The competitive advantages of Sudanese live sheep exporting in export to international market

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Abstract: This study examines factors determining the competitive advantage of live sheep exports from Sudan, assuming Gawad et. al. (2014) model advanced from Porter (1990) Diamond model of competitive advantage of nations. The results of the study showed that sheep production during the period of the study for selected countries are fluctuating, especially Australia it had a high decreasing in production.in recent years. For exports quantities of live sheep noticed that Sudan and Somalia increasing stocks export sheep to the global market, in reverse Australia has a reduction in export quantities especially in current years. The multiple regression showed that R^2 is high 95%,94%93%for Sudan, Somalia, Jordan respectively this is agreed with model expectations. Expect Australia the result shows that R^2 was 78%. The export value in all countries show an unexpected negative significant response to production for Sudan and Australia, insignificant for Somalia and Jordan. On other hand, all selected countries show a positive response to the value of World imports, except Somalia. Export values of live sheep in Sudan show significant positive response to export value of Somalia, in reverse Somalia export value show negative response to Australian export value. This means Somalia is the competitor country for Australia and also for Sudan in spite of its weak contribution in world imports. For all countries, export values positively respond to export quantity indicating prosperous opportunity for growth of export from all selected countries.
Keywords: Competitive advantages, Live sheep exports, Sudan.

1. Introduction

In this current era, exports work as an engine of growth train [1] the livestock sector of Sudan offers a livelihood for about 17% of the population. Sudanese livestock products come across the local demand for meat in addition to a considerable surplus for export amounting to about 22% of over-all country exports. Sheep marketing in Sudan is characterized by traditional processes and is informally structured. The system as a complete is faced by several complex difficulties and constraints, which diminution the contribution of livestock in general, and sheep specifically to the economy of Sudan. Using the policy analysis matrix (PAM) technique to study the Sudanese live sheep and mutton competitiveness in the world market. results showed that the market price was more than the border price suggesting a positive encouragement as an underlying subsidy to the live sheep exporter[2].

Measured the competitiveness of the Sudanese sheep export by Emam and Salih using Policy Analysis Matrix Technique to analyzed data. results showed that there was competitiveness of Sudanese sheep, but the economy was greater than the financial one [3].

Ahmed, & et al examined the main reasons effect the current trends of red meat exporting from Sudan, as well as assigned the main importers of Sudanese in the period of (2004-2015). Using linear regression, descriptive analysis of the time series data. findings have shown that the livestock red meat, exporting during the period of the study is economically profitable and gains hard cash[4].

Gawad (2014) testing the determinants of competitive advantage of dates exporting from Saudi Arabia through multi- regression model based on Porter's diamond, which is specified the reason that

affecting on a competitiveness of nations in international marketing, such as demand conditions, factor conditions, related and supporting industries, structure. Rivalry and company strategy. results of the study showed that the determinants are significant and R square is high more than 95% in all equations this is approved our propositions but the signs parameters of these determinants are different from the expectations[5].

Also, Elmulathum &etal (2018) examines factors defining the competitive advantage of sesame seeds exporting from Sudan, adopting Gawad et. al. (2014) model developed from Porter (1990) Diamond model of competitive advantage of nations. With the exception of China, the export value of sesame shows a positive response to the value of World imports. For all countries, export values positively respond to export quantity representative prosperous potential for increase of export from the whole selected countries[6]

The competitiveness of Pakistan in selected industries of agriculture and manufacturing sectors is studied by the revealed comparative advantage (RCA) index; The found indices in this study are then subjected to panel regression analysis to examine the effect of the real exchange rate and domestic productivity growth on world trade competitiveness of most important industries. results show that the agriculture sector of Pakistan has a higher comparative advantage in raw cotton, cereals, raw leather and fruits[7].

Another paper aims to create a charting of competitive advantage of nations from research using some previous studies, paper stratify a systematic literature review on the best recent studies. The research gap is analyzed based on several groupings: implication (strategy and policy, portrait); solution methodology and strategic level (nation and industry); general characteristics (fundamental issues, indicators, and patterns)[8].

Other suggests that less developed countries have a significant competitive advantage over industrialized countries in three main areas of global trade: agriculture, textiles and clothing (T&C)[9].

