

Research Article



Potential Markets for Beef: An Evidence from Pakistani Beef Industry

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Abstract | The current study is carried out to explore the beef exports from Pakistan and to understand the potential markets and the importance of beef meat industry in Pakistan. The secondary data have been used to conduct the research on beef export from 2002-2016. NPC (Nominal Protection Coefficient), RCA (Revealed Comparative Advantage) and RSCA (Revealed Symmetric Comparative Advantage) were estimated to find the possible international markets for beef. According to the findings internal markets are categorized into four categories of existing potential markets, future potential markets, low potential markets and markets with no potential. First category of beef markets with no potential includes Afghanistan, Qatar and Viet Nam. Second Category of beef markets for low potential includes Bahrain, Kuwait and Oman. Third category for existing high potential beef markets includes Saudi Arabia, UAE and Thailand. Fourth category of future potential markets consists the markets of Germany, Spain, Switzerland, Sweden, Denmark, Austria, Finland, United States of America, Belgium, Netherlands, Canada, Japan, Norway, Poland and Maldives.

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Introduction

The agriculture sector contributes 19.5 percent to the GDP (Gross Domestic Products) of Pakistan, 42 percent of the nation labor force and this sector has well-built backward and forward linkages. The four sub-sectors of agriculture are forestry, fishery, livestock and crops. Livestock share in the agriculture value addition stand at 58.33 percent while it is contributing 11.4 percent to the GDP (GOP, 2017). Livestock includes sheep, goat, cattle, buffalos, horses, camel, mules, asses, both poultry and poultry

products etc. The livestock sector fulfills the domestic requirements of eggs, meat and milk, which also provides the net source of foreign exchange. On the country side more than 8.0 million rural households are involved in increasing and rearing livestock (GOP, 2015). It is the main source of livelihood of the country side poor people in the nation and can play a significant role in poverty eradication and to increase the socioeconomic conditions of the country side peoples. Totally 49.5 thousand tons of red meat was exported during July to March 2014-15, which brings 145.6 million United States dollar (GOP,

2015). The 29 private sector slaughterhouses were exported this meat to abroad. In the mean while the export facilitation was also provided for livestock by products such as gelatin, horns and hooves, bones and animal casing. The efforts and hard work are needed to reach the new markets such as Indonesia, South Africa, China and Russia for the export of our meat products and meat. The livestock share in the national gross domestic product is about 11 percent. Pakistan is at number thirteen in exports of beef according to the estimation of 2015 (ITC, 2016). The major exports markets for Pakistani beef have been explained below with the value of beef exported in 2015.

Beef export value from Pakistan is about 179961 thousand USD for the year 2015. The export value of fresh and chilled beef meat is about 131767 thousand USD and export value of freeze beef meat is about 48412 thousand USD for the year 2015. The export of beef is only for the total 11 markets. UAE is the 1st major market for Pakistani beef followed by Saudi Arabia and Kuwait. More than 42 percent of total beef (Fresh and freeze) export is sent to only market of UAE. The beef export growth was gradually increasing every year in Pakistan till 2013. In 2014 fresh beef export decrease from 106049 to 95747. The reason of decrease in fresh beef export was reduction in beef export from Bahrain, Oman and Qatar. But this reduction recovers in 2015 by increase in export in Bahrain, Oman and Qatar. In 2015 fresh beef export increase from 95747 to 131767 (ITC, 2016). The reason behind increase in beef export is that Pakistan is exploring new markets for beef exports every year. UAE, Saudi Arabia and Kuwait are three markets in which Pakistan is exporting biggest share of beef. More than 80 percent of Pakistani beef (fresh and freeze) is exporting in these three countries and about 8 percent of beef exported in Oman, Qatar and Vietnam. Pakistan is currently exporting beef to 11 markets and for those markets Pakistan is facing a major competition with Australia and India while minor competition with Brazil, Paraguay and New Zealand.

The demand of beef is in all over the world but the following are the top most countries who import beef from all over the world as given below with import values. United States of America is the top first importer of the beef with about 20.5 percent share in the total import quantity of the world. Japan is at number two with about 9.5 percent share in the world's imports value. China imports are the 8.9

percent of total beef imports from the world. Pakistani exporters do not export the beef to the world's four top importers which are USA, China, Japan and Russia.

