DETERMINANTS OF MUTTON EXPORTS FROM PAKISTAN

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HIGHLIGHTS

- One percent increase in domestic price of mutton would decrease 1.617 percent export of mutton from Pakistan.
- Contrary to domestic price, mutton export value positively and significantly affected by export prices.
- If the distance of competitor (e.g. Australia) to destined market (e.g. Saudi Arabia) increases export of Pakistani mutton increases.
- If distance of Pakistan increases to imported country the mutton export would increase by 3.08 percent. Although with increasing distance, the export may increase due to more prices in imported countries. Exporters may have more advantage in monitory term in that market which may lead to more value of exports.
- The value of mutton export may increase if the imported country is Muslim.

ABSTRACT

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 study in hand is designed to estimate the impact of different factors that affect the mutton exports. The variables of the study are export of mutton from Pakistan to its existing markets, domestic prices, export prices, traveling distance of the Pakistani Markets from its major competitors in the mutton (i.e., Australia and New Zeeland), total number of goat and sheep in Pakistan and the distance of Pakistan to its mutton export markets. Also a dummy variable of a Muslim country was added in the model (1 for Muslim and 0 for non-Muslim country). Results revealed that mutton export of Pakistan was negatively affected by domestic price of meat. The coefficient of domestic price was -1.617. It means that one percent increase in domestic price of meat would decrease 1.617 percent decrease in the export of mutton. Contrary to domestic price, export price positively and significantly affected by export price e.g. more the export price more would be export. As expected, the competitor's distance was positively associated with Pakistan's export. For instance, if the distance of competitor (e.g. Australia) to destined market (e.g. Saudi Arabia) increases export of Pakistani meat increases. Pakistani distance to export market is positively and significantly associated with export of mutton.

Introduction

The agriculture sector accounts for 19.5 percent of GDP and 42.3 percent of employment, the sector has strong backward and forward linkages. The agriculture sector has four sub-sectors including: crops, livestock, fisheries and forestry. Livestock share in the agriculture value addition stand at 58.33 percent while it is contributing 11.4 percent to the GDP (GOP, 2017). More than 8.0 million rural families are involved in raising livestock (GOP, 2015). It is central to the livelihood of the rural poor in the country and can play an important role in poverty alleviation and can uplift the socioeconomic conditions of rural masses. A total of 49.5 thousand tons of red meat was exported from July-March 2014-15 (GOP, 2015). The export of meat fetched US$ 145.6 million. This meat was exported from 29 private sector slaughterhouses. During same period export facilitation was also provided for livestock by products like animal casing, bones, horns and hooves. Efforts are on way to access new markets like Russia,

China, South Africa, and Indonesia for export of our meat and meat products.

Pakistan is an agricultural based economy and livestock has a key role to play in providing employment and to feed population by providing them milk and meat. The demand of mutton is everywhere in the world and also in Pakistan. The share of livestock in the national gross domestic product is about 11 percent. Pakistan is at number twelve in exports of the mutton according to the estimation of 2015. The major mutton exports markets for Pakistani mutton are given in Table 1.

These values of export of mutton is only for the total 11 markets. Saudi Arabia is the 1st major market for Pakistani mutton followed by UAE and Bahrain. More than 50 percent of total mutton export was exported to only market of Saudi Arabia. The growth of exports were decreasing every year and it had reached at highest point during the year of 2012 which was 86949 thousand USD and then