Analyzed the competitive advantage of the Tunisian dates industry in the Mediterranean area and Iran shows that Tunisia is still the main supplier of dates to the European Union. However, it is currently in front of new competitors. New business strategies would be positive responses to challenge current market limitations [10].

this paper, originate time-varying relative export competitiveness of India's top agricultural exports (rice, wheat, cotton, and sugar) compared to India's share of world agricultural exports and world exports from 1961 to 2012. using the regression analysis to analyzed data. findings suggest the relative export competitiveness in wheat, rice, and cotton worsened as a result of export restrictions [11].

Examines the role of competition in market permeation of Indonesian products to Taiwan. Statistics findings show that Major export destinations are predictable to establish solid frameworks that would support the ongoing business dealings and business strategies for defining a suitable way to enter the export market [12].

2. Material and Methods

The Diamond model highlighted the significance of a constructive competition and dynamic groups in understanding building steady competitive advantage in the international market. The model advanced by Porter (1990) and called porter's diamond[13], it measure why exact industry transition to be competitive in specific places. Porter (1990) said that the competitiveness of a country depends on the ability of its industry to innovate and advance. Firms could earn advantage against their international competitors by stimulating and get an advantage from their local competitors including sellers and trades. Agreeing to Porter (1990), competitive advantage of a country is specified by demand and factor conditions, related industries, composition and strategy, favorable local environment, exogenous shocks and government policy.

Porter (1990) approach has been settled by Gawad et. al. (2014) to prove factors defining the competitive advantage of date palm export from Saudi Arabia. Built on Sölvell(2015)[14], the Diamond model adopted by Porter (1990) provides new potential and assessments for competitiveness models.

Accepted Gawad et. al. (2014) to demonstrating factors determining competitive advantage of exporting sheep from Sudan, we are using data during the period from 1986 to 2016 (FAOSTAT).

Analyze data by multiple regression using Stata software 14.2. Based on the average contribution to world imports during 1986-2016 the countries competing Sudan in sheep exports include Somalia, Australia, and Jordan. Therefore, the model involves four equations one for each country and 6 explanatory variables. Export value of sheep supposed to be function of factor conditions represented by quantity produced. The value of sheep imports is used to represent international demand conditions. The value of sheep export from competing countries is used as a proxy for company strategy and rivalry. Quantity of export is used as a proxy for the related industry in each country.
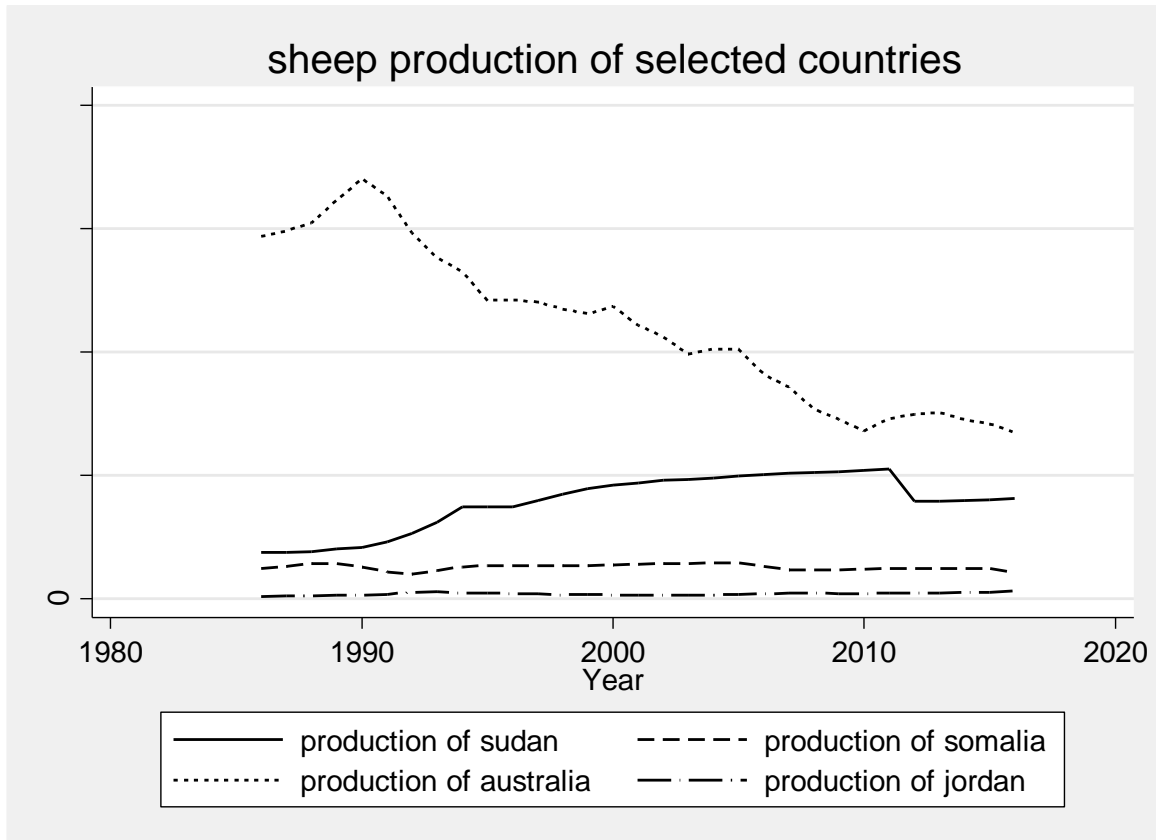