Is Pakistan not capable to compete in these four world's top markets? Is there any difference in the quality demand in these top markets? Is there any different price behavior in these markets? There is need to fully explore the matter. Australia is the top first exporter of beef followed by India. Australia and India both have 38 percent contribution in the total beef exports of the world. Pakistan stands on number thirteen in the list of top world exporters of the beef. The Pakistan's share in the total world beef exports is only 0.7 percent. In the year 2015, the Pakistani beef is exported to 11 countries as shown in Figure 1. The share of UAE is 42 percent in total Pakistani exports of beef. While Saudi Arabia is the 2nd market of Pakistani beef with 22 percent share. Pakistan is currently exporting beef to 11 markets and for those markets Pakistan is facing a major competition with Australia and India while minor competition with Brazil, Paraguay and New Zealand.

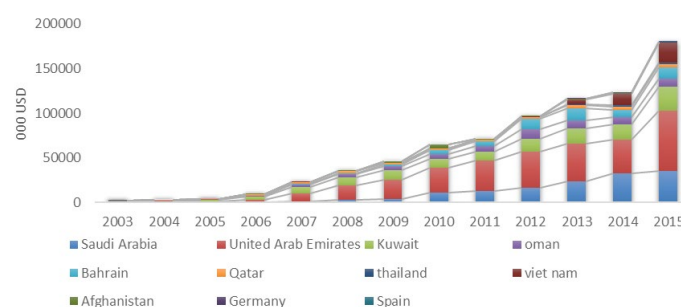


Figure 1: Beef Exports from Pakistan.

Source: International trading center.

Although Pakistan's meat industry is performing well, however there is more potential in the sector of livestock and hence for the exports of meat to all over the world. The competitiveness of Pakistani beef exports to international markets to find out the potential markets as a target future market there was need of study particularly for meat industry.

Many economic analysts of Pakistan in the sector of agriculture consider that the nation is going downward its heaviness as far as the performance of agricultural export is related (Riaz and Jansen, 2012). Pakistan is one of the prominent countries trading the Red and Halal meat market. There are around 1.8 billion Muslims residing in various parts of the globe. This is the potential market for the export of Halal meat for the milk producers throughout the world. Pakistan

being the Muslim country has a great potential to contribute to the fulfillment of Halal meat including beef and the mutton at the global level. The statistics of meat export in the last decade clearly indicate the uncertainty and unpredictability concerning the performance of Pakistan's meat industry (Bashir et al., 2015). Pakistan, being a Muslim country and best human resource has the potential to perform according to its potential. Pakistan is at 19 numbers among the list of global Halal meat exporters (Faisal, 2015).

Javed et al. (2017) calculated the nominal protection coefficient to investigate the competitiveness of Pakistan's basmati rice, beef, mutton, cotton yarn, sugar and dried fruits to the international market of United Arab Emirates. Pakistan is at number thirteen in export of beef according to the estimation of 2015 (ITC, 2016). The 29 private sector slaughter houses were exported abroad this meat. For this purpose, a detailed comprehensive study is planned to be conducted. There is more potential in the livestock sector and hence for the exports of meat to all over the world. The main purpose of the research is to calculate the level of competitiveness of beef in existing international markets and to find out the future potential markets for Pakistani beef.

Materials and Methods

The secondary data was used to conduct a research on beef exports from Pakistan. To estimate competitiveness of Pakistani beef in international markets, time series data were used which were taken from international trading center, agricultural price institution Islamabad-Pakistan and Pakistan statistical year books.

According to Latruffe (2010), competitiveness is the capability to sell commodities that get together the demand requirements (quantity, quality, price,) and in the meanwhile to ensure profits in a period of time. The current manuscript calculated the nominal protection coefficient for beef exports from Pakistan to many international markets.

Many econometric methods have been used to estimate and calculate the competitiveness; NPC is utilized on large scale, which can be explained as the ratio of a product domestic price to its international reference price. (Corden, 1971, Balassa and Achydlowsky, 1972; Gulati et al., 1990; Taylor and Philips, 1991;

Chand, 1999; Kumar et al., 2001; Rakotoarisoa and Gulati, 2006). The equation of NPC index was used to estimate the competitiveness of beef exports (Javed et al., 2017; Seleka and Kebakile, 2017; Ranjana et al., 2017; Javed et al. 2018) is as under.

$$NPC_i = P_{id} / P_{ib} * ER \dots (1)$$

NPC_i is nominal protection coefficient for the ith product, P_{id} is domestic price for the ith product in Pakistani rupees, P_{ib} is the border price in foreign currency used for the carriage, marketing and other expenses. ER is the exchange rate.

