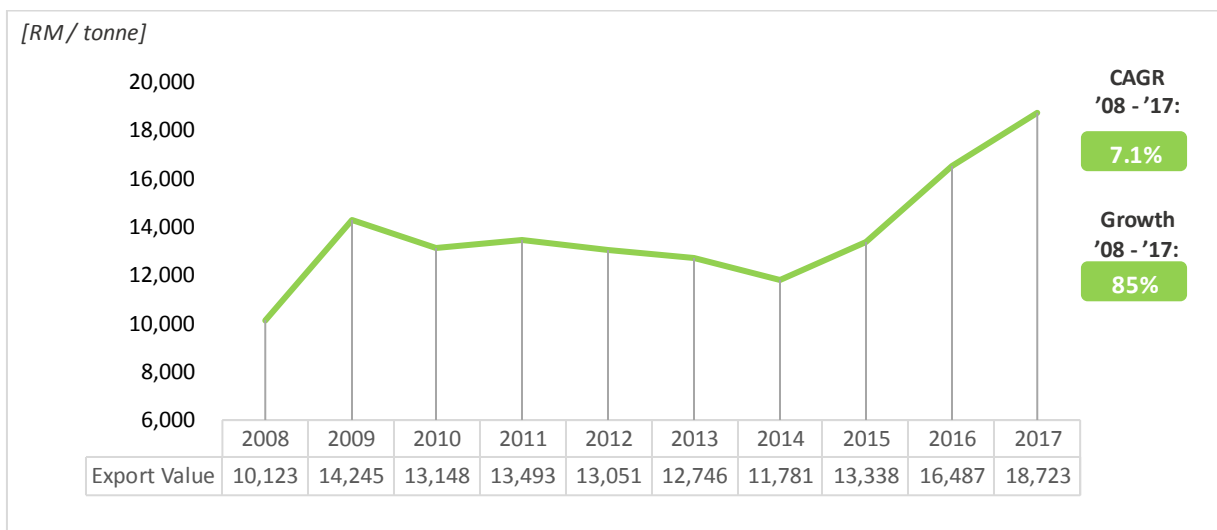
Source: Department of Veterinary Services (DVS)

Figure 37: Export of Beef



Source: Department of Veterinary Services (DVS)

Figure 38: Export Value per ton Beef



Source: Department of Veterinary Services (DVS)

3.5 Production Process Flow and Supply Chain

The upstream segment of the beef supply chain involves cattle breeding while the downstream activities comprise primary processing of beef meat, distribution and retailing of beef meat. The production of beef meat begins in the cattle farms which are found across the nation, especially within the East Coast region. There are 3 types of cattle beef farming, which are extensive production system, semi-intensive production system and intensive production system.

Cattle reared under the extensive production system are entirely fed on natural unimproved pasture on grazing lands, especially in areas where land is communally owned.³⁹ In Malaysia, this includes the integrated cattle farming in oil palm settlements. Meanwhile, the intensive system is where cattle are enclosed in zero-grazing units such as feedlots and provided with feedstuff and water.⁴⁰ This method is mainly practised in areas where grazing land is limited and requires high initial costs. Lastly, semi-intensive system is a compromise between the intensive and extensive systems, whereby the cattle graze for some time during the day and feed on supplements in the evening.⁴¹

Beef farming in Malaysia is largely based on semi-intensive production system as practiced by many smallholders in the villages and extensive production system of integrating cattle with oil palms by producers in the oil palm settlements.⁴² The local cattle breeding sector is highly dependent on Palm Kernel Cake (PKC) and Palm Kernel Expeller (PKE) which can account up to 80% of the cattle diet, with only some supplemented by imported ingredients such as corn and grains. In order to fulfil the local demand for beef, cattle are also imported from countries such as Thailand and Australia for breeding and slaughtering purposes. Some of the imported cattle for slaughtering purposes are then sent to feedlots for short term fattening before being slaughtered. These imported cattle are often considered to be local beef as they are subsequently fed and raised locally before being slaughtered. As cattle importation is a costly business, smaller cattle breeders usually acquire imported cattle from major importers, some of which are also huge-scale feedlot operators.

From the cattle farms and feedlots, cattle which are intended for slaughtering are then sent for slaughtering at municipal abattoirs or slaughterhouses approved by the DVS. The resulting beef carcass is then cut at the abattoirs or on site at the wholesale and retail markets. The meat undergoes inspection procedure to minimise disease and contamination risk in the slaughter houses. Beef carcasses are then supplied to the wholesale and retail market. The distribution and retailing of the meat is either done by the producers themselves, or by meat wholesalers / traders who get their supplies of cattle for slaughter through middlemen who source from smallholders or importers.⁴³ The retailing of beef meat by suppliers through modern trade such as supermarkets is usually performed on consignment basis. As such, the beef suppliers will be stationed at the retail outlet and utilise the space to cut and sell the meat directly to the consumers. Subsequently, the retailers will be paid commission from the suppliers based on the amount of meat sold at the outlet. Meanwhile, some of the cattle herds run by individual and traditional smallholders also perform slaughtering on their own

³⁹ Joel Buyinza. *From Extensive to Semi-Intensive Livestock Production Systems in Uganda's Albertine Rift: Practical Interventions Manual*. December 2013.

⁴⁰ Ibid

⁴¹ Ibid

⁴² Ariff, O.M., Sharifah, N.Y., Hafidz, A.W. *Status of beef industry of Malaysia*. 2015

⁴³ Ibid

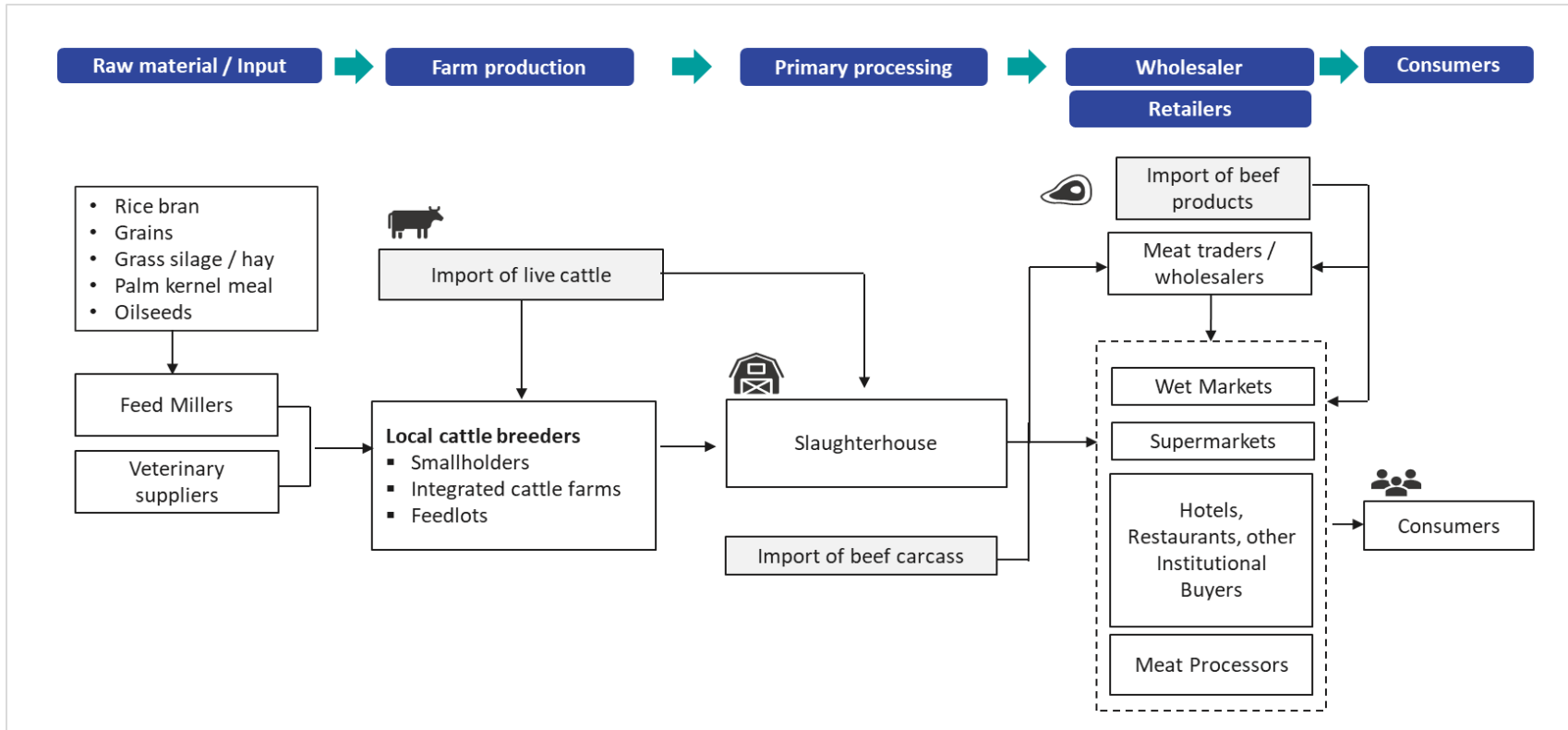
and sell fresh meat on small-scale basis in the village area or through traditional trades such as farmers market.

Besides beef cattle, chilled beef meat and frozen beef / buffalo meat are also imported by distributors, processors and modern retailers to fulfil the local demand. Frozen buffalo meat is predominantly sourced from India for mass consumption while premium chilled and frozen Australian meat is sourced for high-end retail and foodservice institutions.⁴⁴ For importation of beef from Australia, modern retailers generally perform direct purchase from overseas supplier and engage forwarding agent to handle the logistics, custom clearance, etc. Meanwhile, for frozen buffalo meat from India, most of the beef distributors and modern retailers acquire their supply from selected local importers who serve as the principal supplier or representative agents for key exporters in India. Importers are generally able to order and purchase certain meat parts from Australian exports based on local demand, but importation from India would require importers to purchase pre-determined mix of parts by exporters.

From the meat distributors and wholesalers, the local and imported beef meat are also supplied downstream to smaller retail traders such as those in general trade and wet market, meat processors and HORECA (Hotel/Restaurant/Café) players.

⁴⁴ <https://www.austrade.gov.au/Australian/Export/Export-markets/Countries/Malaysia/Industries/Agriculture>

Figure 39: Supply Chain for Beef



Source: Secondary research, interview with industry players

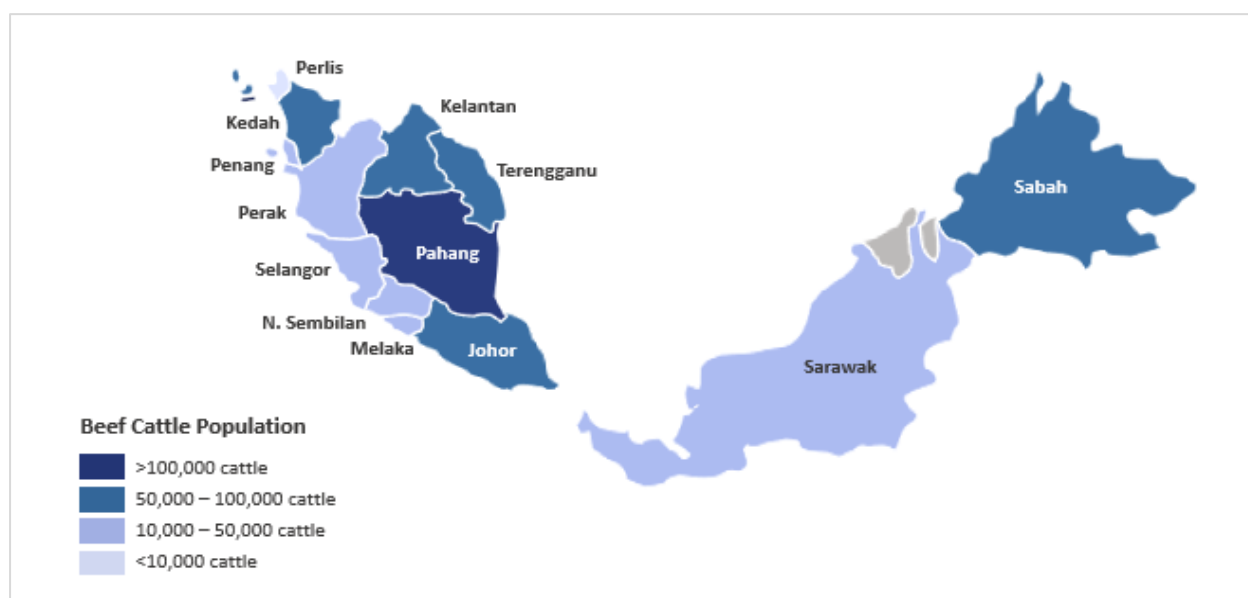
The following section provides the landscape of key beef players, specifically beef producers and distributors/importers.

3.6 Key Players' Landscape

3.6.1 Cattle Breeders

Beef farming in Malaysia is largely run by many traditional smallholders in the villages or integrated with palm oil plantations for free grazing. These smallholders are scattered across Malaysia with higher concentration within the East Coast region (i.e. Pahang, Kelantan and Terengganu). As such, these states have the highest population of beef cattle population, and potentially the highest number of cattle breeders in the country.

Figure 40: Cattle Breeding Population, Malaysia, 2017



Source: Department of Veterinary Services (DVS)

Aside from these smallholders, there are also some big players involved in the commercial cattle breeding through integrated cattle farming in oil palm settlements and feedlots. Some potential key players include:

- Ternakan Kamran Sdn Bhd
- Federal Land Consolidation and Rehabilitation Authority (FELCRA)
- ESPEK Livestock Sdn Bhd (RISDA)
- Ihsan Permata Sdn Bhd (JCorp)
- Sawit Kinabalu

Table 16: Key Beef Producers in Malaysia

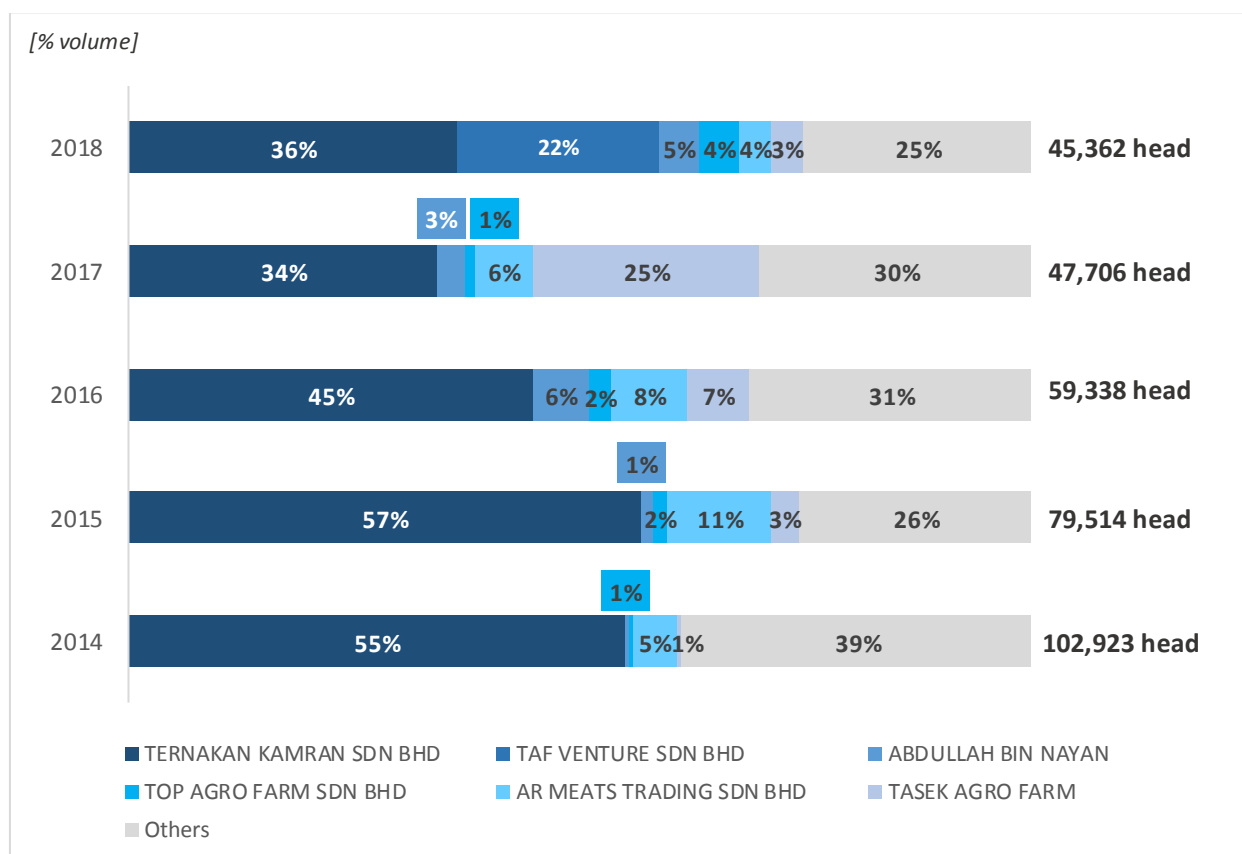
| Company | Ternakan Kamran | FELCRA* | ESPEK Livestock | Ihsan Permata | Sawit Kinabalu |
|--------------------|---|--|---|-----------------------------|--|
| Parent Company | Kamran Group of Companies | - | RISDA | JCorp | - |
| Farm Locations | Feedlot in Johor (DK Ternak Pertanian Moden Kluang) | <ul style="list-style-type: none"> • 9 integrated farms across Perak, Johor and Pahang • 14 feedlots across Kedah, Perak, N. Sembilan, Malacca, Johor, Pahang and Terengganu | <ul style="list-style-type: none"> • Integrated farms in Pahang and Terengganu • Feedlots in Perak and Terengganu | 10 feedlot centers in Johor | <ul style="list-style-type: none"> • 14 integrated farms across Kudat, Tawau, Sandakan and Lahad Datu • 2 feedlots across Tawau and Lahad Datu |
| Cattle Importation | ✓ | ✓ | | ✓ | |

*Cattle breeding under FELCRA was previously handled by FELCRA Livestock & Agri Product (FLAPSB) which is a subsidiary of FELCRA Berhad. However, cattle breeding is now being managed by FELCRA while FLAPSB is currently involved in the trading of food products. The farms highlighted are farms which was previously under the management of FLAPSB.

Source: Secondary research (news articles, company websites, etc.)

Some of the cattle breeders are also involved in the importation of live cattle and operate feedlots. Although there are about 30 cattle importers in 2018, the market is dominated by few key players whose volume constitute the majority of total import volume. Based on the figure below, Ternakan Kamran is currently the biggest cattle importer in the market, importing about 35% of the total cattle in 2018. In fact, Ternakan Kamran has been the biggest importer over the years and previously imported almost 60% of the total cattle in 2014 and 2015. Besides Kamran, there also some importers which account for about 20% of the total import volume such as TAF Ventures and Tasek Agro Farm. Apart from these players, the rest of importers generally constitute less than 10% of the total cattle import volume.

Figure 41: Top Cattle Importers by Volume of Import



Source: Department of Veterinary Services (DVS)

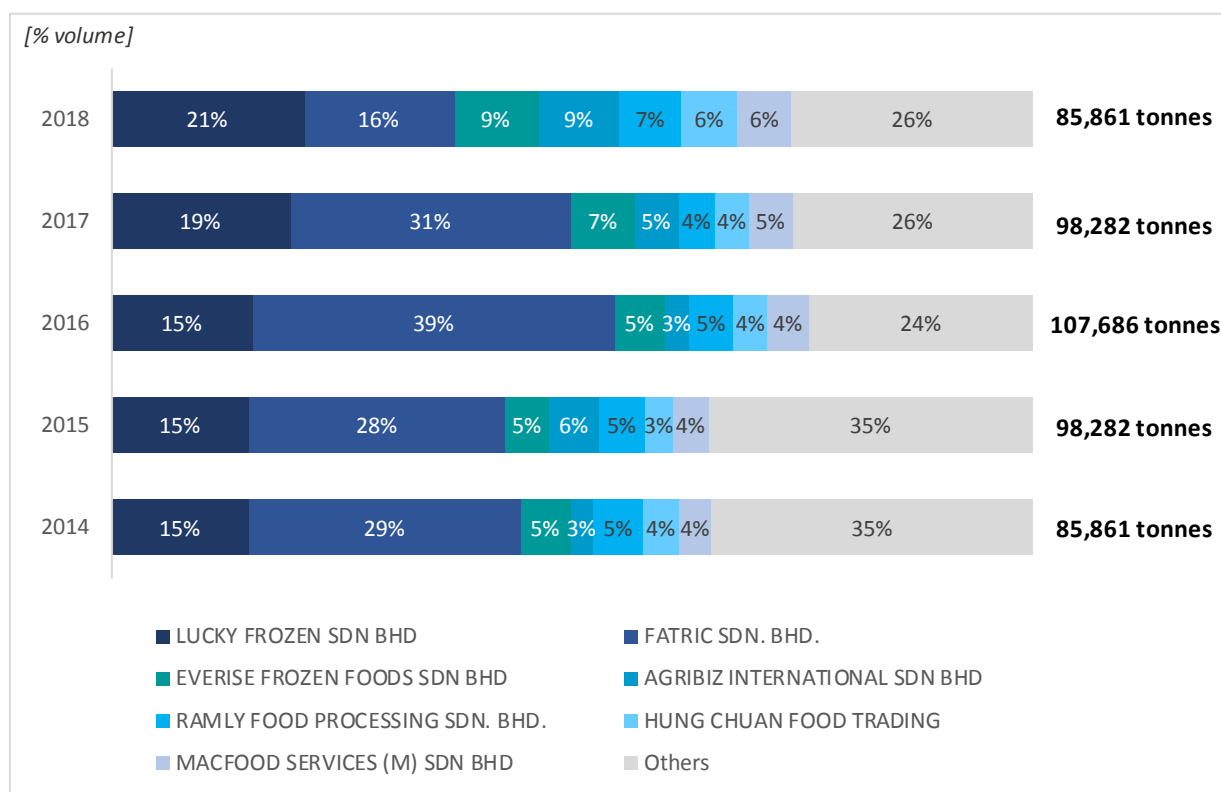
3.6.2 Beef Distributors

The distribution sector within the beef sector is comprised of two segments— local meat and imported meat. The distribution of local beef is usually performed by the cattle breeders upon slaughtering or meat wholesalers who source their supplies from the cattle breeders or importers of slaughter cattle. Therefore, the beef distribution market is comprised of various market players ranging from small to large companies.

Meanwhile, the importation of beef is less competitive and is concentrated by few big players. Similar to cattle importation, although there are over 80 beef importers in 2018, most of the market volume is accounted by few major importers. As seen from the figure below, Fatric and Lucky Frozen are the top 2 importers in the market, whose volume collectively account for about 40% to 50% of the total import volume over the last few years. However, the volume share of Fatric has significantly reduced in 2018, while the volume share of Lucky Frozen and the rest of key importers have increased. Although there were 7,736 import permits issued for ruminant products in 2018, almost 50% of these permits were accounted for by five importers alone.⁴⁵

⁴⁵ MAQIS

Figure 42: Top Beef / Buffalo Importers by Volume of Import



Source: Department of Veterinary Services (DVS)

Table 17: Top 10 Ruminant Importers in Malaysia, 2018

| Company | No. of Permit Applied in 2018 | Import Volume in 2018 (kg) |
|-----------------------------------|-------------------------------|----------------------------|
| Fatric Sdn. Bhd. | 1,042 | 43,856,436 |
| Lucky Frozen Sdn Bhd | 1,318 | 25,856,591 |
| Everise Frozen Foods Sdn Bhd | 587 | 15,170,473 |
| Agribiz International Sdn Bhd | 406 | 11,021,798 |
| Hung Chuan Food Trading | 404 | 10,349,920 |
| Ramly Food Processing Sdn Bhd | 244 | 8,553,733 |
| Dewani Jaya Trading Sdn Bhd | 255 | 6,832,097 |
| Macfood Services (M) Sdn Bhd | 266 | 5,609,084 |
| Lee's Frozen Food Sdn Bhd | 201 | 4,240,181 |
| Tuck Cheong Loong Trading Sdn Bhd | 135 | 3,780,056 |

Source: Malaysian Quarantine Inspection Services (MAQIS)

Some of the key reasons for the dominance of beef importation is due to the high capital requirement and existing established relationships with exporters as some of these importers have been operating in the market for over 30 years. The importers usually operate on prepayment basis whereby they are required to make the payment for the orders before the goods are delivered. As exporters may impose a large purchasing volume, this condition can only be fulfilled by big players who have the financial means to incur huge upfront cost.

Besides that, there is also currently limited overseas supplier of frozen beef / buffalo that Malaysian importers acquire their supplies from. There are currently 4 key exporters of buffalo meat from India which are Allana Group, Al-Noor, Amroon Foods and Al-Quresh. The dominance of overseas exporters may have given them some influence to choose their buyers and impose certain purchasing conditions which may have restricted the participation of certain players. Industry insights have indicated that these key exporters have principal distributors that they primarily deal with in Malaysia and impose a purchasing volume that may not be fulfilled by other players. As such, these exporters may not engage with players with small or inconsistent purchases.

The potential reason for limited key exporters in India as well as other countries may be due to the stringent veterinary and halal compliance by the DVS and JAKIM. Although these requirements pose regulatory barriers to overseas suppliers, it is crucial in ensuring food safety and prevention of animal disease spread into the country. Besides that, Malaysia is still highly dependent on India for frozen buffalo due to logistical preference. Although the DVS has opened up the market to Brazil exporters, the delivery of frozen meat from Brazil take approximately 1 month to reach local shore and there are currently only 8 approved abattoirs for beef in Brazil, 5 of which are owned by the same company (Minerva).

3.6.3 Vertical Integration

Suppliers of local meat are usually integrated at various levels of the supply chain. These players would usually run their own cattle farm (e.g. smallholders, feedlots) and may also be involved in the distribution and retail of the beef at the wholesale or retail markets. Most of the smallholders distribute and sell fresh meat on small-scale basis through traditional trades such as farmers market and wet market. Meanwhile, bigger players with large-scale feedlots and integrated farms may supply beef to various wholesale market, meat distributors / traders and modern retailers.

3.7 Pricing Analysis

3.7.1 Price Trend

The prices of local beef are generally more expensive than imported frozen beef, especially frozen buffalo meat from India which are priced 2 times cheaper than local beef. However, the average prices of both local and imported beef have been consistently increasing every year, across the wholesale and retail levels. The average price of local beef has increased by about 67% for wholesale level and 64% for retail level from 2010 to 2017. Based on the figure below, the prices of local beef do not move in tandem with the supply of local production as the prices remained on an uptrend even when the local production is higher. The potential reason could be due to the fact that local beef is also sourced from imported cattle whose value has increased significantly over the years.

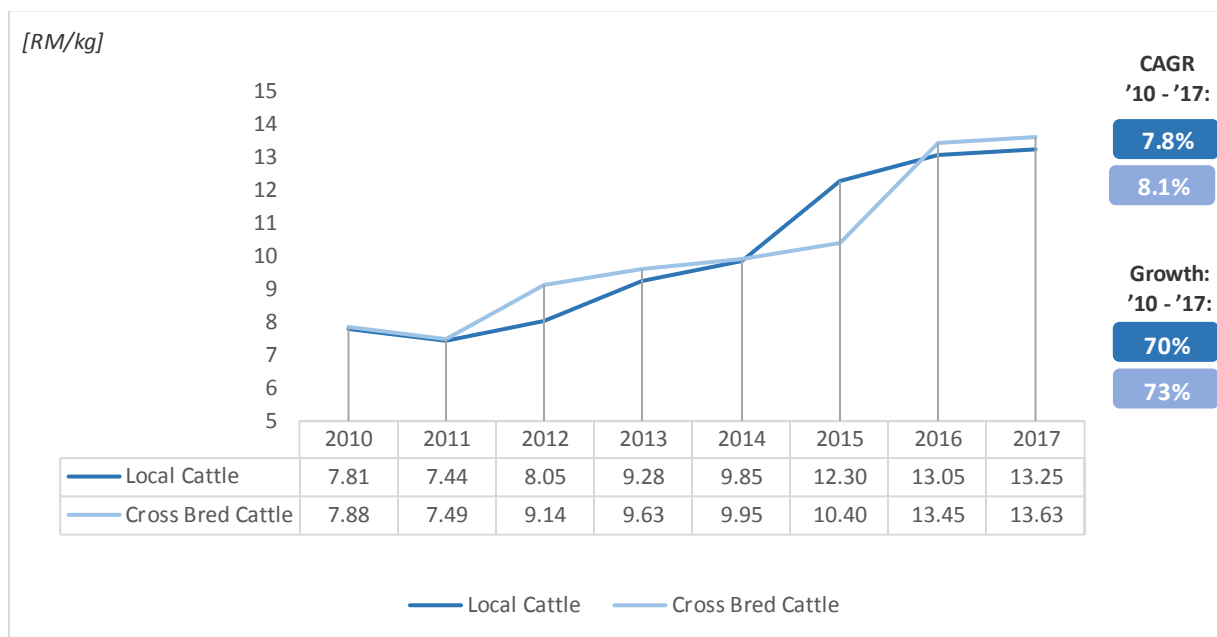
Based on Figure 43, the local prices of cattle for slaughter has been increasing consistently over the years, whereby the prices of both local and cross-bred cattle have increased by about 70% in 7 years period, between 2010 to 2017. Meanwhile, the import value per cattle for slaughter has increased at a much higher rate, by over 400% within the same period. Based on Figure 44, the Malaysian import value per cattle has increased more significantly than the Australian export value per cattle from the year 2010 to 2017. This is due to the fact that there has been a change in the proportion of cattle importation from Thailand and Australia. While about 70% of the cattle imported in 2010 were from Thailand, the proportion has decreased over the years, especially from 2012 onwards. Meanwhile, the proportion of cattle imported from Australia has increased from about 30% in 2010 to about 70% in 2018. It is also important to note that the prices of local beef have increased more significantly from 2012 onwards and is in tandem with the price trend of cattle for slaughter and import value of cattle. In fact, the prices of Australian cattle have also increased more significantly from 2013 onwards and is in tandem with the depreciation of local currency thereafter.

Figure 43: Average Price vs. Production of Local Beef



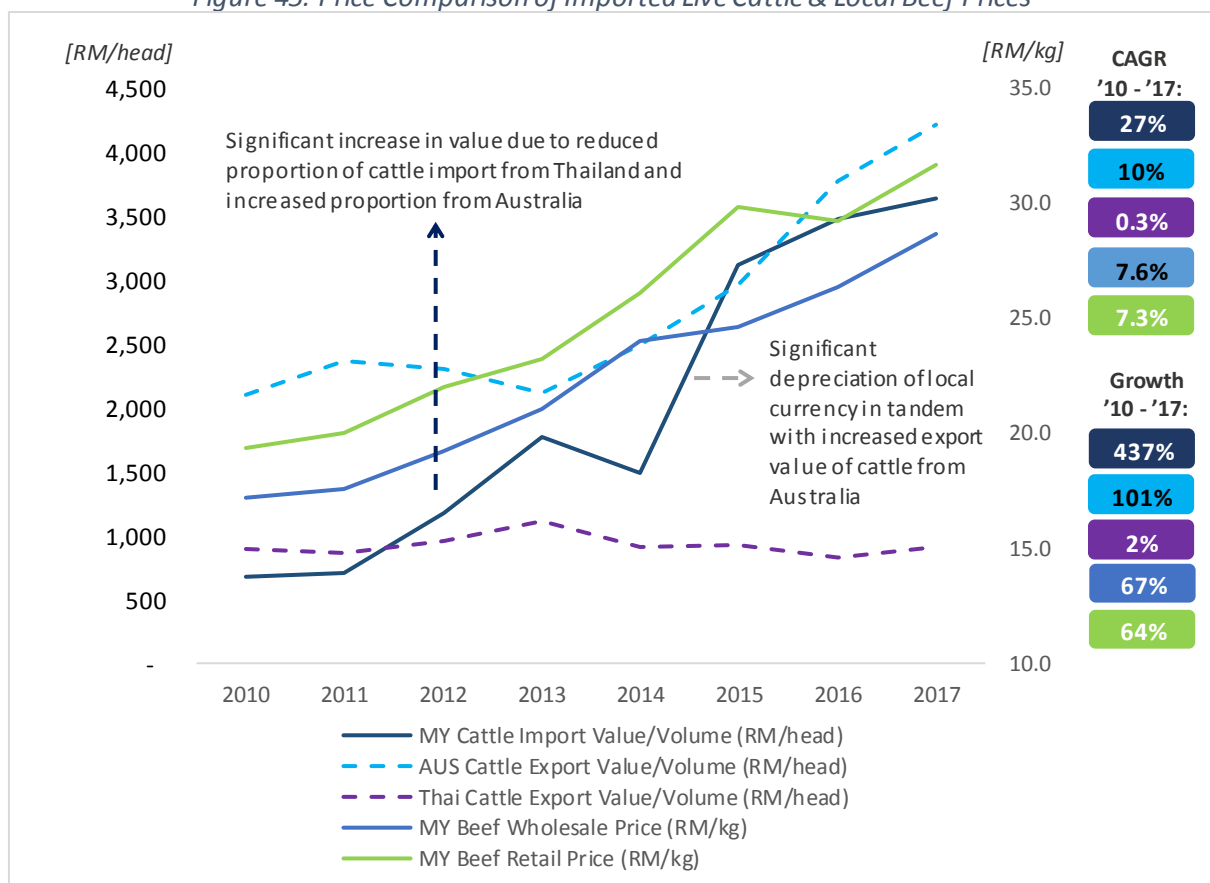
Source: Department of Veterinary Services (DVS), Federal Agricultural Marketing Authority (FAMA)

Figure 44: Average Price of Livestock for Slaughter in Peninsular Malaysia



Source: Department of Veterinary Services (DVS)

Figure 45: Price Comparison of Imported Live Cattle & Local Beef Prices

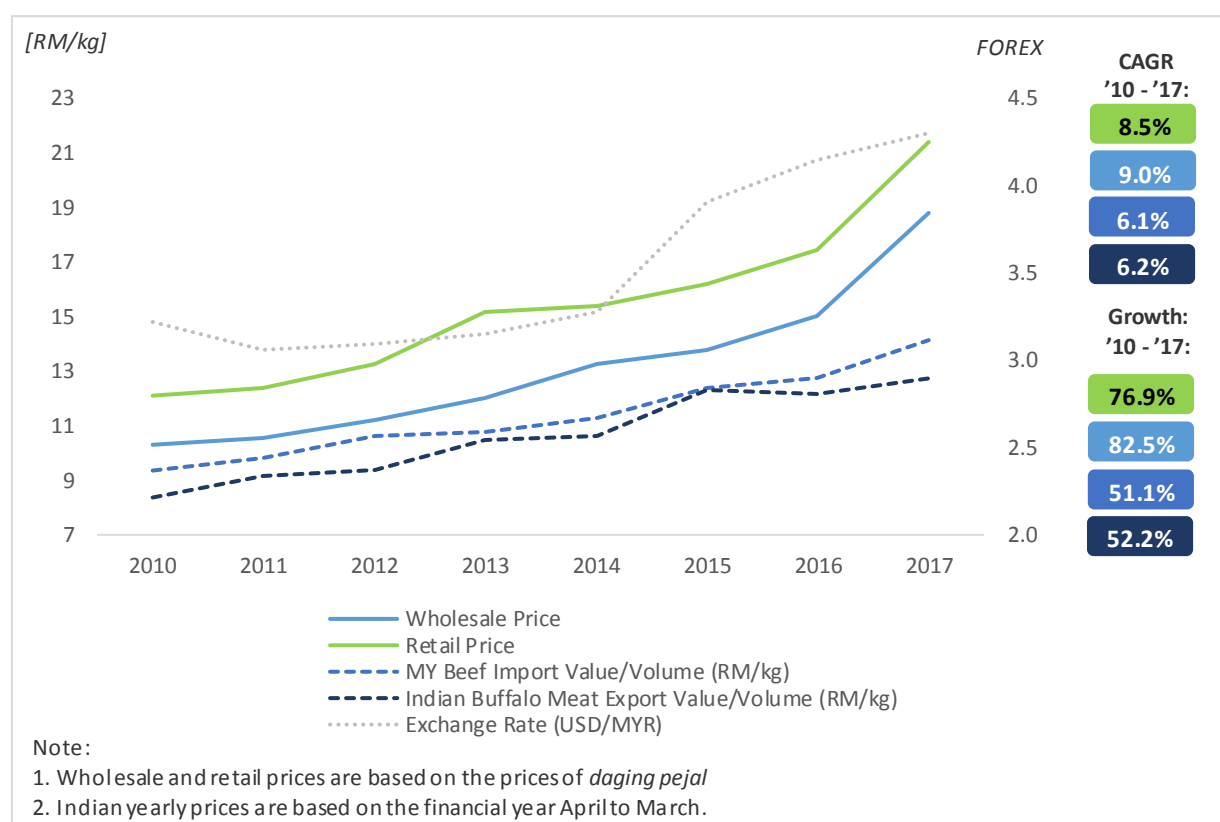


Source: MyCC analysis based on data from Department of Veterinary Services (DVS), Federal Agricultural Marketing Authority (FAMA), Australian Bureau of Statistics and Ministry of Commerce Thailand

Meanwhile, the prices of imported beef from India has increased at a much faster rate, growing by over 80% for wholesale level and over 70% for retail level from 2010 to 2017. The price increase has been more prominent between the period of 2016 - 2017. As discussed in the previous section, the increase in the prices of imported Indian beef over the past few years may be attributed to increased demand from countries such as China and Indonesia which has significantly reduced the supply of beef in the market. Malaysia used to be the only importer of frozen buffalo meat from India, however, more countries have started to import from India over the past few years. Countries such as Indonesia which have previously restricted importation from India are now opening up their market to India, resulting in the increase of beef prices supplied by the exporters.

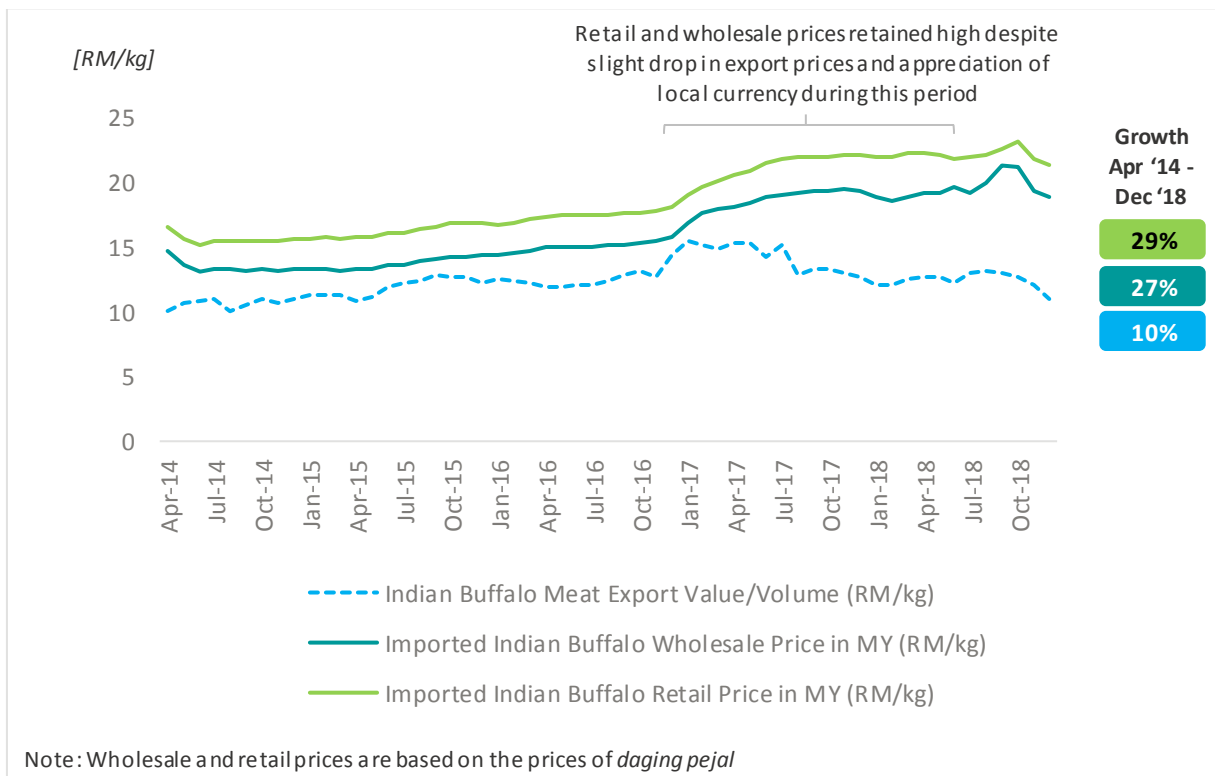
Nevertheless, it is important to note that the local wholesale and retail price growth of imported beef from India is higher compared to the growth of total import value per unit beef as well as the export value per unit beef from India, both of which was about 50%. Besides that, the wholesale prices have been growing at a slightly faster pace compared to the retail prices and there has been an increase in the mark-up of prices from the importation to the distribution / wholesale level from 2017 onwards. Given that the local prices of imported beef from India have been growing at a faster rate than the local import value and Indian export value of beef, this provide ground for further research and investigation.

Figure 46: Average Price of Imported Beef (India) by Year



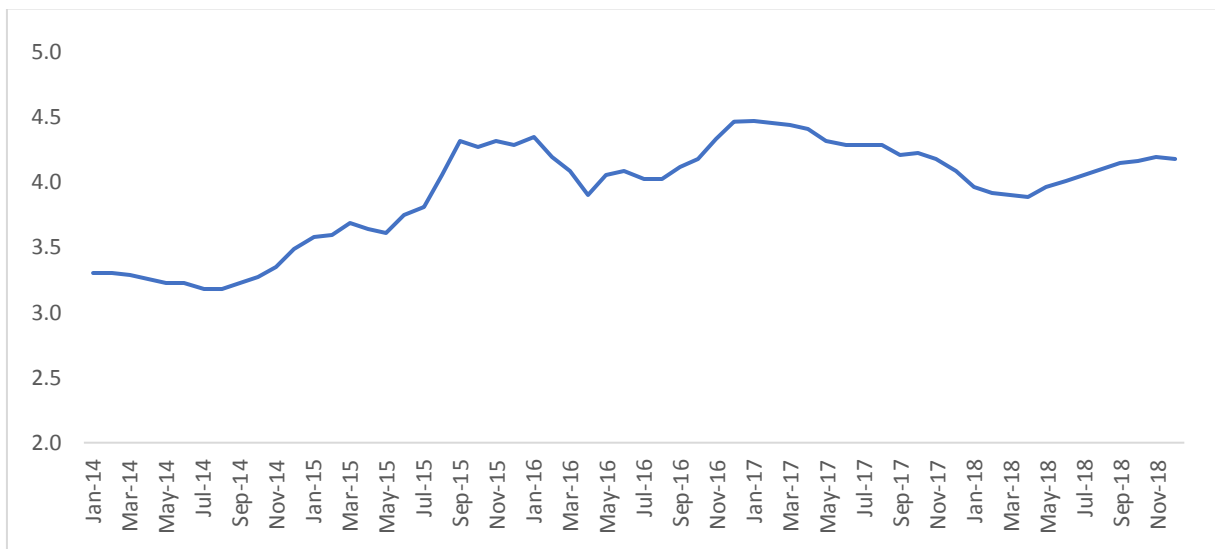
Source: MyCC analysis based on data from Department of Veterinary Services (DVS), Federal Agricultural Marketing Authority (FAMA), DGCIS India and Bank Negara Malaysia

Figure 47: Average Price of Imported Beef (India) by Month



Source: MyCC analysis based on data from Federal Agricultural Marketing Authority (FAMA) and DGCIS India

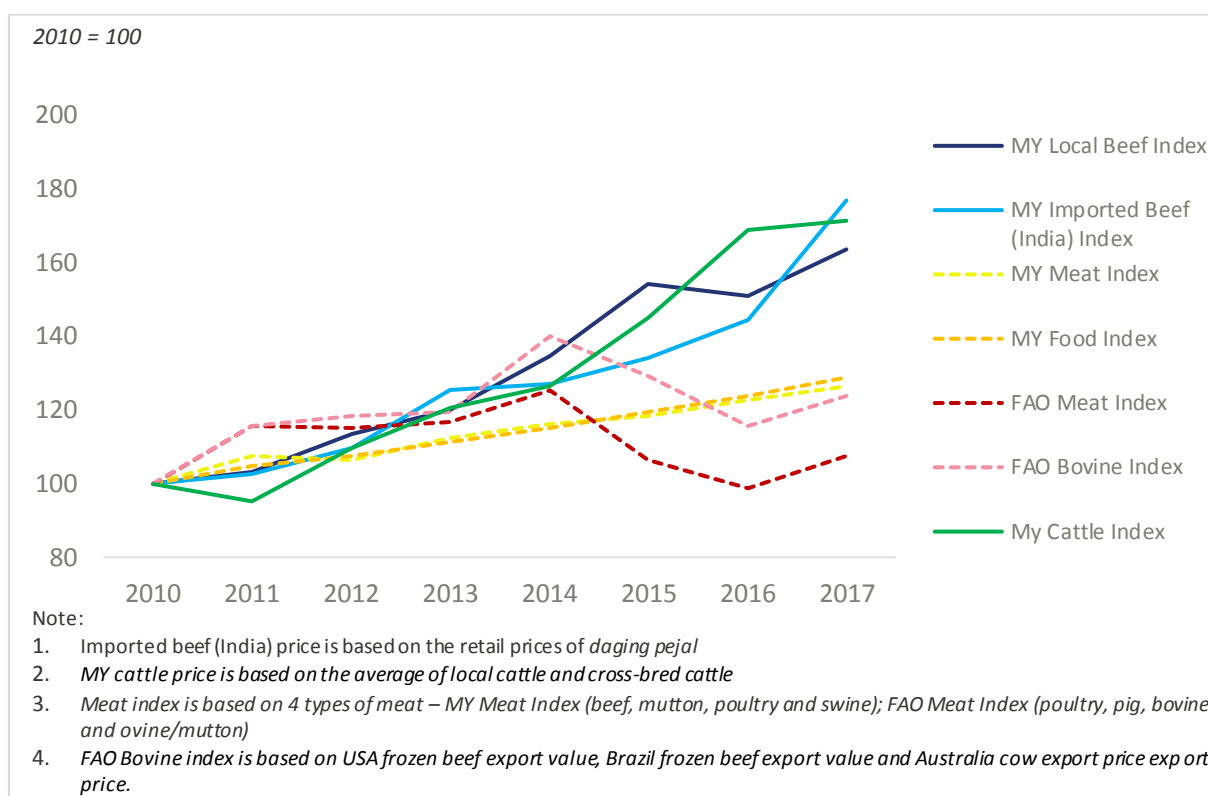
Figure 48: Currency Trend (USD/MYR), 2010 – 2018



Source: Bank Negara Malaysia (BNM)

In comparison to the local price index as well as the Food and Agriculture Organization (FAO) meat index, Malaysia's beef price indices have been higher than both the local and global meat price indices over the last few years. Based on the FAO index, international prices of bovine meat have weakened over the last few years, reflecting the availability of ample export supplies and substantial output increases in countries such as the United States and Brazil. As Malaysia is heavily reliant on importation from only two key countries (i.e. Australia and India), this may explain the divergence of Malaysian beef prices from the global meat prices. However, as indicated in the previous paragraph, the local prices of imported beef from India have been growing at a faster rate than the local import value and Indian export value of beef, indicating ground for further investigation.

Figure 49: Meat Price Indices



Source: MyCC analysis based on data from Department of Veterinary Services (DVS), Federal Agricultural Marketing Authority (FAMA), Department of Statistics Malaysia (DOSM) and Food and Agriculture Organization (FAO)

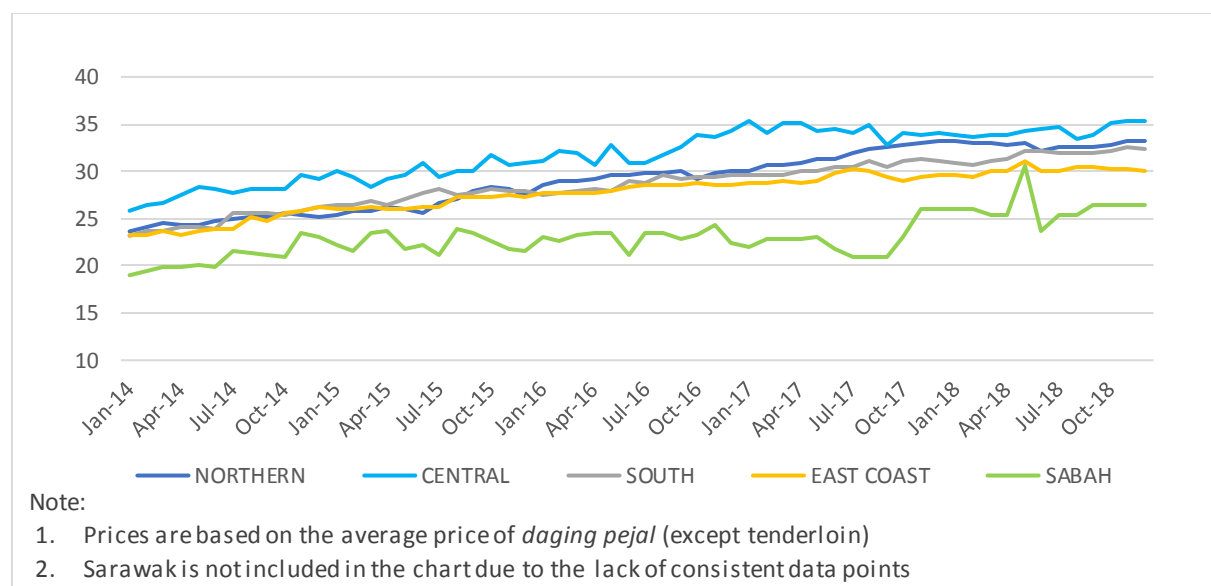
In terms of geographical comparison, the prices of local beef are not correlated to the mean household income. Central region and the state of Sarawak have the highest retail price of local beef in Malaysia. One of the potential reasons for the high beef price in Sarawak and Central region may be due to the significantly low population of beef cattle, as indicated in Section 3.2. Besides that, the situation in Sarawak is further exacerbated by restriction on cattle and beef importation from Peninsular Malaysia. This is due to the Foot and Mouth Disease affecting cattle and buffalo, which periodically occurs in the border states in Peninsular Malaysia through illegal importation of animals

and meat.⁴⁶ As Sabah and Sarawak are free from Foot and Mouth Disease, these states generally do not import cattle and beef from Peninsular Malaysia, instead, imports mainly from Australia. Meanwhile, regions with high population of cattle (i.e. East Coast and Sabah) have reported relatively cheaper prices of local beef compared to the rest.

The prices of local beef are generally stable with the exception of slight fluctuation in the Central region and the state of Sabah. The fluctuation in the Central region may be driven by inconsistent supply of local beef due to the low population of cattle in this region. Meanwhile in Sabah, the local government has recently stopped the importation of dairy and beef cattle from Australia after discovering discrepancies in the system.⁴⁷ The import of cattle into Sabah from Australia has been handled by two companies over the past decade. Investigation by the state government has revealed that there was no open tender process involved in the purchase of cattle from Australia, and the cattle were sourced from a farm specialising in rearing some special cross-breed cattle for import to Sabah. Consequently, the government has indicated that cattle will be now sourced from local breeders.

The prices of imported buffalo meat are also stable and consistent across all the regions in Peninsular Malaysia. Sabah reported the highest price of imported buffalo meat, which increased more significantly from mid-2017 onwards and deviated from the consistent pricing trend in Peninsular Malaysia. Similar to local beef, the prices of imported buffalo and retailer’s margin are not in tandem with the mean household income in respective states.

Figure 50: Average Retail Price of Local Beef by States of Malaysia (RM/kg)

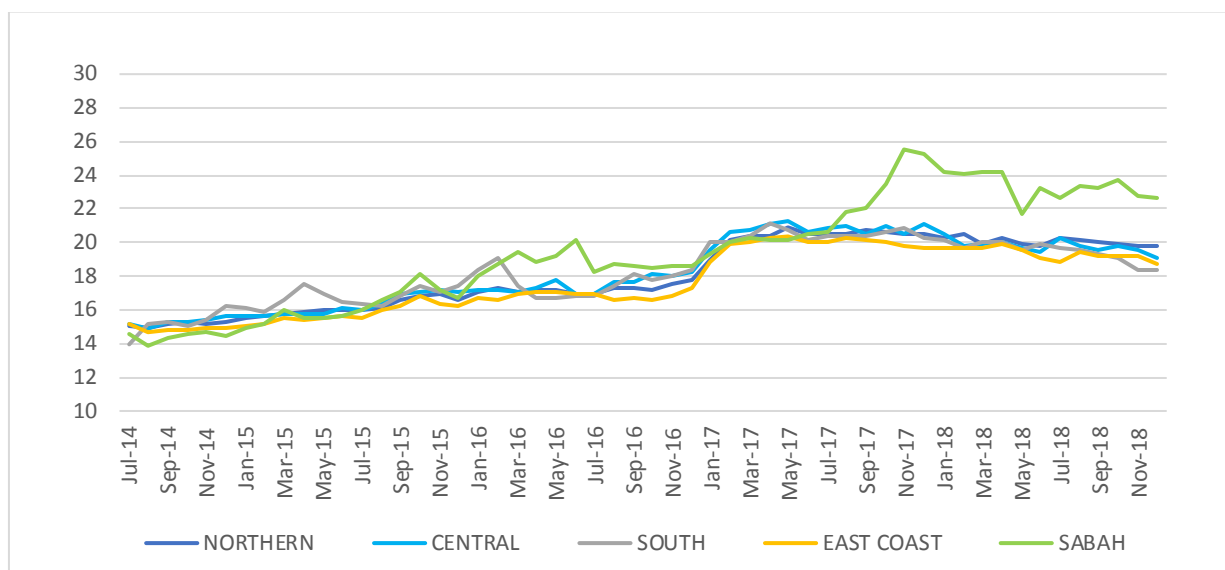


Source: Majlis Harga Barang Negara (MHBN)

⁴⁶ C. Devendra. *Improvement of Livestock Production in Crop-animal Systems in Rainfed Agro-Ecological Zones of South East Asia*. 1997.

⁴⁷ <http://www.dailyexpress.com.my/news/134076/sabah-discontinues-cattle-imports-from-australia/>

Figure 51: Average Retail Price of Imported Buffalo by States of Malaysia (RM/kg)



Source: Majlis Harga Barang Negara (MHBN)

Note:

1. Prices are based on the average price of Topside and Silverside
2. Prices for South are based on prices in Negeri Sembilan only

Table 18: Comparison of Local Beef Prices and Household Income

| STATE | WHOLESALE PRICE (2017) | RETAIL PRICE (2017) | RETAILER'S MARGIN (2017) | MEAN MONTHLY HOUSEHOLD INCOME (2016) |
|--------------|------------------------|---------------------|--------------------------|--------------------------------------|
| Kuala Lumpur | - | 30.25 | - | 11,692 |
| Selangor | 32.10 | 33.50 | 4% | 9,463 |
| Johor | 29.90 | 34.45 | 13% | 6,928 |
| Melaka | 26.80 | 29.65 | 10% | 6,849 |
| Pulau Pinang | 31.95 | 33.65 | 5% | 6,771 |
| N. Sembilan | 28.05 | 31.20 | 10% | 5,887 |
| Terengganu | 28.55 | 30.60 | 7% | 5,776 |
| Sarawak | 32.80 | 37.50 | 13% | 5,387 |
| Sabah | 25.50 | 26.40 | 3% | 5,354 |
| Perak | 23.90 | 31.20 | 23% | 5,065 |
| Pahang | 28.95 | 31.05 | 7% | 5,012 |
| Perlis | 29.50 | 33.55 | 12% | 4,998 |
| Kedah | 28.45 | 31.10 | 9% | 4,971 |
| Kelantan | - | 27.60 | - | 4,214 |

Source: Federal Agricultural Marketing Authority (FAMA), Department of Statistics Malaysia (DOSM)

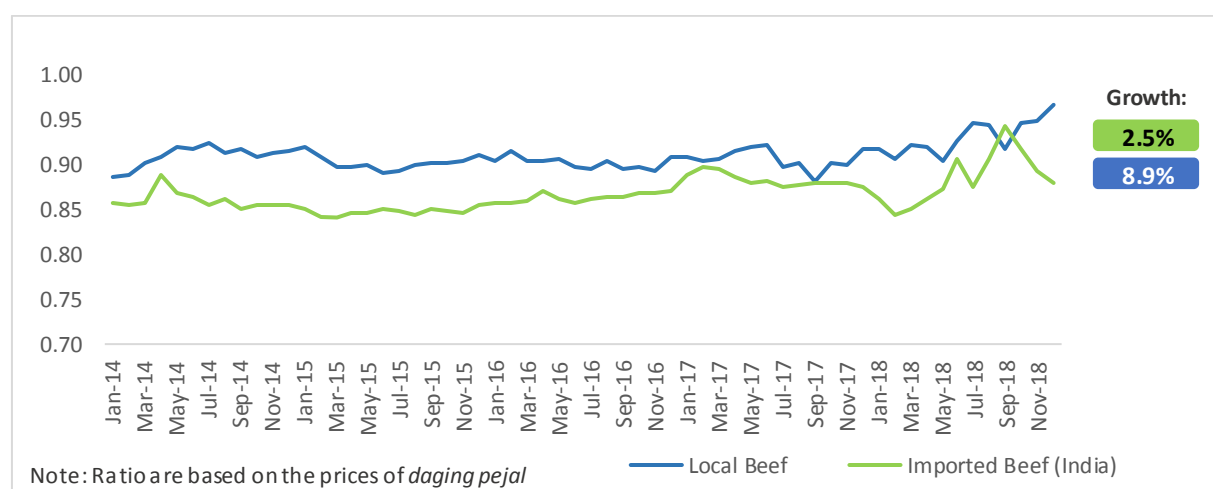
Table 19: Comparison of Imported Buffalo (India) Prices and Household Income

| STATE | WHOLESALE PRICE (2017) | RETAIL PRICE (2017) | RETAILER'S MARGIN (2017) | MEAN MONTHLY HOUSEHOLD INCOME (2016) |
|--------------|------------------------|---------------------|--------------------------|--------------------------------------|
| Kuala Lumpur | 19.31 | 20.55 | 6% | 11,692 |
| Selangor | 20.59 | 23.14 | 11% | 9,463 |
| Johor | 17.45 | 20.74 | 16% | 6,928 |
| Melaka | 12.95 | 18.31 | 29% | 6,849 |
| Pulau Pinang | 20.18 | 22.10 | 9% | 6,771 |
| N. Sembilan | 16.91 | 19.11 | 12% | 5,887 |
| Terengganu | 16.49 | 17.50 | 6% | 5,776 |
| Sabah | 19.10 | 19.93 | 4% | 5,354 |
| Perak | 18.86 | 23.45 | 20% | 5,065 |
| Pahang | 19.73 | 21.73 | 9% | 5,012 |
| Perlis | 17.50 | 19.86 | 12% | 4,998 |
| Kedah | 19.23 | 20.87 | 8% | 4,971 |
| Kelantan | 19.00 | 20.00 | 5% | 4,214 |

Source: Federal Agricultural Marketing Authority (FAMA), Department of Statistics Malaysia (DOSM)

Analysis of retailer's cost-price ratio of local and imported beef has revealed that the ratio is relatively high, mostly ranging between 0.85 to 0.90 between the period of 2014 to 2018. This indicates that the prices are generally low in comparison to the cost and there has not been substantial hike up in the retail prices, signifying an adequate competition among beef retailers in the marketplace. While the cost price ratio has increased slightly for local beef, the trend has remained relatively stagnant for imported buffalo from India. This indicates that the market competition among retailers has remained the same for imported buffalo as both prices and costs have not decreased over the years and have been growing at approximately similar rate.

Figure 52: Cost-Price Ratio of Beef



Source: MyCC analysis based on data from Federal Agricultural Marketing Authority (FAMA)

3.7.2 Purchasing Power Parity (PPP) Analysis

3.7.2.1 PPP for Imported Australian Beef (Topside Cut)

Imported Australian beef (Topside cut) from selected countries were benchmarked against Malaysia at the Purchasing Power Parity (PPP) level. For this market review, the selected countries include: Australia, Singapore and Indonesia.

In Table 20, Column 2 shows the price of 1kg imported Australian beef (topside cut) across the three countries' currencies, for the week of 29th April 2019. To illustrate further, the PPP between Singapore and Malaysia for 1kg imported Australian beef (topside cut) is the price paid in Singapore divided by the price paid in Malaysia ($15.50/55.90 = 0.28$), which means a consumer pays SGD \$0.28 to make a purchase in Singapore that would cost MYR 1.00 in Malaysia.

Column 3 provides the PPPs of other countries to Malaysia. The price level differences are measured by a price level index (column 6), which is the ratio of PPP (Column 3) against the exchange rate (Column 4). The deviation from the index 1.00 signifies if it is cheaper or more expensive in the country. Overall, it appears that 1kg imported Australian beef (topside cut) is cheaper across Australia, Singapore and Indonesia. These three countries are paying respectively 8%, 16% to 27% lesser compared to Malaysians.

Table 20: PPP for Imported Australian Beef (Topside Cut)

| Countries | Currency | 1kg imported Australian beef (topside cut) in national currency, week of 29 April 2019 | PPP to MYR | Exchange rate, week of 29 April 2019 | MYR cost of imported Australian beef (topside cut) | Price level index |
|-----------------|------------|--|-------------|--------------------------------------|--|-------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Australia | AUD | 18.00 | 0.32 | 0.35 | 51.43 | 0.92 |
| Singapore | SGD | 15.5 | 0.28 | 0.33 | 46.97 | 0.84 |
| Indonesia | IDR | 140,200 | 2,508.05 | 3,444.19 | 40.71 | 0.73 |
| Malaysia | MYR | 55.90 | 1.00 | 1.00 | 55.90 | 1.00 |

3.7.2.2 PPP for Imported Indian Buffalo Meat (Topside Cut)

Imported Indian buffalo meat (Topside cut) from selected countries were benchmarked against Malaysia at the Purchasing Power Parity (PPP) level. For this market review, the selected countries include: Singapore and Indonesia

In Table 21, Column 2 shows the price of 1kg imported Indian buffalo meat (topside cut), across the two countries' currencies, for the week of 29th April 2019. To illustrate further, the PPP between India and Malaysia for 1kg imported Indian buffalo meat (topside cut) is the price paid in India divided by the price paid in Malaysia ($240/16.65 = 14.41$), which means a consumer pays INR 14.41 to make a purchase in India that would cost MYR 1.00 in Malaysia.

Column 3 provides the PPPs of other countries to Malaysia. The price level differences are measured by a price level index (column 6), which is the ratio of PPP (Column 3) against the exchange rate (Column 4). The deviation from the index 1.00 signifies if it is cheaper or more expensive in the country. Overall, it appears that 1kg imported Indian buffalo meat (topside cut) is cheaper across India and Indonesia. These two countries are paying respectively 14% to 37% lesser compared to Malaysians.

Table 21: PPP for Imported Indian Buffalo Beef (Topside Cut)

| Countries | Currency | 1kg imported Indian buffalo meat (topside cut) in national currency, week of 29 April 2019 | PPP to MYR | Exchange rate, week of 29 April 2019 | MYR cost of imported Indian buffalo meat (topside cut) | Price level index |
|-----------------|------------|--|-------------|--------------------------------------|--|-------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| India | INR | 240 | 14.41 | 16.68 | 14.39 | 0.86 |
| Indonesia | IDR | 35,800 | 2,150.15 | 3,410.34 | 10.50 | 0.63 |
| Malaysia | MYR | 16.65 | 1.00 | 1.00 | 16.65 | 1.00 |

3.7.3 Cost Factors and Margin

The table below highlights the key cost factors that influence the pricing at different levels of the supply chain. The key costs of production incurred by breeders is mainly on animal feed which constitutes a large proportion of the cost of production, especially by feedlots. In contrast to the poultry and swine industry, the ruminant industry depends primarily on locally available feedstuffs with only some supplemented by imported ingredients. The key local materials used are agro-industrial by products, especially Palm Kernel Cake (PKC) and Palm Kernel Expeller (PKE) which can account up to 80% of the cattle diet. While Malaysia is a leading producer of PKE and PKC, most of the local feed manufacturers are keener to export these products due to high demand in the global market. As such, local prices of PKC and PKE are impacted by global demand and global prices despite being manufactured locally. Based on Table 23, the cost of animal food account for over 30% of the total production cost per cattle in integrated farming (or 18% of total cost) and almost 80% of production costs for feedlots (or 23% of total cost). Hence, the prices of local beef are influenced by the supply availability and price of animal feed.

Meanwhile, logistics is the key cost factor for importers which account for about 10 to 15% of the CIF (Cost, Insurance, and Freight) value of imported cattle from Australia through sea freight. For distributors and retailers of beef, the key cost factors include logistics, cold chain storage and labour cost which collectively account for about 40 to 60% of the total cost.

Table 22: Key Cost Factors

| Cattle Breeder | Cattle / Beef Importer | Distributor | Retailer |
|---|--|--|--|
| <ul style="list-style-type: none"> • Animal feed • Veterinary supplies • Labour • Farm operational cost e.g. electricity, water, infrastructure | <ul style="list-style-type: none"> • Transportation and logistics • Warehousing and cold storage | <ul style="list-style-type: none"> • Transportation and logistics • Warehousing and cold storage • Labour | <ul style="list-style-type: none"> • Transportation and logistics • Warehousing and cold storage • Labour |





Besides that, beef prices are highly influenced by currency exchange rates due to heavy reliance on the importation of beef and cattle for slaughter. In addition to this, there has also been reduction in the supply of cattle from Thailand due to high demand from other countries. This has resulted in higher dependence of cattle importation from Australia, which has increased in price due to the rise in global commodity prices and a decline in the local currency. As such, the beef prices are also influenced by global demand and supply from the key export countries.

Table 23: Average Cost of Production of Beef

| Cost of Production | Integrated Farming (per head) | | Feedlot (per carcass) | |
|------------------------------------|-------------------------------|---------------|-----------------------|---------------|
| | RM | % of cost | RM | % of cost |
| Selling Cost | | | | |
| Cost of calves / feeder / carcass | 848.06 | 32.6% | 3,640.00 | 69.8% |
| Operating costs of cattle breeding | 363.45 | 14.0% | - | - |
| Production Cost | | | | |
| Grass Food | 331.78 | 12.7% | 196.88 | 3.8% |
| Additional Feed | 141.56 | 5.4% | 1,008.00 | 19.3% |
| Medicine | 365.00 | 14.0% | 73.00 | 1.4% |
| Wage | 360.00 | 13.8% | 72.00 | 1.4% |
| Development Cost | 100.00 | 3.8% | 120.00 | 2.3% |
| Miscellaneous Cost | 50.00 | 1.9% | 15.00 | 0.3% |
| Wage | 5.00 | 0.2% | 6.00 | 0.1% |
| Transportation | 40.00 | 1.5% | 33.33 | 0.6% |
| Slaughter | - | - | 50.00 | 1.0% |
| TOTAL COST (per head) | 2,604.85 | 100.0% | 5,214.21 | 100.0% |

Source: Department of Veterinary Services (DVS)

Table 24: Average Cost Across the Supply Chain

| CATTLE IMPORTER  | CATTLE BREEDER (Feedlot)  | WHOLESALE / TRADER  | RETAILER  |
|--|---|--|---|
| Cattle (Aus) RM 8 - 9 per kg | Animal 60 - Food 80% | Labour 10 - 15% | Labour 15 - 20% |
| Logistics: Sea freight RM1 - 1.50 per kg | Medicine 5% Labour 5% | Transportation 15 - 25% | Transportation 10 - 20% |
| Air freight RM 7 - 8 per kg | Others 15% (medicine, wage, slaughter, etc.) | Cold storage 10 - 15% | Storage 10 - 15% |
| | | Utilities 5 - 15% Rental 5 - 10% | Utilities 10 - 20% |

Source: MyCC analysis based on various sources (DVS and interview with industry players)

Within the local beef market, cattle are mainly imported from Australia at a rate of about RM10 to 11 per kg (CIF value). These cattle are then sold to feedlots for short term fattening at about RM13 per kg, generating a margin of 15 to 23% for importers. Some feedlots may also obtain cattle from local integrated farms at similar rate of about RM13 per kg, which generates a profit margin of 28% for integrated farmers. The cattle sold to feedlots will then undergo short term fattening before being slaughtered, hence, increasing the weight of the cattle prior to slaughter. Upon slaughtering and primary processing, the carcass will be sold by the feedlots at an average rate of RM13 – 13.50 per kg


of the cattle (or ~RM26 per kg of carcass, which is equivalent to about half the weight of the cattle) to meat traders and wholesalers. Subsequently, the average wholesale price by meat traders is about RM 28 – 30 per kg for lean meat (*daging pejal*), which gives them a profit margin of 7 to 13%. Meanwhile, the retail price by meat traders is about RM32 - 34 per kg, generating a profit margin of about 13 - 18%.

