AN EMPIRICAL INVESTIGATION OF EXPORT COMPETITIVENESS OF PAKISTAN'S MEAT SECTOR

M. B. Naeem, S. Naveed*, S. E. Samma and A. Nazuk

Department of Economics, School of Social Sciences and Humanities (S3H), National University of Sciences and Technology (NUST). Islamabad-Pakistan
*Corresponding Author: samina.naveed@s3h.nust.edu.pk

ABSTRACT

This study attempts to explore the export potential and competitive position of Pakistan's meat sector versus the World's leading meat exporters using RCA scores of 26 meat products lines at HS 6-digit code from 2009-2018. The study also explores the untapped Halal Meat export potential for UAE and Saudi Arabia by using indicative trade potential. The findings of the study reveal that Pakistan possesses strong comparative advantage in low value-added bovine meat products while has a weak comparative advantage in high value-added categories of the same product line against its leading competitors like Brazil, USA, Netherlands and Australia. Poultry comes out to be an emerging sub sector, while the meat of goat, lamb and sheep witnessed a decreasing RCA score post 2013 and are categorized as the threatened products. The untapped Halal meat export potential to Saudi Arabia and UAE comes out to be worth $ 132 million. To become a global market player in high value-added meat products and to realize untapped export potential, Pakistan needs to address the issues of traceability, weak supply chains, insufficient number of local meat brands, weak infrastructure, improperly managed marketing strategies, noncompliance to international standards, and halal meat certifications.

Key words: Meat, Exports, RCA, Comparative Advantage, Indicative Trade Potential

INTRODUCTION

The 'Agriculture Sector' of Pakistan is truly the main pillar of its economy as it contributes around 18.9 percent to the GDP and absorbs 42.3 percent of the total labor force. Within this sector, 'Livestock' plays a significant role by employing almost 8 million families. Over the years, the livestock sector has surpassed the crop sector and has become the biggest contributor to value-added production and income, as its contribution to the overall agriculture sector is slightly above 60% and share in GDP is 11.2% (Anonymous, 2019).

As a result of increasing awareness and the availability of better resources, global inclination towards healthier and hygienically preserved foods is on the rise. This has different effects on food products (quality-wise) and their preparation techniques all around the world. (Sohaib and Jamil, 2017). Clearly, it has its charm on the global meat industry too; of which Pakistan is very much a part of. In Pakistan, the livestock population mainly comprises of cows, buffaloes, goats, sheep, camel and poultry; that give a consolidated annual meat production of about 4.478 million tons. Pakistan is among the top producer of meat in the world; however, the export to production ratio of meat in Pakistan lies only in a range of 1 to 1.36 percent during 2009-2018 (Anonymous, 2019). Contrary to this, the world's largest meat producers are also the ones who capture a significant proportion of global meat industry in terms of their exports, such as the United States, Brazil and Australia. Even though Pakistan is amongst some of the largest producers of meat with an annual production of 4.478 million tons (Anonymous, 2020), its exports are neither in line nor consistent with its status in the production category and is almost negligible when compared with the global leading meat exporters. The United States holds the highest position followed by Brazil, Australia and the Netherlands, with values surpassing $15 billion, $12 billion, $10 billion and $9 billion. Sadly, Pakistan's exports are only $ 295.6 million, even less than $ 1 billion marks. Pakistan is ranked as the 8th biggest producer in the world; however, its position falls to 57th when it comes to meat export (FAO, 2018; UN COMTRADE, 2018).

Religion is considered to be an important determinant of food choices and preferences in many countries and the market for Halal foods has been on the rise since the products are generally acceptable to all consumers and have been scientifically proven to be more hygienic. Trade in halal foods is estimated to cross $ 3 trillion globally out of which meat sector alone contributes more than $ 600 billion. Pakistan's total share in the entire market is a mere 2.9 %. (Sohaib and Jamil, 2017). These figures are bound to increase with time as a result of growing population and the acceptance from non-Muslims. Pakistan, being a Muslim nation with a

huge livestock population implying total halal production can successfully exploit its given position and advantages if the industry transitions towards a more developed and efficient approach. Interestingly, even the biggest Halal meat suppliers/exporters are non-Muslim countries which just show the lack in capability and will of some of the potentially capable Muslim nations.