The RCA and RSCA were used to measure the exports of beef from Pakistan to the international markets. Both RCA and RSCA approaches are techniques used to estimate a nation strengthens of comparative advantage and disadvantage in a specific area. The idea of RCA is to find out a nation's strong sectors to investigate the flow of actual export was represented by Liesner (1958). Since this method was practiced and popularized by Balassa (1965), usually known as Balassa Index. Before explaining the RCA index in 1965, Liesner (1958) had already contributed to the experimental work of RCA. And he explained to be the foremost experimental research in the area of RCA. Subsequent Leisner's research, a superior approach of RCA was anticipated and then offered by Balassa (1965). After that this approach of RCA has been widely accepted and modified in literature (Ghani et al., 2008; Riaz and Jansen, 2012; Visser et al., 2015; Javed et al., 2017). The current study used the RCA index to estimate the revealed comparative advantage of Pakistani beef exports for different international markets. The formula to calculate RCA_i can be described for a nation i in an industry a.

$$(RCA_i)_a = (X_{ia} / X_{wa}) / (X_{it} / X_{wt})$$

Whereas;

X_{ia} = The export value of product a by nation i, X_{it} = Total value of exports by nation i, X_{wa} = The value of world exports of product a, and X_{wt} = Total value of world exports.

Accordingly, nation i shows revealed comparative advantage in export of a commodity a as compare to the whole world, if (RCA_i)_a is higher than 1. Usually, the greater the RCA index of a particular commodity, the higher the comparative advantage

of a nation in that particular commodity. According to Nwachuku.et.al. (2010) the RCA approach could be made symmetric by obtaining an index called RSCA. RSCA is calculated as $(RCA-1/RCA+1)$ and it changes from -1 to +1. The value which is nearer to +1, the greater the competitiveness of a nation in that interested product.

Results and Discussion

Pakistan's beef exports to UAE

UAE (United Arab Emirates) is one of the top importers of beef from Pakistan. About 42 percent of beef exports of Pakistan go to UAE which is a major market of Pakistani beef. The beef's export value from Pakistan to UAE has been increasing every year. About 67522 thousand USD beef exported in UAE from Pakistan in 2015 which is the highest value of beef exported from Pakistan to any international country. Pakistan's performance in beef exports to UAE is improving every year as shown in Figure 2.

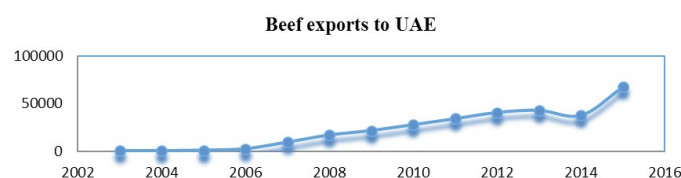


Figure 2: Beef Exports to UAE (000 USD).

Pakistan's major competitors for this market are Australia, India. Performance of Pakistan in this market is very good which is improving and value of Pakistan beef export increasing every year.

The study of RCA and NPC reveals that Pakistan has both comparative advantage and competitiveness for this market in beef exports. The increasing values of RCA and fluctuating values of NPC for beef exports revealed that Pakistani beef export is gaining revealed comparative advantages with the passage of time and Pakistan is also able to maintain its competitiveness in this market. The value of NPC in Table 1 shows that Pakistan has strong competitiveness in beef exports for the markets of United Arab Emirates and Saudi Arabia as compared to the Kuwait.

Beef exports of Pakistan to Saudi Arabia

Saudi Arabia is the world 8th largest importer of beef about 23 percent beef exports of Pakistan go to the Saudi Arabia which makes Saudi Arabia a second largest market of Pakistani beef exports (ITC, 2016).

The export value of beef from Pakistan to Saudi Arabia has been increasing every year. Pakistan's performance in this market was very good in especially 2014 and 2015 when Pakistan exported beef more than the value of 35000 thousand USD as shown in Figure 3.