Table 25: Profit Margin of Local Beef Producers

| | Integrated Farming | | Feedlot | |
|----------------------------------|--------------------|-----|------------|-----|
| | Value (RM) | % | Value (RM) | % |
| Selling Price (per head/carcass) | 3,640.00 | | 5890.00 | |
| Total Cost | 2,604.86 | | 5,214.21 | |
| Profit (per head/carcass) | 1,035.14 | | 675.79 | |
| Selling Price / kg | 13.00 | | 13.15 | |
| Production Cost / kg | 9.30 | 72% | 11.46 | 87% |
| Profit / kg (live/carcass) | 3.70 | 28% | 1.69 | 13% |

Source: Department of Veterinary Services (DVS)

Table 26: Gross Margin of Local Beef Suppliers*




| CATTLE IMPORTER  | MEAT WHOLESALER / TRADER | MEAT RETAILER |
|---|---|---|
| Selling Price: ~RM 13/kg (live cattle) Purchase Price: ~RM 10 - 11/kg (live cattle) Mark-up: ▲ RM2 - 3/kg Gross Margin: 15 - 23% | <u>Wholesaling</u> Selling Price: RM 28 - 30 / kg (<i>daging pejal</i>) Purchase Price: ~RM 26/kg (carcass) Mark-up: ▲ RM2 – 4/kg Gross Margin: 7 – 13% | Selling Price: RM 32 - 34 / kg (<i>daging pejal</i>) Purchase Price: RM 28 - 30 / kg (<i>daging pejal</i>) Mark-up: ▲ RM4 – 6/kg Gross Margin: 13% - 18% |
| | <u>Retailing</u> Selling Price: RM 32 - 34 / kg (<i>daging pejal</i>) Purchase Price: ~RM 26/kg (carcass) Mark-up: ▲ RM6 – 8/kg Gross Margin: 18% - 24% | |

*Due to the sensitivity of the information, the figures reported are based on estimation triangulated from limited information across different sources

Source: MyCC analysis based on various sources (DVS, secondary research, interview with industry players)

Within the imported buffalo market, the average purchase price of imported buffalo meat acquired by importers is about RM13 per kg, which is then sold to local meat traders and wholesalers at a rate between RM14 to RM15 per kg, generating a gross margin of 7 – 13%. Some of the key importers also sell directly to modern retailers with a slightly higher price, differing by only RM0.10 – 0.20/kg compared to the rate sold to wholesalers. Meanwhile, meat wholesalers generate a gross margin of 17 – 25%, depending on their customers. The wholesale price is about RM18/kg, while the retail sale is usually priced RM 1 - 2 higher compared to the wholesaler price at about RM 19 – 20/kg. The prices of frozen buffalo meat in the retail markets such as supermarket are slightly more expensive compared to the wholesale market, at about RM20 – RM21/kg which generates a margin of about 10 - 14% for retailers.

Table 27: Gross Margin of Imported Buffalo Meat Suppliers*

| BEEF IMPORTER  | WHOLESALER / TRADER  | RETAILER  |
|---|---|--|
| <p>Selling Price: RM14 - 15/kg Purchase Price: ~RM 13/kg (USD 3200 – 3300/ton)</p> <p>Mark-up: ▲ RM1 – 2/kg Gross Margin: 7 – 13%</p> | <p><u>Wholesaling</u></p> <p>Selling Price: ~RM18/kg Purchase Price: RM 14 - 15/kg</p> <p>Mark-up: ▲ RM3 – 4/kg Gross Margin: 17 – 22%</p> <hr/> <p><u>Retailing</u></p> <p>Selling Price: RM19 - 20/kg Purchase Price: RM 14 - 15/kg</p> <p>Mark-up: ▲ RM4 – 5/kg Gross Margin: 20 – 25%</p> | <p>Selling Price: RM20 - 21/kg Purchase Price: ~RM 18/kg</p> <p>Mark-up: ▲ RM2 – 3/kg Gross Margin: 10 – 14%</p> |

Note: Wholesaler and retail prices refer to prices of *daging pejal*

*Due to the sensitivity of the information, the figures reported are based on estimation triangulated from limited information across different sources

Source: MyCC analysis based on various sources (DVS, secondary research, interview with industry players)

3.8 Key Takeaways

3.8.1 Areas of Concerns

1. Significant increase in the prices of beef

There has been significant increase in the average prices of imported cattle, local beef and imported beef over the years. Particularly for imported beef from India, the local wholesale prices have increased at a faster rate compared to the retail prices and the export value of beef from India. PPP analysis also revealed that imported Indian buffalo meat is cheaper in India and Indonesia. Some of the key factors which may have led to the price increases include low domestic production and high dependence on importation, high financial barrier to entry and dominance of importers, and limited number of exporters.

Policy/ Regulatory-Driven Issues

2. High dependence on importation and vulnerability to price increases due to foreign exchanges, increased global demand and reliance on few countries

Despite an increasing trend of beef consumption locally, the SSR of beef in Malaysia remains low. As the shortfall in the domestic supply of beef meat is mainly fulfilled by importation, foreign exchange rates largely influence the cost of beef in the market. While Malaysia is highly dependent on importation, the sources of import is limited and not diversified as it relies primarily on two key countries, i.e. Australia and India for both cattle and beef. This leaves the local market highly vulnerable to the supply and price fluctuations in these countries as well as increased demand from other countries.

3. Limited number of exporters

There is currently limited number of exporters in key import countries mainly due to the non-compliance to SPS and halal measures as required by the DVS/JAKIM for meat and non-compliance to ESCAS requirements for live animal. This may lead to the oligopoly among exporters that supply to Malaysia.

Market-Driven Issues

4. High barrier to entry and subsequent dominance of importers

The commercial beef industry has a high barrier to entry, mainly due to the huge capital requirement for importation and logistics. Although DVS practices open policy and has never restricted any parties from importing cattle or beef, very few players have the financial means to sustain or grow their business. This has resulted in the dominance of few importers whose volume constitute majority of the market, giving them the influence over the market supply and price and thereby lowering the bargaining power of buyers who rely heavily on these importers.

3.8.2 Potential Anti-Competitive Practices

Due to the issues surrounding the limited number of approved exporters and dominance of importers, these situations may give rise to some potential anti-competitive practices as highlighted below. These issues, however, can be managed given that the government undertake aggressive initiatives in order to boost the domestic beef production and increase the number of approved beef suppliers overseas.

1. Potential exclusive agreement and influence of dominant players over local supply and prices

As the key importers have established long-term relationship with the exporters, they may have preferential treatment or undertaken agreements which may impose some restrictions on other new and/or emerging importers in the market. For example, established importers may have the advantage in securing sufficient supplies at competitive prices, which would give them the influencing power to determine the supply and prices of beef in the domestic market. Given the reliance of distributors and retailers on these key importers, these players tend to be price takers and have limited ability to counter the price increases or certain trading conditions imposed on them by the importers. Similarly, the dominance of overseas exporters has given them some influence to impose certain inconvenient purchasing conditions which may have restricted the participation of other new and/or emerging local players. For example, a key retailer has made effort to import buffalo meat directly from the Indian exporters but to no avail as the exporters primarily deal with their principal agent and impose a large purchasing volume that cannot be fulfilled by the player.

2. Imposition of tying policy

The reliance of distributors and retailers on major importers give importers the advantage to impose certain purchasing conditions which may not be in favour of their buyers, thereby, reducing the bargaining power of their buyers. One common practice in the market is the tying or bundling policy which requires their buyers to purchase less favourable cuts in order to get the cuts that they actually want. As buffalo importers are required to purchase mixed parts from Indian exporters, these importers would then bundle these parts with parts requested by the buyers and the buyers do not have a choice but to accept. While this is a common business strategy undertaken by importers, it may significantly impact new and/or emerging players with less bargaining power.

3. Competitive advantage of dominant players

As major importers compete on the basis of volume, they can potentially decrease the prices below competitive levels, hence, preventing other players or new entrants from competing at a lower price.

4. MARKET ASSESSMENT: FISH

RELEVANT PRODUCT MARKET

- The study focuses on Indian Mackerel (*ikan kembung*), one of the most consumed fish by the households in Malaysia.
- Indian Mackerel (*ikan kembung*) can be confused with Ikan Pelaling and Ikan Mabong due to their similar appearances including size and other external features. It can be challenging to determine if a fish is fresh or frozen.

MARKET CHARACTERISTICS

- Overall, the self-sufficiency ratio of Indian mackerel (*ikan kembung*) remains low over the years, with import reliance being the norm for the past 5 years. The SSR of Indian Mackerel (*ikan kembung*) is seen dropping to its lowest point to only 34% in 2017. The production volume of *ikan kembung* was at its peak in 2014 and has since dropped at a CAGR of -8% to approximately 49,000 metric tonnes in 2018.
- Approximately 50% (or more) of the fish supply in Peninsular Malaysia are distributed through one of the key distribution hubs, i.e. Pasar Borong Kuala Lumpur, which is the most prominent wholesale market in Peninsular Malaysia. This has provided the wholesalers with higher bargaining power given their ability to determine the market supply/volume. The wholesalers have the greatest influence on pricing due to the information asymmetry where supply is consolidated in the wholesale market. Also, the upstream supply chain relies on wholesalers to purchase their excess supplies to retrieve the cost of capturing the fishes.
- Bargaining power of fishermen is low due to their reliance of jetty owners/middlemen in marketing the fishes. They are unaware of the market price and would only receive the payment after the jetty owners successfully sold the fishes to the downstream supply chain. The price asymmetry has put fishermen in a disadvantaged position and the fishermen are often known as “price-taker” as the jetty owners dictate the price.
- Given the market supply instability and product nature of fish, the market price fluctuates, and the price may change a few times within a day depending on the freshness of the fishes. Overall, the price of Indian Mackerel (*ikan kembung*) has seen an increasing trend over the past 10 years.

MARKET PRACTICES/ REGULATORY REQUIREMENTS

- DOF segregates the fishing zones to provide equitable resource allocation among the players. The zoning requirement may have encouraged the players in setting different types of pricing based on the zones they are operating and thus affecting the overall market pricing.
- To ensure adequate supply in the local market, LKIM has implemented export restriction of Indian mackerel (*ikan kembung*) and other types of mackerel species during the festive period and monsoon season. This may have restricted competition of local players in the global market.
- It is common that jetty owners provide the fishermen with advance credit or access to fishing vessels/fishing gear/other input supply in exchange of the fishing supplies by the fishermen, and these practices have induced dependency.

- Due to the market's inability to differentiate between fresh fish and frozen fish, certain players have taken the opportunity to sell frozen fish at fresh fish's price. Further, there is no regulations are in place to control the issues of false declaration of 'fresh' fish.

AREAS OF CONCERNS



- Since the introduction of *ikan rakyat* concept, the price of *ikan kembung* has been on an upward trend. The concept of *ikan rakyat* was promoted to create a perception that it will be consistently available in the market, and that it would be affordable. However, the price hike of *ikan kembung* over the years have indirectly caused the consumers to relate it to the rise of cost of living given its unaffordability.
- Multiple layers of intermediaries in the fisheries supply chain are one of the key factors which drive up the prices of *ikan kembung*. As the fishes reach the market, their price would have increased by almost 6 different times. Also, the price is determined based on the "experience" of the sellers as there is no proper grading system. Further, the transactions and the market volume are not transparent across the multiple intermediaries.
- As the supply may be intentionally controlled in the market by creating more frozen fish, this may allow the players who practices such to withhold the supply in the market or artificially stabilize the price during excess supply period. During the low supply season, the players may then release the frozen fish in the market to profit further. This may distort competition due to the price manipulation.
- Presence of a key distribution hub in Central region which holds the majority of the volume in the market gives them a geographical advantage that allow them to influence the market price due to the price asymmetry along the supply chain.

4.1 Relevant Product Category


In general, the fisheries sector can be divided into three subsectors – marine fishes, aquaculture, and inland fishes. For this market review, the report would focus on marine fishes, specifically on Indian mackerel (*Ikan kembung*).

Indian mackerel (*Ikan kembung*) is known as one of the most consumed fish by the households in Malaysia. The Indian mackerel (*Rastrelliger kanagurta*) is a species of mackerel in the *scombrid* family (family *Scombridae*). It is a type of marine fish commonly available around the South East China sea surrounding Peninsular Malaysia and East Malaysia. However, due to its similar appearance with its family members, it may be confused with Ikan Mabong and Ikan Pelaling. All three types of fishes are from the same species's family. Typically, *Ikan kembung* (7-10pcs/kg)⁴⁸ can be recognised by its size, which comes in between Ikan Pelaling and Ikan Mabong. The table below shows the difference of product specification of the scombrid family.

Table 28: Product Specification for Mackerel Species

| Common Name | Key Description |
|--|---|
| Ikan Pelaling  | Taxonomy Name: <i>Rastrelliger brachysoma</i> Class: Osteichthyes Genus: <i>Rastrelliger</i> Family: <i>Scombridae</i> DOF Valid Name: Kembung pelaling English Name: Short mackerel, Chub mackerel, Indo-pacific mackerel, Mackerel, Short-bodied mackerel Remarks: The local name for the species can range from Kam bong, Kembong, Pelaling, Rumahah (Brunei), Temenong |
| <i>Ikan kembung</i>  | Taxonomy Name: <i>Rastrelliger kanagurta</i> Class: Osteichthyes Genus: <i>Rastrelliger</i> Family: <i>Scombridae</i> DOF Valid Name: Kembung borek English Name: Indian mackerel, Mackerel, Rake-gilled mackerel Remarks: The local name for the species can range from Borek, Kembong, Kembong laki, Kembung hitam, Kembung jantan, Mabong, Pelaling, Rumahah (Brunei), Temenong, Temenong borek |

⁴⁸ In line with KPDNHEP's definition

| Common Name | Key Description |
|--|---|
| Ikan Mabong  | Taxonomy Name: Rastrelliger faughni Class: Actinopterygii Genus: Rastrelliger Family: Scombridae DOF Valid Name: Kembong Lampai English Name: Island mackerel, Faughn’s mackerel, Mackerel Remarks: This fish is also known as kembung, pelaling, Ikan Temenung, Rumahan, Mabong, Kembung Lampai and Kambong Hu, Mabong. |

Source: Department of Fisheries Malaysia, secondary research

In Malaysia, the mackerel species can be differentiated by their size and the most consumed Indian mackerel (*ikan kembung*) is 7-10pcs/kg. The similar consumption pattern is consistent across fresh and frozen Indian mackerel (*ikan kembung*)⁴⁹. In a study conducted by LKIM, indian mackerel (*ikan kembung*) is the most favoured *ikan rakyat* by the consumers.⁵⁰

Ikan kembung is a perishable product but its shelf life may be prolonged to up to 6 months with proper freezing technology. It may be challenging to determine the difference between fresh, chilled and frozen fish. Given the similar name used in respective local market which may also refer *ikan pelaling* or *ikan mabung* as *ikan kembung*, it is often challenging to clearly differentiate the differences among the three types of fishes. As such, *ikan kembung* referred by the press media may sometimes be referred as *ikan pelaling* or *ikan mabung*.

4.2 Sector Overview

With the growing population, increasing income level, and the changing consumer taste to healthier source of animal protein, the demand for fish has soared. Malaysia is the fourth highest fish consuming country in the world in terms of consumption per capita, with up to 57kg per capita, far higher than US and Europe which only consume around 20kg per capita⁵¹.

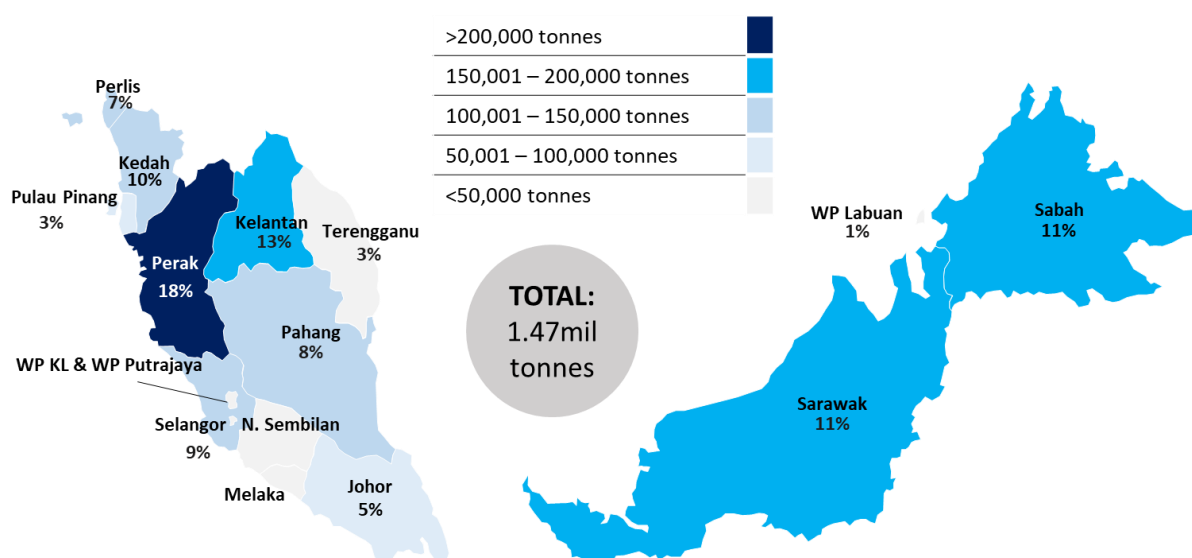
In 2017, fisheries subsector contributes to 10.5% of the total added value for the Agriculture sector, and it is the second biggest contributor to the agro-food subsector after the livestock subsector. Per annum marine fishery production growth reached 1.5mil tonnes in 2017. The landing of marine fishes is mostly concentrated in Perak state in 2017. The heatmap below shows the landing of marine fishes by states.

⁴⁹ Focus group discussions

⁵⁰ Kajian Tren Bekalan Dan Harga Ikan Serta Kesan Terhadap Nelayan Dan Pengguna, LKIM & UPM (based on a sample size of 300 respondents).

⁵¹ News article, <https://www.theedgemarkets.com/article/more-imports-required-stabilise-seafood-prices-says-fish-farmers-guild>

Figure 53: Heatmap on the Marine Fish Landing by States



Source: Department of Fisheries (DOF), Fisheries Development Authority of Malaysia (LKIM)

Despite the increasing demand, the source of local production is not catching up with speed. All states have experienced stagnant or reducing landing of fishes except for Selangor and Sarawak in 2017. Table 28 shows the landing trend of marine fishes by state from 2013 to 2017. Kelantan, Perak and Kedah appear to have shown increasing trend of fish landing from 2013 to 2016. Meanwhile, the value generated by the marine fishes have grown by 7% on average per annum⁵².

Table 29: Comparison of Fish Landing by States (2013-2017)

| States (in metric tonnes) | 2013 | 2014 | 2015 | 2016 | 2017 |
|---------------------------|-------|-------|-------|-------|-------|
| Johor | 130.9 | 125.3 | 103.4 | 81.2 | 69.9 |
| Kedah | 112.9 | 156.1 | 157.1 | 163.9 | 142.5 |
| Kelantan | 57.1 | 62.2 | 146.4 | 218.8 | 196.1 |
| Melaka | 1.8 | 1.9 | 2.0 | 1.8 | 1.8 |
| Negeri Sembilan | 0.6 | 0.8 | 0.7 | 0.7 | 0.7 |
| Pahang | 107.3 | 91.1 | 111.5 | 120.4 | 118.1 |
| Pulau Pinang | 58.2 | 45.9 | 49.8 | 57.0 | 51.2 |
| Perak | 307.2 | 329.3 | 346.9 | 367.3 | 266.6 |
| Perlis | 99.6 | 96.5 | 85.5 | 99.9 | 105.9 |
| Selangor | 105.6 | 92.4 | 90.0 | 93.5 | 125.5 |
| Terengganu | 72.2 | 58.8 | 51.2 | 44.7 | 47.3 |
| Sabah | 196.5 | 214.7 | 175.4 | 159.8 | 162.3 |
| Sarawak | 159.8 | 157.2 | 147.6 | 148.0 | 158.9 |
| Labuan | 73.2 | 25.7 | 18.5 | 17.5 | 18.4 |

Source: Department of Fisheries (DOF)

With the reduction of overall marine fish landing, aquaculture has been an alternative way to achieve sustainable fish resources.

⁵² Source: Department of Fisheries (DOF)

4.3 Regulatory/Policy Landscape

Fisheries industry is highly regulated, whereby the federal and state governments play important role in managing the fisheries industry's regulations and policy. Generally, LKIM covers all matters on the land which include the import/export of fishes and wholesale license, whereas DOF covers all matters in the sea such as issuance of fishing boats license and fishing permit. The following are the government policies and/or regulatory requirements that are affecting the fishery industries.

4.3.1 DOF's Regulatory Requirement

Due to the need to promote rehabilitation and conservation of marine ecosystem and resources, government has implemented the following initiatives to control fishing effort to avoid over-exploitation:

1. Direct limitation of fishing efforts by setting a moratorium on the issuance of new or additional fishing licences for vessels to fish in coastal waters
2. Controls on size and power of fishing vessels and any specifications alteration is subject to DOF's approval
3. Requirement for fishermen to register for fishing license.
4. Resettlement of fishermen into the downstream activities such as aquaculture, agro-tourism, and post-harvest processing through voluntary program.
5. Conserved fishing areas whereby Commercial fishing vessels such as trawlers and fish purse seiners, are prohibited from fishing in waters less than 5 nautical miles from the shore.
6. Management zones which range from zone A – C3 and each zone has its designated specific fishing gear, classes of vessels and ownership to provide equitable allocation of resources and reduce conflict between traditional and commercial fishermen.

Fishing Zone Requirement by DOF

In managing the resources available in Malaysian waters, DOF has allocated the coastal waters into different zones as shown in the Table 30 and Table 31 where each zone would have its designated fishing gear, classes of vessels and ownership:

Table 30: Fishing Zone's Specification for Malaysia except West Coast

| Zone type | Distance from shores | Classes of Vessels | Designated fishing gear and requirements |
|-----------|--------------------------|--------------------|--|
| Zone A | < 5 n.m | 0 - <40 GRT | Reserved for small-scale fishermen using traditional fishing gear and owner-operated vessels. |
| Zone B | 5 n.m - 12 n.m | 0 - <40 GRT | Commercial fishing vessels of less than 40 GRT using trawl nets and purse seine nets. It must be owner-operated vessels. |
| Zone C | 12 n.m - 30 n.m | 40 - <70 GRT | Commercial fishing vessels of more than 40 GRT using trawl nets and purse seine nets. It can be owner or non-owner operated vessels. |
| Zone C2 | > 30 n.m to EEZ boundary | 70 GRT and above | Deep-sea fishing vessels of 70 GRT and above (Trawlers and Purse Seiner) |
| Zone C3 | High seas | 70 GRT and above | Tuna Longliners and Tuna Purse Seiner |

Notes: There is no restriction for vessels operating at the lower zones to fish at the zones further up, for e.g. vessels in Zone A are allowed to fish in Zone B, C and C2. EEZ refers to exclusive economic zones.

Source: Department of Fisheries

Table 31: Fishing Zone's Specification for West Coast of Peninsular Malaysia by DOF

| Zone type | Distance from shores | Classes of Vessels | Remarks |
|-------------------|----------------------|--------------------|---|
| Conservation zone | 0 – 1 n.m. | - | Aquaculture areas, cockles, and fishermen-based communities activities |
| Zone A | 1 – 8 n.m. | <40 GRT | Traditional vessel/anchovies purse seiner (US). This zone is 100% reserved for local fishermen only. |
| Zone B | 5 n.m - 12 n.m | <25 GRT | Trawlers/ Purse Seiner (US)/ Skipper/ Assistant Skipper/ 100% for Local Fishermen/ Compulsory on the usage of Automatic Identification System (AIS), Malaysia Acetes Efficiency Device (MAED), and Juvenile and Trash Excluder Devices (JTED) |
| Zone B1 | 8 n.m. – 15 n.m. | 25 - <40 GRT | Trawlers/ Purse Seiner (US)/ Skipper/ Assistant Skipper/ 100% for Local Fishermen/ |

| Zone type | Distance from shores | Classes of Vessels | Remarks |
|-------------|-----------------------|-----------------------|--|
| | | | Compulsory on the usage of Automatic Identification System (AIS) |
| Zone C & C2 | 15 n.m – EEZ boundary | 40 – 70 GRT and above | Trawlers/ Purse Seiner (BUS)/ Skipper/ Assistant Skipper/ 100% for Foreign Fishermen/ Compulsory the usage of Automatic Identification System (AIS)/ Mobile Transceiver Unit (MTU) |
| Zone C3 | Indian Ocean | 70 GRT and above | Purse Seiner/ Long Liners (BUS)/ Compulsory on the usage of Mobile Transceiver Unit (MTU) |

Notes: Conservation areas are for Kedah, Perak and Selangor coastal areas only. EEZ refers to exclusive economic zones.

Source: Department of Fisheries

However, the fishing zone requirement is very strict in Malaysia whereby any surpass of the boundaries beyond the stipulated zone would cause penalisation in the form of fines, confiscation, or withdrawal of fishing license for a year. Despite the efforts from respective agencies (APMM, DOF, Marine police), there remain some cases

The marine capture fisheries are characterised by various types of fishing gear used by the fishermen to harvest the large diversity of marine species found in Malaysian waters. The fishing gear is classified into the following:

| Commercial Fishing Gear | Traditional Fishing Gear |
|--|--|
| <ul style="list-style-type: none"> • trawl, • fish purse seine, • driftnet, • gill net | <ul style="list-style-type: none"> • hook-and-line, • bag net, • trammel net, • lift net and traps |

Indian mackerels (*ikan kembung*) are commonly caught by the high opening trawl nets, particularly on the west coast of Peninsular Malaysia.⁵³

However, due to the limited monitoring and challenging nature of controlling the activities on the sea, cases where the boat owners surpassed their designated zones can be common⁵⁴. The fishermen who only fish in their designated zone may be affected in terms of the catchment they may achieved. Also, the local fish supply is affected by foreign vessels which pillage the local fish stocks due to the enforcement challenge on such cases. Furthermore, there is different pricing to the fish based on fishing zones due to factor such as economies of scale, fishing method, etc. and thus affecting the overall market pricing. On top of that, the industry also faced potential challenges of under-reported production due to the leakages via export as the transaction happened on the sea which is challenging to monitor.

⁵³ Food and Agriculture Organization of the United Nations (FAO)

⁵⁴ News article, <https://www.bharian.com.my/berita/nasional/2017/11/348016/kami-dah-letih>

4.3.2 Festive Season Controlled Price

In order to control the price against hefty price increases of essential goods during the festive period, SHMMP was implemented since year 2000 under the Price Control and Anti-Profiteering Act 2011 (formerly Price Control Act 1946). As it is a common regulation that the government would control the pricing during the festive seasons, this has encouraged the market practices where the players would tend to manipulate the pricing few days before the festive season to artificially ‘control’ the price ceiling set by the government and make profit from the manipulation.⁵⁵ Not to mentioned, the price ceiling is determined based on the historical price trend as well as consensus/ consultation with relevant agencies (e.g. LKIM, etc.) and industry associations. The final decision on price ceiling is decided by the SKMMP committee chaired by KPDNHEP Enforcement division. Also, it should be noted that price of Indian mackerel (*ikan kembung*) is not controlled during the Chinese New Year festive season.⁵⁶

Some industry players have expressed concern over the controlled price which did not take into consideration of the player’s increasing cost over the years. As such, it has encouraged behaviours where the players refuse to supply during that period.⁵⁷

4.3.3 Export Restriction

The Ministry of Agriculture, through LKIM, has also taken the initiatives to restrict exports of fish abroad to ensure adequate supply for local market during the festive period and monsoon season under the Fish Marketing Regulations 2010 Section 5(3)⁵⁸. Indian Mackerel (*ikan kembung*) is among the 5 species that is prohibited to be export during the period determined by the authority. This restriction is applicable to all fresh/chilled/frozen fish targeted, although during certain years frozen fish may be permitted to export (e.g. 2016).

Such export restrictions have been in place on yearly basis and the restriction period are normally between December to February and May to August (refer to the table below).

Table 32: Export restriction applicable to Indian Mackerel (*Ikan Kembung*) between 2016 to 2018

| Restricted period | Fresh/chilled fishes | Frozen fishes |
|-------------------------------------|--|----------------------------------|
| 1 June 2016 to 31 August 2016 | Not allowed | No restriction |
| 1 December 2016 to 28 February 2017 | Not allowed; only applicable during monsoon period | No restriction |
| 1 May 2017 to 31 July 2017 | Not allowed | Not allowed between June to July |
| 1 December 2017 to 28 February 2018 | Not allowed | Not allowed |
| 1 May 2018 to 31 July 2018 | Not allowed | Not allowed |

Source: Fisheries Development Authority of Malaysia (LKIM)

⁵⁵ Focus group discussions

⁵⁶ Source: KPDNHEP

⁵⁷ Industry interviews

⁵⁸ Fish Marketing Regulations 2010, LKIM Act 1971

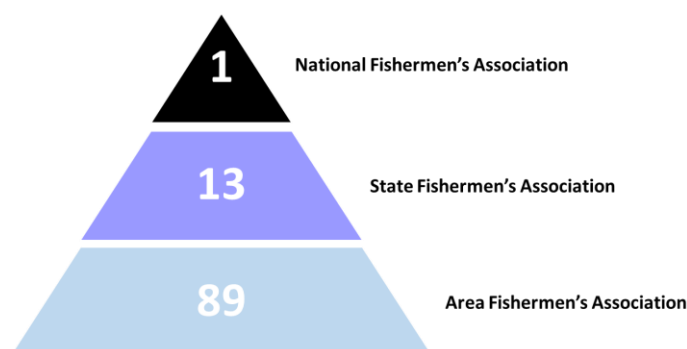
Although restriction has been in place for export, the industry players may apply for exemption from the restriction. However, the applicants would have to furnish information such as the facilities (factory, cold room, store, etc.) owned by the business and its capacity, countries of export, countries of import and importer's principal business activities, port of exit, export quantity and reason for exporting, etc.

Some players have argued that the restriction may have distort the free market competition as their profit margin would have been affected given that they normally receive a better price from the foreign buyers. Not to mentioned that, the policy may also restrict competition of local players in the global market.

4.3.4 Fishermen Association Act 1971

Fishermen's associations are also playing important role in the process of development and management of the fisheries sector in Malaysia. Malaysia's fishermen association is arranged in a three-tier structure (refer to figure below) whereby as of 2018, a total of 102 fishermen association had been formed and are active.

Figure 54: Three-tier Structure of Fishermen's Association



Source: Fisheries Development Authority of Malaysia (LKIM)

According to the Fishermen's Association Act 1971 Section 5, the objectives of the Fishermen's Associations are:

1. to manage and operate financial support schemes to provide credit and capital resources to members
2. to promote member education and training including circulation of information on matters of interest to members
3. to organise exhibitions, fairs and displays;
4. to organise fishing operations or aquaculture; the assembling, storage, processing, distribution and disposal of member's products;
5. to provide health centres, nurseries, thrift institutions, insurance, mutual aid and other welfare programmes;
6. to assist in investigations on and the collection of statistics of the fishing industry;
7. to provide buoys and other navigation aids and fishing harbour facilities;
8. to mediate in disputes involving members arising in the fishing industry;
9. to organise member participation in conservation programmes directed by the Director General of Fisheries

10. to operate and provide transportation facilities to enhance fish marketing activities and related activities;
11. to provide marketing, storage, drying, warehousing and other facilities; and
12. to facilitate capital formation and investment among members through the establishment of companies or equity participation in trading and business ventures.

Membership of Fishermen’s Association is open to anyone who is eligible. There is no artificial restriction or exclusion. It operates on a democratic basis whereby it may be formed by a group of a minimum 50 members with no restriction on which supply chain the members are from. However, the member is not allowed to be a member of more than one Fishermen’s Association. The following summarises the key elements of a fishermen association.

Table 33: Selected Rules Applicable to Fishermen’s Association

| Rules | Remarks |
|---|--|
| Eligibility | <ol style="list-style-type: none"> 1. Resident within the operative area of an Area Fishermen’s Association 2. Age 18 and above 3. The members can be either: <ul style="list-style-type: none"> - Anyone who is engaged in catching, harvesting, or the culture of aquatic organisms for a minimum period of 120 days in a year - A person who is fish processors, handler or dealer - Individuals who derives more than 60% of his/her income from occupations related to the fisheries industry. |
| Funds for Fishermen Association | <ul style="list-style-type: none"> • Based on member’s subscription and money acquired, accrued or derived from the activities deliberated in the Fishermen Association Act or any regulations made thereunder or the constitution or rules of such association. • Any fishermen’s association is free to invest or deposits their funds, for example, they may be able to invest in the share capital or securities of any registered body or company |
| Ownership type | Fishermen’s association shall be a body corporate that is going-concern. It has the right to acquire, lease, donate, gift, etc any assets from the association, and it may also sell or lease the assets. |
| Income tax exemption | The fishermen association act also stated that the association may be exempted from their excess profits and/or dividends received by their members on account of profits. |
| Exemption from requirements stated in the Act | Notably, the Ministry governing the fisheries industry has a special power exempt the association from requirements stated in the act |

Source: Fisheries Development Authority of Malaysia (LKIM)

In theory, fishermen’s association can engage in any economic/non-economic activities, including operating it as a business similar to private enterprise. The economic activities may include marketing, input supply, credit and saving, fish processing, cold store/ice making, boat repair workshops, cooperative retail shops, insurance, aquaculture etc.

Although the profits of the economic activities, in principle, are to be reinvested for new projects or expansion of existing infrastructure, it may also be returned to the members in the form of dividend when fishermen association makes sufficient profits.

Collectively, the 102 Fishermen Association has achieved a revenue of more than RM2bil each year between 2013 to 2015. However, the performance of Fishermen Association has deteriorated to achieving only about RM1bil in 2016.

Summary

Fishermen association who is formed by a group of stakeholders from different level of supply chain may provide them with an opportunity to vertically integrate to influence the market competition. As highlighted previously, the fishermen association can act like a business player and involve in marketing of fishes (distributing, importing etc.), supplying diesel, providing credit, managing fish processing or cold store or ice making, repairing boats, setting up retail shops etc.

There is also no restriction in terms of who can participate in the association, where it may be fishermen, micro establishment' or large establishment' owners. This may have provided the players with an avenue to share market information, and collectively influence the market competition.

4.3.5 Others

Furthermore, the government of Malaysia, through LKIM & its agencies, has implemented positive initiatives to:

1. Grow the socio-economy status of the fishermen,
2. Market the fishes on behalf of the fishermen to eliminate middlemen through Pasar Nelayan, and
3. Develop infrastructure (i.e. Pusat Nelayan Kawasan (PNK)) for the growth of fisheries industry.

One of the initiative by the government is the building of LKIM jetties in an effort to eliminate middlemen. However, there are some additional fees imposed to the users of the fisheries complex, jetties or harbours as shown in the table below.

Table 34: Fees charged by LKIM for the usage of LKIM jetties

| Type of charges | Fees imposed |
|---|--|
| Charge on vehicle per entry (daily, overnight, monthly basis) | Daily: RM0.50 to RM10.00 Overnight: RM1.50 to RM10.00 Monthly basis: RM5.00 to RM30.00 |
| Usage of cold rooms | By tender/negotiation/fixed rent determined by LKIM |
| Usage of marketing halls | RM54 per square meter (per sqm) |
| Shed | Processing: By tender/negotiation/fixed rent determined by LKIM Net mending: - 3 days after permit issued – RM1 per sqm per day - 4 to 15 days after permit issued - RM3 per sqm per day - 6 to 30 days after permit issued – RM5 per sqm per day Net storing: RM2 per sqm per day after permit issues |
| Retail store | By tender/negotiation/fixed rent determined by LKIM |
| Berthing per trip | According to the gross tonnage of the vessel as follows: <ul style="list-style-type: none"> • below 9.9 grt - free • 10 grt to 39.9 grt – RM3 • 40 grt to 69.9 grt - RM10 • 70 grt to 99.9 grt – RM30 • 100 grt and above – RM100 |
| Berthing per month | According to the gross tonnage of the vessel as follows: <ul style="list-style-type: none"> • below 9.9 grt – RM10 • 10 grt to 39.9 grt – RM60 • 40 grt to 69.9 grt - RM100 • 70 grt and above – RM150 |
| Fork lift | RM3 per pallet |
| Store | RM22 per sqm per month |

| Type of charges | Fees imposed |
|----------------------------------|---|
| Service charge for fish imported | <ul style="list-style-type: none"> • A container or any other receptacle containing less than 50 kg of fish – RM5 per container • A container or any other receptacle containing more than 50 kg but less than 100 kg of fish – RM10 per container • A container or any other receptacle containing more than 100 kg of fish – RM0.10 per kg of fish |

Source: Fisheries Development Authority of Malaysia (LKIM) (Fisheries Complexes, Fisheries Harbours and Fisheries Landing Jetties) Rules 2010

Furthermore, due to the limited location of LKIM complex and that the long queue for fish landing on first-come-first-served basis, the fishermen would prefer to stick to the previous flow of trade (i.e. work with jetty owners/middlemen) for quick turnaround. Although LKIM has provided incentive (i.e. approximately RM0.10 per kilogram) to the fishermen to report their catchment at LKIM approved jetties, the participation has been lukewarm. Therefore, some of the LKIM complex may not be fully utilized.

On the other hand, government policies (e.g. taxes, subsidies, labour policies) have seen changes on frequent basis and this has contributed negative perception amongst the players⁵⁹ to the overall economic performance as it creates uncertainty in the market.

⁵⁹ Industry interviews

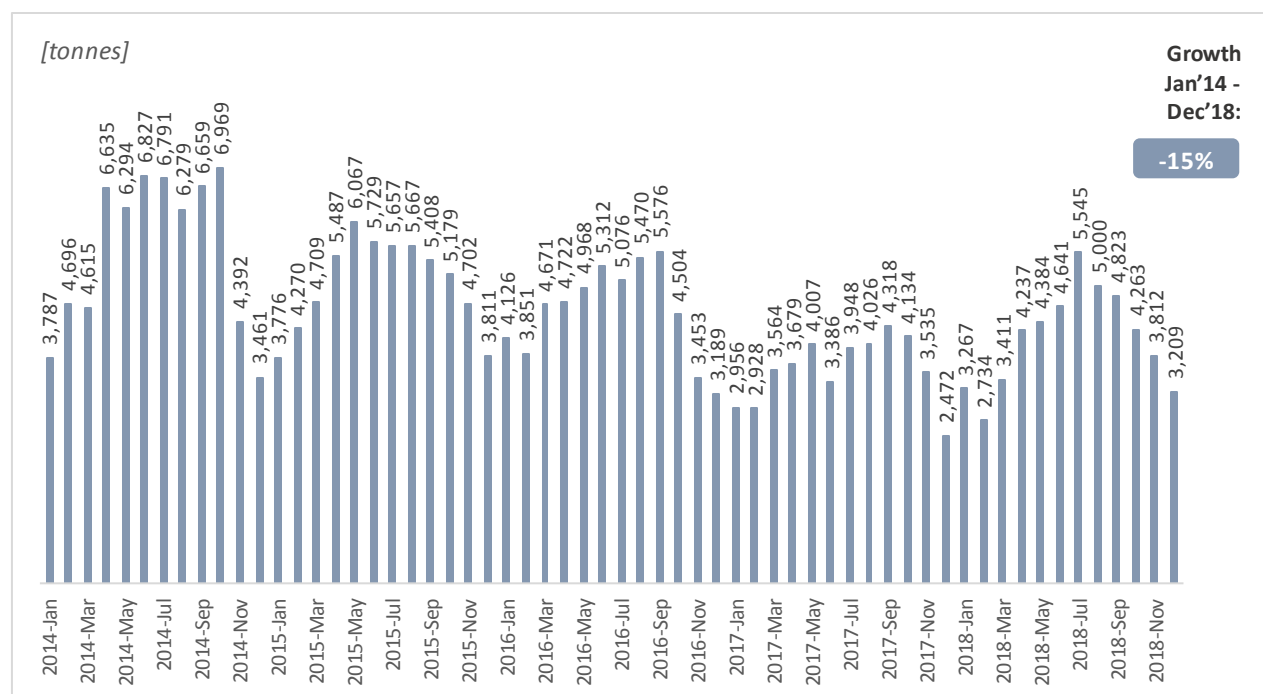
4.4 Market Size: Production, Import, and Export

4.4.1 Production of Indian Mackerel (*Ikan Kembung*)

Specifically, for Indian mackerel (*ikan kembung*), the production volume was at its peak in 2014 and has since dropped at a CAGR of -8% to approximately 49,000 metric tonnes in 2018. This may be caused by a shortage of mackerel supply at fish landing jetties nationwide, coupled with challenging weather conditions.⁶⁰ In terms of production volume by month, it is observed that the production of Indian Mackerel (*ikan kembung*) is often limited between November to March in a year. This type of fish is mainly caught in the west and east coast region⁶¹.

Figure 55: Production Volume of Indian Mackerel (*Ikan Kembung*)

| Yearly production volume (tonnes) | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------------------|--------|--------|--------|--------|--------|
| | 67,406 | 60,463 | 54,918 | 42,953 | 49,328 |



Source: Department of Fisheries (DOF)

⁶⁰ <https://www.thesundaily.my/archive/shortage-supply-reason-rising-price-ikan-kembung-shabery-cheek-YTARCH491081>; <https://www.freemalaysiatoday.com/category/nation/2017/01/02/price-of-kembong-fish-doubles-due-to-monsoon-season/>

⁶¹ Department of Fisheries

Zooming into the production volume of Indian mackerel (*ikan kembung*) by states as shown in the table below, it is noted that Melaka and Negeri Sembilan do not produce the species. Kedah, Perak and Perlis are the top 3 Indian Mackerel (*ikan kembung*) producing states in 2018. Among the top 3 producing states, Kedah and Perak have experienced a drop in production level of the fish species at a CAGR of -22% and -11% respective between 2014 to 2018.

Table 35: Comparison of Indian Mackerel (*Ikan Kembung*) Production Level by States (2014-2018)

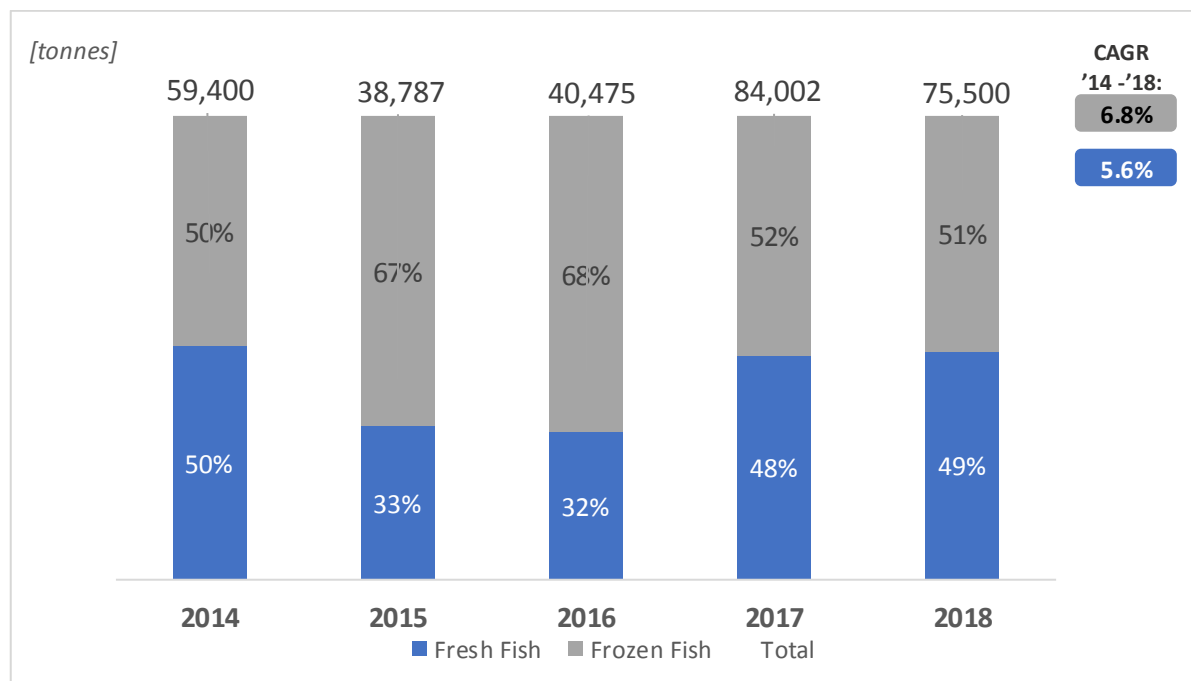
| States | 2014 | 2015 | 2016 | 2017 | 2018 | % production (2018) | CAGR (2014-2018) |
|-----------------|---------------|---------------|---------------|---------------|---------------|---------------------|------------------|
| Perlis | 3,494 | 3,205 | 3,307 | 5,665 | 6,665 | 14% | 18% |
| Kedah | 24,064 | 18,918 | 14,217 | 5,575 | 8,987 | 18% | -22% |
| Pulau Pinang | 43 | 49 | 1,024 | 1,493 | 99 | 0% | 23% |
| Perak | 12,612 | 11,744 | 9,865 | 5,723 | 7,952 | 16% | -11% |
| Selangor | 4,265 | 1,065 | 1,218 | 3,391 | 4,547 | 9% | 2% |
| Negeri Sembilan | - | - | - | - | - | 0% | |
| Melaka | - | - | - | - | - | 0% | |
| Johor Barat | 1 | 2 | - | 17 | - | 0% | -100% |
| Johor Timur | 1,705 | 1,151 | 975 | 919 | 780 | 2% | -18% |
| Pahang | 3,206 | 3,816 | 5,574 | 4,057 | 3,760 | 8% | 4% |
| Terengganu | 5,705 | 4,329 | 3,821 | 2,659 | 2,651 | 5% | -17% |
| Kelantan | 1,962 | 7,232 | 7,597 | 5,558 | 3,697 | 7% | 17% |
| Labuan | 514 | 240 | 480 | 465 | 636 | 1% | 5% |
| Sarawak | 3,358 | 2,540 | 2,489 | 3,162 | 5,229 | 11% | 12% |
| Sabah | 6,477 | 6,172 | 4,351 | 4,268 | 4,324 | 9% | -10% |
| Total | 67,406 | 60,463 | 54,918 | 42,953 | 49,328 | 100% | -8% |

Source: Department of Fisheries (DOF)

4.4.2 Import and Export

Malaysia has always been a net importer of Indian mackerel (*ikan kembung*). The country used to import about 60,000 tonnes of fish in 2014 and the volume has registered increasing trend to about 75,000 tonnes in 2018.

Figure 56: Import Volume of Indian Mackerel (*Ikan Kembung*)



Source: Fisheries Development Authority of Malaysia (LKIM)

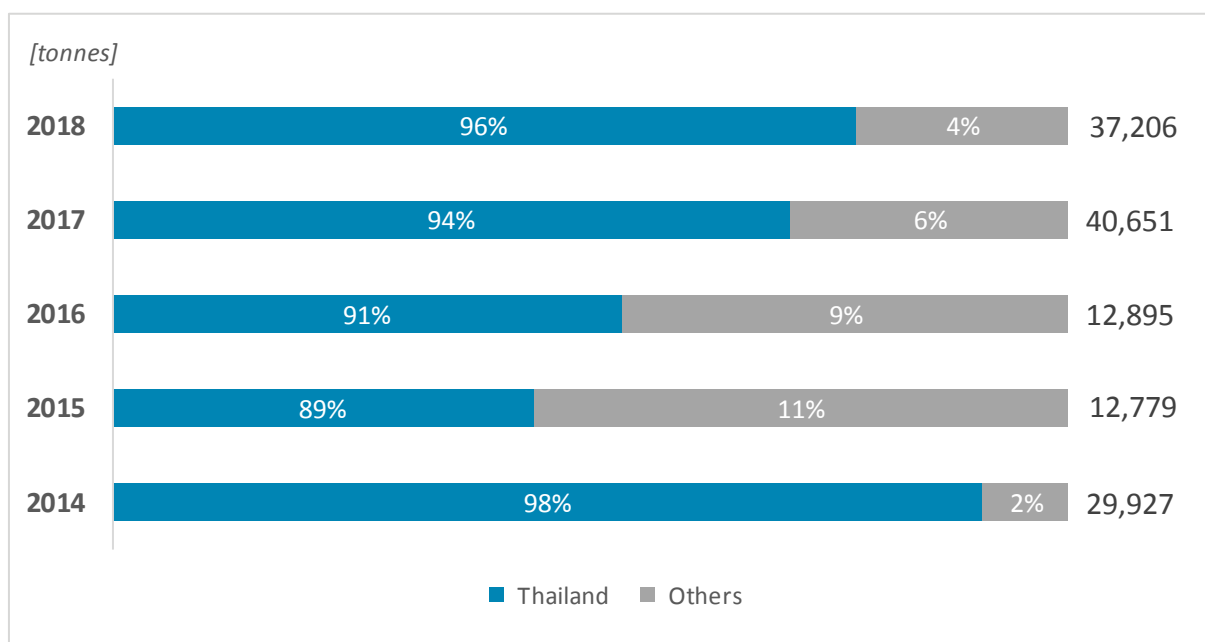
Source of import for Indian mackerel (*ikan kembung*) are Thailand, India, Yemen, China, Vietnam, Pakistan, etc. In terms of the imported Indian mackerel (*ikan kembung*) in 2018, almost half of them are imported as frozen fish. As seen in the chart below, more than 90% the fresh *ikan kembung* imported are from Thailand. For frozen *ikan kembung*, about 80% of them are imported from China, India, and Vietnam, with China being the top importing country for *ikan kembung*. Fortunately, *ikan kembung* is still considered as an easily sourced fish as is not a species that is at risk of extinction according to WWF's list of threatened species.

Due to the shortage of *ikan kembung* in the local market, Malaysia exports only little *ikan kembung* to other countries. For instances, Malaysia only exported 170 tons of fresh *ikan kembung* to neighbouring countries in 2018.⁶² Nonetheless, Malaysia does export frozen *ikan kembung* to other countries, with the latest data in 2017 at a volume of about 8,000 tons. With the reduction of local production level of *ikan kembung*, Malaysia is heavily dependent on import, with the self-sufficiency level dropped to 40% in 2018 from 53% in 2014.⁶³

⁶² Fisheries Development Authority of Malaysia (LKIM)

⁶³ Calculated based on the data provided by Fisheries Development Authority of Malaysia (LKIM)

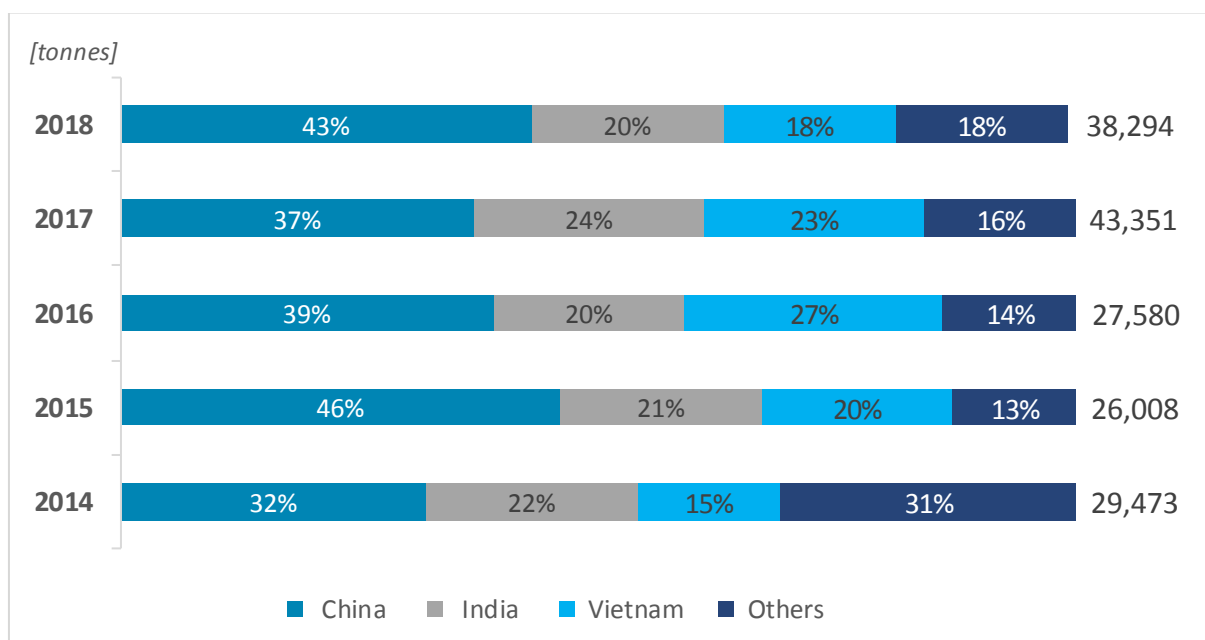
Figure 57: Import Volume of Fresh Indian Mackerel (Ikan Kembung) by Country of Origin



Source: Fisheries Development Authority of Malaysia (LKIM)

Others include Vietnam, Myanmar, China, India, Indonesia, Yemen, Pakistan.

Figure 58: Import Volume of Frozen Indian Mackerel (Ikan Kembung) by Country of Origin

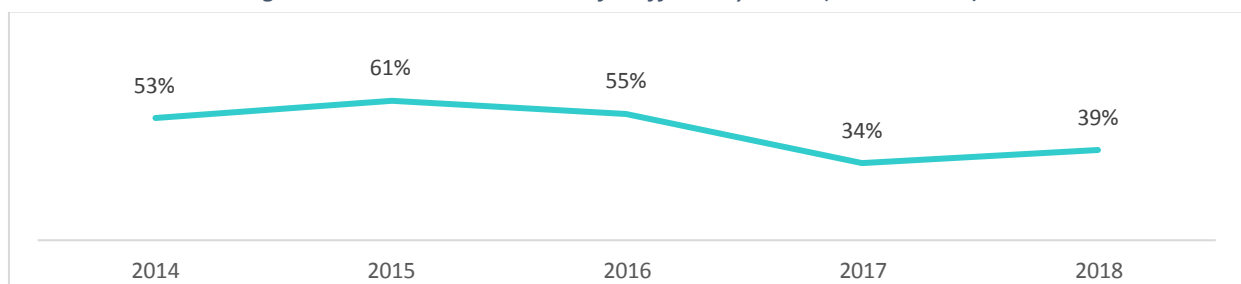


Source: Fisheries Development Authority of Malaysia (LKIM)

Others include Vietnam, Myanmar, China, India, Indonesia, Yemen, Pakistan, Singapore, Middle Eastern countries, etc.

Overall, the self-sufficiency ratio of Indian mackerel (*ikan kembung*) remains low over the years, with import reliance being the norm for the past 5 years. The SSR of Indian Mackerel (*ikan kembung*) is seen dropping to its lowest point to only 34% in 2017, although it has recently increased to 39% in 2018. This means Malaysia is mostly relying on the import of Indian mackerel (*ikan kembung*) to meet the local demand and the price of the fish would be subjected to the exposure of foreign exchange fluctuations.

Figure 59: Indian Mackerel Self-Sufficiency Ratio (2014 – 2018)



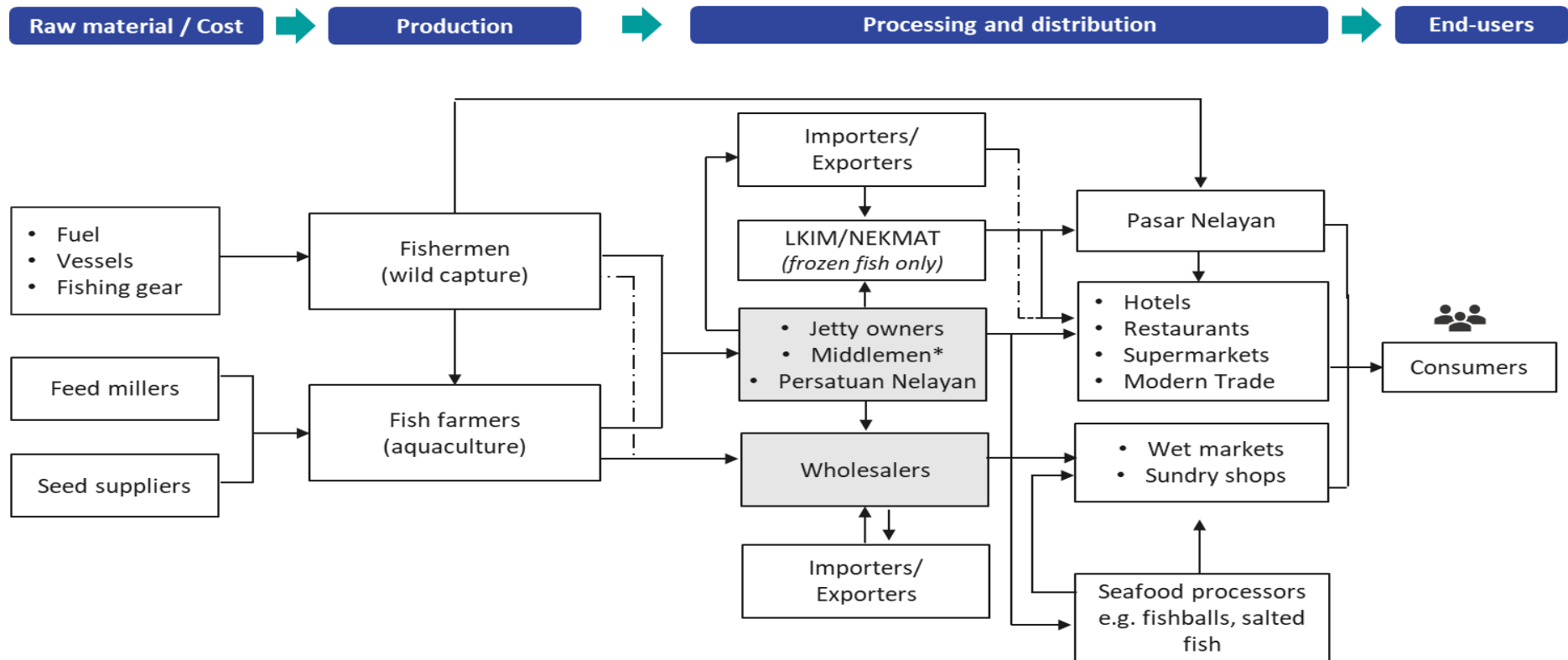
Source: Department of Fisheries (DOF), Fisheries Development Authority of Malaysia (LKIM)

Note: SSR ratio is derived from production volume divided by overall production volume plus import volume minus export volume; SSR ratio calculation for 2014 and 2015 does not take into account of export volume due to the lack of consistent data points

4.5 Production Process Flow and Supply Chain

Figure 60 shows the supply chain for the fisheries industry in Malaysia.

Figure 60: Supply Chain of Fisheries Industry



Note: Middlemen is also known as peraih, daganan, agent. It can also serve the role of wholesalers, jetty owner, boat owner, etc.

Note: Area highlighted in grey represents the level of supply chain with significant influence in the industry

Source: Fisheries Development Authority of Malaysia (LKIM), industry interviews

4.5.1 Producers

Fishing effort in the Malaysian industry is controlled by the licensing of both fishing vessels and fishing gear. The requirements indirectly bring a higher barrier of entry for new fishermen to operate as independent fishermen due to the high input cost, although this scenario is more apparent to vessels using purse seine and trawling method⁶⁴. Hence, some local fishermen work closely with the jetty owners who sometimes also serve as ‘middlemen’. The middlemen/jetty owners would provide the fishermen with the funding for fuel cost and ice or sometimes provide advance credit to the fishermen when required. Some jetty owners even provide the fishermen with the access of fishing vessels and fishing gear in exchange of the fishing supplies by the fishermen, and these practices have made fishermen even more dependent on the jetty owners/middlemen.

Fishermen are unaware of the market price and they depend on the jetty owners for payment that is deemed reasonable by the jetty owners. They normally receive the payment one week/one month after the middlemen successfully sold the fishes to the buyers. The price asymmetry has put fishermen in a disadvantaged position and the fishermen are often known as “price-taker” as the middlemen dictate the price.

Apart from jetty owner/middlemen, some fishermen work closely with the area’s fishermen association which sometimes also act as a marketing agent to assist fishermen in channelling their supplies, although this is not a major channel for the fish producers⁶⁵.

At the port/fishing village/seashore/jetties areas, fish will be cleaned, sorted according to their size and grade, weighted, and then processed. Some distributors work directly with the fishermen/jetty owners by reserving the fish, thus limiting the opportunity for players at downstream to purchase the fishes directly from upstream layer.

At this stage, there are multiple ways of determining the price of fishes as follows:

- Prices for the fishermen are usually set by the distributors after the sales concluded by the end of the week.
- However, in northern region, fishermen tend to determine the price of fishes through bidding system where the highest bidder would receive the fish.
- The fisherman would benchmark the minimum price in KL/Selayang so any bid price that is lower than the minimum price would be subjected to negotiation between the fishermen and the buyer.

With the development of technology that enables frozen fish, the fishermen/middlemen are able to store the fish in cold storage temporarily as frozen fish to ensure stable pricing by controlling fish supplies into the market.

⁶⁴ Department of Fisheries (DOF)

⁶⁵ Industry interviews

4.5.2 Distributors

At distributing stage, there are two different ways of marketing the products which the first involves traditional marketing channel where the supply from producer stage is sent to the wholesale market, either directly dealing with the producer or through 'peraih' (i.e. middlemen between the producer and wholesaler stage). Middlemen still present in the supply chain to assist the buyers at downstream value chain in obtaining the fishes and assessing the fish quality. According to the study completed by MARDI, middlemen is still required in the point of view of fishermen/farmers as they don't have the time to market their products and do not have such capabilities⁶⁶. Wholesalers can also act as importers to source for the supplies from overseas market. Depending on the volume capacity by the wholesalers, the wholesalers may work with third-party importers to source the fishes.

The supply of fishes will firstly be channelled from the jetties/fishing village to the local wholesale market in respective states and the remaining unsold fishes would be channelled to Pasar Borong Kuala Lumpur and other locations. PBKL is considered as the destination for most of the fishes from all other producing states, as KL is a distribution hub for transit. On daily basis, PBKL would receive approximately 10-12 trucks of fishes from Thailand and local areas from other states respectively.

After taken the consideration of the volume based on local production and import, wholesalers would consolidate the understanding of the supply and demand in the market and determine the price from there. They would then distribute the products to their buyers (i.e. traditional retailers, HoReCa etc.) as well as suppliers from other states where supply is inadequate. This suggests an inefficient market structure as the fish supplies are consolidated in the central region first before it is re-channelled to other locations. Such system should be further integrated to streamline the distribution system.

On top of that, any excess supply of fishes which are not sold may be sent for freezing to prepare for future supply. Such practice has provided opportunity for certain suppliers to declare frozen fish as fresh fish in the market to reap higher profit. These players can hide behind the murky supply chain that is difficult to determine the source of fishes, enabled by the product characteristics.

In an effort to reduce the role of middlemen, fishermen can also channel their fisheries products through the Fisherman's Market (Pasar Nelayan) operated by the area's fishermen association (an initiative by LKIM). Fisherman's Markets serve as the channel for fishermen to directly sold their products to the consumers. However, there were comments from the industry players where the Fishermen's Market could only provide limited exposure to market the products. Hence, they would still prefer the traditional arrangement of liaising with jetty owners/middlemen in marketing their products.

On the other hand, the government has launched Q'fish products (i.e. frozen fresh fish) to bridge the gap of supply in the market to stabilize the price. Q'fish, which was introduced in 2017, is a re-branding of the government's *Ikan Rakyat* program since 2013. NEKMAT is tasked to manage the supply chain for the Q'fish products and the source of supply is directly from the overseas importer. The source of Q'fish products is further channelled to the retailers or fishermen's market which eventually market the products to the consumer. There are currently 86 outlets in Malaysia selling

⁶⁶ Laporan Kajian Impak Program Jihad Memerangi Orang Tengah (JMOT) Fasa 1 and 2, MARDI.

Q'fish products. Despite the affordable price of Q'fish product, 90.7% of the consumers are still unaware of the Q'fish products, according to a study conducted by LKIM.⁶⁷ In a similar study, only 10% of the consumers prefer frozen fish, and close to all consumers prefer fresh fish.

Due to the understanding and control over the market volume, distributors stage emerges as the level of supply chain which have the greatest influence on the market's behaviors. Also, producers are dependent on them to sell the fishes. Not to mentioned, there is little involvement of any government agencies/regulator/association at this level of supply chain⁶⁸.

Beneath the wholesaler supply chain lies another intermediary which is the illegal traders that is formed by the foreign workers, which happens across different location in Malaysia such as Melaka, Penang, Negeri Sembilan and others.⁶⁹

About '*Ikan Rakyat*'⁷⁰

- *Ikan rakyat* was a concept introduced in 2013 to overcome the cost of living under the previous economy policy.
- It is a classification defined by the government based on the observation whereby the fishes in this category are most favoured and demanded by the 'rakyat' from middle and low-income groups due to its affordability.
- It encompasses fish species such as Kembong, Selar, Cincaru, Selayang, Pelaling, Tilapia dan Keli.
- The idea of *ikan rakyat* was to create the supply of these fish species in a form of frozen fish on a continuous basis at large volume. The local fresh fish and imported frozen fish will be purchased, frozen and stored in the cold storage during the excess supply period. During the low supply season, these fishes would then be released in the market to stabilise the market price.

4.5.3 Retailers

Retailers purchases the fishes directly from producers, distributors and middlemen respectively. There are limited instances where the retailers purchase directly from association/cooperatives.⁷¹ For fisheries products, retailers could be the traditional retailers from wet markets or sundry shops who commonly sourced their supply from the wholesalers due to the smaller volume when compared to modern retailers. These players may purchase the supply directly from the wholesalers or their distributors. Although regulations are in place, there remains traditional retailers which do not label their fish with proper price tag and are not capable of long term supply planning thus, the price fluctuates significantly. Furthermore, traditional retailers have voiced their concern over the increase opening of hypermarket/supermarket which pose as a great business environment challenge.

On the other hand, the hypermarket/supermarket which is known as modern retailers would engage with multiple suppliers to source their fish products. These suppliers are large, established

⁶⁷ Kajian Tren Bekalan Dan Harga Ikan Serta Kesan Terhadap Nelayan Dan Pengguna, LKIM & UPM (based on a sample size of 300 respondents).

⁶⁸ Focus group discussions

⁶⁹ Industry interviews

⁷⁰ Fisheries Development Authority of Malaysia (LKIM)

⁷¹ Industry interviews

companies which can be either boat owners / fisherman, fish farmers, or agents which serve as the middlemen. Occasionally, modern retailers may also import directly from overseas as there is no specific import restriction against Indian mackerel (*ikan kembung*).



The credit period with the modern retailers for fish is about 40 - 60 days. Apart from the cost price to fish, there are also additional fees charged by modern retailers, such as rebate (e.g. 2-10%) on yearly revenue achieved from the total sales volume to cover the operational fee and wastage cost. The rebate varies across the modern retailer's players. This rebate may be adjusted subject to terms and conditions between the supplier and modern retailers. As a result, suppliers would mark up their prices in order to account for the rebates. With the increase of hypermarket in the country, coupled with the increasing role of hypermarket in reaching out the consumers, bargaining power of modern retailers have improved.

Summary

In summary, there are about 4-6 intermediaries involved in the marketing of fishes before it finally reaches the consumer's hand. These are the middlemen (i.e. peraih/agent/dagangan), wholesalers/secondary wholesalers, distributors, and retailers. As the fishes reach the market, their price would have increased by almost 6 different times (refer to the pricing trend for more information). The situation is worsened as transactions are not transparent across the multiple intermediaries. As such, these middlemen can create an artificial scarcity which leads to soaring of prices.

It is also observed that emerging e-commerce is disrupting the fisheries industry. Below are the initiatives/existing policy by various agencies created to spur the growth of e-commerce in Malaysia (refer to table below).

Table 36: E-commerce policy/initiatives by various government agencies

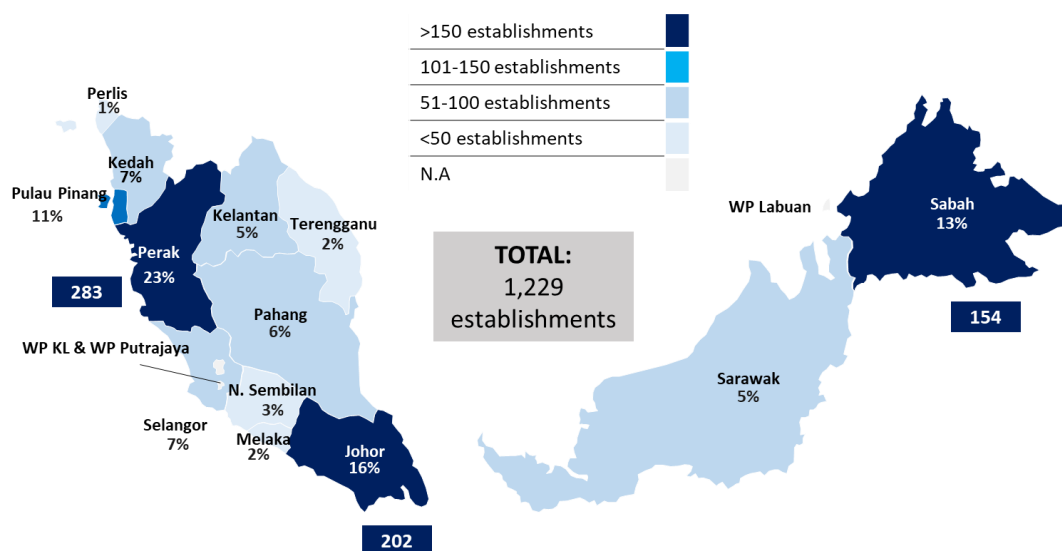
|  |  |  | Others |
|--|--|--|---|
| <ul style="list-style-type: none"> • National Action Committee on e-Commerce to help consumers reduce the cost of living by promoting e-commerce business in Malaysia | <ul style="list-style-type: none"> • MDEC: National e-commerce strategic roadmap • MDEC: e-ladang initiatives encourage farmers to leverage the latest smart farming technologies (such as IoT [Internet-of-Things] and BDA [Big Data Analytics]) to improve yield and returns | <ul style="list-style-type: none"> • National eCommerce Council (NeCC) • SMECorp: Digital free trade zone initiative to help propel home-grown small and enterprises (SMEs) into e-commerce marketplace, | <ul style="list-style-type: none"> • MIMOS: National Internet of Things (IoT) Strategic Roadmap • LKIM: Public-private partnership initiative to build an e-commerce platform for fisheries products only (still in planning stage) • FAMA: Agrobazaar Online • Sarawak Agriculture Department: Agri-Business in Digital Economy • Sabah State ICT blueprint • Selangor Information Technology & E-Commerce Council |

Online distribution channels for seafood products are becoming more prevalent in the country. The seller sets a base price and adopt an auction system to let the market forces to determine the price. Also, there are players which adopt group-buy strategy by selling various fishes in bulk to consumers (1-month supply). The closer the producer gets to ultimate consumer of product, the potential value to be realized from a value chain grows exponentially.

4.6 Key Players' Landscape

In total, the fisheries subsector employed a total of 130,645 fishermen in 2017 and engaged 15,690 people in other roles (2015), with 1,229 registered establishments participating in the fisheries sector. Most of the establishments are located in Perak, Johor and Sabah. About 59 establishments within the fisheries subsector are large establishments.