In the light of the given background, the critical and pertinent question that needs to be addressed is "Why Pakistan, despite being on the list of the world's leading producers, is not a key player in the global meat industry"? Whatever literature is present in this area is mostly related to an overall investigation of livestock sector, or its sub sectors, (Iqbal *et al.,* 1999; Jamal *et al.,* 2010; Bradfield and Ismail, 2012; Mehboob *et al.,* 2012; Hussain, *et al.,* 2015) or a general trend analysis of production and exports of meat sector (Ahmed and Alvi, 1988; Ayyub *et al.,* 2011; Mushtaq *et al.,* 2013; Sohaib and Jamil, 2017; Ayyub and Pasha,2018; Randhawa *et al.,* 2018). A study by Maqbool *et al.,* (2018) moves one step further and investigates competitiveness and comparative advantage of Pakistan's sub sector in livestock but that too is only confined to leather and leather products. Similarly, Sardar *et al.,* (2019) also attempt to explore the potential markets to be targeted by Pakistan, however, the study is only restricted to an investigation of beef exports. All the existing literature overlooks the pertinent issue of incapability of the country to explore and tap the untapped export potential in meat industry, regardless of the fact that Pakistan is among the world's leading producers in this sector.

On account of the literature gap in this particular domain, the current study attempts to explore the untapped export potential in Pakistan's meat industry by having an in-depth analysis of meat sector for the year 2009 to 2018 in terms of its RCA under different product lines at HS 6-digit code. The study also compares Pakistan's RCAs with World-leading meat exporter's RCAs to explore the global standing of Pakistan's meat sector. Furthermore, the study estimates the untapped Halal Meat export potential by calculating the indicative trade potential.

This topic is not only worth investigating on account of the fact that Pakistan being a global leading producer carries the potential to expand it export to the global market, but its importance seems more obvious in an ever dynamic globalized and liberalized world. A swift growth of the world economy through international trade on account of reduction and dismantling of the barriers offer a tremendous opportunity for a developing country like Pakistan. Pakistan, like other developing countries, now has access to the markets that were earlier restricted or where the access was limited on account of high tariffs and non-tariff barriers. By tapping this granted access, Pakistan not only can diversify its export destination but could achieve product diversification as

well. This will not only lead to make the country more integrated with the global world but also would lead to bridge the huge external account deficit that Pakistan faces on account of low exports.

MATERIALS AND METHODS

For this study, the data on different meat related HS 6-digit products are retrieved from ITC (International Trade Centre), UN COMTRADE and WTO (World Trade Organization) from 2009 to 2018. The HS 6-digit product names are given in appendix A. For analyzing the trends of meat production in Pakistan, we also collected the data from Pakistan Economic Survey.

Empirical Method: The study employs the concept of revealed comparative advantage (RCA) which provides a way of analysing the comparative advantage of a country based on an actual trade performance. RCA was originally proposed by Balassa (1965) according to which the performance of exports of a country in specific product or industry could be used to explain the comparative advantage without the comprehensive data on factor cost. The RCA index formulated by Balassa (also known as Balassa index) can be defined as:

$$B = \frac{\frac{X_{ij}}{X_i}}{\frac{X_w}{X_w}}$$

Where:

B   = Revealed comparative advantage, RCA index (Balassa's Index)

X_{ij} = Exports from country i of product j

X_i = Total exports of country i

X_{wj} = Total world exports of the product j

X_w = Total world export

The RCA index (Balassa's index) is also useful to examine the performance of exports of those industries that currently have a comparative disadvantage but hold the potential to gain a comparative advantage in exports over time. This can be attained by classifying the exports with HS 6-digit products into 4 broader line of products in terms of their RCAs (Mahmood, 2004; Shahzad, 2015). The further explanation of these product lines is given in *Appendix B*.

In addition to that, the research also includes the calculation of indicative trade potential to measure the maximum possible exports between the two countries. It helps to explore the untapped export potential with the assumption that the importing country absorbs all the exports (of a given product) of the exporting country (Helmers and Pasteels, 2006). Here, an attempt is made to explore the untapped export potential of Pakistan in halal meat for two major Muslim countries i.e., UAE and Saudi Arabia.