dropped and remained below than 60000 thousand USD throw-out the three consecutive years from 2013-2015 (ITC, 2017). The main reason of huge increase in export value from Pakistan in 2011 and 2012 was the Market of Iran but from 2013 onwards the mutton was not exported to Iran which again caused a decrease in the total export volume of mutton from Pakistan. Oman, Kuwait and Qatar are three markets where about 11 percent of total mutton exports is done by Pakistan (ITC, 2016). Pakistan in recent years entered into some new markets but in these markets the share of Pakistani mutton was below than 2 percent. These new markets were Viet Nam, Malaysia, Thailand, Afghanistan and Iran as shown in figure 1.
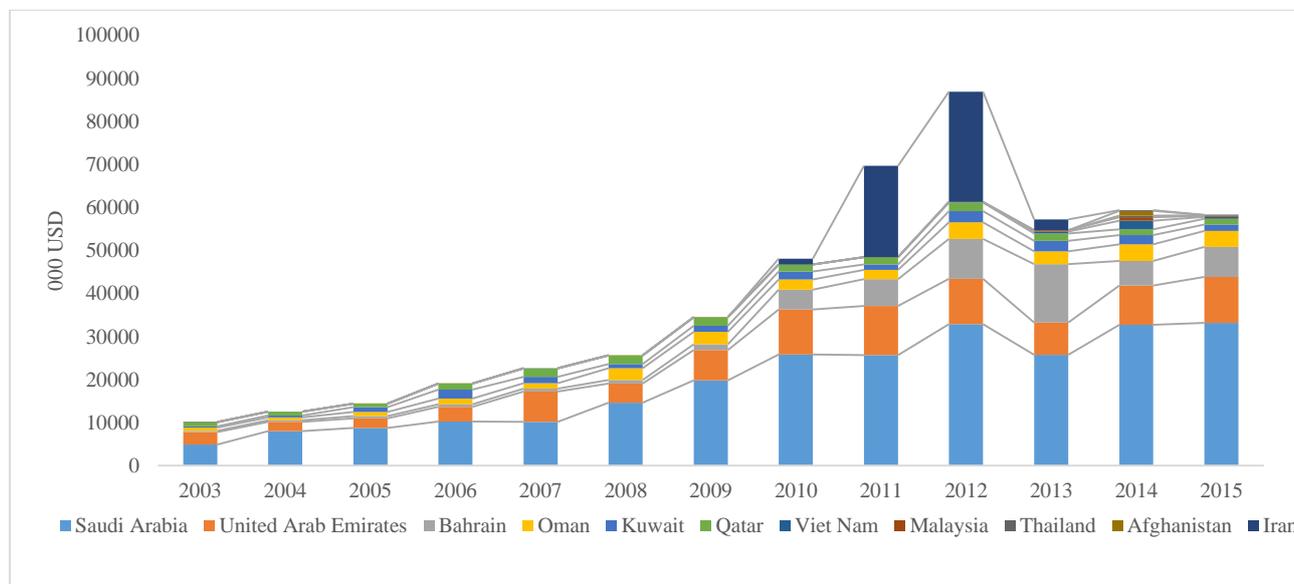

Figure 1: Mutton exports from Pakistan

Source: International Trading Centre

Khan and Saqib (1993), Zarzoso (2003), Afzal (2004), Roy and Rayhan (2012) and Mohmand and Wang (2013) conducted different studies to find out the impact of different factors contributing the trade from Pakistan. Javed *et al.* (2017) conducted a study on mutton exports from Pakistan to United Arab Emirates and stated that Pakistani beef has more Comparative advantage in exports as compared to mutton. He suggested that Pakistani exporters should concentrate more on beef as compared to mutton exports because of its more competitiveness. They further explained that beef exports has more comparative advantage revealing the fact that mutton exports has export issues. They sated that more research on mutton exports is required to explore the mutton export issues. They further advised to find international markets other than United Arab Emirates.

Table 1: Major markets of Pakistani mutton

Sr. No	Country	Value in 2015 (000 USD)	Percent share
1	Saudi Arabia	33236	57
2	United Arab Emirates	10614	18.2
3	Bahrain	7038	12.1
4	Oman	3690	6.3
5	Kuwait	1477	2.5
6	Qatar	1325	2.3
7	Viet Nam	467	0.8
8	Malaysia	191	0.3
9	Thailand	134	0.2
10	Afghanistan	88	0.2
11	Iran, Islamic Republic of	33	0.1

Source: International Trade Centre, 2016

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 study under hand was designed to estimate the impact of different factors that affect mutton exports. These factors are domestic and export prices, competitor distance, and number of sheep and goats in Pakistan, distance to the destined market and state religion of the destined country. The factors that could have a positive impact of overall meat export performance will be identified and analysed. Keeping the importance of the meat industry the current study aimed to find the impact of different factors on mutton exports in the international markets.