Figure 61: Distribution of Establishments Operating in Fisheries Sub-sector



Source: Department of Statistics Malaysia

4.6.1 Producers

Out of the total fishermen population, 66% were in Peninsular Malaysia, 23% in Sabah and 11% in Sarawak. Over the years, the number of fishermen has dropped by 2% per annum on average between 2013 to 2017, suggesting a substantial number of fishermen exiting the industry. One of the factors of reduction in fishermen is attributed to the reduction in fishing areas in the ocean due to the rampant land reclamation activities in West Coast area, Johor, Pulau Pinang, Melaka and Selangor.⁷² The shortage of fishermen could be one of the factors of the drop-in market supply, coupled with other factors such as depleting fish stocks, seasonal factor, fisheries management, etc.

Table 37: Number of Fishermen in Malaysia (2013 - 2017)

| 2013 | 2014 | 2015 | 2016 | 2017 |
|---------|---------|---------|---------|---------|
| 144,019 | 143,421 | 140,949 | 132,305 | 130,645 |
| | 0% | -2% | -6% | -1% |

Source: Department of Fisheries (DOF)

Note: The data for fishermen is inclusive of both local and foreign fishermen working in Malaysia.

⁷² Department of Fisheries (DOF)

4.6.2 Importers

In 2018, there are a total of 75 importers for Indian mackerel (*ikan kembung*) approved by LKIM (where the import permit is released by MAQIS), of which the top 10 importers for indian mackerel (*ikan kembung*) are listed in the table below. The top 10 importers already cover 87% of the total import of *ikan kembung* in Malaysia, with the top 2 players control more than half of the import market, indicating ground for further investigation.

Table 38: Top 10 Importers for Indian Mackerel (Ikan Kembung) and Total Volume Import (2016 – 2018)

| Key Players | Volume Import (MT) | | | Share (%) (2018) |
|------------------------------------|--------------------|--------|--------|---------------------|
| | 2016 | 2017 | 2018 | |
| Persatuan Nelayan Ng. Pulau Pinang | 4,074 | 21,318 | 19,010 | 42% |
| Imora Fishery | 2,778 | 8,526 | 10,968 | 24% |
| Top Ocean Fishery | 982 | 3,707 | 1,665 | 4% |
| Kumpulan Samastar Sdn. Bhd. | 2,129 | 2,355 | 1,573 | 3% |
| Hamzah Bin Muhammad | 1,560 | 1,565 | 1,280 | 3% |
| Wan Ibrahim Bin Wan Ahmad | 560 | 1,805 | 1,860 | 4% |
| Mat Yusoff Bin Jafar | 2,021 | 482 | 899 | 2% |
| Asia Marine Products Sdn Bhd | - | 1,851 | 819 | 2% |
| Mohd Zahidon Bin Ibrahim | 820 | 1,034 | 543 | 1% |
| Ibrahim Bin Othman | 624 | 404 | 807 | 2% |

Source: Malaysian Quarantine Inspection Services (MAQIS)

4.6.3 Distributors and Retailers

According to LKIM, there are a total of 3,407 licensed wholesalers and 590 licensed retailers holders in 2017. 37% of the wholesalers approved by LKIM are from Central Region (Selangor and Kuala Lumpur).

Table 39: Number of Wholesale and Retail Licensed Holders by States (2017)

| States | LESEN BORONG | LESEN BORONG (Premise Persendirian) | LESEN RUNCIT |
|--------------------|--------------|---|--------------|
| Selangor | 101 | 618 | 3 |
| Kuala Lumpur | 84 | 450 | |
| Johor | 53 | 481 | 10 |
| Pulau Pinang | 79 | 306 | 3 |
| Perak | 103 | 255 | 9 |
| Pahang | 91 | 41 | 243 |
| Kedah | 70 | 122 | 35 |
| Terengganu | 109 | 14 | 159 |
| Sarawak | 7 | 63 | 4 |
| Kelantan | 34 | 66 | 52 |
| Melaka | 64 | 52 | |
| Perlis | 61 | 16 | 69 |
| Sabah | | 41 | |
| Negeri Sembilan | 2 | 17 | 3 |
| Labuan | | 7 | |
| Grand Total | 858 | 2,549 | 590 |

Source: Fisheries Development Authority of Malaysia (LKIM)

Note: Sabah and Sarawak are not under the jurisdiction of LKIM hence the amount of license holders in the above table does not represent the complete picture of the licensed holders in Malaysia.

4.6.4 Presence of Horizontal and Vertical Integration

There is some degree of integration identified between the upstream and wholesale level of supply chain as well as the possible horizontal integration, as illustrated in the table below. One of the top industry player – Timurikan Trengganu is vertically integrated. Such structure can potentially offer the opportunities for more competitive pricing due to economies of scale. Meanwhile, there are a few companies which are potentially horizontally integrated due to the similar shareholding. Such structure would offer the opportunity for economies of scale or reduce competition for the companies.

Table 40: Vertical and Horizontal integration structure of fisheries sector

| Producers | Wholesalers | Possible horizontal integration |
|-------------------------------|---|--|
| Timurikan Trengganu Sdn. Bhd. | Timurikan Trengganu Marine Products Sdn. Bhd. | |
| | Piau Kee Live & Frozen Seafoods Sdn. Bhd. | Grand Seafood Sdn. Bhd. |
| | Sendo Ichi Malaysia Sdn. Bhd. | i. Ocean Glory Sdn. Bhd. ii. Chef & Cook (M) Sdn. Bhd. |
| | Sea Gull Frozen Foodstuffs Sdn. Bhd. | Kauluan Sdn. Bhd. |
| | Hye Jing Seafood Trading (Int) Sdn. Bhd. | i. Unity Seafood Sdn. Bhd. ii. Weng Ho Frozen (International) Sdn. Bhd. |

Source: Analysis based on Suruhanjaya Syarikat Malaysia (SSM) data

Note: The above table shows the selected vertical and horizontal integrated companies based on the available information on shareholders from the SSM data. Only those companies which a higher market share are shown in the above table.

4.7 Pricing Analysis

4.7.1 Price Trend

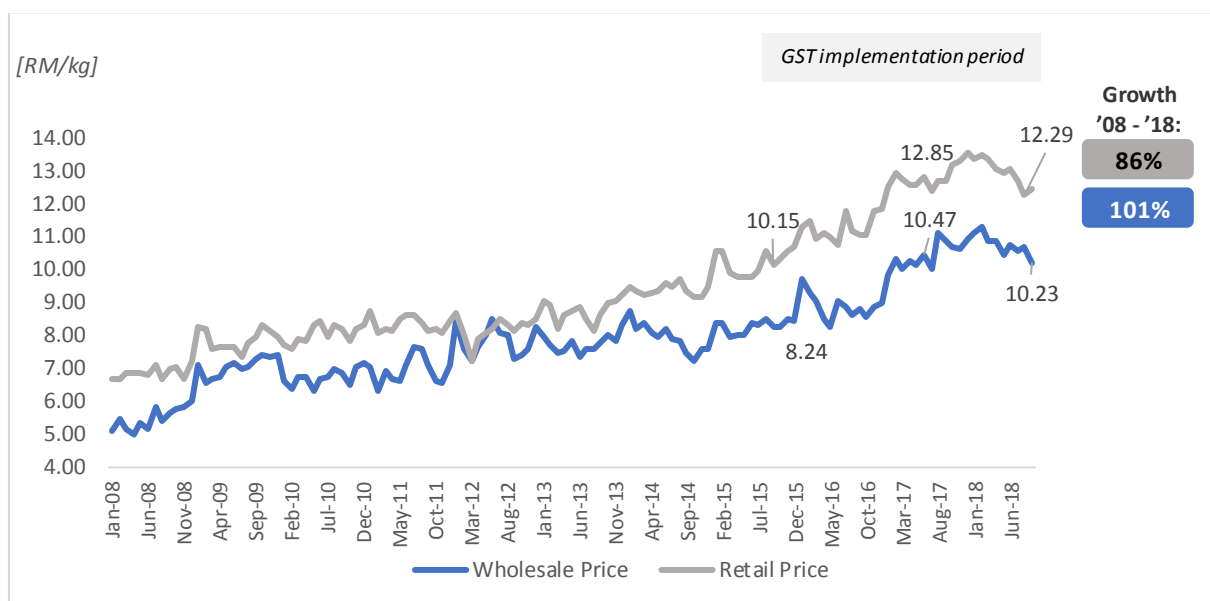
As fishes are generally perishable in nature, the market price can highly fluctuate due to market supply instability. The price for fresh fish normally fluctuates on daily basis, and it changes a few times within a day depending on the freshness of the fishes.

Figure 62 shows the pricing trend for Indian mackerel (*ikan kembung*) per kilogram from 2008 to 2018. Consistent with the overall food price index for fish and seafood products, the average wholesale and retail price trend for *ikan kembung* have been on an indining trend since 2008, registering a CAGR 7% and 6.5% respectively between 2008 to 2018. The price for both wholesale and retail level was between RM5.00 to RM8.00 and RM6.50 to RM8.00 per kilogram respectively before 2014. In terms of growth rate, the average price of *ikan kembung* has increased by about 101% for wholesale level and 86% for retail level from 2008 to 2018.

Since 2015, the wholesale and retail price of Indian mackerel (*ikan kembung*) continues to hike up 7% respectively at a CAGR between 2015 to 2018. This suggests both parties are looking to maintain the margin required for the business operations given the risk taken due to the nature of fishes being a perishable product. This period is also the GST implementation period and the rampant price increase can be observed. The higher price of *ikan kembung* is also partially influenced by the poor currency performance since 2015 (*refer to Chapter 2 for macroeconomic trends*) as ~50% of the supply in Malaysia are via import. Not to mentioned, the decrease in local production has also driven up the price of *ikan kembung*.

Further, it is observed that the pricing gap between the wholesale and retail level has expanded since 2013, suggesting a potential higher margin earn by the retailers.

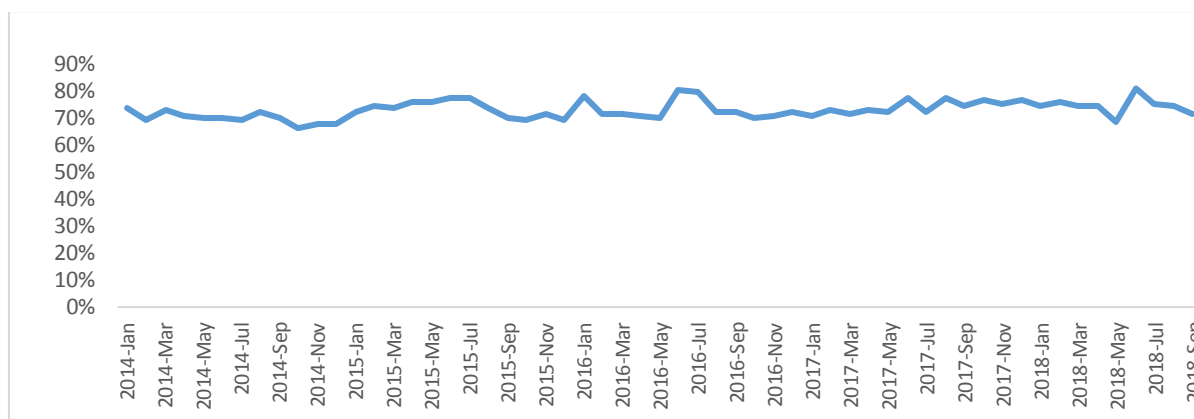
Figure 62: Average Wholesale & Retail Prices of Indian Mackerel Per Kilogram (2008 - 2018)



Source: Fisheries Development Authority of Malaysia (LKIM)

Cost price ratio analysis (average wholesale price/average retail price) indicates that the food item has an average cost price ratio of 73%, which indicates that the retailers only have about 27% to manage with the cost. It is also noted that in certain period of the year analysed, the cost price ratio is dropped to only 66% which suggest the lesser competition among the retailers.

Figure 63: Cost Price Analysis Ratio of Indian Mackerel (Ikan Kembung)



Source: MyCC analysis based on data from Fisheries Development Authority of Malaysia (LKIM)

When comparing the price trend with the production volume in the market, it offered additional perspective to explain the reason of hike in pricing over the past 5 years. Figure 65 shows fish price has been on increasing trend, driving by the depleting fish stock in Malaysia. Also, the chart shows that the wholesalers tend to react and adjust their prices more quickly than retailers on *ikan kembung* to the overall production level in the market.

The export restriction of *ikan kembung* during festive period and monsoon season has exerted a certain influence to the overall pricing of fish. Figure 65 shows that when there is slightly higher

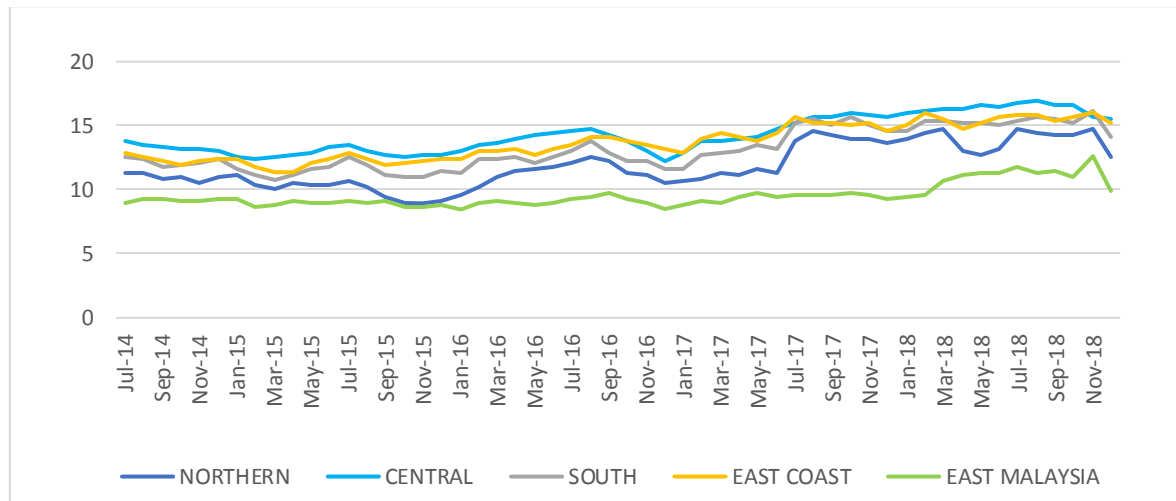
supply in the market, the export restriction does help to stabilise the price, i.e. June – August 2016, whereas when there is shortage of supply, the restriction has little impact towards the pricing.

In terms of the price comparison across regions, average prices of Indian mackerel (*ikan kembung*) per kilogram are generally higher in the Central and Southern regions given the higher purchasing power and are cheaper in the East Malaysia as shown in the chart below. The price of *ikan kembung* in East Malaysia is lower due to the lower demand in that region. According to the table below, the high landing price in Melaka is due to the limited production in that state which was discussed in the previous section.

On the other hand, the high retail price in Johor might have been contributed by the price sold to the export market (i.e. Singapore) where the export price may be served as a reference for the local market⁷³. On average, the margin for wholesaler is at about 83%, with Perak recorded the highest margin at wholesaler stage in 2017. Further in-depth study at the local level should be conducted to understand the stark margin difference between wholesale and landing level in Perak and Selangor despite being one of the top producing states for Indian mackerel (*ikan kembung*).

In states such as Johor, Selangor, Perak, producers are earning less than one third of the market price, despite the formidable price at retail level, which suggest price asymmetry between producers and the downstream level. Meanwhile, regions with high population of *ikan kembung* (i.e. East Coast) reported relatively cheaper prices of *ikan kembung* compared to the rest.

Figure 64: Average Retail Price of Ikan Kembung by Region of Malaysia (RM/kg)



Source: Majlis Harga Barang Negara (MHBN)

⁷³ Industry interviews

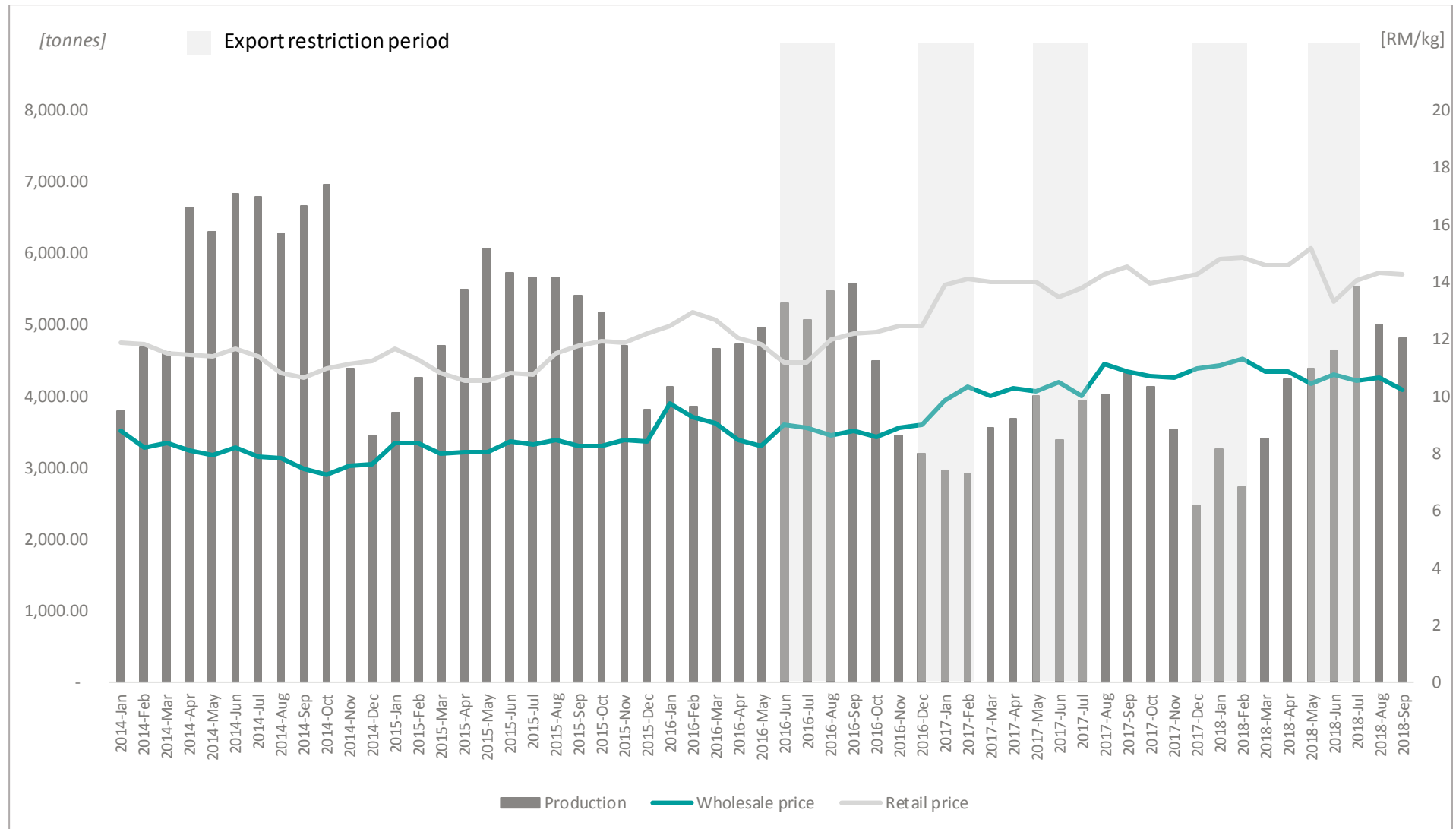
Table 41: Average Landing, Wholesale & Retail Prices of Indian Mackerel Per Kilogram (2017)

| States (RM per kg) | Landing price | Wholesale price | Retail price | Mark up difference (landing – wholesale) | Mark up difference (wholesale – retail) | Producer's share of revenue* | Mean Monthly Household Income (2016) |
|--------------------|---------------|-----------------|--------------|--|---|------------------------------|--------------------------------------|
| Johor | 5 | 14 | 17 | 180% | 21% | 29% | 6,928 |
| Kedah | 5 | 10 | 11 | 100% | 10% | 45% | 4,971 |
| Kelantan | 6 | 12 | 15 | 100% | 25% | 40% | 4,214 |
| Melaka | 11 | 12 | 15 | 9% | 25% | 73% | 6,849 |
| N. Sembilan | - | 13 | 16 | no data | 23% | - | 5,887 |
| Pahang | 7 | 9 | 12 | 29% | 33% | 58% | 5,012 |
| Perak | 3 | 13 | 15 | 333% | 15% | 20% | 5,065 |
| Perlis | 5 | 11 | 13 | 120% | 18% | 38% | 4,998 |
| P. Pinang | 7 | 10 | 11 | 43% | 10% | 64% | 6,771 |
| Sabah | 4 | 5 | 8 | 25% | 60% | 50% | 5,354 |
| Sarawak | 7 | - | 12 | no data | no data | 58% | 5,387 |
| Selangor | 3 | 12 | 15 | 300% | 25% | 20% | 9,463 |
| Terengganu | 8 | 13 | 14 | 63% | 8% | 57% | 5,776 |
| W/P Kuala Lumpur | - | 14 | 14 | no data | 0% | - | 11,692 |
| W/P Labuan | 6 | 8 | 12 | 33% | 50% | 50% | - |
| W/P Putrajaya | - | - | 19 | no data | no data | - | |
| Purata | 6 | 11 | 14 | 83% | 27% | 43% | |

Source: Department of Fisheries (DOF), Fisheries Development Authority of Malaysia (LKIM)

*Note: Producer's share of revenue is calculated based on the landing price divided by retail price

Figure 65: Local Production of Indian Mackerel vs. Price Trend (2014 - 2018)



Source: Fisheries Development Authority of Malaysia (LKIM), Majlis Harga Barang Negara (MHBN)

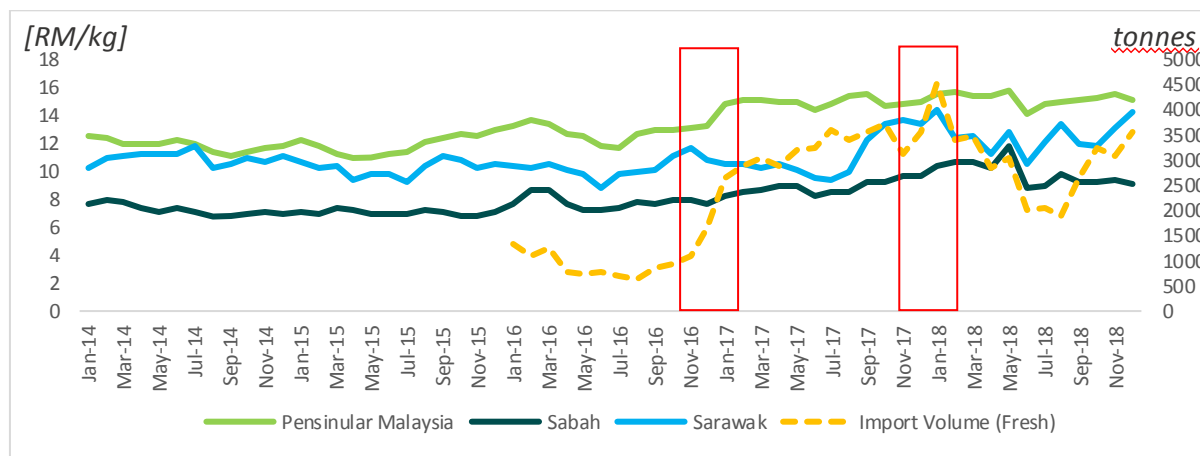
Table below illustrates the comparison of import volume from Thailand against the average retail price in Malaysia. It is observed that despite the growth of import volume from Thailand, price of *ikan kembung* in Malaysia is still on the rise. The chart below also shows that despite the increase in import volume during the limited supply period of *ikan kembung* (Nov - Feb), the retail price does not seem to stabilise in early 2017 and 2018.

Table 42: Import Volume from Thailand vs Average Retail Price in Malaysia

| Year | Import volume from Thailand (tons) | y-o-y growth (%) | Average retail price in Malaysia (RM/kg) | y-o-y growth (%) |
|------|------------------------------------|------------------|--|------------------|
| 2014 | 29,388 | | 11.32 | |
| 2015 | 11,348 | -61% | 11.31 | 0% |
| 2016 | 11,689 | 3% | 12.14 | 7% |
| 2017 | 38,283 | 228% | 14.04 | 16% |
| 2018 | 35,543 | -7% | 14.46 | 3% |

Source: Fisheries Development Authority of Malaysia (LKIM), Majlis Harga Barang Negara (MHBN)

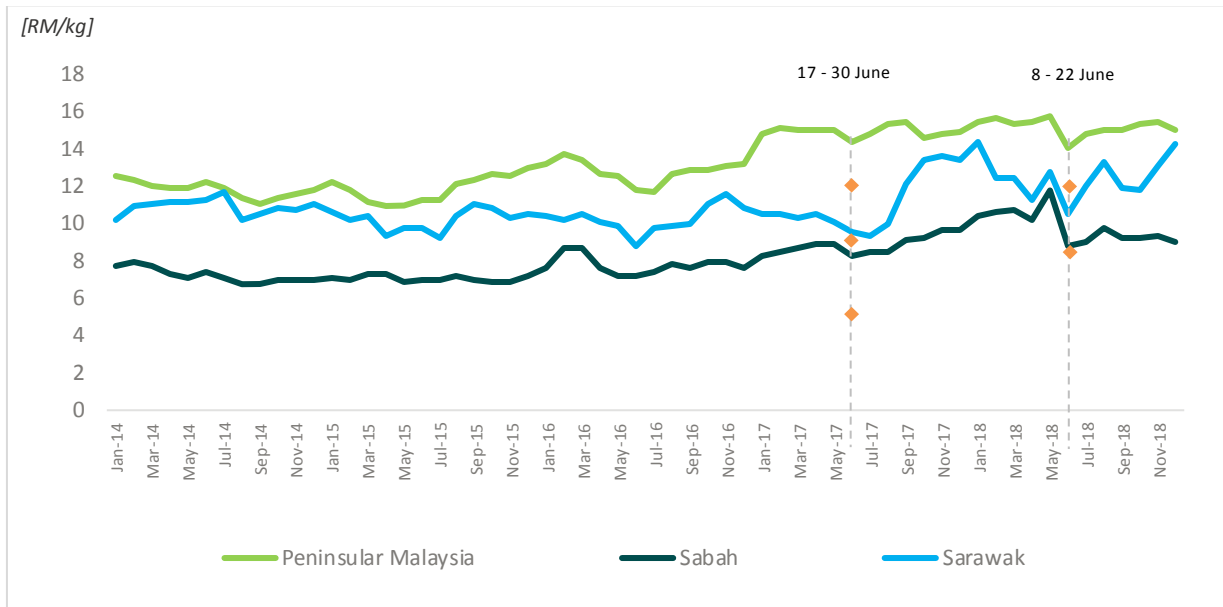
Figure 66: Average Retail Price of Ikan Kembung and Monthly Import Volume (2014 - 2018)



Source: Fisheries Development Authority of Malaysia (LKIM), Majlis Harga Barang Negara (MHBN)

The recent price ceiling set for *ikan kembung* was during the festive period of Hari Raya month. It can be observed from the figure below that SKHMP has an impact towards stabilising the price of *ikan kembung*, however, market reacted and adjusted itself after the festive season which observe an increase in price after the festive period.

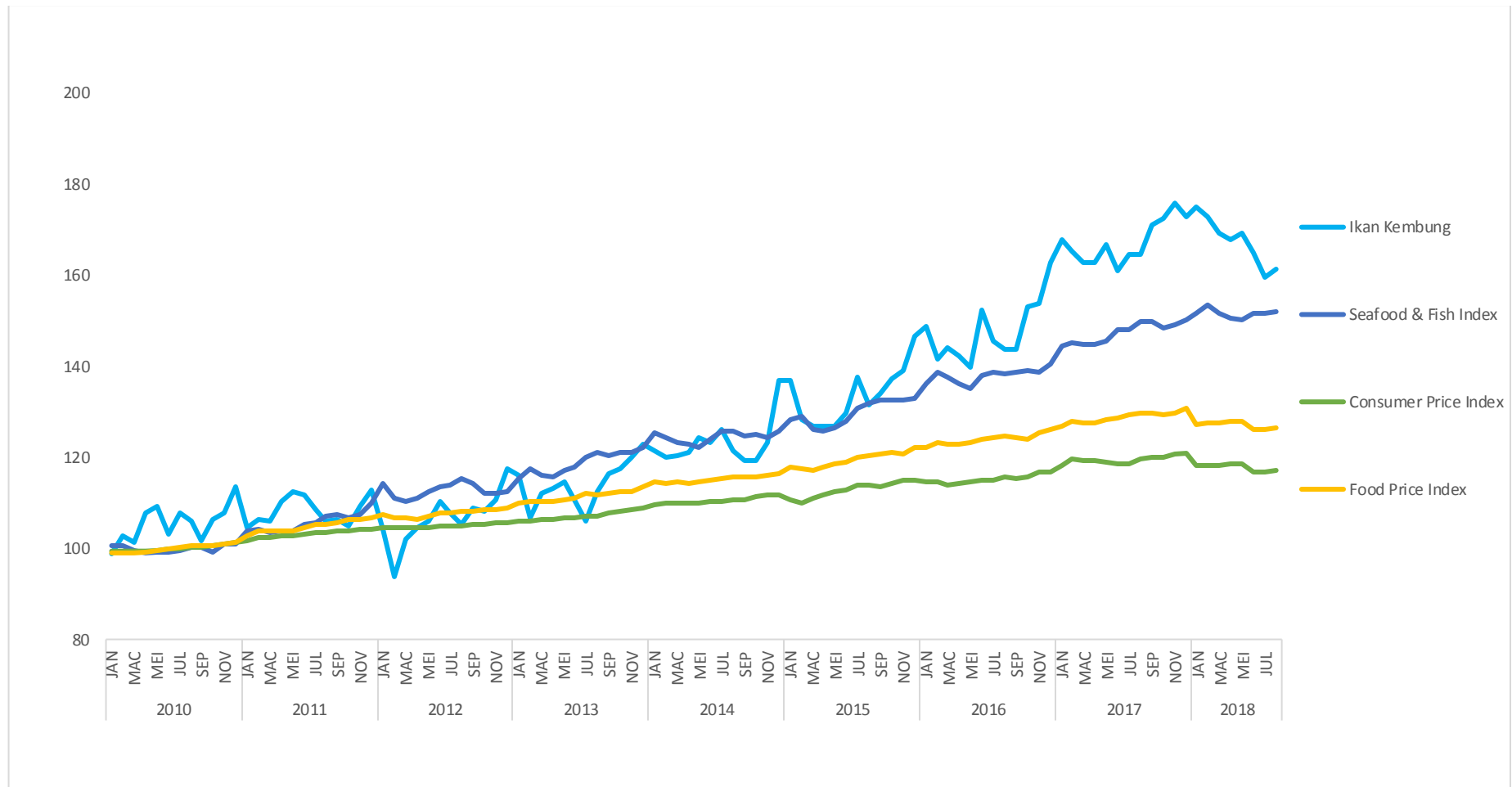
Figure 67: Average Retail Price of Ikan kembung and Price Ceiling (2014 - 2018)



Source: Majlis Harga Barang Negara (MHBN)

In comparison to the local price index, the price indices of *ikan kembung* was growing in tandem to the consumer price index and food price index. Over the last few years, Malaysia’s *ikan kembung* price indices have been higher than the national Seafood & Fish index, Consumer Price Index and Food Price Index.

Figure 68: Fish Price Indices Against National Seafood & Fish index, Consumer Price Index and Food Price Index



Source: Department of Statistics Malaysia (DOSM) and Fisheries Development Authority of Malaysia (LKIM)

4.7.2 Purchasing Power Parity (PPP) Analysis

Fresh Indian mackerel (*ikan kembung*) from selected countries were benchmarked against Malaysia at the Purchasing Power Parity (PPP) level. For this market review, the selected countries include: India, Singapore, Indonesia, Philippines, Thailand and Pakistan.

In Table 43, Column 2 shows the price of 1kg fresh Indian mackerel (*ikan kembung*), across the six countries' currencies, for the week of 29th April 2019. To illustrate further, the PPP between Singapore and Malaysia for 1kg fresh Indian mackerel (*ikan kembung*) is the price paid in Singapore divided by the price paid in Malaysia ($10.40/17.00 = 0.61$), which means a consumer pays SGD \$0.61 to make a purchase in Singapore that would cost MYR 1.00 in Malaysia.

Column 3 provides the PPPs of other countries to Malaysia. The price level differences are measured by a price level index (column 6), which is the ratio of PPP (Column 3) against the exchange rate (Column 4). The deviation from the index 1.00 signifies if it is cheaper or more expensive in the country.

For example, in India, the price level index was 0.42 ($7.06/16.68$), which also translate to 58% lower prices in India. In another example, the price level index in Indonesia was 0.65 ($2,235.29/3,444.19$), which means 35% lower priced relative to Malaysia. For this PPP benchmarking exercise of fresh Indian mackerel (*ikan kembung*), only India and Indonesia enjoy lower prices compared to Malaysia.

The remaining three countries, in ascending order, Thailand (+4%), Pakistan (+29%), Philippines (+32%) and Singapore (+85%), appear to have higher cost per kg of fresh Indian mackerel (*ikan kembung*) relative to consumers in Malaysia.

Table 43: PPP for Fresh Indian Mackerel (*Ikan Kembung*)

| Countries | Currency | 1kg fresh Indian mackerel (<i>ikan kembung</i>) in national currency, week of 29 April 2019 | PPP to MYR | Exchange rate, week of 29 April 2019 | MYR cost of fresh Indian mackerel (<i>ikan kembung</i>) | Price level index |
|-----------------|------------|---|-------------|--------------------------------------|---|-------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| India | INR | 120 | 7.06 | 16.68 | 7.19 | 0.42 |
| Singapore | SGD | 10.4 | 0.61 | 0.33 | 31.52 | 1.85 |
| Indonesia | IDR | 38,000 | 2,235.29 | 3,444.19 | 11.03 | 0.65 |
| Philippines | PHP | 280 | 16.47 | 12.50 | 22.40 | 1.32 |
| Thailand | THB | 136 | 8.00 | 7.70 | 17.66 | 1.04 |
| Pakistan | PKR | 750 | 44.12 | 34.07 | 22.01 | 1.29 |
| Malaysia | MYR | 17.00 | 1.00 | 1.00 | 17.00 | 1.00 |

4.7.3 Cost Factors and Margin

The below discusses the cost factors involved that influence the selling price of Indian mackerel (*ikan kembung*).

Fresh fishes are generally more expensive due to the cost needed to be incurred along the supply chain. The table below summarises the cost factors that influence the pricing at different levels of the supply chain.

Table 44: Cost Factors Affecting the Fresh Fish Pricing

| Producers | Wholesalers/Importers | Retailers |
|-------------------------------------|---------------------------|----------------|
| Ice box and blocks of ice | Manpower | Logistic cost |
| Manpower | Logistics cost | Retail premise |
| Diesel supply | Cold rooms/storage | Utilities |
| Fish baits | IQF technology | Manpower |
| Fishing equipment (gear, net, etc.) | Ice box and blocks of ice | Packaging |
| Vessels and repair cost | Insulation box | Blocks of ice |
| License permit | Wholesale premise | License permit |
| Miscellaneous expenses | Foreign exchange | |
| Jetty landing fees | License permit | |
| Jetty repair cost | | |
| Logistics cost | | |

Source: Focus Group Discussions

Other factors which could influence the price of fishes along the supply chain include the following:

- Price can be influenced by weather/monsoon season/production season due to challenging operation and limited supply.
- Supply chain invisibility due to limited information flow from wholesalers and information asymmetry of the volume in the market.
- Fishing method (trawling method vs purse seine method)
- Bidding system
- Import price from the exporting countries
- Availability in the market
- Price benchmarking with other players – the players tend to check the pricing information from multiple sources before determining the price
- Potential price synchronization among the players
- Substitution of frozen fish
- Grading of fish determine by the seller - the price of fish is determined by the traders based on their experience and the market performance.
- Based on consumers' historical purchase
- Price matching with competitors
- Recommended price provided by the suppliers
- Location where the fishes are sourced
- Availability of distribution hub/centralized system

- Confusion of the species and country of origin due to lack of proper labelling. Also, there is a concern that price of *ikan kembung* in the market may be confused with the price of *ikan kembung kecil/pelaling*⁷⁴
- Festive season
- Sales performance in various markets

Although average wholesale and retail pricing is available online via LKIM and MHBN, but the players generally do not refer to it as the main source of information to determine their price. Fishermen/boat owners/ jetty owners will check with the distributors on the pricing in different regions on a daily basis to understand the market price. Price of fishes differ daily, and it is determined based on the perceived price by the players on the particular day, who then adjust the price to match the lower bid price in the market if the sales is slow. Also, there is currently no proper grading system according to the quality and size of the fishes. For instance, a grade A fish would be sold at RM10, while a normal fish would be sold at RM6-RM7, and the poorest quality fish would be sold at RM2-RM3, subject to the perception by the players.

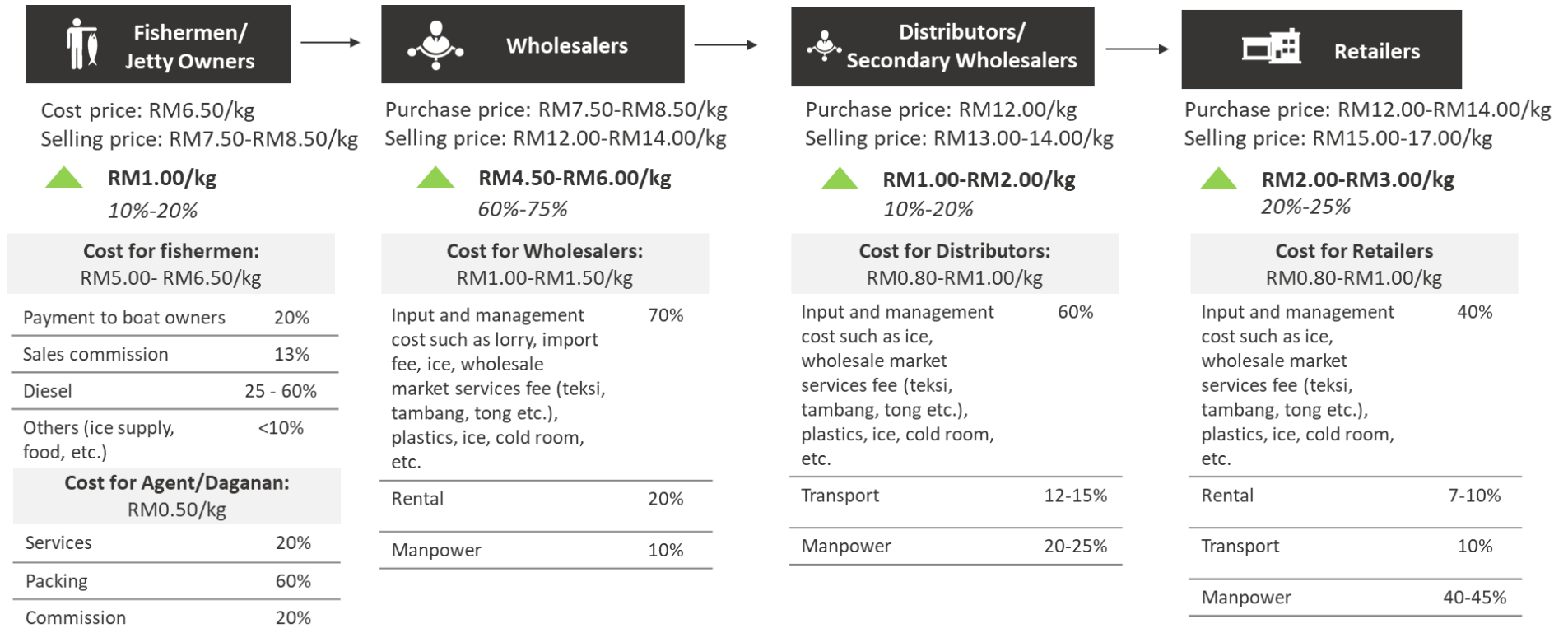
The below illustrates the price flow of *ikan kembung* from the fishermen to the plate of consumers, with the wholesalers presenting the highest margin earner along the supply chain, which is also affected by the risk factor bore by them in terms of wastage, operation and transportation.⁷⁵ During normal season, the cost of fishermen to capture *ikan kembung* is RM6.50/kg where about one third of the cost will be dedicated to fixed payment and sales commission to boat owners, with the remaining for operational cost such as diesel, ice supply etc. As highlighted before, the fishermen rely on middlemen to market their products hence the average gross margin at producer's level is about 10%-20%. Nonetheless, fishermen may be able to obtain a higher selling price if sell directly to consumers or their close contacts (if any).

At the wholesale level, wholesalers or middlemen obtain the fish at about RM7.50/kg-RM8.50/kg and are able to generate an average gross margin of 60%-75%, subject to the number of intermediaries involved at this level of supply chain and also the volume sold. Before the fish is further channeled to the retailer stage, there is a layer of intermediary which is known as secondary wholesaler which consolidate the order from various retailers and channel the product from key wholesale market to the respective retailer. The retailers will be able to save costs by engaging the service of these wholesalers. Secondary wholesalers will earn about 10%-20% gross margin while retailers can earn about 20%-25% gross margin.

⁷⁴ KPDNHEP

⁷⁵ Industry interviews

Figure 69: Margin and Cost Along the Supply Chain



Source: Industry interviews; Fisheries Development Authority of Malaysia (LKIM) (internal estimates)

Note: The charts illustrate the average cost at each stage of supply chain during the normal season (where fish supply is adequate for market consumption), and it exclude potential inventory costs. Also, the cost of fishermen in the chart may be lower as it is based on the costing of vessels from zone C2 which has the benefit of economies of scale as compared to fishermen from Zone A & Zone B.

For frozen fish, the total cost of input is at about 15% of the total purchase price. According to LKIM, demand for Q'fish has been stable and the source of supply for Q'fish products are imported fishes. The cheaper import purchase price has allowed NEKMAT to sell the fishes at a rate below the market price (which may cost between RM16 to RM18 per kg⁷⁶) while providing the consumers with cheaper alternative. LKIM currently set a ceiling price for Q'fish products at RM10 per kg and this price has been maintained for the past 4 years. The mark up for Q'fish products is normally between RM1.50 to RM3.00.

Table 45: Cost factors Affecting the Frozen Fish Pricing

| Cost for Q'fish | RM / kg | RM / kg | % to total cost |
|--|----------------|----------------|------------------------|
| Direct material cost | | | |
| Inventory | 6.42 | | |
| Packaging | 0.35 | | |
| Subtotal (Direct Material Cost) | | 6.77 | 90% |
| Operation Cost | | | |
| Cold room | 0.2 | | |
| Labour cost | 0.25 | | |
| Logistics cost | 0.3 | | |
| Subtotal (Operation Cost) | | 0.75 | 10% |
| Grand Total | | 7.52 | |

Source: Fisheries Development Authority of Malaysia (LKIM)

⁷⁶ News article (<http://www.astroawani.com/berita-malaysia/tengkujuh-jejas-pendaratan-ikan-pengguna-disaran-beralih-kepada-bekalan-q-fish-164812>)

4.8 Key Takeaways

4.8.1 Areas of Concerns

Overall Issues

1. Long-term effect of classification of certain species as *ikan rakyat*

Ikan kembung is one of the species classified as *ikan rakyat*. Over the years, there has been significant increase in the average prices of *ikan kembung*, where the local wholesale price has increased at a faster rate compared to the retail price. Since the introduction of *ikan rakyat* concept, the price of *ikan kembung* has been on an increasing trend at a much faster rate than the overall fish and seafood index. The concept of *ikan rakyat* was promoted to create a perception in a way that it will be consistently available in the market, and that it would be affordable. However, the price hike of *ikan kembung* over the years have indirectly caused the consumers to relate it to the rise of cost of living given its unaffordability.

Market driven Issues

2. Geographical concentration of key distribution hub

There is a presence of key distributor hub – Pasar Borong Kuala Lumpur (PBKL)⁷⁷ located in Selayang area, which serves as the main destination of the supply of fishes across the Peninsular Malaysia. This distribution hub also serves as a transition hub for import/export to overseas or East Malaysia. It has become a persistence market structure issue since decades ago and the distribution hub is the only key destination hub for the most populated areas in Peninsular Malaysia due to its strategic location and readily available infrastructure compared to the rest of the markets. The current market structure has provided PBKL an advantage in determining the market supply/volume, thus providing them an influential power in determining the price for fishes, and also exerts certain influence on the price in other markets such as the Southern part of Peninsular Malaysia. This is further exacerbated with the information asymmetry across the supply chain, where fishermen/jetty owners depend on the wholesale market on quantity information available in the market.

3. Presence of multiple intermediaries

Multiple intermediaries are involved in the marketing of fishes before it reaches the consumer's hand. As the fishes reach the market, their price would have increased by almost 6 different times⁷⁸. Also, the price is determined based on the "experience" of the sellers as there is no proper grading system. Moreover, the transactions and the market volume are not transparent across the multiple intermediaries and price fluctuates according to supply and demand. As such, these middlemen can create an artificial scarcity which leads to soaring of prices. Besides, the lack of transparency in price determination due to multiple factors such as location, fishing method and perishability, creates opportunity for profiteering.

⁷⁷ Please note that Pasar Borong Kuala Lumpur is not Pasar Borong Selayang nor Pasar Selayang

⁷⁸ Please Refer to Figure 69 on page 157

4. Possible limitation of supply to influence price

With the development of technology that enables frozen fish, the fishermen/middlemen may have the tendency to limit production (i.e. freeze the fishes and store it) to influence/stabilise the selling price in the market. For instance, players tend to capture more fishes 2-3 weeks prior to certain periods in order to stock up more supplies which will be sold during the period at higher prices. They may then profit further from there to ensure their profit margin are maintained. Moreover, there is no concerted effort to scrutinize the conducts of players freezing or storing the products.

5. Exposure to trader's opportunism due to the market's inability to differentiate between fresh fish and frozen fish.

The price of fresh fish is usually more expensive than frozen fish. In general, the consumers/buyers are unable to differentiate between fresh fish and frozen fish, and this has provided an opportunity for certain players to profit by declaring frozen fish as fresh fish. Further, there are no regulations in place to control the issues of false declaration of 'fresh' fish. Due to the limited ability to differentiate between fresh fish and frozen fish, this may have influenced the market pricing to some extent, where the proper pricing is not reflected according to market supply and demand.

4.8.2 Potential Anti-Competitive Practices

1. Market dominance of key central wholesale market

The dominance of the distribution hub may give rise to geographical monopoly which also allow them to influence the market price due to the price asymmetry along the supply chain. The behaviours within the wholesale market where the players benchmarked the prices against one another may suppresses price competition as players share the sensitive market information, which could limit the price discovery mechanism. Besides, the arbitrary charges which have to be borne by the traders operating in the market add further cost to the operation, which distorts the market competition. *(refer to Appendix 1 for the case study on Pasar Borong Kuala Lumpur)*

2. Limitation of supply

As the supply may be intentionally controlled in the market by creating and supplying more frozen fish, players may withhold the supply in the market or artificially stabilize the price during excess supply period. During the low supply season, the players may then release the frozen fish in the market to profit further. This may distort competition due to the price manipulation.

5. MARKET ASSESSMENT: INFANT FORMULA

RELEVANT PRODUCT MARKET

- Infant formula in Malaysia is generally categorized into four groups, namely infant formula, follow-up formula, formulated milk powder for children, and special formula (special dietary/medical purposes).
- The market review will focus on infant formula (Stage 1) targeted to infant between 0 to 12 months old.

MARKET CHARACTERISTICS

- Malaysia has formulated and implemented the National Breastfeeding Policy since 2006 which states that all mothers are encouraged to breastfeed their babies exclusively with breastmilk from birth until six months of age and thereafter to continue until the child is 2 years old.
- The findings of Malaysia's National Health and Morbidity Survey 2016 showed that the exclusive breastfeeding rate among infants under six months old in Malaysia had increased from 14.5% in 2006 to 47.1% in 2016.
- Based on the Ministry of Health's Breastfeeding Practices Report, 70.06% of infant aged 6 months were exclusively breastfed in 2018, while 18.56% were breastfed and partially fed with infant formula. Meanwhile, only 11.36% of infant were fully dependent on infant formula alone. This indicates that about 30% of infant aged 6 months were fully or partially dependent on infant formula.
- The infant formula industry has a high barrier to entry, mainly due to the high capital investment and stringent regulatory requirements surrounding infant formula products. Due to these factors, the local infant formula industry is dominated by established players with significant resources and high credibility such as the multinational companies.
- The brands supplied by the manufacturers can be loosely classified into mainstream brands or premium brands based on pricing, which is dependent on the formulation. Most of the brands offered by the key manufacturers are premium brands, with only half of them offering mainstream brands in addition to premium brands.
- The local infant formula sector is highly dependent on importation, while products which are manufactured locally are also highly reliant on the import of raw materials, especially dairy ingredients. This is mainly due to insufficient domestic supply of milk to meet the demand of manufacturing industry and lack of specialized manufacturing plant producing base powder suitable for infant formula in the country.
- Analysis on the pricing trend of selected infant formula brands have shown that the prices of infant formula have been growing consistently over the years, mostly ranging between 15 to 20%. In comparison to the local price index, the price indices of most of these infant formulas are also slightly higher than the food price indices over the last few years.

- PPP analysis revealed that the price of mainstream brands in Malaysia is relatively cheaper than selected benchmarked countries, while the prices of premium brand are mostly cheaper in these countries.

MARKET PRACTICES / REGULATORY REQUIREMENTS

- As the Code of Ethics prohibits market players across the supply chain from engaging in any marketing or promotional activities for infant formula, manufacturers mainly compete on non-price measures, particularly on the basis of product innovation by placing new or improved formulation in the market with a variety of health claims.
- The prohibition on marketing of infant formula by market players have also paved way for influence by healthcare professional. Parents can seek advice on infant formulas from healthcare professionals and the consultation will be given on one to one basis. However, the Code of Ethics also prohibits health professionals from promoting and marketing any brands or companies of infant formula.
- Given the prohibition on marketing and promotional activities, the key strategy undertaken by manufacturers to communicate about their products is by targeting healthcare professionals within the private sector as the medium to relay the benefits of their formula. This is done solely on the basis of factual and scientific information, which is permissible under the Code of Ethics.
- Manufacturers determine the 'Recommended Retail Price' (RRP) which serves as guidelines for retailers to price the products accordingly. Although it is not compulsory for retailers to price their infant formula based on the RRP, most retailers generally set the prices below or at the recommended price.
- There is a major price difference between the premium and mainstream infant formula brands available in the market. While the mainstream infant formula brands are usually priced less than RM40/kg, the price differences among premium brands vary based on additional nutrients.

AREAS OF CONCERNS

There is currently no significant indication of anti-competition concerns or conducts within the infant formula sector in Malaysia. However, there are certain shortcomings and areas for improvement within the sector, as follows:

- Despite the availability of both mainstream and premium brands in the market, most of the brands offered by the players are premium brands. Although all infant formula in the market are required to meet the minimum nutrient composition specified in the food regulation, parents are generally unaware of this and perceive that additional ingredients are better and essential, and this may have resulted in the increased preference towards premium brands.
- The infant formula sector is highly dependent on importation as most of the key players import their products. Besides that, infant formula which are manufactured locally are also highly reliant on the import of raw materials due to insufficient domestic supply of milk and lack of specialized production of base powder and ingredients suitable for infant formula in the country. Consequently, the prices of infant formula are highly influenced by foreign exchange, supply availability and price volatility of raw materials.

- As the infant formula market has a high barrier to entry and is currently dominated by few multinational companies which mainly compete on the basis of product innovation, this gives them some influencing power to determine the prices of infant formula in the market, although the final selling price to consumers is decided by the retailers.
 - As there are currently no regulations for reviewing the price increases to justify the extent of mark-up of the improved formulation, some manufacturers may leverage on this situation to increase the prices disproportionately in order to increase their profit margin.
- As the market players are bound by strict regulations and the Code of Ethics, communications pertaining to infant formula are usually undertaken through private healthcare setting. The industry is generally compliant to the Code of Ethics, however, there are certain instances whereby the code is violated, as highlighted below.
 - Although it is permissible for industry players to communicate factual and scientific information on infant formula to healthcare providers, some players may leverage on this situation to undertake partnership with certain healthcare providers in the private sector to promote their products in the healthcare facilities even though such practices are prohibited (e.g. distribution of free samples or gifts and sponsorships). Subsequently, some healthcare professionals may recommend or procure certain brands in order to influence the purchasing decision by parents.
- While the marketing and promotional activities are strictly prohibited for formula targeted at infants aged 0 to 12 months (Stage 1 and Stage 2 formula), market players are allowed to undertake such initiatives for Stage 3 formula. As such, market players may engage in cross promotion by leveraging on the marketing of Stage 3 formula to indirectly promote infant formula. This is mainly done through similar branding elements (e.g. brand name, mascot, benefit icons, slogan and packaging color) and direct contact of company representatives with mothers, which may create confusion among consumers.

5.1 Relevant Product Category

Infant formula is a scientifically produced substitute or alternative to breastmilk. The World Health Organisation (WHO) and the Ministry of Health (MOH) highly recommend exclusive breastfeeding for the first six months of infant life as it is the best source of essential nutrients needed for the growth and development of infant. However, some mothers are not able to breastfeed their infant under certain medical conditions and would need to depend on infant formula as an alternative to breast milk.

Infant formula in Malaysia is generally categorized into three groups, as follows:

Table 46: Segmentation of Infant Formula

| Stage | Product Term | Defined Target Age Group |
|---------|--|--------------------------|
| Stage 1 | Infant Formula | 0 - 12 months |
| Stage 2 | Follow-up Formula | 6 - 36 months |
| Stage 3 | Formulated Milk Powder for Children | 1 – 9 years |
| | Special Formula (Special Dietary / Medical Purposes) | 0 – 36 months |

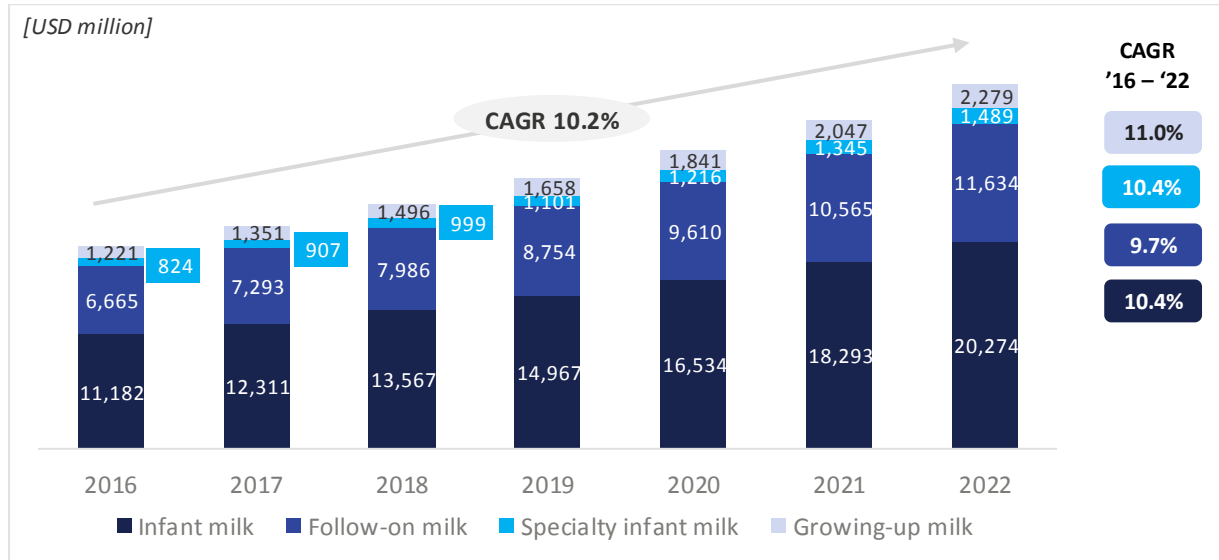
Note: The segmentation is based on Food Regulation 1985 and is in line with the Code of Ethics for the Marketing of Infant Foods and Related Products

The market review will focus on infant formula between 0 to 12 months old (Stage 1).

5.2 Sector Overview

The global milk formula market was valued at about USD 20 billion in 2016 and is expected to grow at a CAGR of 10% from 2016 to 2022 to reach about USD 36 billion in 2022. Within the milk formula market, infant formula and follow-up formula segments collectively accounted for 90% of the market in 2016 and similar trend is expected in 2022.

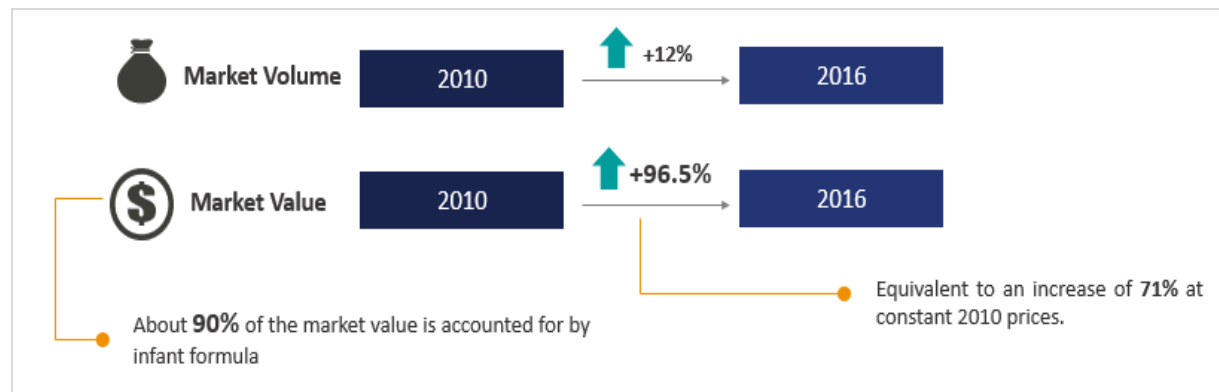
Figure 70: Global Milk Formula Market Value



Source: Allied Market Research

Similar to the global trend, the Malaysian infant food market has also been on an upward trend, especially in terms of value which has risen sharply over the past few years. The total volume sold in 2016 was 12% higher than in 2010 and value in 2016 was 96.5% higher than in 2010, which is equivalent to an increase of 71% at constant 2010 prices.⁷⁹ About 90% of the market value is accounted for by infant formula.

Figure 71: Infant Food Market in Malaysia

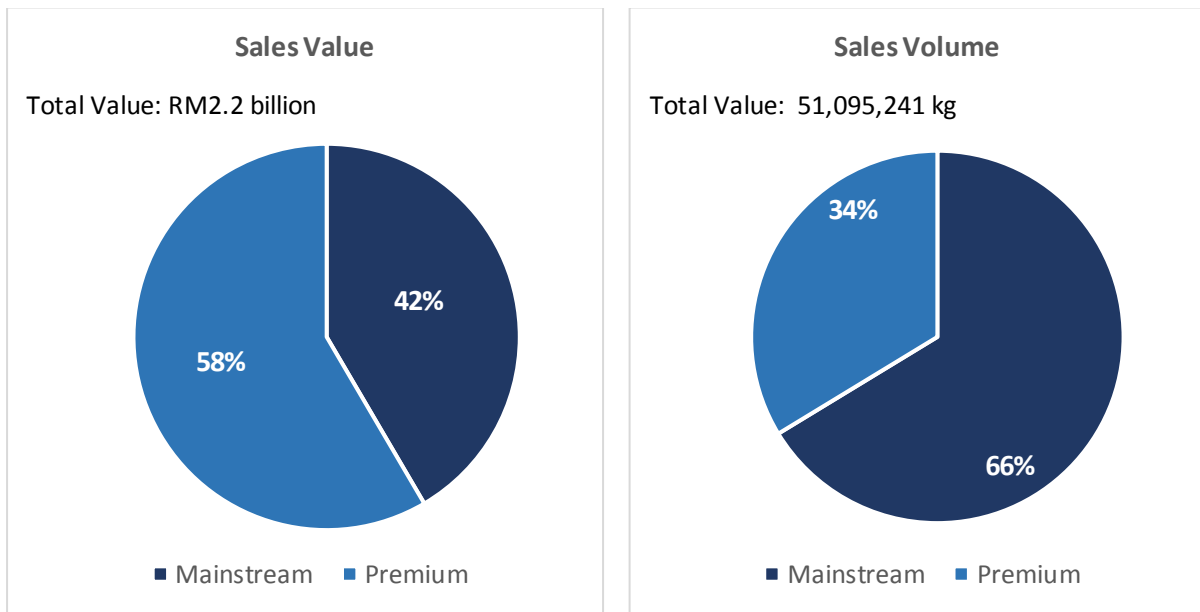


Source: GlobalData

⁷⁹ GlobalData. Baby Food in Malaysia. January 2017

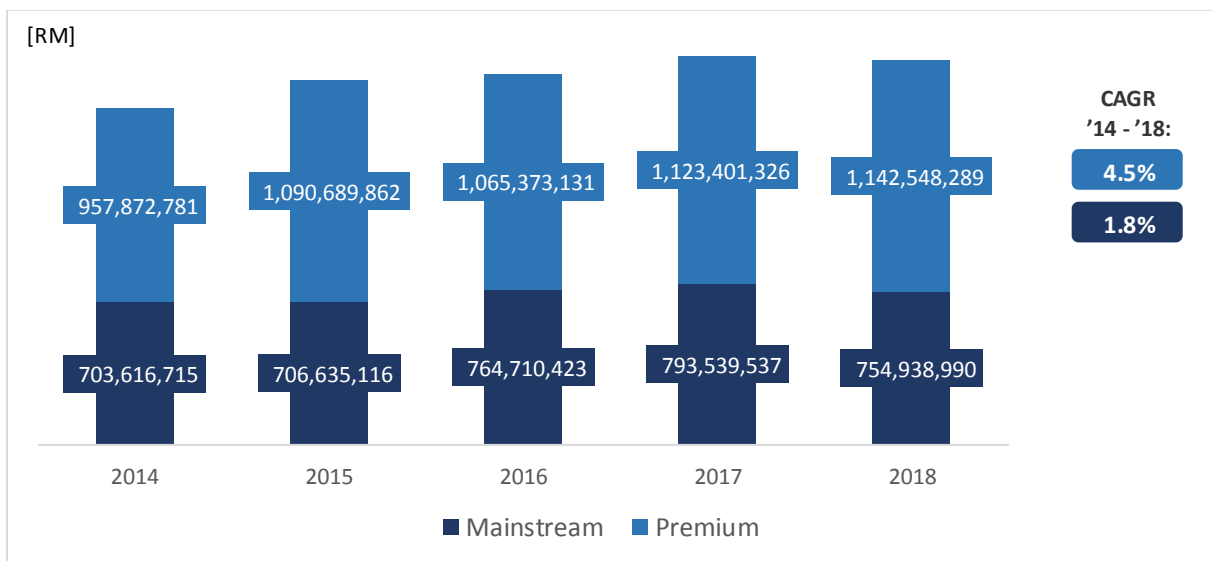
In Malaysia, mainstream brands accounted for 66% of the sales volume of infant formula in 2018 while premium brands account for 58% of the sales value. Analysis of the sales value and volume of infant formula in Peninsular Malaysia revealed that the proportion of mainstream and premium brands in terms of value and volume have remained relatively similar over the years; however, premium brand has been growing at a faster rate compared to the mainstream brand, especially in terms of sales value. Although the growth of sales value is higher than the sales volume for both mainstream and premium brands, it is more apparent for premium brands. This indicates that the average value per unit premium formula has been increasing faster than the average value per unit mainstream formula.

Figure 72: Total Value and Volume of Infant Formula Milk in Malaysia (2018)



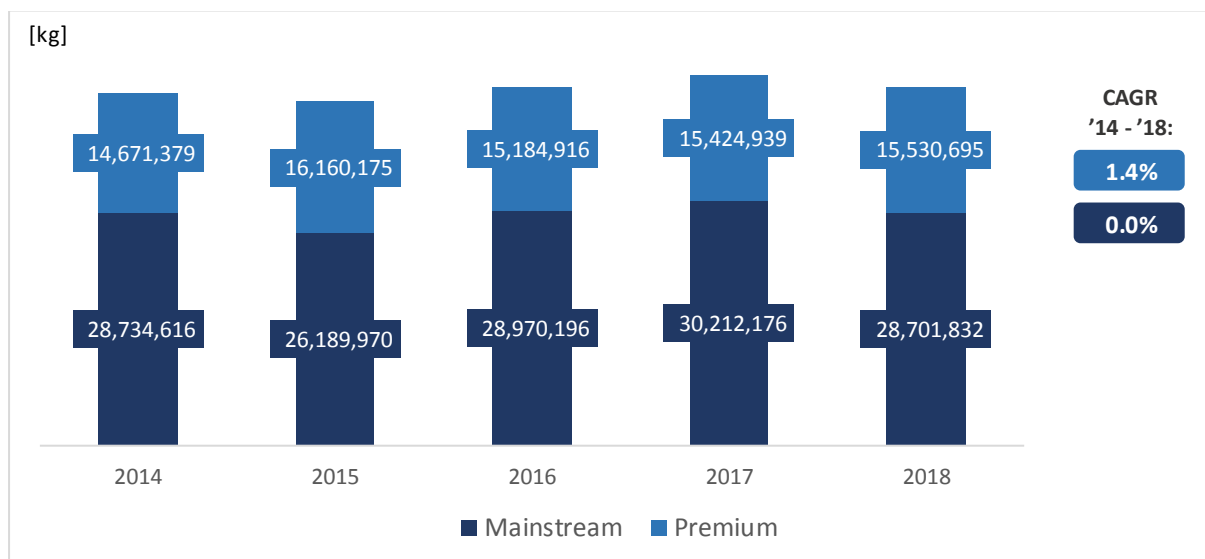
Source: Nielsen

Figure 73: Sales Value of Infant Formula Milk in Peninsular Malaysia



Source: Nielsen

Figure 74: Sales Volume of Infant Formula Milk in Peninsular Malaysia



Source: Nielsen

The infant formula market is mainly driven by the rise in women labour force participation, which is due to the challenges in breastfeeding arising from the lack of time and inconvenience⁸⁰ as well as the lack of social support for working mothers. Besides that, the rise in middle-class population and growth in disposable income in developing economies such as Malaysia are expected to boost the demand for infant formula market due to increased purchasing power. Nevertheless, there are also several factors and challenges which may restraint the infant formula market growth. One of the key challenges facing the industry is the concerns pertaining to food safety due to various cases related to adulteration of infant formula which have been reported globally and locally. Besides that, the birth rate in Malaysia has steadily decreased (from 1980 to 2015, the crude birth rate has declined from 30.6 to 16.7 per 1,000 population⁸¹) and may cause a sluggish market growth.

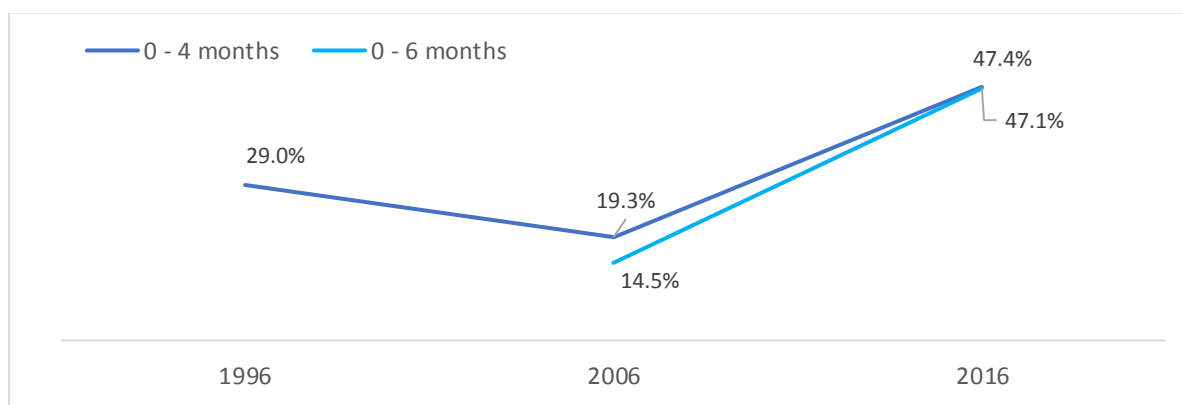
The findings of Malaysia’s National Health and Morbidity Survey (NHMS) 2016 showed that the exclusive breastfeeding rate among infants under six months old in Malaysia had increased from 14.5% in 2006 to 47.1% in 2016. This success was achieved through various concerted efforts such as the implementation of the Malaysia’s Code of Ethics for the Marketing of Infant Foods and Related Products, Baby Friendly Hospital Initiative and establishment of breastfeeding mothers’ support group. According to the NHMS 2016, the key barriers in practising breastfeeding or factors that influence the decision to stop breastfeeding was due to the lack of milk perception by mothers, followed by fatigue due to work. As such, infant formula serves as an alternative to breastmilk.

Based on the Ministry of Health’s Breastfeeding Practices Report among infant aged 6 months in 2018, 70.06% of 97,904 infants were exclusively breastfed, while 18.56% were breastfed and partially fed with infant formula. Meanwhile, only 11.36% infants who were fully dependent on infant formula and 0.01% were given with other liquid. This indicates that about 30% of infant aged 6 months are fully or partially dependent on infant formula.

⁸⁰ Allied Market Research. Baby Infant Formula Market. Nov 2017.