Mathematical formation of indicative trade potential is:

$$\text{Untapped Export Potential} = \min\left(X_j^P, M_j^W\right) - X_j^P$$

Where:

X_j^P	= Exports of Pakistan to the world of product j
M_j^W	= Imports of the country i from world of product j
X_j^P	= Exports of Pakistan to the country i of product j

RESULTS AND DISCUSSION

Table 1 classifies the exports of HS 6-digit products into 4 broader product lines with respect to their RCA's. It enables to analyse the export potential of various types of meat products and helps to infer a somewhat decisive and firm opinion on the question, "Why does Pakistan lack behind when it comes to exports of some of the products under consideration"? In 2018, 6 out of a total of 26 products happened to fall under the category of CP (Competitively Positioned) products having RCAs greater than 1 and tend to show an increasing trend. As table 1 shows, these products are 020110 (fresh carcasses of bovine animals), 020210 (frozen carcasses of bovine animals), 020860 (fresh or frozen meat of camel), 020220 (frozen bovine cuts, with bone) and 021020 (meat of bovine animals, dried or smoked). Among these product lines, 020110 and 020210 are generally considered to be raw products and these are merely slaughtered animals without undergoing further complex processing. One of the reasons for their high RCAs is that very few countries around the world export this raw form of meat and world's leading exporters in meat prefer to export high value added and processed meat that has more global demand and earn lucrative foreign exchange earnings (Sohaib and Jamil, 2017). The product line 020860 (fresh or frozen meat of camel) is also not globally a high demand meat item but its overall low production and specific/unique consumer market allows Pakistan to possess strong comparative advantage in this product line. Next is the product line of TP

(Threatened Products) and 5 product lines fall under this category. These are the products having RCAs greater than 1 but tend to show a declining trend over time. These products primarily include lamb, sheep, and goat meat. Prior to 2013, these products were classified as 'competitively positioned' but bans imposed by importers on account of the prevalence of FMD (Foot and Mouth Disease) in animals had adverse impacts on exports (FAO, 2014). The Emerging Line of Products is further sub-divided into two tiers. EP 1 (Emerging products Tier I) covers the products with RCA < 1 but equal to or > 0.5, while EP II (Emerging products Tier II) have products with RCA even < 0.5 but with improving relative global position in the exports market. None of the products under the analysis fall under Tier I but 7 out of the total belong to EP II. Poultry meat products (with HS-Code 020711, 020712, 020714) are prominent in this category that show future potential of growth and carry promising reward in terms of export revenue generation. The reasons for the poultry to emerge as a vibrant sub sector in livestock with an impressive growth performance over the years is on account of modernization of the industry with high tech poultry production in intensive poultry, transformation of poultry production in the controlled shed system and improvement in poultry husbandry practices. (Anonymous. 2018; Anonymous, 2020).

The RCA values of the Weakly Positioned Line of Products for both the tiers (WP I) and (WPII) are less than unity, implying the products falling under this category experiencing negative growth. Highly value-added products are included in this category, such as, 020230 (frozen bovine meat, boneless), 020120 (fresh bovine cuts, with bones), 020130 (fresh bovine meat, boneless). The weak position of these highly value-added products is mainly on account of traceability issues, weak supply chains, insufficient number of local meat brands, weak infrastructure, improperly managed marketing strategies, and noncompliance to international standards on the parameters of safety, quality and nutritional status (Sarwar and Aleem, 2017; TRTAP, 2012).

Table 1. HS 6- digit product groups based on relative RCA profile.

HS Code	CP	TP	EP1	EP2	WP1	WP2
020210	75.50					
020110	63.30					
020860	53.37					
021020	4.79					
020220	2.19					
020740	1.11					
020680		43.25				
020450		19.96				
020421		16.64				
020450		4.07				
020410		3.43				
020990				0.408		

020714	0.255		
020711	0.129		
020712	0.101		
020441	0.056		
020443	0.013		
020621	0.041		
020610		0.808	
020120		0.711	
020130		0.172	
020230			0.261
020622			0.064
020726			0.022
020727			0.019
020713			0.015