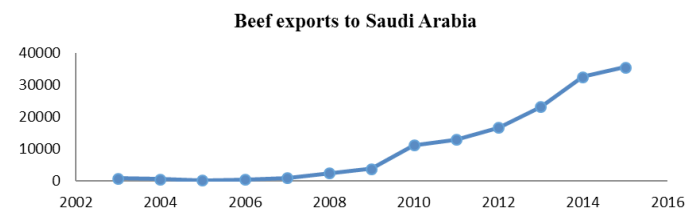


Figure 3: Beef Exports to Saudi Arabia (000 USD).

Table 1: Beef exports performance to major markets.

Year	United Arab Emirates			Saudi Arabia			Kuwait		
	NPC	RCA	RSCA	NPC	RCA	RSCA	NPC	RCA	RSCA
2005	1.09	2.81	0.48	0.62	1.76	0.27	0.88	95.96	0.98
2006	0.73	3.99	0.60	0.65	2.34	0.40	0.77	105.62	0.98
2007	0.66	4.22	0.62	0.61	2.53	0.43	0.66	71.41	0.97
2008	0.49	5.18	0.68	0.51	3.28	0.53	0.61	41.00	0.95
2009	0.64	5.44	0.69	0.77	3.44	0.55	0.68	48.41	0.96
2010	0.63	5.10	0.67	0.68	9.20	0.80	0.71	35.67	0.95
2011	0.71	6.39	0.73	0.74	11.03	0.83	0.83	40.98	0.95
2012	0.89	3.57	0.56	0.84	9.19	0.80	0.91	42.74	0.95
2013	0.72	5.20	0.68	0.74	10.11	0.82	0.82	37.27	0.95
2014	0.82	5.67	0.70	0.82	12.78	0.85	0.93	35.18	0.94
2015	0.84	9.22	0.80	0.83	10.09	0.82	0.88	32.36	0.94

Source: Author's calculations.

The current research determines the Pakistan's beef export to the Saudi Arabia by using the revealed comparative advantage and nominal protection coefficient of Pakistani beef to this market. The current results of the study show that Pakistan have a great revealed comparative advantage for market of Saudi Arabia as shown in Table 1. The study of RCA and NPC shows that Pakistan has both comparative advantage and competitiveness for this market in beef exports. The increasing values of RCA and fluctuating values of NPC for beef exports revealed that Pakistani beef export is gaining revealed comparative advantages with the passage of time and Pakistan is also able to maintain its competitiveness in this market. The competitiveness of Pakistani beef in Saudi Arabia is good enough as compared to all other export markets which include Qatar, Kuwait, Oman, Viet Nam, Thailand and Afghanistan. The overall performance of Pakistani beef supply is good in Saudi Arabia and there is need to increase the further export volume of beef to this market without losing its competitiveness.

Beef exports of Pakistan to Kuwait

Among the top importers of beef Kuwait comes at number 25th with a total value of 57000 thousand USD imports according to estimate of 2015 (ITC, 2015). Kuwait is 3rd largest market of Pakistan beef about 26475 thousand USD value beef exported from Pakistan to Kuwait. About 15 percent of total beef export of Pakistan goes to this market. Pakistan is facing very minor competition in this market so there is more chance for Pakistan to improve the performance in beef export in this market. Pakistan exported about 26475 thousand USD beef to Kuwait in 2015 that is the highest export value of beef went to Kuwait from Pakistan as shown in Figure 4.

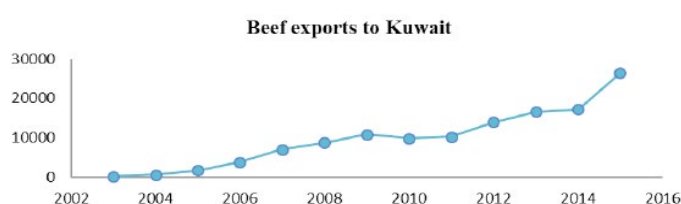


Figure 4: Beef exports to Kuwait (000 USD).

The NPC value reveals that Pakistan had competitiveness in this market till 2009. As shown in Table 1, After 2009 it gradually losing its competitiveness from 2005 to 2008 Pakistan had revealed comparative advantage, but after 2009 increasing value of NPC and decreasing RCA value reveals that Pakistan is losing its competitiveness and comparative advantage. The comparison of NPC and RCA value of Kuwait with United Arab Emirates revealed that it has more future potential than Kuwait because the NPC values shows an increasing trend in Kuwait but in case of United Arab Emirates it is somehow stable.