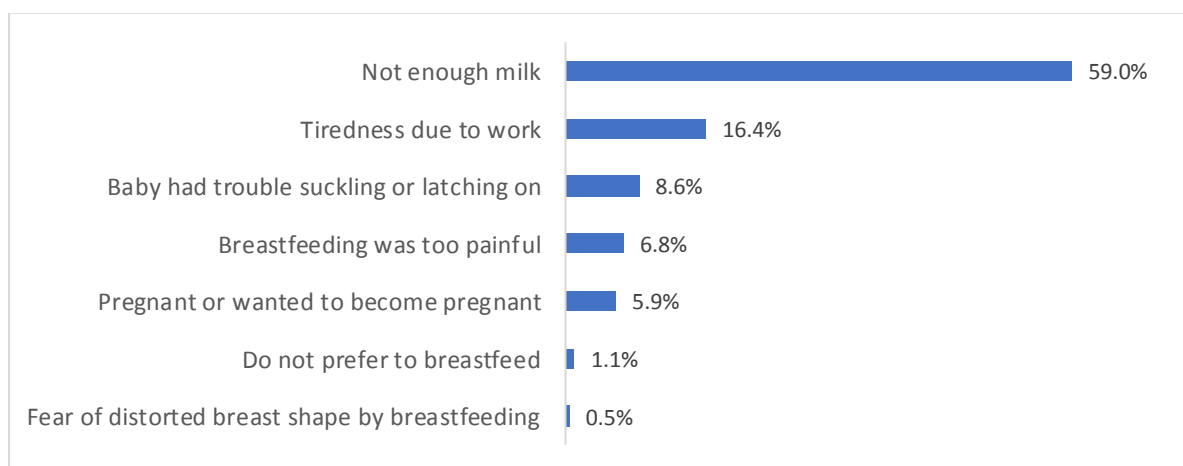
⁸¹ DOSM Population Statistics

Figure 75: Prevalence of Exclusive Breastfeeding in Malaysia



Source: National Health and Morbidity Survey (NHMS)

Figure 76: Barriers in Practicing Breastfeeding or Factors that Influence the Decision to Stop Breastfeeding



Source: National Health and Morbidity Survey (NHMS) 2016: Maternal and Child Health

The infant formula industry has a high barrier to entry, mainly due to cost barriers and stringent regulatory requirements surrounding infant food products. The composition and marketing of infant formula are strictly regulated, and market players are required to adhere to established guidelines set by the government agencies. Furthermore, the infant formula industry in Malaysia is dominated by few key multinational brands that are engaged in producing and importing a range of dairy products, which will be further discussed in Section 5.5. Meanwhile, parents also tend to be loyal to certain infant formula brands and generally do not change their usual purchasing habits. These factors pose as barriers for new entrant or existing smaller manufacturers with less resources to penetrate the market.

With regard to the market barriers and challenges, the infant formula market structure and practices will be assessed in this market review to determine its efficiency and identify potential issues to minimize negative impact on infant formula prices.

5.3 Regulatory/Policy Landscape

A number of institutions on both federal and state levels help regulate the infant formula market in Malaysia. These are mainly the Nutrition Division and the Food Safety and Quality Division of the **Ministry of Health (MOH)**, the **Department of Veterinary Services (DVS)** and the **Department of Malaysian Quarantine and Inspection Services (MAQIS)**.

There are several regulations governing various aspects of infant formula in Malaysia, which include nutritional content, labelling requirement, importation, as well as sales and marketing. These key regulations governing the infant formula industry include the Food Regulations 1985 under the Food Act 1983, as well as the Code of Ethics for the Marketing of Infant Foods and Related Products.

5.3.1 Food Act 1983 & Food Regulations 1985

Similar to other food products which are produced in the country, the regulation of infant formula is primarily governed by the Food Act 1983 and its subsidiary legislation, the Food Regulations 1985 which is administered by the Food Safety and Quality Division, MOH. The manufacturing process is highly regulated and monitored to meet national and international quality criteria. Specific regulations for infant formula are set out under regulation 389 of the Food Regulations 1985 which stipulates requirements on permissible ingredients and contents, preparation method as well as labelling and packaging. All infant formula product which are sold in the country are required to meet the minimum nutrient composition specified in the regulation. However, the minimum nutrient composition requirements are fluid and can change overtime with the advancement of technology and research over the years. Other optional nutrients which are not required by the regulation may be used in the infant formula. However, the use of novel ingredients which have not been previously used in the market requires approval from the MOH whereby the suitability, benefits and safety of these other optional nutrients must be scientifically demonstrated.

In terms of labelling, the regulations regulate milk products in general and also has provisions specifically for infant formula milk. Regulation 117 imposes general requirements for the labelling of milk products including the format of the label, while Regulation 389 sets out specific additional labelling requirements for infant formula milk. The infant formula products are subjected to strict labelling requirements, some of which includes the following:

- There should not be display of any claim of superiority of the product to breast milk
- There should not be display of any picture of infants or babies or parts of infants or babies except that for the purposes of identification and positioning of the product
- There should not be claims that the infant formula is enriched, fortified, vitaminized, supplemented, strengthened or any statement that is likely to convey the same meaning
- The label of the package must include the words "BREAST MILK IS THE BEST FOOD FOR INFANTS" and "INFANT FORMULA IS NOT THE ONLY FOOD FOR INFANTS OVER 6 MONTHS OF AGE".

5.3.2 Malaysia Breastfeeding Policy

Malaysia has formulated and implemented the National Breastfeeding Policy since 2006. The policy recommends exclusive breastfeeding for the first six months and continued breastfeeding along with complementary food up to two years of age. Complementary foods should be introduced when the baby is 6 months old. Code of Ethics for the Marketing of Infant Foods and Related Products, and Baby Friendly Hospital Initiative (BFHI) serves as two important pillars of implementing this policy.

5.3.3 International Code of Marketing of Breastmilk Substitutes; Code of Ethics for the Marketing of Infant Food and Related Products

Exclusive breastfeeding is strongly advocated by the WHO as well as MOH for the first six months of an infant's life as it provides the essential nutrients needed for growth, development and protection against infectious and chronic diseases. With regards to this, infant formula manufacturers in the country are bound by the **International Code of Marketing of Breastmilk Substitutes** which is an international health policy framework adopted by the WHO in 1981 regarding infant formula marketing. The implementation of the Code is, however, dependent on the enactment of national laws and legislations which implement the provisions of the Code. In Malaysia, the Code is known as **Code of Ethics for the Marketing of Infant Foods and Related Products** which is administered by Nutrition Division, MOH. The Code was first published and implemented in Malaysia in 1979 and have been amended four times based on several requirement changes in line with the World Health Assembly's Resolutions and nation's situation.

The Code is established by the Nutrition Division, MOH with the cooperation of infant formula industries operating in Malaysia. It aims to uphold the supremacy of breast milk and to assist in the safe and optimal nutrition of infants by the protection, promotion and support of breastfeeding. The Code covers the basic principles of marketing and product information of infant food and related products in Malaysia. Under this Code, infant formula refers to formula intended for infants between 0 to 12 months. It also provides guidelines on ethical practices for manufacturers and distributors as well as health professionals and health personnel in the health care system. Alleged violation of the Code by the infant formula companies or health professionals/personnel will be investigated by the Code of Ethics' Disciplinary Committee and will be penalised for any confirmed violation to the code.

Some of the key ethical practices stipulated for manufacturers, distributors as well as health professionals within the Code are as follows:

- Product should not be marketed, promoted or advertised in such a way as to challenge or undermine the supremacy of breast milk or compete in any way with breast milk
- Samples, supplies or gifts of products should not be distributed to pregnant women, mothers of infants and young children or healthcare professionals. Samples of designated products may, however, be provided to health professionals for research upon approval by the appropriate research committee.
- Products should not be advertised or promoted within the health care system, child care centres, retail outlets and the mass media. Promotions includes redemption schemes, free gifts related or unrelated to purchase, discount coupons, special displays at retail outlets and other giveaways.

- Company personnel should not be permitted to perform educational functions related to infant feeding or perform promotional activities to pregnant women, parents of infants, members of their families and child-care providers
- Sales and marketing personnel of the products must not have their remuneration tied to the sales of these products. No financial incentives are allowed to be offered to health professionals, retail outlets and child care centres as an inducement for promoting the products.
- Products should not be displayed in public events including trade shows, conferences, seminars, exhibitions or any other similar forums.
- Manufacturers and distributors should not supply designated products at below 80% of the recommended retail price to health professionals, health personnel and the health care system
- Health professionals and personnel should encourage and support all mothers to breastfeed their infants exclusively for the first six months and should not be involved in any activity that involves the promotion of the products.
- Health professionals and personnel should not accept any product, samples, gifts, supplies, sponsorship or any incentive in cash or in kind from manufacturers and distributors.

Some of the key guidelines and requirements on labelling and information material specified within the Code are as follows:

- Claims about products should reflect scientific integrity without implying any claim of superiority or similarity of the product to breast milk.
- All information materials and labels relating to the products and complementary foods must be submitted to the Vetting Committee for approval. Approved materials will be valid for a period of 4 years for labels, 3 years for educational materials for health professionals and 6 months for can inserts and stickers.
- Product labelling should not use any picture, graphic, word or statement which may idealise formula feeding. Pictures or graphics of infants and parts of infants are also not allowed.
- Information materials on the products should devote at least one quarter of its content or space to breastfeeding, focusing on the following:
 - Importance of early initiation of breastfeeding within one hour of delivery
 - Benefits of breastfeeding and superiority of breast milk
 - Maternal nutrition and management of breastfeeding
 - Negative effects on breastfeeding of introducing partial bottle feeding
 - Difficulty of reversing the decision not to breastfeed
 - Advice and support of breastfeeding for working mothers
- The principal display panel of the label should carry a notice that breast milk is the best for babies, have appropriate designations (e.g. RUMUSAN BAYI, RUMUSAN SUSULAN, RUMUSAN KHAS etc.) and indicate that infant formula / follow-up is not the only food for infant.

5.3.4 Import Requirement

Malaysia has specific import regulations that apply to dairy imports, which are empowered under Section 8 of Animal Rules, 1962. Particularly, the regulations under this section apply to liquid milk, milk powder, cheese, cream containing milk, butter, ice cream containing milk, yoghurt and other milk/dairy products (HS Codes: 0401-0406).

All imported dairy products, including infant formula is subjected to inspection and verification by the DVS. Random samples will be collected for laboratory testing and DVS has the right to reject, destroy or further detain any consignment when deemed necessary. The following are required for the importation of milk or milk products into the country:

- A valid import permit issued by MAQIS (for importation into Peninsular Malaysia and Labuan), Director of the Department of Veterinary Services and Animal Industry Sabah (for importation into Sabah) or the State Veterinary Division of the Department of Agriculture Sarawak (for importation into Sarawak)
- Official Veterinary Health Certification from the country of origin for each consignment
- Halal Certificate issued by JAKIM or alternatively a Certification Body recognised by JAKIM for products which are certified halal

5.3.5 Halal Certification / Regulations

Halal certification for infant formula is voluntary and is often acquired as a value add, especially in a Muslim majority country. Malaysian halal certification for infant formula is applicable to the following establishments:

- a. Manufacturer/ Producer
- b. Contract Manufacturing (Original Equipment Manufacturer)
- c. Re-packer

Every infant formula with halal certification must ensure the halal status of the product at every stage and at every process involved in the production of the product. As such, imported raw materials which are used in the local production and packaging of infant formula products requires the appointment of reputable and reliable foreign halal certification bodies to monitor the halal status of these raw materials.

Local companies that engage in repackaging of imported infant formula are required to have foreign halal certification body recognized by JAKIM as well as local halal certification from JAKIM. Meanwhile, infant formula companies which are constantly engaged in product innovation are required to register new halal certificates for each innovation for a period of 2 years for each certification. This would be equivalent to RM2,000 per certificate. Besides that, multinational and medium companies are also required to establish their internal Halal Committee and establish Halal Assurance System with reference to HAS 2011, which may further add on to the production cost.

Nonetheless, the impact of halal compliance on production cost is deemed to minimal and is not a significant contributor to the increase of cost of production of infant formula compared to other aspects such as raw materials and innovation.

5.3.6 Regulatory Impact

1. Stringent regulatory requirements pose significant barriers to entry and have resulted in the dominance of established players

The composition and marketing of infant formula are strictly regulated, and manufacturers are required to meet national and international criteria and adhere to established guidelines set by government agencies. Specific regulations for infant formula which are set under Regulation 389 require high investment and resources to meet the minimum standard to be approved by the MOH. This leaves the market dominated by established players with significant resources and high credibility such as the multinational companies. Nonetheless, industry insights have also indicated that the dominance of MNCs have resulted in less regulatory supervision on smaller players which are uncompliant to the Code of Ethics and other relevant regulations.

2. Prohibition on promotional and marketing activities have caused manufacturers to mainly compete on the basis of non-price measures

As the Code of Ethics prohibits market players across the supply chain from engaging in any marketing or promotional activities for infant formula, manufacturers mainly compete on non-price measures, particularly on the basis of product innovation and scientific aspect by placing new or improved formulation in the market with a variety of health claims. As such, manufactures often go beyond essential ingredients which are required for normal development and growth, and undertake research and development to introduce the latest advancement in nutrition science in order to offer benefits that are as close to the outcomes of breastmilk.

3. Influencing power on brand preference through the private healthcare providers

Under certain medical reasons, advice on the usage of infant formula can be given by healthcare professionals to mothers on one to one basis. As such, parents generally trust and rely on physician's recommendations on infant formula brands. Given the prohibition on marketing activities, the key strategy undertaken by manufacturers to communicate about their products is by targeting healthcare professionals within the private sector as the medium to relay the benefits of their formula. This is done solely on the basis of factual and scientific information through dedicated sales team, which is permissible under the Code of Ethics. The industry is generally compliant to the Code of Ethics. However, there are certain instances whereby industry players may leverage on private healthcare providers which may not be aware of the COE implementation to market and promote the infant formula brand, such as through distribution of free samples or gifts and sponsorships. As such, the misconduct of certain sales team and healthcare professionals may impact the brand preference and prohibition on marketing activities.

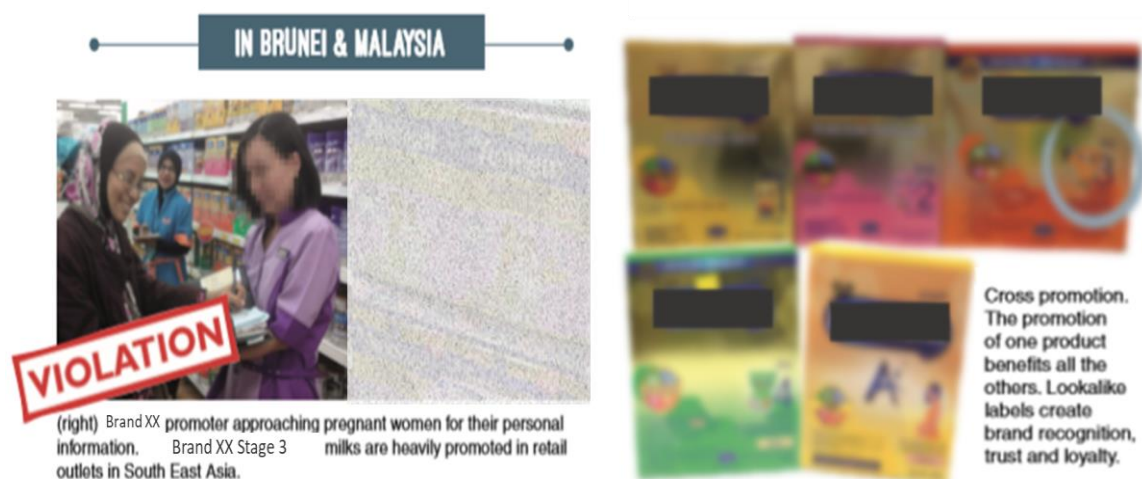
4. Information asymmetry on the nutritional requirements of infant formula have contributed to the trend towards premiumisation

Although all infant formula products which are sold in the country are required to meet the minimum nutrient composition specified in the food regulation, most parents are generally unaware of this and perceive that additional ingredients are better. This may have resulted in the increased preference towards premium brands.

5. Lack of marketing restriction on Stage 3 formula may have resulted in the cross promotion of infant formula

Cross-promotion is a form of marketing promotion whereby customers of one product or service are targeted with promotion of a related product.⁸² This can include packaging, branding and labelling of a product to closely resemble that of another and it can also refer to use of particular promotional activities for one product to promote another product.⁸³ The product segmentation as stated in Table 46 could lead to confusion to consumers due to overlapping product classification. Besides that, while the marketing and promotional activities are strictly prohibited for formula targeted at infants aged 0 to 12 months (Stage 1 and Stage 2 formula), market players are allowed to undertake such initiatives for Stage 3 formula. As such, market players may engage in cross promotion by leveraging on the marketing of Stage 3 formula to indirectly promote infant formula. This is mainly done through similar branding elements (e.g. labelling, packaging design, mascot, slogan, benefit icons and color scheme) and direct contact of company representatives with mothers, which may confuse them.

Examples of cross promotion elements:



Source: International Code Documentation Centre (ICDC), International Baby Food Action Network (IBFAN)

⁸² World Health Organization. WHO Guidance on Ending the Inappropriate Promotion of Foods for Infants and Young Children

⁸³ Ibid

6. Prolonged review period and approval process pose barriers to innovation

The use of novel ingredients which are not stipulated in the food regulation requires approval from the MOH which may take between 1 to 4 years before the products can be marketed locally. For the vetting of information materials and labels, industry players have indicated that the approval period ranges from 3 to 12 months. The prolonged period of vetting and approval processes slow down the capacity of manufacturers / importers to innovate and bring new products to the market. Meanwhile, the MOH has indicated that the vetting of information materials and labels under the Code of Ethics takes about 1 to 2 months with approximately 25 to 40 materials being processed and approved in one meeting. However, there have been cases whereby some manufacturers / importers may experience a longer approval period. This is mainly due to the incomplete submission of their materials which do not comply with Food Regulations 1985, usage of brand/wording/picture/graphic which may indicate grading/superiority/benefits of the products and repeated mistakes on the materials.

7. Other potential challenges from the implementation of Code of Ethics

- The prohibition on promotional activities of infant formula pose a challenge to retailers in clearing stocks as they are not allowed to mark down their prices to offer discounts or return the stocks to the suppliers. As a result, the retailers may incur loss from the uncleared stocks. However, the manufacturer or distributor may send in an appeal to extend their approval code as a grace period to clear the stock to the Code of Ethics' Vetting Committee. The Committee will also advise the manufacturer and distributor to be cautious in managing the stock to avoid excessive retail's stock in the future.
- The prohibition on communication pertaining to infant formula has also resulted in difficulties for manufacturers to educate the consumers or address the public on certain matters. However, manufacturers can make an immediate application to the MOH pertaining to communication through press release or mass media in the event that they experience any serious matters such as allegations on counterfeit products.

5.4 Manufacturing Process Flow and Supply Chain

The upstream segment of the infant formula supply chain involves formula manufacturing and importation while the midstream and downstream activities comprise of distribution and retailing of infant formula. The source of infant formula is obtained through 3 methods, either through local manufacturing, importation of finished product or importation of formulated powder in bulk which are then packaged locally.

Infant formula is mostly made from dairy ingredients i.e. milk powder, whey protein and lactose. Meanwhile, the non-dairy components include ingredients such as vegetable oil, mineral, vitamins, etc. The local dairy sector, including infant formula manufacturing is highly reliant on the import of raw materials, especially dairy ingredients which are usually imported from countries such as Australia, New Zealand and Netherlands. This is because the amount of milk that is produced domestically is not sufficient to meet the demand of its food manufacturing and processing industry, which includes the production of dairy ingredients such as milk powder. Some of these raw materials are usually sourced by manufacturers through global procurement by its parent company or regional head, while some are sourced by the local team in respective countries.

The manufacturing of infant formula is comprised of wet processing, dry blending, and canning and packing. Certain manufacturers perform both local manufacturing and importation of infant formula. Mainstream products are generally manufactured locally, while premium products are imported from regional manufacturing plant or companies. Some of the locally manufactured infant formula may also be exported to other countries within the region. Meanwhile, other players import most of their products from overseas manufacturing facilities within the region such as Singapore and the Philippines. Certain infant formula brands and products are also imported directly by local distributors, while retailers generally do not engage in the importation of infant formula.

Most major infant formula manufacturers in Malaysia engage with both retailers and distributors to distribute their products. Manufacturers usually perform direct sales with modern retailers whereby the negotiations and dealings are done between the two parties while the logistics aspects such as delivery and distributions may be handled by the distributors appointed by the manufacturers. Besides that, manufacturers also rely on distributorship to supply to general trade and less accessible regions. Manufacturers usually have several distributors for each region to supply to other distributors or retailers that operate on a smaller scale within each region.

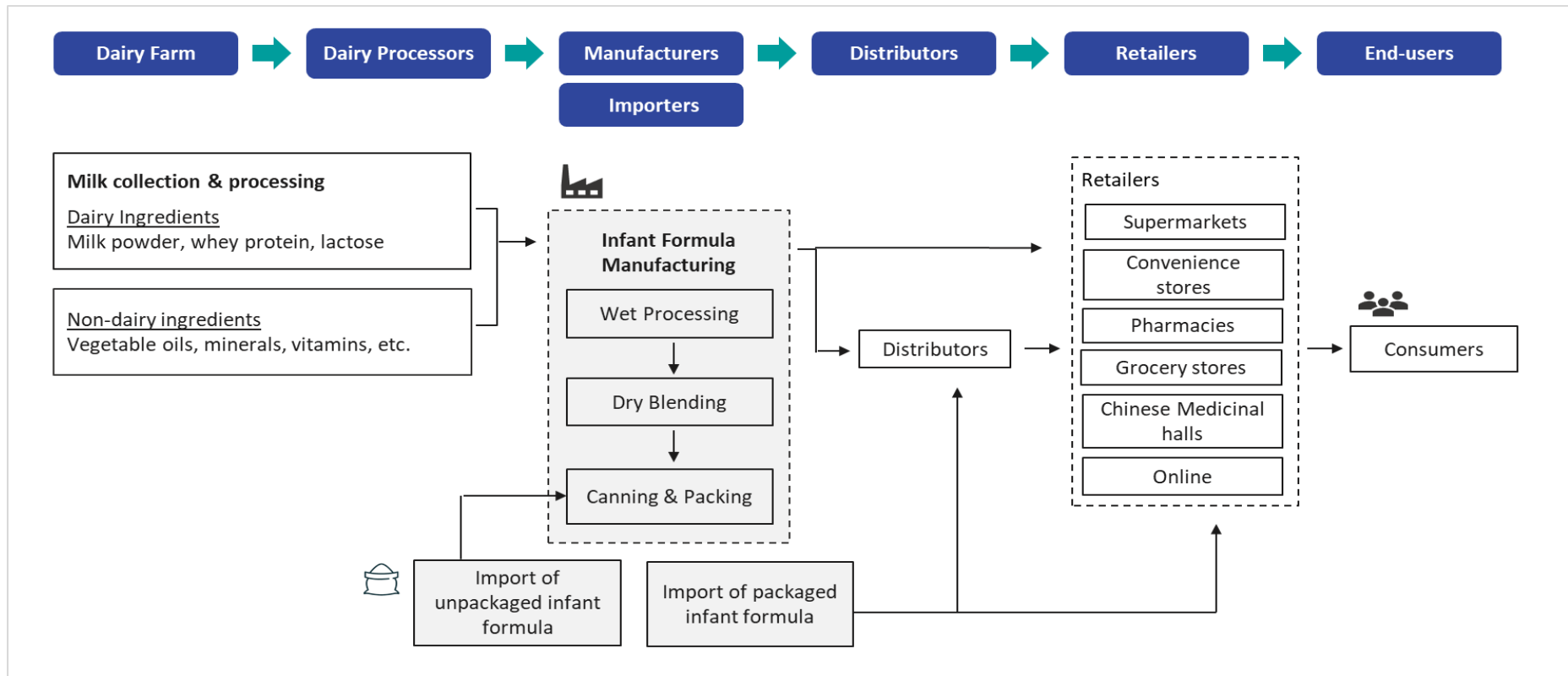
Some manufacturers also participate in government tenders for milk rotation programme in the public hospitals but are not allowed to engage in direct sales with health care providers. The key criteria for participation in government tender is that the infant formula must not be priced less than 80% of the RRP and must meet specific requirements and criteria stipulated. As such, most of the brands participating in government tenders are mainstream brands as brands with lower bid price which also meet the nutritional requirement tend to win the tender. In terms of private healthcare, manufacturers usually have an internal sales team dedicated to informing and marketing the products to private healthcare providers.

The key retailers for infant formula are modern trade outlets such as supermarkets and hypermarkets which make up the highest volume flow of infant formula, followed by general trade outlets such as medical halls, convenience and provision stores, minimarkets, grocers, etc. The brands displayed by retailers is dependent on various factors, especially their target market, consumer demand and sales performance of respective brands.

When it comes to consumers, the major factors which affect the purchasing decision of infant foods are trusted brand that provides good overall nutrition with safe ingredients/processing along with organic/all-natural foods contents.⁸⁴ Nutritional value has increasingly gained the attention of parents, especially formulation that helps to develop cognitive health and growth. Therefore, functional ingredients such as DHA and Lutein have been added into infant formula by many brands, causing an increase in the prices of these formulas. Although all infant formula in the market are required to meet the minimum nutrient composition requirements, parents are generally unaware of this and perceive that premium brands are better. Malaysian parents generally rely on word-of-mouth recommendations from healthcare providers or baby health experts, friends, family and online resources on the brands to purchase. Parents also tend to display brand loyalty based on historical purchase and are not willing to compromise the quality of the infant formula.

⁸⁴ GlobalData. Baby Food in Malaysia. January 2017

Figure 77: Supply Chain for Infant Formula



Source: Secondary research, interview with industry players

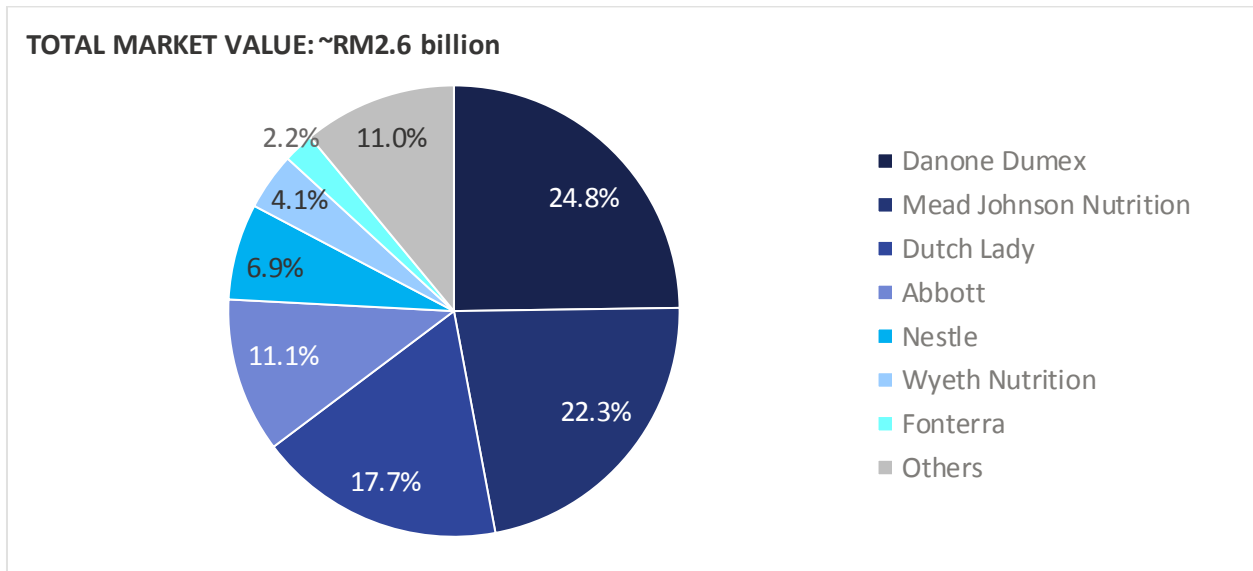
Note: Area highlighted in grey represents the level of supply chain with significant influence in the industry

The following section provides the landscape of infant formula manufacturers / importers.

5.5 Key Players’ Landscape

The infant food sector in Malaysia is dominated by multinational companies with the top 3 firms accounting for 65% of the market. Similarly, the infant formula industry in Malaysia is dominated by these companies which are subsidiaries of foreign companies and are engaged in producing a range of dairy products.

Figure 78: Market Share of Infant Food in Malaysia (2017)



Source: Euromonitor

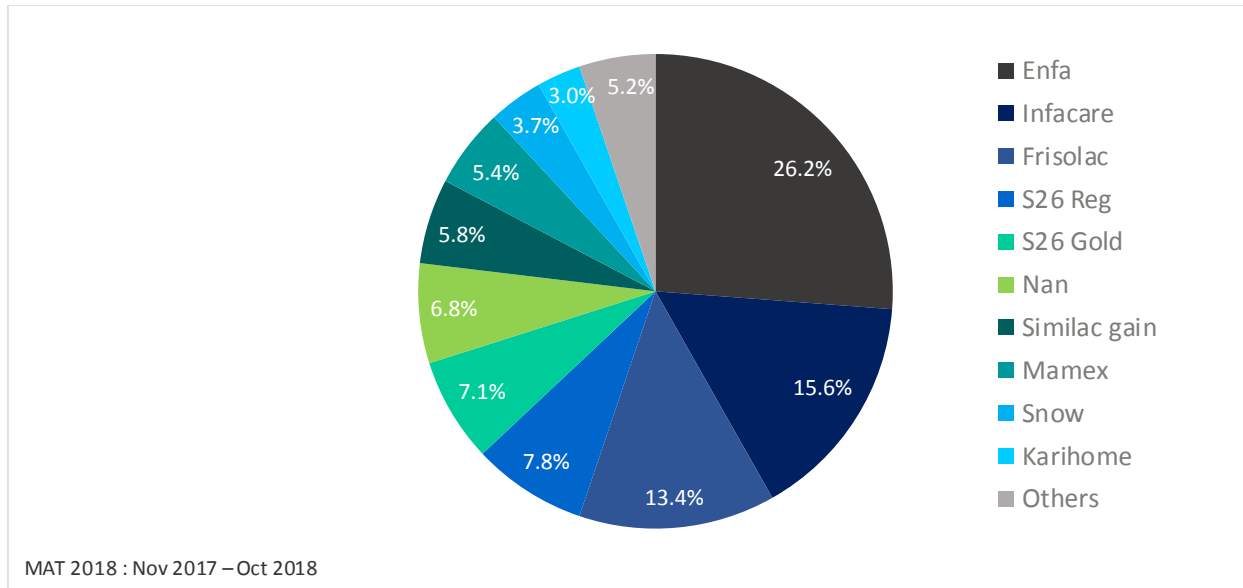
There is a total of about 7 key infant formula manufacturers / importer involved in the production and importation of infant formula in Malaysia. The table below shows the key manufacturers of infant formula and respective brands which are owned by these manufacturers. The brands supplied by these manufacturers can be classified into mainstream brands or premium brands based on pricing. As seen in the table below, although both mainstream and premium brands are available in the market, most of the brands offered by the key players are premium brands. This may cause the increasing trend towards premiumization, driving increased spending and prices of infant formula.

Table 47: Key Manufacturers and Brands

| Manufacturer | Mainstream Brand | Premium Brand |
|--------------------------------|--|---|
| Danone | <ul style="list-style-type: none"> Dupro Dulac | <ul style="list-style-type: none"> Mamex Bebelec Aptamil |
| Dutch Lady / Friesland Campina | <ul style="list-style-type: none"> Dutch Baby | <ul style="list-style-type: none"> Frisolac |
| Nestle | <ul style="list-style-type: none"> Lactogen | <ul style="list-style-type: none"> Nan Pro |
| Mead Johnson | | <ul style="list-style-type: none"> Enfalac Enfamil |
| Abbott Nutrition | | <ul style="list-style-type: none"> Similac Isomil |
| Wyeth | | <ul style="list-style-type: none"> S26 |
| Fonterra | | <ul style="list-style-type: none"> Annum |

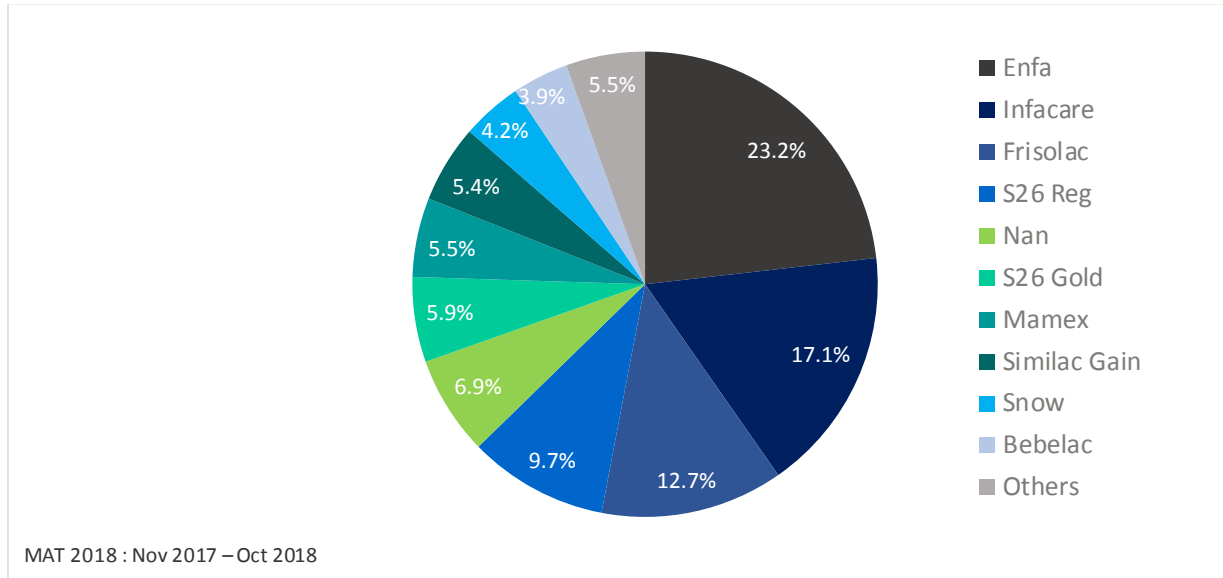
In terms of market value, Enfa brand by Mead Johnson held the highest market share amongst the premium brands, followed by Infacare by Fonterra and Frisolac by Friesland Campina. These top 3 brands account for over 50% of the total market share while subsequent brands hold a market shares of less than 10% respectively. Similar trend is observed in the terms of market volume of the premium brands.

Figure 79: Market Share of Premium Brands by Value



Source: Nielsen

Figure 80: Market Share of Premium Brands by Volume



Source: Nielsen

Only 2 of these key players have local manufacturing plants in the country, while the rest of the players import their infant formula from sister companies. Manufacturers such as Dutch Lady and Danone perform both local manufacturing and packaging of infant formula, as well as importation of infant formula from their sister companies.

Table 48: Key Players’ Local Manufacturing Plants (Infant Formula)

| Company | Plant Location |
|--------------------------------|-------------------------|
| Danone Dumex | Nilai, Negeri Sembilan |
| Dutch Lady / Friesland Campina | Petaling Jaya, Selangor |

Source: Company websites

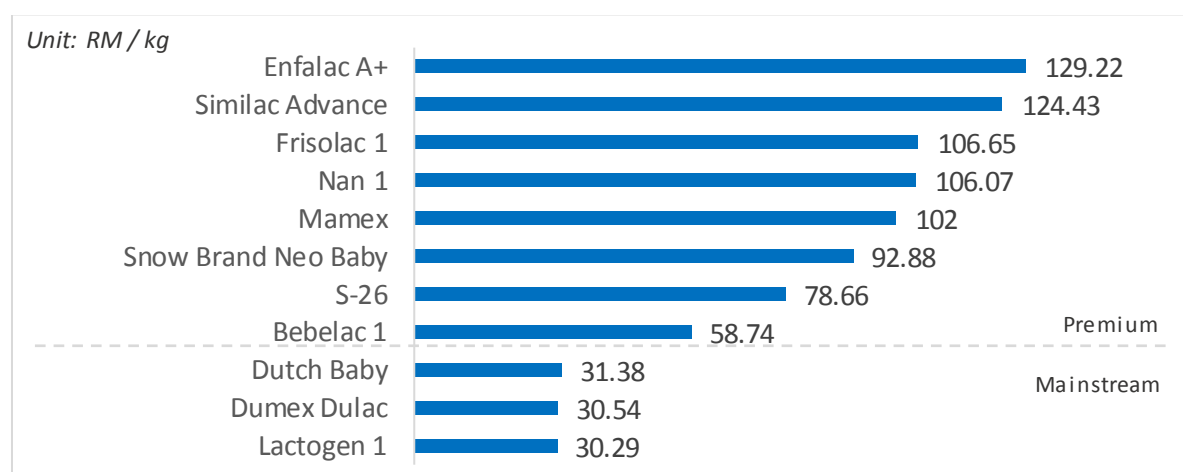
Key manufacturers generally supply their products directly to modern retailers, while distributors are utilized mainly for general trade. Some of key distributors within the infant formula segment are DKSH, Lein Hein Group and Mun Xin.

5.6 Pricing Analysis

5.6.1 Price Trend

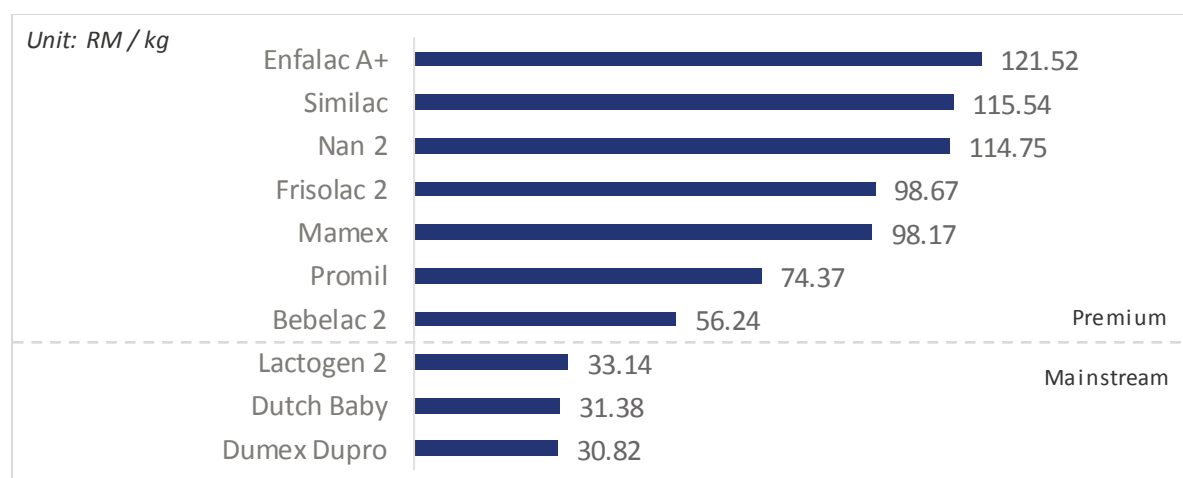
Within both mainstream and premium categories, consumers have a range of brands at different price points to choose from. There is a major price difference between the premium and mainstream infant formula brands available in the market. While the mainstream infant formula brands are usually priced at about 30/kg, the price differences among premium brands vary based on additional nutrients. The key method for manufacturers to differentiate and justify the price of their premium products is mainly on the basis of additional nutrients or improvised formulation and the associated cost factors such as R&D.

Figure 81: Average Retail Prices of Stage 1 Formula



Source: Euromonitor

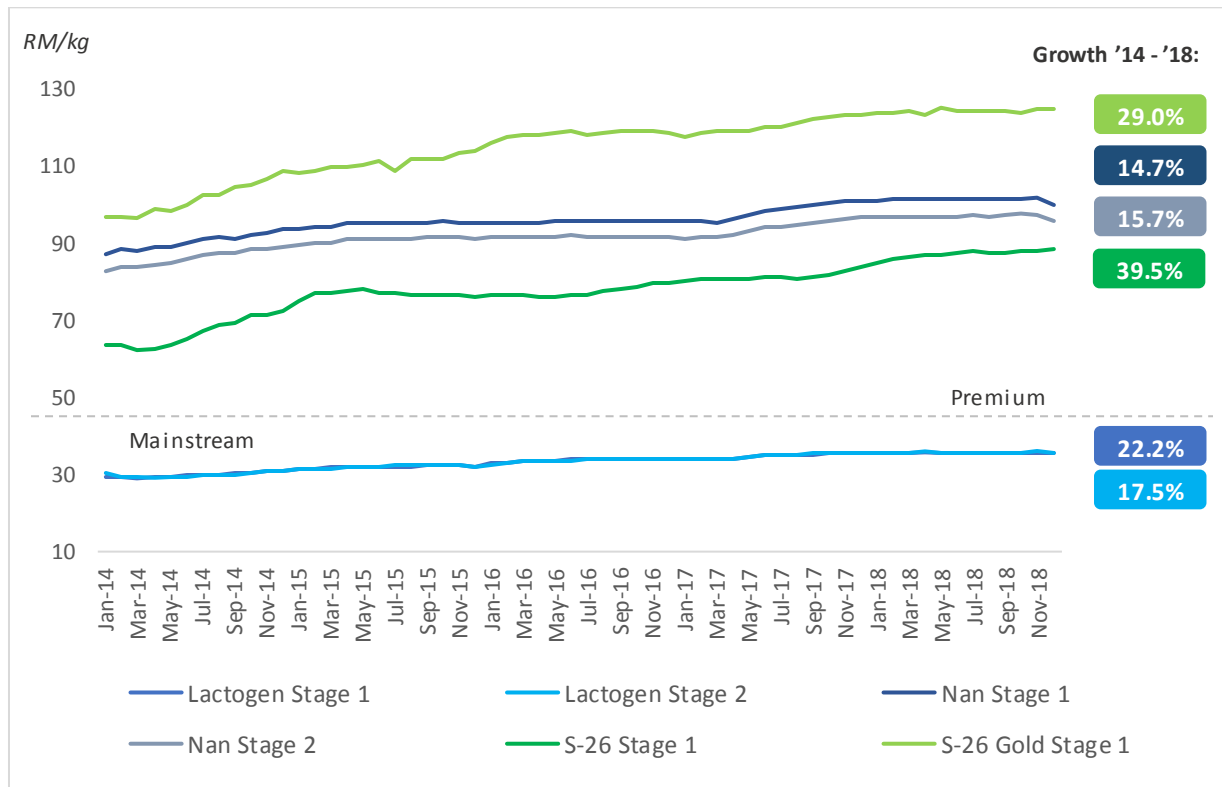
Figure 82: Average Retail Prices of Stage 2 Formula



Source: Euromonitor

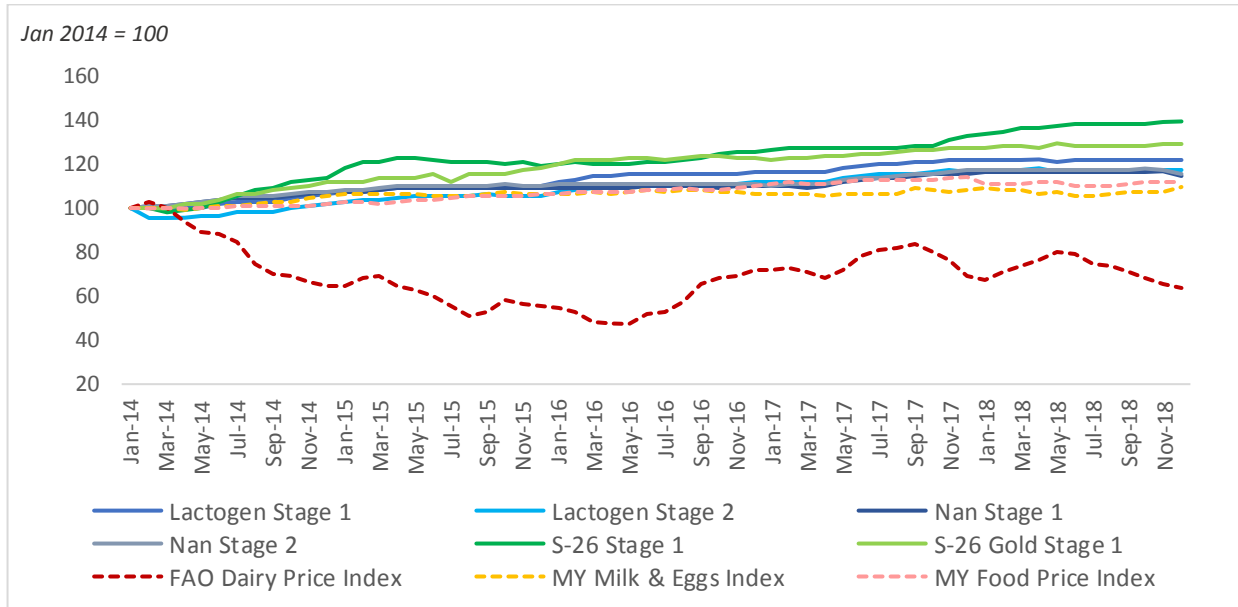
Based on the figure below, analysis on the pricing trend of selected infant formula brands have shown that the prices of infant formula have been growing consistently over the years. The price increase over the four years period varies between brands, growing at least by 15%. Meanwhile, in comparison to the local price index, the price indices of most of these infant formula brands are slightly higher than the local food price indices over the last few years. Besides that, Malaysia’s milk prices, including the selected infant formula have been much higher compared to the global dairy prices. Given the high level of importation of dairy ingredients and infant formula, the divergence of price trajectories between Malaysia and the global dairy prices provide fertile ground for further research and investigation.

Figure 83: Average Retail Price of Selected Infant Formula



Source: Majlis Harga Barangan Negara (MHBN)

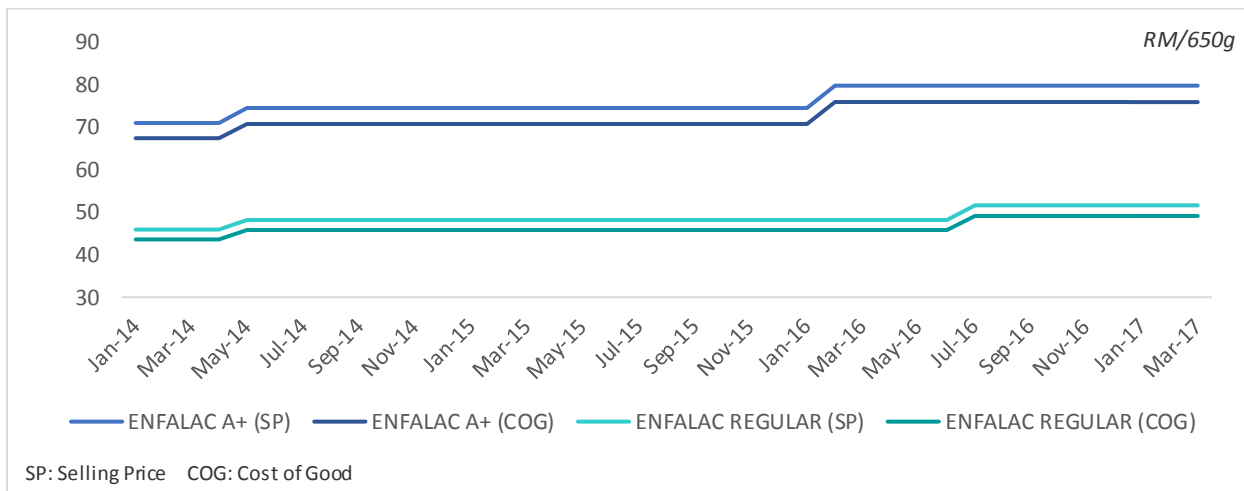
Figure 84: Price Index of Selected Infant Formula



Source: MyCC Analysis based on data from Majlis Harga Barangan Negara (MHBN) and Department of Statistics Malaysia (DOSM)

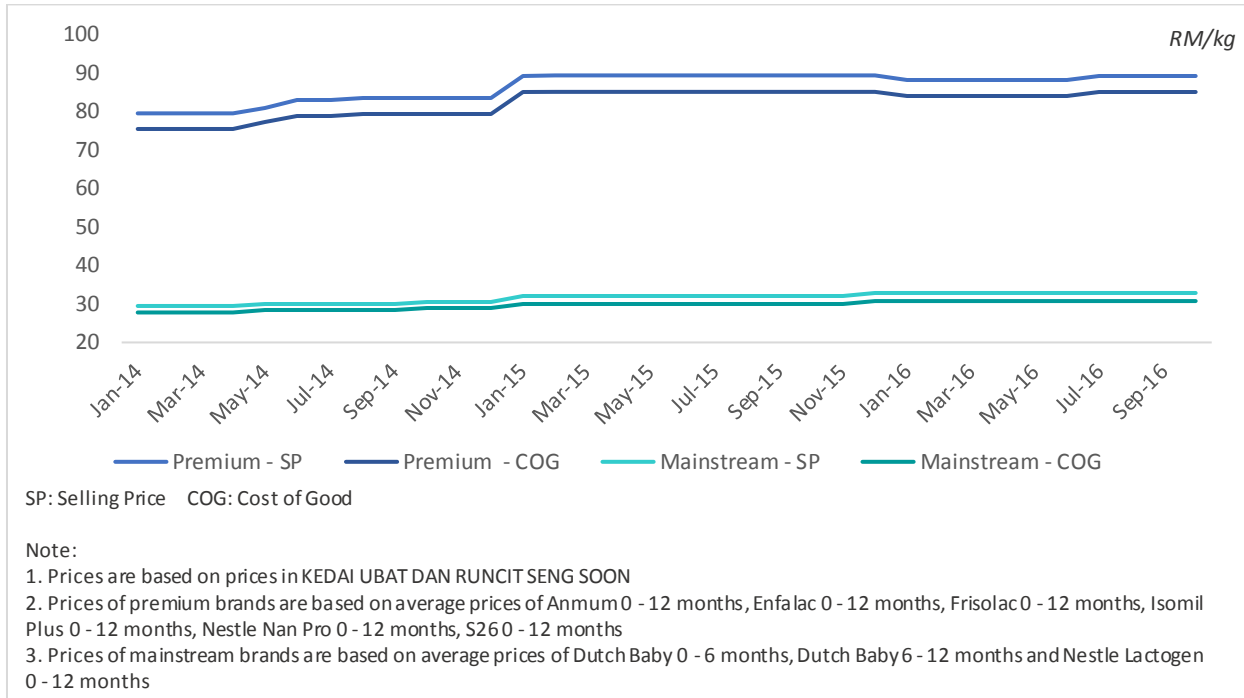
Analysis on the pricing trend of selected infant formula brands supplied by a key distributor, a modern retailer and a Chinese medicinal store have revealed that prices are generally stable and tend to increase in tandem with the cost of good. Based on the figures below, it is apparent that the increase in selling prices by retailers and distributors corresponded to the increase in the cost of infant formula.

Figure 85: Selling Price and Cost of Good of a Selected Brand by DKSH



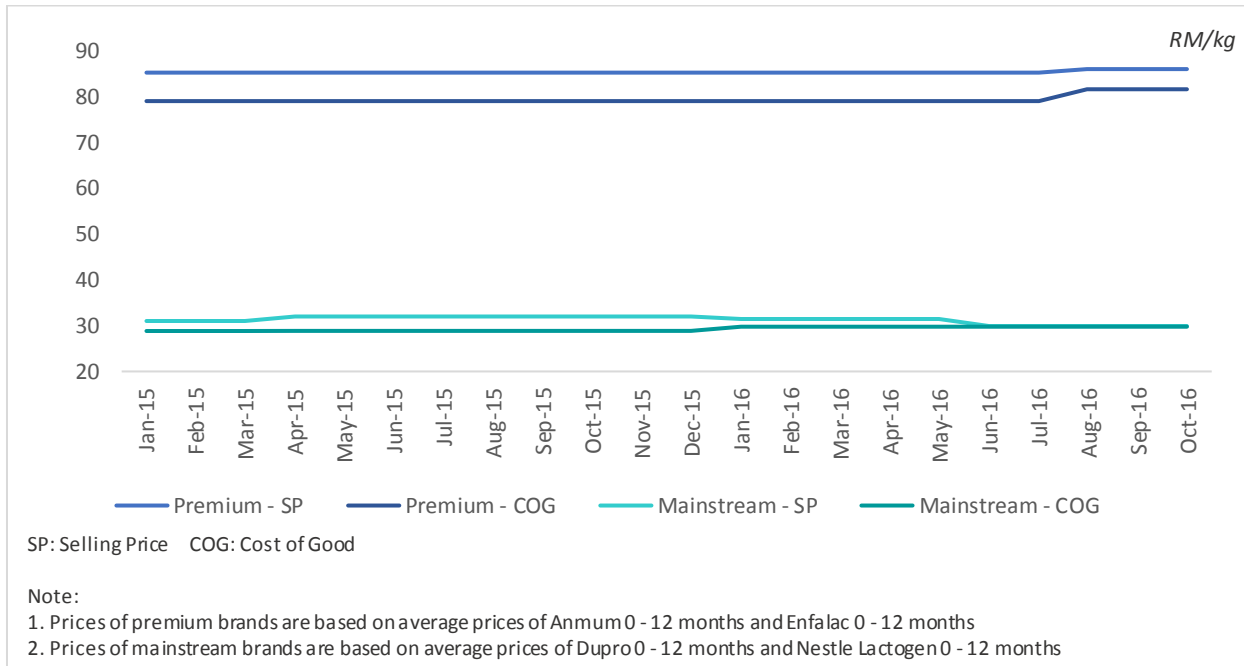
Source: MyCC Analysis based on data from Malaysia Competition Commission (MyCC)

Figure 86: Selling Price and Cost of Good of Selected Brands in a Chinese Medicinal Store



Source: MyCC Analysis based on data from Malaysia Competition Commission (MyCC)

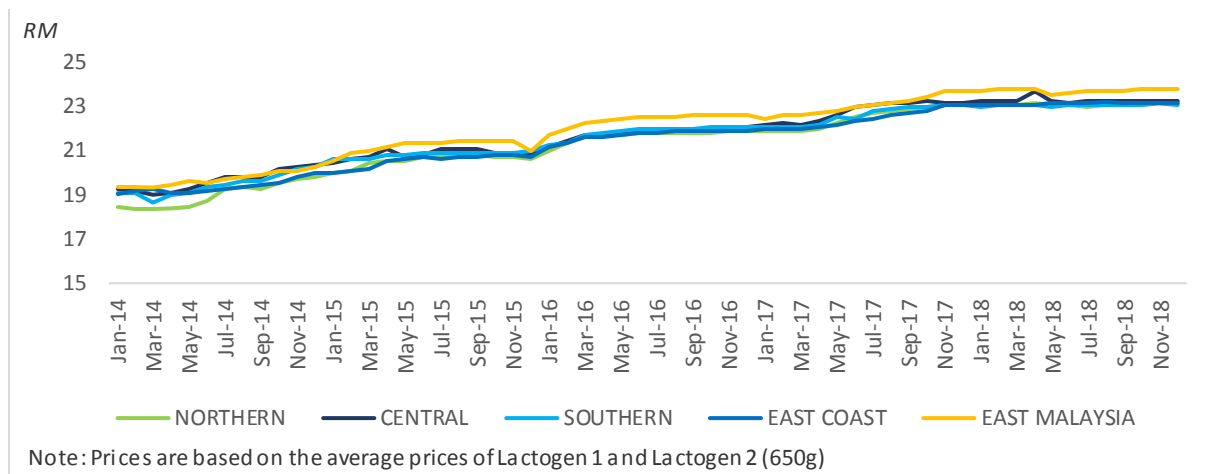
Figure 87: Selling Price and Cost of Good of Selected Brands in NSK



Source: MyCC Analysis based on data from Malaysia Competition Commission (MyCC)

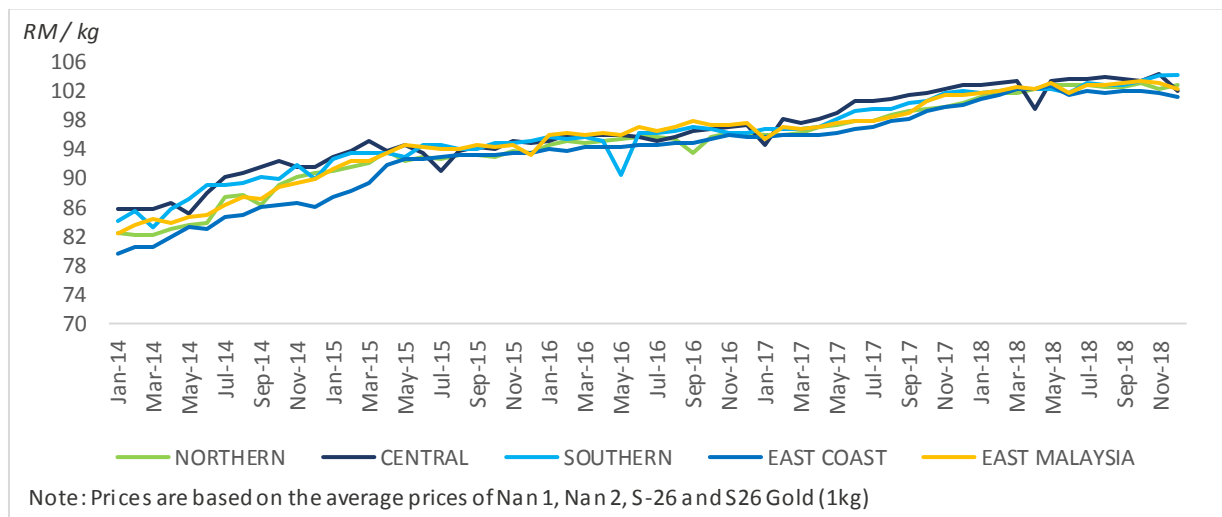
In terms of geography, the prices of a selected mainstream brand are observed to be higher in East Malaysia in comparison to Peninsular Malaysia, differing on average by RM0.50 to RM0.60. Although the RRP of infant formula is standard across the country and manufacturers generally supply their products at the same prices across Malaysia, the associated transportation and logistics cost from Peninsular Malaysia to East Malaysia may have attributed to the higher mark up by distributors and retailers in East Malaysia. Meanwhile, the average prices of selected premium infant formula are more consistent across the different regions. The difference in price mark up between the mainstream and premium brands in East Malaysia could be due to the fact that mainstream brands are more highly demanded due to the lower purchasing power in these regions. Premium brands are generally demanded by consumers with higher purchasing power in the key cities and may not incur additional transportation cost in comparison to mainstream brands which need to be supplied to the less assessable areas such as the rural regions.

Figure 88: Average Retail Price of Selected Mainstream Infant Formula



Source: Majlis Harga Barangan Negara (MHBN)

Figure 89: Average Retail Price of Selected Premium Infant Formula



Source: *Majlis Harga Barangan Negara (MHBN)*

5.6.2 Purchasing Power Parity (PPP) Analysis

5.6.2.1 PPP for Premium Infant Formula

Premium infant formula from selected countries were benchmarked against Malaysia at the Purchasing Power Parity (PPP) level. For this market review, the selected countries include: Australia, Singapore, Indonesia, Philippines and Thailand.

In Table 49, Column 2 shows the price of a 900g premium infant formula, across the five countries' currencies, for the week of 29th April 2019. To illustrate further, the PPP between Australia and Malaysia for a 900g premium infant formula is the price paid in Australia divided by the price paid in Malaysia ($28.99/114.99 = 0.25$), which means a consumer pays AUD \$0.25 to make a purchase in Australia that would cost MYR 1.00 in Malaysia.

Column 3 provides the PPPs of other countries to Malaysia. The price level differences are measured by a price level index (column 6), which is the ratio of PPP (Column 3) against the exchange rate (Column 4). The deviation from the index 1.00 signifies if it is cheaper or more expensive in the country. For example, in Philippines, the price level index was 0.84 ($10.52/12.50$), which also translate to 16% lower prices in Philippines. In Singapore on the other hand, the price level index was 1.47, translating to 47% higher price in Singapore relative to Malaysia.

Overall, it appears that 900 g premium infant formula is cheaper in Australia, Philippines and Thailand. Singapore is the only country with higher price, +47% against Malaysia, while Indonesians appear to be paying the same pricing levels as Malaysians for premium infant formula.

Table 49: PPP for Premium Infant Formula

| Countries | Currency | 900g premium infant formula in national currency, week of 29 April 2019 | PPP to MYR | Exchange rate, week of 29 April 2019 | MYR cost of premium infant formula | Price level index |
|-----------------|------------|---|-------------|--------------------------------------|------------------------------------|-------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Australia | AUD | 28.99 | 0.25 | 0.34 | 85.26 | 0.74 |
| Singapore | SGD | 55.90 | 0.49 | 0.33 | 169.39 | 1.47 |
| Indonesia | IDR | 397,125 | 3,453.56 | 3,444.19 | 115.30 | 1.00 |
| Philippines | PHP | 1,210 | 10.52 | 12.50 | 96.80 | 0.84 |
| Thailand | THB | 840 | 7.30 | 7.70 | 109.09 | 0.95 |
| Malaysia | MYR | 114.99 | 1.00 | 1.00 | 114.99 | 1.00 |

5.6.2.2 PPP for Mainstream Infant Formula

Mainstream infant formula from selected countries were benchmarked against Malaysia at the Purchasing Power Parity (PPP) level. For this market review, the selected countries include: Australia, Singapore, Indonesia, Philippines and Thailand.

In Table 50, Column 2 shows the price of a 900g mainstream infant formula, across the five countries' currencies, for the week of 29th April 2019. To illustrate further, the PPP between Australia and Malaysia for a 900g mainstream infant formula is the price paid in Australia divided by the price paid in Malaysia ($14.99/30.50 = 0.49$), which means a consumer pays AUD \$0.49 to make a purchase in Australia that would cost MYR 1.00 in Malaysia.

Column 3 provides the PPPs of other countries to Malaysia. The price level differences are measured by a price level index (column 6), which is the ratio of PPP (Column 3) against the exchange rate (Column 4). The deviation from the index 1.00 signifies if it is cheaper or more expensive in the country. For example, in Singapore, the price level index was 1.68 ($0.55/0.33$), which also translate to 68% higher prices in Singapore. In another example, in Thailand, the price level index was 1.55 ($11.97/7.70$), which also means 55% high prices in Thailand.

Overall, it appears that 900g mainstream infant formula is consistently more expensive across all benchmarked countries. Benchmarked countries are paying between 45% to 68% higher prices compared to Malaysians.

Table 50: PPP for Mainstream Infant Formula

| Countries | Currency | 900g mainstream infant formula in national currency, week of 29 April 2019 | PPP to MYR | Exchange rate, week of 29 April 2019 | MYR cost of mainstream infant formula | Price level index |
|-----------------|------------|--|-------------|--------------------------------------|---------------------------------------|-------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Australia | AUD | 14.99 | 0.49 | 0.34 | 42.83 | 1.45 |
| Singapore | SGD | 16.90 | 0.55 | 0.33 | 51.21 | 1.68 |
| Indonesia | IDR | 173,025 | 5,672.95 | 3,444.19 | 50.74 | 1.65 |
| Philippines | PHP | 579.00 | 18.98 | 12.50 | 45.99 | 1.52 |
| Thailand | THB | 365 | 11.97 | 7.70 | 47.34 | 1.55 |
| Malaysia | MYR | 30.50 | 1.00 | 1.00 | 30.50 | 1.00 |

5.6.3 Cost Factors and Margin

Within the infant formula sector, manufacturers incur the highest cost within the supply chain. The table below highlights the key cost factors that influence the pricing of infant formula at different levels of the supply chain.

Table 51: Key Cost Factors

| Manufacturer | Importer | Distributor | Retailer |
|---|---|---|---|
| <ul style="list-style-type: none"> Raw materials and ingredients Research & Development (R&D) Packaging Transportation and logistics Plant / machinery Regulatory compliances and licensing Marketing (mostly on package design) | <ul style="list-style-type: none"> Transportation and logistics Warehousing Regulatory compliances and licensing | <ul style="list-style-type: none"> Transportation and logistics Warehousing Labour | <ul style="list-style-type: none"> Transportation and logistics Warehousing Labour |

The production of infant formula involves various ingredients, which includes dairy ingredients (e.g. whey protein, skimmed milk) and non-dairy ingredients such as nutrients and minerals. As discussed in the previous sections, manufacturers rely heavily on the import of raw materials from countries such as Australia, New Zealand and Europe due to the lack of milk supply locally. Besides that, the milk used for infant formula must be processed using highly specialized and technical processes to ensure suitability of the milk for infant formula which must adhere to stringent quality standard. Currently, Malaysia only has one plant which has processes and expertise to transform raw milk to the base powder suitable for infant formula. Also, the capacity of the plant is very low and is only capable of producing small quantities of such base powder suitable for formula production. Therefore, the importation of dairy components is necessary to manufacture infant formula in Malaysia. In addition to the dairy ingredients, a lot of the non-dairy components also require specialized manufacturing process which cannot be sourced locally and must be imported. Consequently, the prices of infant formula are heavily influenced by foreign exchange as well as supply availability and price volatility of raw materials which make up the highest cost of production, often more than 50%. Most manufacturers also import packaged infant formula from sister companies and this may result in the increase of local prices resulting from foreign exchange and depreciation of local currency.




While the importation of infant formula is exempted from import tariffs, liquid milk is subjected to an in and out-quota tariff ranging from 0% to 50% (refer to *Section 2.3.2.4.4 Import Tariff* for more information on the tariff rate). However, the impact of import tariff on the prices of infant formula is deemed minimal as most of the dairy ingredients are imported and exempted from the tariff. Besides raw materials and foreign exchange, product innovation also emerge as a key cost factor for infant

formula as manufacturers tend to undertake R&D and this raises the unit prices due to increased production cost as well as additional ingredients in the improvised formula.

In terms of pricing, manufacturers determine the ‘Recommended Retail Price’ (RRP) which serve as guidelines for retailers to price the products accordingly. The RRP is usually determined by manufacturer’s head office (HQ) and may vary by country as it takes into account the potential margin for distributors and retailers for respective countries. Although it is not compulsory for retailers to price their infant formula based on the RRP, most retailers generally set the prices below or at the recommended price. As such, the retail selling price (RSP) is determined by the retailers based on the margin intended for respective infant formula brands or products.

The profit margin of infant formula manufacturers varies between brands and usually range between 15 – 20%. Meanwhile, retailer’s margin for infant formula ranges between 2 – 10% based on the type of retailers and product velocity. The margin among Chinese medial stores are usually lower, mostly ranging between 2% to 6% while that of modern retailers can go up to 10%. The margin is also dependent on the product velocity, whereby fast-moving products usually have lower margin whereas slow moving products have higher margin.

*Table 52: Margin across the Supply Chain**

| MANUFACTURER  | DISTRIBUTOR  | RETAILER  |
|---|--|---|
| 15 - 20% | 5 - 10% | 2% - 10% |

Source: MyCC Analysis based on various sources (Secondary research, interview with industry players)

* Due to the sensitivity of the information, the figures reported are based on estimation triangulated from limited information across different sources, including proxy based on global industry reports for manufacturers

5.7 Key Takeaways

5.7.1 Areas of Concerns

Regulatory-Driven Issues

1. High barriers to entry and dominance of multinational companies

The infant formula industry has a high barrier to entry, mainly due to stringent regulatory requirements as the production and composition of infant formula are strictly regulated, and manufacturers are required to adhere to established guidelines set by government agencies. This leaves the market dominated by established players that are able to meet the stipulated standards such as the multinational companies.

2. Information asymmetry on the nutritional requirements of infant formula and increasing trend towards premiumisation

Although both mainstream and premium brands are available in the market, most of the brands offered by these players are premium brands. As the Code of Ethics prohibits market players across the supply chain from engaging in any marketing or promotional activities for infant formula, manufacturers mainly compete on non-price measures, particularly on the basis of product innovation by placing new or improved formulation in the market with a variety of health claims. Although all infant formula products which are sold in the country are required to meet the minimum nutrient composition specified in the food regulation, most parents are generally unaware of this and perceive that additional ingredients are better and essential. PPP analysis has also revealed that the price of mainstream brands in Malaysia is relatively cheaper than selected benchmarked countries, while it is to be noted that the price of premium brand is mostly cheaper in these countries.⁸⁵

3. Spill over effect from cross promotion of infant formula

Cross-promotion is a form of marketing promotion whereby customers of one product or service are targeted with promotion of a related product.⁸⁶ This can include packaging, branding and labelling of a product to closely resemble that of another and it can also refer to use of particular promotional activities for one product to promote another product.⁸⁷ The product segmentation as stated in Table 46 could lead to confusion to consumers due to overlapping product classification. Besides that, while the marketing and promotional activities are strictly prohibited for formula targeted at infants aged 0 to 12 months (Stage 1 and Stage 2 formula), market players are allowed to undertake such initiatives for Stage 3 formula. As such, market players may still engage in cross promotion by leveraging on the marketing of Stage 3 formula to indirectly promote infant formula. This is mainly done through similar branding elements (e.g. labelling, packaging design, mascot, slogan, benefit

⁸⁵ Refer to table 49 and 50

⁸⁶ World Health Organization. WHO Guidance on Ending the Inappropriate Promotion of Foods for Infants and Young Children

⁸⁷ Ibid

icons and color scheme) and direct contact of company representatives with mothers, especially expectant mothers. These may create confusion among consumers and reduce the effectiveness of restrictions on infant formula advertising.

4. High dependence on importation

The local infant formula sector is highly dependent on importation as most of the key players import their products from sister companies. Only two (2) of the key players⁸⁸ manufacture infant formula locally while also importing certain brands. Besides that, infant formula which are manufactured locally are also highly reliant on the import of raw materials, especially dairy ingredients. This is mainly due to insufficient domestic supply of milk and lack of specialized manufacturing plant producing base powder suitable for infant formula in the country. In addition to the dairy ingredients, a lot of the non-dairy components also require specialized manufacturing process which cannot be sourced locally and must be imported. Consequently, the prices of infant formula are highly influenced by foreign exchange, supply availability and price volatility of raw materials which often make up the highest cost of production.

⁸⁸Danone and Dutch Lady

5.7.2 Potential Anti-Competitive Practices

There is currently no significant indication of anti-competition concerns or conducts within the infant formula sector in Malaysia. However, there are certain shortcomings and areas for improvement within the sector, as follows:

1. Influencing power of key players in price determination

Although the infant formula industry is deemed competitive, the market is currently dominated by 7 multinational companies. While market dominance does not directly imply anti-competitive behavior, the abuse of dominance to protect, enhance or perpetuate the dominant position is considered anti-competitive. With regards to that, there was no abuse of dominance observed in the infant formula market in Malaysia. Nevertheless, the dominance of multinational companies gives them some influencing power to determine the prices of infant formula in the market, although the final selling price to consumers is decided by the retailers. As there are currently no regulations for reviewing the price increases to justify the extent of mark-up of the improved formulation, some manufacturers may leverage on this situation to increase the prices disproportionately in order to increase their profit margin.

2. Potential partnership with private health care providers

As the market players are bound by strict regulations and the Code of Ethics, communications pertaining to infant formula are usually being undertaken through private healthcare setting. This is done solely on the basis of factual and scientific information through dedicated sales team, which is permissible under the Code of Ethics. The industry is generally compliant to the Code of Ethics, however, there are certain instances whereby the code is not adhered. Some industry players may leverage on this situation to undertake partnership with certain healthcare providers in the private sector to promote their products even though such practices are not in line with the Code of Ethics, e.g. distribution of free samples or gifts and sponsorships. As such, these conducts of certain industry players and healthcare professionals may impact the brand preference and prohibition on marketing activities.