Figure 1:
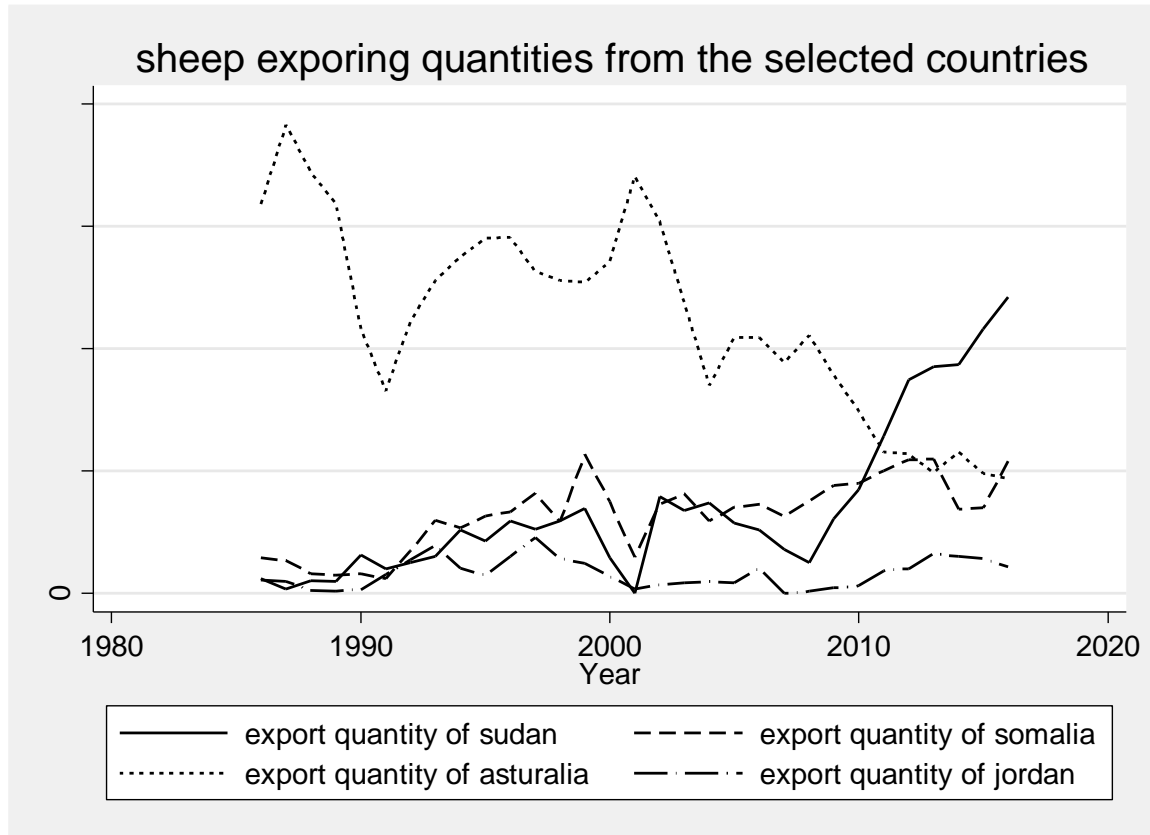Percentage of selected countries production of sheep 1986-2016.

Figure 2:
Selected countries exports quantity to total World Imports 1986-2016.

3. Results and Discussion

Figure 1 show that sheep production during the period of the study for selected countries are fluctuating. especially Australia it had a high decreasing in production.in recent years, in Figure (2) exporting quantities of live sheep we noticed that Sudan and Somalia increasing stocks export sheep to the global market, in reverse Australia has a diminution in export quantities especially in current years.