Source: International Trade Center, ITC; Author's Calculation

Table 2 illustrates a brief comparison of the RCA Profile of Pakistan with some World-leading meat exporters from the years 2009 to 2018. (A detailed presentation of each product's RCA with its competitor for each year is available with the authors and can be provided upon request). These countries were the largest exporters of these products in the time period under consideration. The first six products in this table consist of variations of 'Bovine' animals. Amongst this category, 020110 (fresh carcasses of bovine animals) and 020210 (frozen carcasses of bovine animals) tend to have consistently higher RCAs for Pakistan as compared to its leading competitors that are Netherlands (NL) and Australia (AUS). These two products are primarily the raw products with very low-value addition and are low priced in the international market. Contrary to this, Pakistan is nowhere in global standing when it comes to exports of high value-added meat products. Pakistan's RCA score for more processed and high value added products is presented in Table 2, according to which the product with HS Code of 020120, 020130, 020220, and 020230, have significant low RCA's for Pakistan versus the leading exporters in those particular categories. These results are in line with the already acquired results in Table 1, where high value-added Bovine meat was categorized under the Weakly Positioned Line of Products. The global lead exporters in these highly value-added categories are NL (Netherlands), AUS (Australia), USA (United States of America), and BRA (Brazil). These countries possess high RCA scores and have captured the major global share of these products in meat sector. Pakistan in spite of blessed with natural capabilities for an impressive growth of livestock sector and having world's largest herd of cattle, sheep, goat, and pastures along with a suitable environment, still lacks behind the world's leading competitors in meat industry (Noor, 2015). The negligible share of the value-added products in the global meat industry is attributed to host of factors. Pakistan faces severe limitations in terms of reliable supply chains, sufficient number of local meat brands, massive infrastructure, and properly managed marketing strategies. The issues of quality assurance and meat traceability along with the insufficiently developed local fattening animal breeds that can compete with the competitors breed further restrict the country's potential export of value-added products. (Sarwar and Aleem, 2017). In today's digitalized and modern world, the health and diet consciousness of the people is reflected in their demand for meat that is judged on the parameters of safety, quality and nutritional status. The countries capable of maintaining high quality standards, implementing safety protocols and with well-designed infrastructure are able to generate enough revenue through their dominance in the global meat industry (Fields *et al.,* 2018).

Regarding the export of lamb, sheep, and goat meat that fall under the HS code of 020410, 020421 and 020450, the RCA Index shows a relatively better result versus the competitors. A general analysis of these products' RCAs show that although on average, post-2013 the RCA of competitors as well as of Pakistan, has gone down with the exception of product line 020410 (Fresh carcasses of lamb) for Netherlands. However, the percentage decline post-2013 is more pronounced in case of Pakistan as compared to other countries. This result is backed by our already acquired result in the same study where these products were categorized under the threatened products after 2013 but were positioned under the competitively positioned products before 2013. The bans imposed by importers on account of the prevalence of FMD disease in animals due to the absence of proper system to restrict the animal movement and the roaming lifestyle, had adverse impacts on exports of these products. (FAO, 2014)

The poultry related products are covered as the last three products in Table 2 and Pakistan seems to possess low RCA scores in all categories as compared to leading world exporters of these products. However, RCA scores show a rising trend over time and poultry meat can be considered as an emerging sub sector. These

results are consistent with the results obtained in Table 1 where Poultry meat products with HS-Code 020711, 020712, 020714 were categorized under emerging products. The poultry Industry of the country has been performing well with robust growth rate of 8 to 10 per cent annually during the last decade and has outpaced the growth in other livestock subsectors. It has also attained the status of one of the country's technologically advanced industry and has moved towards high value added and processed products. (Anonymous, 2018). The rising RCA scores over time are backed by these developments in the poultry industry. However, low RCA

scores with competitors point to the fact that despite improvement in this subsector, Pakistan still lags behind in terms of global competition. The challenges faced by the industry renders this vibrant industry to become a lead competitor in poultry products. The challenges faced by the industry are multifaceted in nature and include high cost of production, several legal, procedural, administrative and tax requirements, non-provision of subsidies and tax refund facility, existence of illegal practices in form of smuggling and the adherence to different regulations and protocols followed by different importers. (Anonymous,2018).