6. MARKET ASSESSMENT: VEGETABLES (SAWI & ROUND CABBAGE)

RELEVANT PRODUCT MARKET

- Mustard leaf (*sawi*) and round cabbage (*kubis bulat*) are selected for this market review due to its significance among the vegetable crops and the existing competition issues identified in vegetables market.

MARKET CHARACTERISTICS

- Production of mustard leaf (*sawi*) has halved by 2017 since its peak in 2014, while similar pattern is also observed for the production of round cabbage (*kubis bulat*) where it has largely reduced to only 78,000 tonnes in 2017 as compared to its peak in 2014.
- The SSR for mustard leaf is close to 100% while the SSR for round cabbage is low at only 42% in 2017, making Malaysia more dependent on import of round cabbages. Most of the imported cabbages are from China (~90%), followed by Indonesia (~10%).
- Bargaining power of farmers is generally low due to the dependence on middlemen, and limited price transparency. Their dependency on middlemen is due to the financial support provided by the middlemen in assisting them to purchase the input required for the production and to overcome any uncertainties during the production period.
- The distribution chain for vegetables in Malaysia is primarily dominated by wholesalers given their understanding of the majority of the market volume. Most of the supply in the market are distributed through the key distribution hubs in central region, PBKL, providing the wholesalers the ability to influence the market price. Local markets in other states may also refer to the wholesale price set in PBKL in determining their selling price (*refer to Appendix 1 for more information*).
- The price of mustard leaf (*sawi*) has increased by about 6% per annum on average between 2008 to 2018 across the level of supply chain. Likewise, the price of round cabbage has also seen an increasing trend over the years, with the ex-farm price showing lesser growth as compared to other level of supply chain. Overall, the margin for each level of supply chain seems to be consistent across the years.

MARKET PRACTICES/ REGULATORY REQUIREMENTS

- Barriers to entry for importer of round cabbages is moderate due to the requirement of strong financial background required for the importers (i.e. availability of cold rooms/storage/logistics facilities, confirmed source of supply and buyers, as well as the existing track record to renew the quota approved etc.
- Approved permit is required for the import of round cabbages. It is estimated that Malaysia requires about 121,800 metric tonnes of round cabbage to meet the local demand. The size of the quota approved for the importers is determined and fixed on yearly basis. However, there

has been concerns on the lack of clarity of the approval process for AP and unethical practices whereby AP holder are selling/renting their quota.

- The wholesale/retail price is generally dependent on the competitor's pricing, and availability of market supply. Market intermediaries are well connected to one another and are well informed of the prices prevailing in the local and other states' markets. In addition, key wholesalers tend to discuss the market price for vegetables through their own network, i.e. social media, coffee session etc.
- It is identified that modern retailers impose fees such as rebate, sponsorship, penalty, back-margin etc. to their suppliers. Suppliers had to conform to the requirements as modern retailers are one of the key distribution channel to the consumers.

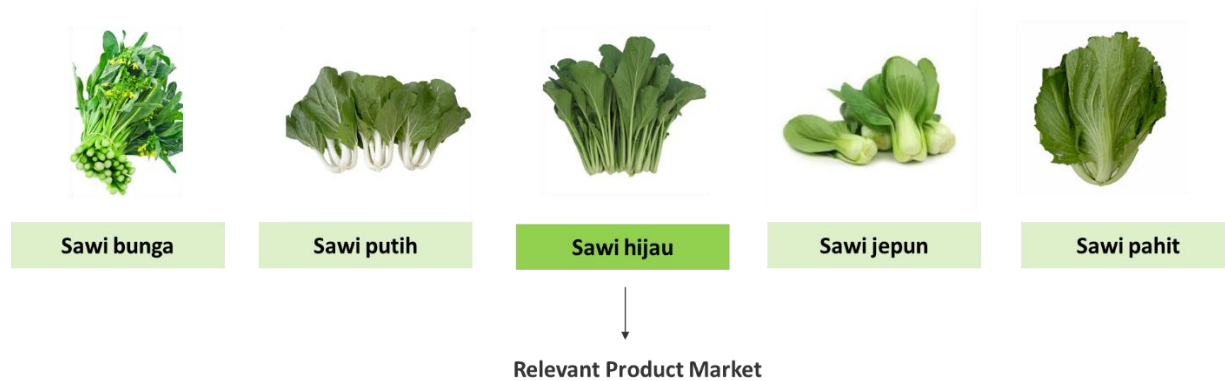
AREAS OF CONCERNS

- Due to the lack of monitoring, there has been an additional layer of third party importer (i.e. AP agent) in the supply chain. Genuine players which did not get the AP quota had to resort to purchasing the quota via third party importer in obtaining its source of supply by incurring agent fee.
- Given the opportunity to ride on the AP holders via agent fee, it opens up the opportunity for foreign incorporated companies, who is vertically integrated to import directly from their own farm in its origin country. This has allowed them to obtain the source of supply at a cheaper cost and are able to reduce the price at the local market to gain market share.
 - Given that these players are the key suppliers of round cabbages in the country, they have a strong influential power to the market pricing. Moreover, they have been engaging in mergers and acquisitions/joint venture with the local players to gain a foothold in Malaysia, which adds competitive pressure to the local players.
- Also, there is a presence of key distribution hub which give rise to geographical advantage in accessing the supply/demand information for the vegetables product, and subsequently provides wholesalers with opportunity to influence the price of the vegetables.
- Given the nature of close connection between the market players and frequent interaction on prices, it might lead to potential concerted practice where companies collectively set a symmetric base price for the vegetable products without having a contract, arrangement or practical cooperation.
- The common practices by modern retailers in terms of the additional fees have added extra costs to the suppliers and they have to include these costs into the selling price of their products to the modern retailers to cover their cost of business, which subsequently passed on to the consumers.

6.1 Relevant Product Category

For the purpose of this market review, mustard leaf (*sawi*) and round cabbage would be the focus.

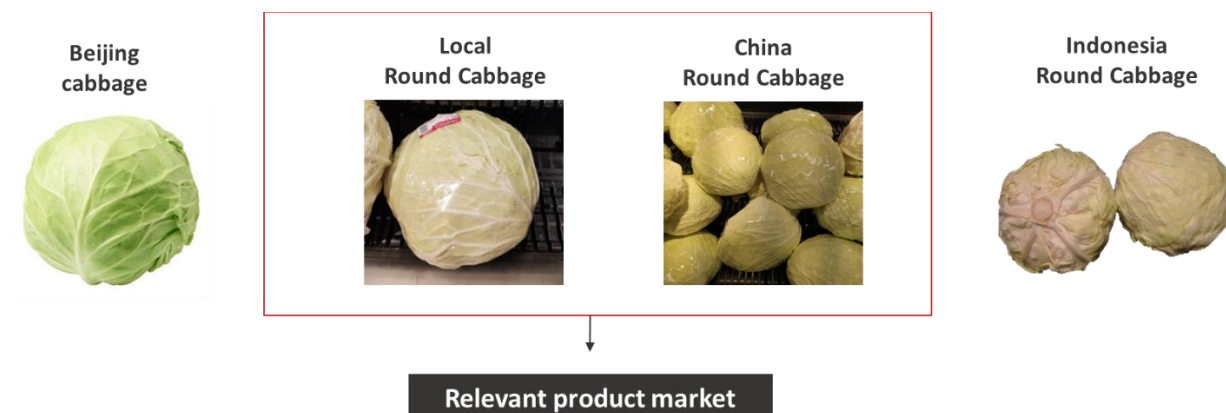
There are 5 different mustard leaf (*sawi*) – *sawi hijau*, *sawi bunga*, *sawi putih*, *sawi jepun* and *sawi pahit*. It is more suitable to be planted in areas with high amount of rainfall and within temperate of 23 to 35 celsius.



On the other hand, round cabbages (*kubis bulat*) can be classified into three main grades (grade premium, grade 1, and grade 2) according to their characteristics and conditions.

Imported cabbages are brought to Malaysia due to the limited supply in the market. It can be considered as the substitute of local cabbages although both are from different species. Local cabbages yield better quality (softer texture) as compared to imported cabbages. Meanwhile, imported round cabbages also served as an additional purchasing option for the consumers in Malaysia to pick the round cabbages that are preferred by them based on taste or purchasing power.

There are two types of round cabbages imported from China and Indonesia that are similar to the variety available in Malaysia, as shown below:



Mustard leaf (*Sawi hijau*) and round cabbages (*kubis bulat*) has been selected for the market review due to it being one of the highly consumed products.

6.2 Sector Overview

Vegetables subsector contributed to 7.3% of the agriculture sector's total GDP in 2017. The vegetables subsector can be further divided into imported vegetables, highland vegetables and lowland vegetables. Total production of vegetables in 2017 was close to 1mil tonnes. In total, there were 43,733 registered farmers for vegetables in 2017, of which about 55% of the farmers were located in Pahang and Johor. Majority of the establishments (>77%) within the crops sub-sector are small and micro establishments, while large and medium establishments made up of 14% and 9% of the total establishments respectively.

6.3 Regulatory/Policy Landscape

The following are some of the key government policies and/or regulatory requirements that are affecting the vegetables sub-sectors and the products covered in the scope of study:

6.3.1 Festive Season Controlled Price

Similar to the previous food products such as beef and indian mackerel (*ikan kembung*), there are price ceiling set for the vegetables products. For vegetables, mustard leaf (*Sawi*) is not a price-regulated item under the SHMMP, but the prices of imported round cabbages is controlled during Hari Raya Puasa, Chinese New Year and Hari Gawai / Kaamatan period. Some players opine that the price ceiling initiative tends to benefit the retailers as they obtain the supply directly from the farmers (i.e. same source of suppliers for wholesalers) and are able to sell at a higher retail price. Specifically, when the price ceiling of cabbages is not favourable to the players during the festive period, certain players will resort to not selling the vegetables to protect their margin or undertake informal trading with their buyers. Since

there is no export restriction during the festive period, some farmers choose to export the vegetables to neighboring countries as it provides better yield (profit margin) to the farmers.

6.3.2 Grading, Packaging and Labelling of Agricultural Produce (GPL)

GPL regulations is enacted to protect the consumer rights by providing consumer a reference in identifying and comparing prices based on a product's grade and source of production.

Under the FAMA (Grading, Packaging and Labelling of Agricultural Produce) Regulations, all imported agricultural fresh produce must be accompanied by Certificate of Conformity issued and verified by MAQIS, except for Sabah and Sarawak, which is under the jurisdiction of FAMA.

The grading would affect the final price of the products as the price is set differently based on the grades. However, there were incidents happened whereby traders mislabeled the products and charge higher price even though the products do not match the grade stated. This may have created an unfair pricing that is unfavourable to the consumers.

Locally, all the traders/distributors are required to label the agricultural products sold in the market including product name, grade, size, source of production and price. Although there are some concerns over increase responsibility which add cost to the business, the players remain supportive of the initiative.

6.3.3 Import and Approved Permit

The effort to control import and export quantity are taken to ensure adequate supply in the domestic market, especially during peak demand seasons, and to help prevent dumping in local markets during certain seasons. Under the Vegetable Marketing Regulations 1975, any export to overseas within the enforcement areas (i.e. selected locations in Johor) would be subjected to vegetables license issued by FAMA.

There is no specific limitation in terms of obtaining import license except that there would be a quota set for the imported cabbages. The amount of round cabbages (*kubis bulat*) imported is stated in the import licenses where importer is required to apply for an import license per round of import⁸⁹. MOA and DOA provides AP with an objective to protect the local round cabbage producers and to ensure adequate supply in the market to stabilize the round cabbage price.

Currently, the total quota for imported round cabbage is set at 121,800 metric tonnes per year, with an exception of additional quota during selected festive period depending on the market requirement.⁹⁰ Nonetheless, the size of the quota would be determined and fixed on a yearly basis, and then divided by

⁸⁹ World Trade Organisations; Replies to Questionnaire on Import Licensing Procedures

⁹⁰ Department of Agriculture

monthly basis. DOA estimates the quota based on the historical production trend, export, import, and price trend as well as the consumption pattern (forecasted by population growth & productivity).

Prior to 2014, FAMA used to issue the import quota for cabbages, and since then, DOA has taken over the management of the import quota application. DOA is the administration party (i.e. verification of document) for the application, and the approval is assessed by different committee represented by agencies under MOA. DOA monitors frequently on the non-utilisation of the approved quota. If the players do not utilize at least 90% of their quota for consecutively 3 months, their quota would be terminated but they may re-apply the permit or appeal for their case.

The quantity of the quota for players is determined by various aspects such as the ability of the applicant to purchase (financial standing), source of supply and buyers, availability of cold storage and logistics⁹¹. Moreover, the assessment is based on applicant's ability provide information about their experience in trading the products, trading area, outlets owned by importers, distribution network, handling facilities, etc. This has given a better advantage for the established players with strong financial background to gain access to the quota.

On the other hand, there are key requirements imposed on importers of round cabbages as stated in the below:

- Importers must be registered with DOA and meet the criteria see by DOA (i.e. history of owning/renting cold room for at least one year, contract from supplier/buyer, business records, etc.)⁹²
- A fee of RM15 shall be charged for the issuance of an import permit in respect of a consignment.
- The weight of each package of imported cabbages can be either 10 or 20 kg net each only, although exemptions may be considered.
- All round cabbage imported require Certificate of Conformity from the FAMA GPL Regulations 2008. MAQIS conducts a conformity inspection under this regulation at any inland clearance depot, customs warehouse, licensed warehouse, or premises or any part of any premises managed by the Authority or any competent authority.⁹³ For Sabah and Sarawak, the verification on conformity is conducted by FAMA.
- Approved permit holders are required to utilize 90% of its quota in order to keep a good track record with DOA.

The Certificate of Conformity for fresh vegetables are subjected to inspection fee and other payment as follows⁹⁴:

⁹¹ Ibid

⁹² Syarat-Syarat Permohonan Mengimport *Kubis bulat*, DOA

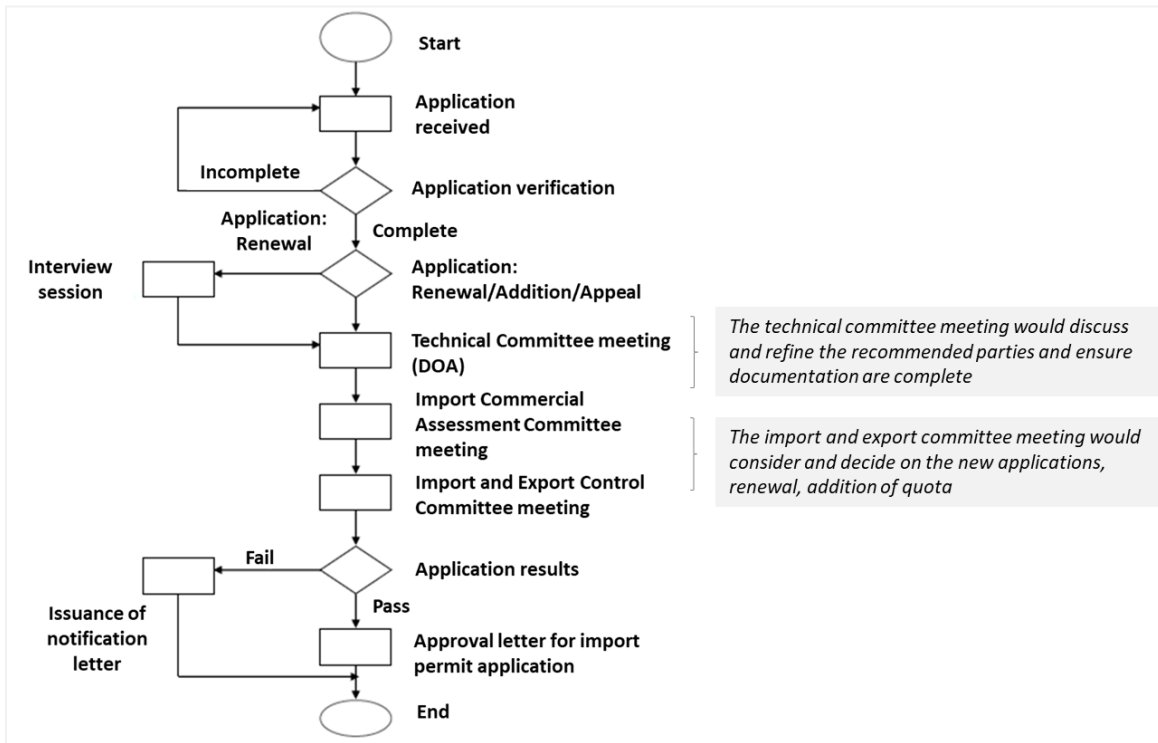
⁹³ FAMA GPL Regulations 2008

⁹⁴ Ibid

| | |
|--|--|
| <p>Notice given to the Authority by the exporter or importer not less than twenty-four (24) hours before the time scheduled for conformity inspection.</p> | <p><u>First 1,000 kg or part thereof</u> Fees on working day: RM1 Fees on weekend/public holiday: RM2</p> <p><u>Every additional 1000 kg or part thereof</u> Fees on working day: RM0.50 Fees on weekend/public holiday: RM1</p> |
| <p>Notice given to the Authority by the exporter or importer in less than twenty-four (24) hours before the time scheduled for conformity inspection.</p> | <p><u>First 1,000 kg or part thereof</u> Fees on working day: RM2 Fees on weekend/public holiday: RM4</p> <p><u>Every additional 1,000 kg or part thereof</u> Fees on working day: RM1 Fees on weekend/public holiday: RM2</p> |
| <p>Additional fee for conformity inspection during non-working hours</p> | <p>Additional fee for conformity RM 5.00 per hour or part thereof inspection during non-working for every authorized officer hours involved</p> |

The below shows the approval process for quota application:

Figure 90: Flowchart for The Import Process of Round Cabbage



Source: Department of Agriculture, DOA

Notably, there are three separate meetings to be held for the import approval process which require the involvement from different committee such as the technical committee, import commercial assessment committee, and import and export control committee. The arrangement of different committee meeting may lengthen the processing time, and thus adding cost to the players eventually.

Summary

Due to the reason where the AP quota holder has to utilize 90% of its quota approved, there has been instances where players with excess quota which sell/rent their quota via agent fee for other importers to import the round cabbages (refer to figure below). This would allow them to retain the access to AP for the subsequent application as one of the assessment criteria of quota approval is based on the track record of quota utilization.

Moreover, the current system does not track whether the approved holders are genuine players involving in the trading of round cabbages. The current assessment is based on the ability of the AP holders to furnish the proof of documentation on the trading experience, rental of cold storage and etc. There is no inspection under MAQIS after the imported round cabbages are cleared at the entry point to determine genuine players are importing the goods. Hence, it has created a layer of third party importer (i.e. AP agent) in the supply chain. Such agent fee could range between RM250 – RM300/ton and the players had to add the cost of agent fee into the total cost of round cabbages.

Figure 91: Examples of AP rental advertisement online



Not to mention, round cabbage is an important range of vegetables for suppliers which supply to hypermarket. Hypermarkets normally require the supplier to supply the whole range of vegetables and when the players are unable to obtain AP, they will have to purchase directly from existing AP holder, or leverage on the AP holder's quota via agent fee.

Besides, there has been instances where the applicants are unaware of the reason why the application is rejected, indicating lack of clarity in the approval process.

6.4 Market Size: Production, Consumption, Import, and Export

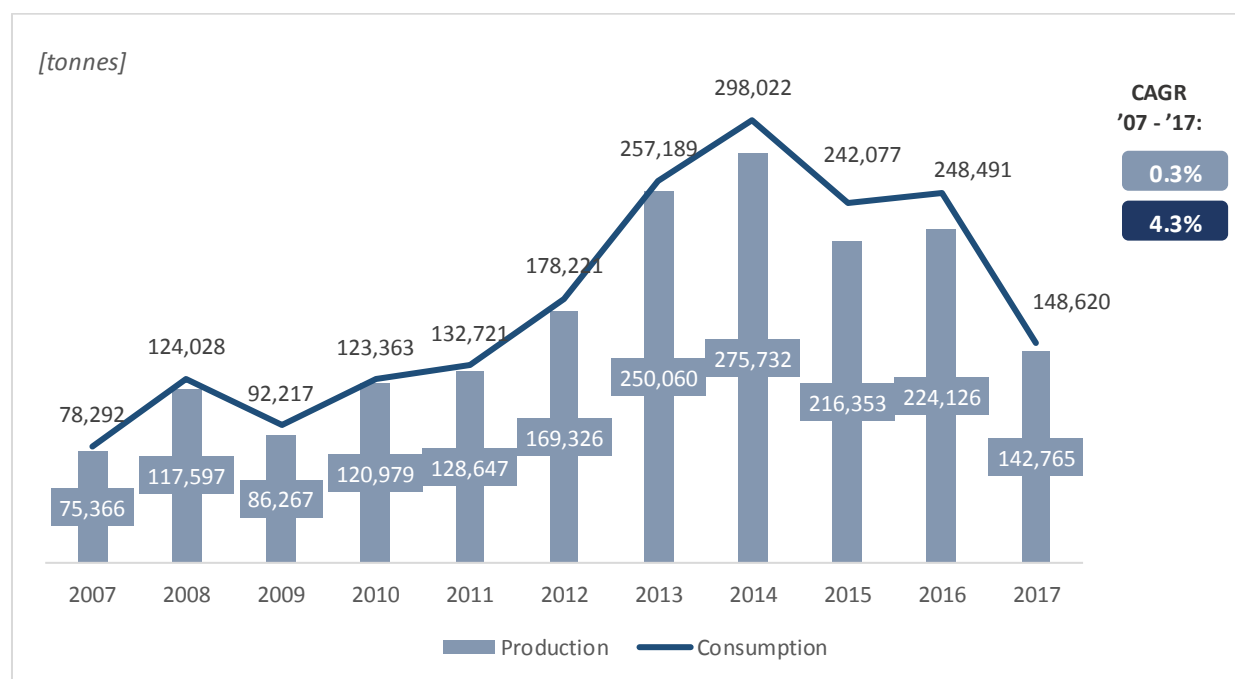
6.4.1 Production and Consumption of Vegetables

6.4.1.1 Mustard leaf (*Sawi*)

In total, Malaysia produced about 150,000 tonnes of mustard leaf (*sawi*) domestically in 2017 and the production is mostly concentrated in Pahang state in 2017. Demand for mustard leaf (*sawi*) is fulfilled by local produce from farms all over the states in Malaysia. Mustard leaf (*sawi*) has a shelf-life of less than 48 hours, therefore players usually source for mustard leaf (*sawi*) from respective states/region.

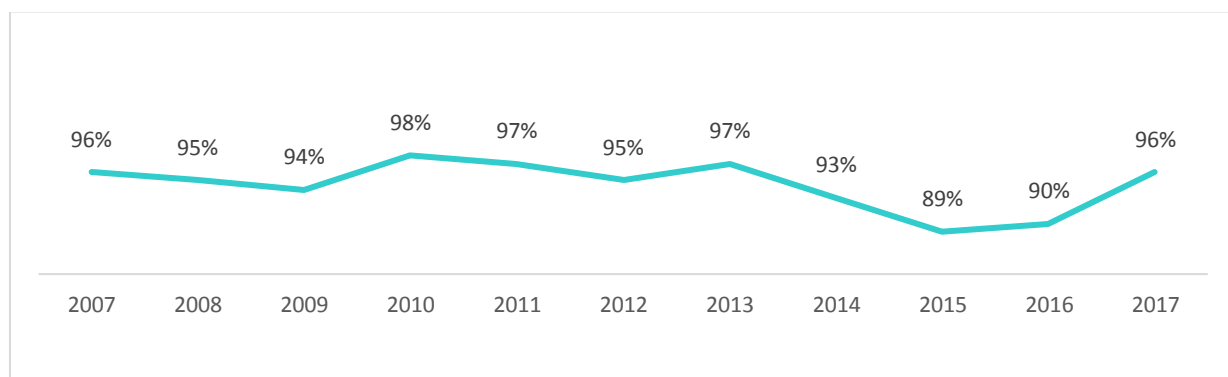
In 2017, per capita consumption of mustard leaf was at 4.38 per kg, a sharp decline of 37% y-o-y. The food crops have experienced a sharp increase of production from about 75,000 tonnes in 2007 to its peak at 275,700 tonnes before declining to about 143,000 tonnes in 2017. Despite the sporadic production pattern, Malaysia is still enjoying relatively stable SSR for mustard leaf (*sawi*) that is close to 100%.

Figure 92: Malaysia's Mustard Leaf (*Sawi*) Production and Consumption Level (2007 – 2017)



Source: Ministry of Agriculture (MOA)

Figure 93: Malaysia's Mustard Leaf (Sawi) Self-Sufficiency Ratio (2007 – 2017)



Source: Ministry of Agriculture (MOA)

The table below shows that the productivity level has contracted tremendously in 2017, with a huge gap in terms of production area (9,528 hectares) against the plantation area (12,088 hectares). This is due to the poor harvest recorded in Pahang. Also, the production value was on a higher end whereby it has achieved more than RM500mil per year on average between 2013 to 2016, with the peak in 2014. It is noted that the production value is significantly higher in Johor as compared to the other states.

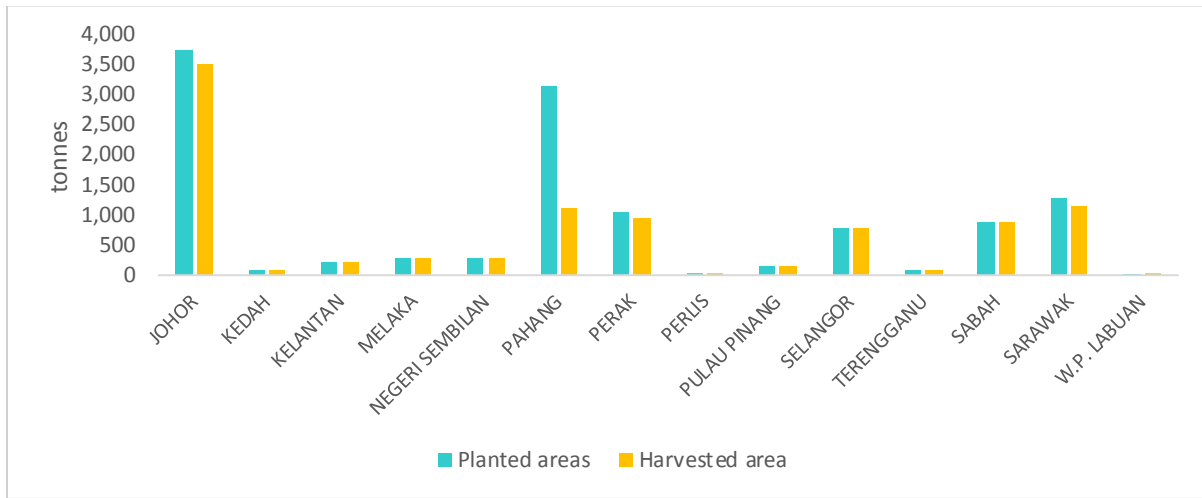
Table 53: Planted Areas, Production Areas, Average Yield, Production Volume and Value of Mustard Leaf (2012 – 2017)

| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---------------------------------------|---------|---------|---------|---------|---------|---------|
| Planted areas (hectare) | 10,495 | 14,579 | 15,997 | 13,493 | 14,443 | 12,088 |
| Production Area (hectare) | 10,242 | 14,291 | 15,523 | 13,190 | 14,098 | 9,528 |
| Average yield (tonne/hectares) | 16.5 | 17.50 | 17.8 | 16.4 | 15.9 | 15 |
| Production (tonnes) | 169,326 | 250,060 | 275,732 | 216,353 | 224,126 | 142,764 |
| Production Value (RM'000)* | 328,492 | 510,122 | 603,854 | 499,776 | 542,385 | 371,188 |

*based on ex-farm price

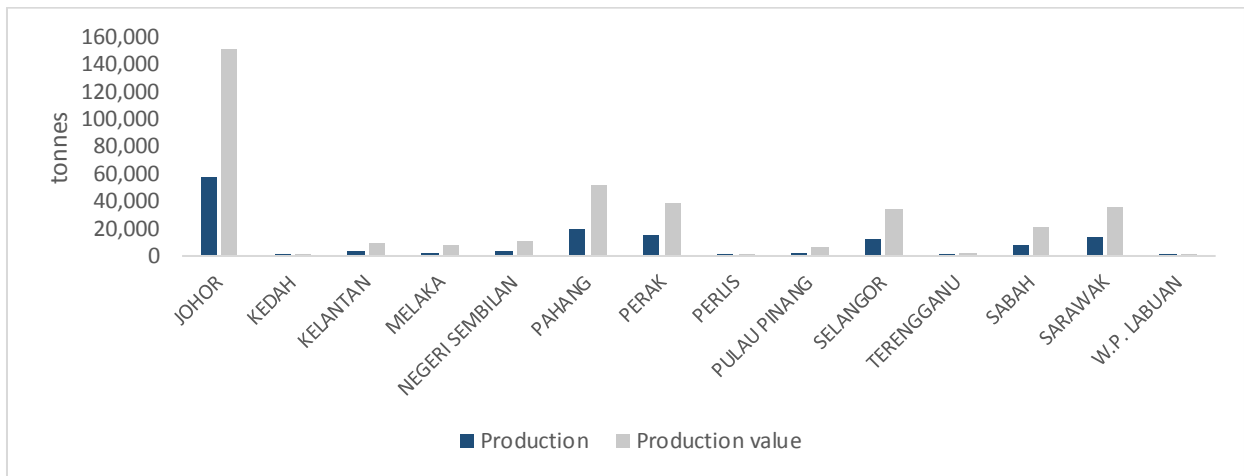
Source: Department of Agriculture, DOA

Figure 94: Planted Vs Harvested Area for Mustard Leaf (Sawi) by States (2017)



Source: Department of Agriculture, DOA

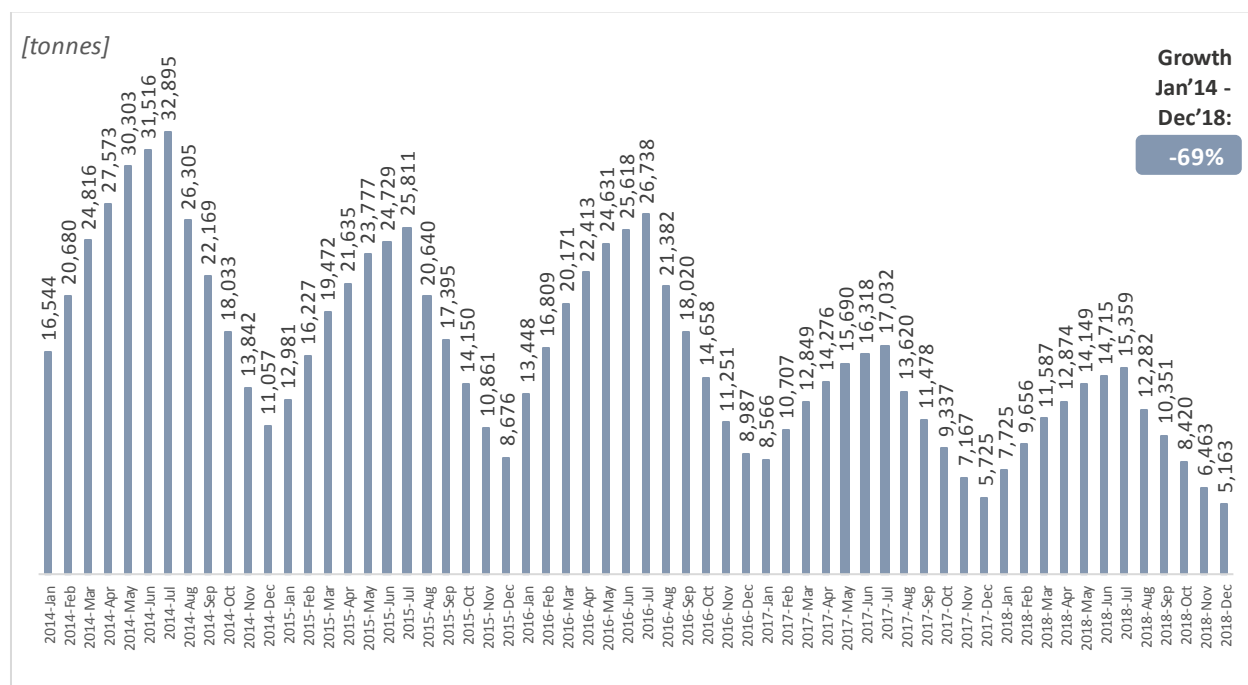
Figure 95: Production Volume Vs Value for Mustard Leaf (Sawi) by States (2017)



Source: Department of Agriculture, DOA

In terms of the monthly production volume trend, a constant production pattern can be observed for mustard leaf (*sawi*) with December or January being the least productive period.

Figure 96: Monthly production Volume of Mustard Leaf (Sawi) (2014– 2018)



Source: Department of Agriculture, DOA

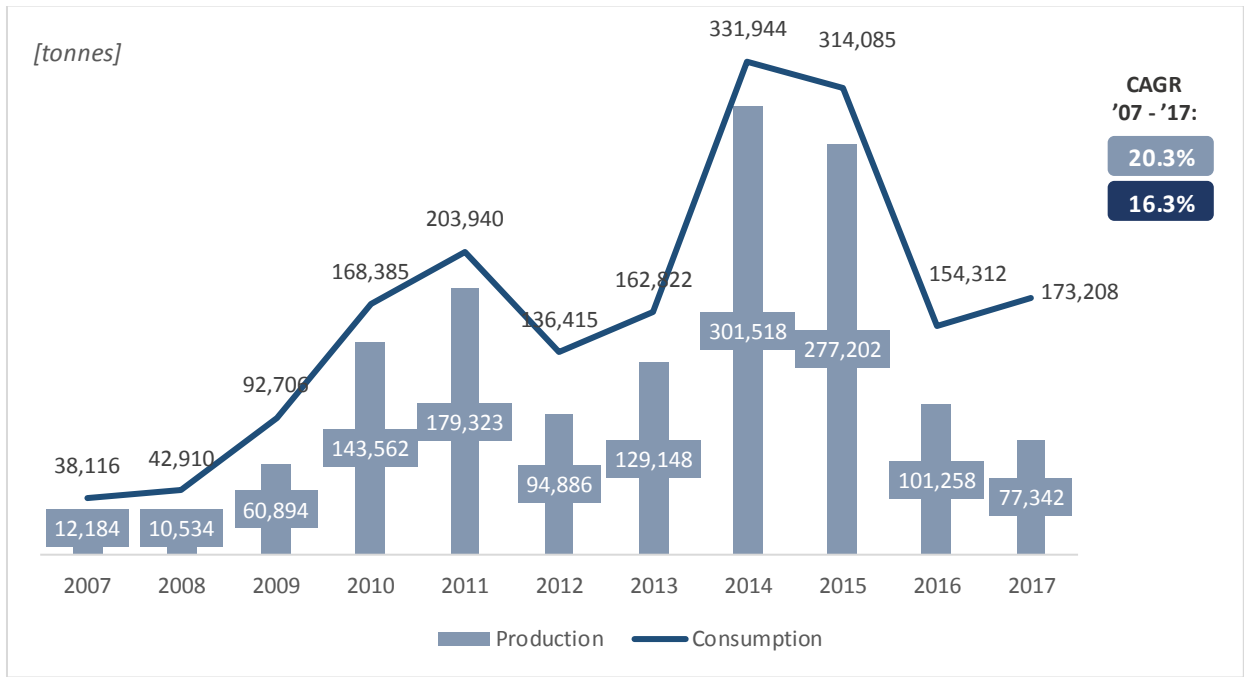
6.4.1.2 Round Cabbage

The key production areas for round cabbage (*kubis bulat*) in Malaysia are Cameron Highlands, Pahang and Kundasang, Sabah as the crops are sensitive to high temperature and are more productive when planted at 800m altitude level. Round cabbages (*kubis bulat*) in the lowland are mostly planted in the Johor state.⁹⁵

Round cabbage's consumption has been fluctuating and it reached 5.41 kg/year in 2017. Despite the high consumption, round cabbage reported a relatively lower SSR (42% in 2017) and is therefore, more dependent on import. This is because there is limited production of cabbage within the country due to high reliance on cool temperature. As such, almost all the locally produced cabbages are from Cameron Highlands, while most of the imported cabbages are from China (~90%), followed by Indonesia (~10%). The production of round cabbage in the country has declined further in 2017 to about 77,000 tonnes, making it a decline of 12% between 2013 to 2017, despite a spike in production in 2014 and 2015.

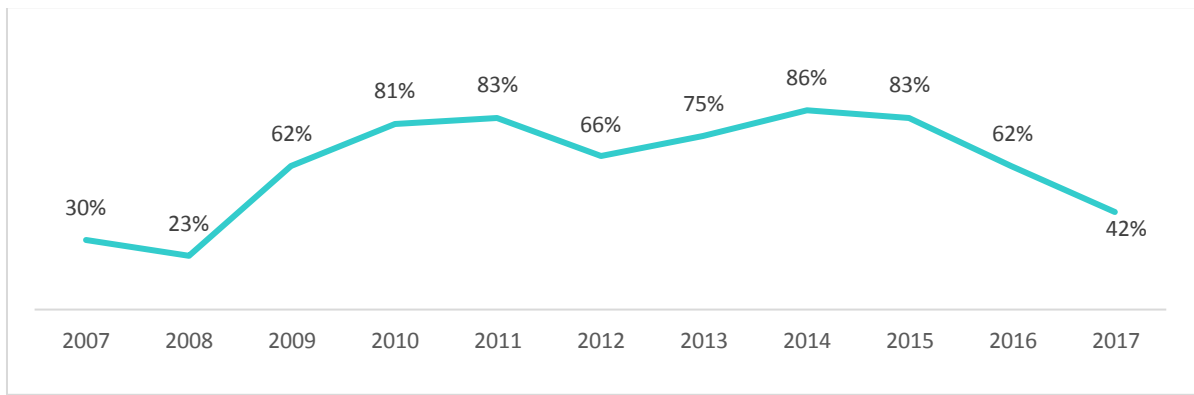
⁹⁵ Federal Agricultural Marketing Authority (FAMA)

Figure 97: Malaysia’s Round Cabbage (*Kubis Bulat*) Production vs Consumption level (2013 - 2017)



Source: Ministry of Agriculture, MOA

Figure 98: Malaysia’s Round Cabbage (*Kubis Bulat*) Self-Sufficiency Ratio (2013 - 2017)



Source: Ministry of Agriculture, MOA

Despite the higher average yield, round cabbages (*kubis bulat*) achieved limited value as compared to mustard leaf (*sawi*). Consistent with mustard leaf (*sawi*), the planted areas have seen a tremendous reduction in 2016 and 2017.

Table 54: Planted Areas, Production Areas, Average Yield, Production Volume and Value of Round Cabbage (Kubis Bulat) (2012 – 2017)

| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---------------------------------------|---------|---------|---------|---------|---------|---------|
| Planted areas (hectare) | 3,528 | 4,845 | 7,937 | 8,720 | 4,045 | 3,418 |
| Production Area (hectare) | 3,522 | 4,837 | 7,935 | 8,261 | 3,774 | 3,279 |
| Average yield (tonne/hectares) | 26.9 | 26.70 | 38 | 33.6 | 26.8 | 23.6 |
| Production (tonnes) | 94,886 | 129,148 | 301,518 | 277,202 | 101,258 | 77,342 |
| Production Value (RM'000) * | 109,119 | 148,520 | 331,670 | 401,943 | 182,265 | 100,545 |

*based on ex-farm price

Source: Department of Agriculture, DOA

Table 55: Production Volume Vs Value for Round Cabbage (Kubis Bulat) By States (2017)

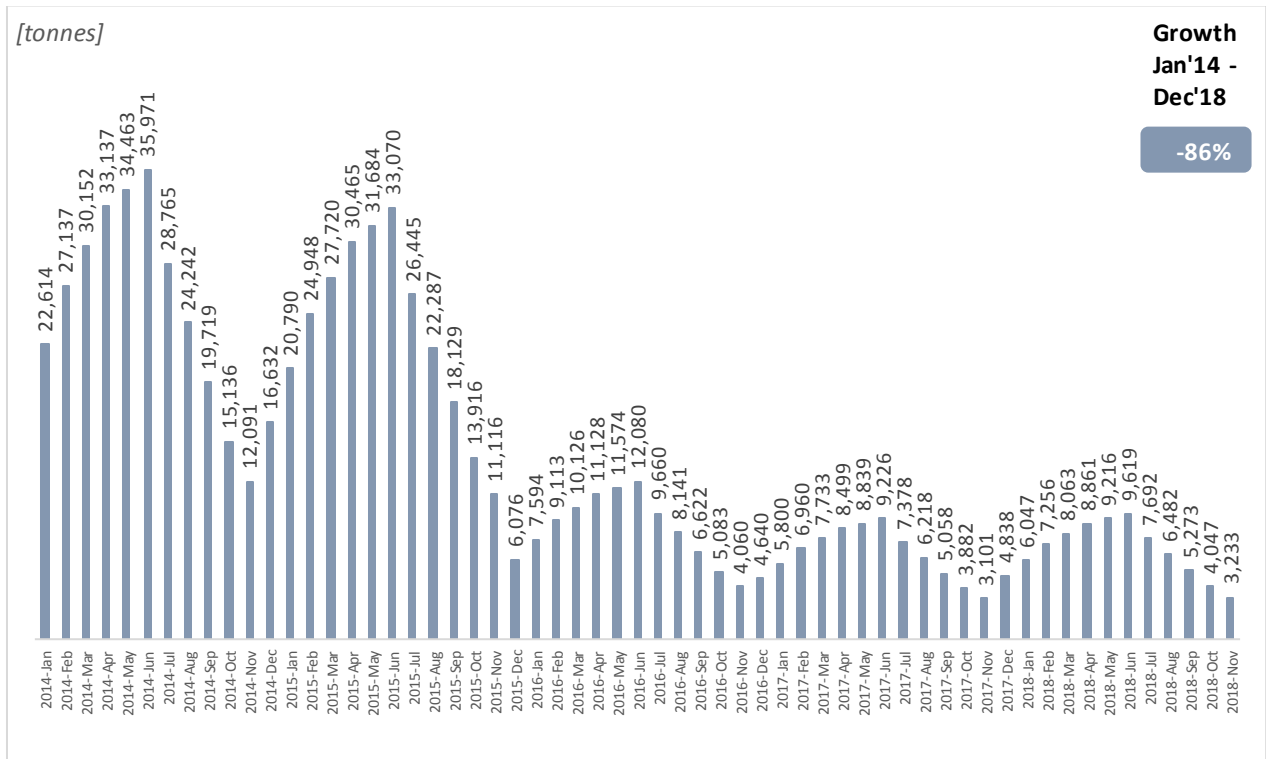
| | Planted areas (ha) | Harvested area (ha) | Production (tonnes) | Production value (RM'000) |
|-----------------|--------------------|---------------------|---------------------|---------------------------|
| Kelantan | 19.54 | 19.05 | 623.78 | 810.91 |
| Negeri Sembilan | 0.70 | 0.70 | 7.00 | 9.10 |
| Pahang | 2,770.29 | 2,632.18 | 68,524.66 | 89,082.05 |
| Perak | 16.90 | 16.90 | 344.61 | 448.00 |
| Pulau Pinang | 0.70 | 0.50 | 9.42 | 12.25 |
| Sabah | 608.30 | 608.3 | 7,826.10 | 10,173.93 |
| Sarawak | 1.17 | 0.94 | 6.60 | 8.58 |
| TOTAL | 3,417.60 | 3,278.57 | 77,342.17 | 100,544.82 |

Source: Department of Agriculture, DOA

In terms of the monthly production volume trend, a constant production pattern can be observed for local round cabbage (*kubis bulat*) with November or December being the least productive period. Notably, there is a sharp reduction of production of round cabbage from 2015 to 2018, mainly due to reduction of planted areas during that period. Among the few reasons of the reduction in planted areas are the shift of production preference of farmers from Cameron Highlands to other higher value crops and the labour shortage issue.⁹⁶

⁹⁶ News articles

Figure 99: Monthly production Volume of Round Cabbage (Kubis Bulat) (2014 – 2018)

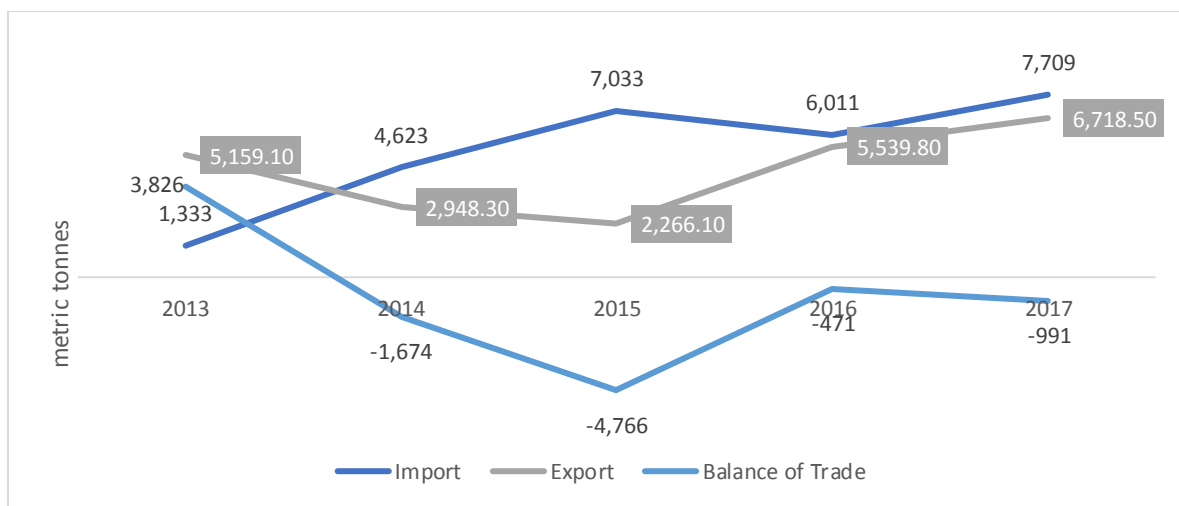


Source: Department of Agriculture, DOA

6.4.2 Import and Export of Vegetables

Due to its higher SSR, Malaysia only imports limited volume of mustard leaf (*sawi*) into Malaysia, at about 7,800 metric tonnes in 2017. The balance of trade stood at only less than 1,000 tonnes in 2017 as the country also export mustard leaf (*sawi*) to other countries.

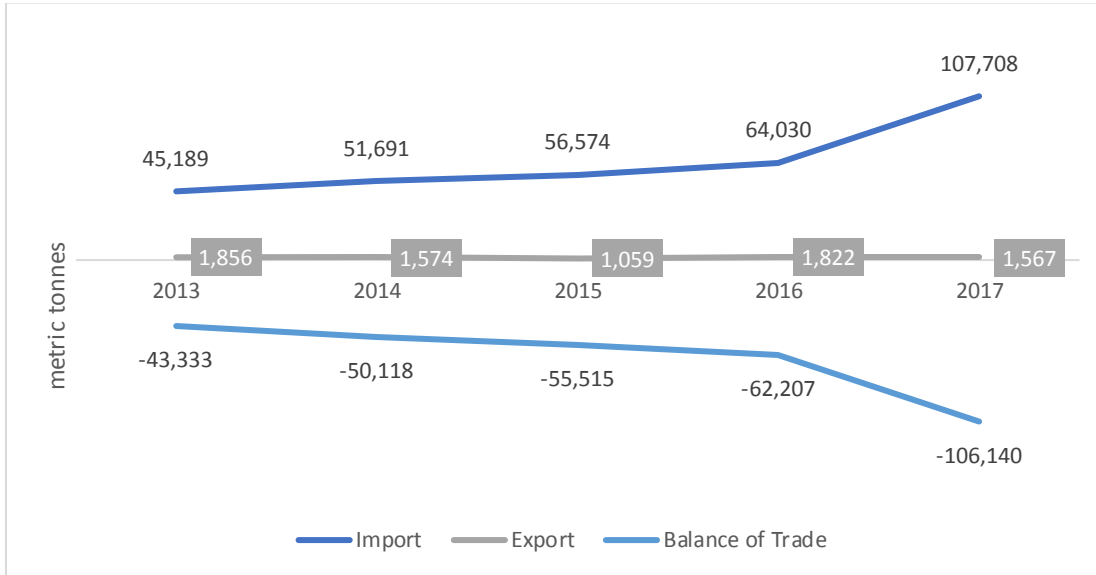
Figure 100: Trade Volume of Mustard Leaf (Sawi) (2013 - 2017)



Source: Department of Statistics Malaysia (DOSM)

The case is the opposite for round cabbage, whereby its import has recorded an increasing trend over the years, making Malaysia a net importer of round cabbage. According to Figure 101, the import of round cabbages has increased from some 45,000 tonnes in 2013 to 108,000 tonnes in 2017. Total imports for round cabbage rose at a CAGR of 24% in volume terms from 2013 to 2017.

Figure 101: Trade Volume of Round Cabbage (Kubis Bulat) (2013 - 2017)



Source: Department of Statistics Malaysia (DOSM)

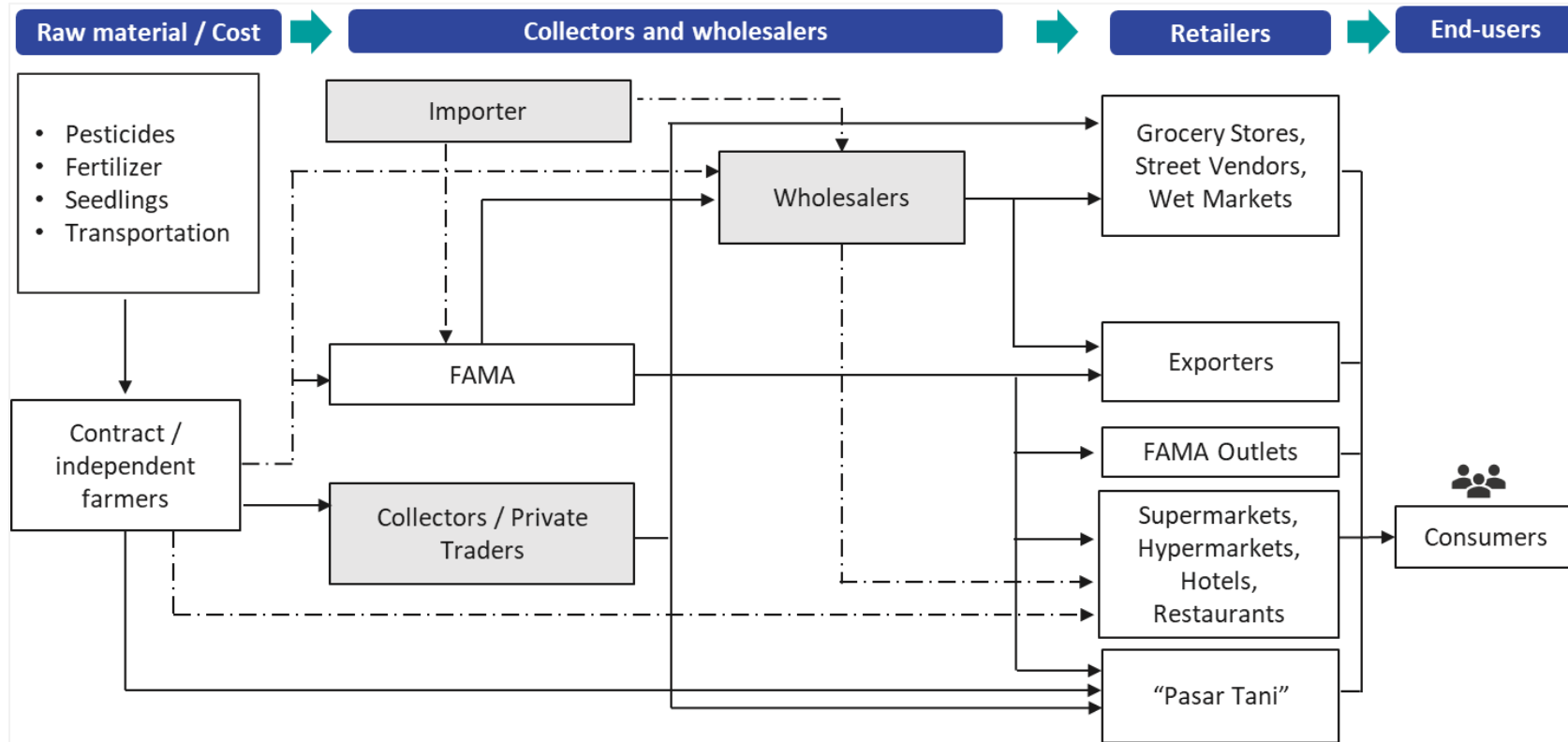
Imported cabbages are brought to Malaysia due to the limited supply in the market. It can be considered as the substitute of local cabbages although both are from different species. Local cabbages yield better quality (softer texture) as compared to imported cabbages, but the price of local cabbages is much higher than imported cabbages. As such, the general consumers would prefer imported cabbages due to the cheaper pricing⁹⁷ (refer to Section 6.7 on the price comparison between local and imported round cabbages from China).

⁹⁷ Industry interviews

6.5 Production Process Flow and Supply Chain

Figure 102 shows the supply chain for the vegetables industry in Malaysia.

Figure 102: Supply Chain of Vegetables Industry



Note: Area highlighted in grey represents the level of supply chain with significant influence in the industry

Source: industry interviews

6.5.1 Producers

The flow of products from the farmers to the end consumers involves a large variety of intermediaries. In general, farmers are isolated from the end-consumers due to the location of the farm and the minimal control over input costs (i.e. most of the input materials are imported) or the price received for the vegetables produced.

Farmers in Malaysia can be divided into two types, either independent farmers or contract farmers. Independent farmers are free to sell their produce to any buyers due to their stronger financial base. These farmers are well-established and would sometimes directly export the vegetables to other countries in attempt for better profit margin. Bargaining power of these groups of farmers has increased given the price transparency along the supply chain has improved, along with their ability to minimize the layers of intermediaries.

By contrast, there are a group of farmers which are reliant on the middlemen or wholesalers as the wholesalers would offer them financial support in purchasing the raw materials prior to the production. This has indirectly bind the farmers and wholesalers together, making them dependent on wholesalers. These farmers can be known as contract farmer. Contract farming has become a common practice whereby the wholesalers provide capital in advanced and obtain the crops at a fixed price (although some of them may provide flexible price depending on the market) to the farmers, in return for stable supply to meet the market needs. When there is a shortage of supply, these farmers may also purchase the excess supplies from other farmers to ensure they meet the volume agreed with the wholesalers/retailers.

Besides, the farmers also depend on the collectors/transporters, middlemen or wholesalers for the marketing of their products as they do not have direct relations with the buyers or lack the logistics to deliver their products directly to the customers. However, they do not get to decide on the pricing as it depends on the sales performance by wholesalers. The lack of transparency hinders the farmers from verifying whether the price they obtain is justified as the sales is dependent on the middlemen/wholesalers. There are also presence of companies between the producers and wholesalers which only manage the packing of vegetables.

Role of FAMA

With the aim of improving the market efficiency, FAMA was established to coordinate agriculture marketing in sub-sectors such as vegetables, fruits, grain & herbs, and livestock & aquaculture. FAMA has supported small growers and commercial farmers where they set up the collection centres across Malaysia. At the collection centre stage, FAMA would assist the farmers in grading before further transporting the vegetables to FAMA's distribution centre. In general, FAMA obtained their vegetable supplies from the farmers through contract farming, where the purchase volume and price are pre-agreed based on the market price, with a provision of 5% profit margin when the market price is higher than the agreed price. Farmers are free to sell the balance to other parties. According to FAMA, the payment terms to the farmers is on credit basis where they strive to pay its farmers within a month.

Although FAMA has provided extensive support to the farmers, some farmers still prefer to deal with the wholesalers and collectors for better price and FAMA has been known as the buyer of last resort.

Issues faced by the farmers

Farmers tend to receive low ex-farm price due to their low bargaining power in ensuring their products are sold. Moreover, the farmers are the one taking the risk of unforeseeable natural elements (e.g. such as weather conditions and crops diseases), which can significantly alter production, resulting in volatility of prices and their revenues. Due to the perishable nature of the product and the absence of storage facilities, farmers are forced to clear their outputs immediately even though the offer price is very low. Also, given the limited price transparency, some rural farmers only get to know their farm gate price after the supply are sold off at the wholesale market.

In addition, the market efficiency at the level of supply chain is also affected due to the poor demand estimation by the farmers. Small growers do not have the right mix of suppliers and they do not have regular supply due to poor planning in production schedule. Demand estimation requires further improvement as the farmers are unaware of the supply in the market and there is no proper scheduled production, resulting glut in the market at times. Other issues faced are the low crop yield, lack of ability to manage calamities and produce wastage. Precision farming is one of the emerging trends to increase farmer's productivity and efficiency.

Furthermore, other issues that constraint the farmer's productivity are the shortage of foreign workers and the absence of permanent land for production. In terms of the land issues, more than 90% of vegetables growing areas in Peninsular Malaysia are produced on Temporary Occupancy Licensed land (TOL), mainly on ex mining lands on hill areas⁹⁸. Besides, the high input cost is also affecting the producers.

6.5.2 Distributors

The distribution chain for vegetables in Malaysia is primarily dominated by wholesalers where they play a significant role in the marketing of vegetable products as most farmers lack the knowledge on market driven practices as compared to commercial farmers. Consequently, small farmers mainly rely on wholesalers/middlemen in the marketing of their produce. According to industry estimation, the wholesalers have control over 60% of the total market volume.

In terms of import, some wholesalers also play a major role as importers to bring vegetables into Malaysia directly from overseas producers, before distributing them to local wholesalers. Alternatively, there is an extra layer of intermediary known as AP agent which assist the companies in importing although they are not involved in trading of round cabbages, which add costs to the round cabbage wholesalers (i.e. through agent fee) who have to rely on them for the source of supply.⁹⁹ Currently, it is

⁹⁸ Study on Competition Issues in the Food Distribution Sector of Malaysia

⁹⁹ Industry interviews

estimated that the key distribution hub in Central region is experiencing an influx of supplies from China due to its cheaper cost as compared to the locally produced vegetables. The wholesalers are also impacted by the influx of Chinese incorporated companies in the market where these companies are vertically integrated. These players are able to obtain the source of supply from their farm in China and they are able to leverage on the AP agent to gain dominance in the market.

Wholesalers have a range of customers, which include other wholesalers, retailers, HoReCa players, processors, etc. For locations closer to the main wholesale market in Selayang, traders and transporters can avoid the local secondary wholesale markets and thus cutting a layer of intermediaries. For locations in other region, there is a layer of intermediary which is the distributors not operating in wholesale market who collect and consolidate the vegetables for retailers.

In terms of the collaboration with FAMA, farmers are also free to market directly to the consumers in Farmers Market (Pasar Tani) or Agrobazaar managed by FAMA, thereby cutting the wholesalers layer. In order to participate in the Farmer's Market, farmers were required to adjust the selling price of the vegetables product to below 10% of the current market price.

The key purchasing decision criteria of vegetables for wholesalers would be the vegetables' quality and price. Some of the wholesalers commented that the quality of vegetables may have been compromised given the emergence of illegal traders in the wholesale market. These illegal traders operate without business license and/or proper spot (where they set up the stalls outside of the wholesale premise such as parking lots). They are able to obtain their access of supply through their contacts from the farm and sell the vegetables at a lower price, however their products are not GPL certified.

6.5.3 Retailers

Before the vegetable products reach to the end consumers, the supply of vegetables would be channelled to hypermarkets and retailers. 65% of the retail trade in the country are controlled by the hypermarkets while the remaining are held by small sundry shops¹⁰⁰.

The local sundry shops, HoReCa, or retailers operating in wet markets normally obtain their source of supply from the wholesalers. Due to the smaller purchase quantity, they command a lower bargaining power against the wholesalers. Hence, the price set by the traditional retailers tends to be on a higher end due to the limited amount of quantity. Nonetheless, the traditional retailers' business model is prone to price manipulation due to the low traceability (i.e. no receipt issued, no price tags, etc.)

The emergence of hypermarkets and supermarkets appears to provide them with a higher bargaining power across the supply chain. Staple goods such as vegetables would be reduced to below competitive level (i.e. below cost price) to attract crowd and this has become an industry norm for the modern retailers. Some of them practices contract farming with the local farmers (where in certain

¹⁰⁰ News article (<https://www.freemalaysiatoday.com/category/nation/2018/11/28/no-hypermarkets-in-interior-areas-minister-says/>)

circumstances they provide the access to land and vegetables input to the farmers) to ensure more consistent and sufficient supply for production, while the others directly import from overseas or purchase from the local wholesalers. Some of these players have their own distribution centre to consolidate the produces for different locations before channeling the products to their outlets in other states. The price structure for vegetables changes on weekly basis, whereby the purchase price is determined based on the negotiation with the suppliers. On the other hand, the purchase price for the products via contract farming is determined between the agreement by both parties.

Hypermarket is a preferred location for consumers to purchase their daily staples. Due to the need to maintain the volume available for the consumers, there are some practices by the modern retailers which is argued by the suppliers at upstream level. For instance, the retailers may request the suppliers to provide rebate to them on vegetables which do not meet the quality standards. Last but not least, retailer's payment terms for the supply of products to farmers is often between 60 to 90 days, which is far longer as compared to wholesalers which is only about 2 weeks. In fear of losing the important buyer of their supply, the suppliers have no choice but to resort to the trading terms set by the modern retailers.

Some of the emerging trends in the vegetables industry are home delivery, group buy, e-commerce, and agro-tourism.

6.6 Key Players' Landscape

6.6.1 Producers

In general, there are a large variety of vegetables produced and sold in markets with many industry players trading in a wide range of produce across the supply chain.

As highlighted earlier, there are 43,733 registered farmers for vegetables in 2017. In terms of number of establishments, there are about 274 establishments which are involved in the growing of leafy or stem vegetables¹⁰¹. Highland vegetables are largely produced in Cameron Highlands while lowland vegetables are produced in concentrated areas such as Kulai, Batu Pahat, Kluang and Tangkak in Johor, Ulu Yam in Selangor, Bera in Pahang and Bidor in Perak¹⁰².

Due to the limited data, it can be assumed that most of the farmers for mustard leaf (*sawi*) are concentrated in Johor, Pahang, Perak and Selangor. For round cabbage (*kubis bulat*), most of the farmers are assumed to be concentrated in Pahang and Sabah based on the production volume.

¹⁰¹ DOSM Establishment Survey

¹⁰² Study on Competition Issues in the Food Distribution Sector of Malaysia

6.6.2 Wholesalers/Importers

As highlighted before, Malaysia is a net importer of round cabbages and the below lists the top 10 importers for round cabbages in Malaysia. The top 10 importers command at least one third of the market share in terms of import volume and approximately 90% of the importers are small-scale player with each holding less than 1% of market share. Besides, approximately 18% of the import volume in 2018 are brought to Malaysia by first-time importer between 2016-2018.

Table 56: Top 10 round cabbages (kubis bulat) importers for in Malaysia (2016 - 2018)

| Key Players | Volume Import (MT) | | | Share (%) (2018) |
|-------------|--------------------|-------|-------|---------------------|
| | 2016 | 2017 | 2018 | |
| Player 1 | 953 | 6,636 | 9,384 | 8% |
| Player 2 | 4,234 | 4,910 | 5,950 | 5% |
| Player 3 | 1,422 | 3,484 | 4,507 | 4% |
| Player 4 | 2,631 | 7,737 | 4,327 | 4% |
| Player 5 | 1,051 | 3,267 | 3,543 | 3% |
| Player 6 | - | 1,358 | 3,016 | 3% |
| Player 7 | - | - | 2,926 | 2% |
| Player 8 | 2,372 | 3,540 | 2,700 | 2% |
| Player 9 | 954 | 2,029 | 2,339 | 2% |
| Player 10 | - | - | 2,315 | 2% |

Source: Malaysian Quarantine Inspection Services (MAQIS)

On the other hand, there are few Chinese-incorporated companies identified which are currently competing in the round cabbage import market whereby they obtain the permit indirectly from the local companies. These companies are as follows:

- Player A
- Player B
- Player C
- Player D

In terms of distributors, there are about 1,370 establishments in 2015 which are involved in the wholesale of vegetables¹⁰³. The largest wholesale market in Central region, i.e. Pasar Borong Kuala

¹⁰³ DOSM Establishment Survey

Lumpur, has a total of 200 vegetables wholesalers competing in the market. Barriers of entry to becoming a wholesaler is moderate, due to the high rental cost, experience required to compete in the market as well as the ability to take the losses.

As mentioned earlier, there has been a presence of local Chinese-incorporated companies which has added competitive pressure to the market. These companies have access to the market volume estimation in China via their parent company. If there is a potential shortage of supply in the market due to the weather, these companies have the first-mover advantage to purchase the vegetables available in China and eventually influence the market price locally. There have been instances where these players reduce the price in the market since they can withstand the loss to gain more dominance in the market.

6.6.3 Retailers

Zooming into retailer stage, there are about 17,404 establishments in 2015 which are involved in the retail sale of fresh or preserved vegetables and fruits¹⁰⁴. Overall, the grocery retail sector in Malaysia is still fragmented¹⁰⁵. The rise of large hypermarkets is slowly becoming popular whereby they sell large quantities of grocery and non-grocery retail goods at competitive prices. According to Euromonitor, operators such as GCH Retail (M) Sdn Bhd, Tesco Stores (M) Sdn Bhd, and AEON Big (M) Sdn Bhd have captured a total of 19.1% market share in value terms in 2016.

Below shows the total number of establishments involved in modern retail trade:

Table 57: Total Number of Establishments by Type of Modern Trade (2015)

| Industry | MSIC 2008 | Number of establishments |
|-----------------------------------|-----------|--------------------------|
| Supermarket | 47112 | 1,230 |
| Mini market | 47113 | 6,629 |
| Convenience stores | 47114 | 1,864 |
| Department stores | 47191 | 816 |
| Department stores and supermarket | 47192 | 218 |
| Hypermarket | 47193 | 715 |

Source: Department of Statistics Malaysia (DOSM)

6.6.4 Presence of Horizontal and Vertical Integration

There is some degree of integration identified between the upstream and wholesale level of supply chain as well as the possible horizontal integration, as illustrated in the table below. One of the new round cabbage importers – Jpb Asia Pacific Sdn Bhd may be horizontal integrated. Such structure can

¹⁰⁴ Ibid

¹⁰⁵ EMIS Insights, Malaysia Food & Beverage Sector Report 2018 – 2019

potentially offer the opportunities for more competitive pricing and wider exposure due to economies of scale. Meanwhile, there are a few companies which are potentially horizontally integrated due to the similar shareholding. Such structure would also offer the opportunity for economies of scale or reduce competition for the companies.

Table 58: Vertical and Horizontal integration structure of vegetables sector

| Producers | Wholesalers | Possible horizontal integration |
|---------------------------------------|-----------------------------------|--|
| Weng Seng Agricultural Farm Sdn. Bhd. | | Weng Seng Vegetable Products Sdn. Bhd. |
| Lojing Highland Agro Farm Sdn. Bhd. | H & P Vegetable Trading Sdn. Bhd. | |
| Jpb Asia Pacific Sdn. Bhd. | | Top Green Agro Sdn. Bhd. |

Source: Analysis based on Suruhanjaya Syarikat Malaysia (SSM) data

Note: The above table shows the selected vertical and horizontal integrated companies based on the available information of shareholders from the SSM data. Only companies with a higher market share are presented in the above table.

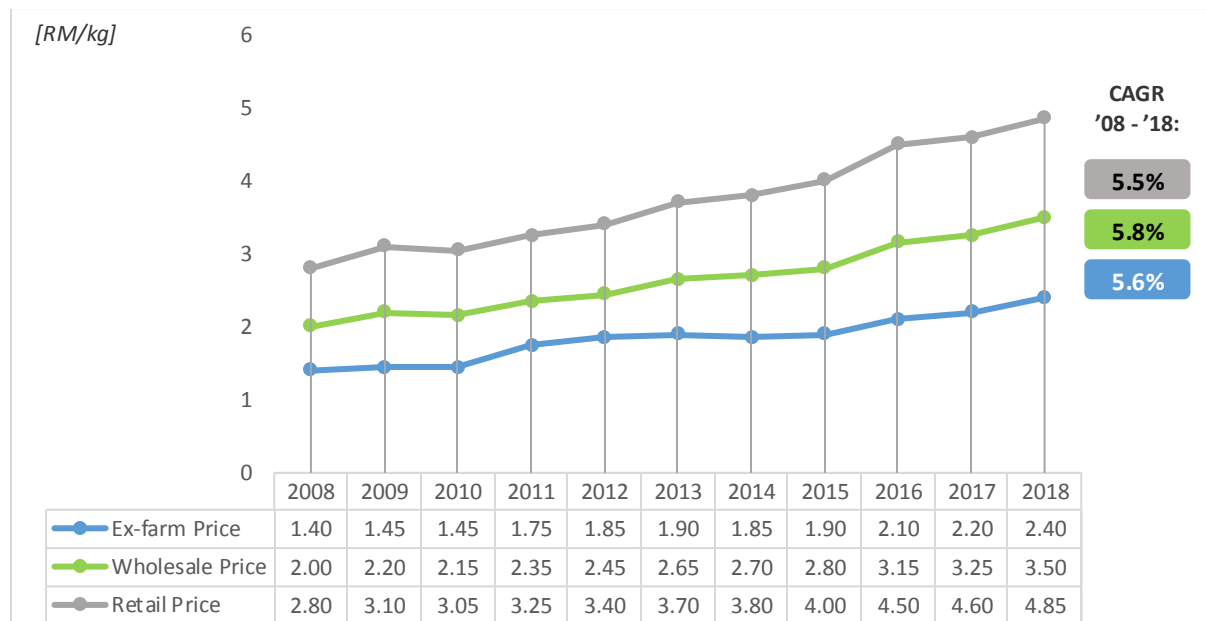
6.7 Pricing Analysis

6.7.1 Price Trend

6.7.1.1 Mustard Leaf

Figure 103 tracks the prices of mustard leaf (*sawi*) at ex-farm, wholesale, and retail levels. It is observed that the price of mustard leaf (*sawi*) has soared by a CAGR of 5.6% (ex-farm), 5.8% (wholesale) and 5.5% (retail) respectively since 2008. Despite higher production level of mustard leaf (*sawi*) from 2013 to 2016, the wholesale and retail price continued to increase, although the ex-farm price was fairly consistent throughout the period. Notably, the price gap for wholesalers and retailers seems to have widened from 2014 onwards, suggesting a higher margin pool earned by the retailers.