Methodology

Current study was conducted on mutton exports from Pakistan by using secondary data by following Ordinary least square (OLS). The major sources of the data used in the study was international trade centre, Economics survey of Pakistan and statistical year book of Pakistan. The variables of the study were export value of mutton from Pakistan to its existing markets, domestic prices, export prices, traveling distance of the Pakistani Markets from its major competitors in the mutton (i.e., Australia and New Zeeland), total number of goat and sheep in Pakistan and the distance of Pakistan to its mutton export markets. Also a dummy variable of a Muslim country was added in the model (1 for Muslim and 0 for non-Muslim country).

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \mu \quad (1)$$

Where

Y = Mutton exports (000 USD)

X_1 = Domestic price (USD/Ton)

X_2 = Export Price (USD/Ton)

X_3 = Competitor distance (Distance competitor and Pakistan's trading partner in KM)

X_4 = No of goats & sheep (Million)

X_5 = Pak distance (Distance between Pakistan and trading partner in KM)

X_6 = Muslim (Dummy variable; 1 for Muslim and 0 for non-Muslim)

μ = Error term

Results and Discussion

Descriptive Statistics (Minimum, Maximum, Mean, and Std. Deviation) were used to describe data of dependent and independent variables (domestic and export price, competitor distance, number of sheep and goats in Pakistan, distance to the destined market and state religion of the destined country) as presented in Table 2, that present the descriptive statistics of different variables used in the study related to Pakistan and its major trading partners including United Arab Emirates.

Table 2: Summary statistics of the variables used in model for mutton exports

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Mutton exports (000 USD)	143	0.00	33236.00	3628.3	6918.05
Domestic price (USD/Ton)	143	1154.30	4801.98	2882.5	1091.24
Export price (USD/Ton)	107	1000.00	8250.00	3855.1	1339.97
Competitor distance (KM)	143	3000.00	10371.00	7434.9	2409.03
No of goats & sheep (Million)	143	77400.00	97800.00	86631	6370.22
Pak distance	143	0.00	6882.00	2766.5	2404.09
Muslim (Dummy variable)	143	0.00	1.00	0.8182	0.3870

Source: Author's calculations

According to results in hand as shown in Table 3, mutton export of Pakistan was negatively affected by domestic price of mutton. The coefficient of domestic price was -1.617. It means that one percent increase in domestic price of meat caused 1.617 percent decrease in the export of mutton from Pakistan. Contrary to domestic price, export value positively and significantly affected by export price

e.g. more the export prices more would be the mutton export in that market. For instance, the value of estimated coefficient of export price was 1.177 and found significant, explaining that one percent increase in export price cause an increase of 1.177 percent in mutton export of Pakistan to its trading partners.

Table 3: Analysis of mutton Exports from Pakistan

Variables	B	Std. Error	t	Sig.
(Constant)	-68222.02	29137.89	-2.341	.021**
Domestic price (USD/Ton)	-1.617	2.241	-0.721	0.472
Export price (USD/Ton)	1.177	0.718	1.639	0.104
Competitor distance (KM)	1.227	0.389	3.152	0.002***
No. of goats & sheep (Million)	.430	0.406	1.059	0.292
Pak distance	3.08	0.440	7.00	0.000***
Muslim country (Dummy)	12042.54	3395.24	3.547	0.001***