Table 2: Comparison of RCA of meat products for Pakistan with world leading meat exporters.

HS-Code	Product Name	RCA (2009)	RCA (2012)	RCA (2015)	RCA (2018)
020110 PAK	Fresh carcasses of bovine animals	11.9921	27.7046	48.7243	63.298
020110 NL	Fresh carcasses of bovine animals	4.385088	4.76523	5.719951	3.617279
020120 PAK	Fresh bovine cuts, with bone	0.3004	1.3606	1.1035	0.7104
020120 NL	Fresh bovine cuts, with bone	4.017079	4.127309	4.277934	3.624001
020130 PAK	Fresh bovine meat boneless	0.0002	0.1201	0.1329	0.1715
020130 AUS	Fresh bovine meat boneless	11.13654	9.813109	14.13327	10.54354
020210 PAK	Frozen Carcasses of bovine animals	1.102	0.3348	99.8852	75.5006
020210 AUS	Frozen Carcasses of bovine animals	0.795923	0.383426	1.100144	3.477135
020220 PAK	Frozen bovine cuts, with bone	0.0060	3.1708	1.4843	2.1873
020220 USA	Frozen bovine cuts, with bone	3.766687	4.699497	4.161979	4.980557
020230 PAK	Frozen bovine meat boneless	0.0083	0.0257	0.9312	0.2607
020230 BRA	Frozen bovine meat boneless	19.76768	15.93248	16.1742	16.19079
020410 PAK	Fresh carcasses of lamb	3.4399	9.7754	6.0368	3.4262
020410 NL	Fresh carcasses of lamb	0.842838	1.706004	2.285064	3.612631
020421 PAK	Fresh carcasses of sheep	68.7234	99.031	79.1641	16.6444
020421 AUS	Fresh carcasses of sheep	7.646935	8.325601	4.786115	6.816698
020450 PAK	Fresh or frozen goat meat	39.7659	78.595	40.0332	19.9561
020450 AUS	Fresh or frozen goat meat	27.77125	31.52072	41.05194	31.00256
020714 PAK	Frozen cuts and offal of Gallus domesticus	-	0.115	0.0861	0.2545
020714 USA	Frozen cuts and offal of Gallus domesticus	3.708499	3.267373	2.069348	2.258044
020712 PAK	Frozen Gallus domesticus, not cut in pieces	-	0.0178	0.0126	0.1006
020712 BRA	Frozen Gallus domesticus, not cut in pieces	51.98587	43.21701	51.60519	44.09331
020711 PAK	Fresh Gallus domesticus, not cut in pieces	-	0.0271	0.0489	0.1288
020711 NL	Fresh Gallus domesticus, not cut in pieces	3.120872	2.395088	2.519105	1.980037

Source: International Trade Centre, Author's Calculation

The investigation of the RCAs of 26 meat-related products at HS six-digit code leads us to sort out 11 products possessing strong comparative advantage as their RCA scores are greater than 1, and it signifies the importance of the export potential attached to these products. On the basis of these findings and country's status as a Muslim nation along with Halal meat production, Pakistan become an exemplary case to be investigated for exploring untapped export potential in these 11 products. The study explores the untapped export potential in 11 products by calculating the indicative trade potential for the UAE and Saudi Arabia. The idea behind selecting these countries was twofold.

Firstly, these are the largest halal meat importers that are Muslim countries too, and secondly, Pakistan has a strong comparative advantage in the export of meat to these countries.

Table 3 illustrates current and potential exports of Pakistan to UAE and Saudi Arabia. For these countries, the highest export potential emerges in the product line of 020110 (fresh carcasses of bovine animals), followed by other significant potential export items like 020450 (fresh or frozen meat of goats), 020629 (frozen edible bovine offal), 020410 (fresh lamb carcasses), and 020210 (frozen carcasses of bovine animals). An interesting insightful result from Table 3 is

the significant potential capacity of some products where the current levels of exports are zero or is almost negligible. Product lines in this category are 020629 (frozen edible bovine offal), 020210 (frozen carcasses of bovine animals) and 020450 (fresh or frozen meat of goats. Pakistan's export to these countries is predominantly the chilled form of meat that has less shelf life and is routed via air. The country's inability to realize its potential in frozen meat category owes to the weak capacity of the meat value chain in the country (Sarwar and Aleem, 2017). The other important factors restricting country's potential export to these markets are existence of informal practices in meat industry, unhygienic way of slaughtering, absence of Local Halal Accreditation body, and incapability of the domestic producers to meet