Beef exports of Pakistan to Oman

Oman is at 31st number in world beef importing counties. Oman is 4th largest market for Pakistan beef exports with a value of 9233 thousand USD in 2015. About 5 percent value of total exported beef of Pakistan goes to this market in 2015. Major competitors of Pakistan for this market are Australia, India and New Zealand. Export value of beef from Pakistan to Oman was highest in 2012, which was more than 11000 thousand USD. The decline in export growth of beef to this market was seen in 2013 and 2014 and from 2015 beef export start increasing again as shown in Figure 5.

The calculated values of NPC and RCA during the current study revealed that the performance of Pakistan is not good in this market as shown in Table 2. Increasing trend of NPC and decreasing RCA values overtime show that Pakistan is losing its competitiveness in this market. Though this market was an attractive market for Pakistani meat exporters especially for the year of 2007 to 2010 as shown by the NPC values. However, this market has a high import demand of beef. So there is need to improve the performance in this market. Anyhow the other markets where there is more competitiveness of Pakistani beef as compared to Oman are Saudi Arabia, UAE and Bahrain. That's why if Pakistani exporters first should focus on these markets before going to export to the Oman.

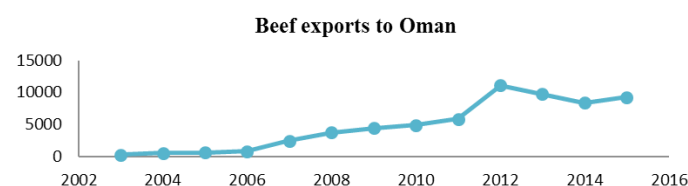


Figure 5: Beef exports to Oman (000 USD).

Beef exports of Pakistan to Bahrain

Bahrain is 5th largest market for Pakistani beef exports with a value of 13008 thousand USD. About 8 percent value of total exported beef of Pakistan goes to this market in 2015. Export value of beef from Pakistan to Bahrain was highest in 2013, which was more than 13000 thousand USD the decline in export growth of beef to this market was seen in 2014 which was about 8500 thousand USD and in 2015 the export growth of beef from Pakistan to Bahrain started increasing again which is about 13000 thousand USD as shown in Figure 6.



Figure 6: Beef exports to Bahrain (000 USD).

The NPC value reveals that Pakistan has competitiveness in Bahrain with increasing value of RCA indexes showing that Pakistan is improving its performance in both competitive and comparative advantages for this market as shown in Table 2. NPC value of 0.87 during 2015 shows that it has more competitive as compared to top markets of Saudi Arabia and UAE. It is also a valued market with high prices of mutton as compared to Kuwait and Oman.

Table 2: Beef exports performance to minor markets.

	Oman			Bahrain			Qatar			Viet Nam		
Year	NPC	RCA	RSCA	NPC	RCA	RSCA	NPC	RCA	RSCA	NPC	RCA	RSCA
2005	0.99	50.92	0.96	0.83	3.16	0.52	1.03	43.7	0.96	-	-	-
2006	0.76	29.73	0.93	0.73	4.01	0.60	0.75	50.5	0.96	0.89	2.47	0.42
2007	0.69	24.46	0.92	0.71	11.56	0.84	0.62	21.6	0.91	0.52	0.10	-0.81
2008	0.52	7.84	0.77	0.71	7.54	0.77	0.48	8.43	0.79	0.51	1.21	0.09
2009	0.71	11.51	0.84	0.69	8.16	0.78	0.83	5.36	0.69	0.80	0.50	-0.33
2010	0.68	11.73	0.84	0.68	21.86	0.91	0.77	5.24	0.68	0.75	0.28	-0.56
2011	0.87	11.36	0.84	0.73	25.59	0.92	0.88	4.07	0.61	0.83	0.07	-0.87
2012	0.82	18.96	0.90	0.85	41.60	0.95	0.81	7.52	0.77	0.66	0.22	-0.64
2013	0.81	11.10	0.83	0.70	30.20	0.94	0.80	9.38	0.81	1.02	4.44	0.63
2014	0.91	9.09	0.80	0.83	20.53	0.91	0.99	8.49	0.79	1.01	9.90	0.82
2015	0.88	6.65	0.74	0.87	23.08	0.92	0.92	6.80	0.74	1.08	10.0	0.82

Source: Author's calculations.