3.1. Econometric Analysis

Econometric form of the model is given by the following specifications:

$$EV\ s = \mu 0s + \mu 1sP\ s + \mu 2sEQs + \mu 3sEV\ so + \mu 4sEV\ a + \mu 5sEV\ j + \mu 6sWI\ (1)$$

$$EV\ so = \mu 0so + \mu 1soP\ so + \mu 2soEQso + \mu 3soEV\ s + \mu 4soEV\ a + \mu 5soEV\ j + \mu 6soWI\ (2)$$

$$EV\ a = \mu 0a + \mu 1aP\ a + \mu 2aEQa + \mu 3aEV\ s + \mu 4aEV\ so + \mu 5aEV\ j + \mu 6aWI\qquad (3)$$

$$EV\ j = \mu 0j + \mu 1jP\ j + \mu 2jEQj + \mu 3jEV\ s + \mu 4jEV\ so + \mu 5jEV\ a + \mu 6jWI\qquad (4)$$

Where subscripts s, so, a, and j denote Sudan, Somalia, Australia, and Jordan, EV= export value in (000) \$; P= production in stocks; EQ= export quantity in stocks and WI= value of World Imports in (000) \$

3.2. Results of Econometric Analysis

$$EV\ s = -101532.8 - 0.000\ P\ s + 0.049EQs + 0.683EV\ so + 0.657EV\ a + 0.171EV\ j + 0.088WI\ (5)$$

$$(-0.07)\ (2.93)\ (1.51)\ (0.57)\ (0.84)\ (2.52)$$

$R^2=0.95$; F=91.18.01 and significance = 0.000

EV so = 28879.63 +-.000P so +0.018EQso +0.275EV s -0.033EV a +0.086EV j -0.013WI (6)

(-0.37)   (3.00)   (5.40)   (-0.74)   (1.02)   (-0.72)

R2=0.94; F=64.56 and significance = 0.000

EV a =356511.9 -0.003P a +0.017EQa +0.108EV s −1.08EV so -0.128EV j +0.098(7)

(-8.02)   (2.11)   (0.50)   (-2.05)   (-0.52)   (2.07)

R2= 0.78; F=14.74 and significance = 0.000

EV j= -45996.48 -0.026P j +0.115EQj +0.204EV s +0.437EV so+ 0.068EV a +0.039WI (8

(-2.77)   (6.17)   (1.89)   (1.69)   (1.11)   (1.57)

R2= 93   F=56.38 and significance = 0.000

Regarding factor conditions, the export value in all countries showed an unexpected negative significant response to production for Sudan and Australia, insignificant for Somalia and Jordan. Australia negative sign may be return to) a decline of 22 % in 2012-13 of around 2 million, following shipments of 2.6 million in 2011-12, there are several reasons for the decline in the live sheep exports, including demand reduction for major exports in Kuwait and the United Arab Emirates, and a decline a number of sheep obtainable for live export, particularly in Western Australia[15]. Sudan negative significant response return may be to Rift Valley Fever that effects sheep in 2007[16]. or this is largely due to the export of oil. In 1999 and neglecting of non-exports products. This result also maybe return to that export of sheep depends on the age and weight of animals not only on annuals production like crops. Hence, we found the export quantity in all countries is showed the expected positive significant response.

Results indicated a positive response of export value of sheep for selected countries in relation to demand conditions represented by the value of World imports, except Somalia which had a negative response and this because Somalia, has increased its exports quantities recently, Sudan and Australia had a positive significant response to value of world imports because of their top ranking in world market of sheep comparing to Jordan which had appositive insignificant response, that return to weak contribution of it in the world market ..

All selected countries export value had a positive insignificant response to the export value of Sudan; on the other hand, Sudan showed a positive significant response to the export value of Somalia only.

Somalia showed a negative significant response to the export value of Australia because new competition for it has emerged in key export markets. This includes livestock exporting nations located in North Africa, Asia and South America [17].

4. Conclusion

Sudan is one of producing live sheep countries in the world and has many competitors' countries. Sudan has an enormous production of sheep and enough potential to contribute to export earning to a large expansion. The live sheep has an important place in the structure of the Sudanese Economy. Certainly, the country is at the front with the selected countries Somalia, Australia and Jordan. Results of this investigation show that Sudan and Australia had a positive significant response to the value of world imports and the export quantity in all countries are shown the expected positive significant response. Sudan shows a positive significant response to the export value of Somalia. on the other hand, Somalia showed a negative significant response to the export value of Australia. From these results, the study recommended that exporting sheep from Sudan needs support by the government of Sudan for facilitating a proper market for sheep exporters, it is also important to develop an export strategy for Sudanese exporting sheep that would promise to compete in the world markets and increase sales of sheep from Sudan. With appropriate marketing strategy Sudan has to know related characteristics of production and marketing of sheep from Sudan.