stringent safety protocols demanded by importing countries (KCCI, 2016). Both UAE and Saudi Arabia are currently importing most of their meat from Brazil, Australia, and the Netherlands, since these countries adhere to the standard and qualifications required by the importing countries. If Pakistan is capable enough to resolve these issues, the country can easily get a market access to these countries earning revenue worth 99 million dollar from UAE and 32 million from Saudi Arabia, which will collectively make up additional 132 million dollars to our export revenue. If Pakistan becomes able to manage and utilize its export potential, the country can transform it all into an impressively lucrative venture in its favor.

Table 3: Untapped Export Potential with UAE and Saudi Arabia.

HS-Code	Current Exports UAE (in USD thousand)	Untapped Potential Exports UAE (in USD thousand)	Current Exports Saudi Arabia (in USD thousand)	Untapped Potential Exports Saudi Arabia (in USD thousand)
020110	13,124	66,262	12,331	2,821
020220	2,895	2,293	0	5,188
020745	0	752	0	68
021020	39	1,600	0	179
020860	32	0	224	10
020210	892	1,562	7	7,804
020410	189	4,389	1,451	3,127
020421	4,921	3,157	4,916	3,162
020450	329	8,050	9	8,370
020629	0	9,067	0	1,863
020680	62	1,974	0	131

Source: International Trade Center, ITC; Author's calculation

Summary and Policy Options: The findings of the study well evidently present Pakistan to lag behind the major global competitors in high value-added meat products and to possess high comparative advantage in low value-added products that don't carry enough allure in the international market. A greater awareness and global inclination towards healthier and hygienically preserved food demand processed and value-added meat that qualifies for quality standards and safety protocols. The world's leading competitors in meat sector qualify those safety protocols and quality standards. Pakistan not only lags behind in terms of those qualifications required by importing countries but also face severe limitations in the form of traceability issues, weak supply chains, insufficient number of local meat brands, weak infrastructure, and improperly managed marketing strategies. The findings of the study bring forth certain emerging products in which the country has the potential to expand and that have a sufficient demand in the international market. The Halal meat export potential to UAE and Saudi Arabia also comes out to be enormous. However, to increase competitiveness and to realize the

untapped potential in meat exports, the dire need of the hour is to address the issues faced by meat sector. The meat industry needs to strengthen the supply chain linkages by developing an integration of meat exporters with feedlot farmers and to address the issue of traceability through proper documentation and registration of feed lot flattening farms. The leading competitors in global meat industry such as Australia, USA, Brazil, and the Netherlands, etc. have a proper mechanism to trace their animals right from birth. This enables them to obtain and retrieve information on the animals primarily related to health and their upbringing environment. In the current study, some meat categories that carry export potential on account of strong comparative advantage in comparison to competing countries are banned by the World Health Organization (WHO) (as a result of the prevalence of FMD disease in animals). If these issues are resolved by creating special FMD free zones under the WHO's guidelines for export only, the meat export of Pakistan can significantly increase. The proper documentation and traceability of animals will ensure the provision of hygienic and safe

products that will be in compliance with the international standards. The international quality and safety protocols can further be qualified by investing more in R&D, adopting mechanized slaughtering and proper animal welfare and feeding system, in addition to following smart marketing strategies. The burdensome legal, procedural, administrative and tax requirements also need to be simplified for the industry to earn a substantial global share and become competitive in high value-added meat products.