Table 3: Pakistan's performance in new emerging markets for beef exports.

	Thailand			Afghanistan			Germany			Spain		
Year	NPC	RCA	RSCA	NPC	RCA	RSCA	NPC	RCA	RSCA	NPC	RCA	RSCA
2005	-	-	-	-	-	-	--	-	--	-	-	-
2006	-	-	-	0.80	0.01	-0.97	-	-	-	-	-	-
2007	-	-	-	-	--	--	-	-	-	-	-	-
2008	-	-	-	0.59	0.09	-0.83	-	-	-	-	-	-
2009	-	-	-	0.95	0.42	-0.41	-	-	--	-	-	-
2010	-	-	-	0.71	0.95	-0.02	-	-	-	-	--	-
2011	-	-	-	0.83	0.19	-0.69	-	-	-	-	-	-
2012	-	-	-	0.81	0.01	-0.97	-	-	-	-	-	-
2013	0.99	1.28	0.12	0.98	0.10	-0.82	1.05	0.11	-0.80	--	-	--
2014	1.41	2.59	0.44	1.14	0.11	-0.80	0.84	0.12	-0.78	-	-	-
2015	0.78	1.21	0.09	1.45	0.01	-0.99	0.99	0.06	-0.88	0.87	0.04	-0.93

Source: Author's calculations.

The comparison of NPC and RCA value of Bahrain with UAE revealed that UAE has more future potential than Bahrain, but NPC values show a fluctuating trend in both Bahrain and United Arab Emirates.

Beef exports of Pakistan to Qatar

Qatar is one of the top world beef importing country it is number 6th in Pakistan beef export with a value of 3508 thousand USD in 2015. About 2 percent of total beef export of Pakistan goes to Qatar. Major competition of Pakistan for this market are Australia and India. The export of beef to this market was increasing till 2013 but in 2014, it reduced from 3419 thousand USD to 3170 thousand USD but in 2015 it again recovers and about 3508 thousand USD beef exported from Pakistan to Qatar as shown in Figure 7

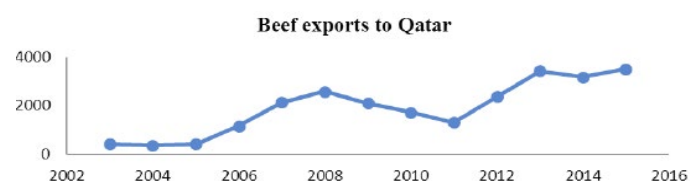


Figure 7: Beef Exports to Qatar (000 USD).

In 2005 NPC value in this market is greater than one which showed that Pakistan had no comparative advantage in this market but from 2006 to 2013 fluctuating values of NPC shows that Pakistan has comparative advantage in this country as shown in Table 2. NPC values shows that the decision of exports was irrational to this market in 2014 and 2015. More high value of NPC is the cause in reduction in RCA value. Decision of exports was seen irrational especially during the years of 2005, 2014 and 2015.

Results of NPC and RCA show that Pakistan is losing its competitiveness in this market.

Beef exports of Pakistan to Vietnam

Vietnam is at 32nd in world beef importing market (ITC, 2016). It is a new market for Pakistani beef and Pakistan is exporting beef to Vietnam from 2008 as shown in Figure 8. Pakistan is exporting both fresh and freeze beef meat to Vietnam. The value of beef export from Pakistan to Vietnam is increasing every year. About 22618 thousand USD beef exported from Pakistan to Vietnam in 2015. About 13 percent value of total beef export of Pakistan goes to Vietnam.

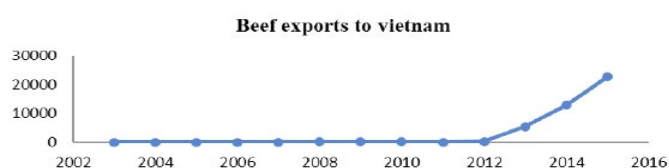


Figure 8: Beef exports to Vietnam (000 USD).