Figure 103: Price Trend for Mustard Leaf (*Sawi*) (2008 - 2018)

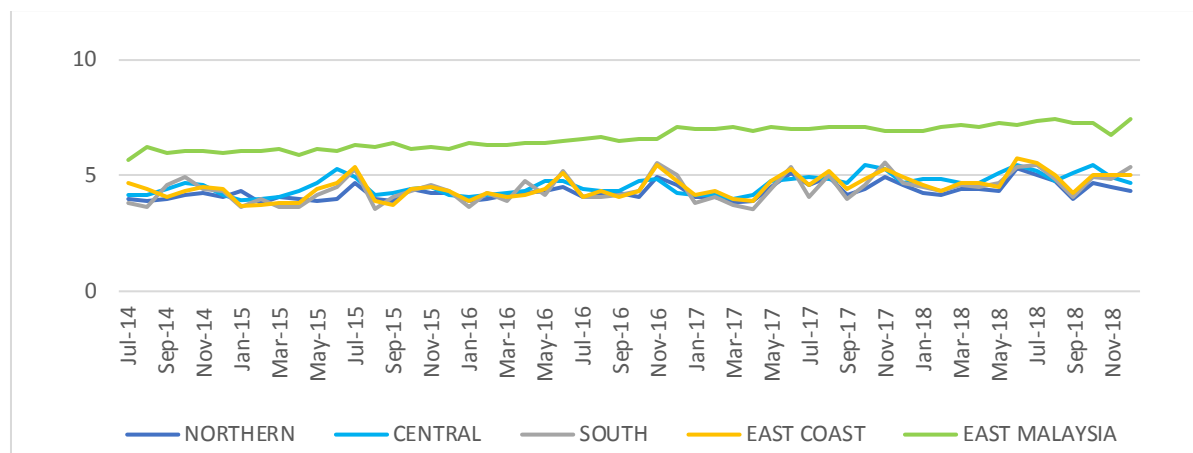


Source: Ministry of Agriculture (MOA)

In terms of the price comparison across regions, average price of mustard leaf (*sawi hijau*) per kilogram are the highest in Sarawak at all level of supply chain. *Sawi* is more expensive in East Malaysia compared to Peninsular Malaysia due to the geographical challenges that are restraining the market (i.e. increase transportation cost) and limited players in the market¹⁰⁶. On the other hand, the margin for wholesaler in Kedah is the highest at about 139%, followed by Pahang, Pulau Pinang and Negeri Sembilan at about 80%-90% each respectively. The average wholesale price in Perak is even lower than the ex-farm price by 16%, while the margin for retailer in Perak is the highest at 76%. The prices of mustard leaf (*sawi hijau*) and retailer's margin are not in tandem with the mean household income in respective states.

¹⁰⁶ Industry interviews

Figure 104: Average Retail Price of Mustard Leaf (Sawi) by Region of Malaysia (RM/kg)



Source: Majlis Harga Barang Negara (MHBN)

Table 59: Average Ex-farm, Wholesale & Retail Prices of Mustard Leaf (Sawi) Per Kilogram (2018)

| States (RM per kg) | Ex-farm price | Wholesale price | Retail price | Mark up difference (ex-farm – wholesale) | Mark up difference (wholesale – retail) | Mean Monthly Household Income (2016) |
|--------------------|---------------|-----------------|--------------|--|---|--------------------------------------|
| W.P. LABUAN | | 3.60 | 5.40 | No data | 50% | - |
| W.P. KUALA LUMPUR | | 3.10 | 4.50 | No data | 45% | 11,692 |
| SELANGOR | 1.70 | 2.7 | 4.12 | 59% | 52% | 9,463 |
| JOHOR | 2.15 | 3.55 | 5.00 | 65% | 41% | 6,928 |
| MELAKA | 1.75 | 2.55 | 4.30 | 46% | 69% | 6,849 |
| PULAU PINANG | 1.90 | 3.60 | 5.05 | 89% | 40% | 6,771 |
| NEGERI SEMBILAN | 1.75 | 3.20 | 3.80 | 83% | 19% | 5,887 |
| TERENGGANU | 2.25 | 3.05 | 4.50 | 36% | 48% | 5,776 |
| SARAWAK | 3.95 | 5.57 | 7.48 | 41% | 34% | 5,387 |
| SABAH | 1.85 | 2.80 | 4.05 | 51% | 45% | 5,354 |
| PERAK | 2.25 | | 3.35 | No data | No data | 5,065 |
| PAHANG | 1.95 | 3.65 | 5.20 | 87% | 42% | 5,012 |
| PERLIS | | 3.45 | 4.90 | No data | 42% | 4,998 |
| KEDAH | 1.78 | 4.25 | 5.50 | 139% | 29% | 4,971 |
| KELANTAN | 2.15 | 2.60 | 3.65 | 21% | 40% | 4,214 |

Source: Federal Agricultural Marketing Authority (FAMA)

Figure 105: Monthly Price Trend for Mustard Leaf (Sawi) (2014 - 2018)

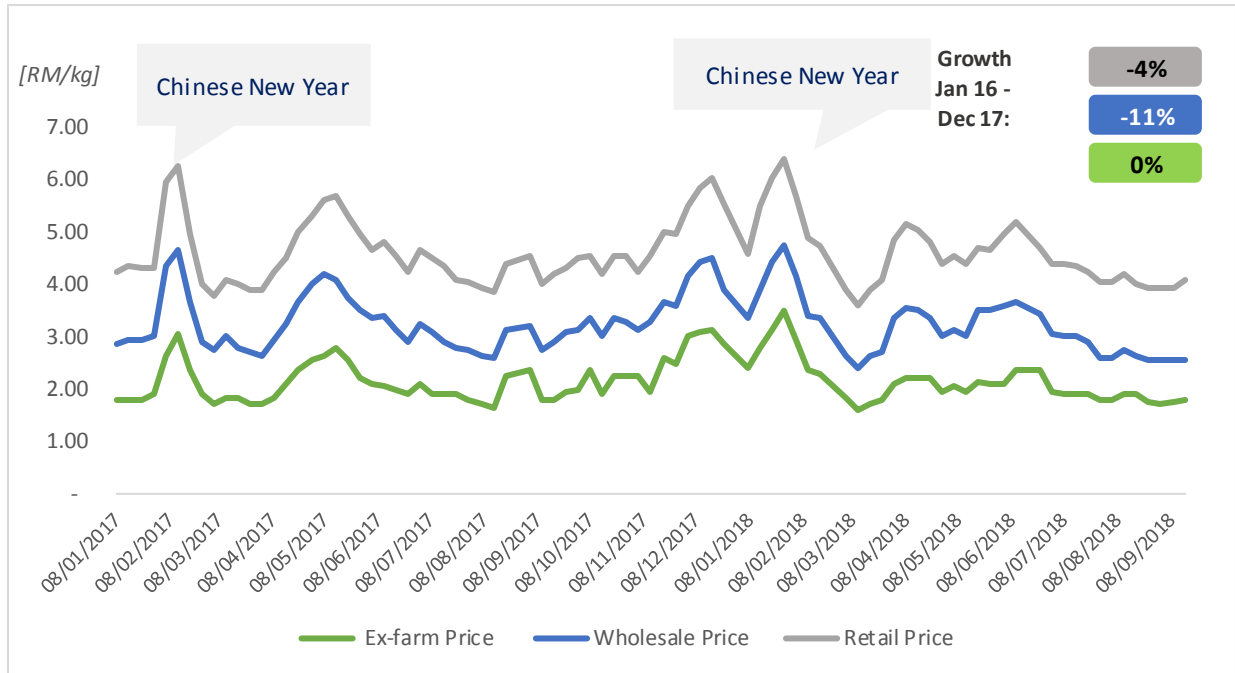


Source: Federal Agricultural Marketing Authority (FAMA), Majlis Harga Barangan Negara (MHBN)

On the monthly price trend, it is observed that the wholesale price increased at a faster rate as compared to retail and farm price between Jan 2014 to Dec 2018. When comparing the price change on weekly basis, a sustained and uniform price transmissions at each stage of the supply chain can be observed in the product. However, at certain period (i.e. May 2018), prices at wholesale level were somewhat rigid to production price increases. Also, it can be observed that price increases of mustard leaf (*sawi*) appears to coincide with Chinese New Year as shown in Figure 106.

It is also important to consider that factors such as major festivals, price control, import's price, demand from institutional buyers, and distribution methods can also influence the price of the vegetables.

Figure 106: Weekly Price Trend for Mustard Leaf (Sawi) (2017 - 2018)



Source: Federal Agricultural Marketing Authority (FAMA)

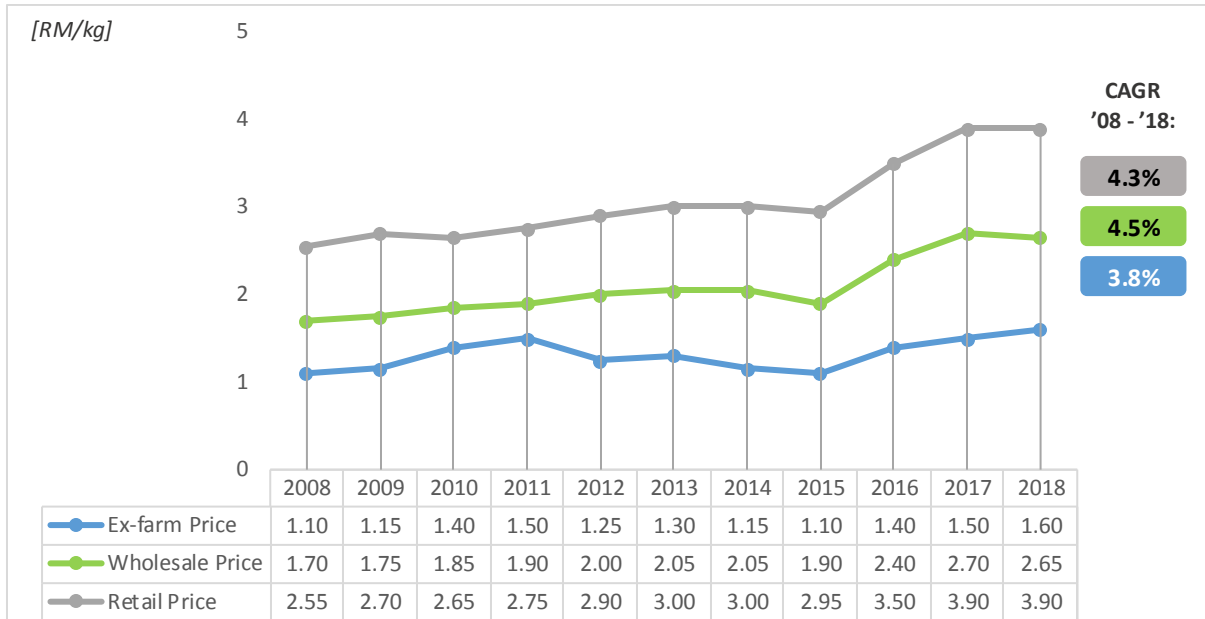
6.7.1.2 Round Cabbage

Figure 107 and 111 show the price trend for local and imported round cabbages (China). It can be observed from the graph where the change of the prices across the different level of supply chain is stable at CAGR of between 3.8% to 4.5% each from 2008 to 2018. However, the ex-farm price from 2009 and 2011 has seen a higher price as compared to the rest of the years. The pricing gap between the ex-farm and wholesale level shows a minimal difference during that period.

In addition, looking at the price difference between the different level of supply chain shows that the price level of round cabbages has increased sharply in recent years (2016 to 2018).

On the other hand, it appears that the margin difference for retailers are higher than the margin difference for the wholesalers in certain years.

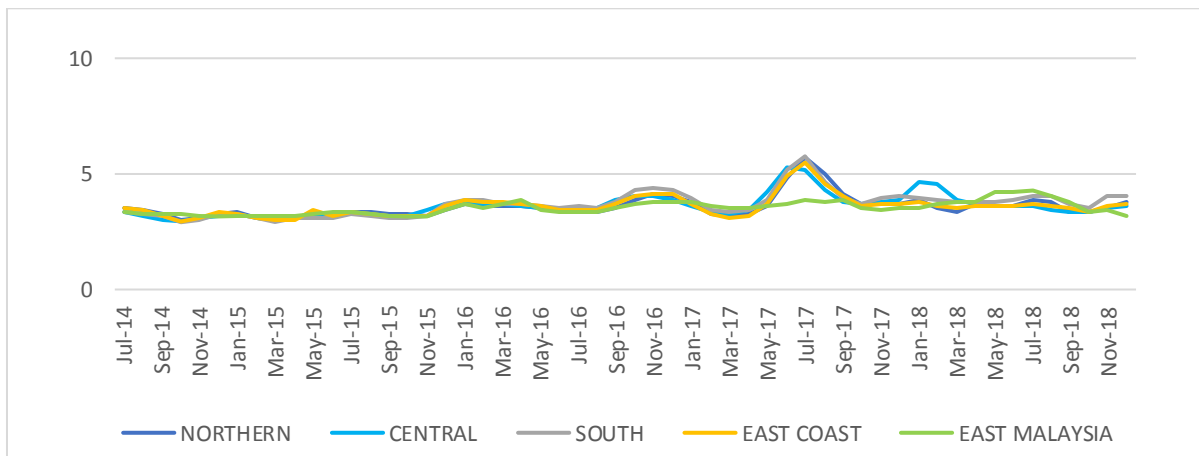
Figure 107: Price trend for Round Cabbage (Local) (2008 - 2018)



Source: Ministry of Agriculture (MOA)

In terms of the price comparison across regions, average prices of local cabbages from highland per kilogram are generally higher in Johor, Pahang, Pulau Pinang and Kuala Lumpur. The ex-farm price for Pahang is much lower than the ex-farm price from Sabah, however the margin for wholesaler in Pahang is at about 212%, as compared to Sabah with only about 35%. The retail price of local round cabbage across region move according to one another, except certain period such as Jan-Mar 2018 which sees a higher retail price in Central region. Price of local round cabbages are somewhat consistent throughout the period of 2014 to 2018.

Figure 108: Average Retail Price of Local Cabbages (Highland) by Region of Malaysia (RM/kg)



Source: Majlis Harga Barang Negara (MHBN)

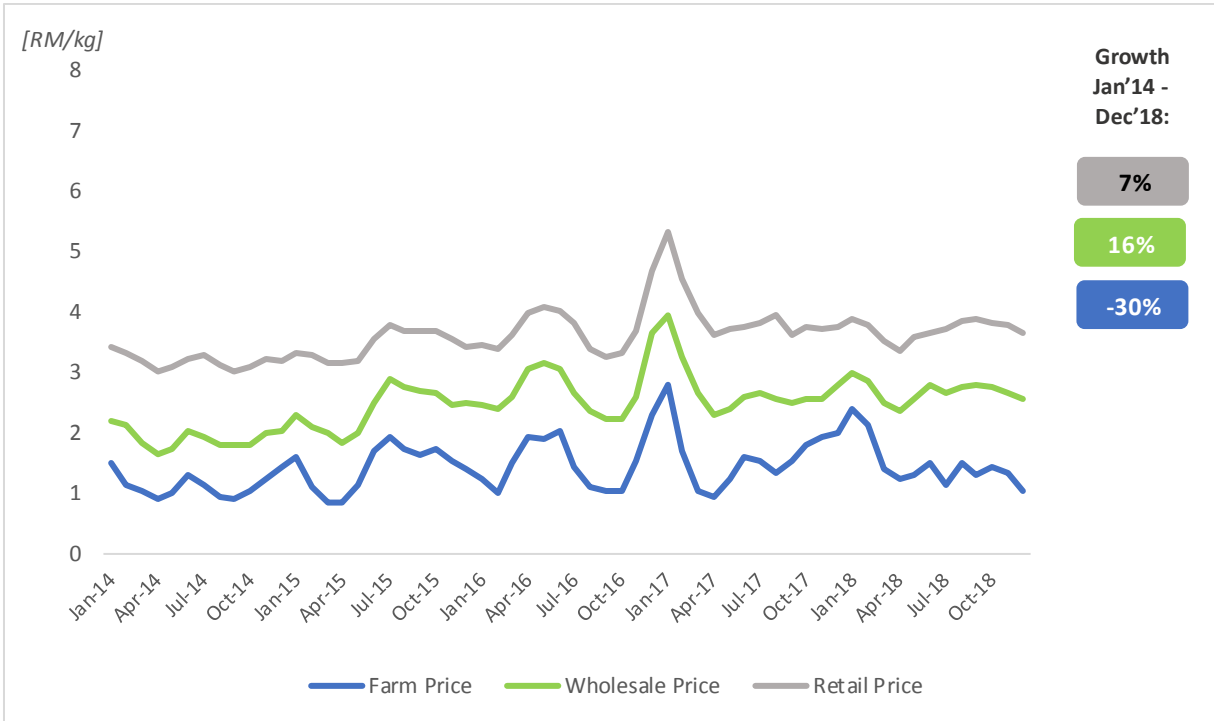
Table 60: Average Ex-farm, Wholesale & Retail Prices of Local Cabbages (Highland) Per Kilogram (2018)

| States (RM per kg) | Ex-farm price | Wholesale price | Retail price | Mark up difference (ex-farm – wholesale) | Mark up difference (wholesale – retail) | Mean Monthly Household Income (2016) |
|--------------------|---------------|-----------------|--------------|--|---|--------------------------------------|
| W.P. Kuala Lumpur | | 1.80 | 3.75 | No data | 108% | 11,692 |
| Selangor | | 2.45 | 3.50 | No data | 43% | 9,463 |
| Johor | | 3.50 | 4.60 | No data | 31% | 6,928 |
| Melaka | | 2.10 | 3.30 | No data | 57% | 6,849 |
| Pulau Pinang | | 3.25 | 4.40 | No data | 35% | 6,771 |
| Negeri Sembilan | | 2.70 | 3.75 | No data | 39% | 5,887 |
| Terengganu | | 2.85 | 3.85 | No data | 35% | 5,776 |
| Sarawak | - | 3.80 | 4.80 | No data | 26% | 5,387 |
| Sabah | 1.70 | 2.30 | 3.55 | 35% | 54% | 5,354 |
| Perak | | 1.80 | 3.10 | No data | 72% | 5,065 |
| Pahang | 1.25 | 3.90 | 5.05 | 212% | 29% | 5,012 |
| Perlis | | 2.80 | 3.65 | No data | 30% | 4,998 |
| Kedah | | 2.35 | 3.80 | No data | 62% | 4,971 |
| Kelantan | | 2.00 | 3.05 | No data | 53% | 4,214 |

Source: Federal Agricultural Marketing Authority (FAMA)

According to Figure 109, the movement of the monthly price trend seems to be consistent for both wholesale and retail level. Figure 110 suggested the presence of asymmetric price transmission where the price reductions at ex-farm level which are not fully passed-on downstream. For instances, the ex-farm price of local round cabbages have reduced by 30% while the wholesale and retail price has increased by 16% and 7% respectively over the years. Similarly, the price for round cabbage tends to increase during the festive season, as shown in the 2017 results. Besides, the ex-farm price trend for local cabbage from Sabah seems to be erratic between the period of end 2017 to mid-2018.

Figure 109: Monthly Price Trend for Local Round Cabbage - Highland (2014 - 2018)



Source: Federal Agricultural Marketing Authority (FAMA), Majlis Harga Barangan Negara (MHBN)

Figure 110: Weekly Price Trend for Local Round Cabbage Across the Supply Chain (2017 - 2018)



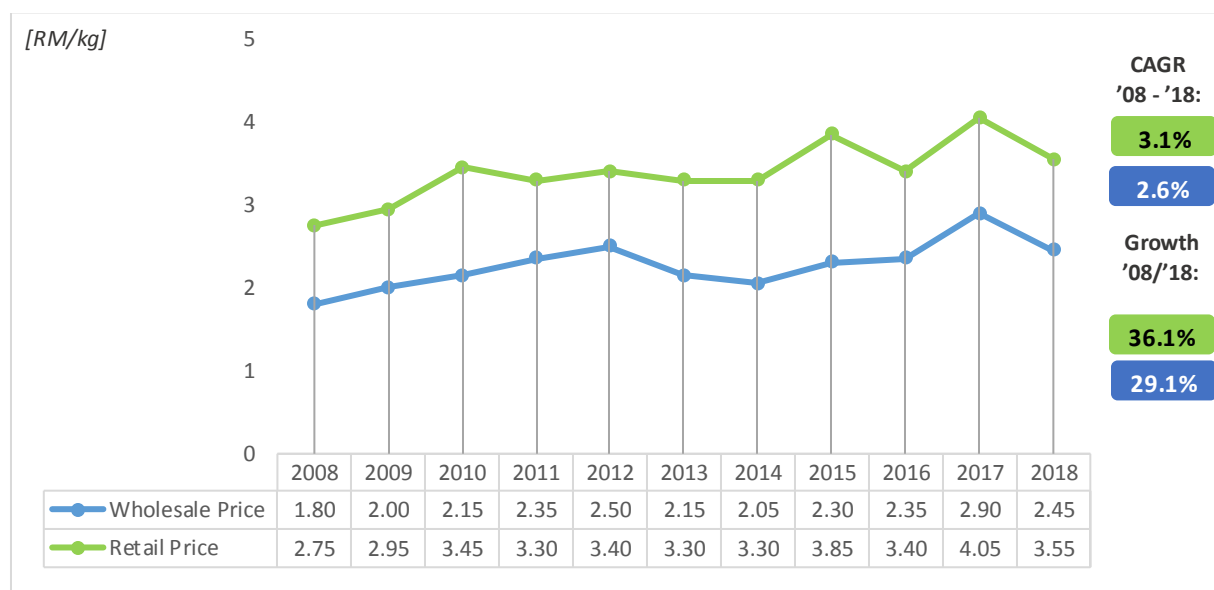
Source: Federal Agricultural Marketing Authority (FAMA)

In terms of the price trend for round cabbage from China, the wholesale price has grown a little at a CAGR of 2.6% from 2008 to 2018. Similar to the local cabbages, it appears that the margin difference for retailers are higher than the margin difference for the wholesalers in certain years.

The selling price between local and imported round cabbages from China is close to one another, however imported round cabbages are generally cheaper than the local cabbages. B2B players would purchase the local cabbages if the price difference between both types of cabbages is below RM1. The price of imported cabbages sometimes may be even higher than local produced cabbages, e.g RM4.05 in 2017 as compared to local round cabbages at RM 3.90 in the same year. The prices of local round cabbage and retailer’s margin are in tandem of the monthly household income for the Kuala Lumpur, as opposed to Perak.

As mentioned earlier, local round cabbage and imported round cabbage from China are close substitute to one another, although both have different product characteristics and its own consumer groups. However, HORECA prefers imported round cabbage from China as they are generally cheaper than local round cabbages.

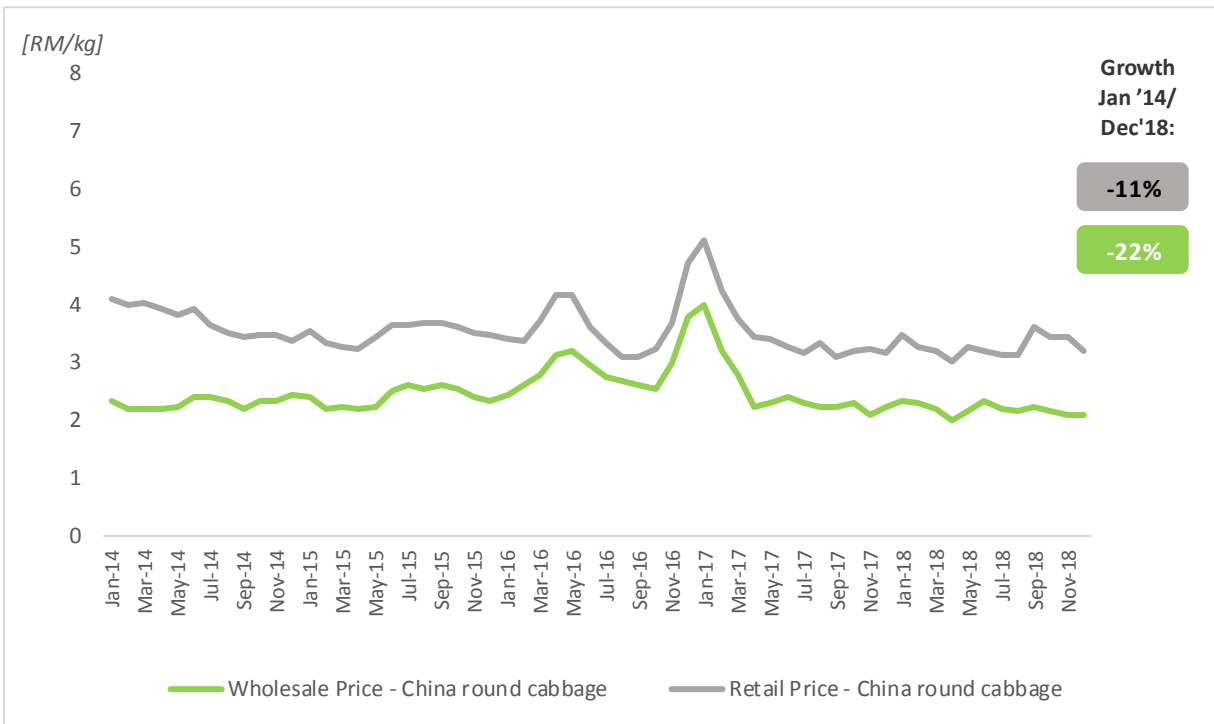
Figure 111: Price Trend for Round Cabbage (China) (2007 - 2018)



Source: Ministry of Agriculture (MOA)

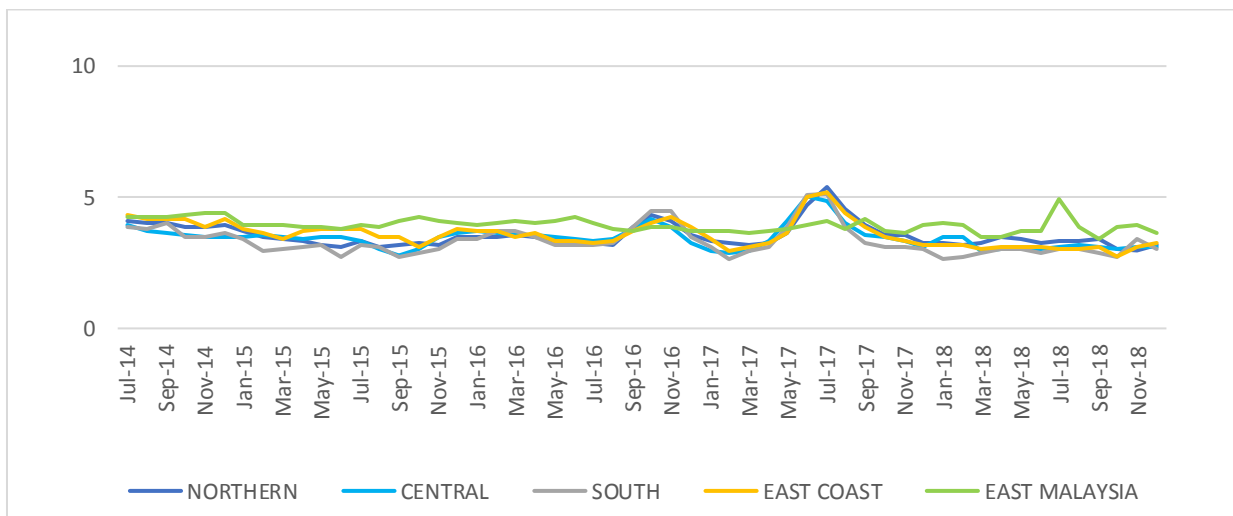
Similar to local round cabbages, the average retail price of imported round cabbage from China across regions in Peninsular Malaysia moved closely to one another. East Malaysia reflected the highest price of imported round cabbage except for the period between Sep-2016 to Sep-2017 and the prices deviated from the consistent pricing trend in Peninsular Malaysia.

Figure 112: Monthly Price Trend for Imported Round Cabbage (2014 - 2018)



Source: Federal Agricultural Marketing Authority (FAMA), Majlis Harga Barangan Negara (MHBN)

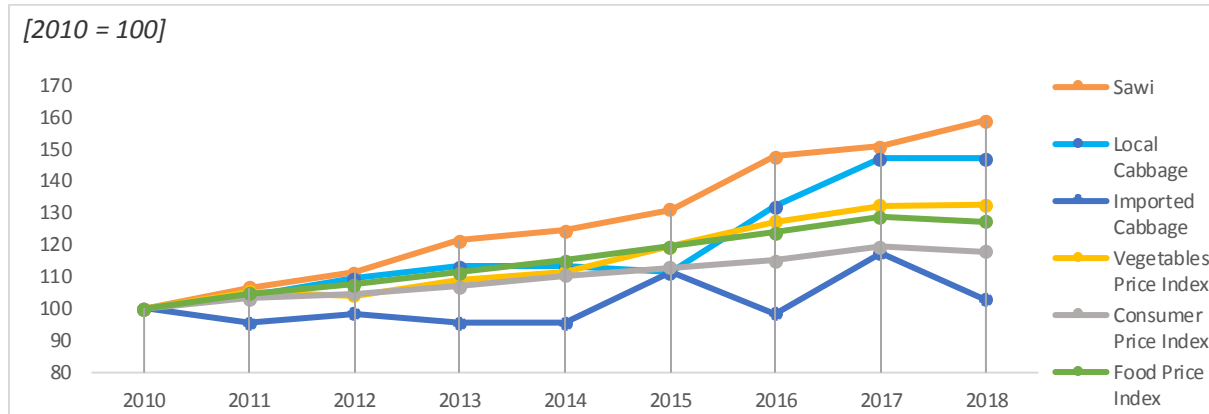
Figure 113: Average Retail Price of Imported Round Cabbages (China) by Region of Malaysia (RM/kg)



Source: Majlis Harga Barang Negara (MHBN)

In terms of pricing trend comparison against the overall vegetables price index, consumer price index and food price index, locally produced *sawi* and cabbages have a higher price index than the indices. On the other hand, imported round cabbage from China still costs below the locally produced cabbage and overall indices.

Figure 114: Vegetables Indices Against the Overall Vegetables Price Index, Consumer Price Index and Food Price Index

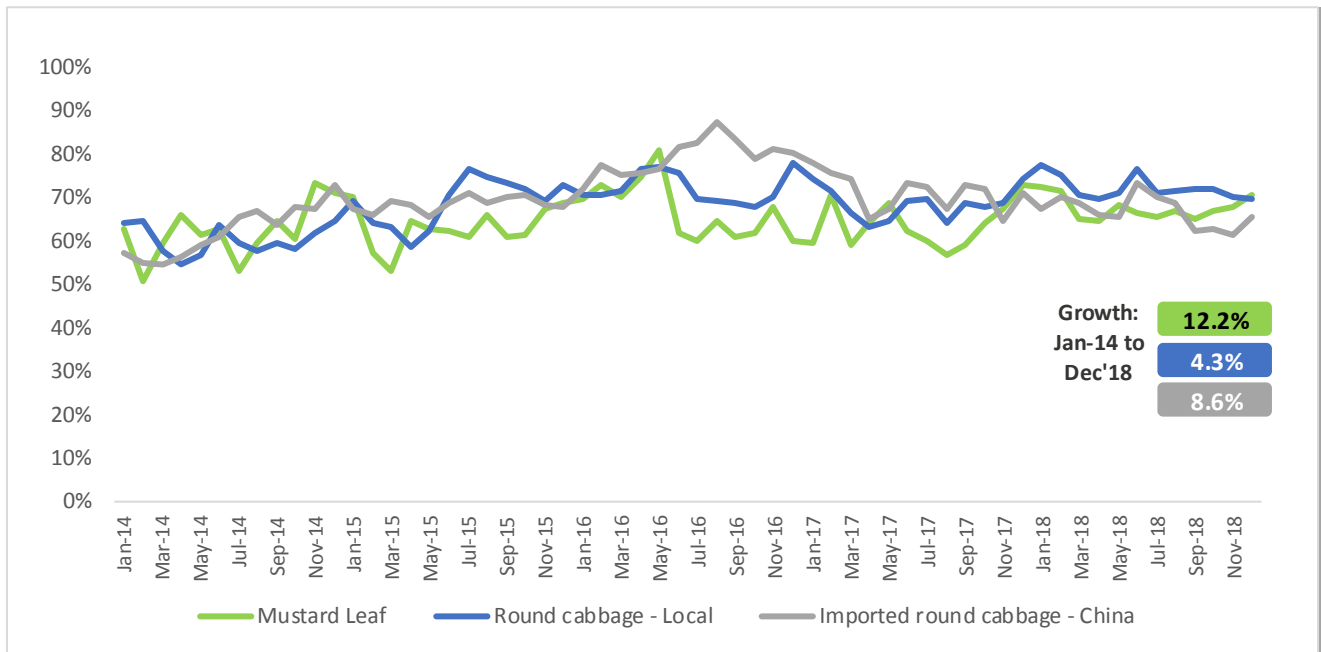


MyCC Analysis based on data from Majlis Harga Barangan Negara (MHBN) and Department of Statistics Malaysia (DOSM)

Analysis of retailer’s cost-price ratio of local *sawi*, round cabbage and imported round cabbages from China has revealed that the ratio is relatively moderate. For *sawi*, the cost price ratio range between 51% to 81% over the studied period, with an average of 65%. This indicates there are about 35% for the retailers to manage their cost and margin. There was also period where the cost price ratio reduced to below 60% which indicates the lesser competition for retailers. For local and imported round cabbages from China, the cost price ratio ranged between 55% to 78% and 55% and 87% respectively. This suggests that the competition for round cabbages retailers are stronger in that particular period.

The cost price ratio for all three vegetables has shown an increasing trend over the years, signifying an adequate competition among vegetables retailers. Nonetheless, the comparison of cost price ratio between *sawi* and round cabbages paints a picture where the competition for *sawi* is lesser, which could be contributed by the contract farming practice between the retailers and producers.

Figure 115: Cost Price Ratio for Mustard Leaf and Round Cabbage (2014-2018)



Source: MyCC Analysis based on data from Federal Agricultural Marketing Authority (FAMA)

6.7.2 Purchasing Power Parity (PPP) Analysis

6.7.2.1 PPP Analysis for Mustard Leaf (*Sawi*)

Mustard leaf (*sawi*) from selected countries were benchmarked against Malaysia at the Purchasing Power Parity (PPP) level. For this market review, the selected countries include: India, Singapore, Indonesia and Thailand.

In Table 61, Column 2 shows the price of 1kg mustard leaf (*sawi*), across the four countries' currencies, for the week of 29th April 2019. To illustrate further, the PPP between Indonesia and Malaysia for 1kg mustard leaf (*sawi*) is the price paid in Indonesia divided by the price paid in Malaysia ($20,000/4.85 = 4,123.71$), which means a consumer pays IDR 4,123.71 to make a purchase in Indonesia that would cost MYR 1.00 in Malaysia.

Column 3 provides the PPPs of other countries to Malaysia. The price level differences are measured by a price level index (column 6), which is the ratio of PPP (Column 3) against the exchange rate (Column 4). The deviation from the index 1.00 signifies if it is cheaper or more expensive in the country.

For example, in Singapore, the price level index was 2.81 (0.93/0.33), which also translate to 181% higher prices in Singapore. In another example, in Indonesia, the price level index was 1.20 (4,123.71/3,444.19), which also means 20% high prices in Thailand.

Overall, it appears that 1kg mustard leaf (*sawi*) is consistently more expensive across all four benchmarked countries. These countries are paying between 20% to 181% higher prices compared to Malaysians.

Table 61: PPP for Mustard Leaf (*Sawi*)

| Countries | Currency | 1kg Mustard leaf (<i>sawi</i>) in national currency, week of 29 April 2019 | PPP to MYR | Exchange rate, week of 29 April 2019 | MYR cost of mustard leaf (<i>sawi</i>) | Price level index |
|-----------------|------------|--|-------------|--------------------------------------|--|-------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| India | INR | 175 | 36.08 | 16.68 | 10.49 | 2.16 |
| Singapore | SGD | 4.5 | 0.93 | 0.33 | 13.64 | 2.81 |
| Indonesia | IDR | 20,000 | 4,123.71 | 3,444.19 | 5.81 | 1.20 |
| Thailand | THB | 80 | 16.49 | 7.70 | 10.39 | 2.14 |
| Malaysia | MYR | 4.85 | 1.00 | 1.00 | 4.85 | 1.00 |

6.7.2.2 PPP Analysis for Round Cabbage (*Kubis Bulat*)

Round cabbage (*kubis bulat*) from selected countries were benchmarked against Malaysia at the Purchasing Power Parity (PPP) level. For this market review, the selected countries include: India, Singapore, Indonesia and Philippines.

In Table 62, Column 2 shows the price of 1kg round cabbage (*kubis bulat*), across the four countries' currencies, for the week of 29th April 2019. To illustrate further, the PPP between Singapore and Malaysia for 1kg round cabbage (*kubis bulat*) is the price paid in Singapore divided by the price paid in Malaysia ($1.90/4.95 = 0.38$), which means a consumer pays SGD \$0.38 to make a purchase in Singapore that would cost MYR 1.00 in Malaysia.

Column 3 provides the PPPs of other countries to Malaysia. The price level differences are measured by a price level index (column 6), which is the ratio of PPP (Column 3) against the exchange rate (Column 4). The deviation from the index 1.00 signifies if it is cheaper or more expensive in the country.

For example, in India, the price level index was 0.85 (14.14/16.68), which also translate to 15% lower prices in India. In this case, India appears to be the only benchmarked country that enjoy lower prices compared to the rest.

The remaining three countries, Singapore, Indonesia and Philippines, seem to have higher cost per kg of round cabbage (*kubis bulat*) with consumers paying 16%, 64% and 13% respectively, in relative to Malaysia.

Table 62: PPP for Round Cabbage (*Kubis Bulat*)

| Countries | Currency | 1kg Round cabbage (<i>kubis bulat</i>) in national currency, week of 29 April 2019 | PPP to MYR | Exchange rate, week of 29 April 2019 | MYR cost of round cabbage (<i>kubis bulat</i>) | Price level index |
|-----------------|------------|--|-------------|--------------------------------------|--|-------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| India | INR | 70 | 14.14 | 16.68 | 4.20 | 0.85 |
| Singapore | SGD | 1.90 | 0.38 | 0.33 | 5.76 | 1.16 |
| Indonesia | IDR | 28,000 | 5,656.57 | 3,444.19 | 8.13 | 1.64 |
| Philippines | PHP | 70 | 14.14 | 7.70 | 5.60 | 1.13 |
| Malaysia | MYR | 4.95 | 1.00 | 1.00 | 4.95 | 1.00 |

6.7.3 Cost Factors and Margin

High labour and input costs make up the bulk of the cost of farmers (> 80%). Raw materials cost for both mustard leaf (*sawi*) and round cabbages (*kubis bulat*) accounted for the highest at 47% and 44% respectively. Malaysia is a net importer of seeds due to its weak internal production and 90% of the seeds are currently imported¹⁰⁷. The reliance of import has made the production cost susceptible to foreign exchange risk. These explain why imports may fare better than local production in terms of pricing. Below is the average cost per kg for both mustard leaf (*sawi*) and round cabbage (*kubis bulat*) in 2018:

Table 63: Average Cost of Mustard Leaf and Round Cabbage Production, 2018

| | Sawi | % | Round Cabbage | % |
|---|---------------|-------------|----------------------|-------------|
| Harvest period | 4 weeks | | 3 months | |
| Production cost | RM0.06 | 8% | RM0.08 | 9% |
| Raw Materials | RM0.35 | 47% | RM0.40 | 44% |
| Labour Cost | RM0.27 | 36% | RM0.34 | 37% |
| Miscellaneous cost | RM0.03 | 4% | RM0.05 | 5% |
| Unexpected cost* | RM0.04 | 5% | RM0.04 | 4% |
| Total Cost per kg | RM0.74 | 100% | RM0.91 | 100% |
| *Calculated based on 5% of the total cost (production cost, raw materials, labour cost, and miscellaneous cost) | | | | |

Source: Department of Agriculture (DOA)

Apart from the producer stage, the distributors and retailers also incur costs that they would pass on to the consumers through adjusting the selling price. Some of the costs incurred by the distributors and retailers are as follows: -

Table 64: Cost Factors Affecting the Vegetables Pricing

| Producers | Wholesalers/Importers | Retailers |
|---|---------------------------------|------------------|
| Land rental fee | Logistics cost | Logistics cost |
| Vegetables seed, fertilizer, pesticides | Wholesale premise | Retail premise |
| Manpower | Cold rooms/storage | Utilities |
| Logistics cost | Regulation and Compliance – GPL | Manpower |
| | Import permit and licensing fee | Packaging |
| | Manpower | |
| | Foreign exchange | |
| | Importer – AP quota fee | |

Source: Focus Group Discussions

¹⁰⁷News articles (<https://www.nst.com.my/opinion/columnists/2018/08/398498/reducing-dependence-imported-vegetable-seeds>)

Other factors which could influence the price of vegetables along the supply chain include the following:

- Price can be influenced by weather/monsoon season/production season due to challenging operation and limited supply.
- Supply chain invisibility due to limited information flow from wholesalers and information asymmetry of the volume in the market.
- Product shelf life
- Crop diseases
- Food wastage
- Participation in FAMA's programme which can be below the market price
- Availability in the market
- Price benchmarking with other players
- Price discussion among the players via social media
- Product grading determined by the seller
- Based on consumers' historical purchase
- Price matching with competitors
- Recommended price provided by the suppliers
- Vegetables condition
- Fixed price based on agreement with the buyer (contract farming)

As discussed previously, the AP quota system for imported round cabbages has created an extra layer of intermediaries in the market known as AP agent, whereby the cost to engage AP agent is about RM0.15 to RM0.30 per kg of round cabbage. These AP agents do not import the vegetables for their own trading, instead they 'rent' the AP for the companies who intend to import but do not have the quota. Within the layer of AP agent, there are also middlemen liaising with the interested wholesalers which would gain the commission from the AP agent fee.

At retailer stage, the prices at traditional trades may be higher as it could be fresher with longer shelf life compared to modern retailers which incur time loss due to centralized distribution. Besides that, the prices may also be higher due to smaller purchase volume by the traders or could be driven by the less regulated nature of the trade which cause the traders to charge higher prices to obtain higher margin.

On the other hand, the wholesalers have to incur extra costs when dealing with hypermarkets on costs such as the following:¹⁰⁸

¹⁰⁸ Industry interviews

| | |
|---|---|
| Advertising allowance | ~3% |
| Rebates (back-margin) for wastage | Differs from 0% - 20% |
| Volume rebate | ~3% |
| Distribution allowance, funding for distribution centre (such as palette, usage of facility, basket etc.) | ~3% |
| Sponsorship | Subject to the packages offered by hypermarkets |

Source: industry interviews

The players would normally mark-up the cost to incorporate the charges by the hypermarkets, which the cost is then transferred to the consumers. Although it is reasonable to account for wastage cost, such requirements would have added extra 3-5% to the total cost of the business.

Below illustrates the profit margin analysis at each level of supply chain for both locally grown round cabbages and mustard leaf. It can be observed that despite the higher cost in terms of production and marketing for round cabbage producer, its net return is on par with the wholesale and retail level of supply chain.

Table 65: Summary of Pricing, Cost and Margin of Mustard Leaf and Local Round Cabbages Along the Supply Chain¹⁰⁹

| | Mustard leaf | | | Local round cabbages | | |
|---------------------------------------|--------------|-------------|-------------|----------------------|-------------|-------------|
| | Ex-farm | Wholesale | Retail | Ex-farm | Wholesale | Retail |
| Sales price (A) | 2.35 | 3.25 | 3.95 | 1.50 | 2.50 | 3.50 |
| Purchase price (B) | - | 2.35 | 3.25 | - | 1.50 | 2.50 |
| Gross Return (B) - (A) | 2.35 | 0.90 | 0.70 | 1.50 | 1.00 | 1.00 |
| Production cost (RM/kg) (C) | 1.00 | - | - | 0.60 | - | - |
| 1. Farming cost | 0.22 | - | - | 0.20 | - | - |
| 2. Materials cost and equipment | 0.35 | - | - | 0.28 | - | - |
| 3. Manpower cost | 0.25 | - | - | 0.11 | - | - |
| 4. Miscellaneous fee | 0.18 | - | - | 0.01 | - | - |
| Marketing cost (RM/kg) (D) | 0.72 | 0.39 | 0.54 | 0.49 | 0.58 | 0.60 |
| 1. Manpower cost | 0.11 | 0.10 | 0.11 | 0.01 | 0.23 | - |
| 2. Packaging cost | 0.06 | 0.04 | 0.06 | 0.15 | - | 0.13 |
| 3. Storage cost | - | - | 0.02 | - | - | - |
| 4. Transport cost | 0.13 | 0.07 | 0.14 | 0.11 | 0.13 | - |
| 5. Utilities and administrative fee | 0.11 | 0.03 | 0.10 | 0.11 | 0.07 | 0.32 |
| 6. Wastage cost | 0.31 | 0.15 | 0.11 | 0.11 | 0.15 | 0.15 |
| Net return (B-A) – (C) – (D) | 0.63 | 0.51 | 0.16 | 0.41 | 0.42 | 0.40 |
| Net margin (%) | 27% | 16% | 4% | 27% | 17% | 11% |
| Farmer's share to retail price | 60% | | | 43% | | |

Source: Federal Agricultural Marketing Authority (FAMA) (internal estimates)

¹⁰⁹ Laporan Kajian Margin dan Kos Pemasaran Sayur-sayuran dan Buah-buahan, FAMA, September 2014

6.8. Key Takeaways

6.8.1 Areas of Concerns

Market inefficiencies, ineffectiveness of supply chain and other issues may worsen the challenges faced by the industry. Below are some of the prioritised issues identified that merit further attention from the respective authorities:

Policy/Regulatory Issues

1. Abuse of AP by certain industry players

- The current system in relation to the AP for the importation of round cabbage requires the AP holders to exhaust 90% of the approved quota within 3 consecutive months. This somehow has led certain AP holders to employ the tactics of selling or renting their unutilized quota. Therefore, given that the AP is available to be sold or rented including by AP agents, non-AP holders who intend to compete in the same market may resort to purchasing the AP via AP agents. Consequently, additional cost originating from the above conducts will eventually be borne by the consumers.
- The lack of clarity of the application process could have hinder the new players to apply the approved permit, thus limiting the competition to only existing players. More information on the AP application process has to be disseminated to the market players including prospective AP applicants in order to encourage new entry thereby creating competition in the market. Meanwhile, the applicants must make the efforts to understand and familiarize with the system in order to assist the ministry in processing the application more efficiently. Thereafter, the applicants should be informed of the reason for their unsuccessful applications.
- Further, it is found that the system does not monitor the way the quota is being fulfilled. It is suggested that the authority must ensure AP holders do not misuse the granted AP by way of selling or renting any or all of their quotas to others.
- Besides, foreign incorporated players who have access to AP via AP agent have attempted to dump the price at the local market to force out competition in the local market, which could distort the competition in the market in the long run. These players are vertically integrated thus they have competitive advantage over the local importers¹¹⁰. Such practice merit further assessment by the relevant authority.

¹¹⁰ Industry interviews

Market Driven Issues

2. Market sharing of pricing information

- Pricing information at the wholesaler stage (i.e. purchasing price or selling price) are often determined via benchmarking with the players in the market. In addition, the wholesalers would have a diverse source of prices (i.e. pricing from various source such as farm price, price from other network etc.) for reference before determining the selling price. Quality of the vegetables product would also serve as a determinant of pricing.
- According to industry sources, the key wholesalers are known to discuss together to set the base price whereby the price is determined collectively based on the supply/volume available in the market. The base price information would then be shared to other wholesalers through verbal communication which would lead to the symmetric base price.
- Also, the key players within the market have been in operation for more than a few decades. Therefore, it allows them to develop mutual understanding and give advantage to these established players in the vegetables trade.

3. Emergence of a key distribution hub

- Similar to fisheries market, the supply of vegetables from different states would be channelled to some key distribution hubs, particularly to Pasar Borong Kuala Lumpur.
- According to industry sources, the price of vegetables in PBKL has been made as a reference by other states when determining their selling prices. This further indicates that the market players are well informed on the prices in the local and other states' markets.
- Given the geographical advantage of PBKL in accessing the supply/demand information for the vegetables product, they might be able to influence the market price of the vegetables.

4. Higher bargaining power observed by modern retailers

- The modern retailers such as hypermarkets, supermarkets, retail chains etc. which are popular among the end consumers has given them a higher bargaining power over their suppliers. It has been identified that there is a common practice amongst modern retailers to impose any or all cost such as rebate, sponsorship, penalty, back-margin etc. As such, suppliers had to conform to the requirements set by the modern retailers.
- The practices have added extra costs to the suppliers and they have to transfer these costs into the selling price of their products to the modern retailers, which are subsequently passed on to the end consumers.

6.8.2 Potential anti-competitive practices

Due to the issues arising from the regulatory policy and market practices, these situations have resulted in some potential anti-competitive practices as highlighted below.

1. Potential market distortion

To retain the market share, existing major players may abuse their dominant position by reducing the price at the local market to force out competition and restrict new entry due to their ability to control the supply / pricing in the market and the approved quota allocated to them. Also, there have been allegations where the Chinese-incorporated companies which have gained the approved quota via third party importers or their own locally incorporated companies, import directly from their own farm in China and thereby giving them the cost advantage to obtain round cabbages at a lower price. To secure more market share against the existing local players, they engaged in price dumping of imported round cabbages, which distort the competition in the market. Furthermore, AP is a privilege that is supposed to be granted to the local players only. When the foreign incorporated companies are able to leverage the opportunity to be involved in the importing business by abusing the system, it could lead to market failure.

2. Market dominance of key central wholesale market

The dominance of the distribution hub may give geographical advantage that allow them to influence the market price due to the price asymmetry along the supply chain. The practices within the wholesale market where the players benchmarked the prices against one another may suppress price competition along the supply chain as companies share the sensitive market information. Besides, the extra charges which have to be borne by the traders operating in the market add further cost to the operation, which distorts the competition in the market. (*refer to Appendix 1 for the case study on Pasar Borong Kuala Lumpur*)

3. Price following practice

Given the nature of close connection between the market players and frequent interaction on prices, it might lead to potential concerted practice where companies collectively set a symmetric base price for the vegetable products without having a contract, arrangement or practical cooperation. It might also indicate price following practices led by major players in the market.

7. MARKET CONCENTRATION

Market concentration refers to the extent to which the top ‘N’ companies dominate the total production in the market. A low concentration means that these top companies have minimal influence on production and the industry is considered to be competitive. On the other hand, if market concentration is high, the top companies have major influence on production and the industry is considered to be oligopolistic or monopolistic. The Concentration Ratio (CR) and Herfindahl Index (HHI) are commonly used measures for market concentration.

CR indicates the degree of production control of the ‘N’ largest companies in the market. For example, CR4 = 50% denotes that the four largest companies in the market have a combined market share of 50% in terms of production or sales. Meanwhile, HHI provides an indication of how the distribution of market share occurs across the companies included in the index. It is calculated by squaring the market share of each company competing in a market and summing the resulting numbers. Table 66 and 67 show the market concentration level based on CR and HHI indicators.

Market concentration provides a preliminary indication of the market power of the top players (i.e. the ability to increase the farm price or to set the price level in the market). However, market power is also influenced by many other factors such as regulations, low barriers to market entry and imports. It should be noted that the computed CR-4 ratio and HHI are only indicative, and not determinative, of possible dominance by the players from respective product groups.

In this section, CR and HHI are computed to measure the market concentration within the beef, fish, vegetables and infant formula sectors. For the computation of the CR and HHI, the market share of industry players is estimated based on revenue, import value or import volume in the year 2018 (or 2017/2016 if revenue information for 2018 is not available), which are then used to derive the CR and HHI. Revenue information is obtained from the Companies Commission of Malaysia (CCM) and specialist business database (SPEEDA).

It should be noted that the estimation of more recent market shares and concentration indices depends on accessibility and availability of data. In addition, the market concentration analysis did not take into consideration of the potential geographical concentration of industry players. National concentration measures may drastically understate concentration in specific geographical markets.

Another limitation of the market concentration computation in this study is that it is based on aggregated sales revenue at the company level, which includes all products as it was not possible to obtain disaggregated sales revenue by product. Hence, the market concentration ratios measure company concentration and not product concentration. This is also a limitation imposed by lack of detailed financial data due to the following reasons:-

1. Exempt private company status where the company is exempted from the filing of annual returns
2. Companies which did not submit the financial returns
3. Companies which may have turned dormant or ceased operations
4. Other business entities such as enterprises and sole proprietorship where the submission of financial returns is not compulsory.

Table 66: Market concentration level based on CRN

| Concentration ratio (CR-N) | |
|-----------------------------------|---|
| 0% | No concentration <i>Highly competitive</i> |
| Less than 50% | Low concentration <i>No concentration to an oligopolistic nature</i> |
| 50% to less than 80% | Moderate concentration <i>Oligopolistic</i> |
| 80% to less than 100% | High concentration <i>Oligopolistic to monopolistic</i> |
| 100% | Total concentration <i>Monopolistic</i> |

Table 67: Market concentration level based on HHI

| Herfindahl index (HHI) | |
|-------------------------------|---|
| <100 | No concentration <i>Highly competitive</i> |
| <1,500 | Low concentration <i>No concentration to an oligopolistic nature</i> |
| 1,500 - 2,500 | Moderate concentration <i>Oligopolistic</i> |
| >2,500 | High concentration <i>Oligopolistic to monopolistic</i> |
| 10,000 | Total concentration <i>Monopolistic</i> |

7.1 Beef

7.1.1 Beef Producers

Beef producers refer to those involved in the raising, breeding and production of cattle or buffaloes. Beef farming in Malaysia is largely run by smallholders in the villages or integrated with palm oil plantations. As such, there are large number of players at this level ranging from small to large establishments. Temakan N&A Wawasan, Top Agro Farm and Ternakan PGS Enterprise are the key producers in the market and accounted for an estimated 55% of the market share, with Ternakan N&A Wawasan taking the lead at 23% share. Desa Selatan Beef made up the remaining top 4 players in the market, with a collective market share of 64% which indicates a moderate level of market concentration. Meanwhile, the HHI stands at 1,323 which indicates a low concentration in the local beef production sector.

A key limitation in this market concentration computation is that it only comprises private limited companies and does not include revenue generated by other form of business entities such as enterprises and sole proprietorship due to the lack of financial data by these businesses. Out of the total 220 identified beef producers involved in the raising, breeding and production of cattle or buffaloes, only 22 players were included in this computation.

Tables below outlines the estimated market share based on revenue in the year 2018/2017 for the players involved in beef production, as well as the concentration ratio for the top players and HHI. Please note that the percentages of the estimated market share below may not add up to 100% due to rounding of the numbers.

Table 68: Market Concentration (CR and HHI) of Beef Producers based on Revenue, 2018/2017

| No | Producers | Estimated market share based on revenue (2018/17) | Concentration ratio % (CR) | Herfindahl index (HHI) |
|----|---|---|--------------------------------------|------------------------|
| 1 | Ternakan N&A Wawasan Sdn. Bhd. | 23% | CR-2: 40% CR-4: 64% | 521 |
| 2 | Top Agro Farm Sdn. Bhd. | 17% | | 303 |
| 3 | Ternakan PGS Enterprise Sdn. Bhd. | 14% | | 204 |
| 4 | Desa Selatan Beef Sdn Bhd | 9% | | 84 |
| 5 | Felcra Livestock & Agri Product Sdn. Bhd. | 8% | | 65 |
| 6 | One Lazuli Sdn. Bhd. | 8% | | 57 |

| No | Producers | Estimated market share based on revenue (2018/17) | Concentration ratio % (CR) | Herfindahl index (HHI) |
|----|---------------------------|---|--------------------------------------|--------------------------|
| 7 | Risda Livestock Sdn. Bhd. | 7% | | 45 |
| 8 | Others (15 producers) | 14% | | 44 |
| | | | | 1,323 |
| | | | Moderate concentration (CR-4) | Low concentration |

Notes, assumptions and limitations in the above computation:

1. Revenues used are based on the financial year which ended in 2018 or 2017. Financial year end date differs across different companies, hence, the revenue for each company may not represent the revenue for the full year of 2018 or 2017.
2. Some of the identified companies are not included due to lack of revenue information. The industry is estimated to have approximately 220 players (based on list of establishments from DOSM), but only 22 players are included in this computation.
3. Revenues for one of the companies (Zasyaz Farm Sdn. Bhd.) is based on year 2016 due to lack of information for 2018/2017.
4. The list of companies included in this computation is based on the list of establishments from the Department of Statistics Malaysia (DOSM). There may be other establishment which are not classified under this sector in the CCM, which are not identified for this estimation.
5. The revenue of the companies may include income generated from other form of business activities.

7.1.2 Cattle Importers

Cattle importation sector has a high financial barrier to entry with only 30 active importers as of 2018. The market share is dominated by few key players, especially Ternakan Kamran which has been the leading importer over the years. The top 2 importers (Ternakan Kamran and TAF Venture) collectively accounted for 74% of the import value while the top 4 importers accounted for 82% of the market value, indicating a high level of market concentration. The HHI for import value stands at 4,473 which also indicates a high concentration of the cattle importation market.

Meanwhile, the market concentration is moderate with regards to the import volume of cattle. The top 2 importers accounted for 59% of the import volume, whereas the top 4 importers make up 68% of the total import volume. Similarly, the HHI shows a moderate level of market concentration with an index of 1,927.

Tables below outlines the estimated market share based on import value and import volume in the year 2018 for all the players involved in cattle importation, as well as the concentration ratio for the top players and HHI. Please note that the percentages of the estimated market share below may not add up to 100% due to rounding of the numbers.

Table 69: Market Concentration (CR and HHI) of Cattle Importers based on Import Value, 2018

| No | Importers | Estimated market share based on import value (2018) | Concentration ratio % (CR) | Herfindahl index (HHI) |
|----|--------------------------|---|--------------------------------------|---------------------------|
| 1 | Ternakan Kamran Sdn Bhd | 66% | CR-2: 74% CR-4: 82% | 4,348 |
| 2 | TAF Venture Sdn Bhd | 8% | | 69 |
| 3 | Abdullah Bin Nayan | 5% | | 26 |
| 4 | S.T. Ternakan Sdn Bhd | 3% | | 9 |
| 5 | AR Meats Trading Sdn Bhd | 2% | | 6 |
| 6 | Top Agro Farm Sdn Bhd | 2% | | 3 |
| 7 | Others (25 importers) | 13% | | 12 |
| | | | | 4,473 |
| | | | High concentration (CR-4) | High concentration |

Table 70: Market Concentration (CR and HHI) of Cattle Importers based on Import Volume, 2018

| No | Importers | Estimated market share based on import volume (2018) | Concentration ratio % (CR) | Herfindahl index (HHI) |
|----|--------------------------|--|--------------------------------------|-------------------------------|
| 1 | Ternakan Kamran Sdn Bhd | 36% | CR-2: 59% CR-4: 68% | 1,323 |
| 2 | TAF Venture Sdn Bhd | 22% | | 498 |
| 3 | Abdullah Bin Nayan | 5% | | 20 |
| 4 | Top Agro Farm Sdn Bhd | 4% | | 19 |
| 5 | AR Meats Trading Sdn Bhd | 4% | | 13 |
| 6 | Tasek Agro Farm | 3% | | 12 |
| 7 | S.T. Ternakan Sdn Bhd | 3% | | 8 |
| 8 | Others (24 importers) | 23% | | 33 |
| | | | | 1,927 |
| | | | Moderate concentration (CR-4) | Moderate concentration |

Notes, assumptions and limitations in the above computation:

1. Market share is estimated based on import value and volume obtained from the Department of Veterinary Services (DVS).
2. Only companies which imported cattle in the year 2018 were included in the computation.

7.1.3 Beef Importers

The beef importation industry is estimated to have approximately 86 active importers as of 2018; however, there are limited number of large players and the market share is led by Lucky Frozen and Fatric. In 2018, these top 2 importers collectively accounted for 41% of the import value. Agribiz International and Everise Frozen Foods made up the remaining top 4 players in the market, with a total value share of 57% which indicates a moderate level of market concentration. Meanwhile, the HHI for import value stands at 1,148 indicating a low concentration on the beef importation market.

In terms of import volume, the market concentration is also moderate with the top 4 importers making up 55% of the total import volume. Similarly, the HHI for import volume also indicates a low concentration with an index of 1,015 due to the presence of many other smaller importers in the market.

Tables below outlines the estimated market share based on import value and import volume in the year 2018 for all the players involved in beef importation, as well as the concentration ratio for the top players and HHI. Please note that the percentages of the estimated market share below may not add up to 100% due to rounding of the numbers.

Table 71: Market Concentration (CR and HHI) of Beef Importers based on Import Value, 2018

| No | Importers | Estimated market share based on import value (2018) | Concentration ratio % (CR) | Herfindahl index (HHI) |
|----|-------------------------------|---|--------------------------------------|--------------------------|
| 1 | Lucky Frozen Sdn Bhd | 25% | CR-2: 41% CR-4: 57% | 630 |
| 2 | Fatric Sdn. Bhd. | 16% | | 266 |
| 3 | Agribiz International Sdn Bhd | 9% | | 77 |
| 4 | Everise Frozen Foods Sdn Bhd | 7% | | 49 |
| 5 | Macfood Services (M) Sdn Bhd | 7% | | 45 |
| 6 | Hung Chuan Food Trading | 6% | | 32 |
| 7 | Others (80 importers) | 30% | | 49 |
| | | | | 1148 |
| | | | Moderate concentration (CR-4) | Low concentration |

Table 72: Market Concentration (CR and HHI) of Beef Importers based on Import Volume, 2018

| No | Importers | Estimated market share based on import volume (2018) | Concentration ratio % (CR) | Herfindahl index (HHI) |
|----|---------------------------------|--|--------------------------------------|--------------------------|
| 1 | Lucky Frozen Sdn Bhd | 21% | CR-2: 37% CR-4: 55% | 436 |
| 2 | Fatric Sdn. Bhd. | 16% | | 265 |
| 3 | Everise Frozen Foods Sdn Bhd | 9% | | 83 |
| 4 | Agribiz International Sdn Bhd | 9% | | 79 |
| 5 | Ramly Food Processing Sdn. Bhd. | 7% | | 44 |
| 6 | Hung Chuan Food Trading | 6% | | 38 |
| 7 | Macfood Services (M) Sdn Bhd | 6% | | 34 |
| 8 | Others (79 importers) | 26% | | 36 |
| | | | | 1,015 |
| | | | Moderate concentration (CR-4) | Low concentration |

Notes, assumptions and limitations in the above computation:

1. Market share is estimated based on import value and volume obtained from the Department of Veterinary Services (DVS)
2. Only companies which imported beef in the year 2018 were included in the computation.

7.2 Fish

7.2.1 Fish Producers

The CR-ratio and HHI for fish producers is computed based on available data from the Department of Statistics Malaysia on a broadly defined group of players classified under the fishing on a commercial basis in ocean and coastal waters sector (as defined by Malaysia Standard Industrial Classification).

Table below outlines the estimated production share based on revenue in the year 2016/2017 for all the players involved in fish production under the fishing on a commercial basis in ocean and coastal waters sector, as well as the concentration ratio for the top players and respective HHI. Please note that the percentages of the estimated production share below may not add up to 100% due to rounding of the numbers.

Table 73: Market concentration (CR and HHI) of fish producers, 2016/2017

| | Producers | Estimated production share based on revenue (2016/17) | Concentration ratio % | Herfindahl index (HHI) |
|----|-----------------------------------|--|---|-------------------------------|
| 1 | Timurikan Terengganu Sdn. Bhd | 11% | CR-4: 34% CR-10: 57% | 121.67 |
| 2 | Jin Sen Deep Sea Fishing Sdn Bhd | 9% | | 82.91 |
| 3 | Siong Ann Trawler Sdn Bhd | 8% | | 71.79 |
| 4 | Teng Fong Fishery Sdn Bhd | 5% | | 26.49 |
| 5 | Kah Fishery Sdn Bhd | 5% | | 22.67 |
| 6 | Poh Hock Chai Fishery (M) Sdn Bhd | 4% | | 15.94 |
| 7 | Globest Seafood Sdn Bhd | 4% | | 13.51 |
| 8 | San Hai Sdn Bhd | 4% | | 13.37 |
| 9 | Choon Leong Fishery Sdn Bhd | 3% | | 11.53 |
| 10 | Sin Hai Tat Trading Sdn Bhd | 3% | | 10.67 |
| | Others (~55 players) | 43% | | 69.76 |
| | | | | 460 |
| | | | Low to Moderate concentration (CR-4/CR-10) | Low concentration |

Note: * Financial data from SSM for financial year 2016/2017 depending on availability

Source: Computed based on SSM data

The computation of CR-4 ratio for the fish producers segment of the supply chain (at the MSIC 5-digit level) arrive at 34%, and the HHI is 460. Both analysis indicated a low concentration in the local production market.

A key limitation in this market concentration computation is that the indicators do not factor in the impact of imported fish products on competition within the market. In the marine fish market, imported products could potentially pose high level of competition to the local producers. Some fish producers identified are not included due to lack of revenue information. The sector is estimated to have approximately 341 players as of 2018, of which 29% of them are registered with CCM and the remaining are registered with ROB.¹¹¹

Other notes, assumptions and limitations in the above computation are as follows:

1. Revenues used are based on the financial year which ended in 2017 or 2016. Financial year end date differs across different companies, hence, the revenue for each company may not represent the revenue for the full year of 2017 or 2016.
2. Some of the identified companies are not included due to lack of revenue information. The industry is estimated to have approximately 341 players (based on list of establishments from DOSM), but only 65 players are included in this computation.
3. The list of companies included in this computation is based on the list of establishments from the Department of Statistics Malaysia (DOSM). There may be other establishment which are not classified under this sector in the CCM, which are not identified for this estimation.
4. The revenue of the companies may include income generated from other form of business activities.

7.2.2 Fish importers

As highlighted in Section 4.6, there are a total of 75 importers for Indian mackerel (*ikan kembung*) approved by LKIM (where the import permit is released by MAQIS). Thus, the market concentration for fish importers is computed based on the import volume of Indian mackerel (*ikan kembung*) in 2018.

Table below outlines the estimated market share based on import volume in the year 2016 to 2018 for all the players involved in import of Indian mackerel (*ikan kembung*), as well as the concentration ratio for the top players and HHI.

The estimated CR-4 and CR-10 values for the Indian mackerel (*ikan kembung*) importers were 58% and 84% respective in 2016. Within 2 years, these ratios have increased to 74% (CR-4) and 91% (CR-10) respectively, indicating a growing degree of concentration in the importers level of supply chain. The HHI value for 2016 was estimated at 1,078 and at 2,449 for 2018 which suggests a similar trend. The analysis indicated a high concentration level of importers level of supply chain.

¹¹¹ Department of Statistics Malaysia, Suruhanjaya Syarikat Malaysia

A key limitation in this market concentration computation is that the indicators are based on the aggregated Indian mackerel (*ikan kembung*) imported to Malaysia, which includes frozen fish from various country of origins.

Table 74: Market concentration (CR and HHI) of indian mackerel (*ikan kembung*) importers, 2016 - 2018

| No | Importers | Estimated market share | | |
|----|-------------------------------------|---------------------------------------|---------------------------|---------------------------|
| | | 2016 | 2017 | 2018 |
| 1 | Persatuan Nelayan Ng. Pulau Pinang | 22% | 45% | 42% |
| 2 | Imora Fishery | 15% | 18% | 24% |
| 3 | Wan Ibrahim Bin Wan Ahmad | 3% | 4% | 4% |
| 4 | Top Ocean Fishery | 5% | 8% | 4% |
| 5 | Kumpulan Samastar Sdn. Bhd. | 11% | 5% | 3% |
| 6 | Mafipro Sdn Bhd | - | - | 3% |
| 7 | Guinea Foods Sdn Bhd | - | - | 3% |
| 8 | Hamzah Bin Muhammad | 8% | 3% | 3% |
| 9 | Mat Yusoff Bin Jafar | 11% | 1% | 2% |
| 10 | Asia Marine Products Sdn Bhd | - | 4% | 2% |
| | Others | 25% (78 importers) | 12% (77 importers) | 9% (65 importers) |
| | Total Import Volume (kg) | 18,814,552 | 47,218,735 | 45,152,537 |
| | CR-4 ratio | 58% | 76% | 74% |
| | CR-10 ratio | 84% | 91% | 91% |
| | Herfindahl index (HHI) | 1,078 | 2,502 | 2,449 |
| | CR-4/ Herfindahl index (HHI) | Moderate to High Concentration | High Concentration | High Concentration |

Source: Computed based on MAQIS data

To understand further on the market concentration of importers in terms of fresh *ikan kembung*, imports from Thailand are selected for the analysis of market concentration as 96% of the fresh *ikan kembung* are imported from Thailand. The analysis in the table below shows a high concentration of fresh *ikan kembung* importers in Malaysia, suggesting an oligopolistic to monopolistic market structure.