R	R Square	Adjusted R Square	F	Sig.
.731a	.535	.502	16.275	.000a

*Note: ** and *** indicate significance at 5 and 1%, respectively.*

As expected, the competitor distance was positively associated with Pakistan's mutton export. For instance, if the distance of competitor (e.g. Australia) to destined market (e.g. Saudi Arabia) increases export of Pakistani mutton increases. It is shown that competitor's distance is positively and significantly (1.227) associated with export of mutton from Pakistan. Similarly, Competitor's distance from the Pakistani trading partner is positively and significantly associated with export of mutton from Pakistan to that market. Equally the distance increases (as in case of competitor distance) the export of meat would decrease due larger distance, processing, handling and transporting cost while Pakistan could be easily able to gain competitiveness in that market. The impact of Distance from Pakistan to its trading partner has also positive and significant impact on mutton exports from Pakistan to trading partner. Since by more distance, the export may be improved due to more prices of the product is imported countries. Exporters may have more advantage in monitory term in that market which may lead to more export. For instance, as the distance of Pakistan increases to trading market the export would increase by 3.08 percent. Javed *et al.* (2016) also found a negative impact of distance on exports of Pakistan to its trading partners while conducting a research on agricultural trade. On the other hand, number of sheep and goats are positively associated with export of meat, although the impact is insignificant. The religion of the importing country has the major role for presence of export of meat to that market. For instance, if the imported country is Muslim, the export of meat will be high in that market. Contrary to this, if imported country would be Non-Muslims mutton export would be less due to less demand of halal foods. It is clear in our study that the probability of export could increase if the imported country is Muslim.

Conclusion

Throughout the study underhand it was found that there is more potential in mutton export and Pakistan can easily compete any of its competitor. There are different categories of international markets with high market prices where Pakistan can compete easily but the major factor of low performance of Pakistani mutton export is the less number of total exporters. Only about 30 exporters are performing well to fulfil huge international demand of mutton, Government must try to increase the number of total exporters from Pakistan. While for the exporters it is suggested to concentrate more on those markets where the competitiveness is more to get the highest margin. There is need to improve the supply chain management according to international regulations and quality standards. Government should try to facilitate exporters to the specific identified international high valued markets. The study found that export price, competitor distance to the market, Pakistan distance to destined country and stated religion of that country are the significant factors of export of mutton from Pakistan.

References

Afzal, M., 2004. Exports-economic growth nexus: Pakistan's experience. Indian Journal of Business and Economics, 3 (2), 315-40.

Government of Pakistan (GOP), 2015. Economic survey of Pakistan (2014-15). Economic advisor's wing, finance division, government of Pakistan, Islamabad Pakistan.

Government of Pakistan (GOP), 2017. Economic survey of Pakistan (2016-17). Economic advisor's wing, finance division, government of Pakistan, Islamabad Pakistan.

International Trade Centre (ITC), 2017. Trade maps: Trade statistics for international business development. International Trade Centre, Geneva, Switzerland.

International Trade Centre (ITC), 2016. Trade maps: Trade statistics for international business development. International Trade Centre, Geneva, Switzerland.

Javed, I., Ashfaq, M., Anwar, N., 2017. Exports of major agricultural products from Pakistan to United Arab Emirates: Performance and comparative advantage.

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Science, Technology and Development, 36 (1), 53-60.

Javed, I., Ashfaq, M., Adil, S.A., Bakhsh, K., 2016. Analysis of agricultural trade between Pakistan and United Arab Emirates: An application of gravity model. J Agric. Res., 54 (4), 787-799.

Khan, A.H., Saqib, N., 1993. Exports and economic growth: The Pakistan experience. International Economic Journal, 7 (3), 53-63.

Mohmand, Y.T., Wang, A., 2013. The gravity of Pakistan's export performance in stratified sampling. Pak. J. Statist., 29 (2), 203-216.

Roy, M., Rayhan, M.I., 2012. Import flows of Bangladesh: Gravity model approach under panel data methodology. Dhaka Univ. J. Sci., 60 (2), 153-157.

Zarzoso, I.M., 2003. Augmented gravity model: An empirical application to Mercosur-European Union trade flows. Journal of Applied Economics, 6 (2), 291-316.