The NPC value reveals that Pakistan had competitiveness in this market till 2012. More than 1 value of NPC shows that the decision of export beef to this market is irrational as shown in Table 2. Decision of exports was found irrational especially during the years of 2013, 2014 and 2015. Results of NPC and RCA show that Pakistan is losing its competitiveness in this market. If the NPC value decreases overtime it is assumed that RCA value will increase but here in case of Vietnam, the increasing value of both NPC and RCA is out of context and against the theory of competitiveness and comparative advantage. The NPC value more than 1 suggest Pakistani exporters do not export the beef to this market that keep Vietnam in the category of those markets which have no potential.

Beef exports of Pakistan to Thailand

Thailand is a new market discovered by Pakistan in 2013 for exporting beef. In 2013 about 700 thousand USD beef was exported by Pakistan in Thailand as shown in Figure 9.

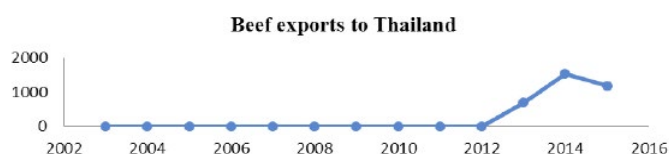


Figure 9: Beef exports to Thailand (000 USD).

In 2014 about 1531 thousand USD beef was exported by Pakistan in Thailand but in 2015 the exported

value of beef decrease from 1531 thousand USD to 1186 thousand USD. In this market Pakistan face very minor competition so Pakistan can improve its performance in this market. In this market Pakistan is gaining competitiveness because its NPC value is decreasing as shown in Table 3. Pakistan has lot of potential in this market.

Thailand is a new market explored by Pakistan in 2013. The Estimation of the NPC and RCA for Pakistani beef to this new market as shows that Pakistan has potential in this market. Pakistan's performance is poor yet in this market. Thailand is a high value market and an effort is needed to explore this market and to fulfillment their demand Pakistan should try to focus in this market in future to improve its competitiveness. There is further need to explore the quality issues in this market and try to meet those quality standards regarding Thailand. Pakistani exporters further should try to struggle in this market as high valued market and Government should also try to help out the exporters to compete in this market. There is need to improve the Pakistani beef export share to this market and at the same time improve the competitiveness of Pakistani beef in this market. NPC values in 2015 shows that Pakistan is gaining comparative advantage in this market gradually.

Beef exports of Pakistan to Afghanistan

Being a neighbor of Pakistan, Afghanistan is a traditional market for Pakistani beef. In 2015 Pakistan exported 121 thousand USD beef to Afghanistan. Pakistan started exporting beef to Afghanistan in 2007. The highest value of beef exported to Afghanistan from Pakistan that is 4737 thousand USD in 2010 as shown in Figure 10.



Figure 10: Beef exports to Afghanistan (000 USD).

Pakistan export performance to this market is not satisfactory because the high values of NPC throughout the time under consideration as shown in Table 3. The decisions of not exporting to this market from some of Pakistani exporters are rational enough, because it is not a high value market and also have a lot of competition in this market. The calculated

NPC values throughout the time period under consideration show very poor performance of Pakistan to this market. More than one, the value of NPC for the year 2014 and 2015 shows total irrational decision to export to this market. This is low value market with high demand and may be Pakistani exporters exported low quality meat to this market in the selected years of under irrational decision of exports.

Beef exports of Pakistan to Germany

Pakistan is exploring new markets for beef exports every year. Germany is a new market for Pakistani beef exports. Pakistan started beef exports with Germany from 2013 as shown in Figure 11.

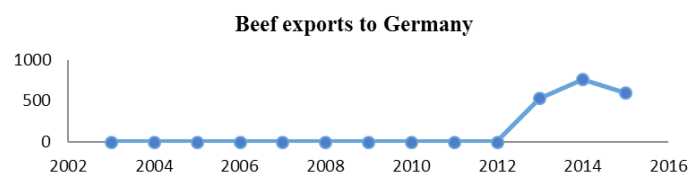


Figure 11: Beef exports to Germany (000 USD).

About 601 thousand USD value of beef exported to Germany from Pakistan in 2015 which is 0.3 percent of total beef exports. Pakistan beef export in Germany is gradually increasing. As in 2013 Pakistan exported 535 thousand USD value of beef to Germany.