Table 75: Market concentration (CR and HHI) of fresh Indian mackerel (ikan kembung) importers from Thailand, 2016 - 2018

| No | Importers | Market share (2016-2018) | Herfindahl index (HHI) |
|----|-------------------------------------|----------------------------------|---------------------------|
| 1 | Persatuan Nelayan Ng. Pulau Pinang | 52% | 2,688.51 |
| 2 | Imora Fishery | 26% | 652.06 |
| 3 | Kumpulan Samastar Sdn. Bhd. | 6% | 42.24 |
| 4 | Top Ocean Fishery | 6% | 39.96 |
| 5 | Mohd Zahidon Bin Ibrahim | 2% | 6.25 |
| 6 | Mat Yusoff Bin Jafar | 2% | 4.87 |
| 7 | Ibrahim Bin Othman | 2% | 3.88 |
| 8 | Md Hussin Bin Che Soh | 1% | 0.59 |
| 9 | Zainab Binti Ibrahim | 0% | 0.15 |
| 10 | A & Z Transport and Trading Sdn Bhd | 0% | 0.10 |
| | Others (32 importers) | 2% | 0.25 |
| | | | |
| | CR-4 ratio | 90% | |
| | CR-10 ratio | 98% | |
| | HHI | | 3438.86 |
| | | High Concentration (CR-4) | High Concentration |

Source: Computed based on MAQIS data on fresh ikan kembung import from Thailand

7.2.3 Fish Wholesalers

Unlike the producers and importers level of supply chain which have fewer players, the wholesale sector (which is predominantly about distribution services) is more crowded with both big and small players. There are about 3,407 wholesale permit holders which are registered with LKIM in 2017. This study identifies and focuses on companies which their core business is in the wholesale of fresh marine fish in Malaysia. The criteria and process for selecting these companies are as follows:

| | |
|---------|--|
| Step 1: | Determine whether the companies are registered with CCM |
| Step 2: | Determine whether the companies are involved in wholesale trading of fishes based on MSIC sector - wholesale of fish and other seafood. If the company is not listed under LKIM registered wholesalers, the company may be considered for coverage subject to step 3 and 4 below |
| Step 3: | Determine whether the company's principal business activities are in the trading of marine fishes instead of other activities such as aquaculture, ornamental fish, dormant, etc. |
| Step 4: | A sample of companies were being contacted to ensure the involvement in wholesale trading of marine fishes |

From the initial list of 3,407 wholesalers involved in the supply chain and the filtering process, a total of 375 wholesalers have been selected for the market concentration analysis. Table below outlines the estimated market share based on revenue in the year 2016/2017 for the selected players involved in the wholesale trading of fish and other seafood, as well as the concentration ratio for the top players and HHI.

The computation of CR-4 ratio for the fish wholesalers segment of the supply chain resulted at 17%, and the HHI is 191. Both analysis indicated a low concentration in the local wholesale market.

However, the analysis is limited by the lack of revenue information for many industry players. In addition, as the market concentration is based on the total revenue / sales of the distributors, there may be an overestimation of the impact on competition in the local market from distributors who derive a major portion of their revenues from export.

Table 76: Market concentration (CR and HHI) of fish wholesalers, 2016/2017

| | Wholesalers | Estimated market share based on revenue (2016/17) | Concentration ratio % | Herfindahl index (HHI) |
|----|--|---|---------------------------------------|--------------------------|
| 1 | SBH Marine Industries Sdn Bhd | 7% | CR-4: 17% CR-10: 31% | 48.07 |
| 2 | Ong Frozen Sea Products Trading Sdn Bhd | 3% | | 12.20 |
| 3 | JT Coldstorage Sdn Bhd | 3% | | 10.21 |
| 4 | Guan Huat Send (Heng Kee) Sdn Bhd | 3% | | 8.74 |
| 5 | Timurikan Terengganu Marine Products Sdn Bhd | 3% | | 8.17 |
| 6 | Sea Gull Frozen Foodstuffs Sdn Bhd | 3% | | 6.85 |
| 7 | Piau Kee Live & Frozen Seafoods Sdn Bhd | 3% | | 6.54 |
| 8 | Tak Chua Brothers Sdn Bhd | 2% | | 4.88 |
| 9 | Wynntech United Sdn Bhd | 2% | | 4.22 |
| 10 | Perikanan Yong Tat Sdn Bhd | 2% | | 4.21 |
| | Others (120 wholesalers) | 69% | | 77.36 |
| | | | | 191 |
| | | | Low Concentration (CR-4) | Low Concentration |

Source: Computed based on SSM data

Other notes, assumptions and limitations in the above computation are as follows:

1. Revenues used are based on the financial year which ended in 2017 or 2016. Financial year end date differs across different companies, hence, the revenue for each company may not represent the revenue for the full year of 2017 or 2016.
2. Some of the identified companies are not included due to lack of revenue information. 375 wholesalers have been selected for the analysis, but only 130 players are included in this computation.
3. The revenue of the companies may include income generated from other form of business activities.
4. The identified companies may not be exhaustive as other companies in other sectors may be involved in the trading of marine fishes.

7.3 Infant Formula

7.3.1 Infant Formula Manufacturers / Importers

Infant formula production and importation market in Malaysia is dominated by 7 key players – Nestle, Dutch Lady, Danone Dumex, Fonterra, Abbott Laboratories, Mead Johnson Nutrition and Wyeth Nutrition. These players collectively accounted for about 90% share of the revenue in 2017, while the top 4 players accounted for an estimated 80% of the market share indicating a high level of market concentration. The HHI stands at 3,193 which also indicates a high concentration in the local infant formula manufacturing and importation market.

A key limitation in this market concentration computation is that some of the companies offer a broad range of products apart from infant formula (e.g. Nestle, Dutch Lady, Abbott) and the revenues are based on the Group's revenue which reflects total income derived from all types of products. As such, there may be an overestimation of the concentration ratio and impact on competition in the local market from market players which derive a major portion of their revenues from other products.

Table below outlines the estimated market share based on revenue in the year 2017 for all the players involved in infant formula manufacturing and importation, as well as the concentration ratio for the top players and HHI. Please note that the percentages of the estimated production share below may not add up to 100% due to rounding of the numbers.

Table 77: Market Concentration (CR and HHI) of Infant Formula Manufacturers / Importers, 2017

| | Manufacturers | Estimated market share based on revenue (2017) | Concentration ratio % (CR) | Herfindahl index (HHI) |
|---|------------------------------------|---|--------------------------------------|-------------------------------|
| 1 | Nestle (M) Sdn Bhd | 54 | CR-2: 65% CR-4: 80% | 2,872 |
| 2 | Dutch Lady Milk Industries Bhd | 11 | | 118 |
| 3 | Fonterra Brands (M) Sdn Bhd | 9 | | 75 |
| 4 | Abbott Laboratories (M) Sdn Bhd | 7 | | 54 |
| 5 | Danone Dumex (M) Sdn Bhd | 7 | | 45 |
| 6 | Mead Johnson Nutrition (M) Sdn Bhd | 4 | | 14 |
| 7 | Wyeth Nutrition (M) Sdn Bhd | 2 | | 3 |
| 8 | Others (11 companies) | 7 | | 12 |
| | | | | 3,193 |
| | | | High concentration | High concentration |

Notes, assumptions and limitations in the above computation:

1. There are 11 companies under 'Others' and approximately 3 players are not included in this computation due to lack of financial data.
2. Revenues used are based on the financial year which ended in 2017. Financial year end date differs across different companies, hence, the revenue for each company may not represent the revenue for the full year of 2017.
3. As some of the companies offer a broad range of products apart from infant formula (e.g. Dutch Lady, Nestle, Abbott and Fonterra), the revenues of these companies are based on the Group's revenue which includes all types of products.

7.4 Vegetables

7.4.1 Vegetables Producers

The CR ratio and HHI for vegetables producers are computed based on available data from the Department of Statistics Malaysia on a broadly defined group of players classified under the growing of leafy or stem vegetables and growing of other vegetables sectors (as defined by Malaysia Standard Industrial Classification).

Table below outlines the estimated production share based on revenue in the year 2016/2017 for all the players involved in vegetables production based on the selection criteria stated in the earlier paragraph, as well as the concentration ratio for the top players and HHI. Please note that the percentages of the estimated production share below may not add up to 100% due to rounding of the numbers.

Table 78: Market concentration (CR and HHI) of vegetables producers, 2016/2017

| | Producers | Estimated production share based on revenue (2016/17) | Concentration ratio % | Herfindahl index (HHI) |
|----|---|--|---|-------------------------------|
| 1 | Yong Kah Plantation Group Sdn Bhd | 19% | CR-4: 46% CR-10: 69% | 357.26 |
| 2 | Monoluxury Sdn Bhd | 16% | | 266.74 |
| 3 | Meng Choon Plantation Sdn Bhd | 6% | | 40.18 |
| 4 | BBC Pelita Plantation (Jepak) Sdn. Bhd. | 5% | | 20.69 |
| 5 | Kea Chai Vegetable Sdn Bhd | 4% | | 19.93 |
| 6 | Yan Ming Plantation Sdn Bhd | 4% | | 17.34 |
| 7 | Nuovoland Sdn Bhd | 4% | | 14.31 |
| 8 | Lian Fatt Farm Sdn Bhd | 3% | | 11.21 |
| 9 | Weng Seng Agricultural Farm Sdn. Bhd. | 3% | | 11.18 |
| 10 | Ng Teck Huat Plantation Sdn Bhd | 3% | | 10.79 |
| | Others (41 producers) | 31% | | 42.00 |
| | | | | 811.64 |
| | | | Low to Moderate Concentration (CR-4/CR-10) | Low Concentration |

Source: Computed based on SSM data

The computation of CR-4 ratio for the vegetables producers segment of the supply chain (at the MSIC 5-digit level) arrives at 46%, and the HHI is 812. Both analysis indicated a low concentration in the local production market. Meanwhile, the CR-10 ratio demonstrates approximately the moderate concentration of ten larger producers in the vegetables market.

A key limitation in this market concentration computation is that the indicators do not factor in the impact of imported vegetables products on competition within the market. In the vegetables market, imported products could potentially pose high level of competition to the local producers. In addition, some vegetables producers identified are not included due to lack of revenue information. The sector within the analysis scope is estimated to have approximately 303 players as of 2018, of which 23% of them are registered with CCM and the remaining are registered with ROB.¹¹²

Notes, assumptions and limitations in the above computation:

1. Revenues used are based on the financial year which ended in 2017 or 2016. Financial year end date differs across different companies, hence, the revenue for each company may not represent the revenue for the full year of 2017 or 2016.
2. Some of the identified companies are not included due to lack of revenue information. The industry is estimated to have approximately 303 players (based on list of establishments from DOSM), but only 51 players are included in this computation.
3. The list of companies included in this computation is based on the list of establishments from the Department of Statistics Malaysia (DOSM). There may be other establishment which are not classified under this sector in the CCM, which are not identified for this estimation.
4. The revenue of the companies may include income generated from other form of business activities.

¹¹² Department of Statistics Malaysia

7.4.2 Vegetables Importers

The following section will discuss about the market concentration of round cabbage importers from 2016 to 2018. According to the data from MAQIS, about 128 approved permit holders for round cabbages have imported round cabbages into Malaysia in 2018. Table below outlines the estimated market share based on import volume in the year 2016 to 2018 for all the players involved in import of round cabbages, as well as the concentration ratio for the top players and their HHI.

The estimated CR-4 and CR-10 values for the round cabbages importers were 28% and 50% respectively in 2016. Within 2 years, these ratios have reduced to 21% (CR-4) and 35% (CR-10) respectively, indicating a reducing degree of concentration in the importers level of supply chain. The HHI value for 2016 was estimated at 362 and at 216 for 2018 which suggests a similar trend. The analysis indicated a low concentration level of importers level of supply chain in 2018.

Table 79: Market concentration (CR and HHI) of round cabbage importers, 2016 - 2018

| No | Importers | Estimated market share | | |
|----|-------------------------------------|--------------------------|--------------------------|--------------------------|
| | | 2016 | 2017 | 2018 |
| 1 | Player 1 | 11% | 9% | 8% |
| 2 | Player 2 | 8% | 7% | 5% |
| 3 | Player 3 | 5% | 5% | 4% |
| 4 | Player 4 | 5% | 5% | 4% |
| 5 | Player 5 | 5% | 4% | 3% |
| 6 | Player 6 | 5% | 4% | 3% |
| 7 | Player 7 | 4% | 4% | 2% |
| 8 | Player 8 | 3% | 3% | 2% |
| 9 | Player 9 | 3% | 3% | 2% |
| 10 | Player 10 | 2% | 3% | 2% |
| | Others | 50% | 54% | 65% |
| | | (99 importers) | (83 importers) | (118 importers) |
| | Total Import Volume (kg) | 56,450,854 | 90,569,261 | 117,728,703 |
| | | | | |
| | CR-4 ratio | 28% | 26% | 21% |
| | CR-10 ratio | 50% | 46% | 35% |
| | Herfindahl index (HHI) | 362 | 309 | 216 |
| | CR-4/ Herfindahl index (HHI) | Low Concentration | Low Concentration | Low Concentration |

Source: Computed based on MAQIS data

7.4.3 Vegetables Wholesalers

The CR ratio and HHI for vegetables producers is computed based on available data from the Department of Statistics Malaysia on a broadly defined group of players classified under the wholesale of vegetables (as defined by Malaysia Standard Industrial Classification).

| | |
|---------|--|
| Step 1: | Determine whether the companies are registered with CCM |
| Step 2: | Determine whether the company's principal business activities are in the trading of vegetables |
| Step 3: | A sample of companies were being contacted to confirm the involvement in wholesale trading of vegetables |

According to the establishment census conducted by Department of Statistics, there are a total of 1,370 establishments which are involved in the wholesale of vegetables. A total of 155 wholesalers have been selected for the market concentration analysis. Table below outlines the estimated market share based on revenue in the year 2016/2017 for the selected players involved in the wholesale trading of vegetables, as well as the concentration ratio for the top players and HHI.

The computation of CR-4 ratio for the vegetables wholesalers segment of the supply chain resulted at 26%, and the HHI at 306. Both analysis indicated a low concentration in the local wholesale market.

However, the analysis is limited by the lack of revenue information for many industry players. In addition, as the market concentration is based on the total revenue / sales of the distributors, there may be an overestimation of the impact on competition in the local market from distributors who derive a major portion of their revenues from export.

Table 80: Market Concentration (CR and HHI) of Vegetables Wholesalers, 2016/2017

| | Wholesalers | Estimated market share based on revenue (2016/17) | Concentration ratio % | Herfindahl index (HHI) |
|----|--|---|---|--------------------------|
| 1 | TS Vege Trading Sdn. Bhd. | 10% | CR-4: 26% CR-10: 44% | 98.32 |
| 2 | Hup Heng Import & Export Sdn. Bhd. | 7% | | 47.97 |
| 3 | Lian Hoe Huat Enterprise (M) Sdn. Bhd. | 5% | | 21.42 |
| 4 | Wastech Multigreen Sdn. Bhd. | 4% | | 18.71 |
| 5 | Eng Hin Global Sdn. Bhd. | 4% | | 13.49 |
| 6 | Chong Yin Kim Trading Sdn. Bhd. | 3% | | 11.51 |
| 7 | Bemaran Sdn. Bhd. | 3% | | 7.83 |
| 8 | Linkme LM Trading Sdn. Bhd. | 3% | | 7.81 |
| 9 | Kenn Senn Foods Industries (M) Sdn. Bhd. | 3% | | 7.41 |
| 10 | Lexus Agriculture Sdn. Bhd. | 2% | | 6.18 |
| | Others (84 wholesalers) | 56% | | 65.71 |
| | | | | 306 |
| | | | Low to Moderate Concentration (CR-4/CR-10) | Low Concentration |

Source: Computed based on SSM data

Other notes, assumptions and limitations in the above computation are as follows:

1. Revenues used are based on the financial year which ended in 2017 or 2016. Financial year end date differs across different companies, hence, the revenue for each company may not represent the revenue for the full year of 2017 or 2016.
2. Some of the identified companies are not included due to lack of revenue information. 150 wholesalers have been selected for the analysis, but only 94 players are included in this computation.
3. The revenue of the companies may include income generated from other form of business activities.
4. The identified companies may not be exhaustive as other companies in other sectors may be involved in the trading of vegetables.

7.5 Retail Level of Supply Chain

There are a large number of channels from the retailers to customers for each product category covered in this study. The channels can be further segregated into traditional and modern trade which were highlighted in the respective market assessment. Table below illustrates the estimated number of establishments which are involved in the retail level of supply chain for the respective product categories.

| MSIC Sector | Total number of establishments (2015) |
|---|--|
| Retail sale of fresh or preserved vegetables and fruits | 17,404 |
| Retail sale of dairy products and eggs | 180 |
| Stores specialised in retail sale of pharmaceuticals, medical and orthopaedic goods | 8,335 |
| Retail sale of fish, other seafood and products thereof | 9,219 |
| Retail sale of meat and meat products (including poultry) | 6,897 |
| Provision stores | 52,960 |
| Supermarket | 1,230 |
| Mini market | 6,629 |
| Hypermarket | 715 |

Source: Department of Statistics Malaysia

Given the large number of industry players which are involved in this level of supply chain, it is challenging to estimate market shares for the retail level. Nevertheless, the retail level of all product categories covered in this study is deemed to be fairly competitive despite higher bargaining power of modern retailers. This is also supported by the analysis of the retail cost price ratio for certain product categories such as fish and beef which are relatively high as discussed in the respective market assessment chapters.

8. ANTI-COMPETITION CASES AND APPROACHES IN OTHER COUNTRIES

Table 81: Summary of Anti-Competition Cases within the Beef Sector

| Country | Case | Anti-competition conducts / areas of concerns | Verdicts / measures to address the concerns |
|-----------|--|--|---|
| Indonesia | Beef market investigation (2015) | <ul style="list-style-type: none"> - Provision of import quotas to a selection of companies has given them some influence to determine the market supply and prices - 32 Indonesian cattle importer and beef feedlot companies colluded to manipulate beef prices by curtailing the distribution of beef products on the domestic market. - These companies were also curbing imports of beef by not making full use of their allowed import quota, causing inflationary pressures. | <ul style="list-style-type: none"> - The 32 companies were penalised with a combined IDR 107 billion (approx. USD \$8.1 million) - Proposal to replace cattle import quotas with a tariff system whereby the tariff could be lowered when there is a lack of supply and provide businesses more incentive to import cattle. Meanwhile, when there is oversupply, the import tariffs could be raised to make locally bred cattle more competitive. |
| Australia | Market review of the cattle and beef industry (2016) | <ul style="list-style-type: none"> - The cattle and meat industry are susceptible to market manipulation as producers are plentiful and relatively small, while the sales and processing segment are increasingly concentrated downstream. - Shortcomings in the transparency of price reporting weakens price signals that guide production decisions and creates information asymmetries between industry participants. - Allegations of anti-competitive conducts in sale yard auctions, including collusion and bid-rigging | <ul style="list-style-type: none"> - Make price grids publicly available in a timely manner to increase the ability of producers to negotiate and make informed decisions about who to sell their cattle to. - Improve and expand data collection and public reporting of cattle sale prices across the supply chain and sales channels. - Develop a mandatory sale yard buyer register which is publicly available prior to the commencement of all physical livestock auctions to increase transparency and reduce the risk of |

| Country | Case | Anti-competition conducts / areas of concerns | Verdicts / measures to address the concerns |
|--------------|--|---|--|
| | | among buyers as some businesses employ a single buyer to coordinate bidding to avoid competition and of agreements about who will win. | <p>conflicts of interest.</p> <ul style="list-style-type: none"> - Provide more detailed reporting of sale yard purchases, including information about the identity of buyers and the proportion of stock purchased by each buyer. |
| South Africa | Investigation on beef processing companies (2017) | <ul style="list-style-type: none"> - Two beef processing companies (Irvin & Johnson and Karan Beef) have colluded agreement in contravention of the Competition Act by dividing markets by allocating specific types of goods and customers in the supply of processed beef products. - The agreement between these companies has resulted in Karan Beef no longer being a competitor in the market, leaving the market for I&J. | <ul style="list-style-type: none"> - Karan Beef has pleaded guilty and paid an administrative penalty of R2.7 million, which was 3.5% of the annual turnover of the affected division. - The Commission has asked the Tribunal to impose an administrative penalty of 10% of I&J's annual turnover. |
| Ireland | Proceedings against Irish beef industry association BIDS (2003 – 2011) | <ul style="list-style-type: none"> - BIDS was formed by the ten principal processors of beef and veal in Ireland to reduce the total capacity of the industry by 25% after a government market study revealed that overcapacity could lead to a decline in profitability. - To achieve its objective, BIDS formed an arrangement by which major players in the industry agreed to compensate players who would voluntarily leave the industry. In return, the | <ul style="list-style-type: none"> - European Court of Justice (ECJ) ruled that the agreements between competitors to restrict capacity or production are hardcore restrictions of competition. - Although BIDS was allowed the opportunity to argue its case on efficiency grounds and prove that the positive effects outweighed the negative effects, BIDS decided not to implement the |

| Country | Case | Anti-competition conducts / areas of concerns | Verdicts / measures to address the concerns |
|---------|--|---|---|
| | | <p>players leaving agreed to decommission their processing plants, refrain from using the associated lands for processing beef for a period of five years and sign a two-year non-compete clause with regard to processing anywhere in Ireland.</p> | <p>agreement and withdrew its claim effectively.</p> |
| France | Anti-competitive conducts by beef federations (2000) | <ul style="list-style-type: none"> - A sharp decline in demand for beef precipitated by the Bovine Spongiform Encephalopathy (BSE) outbreak led to a course of conduct by various players in the industry that was ultimately deemed to be anti-competitive. - Six federations representing the beef farmers and the slaughterers reached an agreement which consisted of a commitment to temporarily suspend imports of all types of beef and a commitment to apply a certain slaughterhouse entry price scale to culled cows. - The agreement suggested the existence of a so-called “crisis cartel” which denotes collusive behaviour caused by a downturn in a particular industry or the economy as a whole. - Although the EU Commission warned the federations on the unlawful agreement, the federations continued their cartel secretly on the basis of an oral agreement. | <ul style="list-style-type: none"> - Fines totalling €16.7 million was imposed on the six French federations. Due to the facts of the case (i.e. the mad cow disease crisis), the fines were reduced by 70%. |

Table 82: Summary of Anti-Competition Cases within the Fisheries Sector

| Country | Case | Anti-competition conducts / areas of concerns | Verdicts / measures to address the concerns |
|--------------|---|---|---|
| South Africa | Investigation on pelagic fish operators | <ul style="list-style-type: none"> - Horizontal relationship to fix the price through meetings and correspondence using a standard formula applied to the price of fishmeal to determine the prices to be paid. - Agreement to allocate geographical influence. - Sharing of competitively sensitive information which gave rise to indirect fixing of the price of canned fish sold to consumers. - Price-fixing on the fishing quota rental fees by the proxy of three quota holding companies in respect of the use of their pilchard quota. - Signing of non-compete clause between shareholders from the group of companies | <ul style="list-style-type: none"> - Penalty of R35.7 million (which represents 5% of its turnover derived from its pelagic fish operations in South Africa in 2010) for price fixing. |
| Russia | Investigation on Pollock cartel | <ul style="list-style-type: none"> - Coordinated economic activities of market agents through communications between members of the Association and agreements on the volume of Pollock harvesting and production of Pollock products, resulting in reduced production. | <ul style="list-style-type: none"> - Fines over USD 3.3 million for violations of the antimonopoly law. - Strengthening on the enforcement of Antimonopoly Regulation to combat cartels |
| Netherlands | Investigation on shrimp traders cartel | <ul style="list-style-type: none"> - Minimum price agreements and output restrictions as well as barriers of entry of new shrimp traders to Dutch fish auctions. - The cartel consisted of price agreements, concerted practices and exchanges of sensitive information | <ul style="list-style-type: none"> - Penalty of a total of € 28 million for price fixing cartel. |

| Country | Case | Anti-competition conducts / areas of concerns | Verdicts / measures to address the concerns |
|---------|------|--|---|
| | | <p>between suppliers of North Sea shrimp. According to the contested decision, the objective of the cartel was to influence jointly the price levels for North Sea shrimp, limit competition and stabilise the market. The agreement also involved the allocation of customers among the colluded parties.</p> <ul style="list-style-type: none"> - The companies involved have high combined market shares in the European Economic Area (EEA), estimated to be around 80%. - The coordinated price level at which the retailer bought their shrimps directly affected the prices charged to the end-consumers. | |

Table 83: Summary of Anti-Competition Cases within the Infant Formula Sector

| Country | Case | Anti-competition conducts / areas of concerns | Verdicts / measures to address the concerns |
|-----------|--|---|---|
| Singapore | Market inquiry into the supply of formula milk in Singapore (2015) | <ul style="list-style-type: none"> - The average retail prices of formula milk have gone up by 120% over the past 10 years, mainly due to the increase in mark-up of wholesale prices over manufacturing costs by manufacturers. - The market is dominated by major players which engage primarily in non-price competition and compete on building a premium brand image through aggressive marketing activities and R&D to develop and introduce new ingredients. - Significant resources and heavy investments in marketing and innovation present significant barriers to the entry for new brands or barriers to expansion for existing brands. - Parents in Singapore exhibit strong brand loyalty and there is a certain degree of information asymmetry on the nutritional requirements as some parents perceive the more expensive or premium products to be of better quality. - Retailers are also keen to stock mainly what consumers demand, further reinforcing the brand loyalty displayed by consumers, exacerbate information asymmetry and present significant barriers to entry for new brands. | <ul style="list-style-type: none"> - Educate consumers on the nutritional requirements of infants and young children, and to improve consumer awareness of the availability of a variety of formula milk products at different price points. - Encourage price competition within the same brands by reviewing parallel importation rules while still maintaining food safety and security as well as between brands through exploring the introduction of private labels. - The sponsorships and payments that formula milk manufacturers provide and their impact on the milk rotation programmes in the hospitals could be reviewed to reduce the barrier to entry and expansion for new and existing brands. |

| Country | Case | Anti-competition conducts / areas of concerns | Verdicts / measures to address the concerns |
|---------|---|--|--|
| | | <ul style="list-style-type: none"> - Major retailers prefer to obtain formula milk supply only from the local authorised distributors and there is a negligible presence of parallel imports. Given the lack of alternative sources of supply of formula milk products, major retailers tend to be price takers and have limited ability to counter the price increases by the manufacturers and/or distributors. | |
| China | Investigation against infant formula companies (2013) | <ul style="list-style-type: none"> - Six multinational infant formula manufacturers were involved in price fixing and anti-competitive practices by taking various measures for resale price maintenance (RPM) such as agreements with distributors for RPM, direct or indirect fines for non-compliance, reductions in rebates, limiting or discontinuation of supplies. | <ul style="list-style-type: none"> - After the probe was announced, a number of companies cut prices on their baby formula in China by up to 20%. - The six companies were fined a total of \$110 million. |

Table 84: Summary of Anti-Competition Cases within the Vegetables Sector

| Country | Case | Anti-competition conducts / areas of concerns | Verdicts / measures to address the concerns |
|---------|--|---|--|
| Greece | Hellenic Competition Commission – Market inquiry into Fruits and Vegetables Sector | <ul style="list-style-type: none"> - Limits participation in the market and establish geographical restriction to wholesalers established in other areas to enter the central market in Patras - Exclusivity clause, which allowed only one central market to exercise organised wholesale trade within a specific region, together with inefficient quality-control management and producers' limited negotiating power towards wholesalers which led to higher production costs in comparison with other countries in Southern Europe - Presence of inefficiencies in the market structure which hinder the development of economies of scale across the supply chain. - Weak position of producers and the strong bargaining power of the wholesalers in the supply chain. | <ul style="list-style-type: none"> - Abolition of market codes, abolition of obligatory notification of price lists, simplification of relevant regulations on the relations between supply chain actors. - Conditional abolishment of exclusivity of central market - Significant retail price reductions, 6 to 9% on average, corresponding to an estimated |

| Country | Case | Anti-competition conducts / areas of concerns | Verdicts / measures to address the concerns |
|--------------|--|---|---|
| China | Market dominance case of Haikou Nanbei Vegetable Wholesale Market Co., Ltd | <ul style="list-style-type: none"> - The case involves a vegetable wholesale market which take advantage of its market dominance by engaging in market bullying, commercial bribery, overcharging and other illegal conduct. - The company leveraged on its dominant power by requiring unified registration and collection of tricycle management fees where vehicles not registered for the license are not allowed to enter the market. - Requirement for traders within the market to limit the variety of vegetables managed by each stall, and restraint the traders from operating beyond their scope of business determined by the company through signing of contract. Such practice allows the company to allocate the market volume flow. | <ul style="list-style-type: none"> - Penalty decision against Haikou Nanbei Vegetable Wholesale Market Co., Ltd, with the confiscation of illegal income of RMB 2,424,500 and a fine of RMB 608,650 - Proposal to strengthen the vegetable prices monitoring and streamline market information. - To carry out centralised spot check of the vegetable market and strengthen the enforcement by blacklisting companies involving in other illegal or dishonest behaviours. - Support new players entry into the wholesale market by providing guidance and convenient services, while exempting them from industrial and commercial registration. |
| South Africa | Investigation on Institute for Market Agents of South Africa | <ul style="list-style-type: none"> - Agreement and/or engaged in a concerted practice to fix the price and trading conditions for the supply of freshly produced fruits and vegetables in South Africa; - Undercut the prices charged by smaller intermediaries by charging way below the market price for certain agreed periods of a trading day; further make decisions regarding the actual timing of the price increases; - Reserve certain fresh produce grades for certain buyers, therefore, engaging in price discrimination | <ul style="list-style-type: none"> - All players involved (including the association) have been charged and referred by the Commission to the Tribunal for prosecution. |

| Country | Case | Anti-competition conducts / areas of concerns | Verdicts / measures to address the concerns |
|---------|---|--|--|
| | | based on the identity of buyers. | |
| India | Competitive Assessment of Onion Markets | <ul style="list-style-type: none"> - Control of market structure by the traders - Well-connected big traders and its networks with market intermediaries in other markets which play a major role in hoarding the stock for expected high prices. - Higher retailer’s mark-up over the wholesale markets price by more than 150% in almost all major markets. - Existence of anti-competitive elements in the onion markets through analysis of seasonal indices, correlations, daily, monthly arrivals their prices etc., in which collusion among traders was confirmed where it was undertaken through secret bidding and the traders collude to share the produce. | <ul style="list-style-type: none"> - Encourage free entry of new commission agents and traders (including private companies) for market efficiency and efficient price formation - Strengthen regulatory system for effective monitoring and weeding out market intermediaries playing multiple roles and engaging in unfair practices - Promote direct sales of farmers to wholesalers and link small farmers’ produce to retail chains to reduce marketing costs. - Develop better system for forecasting total production considering economic and meteorological events; Record, disseminate and analyse price data for onion in key markets in the country for better price transmissions to the actors involved in the supply chain. |

9. CONCLUSION AND RECOMMENDATIONS

Beef, fish, vegetables and infant formula are among the most significant food items consumed by consumers in Malaysia. Hence, any fluctuations in prices at any level have a huge impact on the food security, suppliers' and consumers' welfare. Through the market assessment, it has been observed that Malaysia is experiencing consistent increase in prices for the respective products covered in this study.

Before the inception of this market review, the MyCC was concerned that there might be competition concerns for the five (5) products covered in this study. In fact, some concerns from the viewpoint of market structure, policy driven issues, regulatory barriers, market efficiencies and/or other market practices concerns were identified following this study. Each of the product market covered in this study may differ in terms of market characteristics, although there were some common market efficiency issues identified for certain product groups.

Based on the assessment conducted, several areas of concerns related to market and policy driven issues has been identified which may require further attention from respective authorities and industry players.

| Product categories | Areas of concern |
|--------------------|--|
| Beef | <ul style="list-style-type: none"> • Significant increase in the prices of beef • High dependence on importation and vulnerability to price increases • Limited number of exporters • High barrier to entry and subsequent dominance of importers |
| Fisheries | <ul style="list-style-type: none"> • Long-term effect on classification of certain species as <i>ikan rakyat</i> • Geographical concentration of key distribution hub • Presence of multiple intermediaries • Possible limitation of supply to influence price • Exposure to trader's opportunism |
| Infant formula | <ul style="list-style-type: none"> • High barriers to entry and dominance of multinational companies • Information asymmetry on the nutritional requirements of infant formula and increasing trend towards premiumisation • Spill over effect from cross promotion of infant formula • High dependence on importation |
| Vegetables | <ul style="list-style-type: none"> • Abuse of AP by industry players • Market sharing of pricing information • Emergence of a key of distribution hub • Higher bargaining power observed by modern retailers |

Despite the constraints faced in conducting this market review¹¹³, the Commission is of opinion that the market assessment in this study allows a fair view of the challenges in the market in relation to the five (5) food sub-sectors.

To address the areas of concern identified and challenges faced by the industries which may affect their level of competitiveness, as well as to further promote competition within the industry, below are the overarching recommendations proposed in this study:

1. Promote investment and encourage innovation within the sector (such as domestic production, food security, support new and existing policy, infrastructure development, adoption of technology, support entrepreneurship, etc.)
2. Strengthen the legal system and regulatory policy to reduce information asymmetry, enhance market transparency and improve the monitoring along the supply chain of the respective markets
3. Improve information access on the respective markets and encourage fair trading practices through consumer and business education respectively
4. Streamline and harmonise the existing government policies and intensify the existing efforts to improve the performance of agricultural sector

Detailed policy recommendations for all the food products covered in this study is discussed further in the section below.

¹¹³ Please refer to section 1.5, page 32

9.1 Beef

1. *Revitalizing the domestic beef production while diversifying the source of beef importation*

Issue:

Malaysia is highly dependent on the importation of beef and relies primarily on two key importing countries (i.e. Australia contributes over 90% of fresh / chilled beef, while India contributes almost 80% of frozen beef). The prices of beef in both countries have been in an upward trend for the past few years, and there is currently limited number of exporters in these key import countries which may lead to the oligopoly among exporters that supply to Malaysia.

Recommendation:

The government should re-strategize and utilise a different approach to ramp up domestic beef production and ensure a consistent local supply in the market. The beef sector should be revitalised, and this can be done through strategic partnership with the private sector and existing companies which have been successful in the local beef farming industry. Besides that, the government should also play an active role in encouraging and incentivising local and non-local domestic beef producers and cattle farmers including potential market players.

Apart from relying on the two (2) key importing countries, the government should aggressively explore for more potential exporting countries to ensure the sustainability of supply and wider choices to ensure more competition in the market. For instance, Singapore¹¹⁴ has 17 approved countries for the importation of beef. Meanwhile, Malaysia currently has 7 approved countries for importation of beef (Australia, New Zealand, India, Brazil, Pakistan, USA, Japan) while 2 more countries (South Africa and Argentina) are in the process of being ¹¹⁵approved as potential countries which have been identified to fulfil the SPS requirements. Nevertheless, there is a lack of approved establishments in these countries. As such, relevant authorities should actively collaborate with trade agencies from existing and potential key countries to promote and expand the entry of more exporters. Increase in competition among exporters will lead to more choices for local importers as well as ensure market efficiency and competitive prices.

It is to be noted that Singapore and the Philippines are reliant on more countries for importation of frozen buffalo as highlighted in the table below. While Indonesia is still limited in terms of beef supply sources, the government also continues to boost price affordability and reduce dependence on traditional suppliers by diversifying the sources with Brazil currently being reviewed and Argentina being considered for market access.

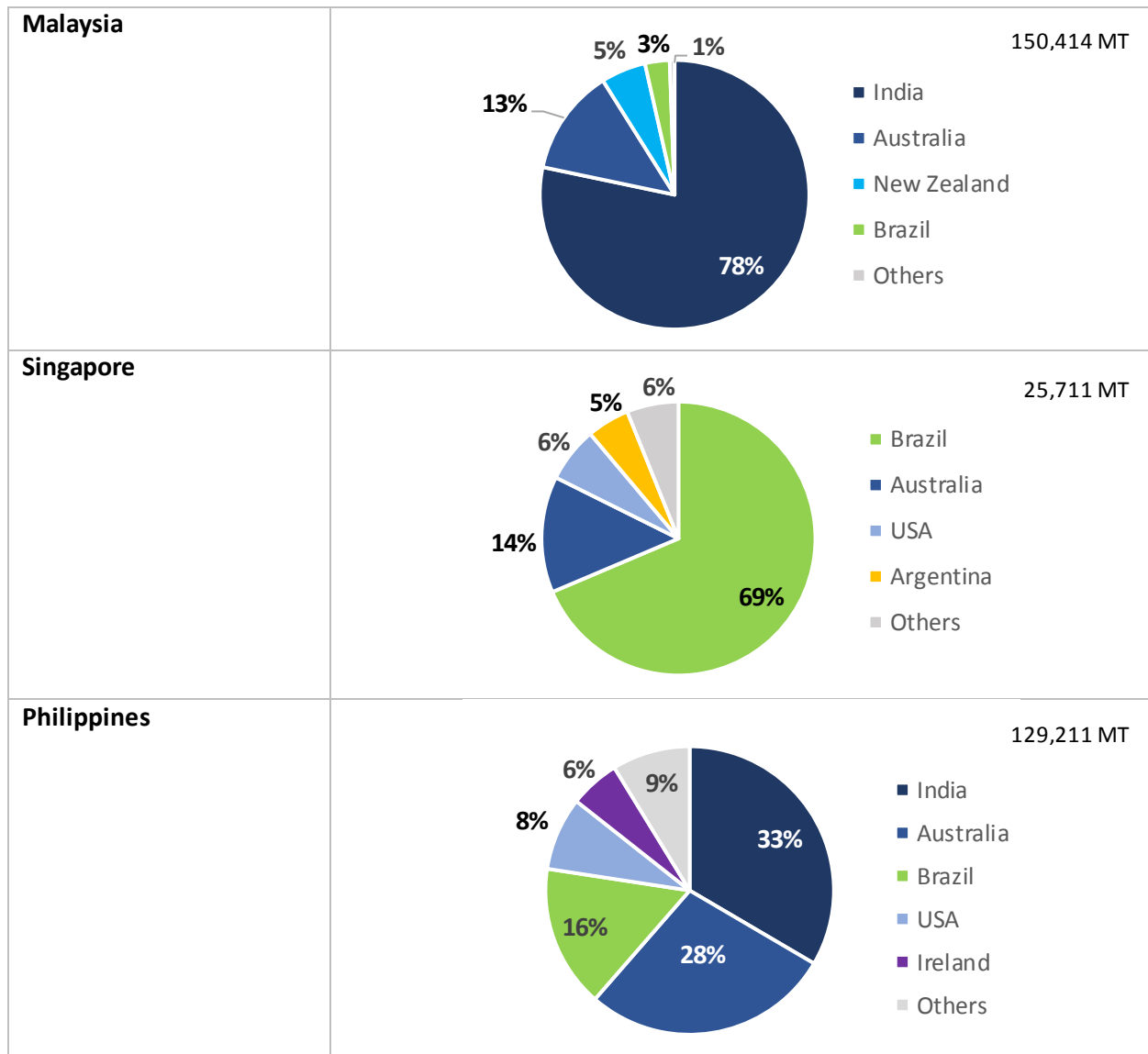
¹¹⁴ Singapore Food Agency. <https://www.sfa.gov.sg/docs/default-source/tools-and-resources/resources-for-businesses/approved-countries>

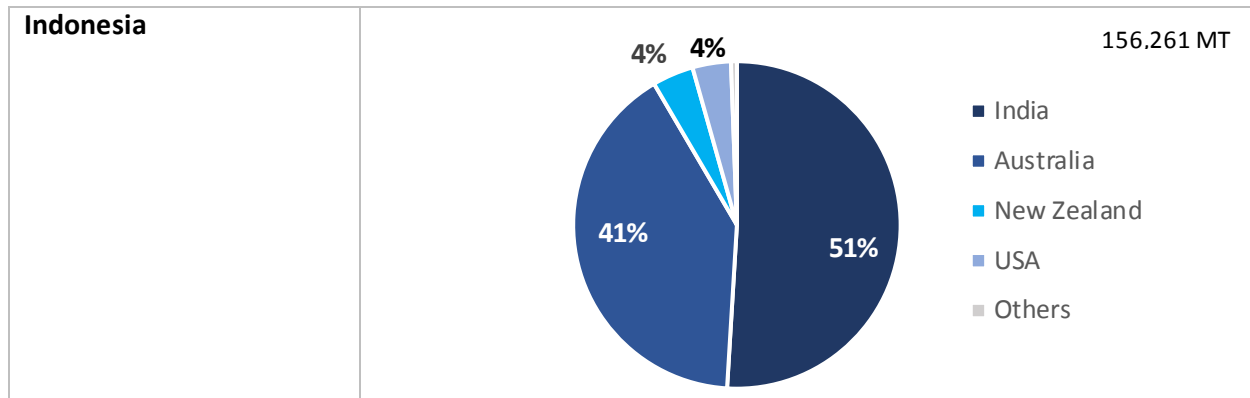
¹¹⁵ However, it should be noted that other Islamic countries such as Egypt relies on 4 countries (USA, India, Ireland and Brazil), while Turkey relies on six countries (Poland, Bosnia, Hungary, Serbia, France and Russia) for beef import.

Suggested Stakeholders:

- Ministry of Agriculture and Agro-based Industry (MOA)
- Ministry of Entrepreneur Development (MED)
- Ministry of International Trade and Industry (MITI)
- Department of Veterinary Services (DVS)
- Malaysia Quarantine and Inspection Services (MAQIS)
- Jabatan Kemajuan Islam Malaysia (JAKIM)
- Industry Associations

Figure 116: Frozen Bovine Imports by Country of Origin (2018)





Source: International Trade Centre (ITC)

2. Develop a national policy on local animal feed production

Issue:

The cost of animal feed account for about 10% of the total production cost per cattle in integrated farming and about 60% of production costs for feedlots. While Malaysia is a leading producer of PKE and PKC, most of the local producers are keener to export these products due to high demand in the global market. As such, local prices of PKC and PKE are impacted by global demand and global prices despite being manufactured locally, resulting in high feed prices. Besides the ruminant sector, high cost of animal feed is also a pertinent issue to the non-ruminant sector as it is highly dependent on imported ingredients such as grains (e.g. soybean, maize), vegetables and animal proteins.¹¹⁶

Recommendation:

Besides increasing the local beef production, the government should also focus on reducing the cost of doing business in the domestic market. This can be achieved through the development of an integrated national animal feed policy in order to reduce the cost of animal feed. This policy should not only target ruminant sectors, but also be expanded to non-ruminant and aquaculture sectors to ensure economics of scale. As Malaysia is not a grain producer, the PKE and PKC which are produced locally also should be marketed not only foreign market but also in the local market. Therefore, there government should aim to develop animal feed centres across Malaysia.

Various incentives (financial/non-financial) can be considered to promote the entry of new players to formulate animal feeds from local agro-industrial products, as well as to encourage existing manufacturers to provide consistent supply for the local market at an affordable price. This will eventually reduce the dependence on imported animal feed ingredients and lower the cost of animal farming in the country.

¹¹⁶ Nor Anma A'liah Mohammad Nor and Mohamad Hifzan Rosali. *The Development and Future Direction of Malaysia's Livestock Industry*. 2015

Suggested Stakeholders:

- Ministry of Agriculture and Agro-based Industry (MOA)
- Ministry of Entrepreneur Development (MED)
- Ministry of International Trade and Industry (MITI)
- Department of Veterinary Services (DVS)
- Malaysian Agricultural Research and Development Institute (MARDI)
- Malaysian Palm Oil Board (MPOB)
- Industry Associations (e.g. Federation of Livestock Farmers' Associations of Malaysia, Malaysian Feedmillers Association MFA, NEKMAT, NAFAS, LPP)
- KEJORA, MADA, KADA, KETENGAH

9.2 Infant Formula

3. *Promote mothers to breastfeed their infants as recommended in the National Breastfeeding Policy of Malaysia*

Issue:

The MOH recommends exclusive breastfeeding for the first six months and continued breastfeeding to two years of age. However, the exclusive breastfeeding rates among infant under six months old stood at 47.1% in 2016 and about 30% of infant aged 6 months were fully or partially dependent on infant formula in 2018.

Recommendation:

Commitment and supports from all sectors are required to ensure the success of breastfeeding. MOH has undertaken various efforts to help and support mothers to breastfeed as it is the safest and most economical way to feed the babies. Some of the initiatives include the implementation of the Code of Ethics, Baby Friendly Hospital Initiatives, establishment of breastfeeding mothers' support group, establishment of the National Lactation Centre and breastfeeding room in work place setting. As such, relevant stakeholders should support MOH's efforts and initiatives to encourage mothers to breastfeed and provide adequate support such as the development of breastfeeding room at workplace, extended paid maternity leave and flexible work hours for mothers with infant below the age of 12 months.

Suggested Stakeholders:

- Ministry of Health (MOH)
- Ministry of Women, Family and Community Development (MWFCD)
- Ministry of Human Resources (MOHR)
- Lembaga Penduduk dan Pembangunan Keluarga Negara (LPPKN)
- International Baby Foods Action Network (IBFAN)
- World Alliance for Breastfeeding Action (WABA)
- Industry associations, support groups and other relevant NGOs

4. Educate consumers on the nutritional requirements of infants and improve awareness on the availability of infant formula products at different price points

Issue:

There is asymmetric information with regards to the nutritional requirement by infants and consumer perception on premium brands. Although all infant formula products sold in the country are required to meet the minimum nutrient composition specified in the food regulation, most parents are generally unaware of this and perceive that additional ingredients are better and essential.

Recommendation:

As the communication between manufacturers/distributors and consumers are not allowed under the Code of Ethics implementation, the trained healthcare professionals should take charge on educating and informing consumers (parents/caretakers) on infant formula. Consumers should be well informed that all infant formula in the market, including the mainstream brands meet the minimum nutritional requirements under the Food Regulations 1985 as an alternative nutritional need for infants for their growth and development. Apart from healthcare providers, the government in particular the Ministry of Health (MOH) should actively advocate consumer education on infant formula besides implementing the Code of Ethics in order to cater to mothers and infants with certain medical conditions.

Suggested Stakeholders:

- Ministry of Health (MOH)
- Malaysian Paediatric Association (MPA)

5. Explore the introduction of private labels (house brands)

Issue:

The infant food sector in Malaysia is dominated by multinational companies and consumers display strong brand loyalty towards these brands.

Recommendation:

As market players are prohibited from undertaking any marketing or promotional activities of infant formula, the government should explore the introduction of private labels (house brands) particularly in relation to premium brands with certain established retailers to widen the choices for consumers including competitive pricing. There have been successful cases of the entry by private labels in countries such as South Korea and Italy which have alleviated the increase in prices of formula milk. In South Korea, the constant unit price of formula milk declined with the launch of private label products. Meanwhile, in Italy, the entry of a private label (Coop) in 2004, priced at €10 as compared to average prices of €29 (Starter Milk) and €22 (Follow-on Milk) was successful in gaining a market share of 17% after one month and 25% after three months. The successful entry triggered the entry of another private label by pharmacies which gained 20% of market share of this channel. As a result

of the two entries, the price of infant formula fell by 18% and 30% in the pharmaceutical and modern retail channels respectively.

Suggested Stakeholders:

- Ministry of Health (MOH)
- Ministry of Domestic Trade and Consumer Affairs (MDTCA)
- Ministry of Entrepreneur Development (MED)
- Ministry of International Trade and Industry (MITI)
- SME Corporation
- Malaysian Investment Development Authority (MIDA)
- Industry Associations (e.g. Malaysia Retailers Association (MRA))

6. Encourage industry players to introduce more affordable options by producing and innovating infant formula locally

Issue:

Generally, the local infant formula sector is highly dependent on importation. Even infant formula which are manufactured locally are also highly reliant on the import of raw materials due to the insufficient domestic supply of milk and lack of specialized production of ingredients for infant formula in the country. Besides that, the mainstream infant formula brands are usually priced about RM30/kg while the price differences between premium brands vary based on additional nutrients.

Recommendation:

Industry players should be encouraged to set up innovation centre or production plants locally. At the same time, the government should identify local companies which have the capability or are keen to participate in the industry. There should be a proper plan, including provision of incentives by the government in ensuring participation of local players. For example, China has recently unveiled *The Action Plan for Promoting Domestic Infant Formula* to boost local output and reduce reliance on imports. Under the new program, China aims to achieve 60% self-sufficiency for infant formula and improve the quality of domestic brands through initiatives in areas such as standard-setting, innovation and quality control. It will support domestic companies in acquiring or setting up overseas bases for milk sources to lower the raw material costs, encourage foreign companies to invest and build production bases in China as well as tighten regulations on the milk-powder imports and online sales platforms.

Suggested Stakeholders:

- Ministry of Health (MOH)
- Ministry of Domestic Trade and Consumer Affairs (MDTCA)
- Ministry of Entrepreneur Development (MED)
- Ministry of Economic Affairs (MEA)
- Malaysian Investment Development Authority (MIDA)

- Federation of Malaysian Manufacturers (FMM)
- Industry Players

7. Continuous engagement between MOH and industry players in ensuring seamless vetting process

Issue:

MOH explained that the vetting process usually takes approximately 1 to 2 months with around 25 to 40 materials being processed and approved in one meeting. The common reason for the delays, if any, is due to submissions which do not comply with the requirements set by MOH. On the same note, industry players have highlighted that the current review period for the vetting of labels and information materials, as well as the approval of new ingredients are time consuming. Thus, it limits their capacity to introduce new products into the market.

Recommendation:

Further engagement between industry players and the MOH is encouraged to ensure that the current processes are streamlined to address the shortcomings, if any. Both parties should consider digitalizing the application process. Once the shortcomings are addressed, the industry players must ensure that they adhere to the requirements in order to avoid any further issues.

Suggested Stakeholders:

- Ministry of Health (MOH)
- The Special Task Force to Facilitate Business (PEMUDAH)
- Malaysia Productivity Corporation (MPC)
- Malaysian Administrative Modernisation and Management Planning Unit (MAMPU)
- Federation of Manufacturers Malaysia (FMM)
- Industry Players

8. Consider the introduction of precise product segmentation and supervision on cross promotion

Issue:

Although the marketing of Stage 1 and Stage 2 formula is prohibited, players may engage in cross promotion by leveraging on the marketing of Stage 3 and special formula mainly through similar branding elements to indirectly promote infant formula. The similar brand architecture across the different stages of milk formula may create confusion among consumers and reduce the effectiveness of restrictions on infant formula marketing, advertising and promotion.

Recommendation:

In order to minimise the spill over effect from cross promotion of Stage 3 formula, the government may consider introducing regulations in order to supervise the marketing of infant formula. For example, the branding elements and labelling of Stage 3 should be different from that of Stage 1 formula in terms of colour scheme, design, slogans and symbols. The differentiation in terms of product labelling may ensure a more neutral decision making by consumers. It is important, however, to ensure that consultation with the industry players are undertaken to allow exchange of views

before any regulations are imposed and gazetted. Also, industry players should be given sufficient grace period to implement any regulatory changes.

Besides that, MOH should implement precise product segmentation to lessen the opportunity for players to carry out further product sub-classification. This step is necessary to prevent confusion among consumers and enhance their decision making. Product labelling is recommended to be structured as follows:

| | | | |
|-----------------------------------|---|---------------------------------|---|
| Stage 1 / <i>Tahap 1</i> | Infant formula / <i>Rumusan bayi</i> | 0 – 12 months / <i>bulan</i> | No further product sub-classification such as Step 1, Step 2, Step 3 or additional segmentation such as Stage 4 and Stage 5 |
| Stage 2 / <i>Tahap 2</i> | Follow-up formula / <i>Rumusan susulan</i> | 6 – 36 months / <i>bulan</i> | |
| Stage 3 / <i>Tahap 3</i> | Formulated milk powder for children / <i>Susu tepung rumusan untuk kanak-kanak</i> | 1 – 9 years / <i>tahun</i> | |
| Special stage / <i>Tahap khas</i> | Special formula / <i>Rumusan khas</i> | 0 - 36 months / <i>bulan</i> | |

Suggested Stakeholders:

- Ministry of Health (MOH)
- Ministry of Domestic Trade and Consumer Affairs (MDTCA)
- World Health Organization (WHO)
- Federation of Malaysian Manufacturer's Infant Formula Ethics Committee (FIFEC)
- Industry Players
- Support Groups, NGOs, and associations which have interest in the industry

9.3 Fish

9. Active consumer education to be market and demand-driven

Issue:

Majority of the consumers tend to prefer fresh *ikan kembung* despite availability of various options and product substitutions in the fisheries market. Consumer preference and limited market information on the availability of other options had diverted consumer inclination towards *ikan kembung*. Thus, there will be market reaction when there is an increase in prices of *ikan kembung*. Meanwhile, prices of fresh *ikan kembung* have been on an increasing trend due to continuous high demand from the consumers and depleting fresh catch. The government has introduced Q'fish, an alternative for fresh *ikan kembung* at an affordable price. However, the products remain unknown to the market and consumers.

Recommendation:

Apart from *ikan kembung*, there are various substitutes in the market such as other fish products, fresh frozen fishes (Q'fish), as well as production from aquaculture sector. These product varieties offer better options for consumers at more affordable prices and there is a huge potential for this market to be further explored.

There is a need to improve the promotion and product information dissemination related to Q'fish products, and this is where the government should play their strategic role. The government should convince the consumers that frozen fresh fish is comparable to fresh fishes and it should provide the channel for the industry players to penetrate the market of Q'fish easily. Besides, public-private partnership (PPP) should be encouraged to spearhead the supply, sales and marketing of Q'fish. This would allow the government to minimise its role and investment so that the efforts can be focused on educating the consumers on fresh frozen fish.

The other main substitute for fresh fishes can be obtained from aquaculture sector. Mainstream and well-integrated developments in aquaculture sector are carried out through various production channels i.e. brackish water, fresh water and marine culture system. The government should further leverage on this sector as it will provide more choices to the consumers, and at an affordable and competitive pricing. Once the consumers are provided with the choices, the demand will be shifted towards other type of fishes and eventually it will lead to competitive pricing in the market which will benefit the consumers as a whole.

Suggested Stakeholders:

- Ministry of Agriculture and Agro-based Industry (MOA)
- Ministry of Domestic Trade and Consumer Affairs (MDTCA)
- Lembaga Kemajuan Ikan Malaysia (LKIM)
- Department of Fisheries (DOF)
- Malaysia Agricultural Research and Development Institute (MARDI)
- Federation of Malaysian Consumers Associations (FOMCA)

- Persatuan Nelayan Kebangsaan (NEKMAT)
- Associations and Industry Players

10. Develop inclusive e-commerce policy

Issue:

The fish supply chain involves 4 - 6 intermediaries before the produce reaches to the consumers. This has caused the price to increase substantially as compared to the landing price. Initiatives on leveraging e-commerce to agribusiness to minimise the layer of intermediaries in the market are slowly gaining attention in the policy landscape as well as among consumers. There are many good initiatives available in the market, however there should be concerted effort between agencies and/or private entities in view of the various initiatives currently taking place across various governmental policies as illustrated in Section 4.5.

Recommendation¹¹⁷:

Initiatives such as e-commerce platform selling fishes, and online fish auction and bid system in the Malaysian market which are currently at its nascent stage could be further encouraged amongst the enterprises and consumers in Malaysia. Separately, the government should consider consolidating the existing policies which focus on the e-commerce initiatives into one unified structure to avoid redundancy of efforts. This can best be achieved through a well-integrated and comprehensive approach to policy development, across various government agencies.

Meanwhile, the government and local investment companies should continuously support the investments or start-ups with innovative business model in agriculture field such as e-commerce. For example, a startup from China, which is worth a potential RMB 10 billion in valuation in 2019 and backed by various investment firms, has managed to disrupt the traditional wholesaling in China by cutting out middlemen¹¹⁸.

Increased digitalisation will help to improve the efficiency and integration of supply chain, thereby lower down the prices of fish. Meanwhile, usage of technology could help facilitate the fisheries control and transparency within the sector, while improving the market bargaining power of fishermen.

Suggested Stakeholders:

- National Action Committee on e-Commerce, MDTCA
- Ministry of Agriculture and Agro-based Industry (MOA)
- Malaysia Digital Economy Corporation (MDEC)
- National eCommerce Council (NeCC)
- SME Corporation

¹¹⁷ <https://www.malaymail.com/news/malaysia/2019/05/19/fish-auctions-on-fb-live-yes-its-a-thing-in-malaysia-and-thousands-are-hook/1754308>; <https://www.undercurrentnews.com/2018/02/06/dutch-online-fish-auction-eyes-potential-to-improve-transparency-in-developing-countries/>

¹¹⁸ <https://www.bloomberg.com/news/articles/2019-07-10/tencent-backed-meicai-is-said-to-seek-at-least-500-million>

- Industry players such as investment firms, private equity, venture capitalist

9.4 Vegetables

11. Encourage transparency in the AP approval system

Issue:

Generally, AP for round cabbage is important to protect the local producers and agriculture sector as a whole. Although the current AP application is open to all eligible parties, there are concerns whereby the due diligence of applicants could be improved further. The utilisation of AP has been misused through rental or sales of AP privilege, and that it is alleged that foreign companies were able to leverage such opportunity to be involved in the market vertically by using other importers' AP.

Recommendation:

Close monitoring on post-granted AP is important in ensuring competitive pricing of round cabbages in the market. Their AP rights should be reconsidered if the AP holders are found selling or "renting their AP rights to others which will contribute to the increase of cost of doing business and at the same time distort the market. While the AP applicants are required to adhere to the requirement set by DOA in its application, the process of AP application needs to be more forthcoming. For instances, DOA could provide more clarity to the applicant in case of rejection in order to encourage industry players to participate in the future application.

Suggested Stakeholders:

- Ministry of Agriculture and Agro-based Industry (MOA)
- Ministry of Domestic Trade and Consumer Affairs (MDTCA)
- Royal Malaysian Customs Department (RMCD)
- Department of Agriculture (DOA)
- Malaysia Productivity Corporation (MPC)
- The Special Task Force to Facilitate Business (PEMUDAH)

9.5 General

12. Modernise the wholesale market by developing competitive centralised food hub

Issue:

As highlighted in the case study, PBKL are mired with multiple issues such as the extra operating fees, influx of foreigners, illegal renting of stalls, supply restriction etc. as the current operation method is still traditional, exacerbated with aging facilities, poor hygiene issue and inadequate space to fulfil the market demand. Also, the current business environment in PBKL is congested and is facing risks and challenges caused by illegal activities.

Recommendation:

The government should consider establishing new wholesale market(s) to tackle the issues within PBKL, which is more modern to offer integrated services while provides adequate premises and facilities for farmers, wholesalers, importers, logisticians, packing activities, processors, etc. in a strategic location and enable traders to supply high quality products in a conducive environment. The upgraded market needs to be a sustainable development and also be profitable and financially attractive to benefit to both food businesses and end consumers in various aspects such as providing new business and marketing channels, enhance efficiency of food distribution, improved hygiene and safety standards while leveraging on AI & big data centric supply chain to streamline the market information. Involvement of independent party across the supply chain in managing the market is also encouraged. This would foster a healthy competition, improve operational and delivery efficiency as well as provide more choices along the supply chain.

Suggested Stakeholders:

- Ministry of Housing and Local Government (KPKT)
- Ministry of Domestic Trade and Consumer Affairs (MDTCA)
- Ministry of Economic Affairs (MEA)
- Ministry of Entrepreneur Development (MED)
- Ministry of Agriculture and Agro-based Industry (MOA)
- Kuala Lumpur City Hall (DBKL) and local states authorities

13. Fair trading practices across supply chain

Issue:

Given the higher bargaining power of hypermarket due to their volume and consumer's preference with hypermarket, producers/wholesalers have worked directly with the hypermarket to market their products. However, there are some additional costs which are imposed by the hypermarket such as rebate (back-margin), advertisement cost, sponsorship etc. to their suppliers. This has added extra costs to the suppliers which subsequently are passed to the end consumers.

Recommendation:¹¹⁹

The government should promote fair trading practices across supply chain through developing comprehensive framework and effective enforcement activities which prevents hypermarket from imposing irrelevant costs to the suppliers under their trading terms. For example, costs such as sponsorship and promotional rebates should be on good faith and voluntary basis.

Suggested Stakeholders:

- Ministry of Domestic Trade and Consumer Affairs (MDTCA)
- Malaysia Retailers Association (MRA)
- Malaysia Competition Commission (MyCC)
- Industry Players

14. Boosting local food security

Issue:

The local agro-food sector is still anchored as an importer rather than a self-sufficient one. The trade balance on food has been in deficit, primarily due to the heavy reliance of imported food products which include beef, *ikan kembung* and round cabbages. Besides that, one of the key issues surrounding agriculture is the lack of land availability for farming areas which limits the competitiveness of the industry.

Recommendation:

The land issue needs to be further studied to determine more productive use of land in order to ensure a stabilized local food production. Thereafter, the government may consider providing specific zones for agricultural activities and lease the lands to farmers with minim/um charges to boost the local production. Besides that, the productivity and competitiveness of the local agro-food sector can be increased through utilisation of advanced technology such as precision farming which can be explored in agricultural corridors and potential areas such as Segamat, Cameron Highlands and Permatang Pauh. Specifically, for fisheries, long-term management of resources should be undertaken to prevent overfishing and ensure consistent supply of marine fishes including from aquaculture sector in the local market.

¹¹⁹ <https://www.dlapiper.com/en/uk/insights/publications/2018/05/regulating-trading-practices-in-b2b-supply-chains/>

Suggested Stakeholders:

- Ministry of Agriculture and Agro-based Industry (MOA)
- Ministry of Entrepreneur Development (MED)
- Malaysian Agricultural Research & Development Institute (MARDI)
- Malaysian Productivity Corporation (MPC)
- Department of Fisheries (DOF)
- Department of Veterinary Services (DVS)
- Department of Agriculture (DOA)
- Lembaga Pertubuhan Peladang (LPP)
- Agrobank

15. Minimising inefficiencies across the supply chain

Issue:

Wastage is a common occurrence within the agro-food sector, mainly due to the perishable nature of the products. The average post-harvest loss along the supply chain in agro-food was at 30% in 2013. These wastages have created inefficiencies across the supply chain, especially at Pasar Borong Kuala Lumpur. Consequently, additional fees are often charged by the wholesalers and retailers in order to account for the risk factor associated with wastages.

Recommendation:

The government should consider undertaking a comprehensive review of the agro-food supply chain and identify areas which can be improved to reduce inefficiencies and wastages. Some of the potential key areas to be assessed include coordination of production supply and demand, coordination among producers and suppliers, post-harvest handling and practices especially packaging and storage, adequacy of storage facilities and logistics especially cold chain infrastructure, utilisation of advanced supply chain tools and agricultural transport regulations. The government could also potentially leverage on the nationwide food bank initiative introduced by MDTCA.

Suggested Stakeholders:

- Ministry of Agriculture and Agro-based Industry (MOA)
- Ministry of Domestic Trade and Consumer Affairs (MDTCA)
- Federal Agricultural Marketing Authority (FAMA)
- Malaysian Agricultural Research & Development Institute (MARDI)
- Kuala Lumpur City Hall (DBKL)
- Konsortium Pasar Borong Sdn Bhd
- Industry associations

16. Promote the use of technology to enhance traceability in the supply chain

Issue:

There is currently a lack of traceability, especially in terms of pricing across the supply chain within sectors with multiple layers of middlemen such as the fisheries and vegetables sector. This has resulted in information asymmetries between industry players, leaving the market susceptible to manipulation and unfair practices, especially towards the upstream producers.

Recommendation:

The utilisation of technology platform can provide greater transparency to various stakeholders in the supply chain. Specifically, for producers, it can provide greater visibility into demand for access to better production control and price data which can allow them to better negotiate price and receive a greater portion of the final consumer price.

Suggested Stakeholders:

- Ministry of Domestic Trade and Consumer Affairs (MDTCA)
- Ministry of International Trade and Industry (MITI)
- Department of Statistics Malaysia (DOSM)
- Malaysia Competition Commission (MyCC)

17. Educate market players in the food sector on Competition Laws

Issue:

Generally, there is a good level of awareness about the Price Control and Anti-Profiteering Act 2011. However, the knowledge about anti-competitive conduct is limited. For instances, it is common that the players communicate with one another using social media or online communication services to discuss about pricing. Although such practice may not constitute to anti-competitive conduct, but if left unmonitored, it could become a platform for price-fixing agreements. One of the concerns is the introduction of *i-harga* platform by a service provider to players at PBKL to monitor the real time prices of vegetables.

Recommendation:

Further awareness initiatives can be carried out to educate not only the industry players and associations about all practices that could be a violation of the Act, but the end users as well. MyCC should also conduct an assessment on *i-harga* in order to determine whether there is presence of competition issues in the system.

Suggested Stakeholders:

- Malaysia Competition Commission (MyCC)

10. APPENDICES

Appendix 1: Pasar Borong Kuala Lumpur

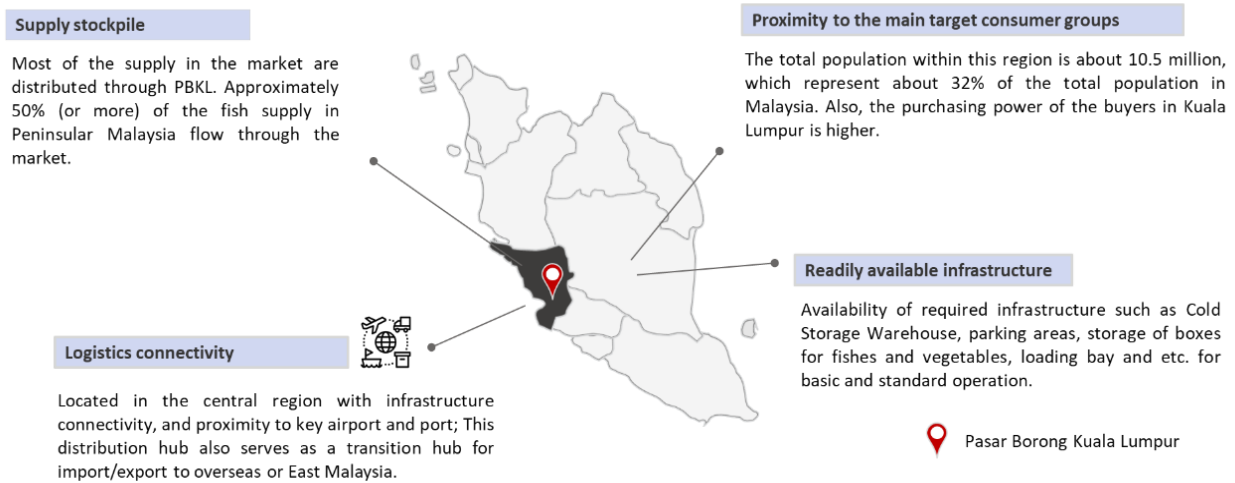
Figure 117: PBKL and the business environment within the market



Role of PBKL

Pasar Borong Kuala Lumpur is the largest wholesale market in Peninsular Malaysia. It is located within the Central region (within 100 km radius of Kuala Lumpur, Selangor, Negeri Sembilan, Malacca) and is close to the main target market group. PBKL has been in existence since decades ago and has played an important role as a key distribution hub for fresh fish and vegetable produces in Peninsular Malaysia. PBKL is one of the top 3 distributors/wholesalers for producers in Pahang, Perak and Perlis.¹²⁰

Figure 118: Importance of Pasar Borong Kuala Lumpur



Management of PBKL

PBKL is owned by DBKL but the management and operation of DBKL is segregated into three main services as follows:

Figure 119: Structure of Pasar Borong Kuala Lumpur



¹²⁰ Industry interviews

The current structure of PBKL is a strategic partnership between the services provider and DBKL to harmonise the business environment within PBKL, which used to be filled with notorious issues such as pilferage of fresh supplies, influx of illegal foreigners and crime-related issues. For example, Konsortium Pasar Borong Sdn Bhd (KPB) is a strategic partner with DBKL to manage the services within PBKL. The company's main business activity is to manage and operate re-used plastic and fibre box as well as unloading goods at the Kuala Lumpur Wholesale Market. In return, these service providers would pay a marginal gross profit to DBKL for the business's activity. The current structure indicates existence of dominant players in services management within PBKL.

Figure 120: Services Providers within PBKL



Konsortium Pasar Borong Sdn Bhd (KPB)

As highlighted earlier, KPB manages the services within the PBKL. The consortium's main source of income is shown in the below table.

Table 85: Source of income of KPB

| Services Charges | Other forms of income |
|--------------------------------------|---|
| a. Stall instalment. | a. Production of Reuseable plastic container. |
| b. Box collection (Agent). | b. Fiber box rental. |
| c. Transportation. (Transporter) | c. Forklift rental. |
| d. Unloading of vegetables / fruits. | d. Disposal charge (contractor). |

KPB is a coalition between the government and industry players to manage the administrative services within PBKL together to ensure the business environment is well controlled. Its shareholding can be split into two different groups as shown in the table below.

Table 86: Members of KPB

| Government Agencies Representative | Industry Players Representative |
|---|--|
| <ol style="list-style-type: none"> 1. Fama Corporation Sdn Bhd 2. Majuikan Sdn Bhd (subsidiary under LKIM) 3. Pertubuhan Peladang Kebangsaan (NAFAS) 4. Persatuan Nelayan Kebangsaan (NEKMAT) | <ol style="list-style-type: none"> 1. KL Vegetables Association Sdn Bhd 2. Camarkota Sdn Bhd 3. Galeri Wawasan Sdn Bhd 4. KL Hoi Seong Enterprise Berhad |

Besides KPB, there is an individual operator within PBKL which are mainly managing insulator box services of size 100kg and above, while KPB manages insulator box services of size 70kg and below. Currently, the market share ratio of KPB and the individual operator is at 40:60.

Extra Costs in PBKL

In order to operate the business in PBKL, wholesalers and end buyers would have to incur extra costs to their total cost of business. Although such extra costs are meant to harmonise the business environment within PBKL, it has added extra cost pressure to the industry players. Some of the extra costs that has to be borne by the players are parking fee, basket fee, taxi fee etc.

Table 87: Expenses to be incurred when operating in PBKL

| Type of expenses | Description of expenses |
|--------------------|--|
| Parking fee | <ul style="list-style-type: none"> • Depending on the size of the vehicles, it may range up to RM10 per hour. • Alternatively, monthly package of RM300 per month is also available on the parking fee. • This fee has become ‘compulsory’ to reserve their spot as there is often lack of parking space within the PBKL and the players are not allowed to park their lorry at the loading area. Parking at the loading area without ticket may be subjected to summon fee. • The players had to choose to accept the summon fee (which costs about RM100 per summon) or take up the daily or monthly parking fee to secure a spot. |
| Basket fee | <ul style="list-style-type: none"> • Depending on size of the basket: <ul style="list-style-type: none"> ○ 10kg – RM0.80 ○ 20kg – RM1.20 ○ 25kg – RM1.50 - The players are not allowed to use their own basket to load/unload the goods. If the basket is found within the PBKL, it would be confiscated by KPB (note: the service is outsourced to Win Progress (M) Sdn Bhd). - The usage of basket is tracked using card system and any loss of card is chargeable at RM20 per card. |

| | |
|------------------------------|---|
| Taxi fee | <ul style="list-style-type: none"> • An extra service offered by the workers in PBKL where the rates vary based on time and distance of travelling • Under the existing rule set by KPB, the workers are required to be registered with KPB in order to rent the 'teksi' from KPB. They have to provide deposit to KPB for the usage of taxi. |
| Loading/Unloading fee | <ul style="list-style-type: none"> • Vegetables: chargeable at RM1/carton(20kg). • The players are not allowed to use their own resources (labour) in unloading/loading the goods as it will disrupt the system set by KPB. |

Besides, there is limitation in terms of restriction of ice supplier within the PBKL. There is only one ice supplier in PBKL and the players are not allowed to use their own ice supply within the PBKL. Under the existing rule, all the remaining unsold fishes are not allowed to be sent out from PBKL to prevent pilferage issue and all must be sent to the cold storage operated by a sole service provider i.e. Forever Fresh Cold Storage Sdn Bhd in PBKL.