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Appendix A:
List of Product Names

HS-CODE	PRODUCT CATEGORY
020110	Carcasses or half-carcasses of bovine animals, fresh or chilled
020120	Fresh or chilled bovine cuts, with bone in (excluding carcases and half-carcases)*
020130	Fresh or chilled bovine meat, boneless**
020210	Frozen Carcases or half-carcases of bovine animals
020220	Frozen bovine cuts, with bone in (excluding carcases and half-carcases)*
020230	Frozen bovine meat, boneless**
020410	Fresh or chilled lamb carcases and half-carcases
020421	Fresh or chilled sheep carcases and half-carcases (excluding lambs)
020441	Frozen sheep carcases and half-carcases (excluding lambs)
020443	Frozen boneless cuts of sheep**
020450	Fresh, chilled or frozen meat of goats**
020629	Frozen edible bovine offal (excluding tongues and livers)
020680	Fresh or chilled edible offal of sheep, goats, horses, asses, mules and hinnies
020610	Fresh or chilled edible offal of bovine animals
020622	Frozen edible bovine livers
020621	Frozen edible bovine tongues
020714	Frozen cuts and edible offal of fowls of the species Gallus domesticus
020745	Frozen cuts and edible offal of domestic ducks
020712	Frozen fowls of the species Gallus domesticus, not cut in pieces
020711	Fresh or chilled fowls of the species Gallus domesticus, not cut in pieces
020713	Fresh or chilled cuts and edible offal of fowls of the species Gallus domesticus*
020726	Fresh or chilled cuts and edible offal of turkeys of the species domesticus*
020727	Frozen cuts and edible offal of turkeys of the species domesticus**
020755	Frozen cuts and edible offal of domestic geese**
021020	Meat of bovine animals, salted, in brine, dried or smoked
020860	Fresh, chilled or frozen meat and edible offal of camels and other camelids [Camelidae]
020990	Poultry fat, not rendered or otherwise extracted, fresh, chilled, frozen, salted, in brine, dried or smoked

Appendix B:

Classification of 4 line of products

Competitively Positioned Line of Products:
These products have RCA's greater than unity and show consistent improvements. The particular criterion is as follows:

a) RCA index of a product line, "i", is > 1 in 2018, i.e., $(Bi)_{2018} > 1$

b) Difference between RCA index of product line "i" in 2018 and its last three years average RCA's is positive, i.e., $(Bi)_{2018} - (Bi)_{Average\ (2015-2017)} > 0$

Threatened Line of Products:
Similar to the previous category, RCA's are greater than unity, but the values are in fact declining over time. The criterion is below:

a) RCA of a product line, "i", is > 1 in 2018, i.e. $(Bi)_{2018} > 1$

b) Difference between RCA of product line "i" in 2018 and its last three years' average RCA's is negative,

i.e. $(Bi)_{2018} - (Bi)_{Average\ (2015-2017)} < 0$

Emerging Line of Products:
This category is itself divided into two main sub-categories, namely Tier I and Tier II. The RCA's are less than unity for both (implying a revealed comparative disadvantage) but their relative global position in the exports market is improving. As the name itself suggests, the products falling in this category show signs of a potentially positive future.

Tier I

a) RCA for a product line, "i", is < 1 but equal to or > 0.5 in 2018, i.e. $(Bi)_{2018} < 1$ and equal to or > 0.5

b) Difference between RCA of product line "i" in 2018 and its last three years average RCA is positive, i.e., $(Bi)_{2018} - (Bi)_{Average\ (2015-2017)} > 0$

Tier II

1. RCA of a product line, "i", is < 0.5 in 2018, i.e. $(Bi)_{2018} < 0.5$

2. Difference between RCA of product line "i" in 2018 and its last three years average RCA is positive,

i.e., $(Bi)_{2018} - (Bi)_{Average\ (2015-2017)} > 0$

Weakly Positioned Line of Products:
The RCA's in this category are less than unity for both of the tiers, implying either domestic or global factors for the declining pattern. This group's sub-categories and their criteria are as follows:

Tier I

a) RCA of a product line, "i", is < 1 but equal to or > 0.5 in 2018, i.e. $(Bi)_{2018} < 1$ and equal to or > 0.5

b) Difference between RCA of product line "i" in 2000 and its last three years average RCA is negative, i.e. $(Bi)_{2018} - (Bi)_{Average\ (2015-2017)} < 0$

Tier II

a) RCA of a product line, "i", is < 0.5 in 2018, i.e. $(Bi)_{2018} < 0.5$.

b) Difference between RCA of product line "i" in 2018 and its last three years average RCA is negative, i.e., $(Bi)_{2018} - (Bi)_{Average\ (2015-2017)} < 0$.