Germany is new market explored by Pakistan in 2013 for beef exports. NPC value shows that Pakistan has no potential in this market because NPC value is greater than 1 in 2013 as shown in Table 3. Low value of RCA shows that Pakistan has no revealed comparative advantage in this market. According to the NPC values of 2014 and 2015 Pakistan is gaining comparative advantage in this market although NPC value is still near to 1 and RCA value is also very low which shows that Pakistan has no revealed comparative advantage in this market but may be in future Pakistan get comparative advantage in this market. However, Germany is high valued market of beef and Pakistan can maintain its competitiveness in this market. However, there is urgent need of conduct qualitative research for beef exports to the high valued potential markets including Germany.

Beef exports of Pakistan to Spain

Spain is a new market for Pakistani beef export. Pakistan started exporting beef to Spain since 2015. About 230 thousand USD value of beef exported to Spain from Pakistan in 2015 as shown in Figure 12.

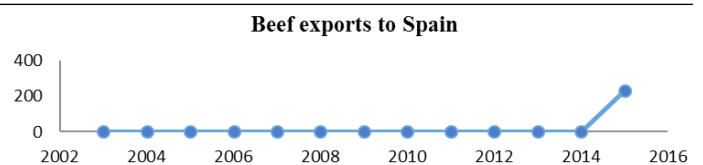


Figure 12: Beef exports to Spain (000 USD).

Spain is emerging market discovered by Pakistan in 2015 for beef exports. NPC value shows that Pakistan has less potential in this market because NPC value is near to 1 as shown in Table 3. The low value of RCA shows that Pakistan has no revealed comparative advantage in this market. The market of Spain has a potential and Pakistan need to conduct qualitative research for this market to get more market share in beef exports to this market.

Conclusions and Recommendations

According to the finding of the current study by using NPC, RCA and RSCA the international markets are divided into 4 categories of with High potential markets, low potential markets and markets with no potential as given below in the Table 4.

Table 4: Categories of beef market.

Category-1	No potential	Afghanistan, Qatar, Viet Nam
Category-2	Less potential	Bahrain, Kuwait, Oman,
Category-3	High potential (Existing Markets)	Saudi Arabia, United Arab Emirates, Thailand
Category-4	High potential (Future Markets)	Germany, Spain, Switzerland, Sweden, Denmark, Austria, Finland, United States of America, Belgium, Netherlands, Canada, Japan, Norway, Poland, and Maldives

The markets with no potential are Afghanistan, Qatar and Vietnam. Bahrain, Kuwait and Oman are the markets with less competitiveness. Pakistan should try to focus for Saudi Arabia, United Arab Emirates and Thailand as compared to Afghanistan, Qatar, Viet Nam, Bahrain Kuwait and Oman. Pakistan need to explore the markets of Switzerland, Sweden, Denmark, Austria, Finland, USA, Belgium, Netherland, Canada, Japan, Norway, Poland, and Maldives.

According to the demand and high prices (ITC, 2016) in the markets given in category-4 there is future potential in these markets. Among 15 markets Pakistan started to export two markets, i.e. Germany and Spain. There is need to explore all remaining

13 markets given in category-4. Through the study underhand it was found that there is more potential in meat and Pakistan can easily compete any of its competitor whether it is Australia or new Zealand. There are different categories of international markets with high market prices where Pakistan can compete easily but the major factor of less performance of Pakistani beef export is the less number of exporters. The government should try to increase the number of total exporters from Pakistan. Only about 30 exporters are performing well in the huge internationally demand of meat. And for the exporters I would like to suggest focusing on more to the markets where the competitiveness is more where the international prices are more to get the highest margin. No doubt for this there is need to improve our supply chain management on international regulations. And the government should try to facilitate these exporters to the specific identified international markets. It is the quantitative study and for the identified markets the government should try to help the industries to improve qualitative aspects in the meat industry of Pakistan.

Novelty Statement

The current study is the first study in which an attempt was made to identify the potential markets among existing markets and to find future potential markets to increase the export of beef from Pakistan.

Author's Contribution

Anam Sardar: Data analysis and result discussion.

Iqbal Javed: Conceptualization, writing of original draft and technical input at every step.

Abdur Rehman: Overall management of article and some minor revisions.

Mudassar Yasin: Data analysis and review.

Raheel Saqib: Methodology and review of literature.

Allah Bakhsh: Data collection and minor revisions.

Haroon Javaid: Introduction and references.

Muhammad Luqman: Conclusion review, minor revisions and formatting.

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