Figure 121: Photos of loading bay, taxi services (fish/vegetables) and loading/unloading within PBKL





How does business work in PBKL?

Each day, players in the market would survey the price of their competitors and the final selling price from different stalls would only differ by a few cents, suggesting that the price in the market is rather standardised. They usually set their selling price based on the average price in the market, or after finding out the market price from their workers. The wholesalers would somewhat already know the selling price for the produce with its intelligence from close connection (i.e. from whatsapp group, wechat, tea session, etc.). Moreover, there is a perception that wholesalers do not truly compete against each other when determining prices, but instead 'follow' the price announcements of a group of major players in the market. The pricing in PBKL also serves as an indication for the prices in nearby market and influence the pricing in other regions. Price flow within the market is rather open and there has been an emerging pricing platform within the PBKL known as *i-harga*, which offers membership subscription package to identify the daily price of the vegetables goods. *i-harga* deploys a team of people to collect the purchase and selling price of Grade A vegetables from sellers at PBKL (note: In instances where the vegetable grade is lower than grade A, it will be up to the seller to set the selling price based on his judgement of the value of the vegetable's grade). Upon collection of the data, the price data will be averaged out and it will be updated on the platform daily (or within 2 hours if there are any changes on the price).

Other issues in PBKL

Apart from the additional costs that burden the traders within the PBKL, influx of foreign traders who do not have the permit to trade dominates the fresh produce market (>90% of workers in PBKL are foreigners). The normal rental rate for a stall at PBKL is approximately RM1,400 per month (sized 20 sq ft). However, the foreigners are able to rent the stall and permit license from the owner of the stall, which raised concern on the legality of their ownership right. According to industry insights, some owner of the stall even sells their lot at RM1.3million and the payment is done in cash terms. The monthly rental fee per lot can cost RM20,000 to RM30,000. Each lot can then be split into 4 mini lot and each lot is chargeable RM3,000 per month and they are further split into two shifts per day.

To make matter worst, the foreigners without proper license or could not rent a spot would sell the fresh producer by the road side. They normally obtain the leftover goods at zero cost or 3-4 times cheaper than the market price and subsequently sell it at a considerably cheaper rate to its customers at minimal margin.

The business in PBKL is primarily based on mutual trust and the payment method is either cash or credit. Only limited players within PBKL has automated their business processes and majority are still adopting the traditional pen and paper method. Foreigners who have worked long period in PBKL would be able to work out some arrangement with their towkays whereby they obtain the supplies from their wholesalers and help in selling the fishes to other buyers. Foreigners may exploit the opportunity and subsequently sell the fishes at a higher price, forming as additional layer of intermediaries and are distorting the competition within the PBKL.

Despite being the busiest and largest wet market in the region, PBKL is neither well maintained nor modernized. The garbage management system is not systematic and the drains along the market are filled with waste, causing the environment to be unhygienic and unsafe. Besides, there have also been claims that the market area is becoming filthy and polluted, mainly caused by foreign workers. Vegetables sent to PBKL are packed within PBKL and there have been instances where foreign workers and refugees at PBKL went through the dumpsters at the market to pick out the best of the discarded vegetables to repackage and sell them at a low price.

Figure 122: Photo of leftover vegetables in PBKL



In summary, the issues and market conduct in PBKL suggests an inefficient market structure. Although the costs operating within PBKL are necessary to harmonise the environment within PBKL, the extra costs for traders operating in PBKL has also created additional costs that are eventually being passed on to the consumers. Furthermore, due to the big volume of fresh supply that flows through the PBKL, it has created a geographical monopoly which has also allowed them to influence the market price to a certain extent. This is evident where players from other level of supply chain or other wet markets would consider the price offered in PBKL as one of the factors for determining their selling price

Appendix 2: Rise of Logistics Cost in Malaysia

Logistics is one of the key cost factors for products which are highly dependent on importation such as round cabbage, beef and infant formula. The cost of logistics in Malaysia has been increasing over the past few years and has potentially contributed to the increase in the prices of imported goods.

The table below highlights the inland logistics charges by shipping lines and depots at Port Klang, which includes ancillary transportation charges. As seen below, the total average charges per import shipment has increased significantly, by about 100% from 2013 to 2016 and 60% from 2016 to 2019. In fact, the average charges for import shipments has grown at a much faster rate compared to the to export charges. The rise in the logistics cost has resulted in an increase in the cost of doing business, some of which may have been transferred to consumers.

Table 88: Average Import Charges Per Import Shipment Per TEU (20ft)





| | | 2013 (RM) | 2016 (RM) | 2019 (RM) |
|--|---------------------------|--------------------|---|--|
| Shipping Lines/ Shipping Agents | | | | |
| 1. | Container Deposit | 100 per box | 500 per box | 1000 per box |
| 2. | Container Seal Charge | 10 per seal | 20 per seal | 35 per seal |
| 3. | Delivery Order Fee | 80 | 180 | 215 |
| 4. | Carrier EDI Fee | 30 per BL | 30 per BL | 35 per BL |
| 5. | Terminal Handling Charges | 335 per box | 405 per box | 605 per box |
| 6. | Demurrage Charge | 50 per day per box | 150 per day per box | 300 per day per box |
| 7. | Detention Charges | 50 per day per box | 150 per day per box | 300 per day per box |
| 8. | Agency Recovery Fees | 10 per box | 15 per box | 20 per box |
| 9. | Telex Release Fee | 80 | 150 | 185 |
| Depot Operators | | | | |
| 1. | Depot Gate Surcharge | 5 | 30 | 35 |
| TOTAL (without 6&7) | | 650 | 1,330 | 2,130 |
| PERCENTAGE INCREASED | | |  104% |  60% |

Table 89: Average Import Charges Per Import Shipment Per TEU (20ft)

| | | 2013 (RM) | 2016 (RM) | 2019 (RM) |
|--|---------------------------|-------------|--|--|
| Shipping Lines/ Shipping Agents | | | | |
| 1. | Bill of Lading Fee | 130 per box | 175 per box | 215 per box |
| 2. | Container Seal Charge | 10 per seal | 20 per seal | 35 per seal |
| 3. | Carrier EDI Fee | 30 per BL | 30 per BL | 35 per BL |
| 4. | Terminal Handling Charges | 335 per box | 405 per box | 605 per box |
| 5. | Agency Recovery Fees | 10 per box | 15 per box | 20 per box |
| 6. | Telex Release Fee | 80 | 150 | 185 |
| Depot Operators | | | | |
| 1. | Depot Gate Surcharge | 5 | 30 | 35 |
| TOTAL | | 600 | 825 | 1,130 |
| PERCENTAGE INCREASED | | |  37.5% |  37% |

Note: Shipping charges can vary by shipping lines (charges above is of average) – derived from liner website & shippers invoice

The Federation of Malaysian Manufacturers (FMM) has previously highlighted its concerns about the increase in various ancillary transportation charges by service providers at Port Klang and indicated that some of the charges levied were higher in comparison with those imposed by neighbouring countries.¹²¹ FMM has called for the government to study the regulation of the fees and oversee fees imposed by the shipping companies to remove any inefficiencies and cartel activities among players.

¹²¹ <https://www.freemalaysiatoday.com/category/nation/2017/09/27/high-time-shipping-charges-were-regulated-says-fmm/>

Appendix 3: The Impact of SHMMP on Beef Prices

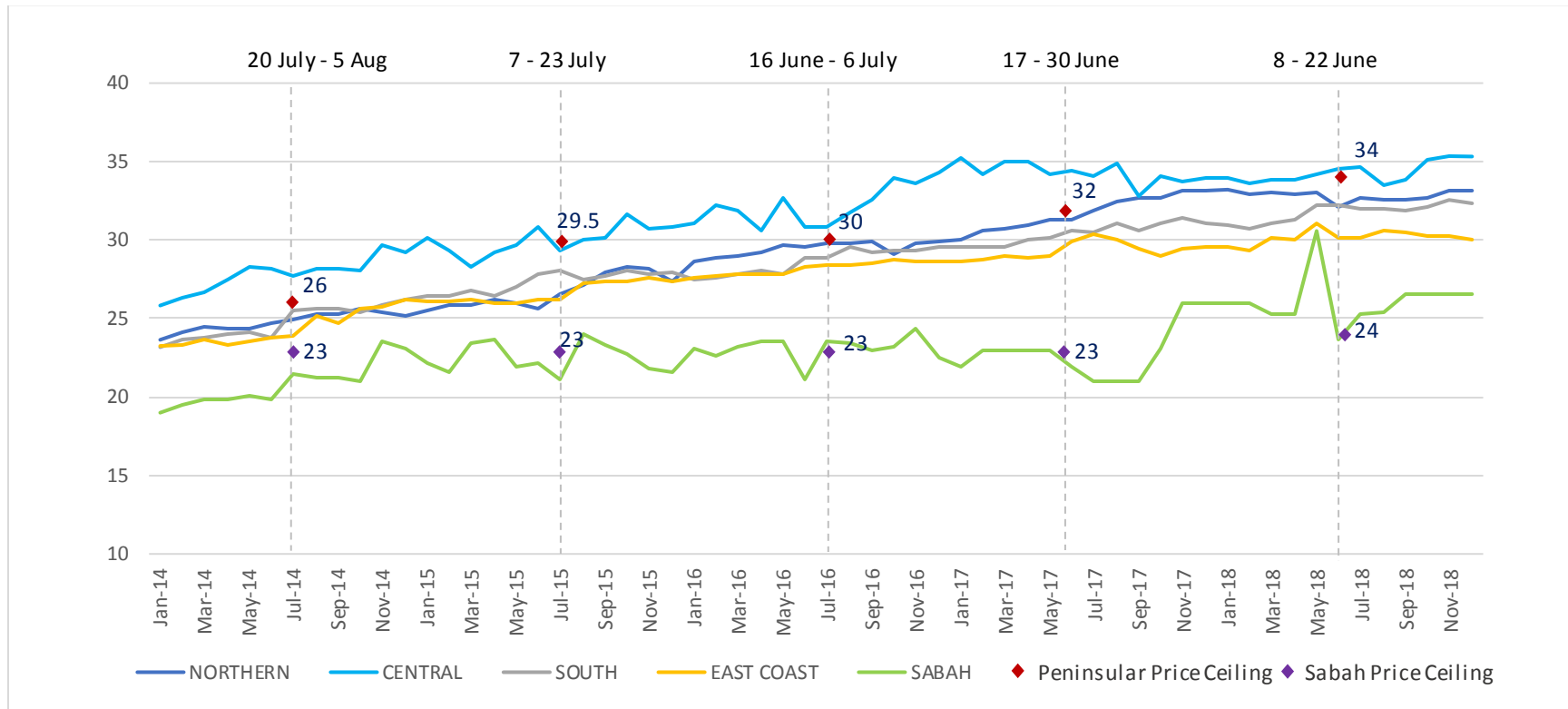
Both local beef and imported beef/buffalo are subjected to SHMMP during the Hari Raya Puasa period. The ceiling price under the SHMMP is usually determined around 3 months before the festive period based on historical price trend as well as consensus and consultation with industry regulators and associations. The prices of local beef and imported buffalo meat from India are subjected to SHMMP in all the states across Malaysia, with the exception of Sarawak. However, Sarawak is subjected to price ceiling for imported beef.

For local beef, the prices are controlled at different rates in Peninsular Malaysia and Sabah during the festive period. While the price ceiling in Sabah has been maintained at about the same rate over the past few years, the price ceiling in Peninsular has been on an uptrend. Based on Figure 123 below, the retail prices in Northern, Southern and East Coast region are generally lower than the stipulated price ceiling and there is no significant trend of price mark up by retailers during this period. However, the price ceiling plays an influential factor within the local beef sector as it is often used by traders as a reference point to devise the prices for subsequent months following the festive period. On the other hand, the average prices of local beef in the Central region are mostly higher than the price ceiling during the festive period. This may imply that most of the beef retailers in the Central region do not adhere to the price ceiling and a stronger enforcement may be required to ensure compliance to SHMMP. Meanwhile, the local beef prices in Sabah have been fluctuating over the years; however, the average retail prices have been maintained at or lower than the stipulated price ceiling. This indicates that the SHMMP may have been effective in ensuring price stability during the festive period in Sabah.

Similar to local beef, the price ceiling for imported buffalo meat from India are also different for Peninsular and Sabah. Based on Figure 124, the prices in Peninsular Malaysia are generally stable during the festive period and are maintained around the price ceiling. Meanwhile, the average prices in Sabah are mostly higher than the price ceiling during the festive period.

Due to the limitation of data and presence of various factors which affect the prices of both and imported beef/buffalo, a more in-depth analysis would be required in order to assess and ascertain the impact of SHMMP on beef prices.

Figure 123: Average Price of Local Beef by States of Malaysia (RM/kg)



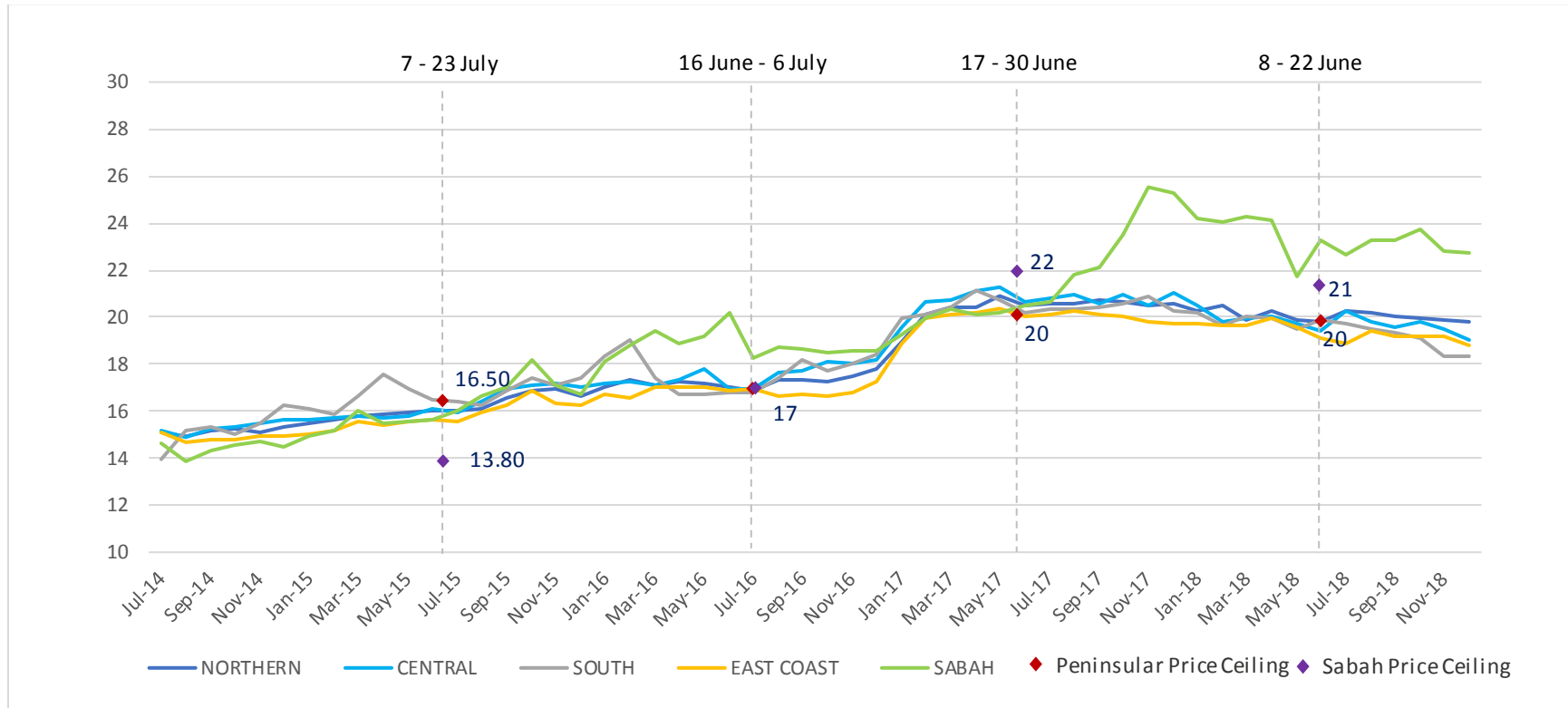
Source: MHBN

Note:

1. Prices are based on the average price of daging pejal (except tenderloin)
2. Sarawak is not included in the chart due to the lack of consistent data points

---- refers to Hari Raya Puasa period

Figure 124: Average Price of Imported Buffalo by States of Malaysia (RM/kg)



Source: MHBN

Note:

1. Prices are based on the average price of Topside and Silverside
2. Prices for South are based on prices in Negeri Sembilan only due to the lack of consistent data points

---- refers to Hari Raya Puasa period

Appendix 4: Review of Anti-Competition Cases and Approaches in Other Countries (Beef)

Indonesia¹²²

Context

Over the past few years, there have been many reports about cartel practices in Indonesia's beef industry which has caused high prices of beef for consumers. Following a spike in the beef price which went as high as IDR 130,000 (approx. USD \$9.85) per kg in mid-2015, Indonesia's Business Competition Supervisory Commission (KPPU) started an investigation into the beef market.

Following the investigation, 32 Indonesian cattle importer and beef feedlot companies, including the local unit of Australia-based agribusiness giant Elders have been found guilty of forming a cartel with the aim of controlling local beef prices by withholding beef from the market, particularly in the Greater Jakarta area. The KPPU has found evidence that these 32 companies have been manipulating beef prices by curtailing the distribution of beef products on the domestic market as well as curbing imports of beef (hence causing inflationary pressures) by not making full use of their allowed import quota. This caused an unnatural price rise that benefits the earnings of the companies involved but comes at the expense of the Indonesian consumer.

KPPU indicated that these illegal actions of Indonesian beef importers are actually the result of a weak government policy. Since 2010, the Indonesian government announced its beef self-sufficiency program and has been curtailing the beef import quota. The government provides import quotas to a selection of companies, which has given these companies some influence to determine the prices as Indonesia is still highly dependent on beef import. Subsequently, these companies took advantage of their position and curbed the amount of imported beef in order to let prices soar. As such, the policy has undermined earnings of these beef importers in order to boost domestic beef production.

Verdict

Following the investigation, KPPU has penalized these 32 companies with a combined IDR 107 billion (approx. USD \$8.1 million) in fines on grounds of the practice of unfair competition.

¹²² <https://www.indonesia-investments.com/news/todays-headlines/32-indonesian-companies-fined-found-guilty-of-forming-beef-cartel/item6752>; <https://www.reuters.com/article/us-indonesia-beef/indonesia-watchdog-aims-to-abolish-cattle-import-quotas-to-fight-cartels-idUSKCN0ZG0PQ>

Recommendation

The KPPU had urged the President to replace cattle import quotas with a tariff system to limit the opportunities to stockpile livestock to squeeze out greater profits. Under the proposed system, the government could lower the tariff when there is a lack of supply and provide businesses more incentive to import cattle. On the other hand, when there is oversupply, raising the import tariffs would make locally bred cattle more competitive.

Australia¹²³

Context

In 2016, the Australian Competition & Consumer Commission (ACCC) launched a review of the cattle and beef industry in light of concerns raised by beef industry players about anti-competitive conducts and market structures. The ACCC found that the cattle and meat industry was susceptible to market manipulation as producers are plentiful and relatively small, while the sales and processing segment of the industry are increasingly concentrated downstream. The six-month study has revealed practices in the industry that affects competition and efficiency within the industry. The key anti-competitive issues identified include:

- Shortcomings in the transparency of price reporting
- Allegations of anti-competitive conducts in sale yard auctions, including cartel and collusion among buyers

The issues of price transparency results from inaccurate or poor reporting of the prices of many cattle payments which results in producers and buyers not having the data they need to make informed business decisions. The prices for direct (paddock) sales, over-the-hook (OTH) and sale yard transactions are inconsistently reported and, in some cases, incomplete in terms of the cattle types reported. This makes it difficult for producers to compare historical prices between channels on a like-for-like basis. Besides that, direct sales prices are rarely reported while reported prices for OTH transactions only reflect the prices offered to producers rather than the prices actually paid. This lack of transparency weakens price signals that guide production decisions and may create information asymmetries between industry participants.

Besides that, the ACCC has heard serious allegations of anticompetitive conducts and bid-rigging among buyers in particular sale yards. Small-scale producers generally have a greater reliance on sale yards, which account for about half of the cattle sold in Australia. Conflicts of interest regularly arise in sale yard transactions when buyers bid for livestock on behalf of multiple clients, and when agents represent both a cattle seller and a cattle buyer in the same transaction. Cattle producers are usually unaware of these arrangements, which can reduce competition for their cattle. Some businesses employ a single

¹²³ <https://www.globalmeatnews.com/Article/2016/11/02/Anti-competitive-culture-in-Aussie-beef-sector>;
<https://www.afr.com/news/economy/accc-chases-cowboy-cartels-20161031-gsersx>

buyer to coordinate bidding in order to avoid competition and of agreements before auctions about who will win any particular bid. There were also claims of commission bidders taking turns to be the low bidder and of individual pens being allocated to one particular bidder or other ahead of an auction. The ACCC reports that cattle buyers who have resisted pressure to join or maintain networks of collusion have fallen victim to social pressure on their families and to bullying that stretched to social isolation, physical intimidation and sometimes violence.

Besides price reporting and anti-competitive conducts, the ACCC also had concerns about aspects of the carcass grading system. Although there is a detailed training and oversight system administered by AUS-MEAT, a conflict of interest remains during the process of grading carcasses at abattoirs. Existing audit systems do not appear to give many producers faith in the integrity of the process and there is no industry wide standard for dispute resolution. Integrity and trust in the grading system are essential, given its role in determining prices received by producers.

Recommendation

Some of the proposed key recommendations to improve the state of competition within the cattle and beef industry in Australia include the following:

- All processors and other major purchasers of prime cattle should make their price grids publicly available in a timely manner to increase the ability of producers to negotiate and make informed decisions about who to sell their cattle to.
- Improve and expand data collection and public reporting of cattle sale prices across the supply chain and sales channels, which includes providing market reports based on actual transactions instead of quotes by processors.
- Develop a mandatory sale yard buyer register which is publicly available prior to the commencement of all physical livestock auctions to increase transparency and reduce the risk of conflicts of interest. This register should include details of commission buyers and livestock agents intending to bid at the sale and the principals that those commission buyers will be acting for.
- Provide more detailed reporting of sale yard purchases, including information about the identity of buyers and the proportion of stock purchased by each buyer.
- Strengthen the carcass grading and auditing system by increased communication and education about the process by AUS-MEAT and processors, increasing the number of random AUS-MEAT audits of grading results and standard trim, and publication of audit results relating to grading and standard trim.
- Adopt an objective carcass grading technology, which would ensure fairer prices of meat being sold and improve the accuracy and transparency of value assessments.

Besides the proposed recommendations, the ACCC has also been investigating the bid rigging and collusion allegations as well as other anti-competitive conducts separately from the market study.

South Africa¹²⁴

Context

Africa's Competition Commission initiated an investigation in September 2017 on two beef processing companies, Irvin & Johnson Ltd. and Karan Beef (Pty) Ltd which has colluded agreement in contravention of the Competition Act.

The investigation found that the two companies were dividing markets by allocating specific types of goods and customers in the supply of processed beef products such as crumbed beef steaklets, beef burger patties, steak sizzlers, viennas and boerewors. According to the commission, from 2000 until recently, Karan Beef and I&J entered into a manufacturing agreement in terms of which Karen Beef will stop producing certain processed beef products for its own account but would produce on behalf of I&J. The agreement further entailed that Karen Beef should not sell certain of its processed beef products to certain customers which were reserved for I&J. The agreement between these beef producers has resulted in Karan Beef no longer being a competitor in the market, leaving the market for I&J.

¹²⁴ <https://www.fin24.com/Companies/Agribusiness/karan-beef-claims-it-never-intentionally-contravened-competition-act-20181031>; <https://www.businesslive.co.za/bd/companies/property/2018-10-29-karan-beef-and-pic-deal-not-in-jeopardy-despite-collusion-fine/>

Verdict

Karan Beef has pleaded guilty and paid an administrative penalty of R2.7 million, which was 3.5% of the annual turnover of the affected division. Soon after Karan Beef admitted guilt and agreed to pay the penalty, the company reported that it did not enter the anti-competitive arrangements with I&J with malicious intent of contravening the Competition Act. The Commission has asked the Tribunal to impose an administrative penalty of 10% of I&J's annual turnover.

Ireland¹²⁵

Context

In January 2011, the Irish Competition Authority won a long running case against an Irish beef industry association, BIDS (Beef Industry Development Society) involving agreement between beef processors to reduce production capacity for beef and veal. The case has been a long-running saga involving one High Court trial, one Supreme Court judgment and a judgment from the European Court of Justice (ECJ).

BIDS was formed in 2002 by the ten principal processors of beef and veal in Ireland to rationalise the processing industry, following recommendations outlined in government reports. One of BIDS' aims was to reduce the total capacity of the industry by 25% after a government market study found that overcapacity could lead to a decline in profitability. To achieve its objective, BIDS formed an arrangement by which major players in the industry agreed to compensate players who would voluntarily leave the industry. In return for the payment, the players leaving agreed to decommission their processing plants, refrain from using the associated lands for processing beef for a period of five years and sign a two-year non-compete clause with regard to processing anywhere in Ireland.

The Authority believed that the scheme was incompatible with the Competition Act and initiated proceedings against the scheme before the Irish High Court in 2003. Having lost in the High Court, the Authority appealed to the Irish Supreme Court which then made a reference to the ECJ pursuant.

¹²⁵ http://ec.europa.eu/competition/ecn/brief/01_2011/irl_bids.pdf;
<http://www.mondaq.com/ireland/x/122446/EU+Law+Regulatory/Irish+Beef+Industry+Restructuring+Case+Concl u des>; <https://www.lexology.com/library/detail.aspx?g=e574bca9-0d62-452d-b524-ce7243b57627>

Verdict

In November 2008, the ECJ clarified that an agreement such as the BIDS agreement had as its object the restriction of competition. The ECJ ruling confirmed that agreements between competitors to restrict capacity or production are hardcore restrictions of competition. Following the ECJ's ruling, the Irish Supreme Court remitted the case to the Irish High Court to allow BIDS the opportunity to argue its case on efficiency grounds and prove that the positive effects outweighed the negative effects. However, before any decision was given, BIDS decided not to implement the agreement and withdrew its claim effectively.

France¹²⁶

Context

In October 2000, the demand for meat in the European Union was greatly affected after an outbreak of Bovine Spongiform Encephalopathy (BSE) in several Member States. A sharp decline in demand for beef precipitated by the BSE outbreak led to a course of conduct by various players in the industry that was ultimately deemed to be anti-competitive.

In October 2001, talks were held between six federations representing the beef farmers and the slaughterers. At a meeting organised by the French Minister for Agriculture, these six federations reached the Agreement which consisted of two parts. Part one was a commitment to temporarily suspend imports of all types of beef, while part two comprised of a commitment to apply a certain slaughterhouse entry price scale to culled cows. The agreement suggests the existence of a so-called “crisis cartel” which denotes collusive behaviour caused (or intensified) because of a downturn in a particular industry or the economy as a whole.

Although the EU Commission warned the federations in November 2001 that the agreement was unlawful, the six organisations continued their cartel secretly on the basis of an oral agreement.

During the inspections carried out by the Commission in December 2001, documents were found which noted that the agreement was “a bit against the law, but that can't be helped” and asked “can we close ranks, without being caught by the DGCCRF?” (DGCCRF is the French competition authority).

In its decision, the Commission recognised the importance of trade union freedom. However, the decision indicated that it is not the job of trade unions to assist in the conclusion and implementation of agreements that disregard the rules governing law and order, specifically the competition rules.

Verdict

¹²⁶ http://europa.eu/rapid/press-release_MEMO-06-489_en.htm;
https://www.acm.nl/sites/default/files/old_publication/publicaties/11512_french-beef-case-vijver.pdf

On 2 April 2003, the European Commission imposed fines totalling €16.7 million on the six French federations. Due to the facts of the case, particularly, the mad cow disease crisis, on appeal the Court of First Instance reduced the fines by 70%.

Appendix 5: Review of Anti-Competition Cases and Approaches in Other Countries (Fish)

South Africa¹²⁷

Context

A few members of South African Pelagic Fish Processors' Association (SAPFPA), agreed to fix prices paid to vessel owners, operators, skippers and crew for catching pelagic fish. These members commit in a horizontal relationship to fix the price through meetings and correspondence using a standard formula applied to the price of fishmeal to determine the prices to be paid. The standard formula derived from the following methodology:

- One of the members calculates the average fish meal price (11%, where 5% is the base payment to the skipper and crew of a vessel while the remaining is for the boat owners) achieved during the preceding calendar year and circulates it annually to SAPFPA and its members.
- Sensitive information was exchanged to facilitate agreement in respect of the raw fish price formula and its implementation.
- All the market participants used the 11% raw fish price formula in respect of payment for the service of catching pelagic fish during the period of 1999 to 2010 whether they attended the SAPFPA meetings or not

The alleged party, Oceana group, is found to have entered into agreements with its competitors for agreeing to not to compete with each other with regard to each other's suppliers of fish in the Mossel Bay region and to allocate their customers. Oceana has also entered into agreements with its competitors in the processing and canning of fish, and they shared competitively sensitive information which gave rise to indirect fixing of the price of canned fish sold to consumers. Furthermore, agreement was also made between the group and its competitor to fix the fishing quota rental fees by the proxy of three quota holding companies in respect of the use of their pilchard quota for the 2006 fishing season.

The alleged parties are vertically integrated, and they are also competing in the upstream market for catching pelagic fish. These companies have signed on a shareholder agreement which contained a non-compete clause between the businesses.

¹²⁷<https://www.iol.co.za/dailynews/news/oceana-accepts-responsibility-for-price-fixing-1293000>;
<http://www.saflii.org/za/cases/ZACT/2012/40.html>

Verdict

The Competition Commission announced it had fined the Oceana group R35.7 million (which represents 5% of its turnover derived from its pelagic fish operations in South Africa in 2010) for price fixing.

Russia¹²⁸

Context

In December 2012, The FAS carried out an investigation regarding to the members of the Association formed a “Pollock cartel”, which resulted in decreased production, an artificial shortage of Pollack and Pollack products, as well as growth of prices across the entire territory of the Russia Federation.

The FAS Russia found that the Pollock Catchers Association coordinated economic activities of market agents, resulting in reduced production. The main evidence of the cartel was the protocols of the Association meetings (minutes of meetings of the Association, correspondence among its members and their agreements on volumes of catch of pollock and products of pollock processing). Evidence also included communications between members of the Association and agreements on the volume of Pollock harvesting and production of Pollock products (Pollock caviar, Pollock filet, “Pollock B/G”, fish-flour, etc.). All cartel participants were members of the Association. Cartel participants discussed sale conditions and prices, signed agreements between companies – members of the Pollock Catchers Association, which formed artificial shortage of Pollack and Pollack products.

While Pollack population is increasing, cartel participants agreed to regulate the volume of Pollock production and sale of Pollock products to prevent prices for this type of product going down. Every year members of the Association in total have not used more than 55-65% of the quotas allocated to them despite an annual increase in quotas had been provided for the pollock catch. The increase in quotas led only to increase in export where more than 90% of all Pollock caught in Russia were exported to China and Korea. Those two factors created a shortage of Pollock and resulted in fixing Pollock prices in the Russian Federation. Also, during the cartel period, the pollock and products of its processing were imported to the territory of the Russian Federation (generally from China that doesn't catch this sort of fish).

Verdict

Out of 52 companies (the respondents on the case), FAS found that 26 companies violated the antimonopoly law and the Association of Pollock Catchers unlawfully coordinated economic activities of

¹²⁸ <http://www.fne.gob.cl/wp-content/uploads/2014/07/2013-Ex-officio-cartels-investigacion-3569-KB1.pdf>;
[http://en.fas.gov.ru/upload/other/International%20Cartel%20Investigations%20-%20Main%20Steps%20\(M.%20Khamukov\).pdf](http://en.fas.gov.ru/upload/other/International%20Cartel%20Investigations%20-%20Main%20Steps%20(M.%20Khamukov).pdf);
<https://www.fis.com/fis/worldnews/worldnews.asp?l=e&id=70927&ndb=1>;
<http://www.gbplaw.com/news/articles/72865/>

enterprises. The antimonopoly violations were classified under Clauses 1 and 4 Part 1 and Part 5 Article 11 of the Federal Law “On Protection of Competition”. In total, the Russian companies involved in the case face fines over USD 3.3 million for violations of the antimonopoly law. The decision was supported by three court instances.

Recommendation

The pollock cartel case is among the few cases led to the development of “Strategy of Development of Antimonopoly Regulation in the Russian Federation for 2013-2024” that provides for the following measures defining the key directions of improvement of the system of combating cartels in Russia:

- Forming of a mechanism for effective investigation of agreements (cartels) restricting competition, supported by Supreme Court of the Russian Federation and the Ministry of Internal Affairs of the Russian Federation Russia.
- Add charges to the legislation on investigation and search operations regarding a new cause allowing to carry out investigation and search operations upon request of the antimonopoly authority in investigating cartels, as well as inclusion of the antimonopoly authorities as recipients of results of investigation and search operation
- Monitor activity of territorial bodies in the field of combating cartels
- Improve quality of judicial remedies of FAS Russia's decisions on cartel cases;
- Organise system of improvement of professional skills on topical problems of combating cartels;

Netherlands¹²⁹

Context

In 2003, the Dutch Competition Authority adopted a decision based on national competition law and Article 101 in Treaty on the Functioning of the European Union (TFEU) against several undertakings and associations of undertakings in the North Sea shrimp industry. The decision concerned minimum price agreements and output restrictions by the alleged parties.

The Commission found that the alleged parties had participated in various agreements and concerted practices and had exchanged sensitive information to jointly influence the price levels for North Sea shrimp, limit competition and stabilise the market. Specifically, two of the companies involved had concluded agreements on the prices to be paid to their suppliers, the prices to be invoiced to different customers and the allocation of customers.

¹²⁹ http://ec.europa.eu/competition/antitrust/cases/dec_docs/39633/39633_2636_9.pdf

There was also price-fixing agreement among the players to avoid competing with one another. They have also engaged resale price mechanism where the upstream player sells its shrimp to the buyer at a price set by reference to the resale price that the buyer was able to secure. This agreement would have prevented the upstream player from becoming a competitor on the shrimp market. The cartel took the form of a range of informal bilateral contacts where the discussions usually covered a wide range of aspects of the business such as the purchase prices from fishermen, conduct towards other traders in the market, market sharing, and prices charged to specific important customers that often set the benchmark price for other customers.

The coordinated price level at which the retailer bought their shrimps directly affected the prices charged to the end-consumers. The market size varies year-on-year depending on the volumes landed by the fishermen and the prices paid, and it has been at least €100 million every year. Not to mention, the companies involved account to about 80% of the total market shares in the European Economic Area (EEA). The cartel affected the EU market and sales in Belgium, Germany, France and the Netherlands in particular.

Verdict

Commission fines four North Sea shrimp's traders a total of € 28 million for price fixing cartel. The fines are capped at 10% of their total turnover, the legal maximum set out in the Antitrust Regulation. The commission has also considered the characteristics of the companies and their differences in participation in the infringement, which leads to the fines on two of the companies being significantly below the legal maximum.

Appendix 6: Review of Anti-Competition Cases and Approaches in Other Countries (Infant Formula)

Singapore¹³⁰

Context

The Competition and Consumer Commission of Singapore (CCCS) undertook a market inquiry into the supply of formula milk in Singapore in late 2015 to understand the significant increase in prices of formula milk in Singapore in recent years. The average retail prices of formula milk in Singapore has gone up by 120% over the past 10 years.

The inquiry revealed that the main contributor of the increase is due to the increase in mark-up of wholesale prices over manufacturing costs by manufacturers of formula milk. This was likely driven by the fact that manufacturers engage mainly in non-price competition rather than price competition. As such, manufacturers compete primarily on building a premium brand image through aggressive marketing activities and reinforcing this image by engaging in research and development to develop and introduce new ingredients contributing to attributes desired by parents, rather than on price. These investments in marketing and R&D activities increased the overall costs for manufacturers. CCCS found that total marketing expenditure by all major manufacturers increased by 42.4% between 2010 and 2014. Significant resources and heavy investments in marketing and innovation also present significant barriers to the entry for new brands or barriers to expansion for existing brands which do not engage in such efforts.

At the retail level, retailers are keen to stock mainly what consumers demand and assess the manufacturers' marketing plans when making decisions on which brands to stock. This may further reinforce the brand loyalty displayed by consumers, exacerbate information asymmetry and present significant barriers to entry for new brands or expansion for existing brands. CCCS also found that major retailers prefer to obtain their formula milk supply only from the local authorised distributors and there is a negligible presence of parallel imports in Singapore. This could be due to the product labelling and import documentation requirements which are challenging for parallel importers to comply with. The lack of alternative sources of supply of formula milk products besides the authorised distributors limits the extent of price competition for the same brand in the market. Given this situation, major retailers tend to be price takers and have limited ability to counter the price increases by the manufacturers and/or distributors.

At the consumer level, CCCS found that brand-name, nutrition and safety are top attributes that consumers look out for when deciding on which brand to use. Parents in Singapore exhibit strong brand loyalty when purchasing formula milk and majority of them tend to continue with the brand that their babies are exposed to at birth in the hospitals. There is also a certain degree of information asymmetry

¹³⁰ Competition and Consumer Commission of Singapore. Market Inquiry into the Supply of Formula Milk for Infants and Young Children in Singapore. (May 2017).

on the nutritional content and requirements of infants and young children as some parents appear to perceive the more expensive or premium products to be of better quality and therefore, better for their children. The resulting brand loyalty and the limited effectiveness of price competition in encouraging parents to switch to a new brand could pose as a formidable barrier to entry for new formula milk brands.

The aggressive marketing by incumbent formula milk manufacturers, coupled with existing consumer preferences further raised the barriers to entry and limited competition from new brands and other existing brands. These have given the major formula milk manufacturers the market power to increase prices.

Recommendation

As price competition for formula milk appears to be weak in Singapore, CCCS has developed three broad recommendations to lower barriers to entry and to improve the level of price competition particularly between manufacturers:

1. Educate consumers on the nutritional content of formula milk and the nutritional requirements of infants and young children, and to improve consumer awareness of the availability of a variety of formula milk products at different price points. This will allow consumers to understand the choices available in the market and to make more informed decisions rather than relying on perceptions that more expensive or premium products would mean better quality. This would help to increase price competition over time.
2. Encourage price competition within the same brands by reviewing parallel importation rules while still maintaining food safety and security as well as between brands through exploring the introduction of private labels. Both measures will help to widen the pool of formula milk suppliers in Singapore.
3. The sponsorships and payments that formula milk manufacturers provide and their impact on the milk rotation programmes in the hospitals could be reviewed. This can help to reduce a barrier to entry and expansion for new and existing brands.

China¹³¹

Context

Foreign infant formula is coveted in China as public trust was damaged by a 2008 scandal in which six infants died and thousands became ill from drinking milk tainted with the toxic industrial compound melamine. Since this incident, Chinese parents have shown willingness to pay a premium for foreign brands.

In 2013, the National Development and Reform Commission (NDRC) initiated an investigation against multiple infant formula companies due to the high consumer price for infant formula. The probe revealed that six infant milk formula producers (i.e. Biostime, Mead Johnson, Dumex, Abbot, FrieslandCampina and Fonterra) were involved in price fixing and anti-competitive practices. The six companies took various measures for resale price maintenance (RPM) such as agreements with distributors for RPM, direct or indirect fines for non-compliance, reductions in rebates, limiting or discontinuation of supplies. After the NDRC probe was announced, a number of companies including Mead Johnson, Danone and Nestle cut prices on their baby formula in China by up to 20%.

Verdict

In 2013, China fined six multinational infant formula manufacturers a total of \$110 million following an investigation into price fixing and anti-competitive practices by these foreign baby formula makers.

¹³¹ <https://www.reuters.com/article/us-meadjohnson-china/china-fines-milk-powder-makers-110-million-for-price-fixing-idUSBRE97512S20130807>

Appendix 7: Review of Anti-Competition Cases and Approaches in Other Countries (Vegetables)

China

Context

Nanbei Vegetable Wholesale Market (NVWM) had been investigated by Hainan AIC since 6 February 2016. The market investigation involved 33 vegetable wholesalers in NVWM on the areas of disrupting fair competition in the market, imposing arbitrary charges, price-fixing, rebate marketing and other issues. Taking advantage of its market dominance, NVWM has stipulated that vehicles shall not enter the market for business operation unless they were registered and paid administration fees since June 2015. Besides, Nanbei Vegetable Wholesale Market allocated the market share, which seriously disrupted the normal market order¹³²

Nanbei Vegetables Wholesale Market (NVWM) is the key distribution hub for vegetables in Hai Nan Province, China. The vegetable market is a trading area for more than 100 types of vegetables and its sales volume exceeds 1,000 tons per day, accounting for more than 75% of the vegetable wholesale market in Hainan, which provided the market with dominant power to the market volume allocation. The price of vegetables within this market is far higher than other wholesale market in other provinces.

The investigation revealed that Haikou Nanbei Vegetable Wholesale Market Co., Ltd.'s principal business activities is to lease the stalls in the vegetable wholesale market, collect rental fee and administrative fee for vegetables entering the farm (i.e. tonnage fee, tricycle fee, etc.). Since June 2015, the company has leveraged on its dominant power by requiring unified registration and collection of tricycle management fees for all tricycles entering the market at a fee of RMB250 to 400 per vehicle. Such rule is made without the approval of the relevant functional departments and vehicles not registered for the license are not allowed to enter the market.

Meanwhile, the company also imposed the requirement for the traders within the market to sign the lease contract to limit the variety of vegetables managed by each stall, and restraint the traders from operating beyond their scope of business determined by the company, which has severely limited the competition between the stalls.

The financials of the company have not been properly recorded in accordance to the jurisdiction requirement. It failed to inspect the conformity of product purchase and sales account system according to standards required by regulations, resulting in chaotic market operation order, while allowing some stalls to increase price at will. Besides, it has a rebate system for large stall owners for the tonnage and rental fee. For instances, the rental fee will be refunded at RMB1,000 to RMB2,000 per month.

¹³² <http://www.mondaq.com/china/x/475610/Antitrust+Competition/China+Monthly+Antitrust+Update>

Verdict¹³³

The investigation concluded with the violation of the 15th Article of the Hainan Special Economic Zone Anti-Unfair Competition Regulations given its collection of tricycle management fee and restriction of the business scope of the stalls. It has also violated the Special Provisions of the State Council on Strengthening the Safety Supervision and Management of Food and Other Products by neglecting the management of the unestablished vegetable purchase and sale account.

In view of its behaviours which increase the burden of wholesalers and cause the increase in vegetable prices, the competition bureau considered this as a damage of the legitimate rights and interests of consumers and seriously disrupted the normal business order of the market. In this regard, the industrial and commercial department has imposed a penalty of RMB3,030,000 to NVWM.

Recommendation

As a next step, the Hainan Provincial Administration for Industry and Commerce will continue to strengthen the monitoring of vegetable prices and ensure timely understanding of the market price information and market conditions. It will also carry out centralised spot check of the vegetable market and ensure the sampling rate of not less than 30%. Companies which do not provide their financial report on timely manner or involve in other illegal or dishonest behaviour will be blacklisted. Besides, they will also support the entry of new players into the NVWM by providing them guidance and convenient services, while exempt them from industrial and commercial registration.

Greece¹³⁴

Context

In 2013, the Hellenic Competition Commission (HCC) concluded a sector inquiry into seven categories of fruit and vegetables spanning across different level of supply chain. The inquiry started in 2005, focused on the structure of the supply chain, the regulatory framework, the price formation and variation, costs and profit margins along different levels of the supply chain and the degree and speed of price-transmission from the producer's level to end-consumers.

The findings indicated that the producers tend to respond more quickly to price decreases at other levels of the supply chain, compared with retailers and wholesalers on some products. The producers also respond symmetrically to price changes on other products, compared with wholesalers which react faster to prices increases, by corresponding increases in wholesale prices.

¹³³ <http://www.hi.chinanews.com.cn/hnnew/2016-02-28/408444.html>

¹³⁴ <http://www.oecd.org/daf/competition/GREECE-OECD-Reviews-of-Competition-Law-and-Policy-2018.pdf>;
http://ec.europa.eu/competition/ecn/brief/01_2014/el_veg.pdf

Verdict

The report concluded that the presence of inefficiencies in the market structure which hinder the development of economies of scale across the supply chain. The fragmentation of land ownership, lack of efficient collective structures and/or producers' organisations and a large number of relatively small wholesalers with limited potential to provide added-value services contributed to such inefficiencies. Besides, the analysis confirms the relatively weak position of producers and the strong bargaining power of the wholesalers in the supply chain. Furthermore, the regulatory framework remains insufficient despite legislative interventions have been made to lift regulatory barriers.

Recommendation

In this context, the HCC proposes the following measures:

- Introduce a single and coherent framework of tax provisions on income derived from agricultural activities.
- Implement agriculture auction markets and promote the Farmers' Markets.
- Promote novel and/or local structures such as 'contract agriculture', 'standing crop' and 'out-growing' contracting, e-market, local and regional markets, agricultural cooperatives, while ensuring a systematic implementation of the provisions on standardisation and traceability etc.
- Modernise the lease regulations of the Central Wholesale Markets in Greece
- Reform the regulatory framework for the organisation and operation of outdoor markets.
- Review relevant licensing, administrative and criminal provisions.

South Africa¹³⁵

Context

A complaint was lodged to the South African Competition Commission by the Department of Agriculture, Forestry and Fisheries on suspicions that some market agents within the fresh produce supply chain (who controlled at least 80% of the market) had been colluding to manipulate prices during certain periods.

These market agents acted as intermediaries, representing farmers by selling their fresh fruits and vegetables to wholesalers and retailers for a commission. It is alleged that the agents are involved in undercutting the prices charged by smaller intermediaries by selling below the market prices and drastically increasing prices as soon as the smaller players ran out of stock. This has forced the new entrants to the market to close as such practices poses barriers to compete.

Subsequent raids involving confiscation of records from suspected premises by the Commission (based on these initial suspicions) revealed that these intermediaries were all members of the Institute for Market Agents of South Africa, an association which had been enforcing members to charge fixed commission fees to farmers of up to 10%.

The Commission also found that the association was used as a platform to discuss the commission fee and other strategic issues pertaining to the functioning of the fresh produce markets.¹³⁶

Verdict

The Commission further discovered that this conduct had been practised for decades, which is considered an act of fixing prices and/or trading conditions and is in contravention of the nation's Competition Act. Consequently, all players involved (including the association) have been charged and referred by the Commission to the Tribunal for prosecution.

India¹³⁷

Context

The Competition Commission of India (CCI) instituted an inquiry into the rising prices of onions. The study was completed in 2012, with the aim to confirm the root cause of high inflation of onion, whether it is also caused by market inefficiencies, weak supply chains and monopolies in the market.

The study arrived into the following conclusions:

¹³⁵ <https://www.sanews.gov.za/south-africa/commission-shakes-fresh-produce-cartel>;
<http://www.engineeringnews.co.za/article/fresh-produce-market-agents-association-referred-to-competition-tribunal-for-prosecution-2017-10-11>

¹³⁶ http://pmg-assets.s3-website-eu-west-1.amazonaws.com/CCCSA_AR2017_18.pdf

¹³⁷ <http://online.wsj.com/public/resources/documents/onionstudy.pdf>

- Control of market structure by the traders due to farmer's lack of capacity in conducting multiple roles, poor access to information, reliance on commission agents and traders on marketing of products, existence of established traders and barrier to new entry, and lack of alternative institution support system
- Existence of anti-competitive elements in the onion markets through analysis of seasonal indices, correlations, daily, monthly arrivals their prices etc.
- Well-connected big traders and its networks with market intermediaries in other markets which play a major role in hoarding the stock for expected high prices.
- Higher retailer's mark-up over the wholesale markets price by more than 150% in major markets.
- Arrangement between the commission agents and wholesalers by providing them credit and discount in times of early payment.
- Collusion among traders where a majority of the sale in certain market was undertaken through secret bidding and the traders collude to share the produce.
- Other factors such as minimum export price fixing, significant marketing costs, government's commitment in international trade despite drop in domestic supply, lack of market infrastructure also affects the competition level of the onion market.

Recommendation

Below are the policy recommendations suggested in the report:

- Encourage free entry of new commission agents and traders (including private companies) for market efficiency and efficient price formation by providing better infrastructure facility and licenses.
- Strengthen regulatory system for effective monitoring and weeding out market intermediaries playing multiple roles and engaging in unfair practices such as low-price bidding, collusion, indulging in intentional hoarding to create artificial demand situation for realization of better prices. Measures such as temporary cancelation of license, impose of fines and penalties, and close monitoring of traders' behaviours on intending hoarding are suggested.
- Reform the Agricultural Produce Market Committee as it appears to be largely dominated by trader's lobbies by strengthening the act to disallow secret bidding, involving APMC officials and cooperative marketing societies in the auctioning process, amending provisions for effective use of charges collected by the APMCs for providing better infrastructure.
- Promote direct sales of farmers to wholesalers and more particularly linking small farmers produce to retail chains to reduce marketing costs.
- To prevent price volatility system by:

- Developing system for forecasting total production considering economic and meteorological events
- Planning the export of onion to avoid significant fluctuations in its prices in case of increasing international demand for Indian onion.
- eTendering or National market information system (prices observatory) for recording, disseminating and analysing price data for onion for key markets in the country for better price transmissions to the actors involved in the supply chain.
- Others such as foster the growth of credit cooperatives in agriculture sectors, discourage export ban, amend APMC Act to be in line with the Competition Act of 2002 to promote healthy competition, reduce market imperfections and improve the welfare of all the actors involved in the market channel (producer to consumer)

Appendix 8: Key Government Stakeholders for Food Sector in Malaysia

8.1 Ministry of Agriculture & Agro-Based Industry Malaysia (MOA)¹³⁸

MOA is responsible for developing the agriculture and agro-based industry as a competitive sector and significant contributor to the Malaysian economy. The key functions of the MOA are as follows:

- Legislate, plan and implement agriculture, development program's policies and strategies.
- Evaluate, coordinate and ensure the implementation of agro-food agriculture development projects/programs.
- Conduct R&D and innovation that enhance productivity and competitiveness in the agro-food sector.
- Promote foreign and local investment in the agro-food sector.
- Structure and implement an effective and efficient agro-food market chain.

Within MOA, there are various departments / agencies which are responsible for specific key functions and governance of the agro-food sectors within the country.

8.1.1 Department of Veterinary Services (DVS)¹³⁹

DVS is an agency under the MOA that is responsible for providing veterinary services which support the development of sectors within the animal industry, especially the production of food. The overall services provided by DVS include animal health, veterinary public health, development of the animal industry, development of genetic resources, veterinary research, and the enforcement of relevant laws and regulation pertaining to the industry. Within the food sector, DVS is responsible for ensuring that animal-based food for human consumption are hygienic, healthy and safe to be consumed. This includes ensuring imported products originate from a country which complies with the required standards. DVS also aims to promote sustainable livestock production and value-added industries.

¹³⁸ http://www.moa.gov.my/en_US/profil-moa

¹³⁹ <http://www.dvs.gov.my/index.php/pages/view/13?mid=23>

8.1.2 Malaysian Quarantine & Inspection Services Section (MAQIS)¹⁴⁰

MAQIS is a department established under the MOA for the provision of integrated services pertaining to food-related quarantine, inspection and enforcement at entry points, quarantine stations and quarantine premises. One of the key role of MAQIS is to issue permits, licenses or certificates of import and export of plants, animals, carcasses, fish, agricultural products, soil and microorganisms.

Besides that, empowered by the Malaysian Quarantine and Inspection Services Act 2011, MAQIS also has the key responsibility of enforcing compliance with the import requirements through the conduct of spot-checks at the point of importation. Under the Act, the Director General of MAQIS have the following powers:

- a. To quarantine and inspect any plant, animal, carcass, fish, agricultural produce, soil, microorganism, premises, conveyance or any other article at the entry points, quarantine stations and quarantine premises for the purpose of determining whether pest, diseases or contaminants is present or to ensure compliance of any plant, animal, carcass, fish, agricultural produce, soil and microorganism with the import and export condition as specified in the permit, license or certificate issued under this Act
- b. To inspect food and enforce matters relating to food at the entry points in accordance with the Food Act 1983
- c. To impose and collect fees or any other charges the Director General thinks fit for the purpose of carrying out his function under this Act
- d. To place any plant, animal, carcass, fish, agricultural produce, soil and microorganism under quarantine control at a quarantine station or quarantine premises for a period of time as the Director General may determine
- e. To register all importers, exporters and agents involved in the import and export of plants, animals, carcasses, fish, agricultural produce, soils and microorganisms
- f. To issue permits, licenses and certificates for the purpose of import and export of plants, animals, carcasses, fish, agricultural produce, soils and microorganisms
- g. To declare any premises as quarantine premises for the purpose of quarantine and inspection of plants, animals, carcasses, fish, agricultural produce, soils and microorganisms.
- h. To carry out quarantine procedures on any plant, animal, carcass, fish, agricultural produce, soil, microorganism, premises, conveyance or any other article within a period of time as the Director General may determine
- i. To refuse entry at the entry points any plant, animal, carcass, fish, agricultural produce, soil and microorganism

¹⁴⁰ http://www.maqis.gov.my/latar_belakang; Malaysian Quarantine and Inspection Services Act 2011

8.1.3 Federal Agricultural Marketing Authority (FAMA)¹⁴¹

FAMA is a marketing agency under the MOA which is responsible for effective and efficient marketing of agro-food products as well as agro-based industrial products in order to increase value to customers. Besides aiming to increase producers' income, FAMA also serves to ensure that agricultural products and agro-based industries are available and can be obtained at a price which is affordable to consumers. In order to implement these roles, FAMA focuses on the following efforts to improve efficiency throughout the marketing chain:

- Strengthen supply through contract farming programs
- Expand market access
- Improve local market promotion and export

8.1.4 Department of Fisheries (DOF)¹⁴²

Marine capture fisheries are managed and regulated by the Department of Fisheries (DOF) Malaysia under Fisheries Act 1985. Under this act, fishing without license is an offence. The key function of DOF is to formulate/implement policy, conduct research and evaluation of fisheries resources, provide technical/infrastructure facilities, compilation of fishery statistics, training and licensing and enforcement of fisheries regulations. The roles of DOF mentioned are to support the mission of the department as stated below:

- To develop a dynamic market-based fisheries industry through creative and innovative approaches
- To manage the national fishery resources in an efficient, innovative and environmental friendly manner based on scientific information and good governance
- To enhance the delivery system through skillful, knowledgeable and professional human capital
- To be the leader in the transformation of a sustainable and competitive fishery

8.1.5 Fisheries Development Authority of Malaysia (LKIM)¹⁴³

LKIM is an authorized body under the MOA that was incorporated under Act 49, Malaysia Fisheries Development Board Act 1971 to spearhead fisherman development and national fisheries industry. It aims to improve the socio-economic position of fishermen with a focus on increasing income, and to develop and promote state fishery companies. The key functions of LKIM include:

- Promote and advance efficient and effective management of companies and fish marketing.
- Establish and supervise credit facilities for fish production and ensure that these facilities are fully utilized.
- Participate in fishery enterprises and for that purpose participate in the construction of boats and production of fish supplies and equipment.

¹⁴¹ <http://www.fama.gov.my/web/pub/latar-belakang1>

¹⁴² <https://www.dof.gov.my/index.php/pages/view/287>

¹⁴³ <http://www.lkim.gov.my/visi-misi-objektif-fungsi/>

- Encourage, motivate, facilitate and pursue economic and social progress of Fishermen's Associations
- Register, control and supervise Fishermen's Associations and provide for matters relating thereto

8.2 Ministry of Health (MOH)¹⁴⁴

The enforcement of safety and quality of food along the food supply chain in Malaysia is carried out by the Food Safety and Quality Division under the Ministry of Health (MOH). FSQD was established to strengthen the planning, implementation, monitoring and evaluation of Food Safety and Quality Programs to protect the public against health hazards and fraud in the storage, preparation, packaging, processing, transportation, sales and consumption of food. FSQD implements an active food safety program which includes routine compliance, sampling, food premises inspection, food import control activity and licensing of specified food substances required under Food Act 1983 and Food Regulations 1985. It also conducts a food monitoring activity on specific food contaminants and additives. As a preventive approach, the FSQD have been implementing food handlers training program, vetting of food labels, giving advice to the industry and consumers, and food safety certification scheme such as Health Certificate, HACCP certification and Free Sale Certificate.

8.3 Ministry of Domestic Trade and Consumer Affairs (MDTCA)¹⁴⁵

The MDTCA was established with the aim towards encouraging ethical trade practices and to protect consumer interest. The Ministry's key functions include:

- Managing matters related to consumer protection and awareness, domestic trade and intellectual property
- Licensing for franchising, manufacturing, traders and sales, direct selling, and selling of petroleum and petrochemical products
- Implementing weights and measures rules
- control and monitor the supplies and prices of essential goods, including food products
- Regulate and develop co-operative sector
- Registering of companies and businesses.

¹⁴⁴ <http://fsq.moh.gov.my/v6/xs/page.php?id=16>

¹⁴⁵ https://www.lawyerment.com/guide/gov/Federal_Government/Domestic_Trade_and_Consumer_Affairs/1659.htm

8.4 Department of Islamic Development Malaysia (JAKIM)¹⁴⁶

JAKIM is the authority responsible for the Islamic affairs in Malaysia, including halal certification. Hence, JAKIM plays a crucial role in protecting Muslim consumers in Malaysia and assuring them to seek for halal products as urged by Shariah. JAKIM has established the Malaysia Halal logo and implements the Halal Certification System. Since the amendment of the Trade Description Act in 2011, JAKIM is currently the sole Halal certification body in Malaysia which certifies local and exported products and is also the governing body that monitors and enforces halal guidelines in Malaysia.

For halal certification, JAKIM has to ascertain the halal status of the product at every stage and at every process involved by carrying out official site inspections on the plants and abattoirs to examine on how the halal status of the meat or raw material is maintained and monitored at all times. As a result, for imported products, JAKIM requires a reputable and credible foreign halal certification bodies as JAKIM representatives to monitor/verify the halal status of these raw materials and products with responsibility and integrity. The recognition is based on the capability of the foreign halal certification bodies that comply with the Malaysian procedures and guidelines.

¹⁴⁶ http://www.hdcglobal.com/publisher/gw_halal_agencies; <http://www.halal.gov.my/v4/index.php>

Appendix 9: Import and Export Charges of Food Products

The table below highlights the import and export charges of for the studied food subsectors:

Table 90: Import and Export Charges of Food Products

| Food Product | Import Charges | Export Charges |
|---------------------------|---|--|
| Sawi | <ul style="list-style-type: none"> • Import Permit for Round Cabbages: RM10 | |
| Round Cabbage | <ul style="list-style-type: none"> • Compliance inspection charges (remarks, packaging and agricultural production labelling): <ul style="list-style-type: none"> ○ First 1000 kg: RM1.00¹⁴⁷ / RM2.00¹⁴⁸ ○ Each additional 1000 kg: RM0.50¹⁴⁹ / RM1.00¹⁵⁰ | |
| Beef¹⁵¹ | <p><u>Cattle / Buffalo</u></p> <ul style="list-style-type: none"> • Import permit: RM5 per head • Quarantine fee: RM2 per head / day • Quarantine certificate (MAQIS): RM2 per head • Examination charges: RM 1 per head <p><u>Animal carcasses and products</u></p> <ul style="list-style-type: none"> • Import permit (MAQIS): RM10 per 100 kg | <p><u>Cattle</u></p> <ul style="list-style-type: none"> • Export permit: RM2 per head • Quarantine fee (MAQIS): RM2 per head / day (cattle will only be quarantined if request were made by DVS) • Quarantine certificate: RM2 per head (depending on country of export) • Examination charges: RM 1 per head (depending on country of export) • Health Certificate: RM3 per head (depending on country of export) <p><u>Animal carcasses and products</u></p> <ul style="list-style-type: none"> • Export permit (MAQIS): RM5 per 100 kg • Veterinary Health Certificate: Free of charge |

¹⁴⁷ Fees for compliance checks performed during the day of the department's work

¹⁴⁸ Fees for compliance checks conducted during weekly holidays or public holidays

¹⁴⁹ Fees for compliance checks performed during the day of the department's work

¹⁵⁰ Fees for compliance checks conducted during weekly holidays or public holidays

¹⁵¹ <http://www.maqis.gov.my/kadar-fi-dan-caj>; <http://www.mytradelink.gov.my/documents/10179/17675/Veterinary%20-%20HQ%20-%20Charges.pdf>

| | | |
|--|---|--|
| <p><i>Ikan Kembung</i></p> | <ul style="list-style-type: none"> • Import permit: RM15 / consignment • Quarantine fee: RM20 / consignment / day (live fish) • Wholesale license: RM100 / year • Import examination charges: <ul style="list-style-type: none"> ○ Container or any other storage place containing no more than 50 kilograms of fish: RM2.50 / container ○ Container or any other storage place containing more than 50 kilograms of fish but less than 100 kilograms of fish: RM5.00 / container ○ Container or any other storage place containing more than more than 100 kilograms of fish: Calculated at a rate not exceeding RM0.05 per kilogram of fish | <ul style="list-style-type: none"> • Export permit: RM15 / consignment • Quarantine fee: RM20 / consignment / day (live fish) • Import examination charges: <ul style="list-style-type: none"> ○ Container or any other storage place containing no more than 50 kilograms of fish: RM2.50 / container ○ Container or any other storage place containing more than 50 kilograms of fish but less than 100 kilograms of fish: RM5.00 / container ○ Container or any other storage place containing more than more than 100 kilograms of fish: Calculated at a rate not exceeding RM0.05 per kilogram of fish |
| <p>Infant Formula¹⁵²</p> | <p><u>Milk and milk products</u></p> <ul style="list-style-type: none"> • Import license (MAQIS): RM50 per license • Veterinary Inspection: RM50 per consignment | <p><u>Milk and milk products</u></p> <ul style="list-style-type: none"> • Import license (MAQIS): RM5 per license |

¹⁵² <http://www.maqis.gov.my/kadar-fi-dan-caj>; <http://www.mytradelink.gov.my/documents/10179/17675/Veterinary%20-%20HQ%20-%20Charges.pdf>

Appendix 10: Price Controlled Items under the Festive Season Price Control Scheme (SHMMP)

Table 91: Price Controlled Items in 2018/2017

| Festive Period | Price-Controlled Items |
|------------------|---|
| Hari Raya Puasa | <ul style="list-style-type: none"> • Live chickens • Standard chicken • Super chicken • Local beef (uncontrolled in Sarawak and Labuan only) • Imported beef (controlled in Sarawak only) • Imported buffalo meat (India) • Grade A chicken eggs • Grade B chicken eggs • Grade C chicken eggs • Red chillies • Tomatoes • Imported round cabbage (Indonesia) • Imported round cabbage (China, excluding Beijing cabbage) • Whole coconuts (ceiling price at wholesale level only) • Grated coconut (ceiling price at retail level only) • Imported shallots (India) • Imported onions • Imported garlic (China) • Imported potatoes (China) • <i>Ikan kembung</i> including <i>ikan mabung, ikan aya/tongkol</i> (controlled in Pahang, Terengganu and Kelantan only) • <i>Ikan demudok/sagai/cermin/cupak</i> (controlled in Sabah only) • <i>Ikan selayang</i> |
| Chinese New Year | <ul style="list-style-type: none"> • Live chickens • Standard chicken • Super chicken • Grade A chicken eggs • Grade B chicken eggs • Grade C chicken eggs • Imported round cabbage (Indonesia) • Imported round cabbage (China, excluding Beijing cabbage) • Garlic (China) • White pomfret • Large white prawns • Live pig (Control of farmland only) • Pork (stomach) • Pork (meat and fat) |

| | |
|------------------|--|
| <p>Deepavali</p> | <ul style="list-style-type: none"> • Live chickens • Standard chicken • Super chicken • Grade A chicken eggs • Grade B chicken eggs • Grade C chicken eggs • Local bone-in mutton • Imported bone-in mutton • Imported bone-in lamb • Red chilies • Potatoes • Tomatoes • Red onion • Coconut • Grated coconut • Lentils |
| <p>Christmas</p> | <ul style="list-style-type: none"> • Live chickens • Standard chicken (slaughtered and cleaned without legs, head, liver and gizzard) • Imported turkey • Old chicken (* Maximum price at wholesale level only) • Chicken wing (* Maximum price in Sarawak, Sabah & Labuan only) • Local bone-in boned goat meat • Imported bone-in goat meat and lamb • Grade A chicken eggs • Grade B chicken eggs • Chicken eggs grade C • Tomatoes • Green bell pepper • Live pig (Control of farmland only *Maximum price in Sarawak, Sabah & Labuan only) • Pork (stomach) (*Maximum price in Sarawak, Sabah & Labuan only) • Pork (meat and fat) (*Maximum price in Sarawak, Sabah & Labuan) |

| | |
|--------------------------------|---|
| Pesta Kaamatan / Hari Gawai | <ul style="list-style-type: none">• Live chickens• Standard chicken• Super chicken• Mature live chicken• Chicken wings• Grade A chicken eggs• Grade B chicken eggs• Grade C chicken eggs• Imported beef (India)• Shallots (India)• Garlic (China)• Imported round cabbage• Live pigs• Pork (stomach)• Pork (meat and fat) |
|--------------------------------|---|

Appendix 11: SPS and Veterinary requirements by the DVS and Halal requirement by JAKIM

11.1 SPS AND VETERINARY REQUIREMENTS

1. Disease Status of the Exporting Countries

Exporting countries have to submit the current disease status based on the DVS format that is available on the DVS website and to be endorsed by the Competent Authority (CA) of exporting countries.

2. Establishment Profile

Establishments intending to export their products to Malaysia are required to furnish basic information which should be provided using DVS application form available on the DVS website. The application form must be declared by the establishment intending to export their products and then to be endorsed by the CA of the exporting country.

3. Adequacy Audit (Document Audit)

The application document will be reviewed by DVS to ensure all the relevant information are complete and adequate for DVS to decide whether to conduct on-site inspection on the establishments.

4. Compliance Audit and Review Audit

If the application document submitted to DVS found to be satisfactory, an inspection visit to the establishment in the exporting country will be arranged. DVS officials will conduct on-site inspection on the establishments for the purpose of Compliance Audit and Review Audit. The on-site inspection for verification of practices, examination of documents and records is based on the followings criteria:

- I. Quality and Safety Assurance Manual
- II. Good Manufacturing Practices (GMP)
 - Design and Facilities
 - Control of Operation such as hygiene control system, incoming material requirements, traceability, recall procedures
 - Maintenance, Cleaning and Sanitization such as pest control program, waste management, cleaning program
 - Personal Hygiene
 - Transportation and Distribution
 - Product Information Training
 - Internal Inspection

- Management Review
- Records of Implementation
- I. HACCP Plan
 - Documentation
 - Records of Implementation
- II. Internal Audit Reports
 - HACCP Plan Audit
 - GMP Audit
- III. CA Audit Report

On completion of the inspections visit, the team will prepare a report of their findings. This report will be submitted to the *Technical Committee on Inspection of Foreign Abattoir and Processing Plants* for evaluation and recommendations and it then be forwarded to *Committee on Inspection of Foreign Abattoir and Processing Plants* for approval. DVS will inform the establishments concerned about the decision through their respective embassies in Kuala Lumpur or through their CA of exporting countries and subsequently will be listed on DVS website.

The approval period for the establishment is valid for a period of one year. However, the validity period may be extended for an additional 2 (two) more years subject to the reports on Annual Performance Evaluation. However, review audit shall be carried out on the third year of approval before the expiry date. The approved establishments may be subjected to review audit at any time during the validity period to verify compliance to SPS and veterinary requirements.

11.2 HALAL REQUIREMENT BY JAKIM

1. Establishment

- Establishment shall operate Halal production only throughout all the supply chain (dedicated Halal)
- Establishment shall develop Halal Assurance System (HAS) within the abattoir/plant. The HAS shall include the determination of the halal critical point, the system on controlling the halal critical point, the management of the non-conformance, the halal supervision, record keeping and other aspect on halal application in the establishment.
- Establishment are required to engage the local approved Islamic body/halal certification body for certification and monitoring purposes.
- Establishment shall show the management responsibility and commitment in halal application such as developing the policy in halal application, the internal halal audit program and the documentation of HAS.
- Establishment are required to fill in the JAKIM form based on the products intended to bring in to Malaysia

2. Standard and Protocol

- All approved establishments are required to comply with the Malaysian Halal Standards MS1500:2009 issued by Department of Standards Malaysia (Standards Malaysia) and Malaysia Protocol for Halal Meat Production issued by JAKIM.

3. Adequacy Audit (Document Audit)

For the purpose of adequacy audit, the documents below are to be submitted:

- I. JAKIM's Forms
- II. Process flow
- III. Raw material and ingredient used in the product
- IV. Halal certificate or the product specification for the ingredients

4. On-site Audit

The on-site audit will be carried out during the compliance audit / review audit to evaluate the halal implementation in the following aspects:

- I. Stunning and slaughtering
- II. Slaughter man and Muslim checker
- III. Handling of the non-conformance
- IV. The documents on Halal Assurance System in the establishment including the internal Halal audit report
- V. Documents on supplier for ingredients
- VI. Halal certification body
- VII. Packaging and labelling
- VIII. Storage
- IX. Chiller and Freezer
- X. Transportation

5. Responsibility of the CA

The CA is responsible to notify DVS/JAKIM upon:

- Change in certification body of the approved establishment
- Change in scope of activity / operation