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References

[1]   Mahmood, K., & Munir, S. (2018). Agricultural exports and economic growth in Pakistan: an econometric reassessment. *Quality & Quantity, 52*(4), 1561-1574. https://doi.org/10.1007/s11135-017-0534-3

[2]   Babiker, B. I., Abdullah, A. J. M., & Al-Feel, M. A. (2011). Sudanese live sheep and mutton exports competitiveness. *Journal of the Saudi Society of Agricultural Sciences, 10*(1), 25-32. https://doi.org/10.1016/j.jssas.2010.06.004

[3]   Emam, A. A., & Salih, M. H. (2011). Measuring of competitiveness of Sudanese sheep export. *American Journal of Experimental Agriculture, 1*(3), 69-78.

[4]   A.S.H.A.M.M.A.I.S.H., *Determinants Factors Affecting the Red Meat of Livestock Exports during the Period of (2004-2015), Khartoum, Sudan* International Journal of Livestock Research, 2018. 8(7), 304-318

[5]   Gawad, G. M. M. A., Alkhteeb, T. T., & Intezar, M. T. (2014). Determinants of competitive advantages of dates exporting: An applied study on Saudi Arabia. *International Journal of Economics and Finance, 6*(4), 79-87. http://x.doi.org/10.5539/ijef.v6n4p79

[6]   Nagat Elmulthum*, A.S.A., Abda Abdalla Emam *Competitiveness of Sesame Seeds Exports from Sudan: An Empirical Analysis 8* The Empirical Economics Letters, 2018. 17(3): (March 201

[7]   Abbas, S., & Waheed, A. (2018). Import determinants and potential markets: a panel data gravity modelling analysis for Bahrain. *Review of Middle East Economics and Finance, 14*(1), 20170017. https://doi.org/10.1515/rmeef-2017-0017

[8]   Hanafi, M., Wibisono, D., Mangkusubroto, K., Siallagan, M., & Badriyah, M. J. K. (2017). Modelling competitive advantage of nation: a literature review. *Competitiveness Review: An International Business Journal, 27*(4), 335-365. http://www.emeraldinsight.com/1059-5422.htm

[9]   Dowlah, C. A. F. (2016). International trade, competitive advantage and developing economies: How less developed countries are capturing global markets. *(No Title).* https://lccn.loc.gov/2015005691

[10]   Amor, R. B., Giménez, E. A., & de Miguel Gómez, M. D. (2015). The competitive advantage of the Tunisian palm date sector in the Mediterranean region. *Spanish Journal of Agricultural Research, 13*(2), 10. http://dx.doi.org/10.5424/sjar/2015132-6390

[11]   Narayan, S., & Bhattacharya, P. (2019). Relative export competitiveness of agricultural commodities and its determinants: Some evidence from India. *World Development, 117*, 29-47. https://doi.org/10.1016/j.worlddev.2018.12.013

[12]   Kesa, D. D., & Lee, C. W. (2017, November). Market Penetration Concept: Indonesian Product Competitive Advantage Toward Export to Taiwan. In *International Conference on Business and Management Research (ICBMR 2017)* (pp. 632-644). Atlantis Press. https://doi.org/10.2991/icbmr-17.2017.57

[13]   Porter, M. E. (1990). The competitive advonioge of notions. *Harvard business review.* 13.

[14]   Sölvell, Ö. (2015). The Competitive Advantage of Nations 25 years–opening up new perspectives on competitiveness. *Competitiveness Review, 25*(5), 471-481. http://www.emeraldinsight.com/1059-5422.htm

[15]   Davey, A. (2013). Economic impact of phasing out the live sheep export trade. *Report prepared for the World Society for the Protection of Animals. Pegasus Economics (economics and public policy consultancy), Australia*

[16]   Ahmed Hassan Ahmed, O. (2016). *Rift Valley fever: challenges and new insights for prevention and control using the "One Health" approach* (Doctoral dissertation, Umeå University).http://umu.diva-portal.org/

[17]   Keogh, M., Henry, M., & Day, N. (2016). Enhancing the Competitiveness of the Australia n Livestock Export Industry. *Australian Farm Institute„ Sydney.* http://www.farminstitute.org.au/