



Trade Competitiveness of Pakistan's Fruits and Vegetables in World Market

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Vol. V, No. II (Spring 2020)

Pages: 135 – 143

p-ISSN: 2616-955X

e-ISSN: 2663-7030

ISSN-L: 2616-955X



Abstract

Fruit and vegetable crops are a priority in agriculture by virtue of their vast potential in improving the socio-economic conditions of the country. To investigate the international competitiveness by analyzing the comparative and competitive advantage of vegetables and fruits from Pakistan, Revealed Comparative Advantage (RCA), Relative Export Advantage (RXA), Relative Import Advantage (RMA), Relative Trade Advantage (RTA) and Laffey Index used as analytical tools. For this purpose, time-series data set from the International Trade Center from 2011-2019. Findings revealed that Pakistan maintained a comparative advantage and competitiveness in imports of fruits while disadvantaging vegetables. Even though Pakistan has export competitiveness over its rivals but is still importing a huge amount of fruits and vegetables. To gain better competitiveness in exports of horticultural products and to reduce imports, it is important to rethink the trade policies of Pakistan and invest in the research and development sector.

Key Words: Trade competitiveness, Comparative advantage, Vegetable crops, Fruits crops, Pakistan

Introduction

Reducing trade barriers creates competitiveness pressures and technology transfer potential so as so leads to productivity gains and restricting an economy toward its comparative advantage. The term competitiveness is introduced as an economic activity in which a company or country produces a good and service by utilizing its available resources at a suitable price to meet the world standards. Pakistan undertook a series of economic reforms to open up the economy in the 1990s. Remarkable among these has been the extensive effort to liberalize its world-wide trade. It is therefore expected that Pakistan's trade liberalization would lead to a change in the composition of exports to reflect Pakistan's comparative advantage in the world economy.

For two decades, global trade of horticultural commodities has been increased by four times, from \$51 billion in 2001 to \$200 billion in 2018 (Husiani and Rehman, 2020). In the case of Pakistan, the horticultural sector has emerged as an important sector to contribute to national agricultural GDP with a 12% share during the last decade (Akhtar et al., 2013; FAO, 2014; Nawaz et al., 2017). The rising demand for Pakistani fruit and vegetable in the international market can be measured by the high export growth (Akhtar et al., 2013; AMIPHM, 2009). However, Pakistan is exporting many horticultural products to the world, but its horticultural sector is still underperforming (Hassan, 2013).

The horticulture sector of Pakistan is still facing challenges in trade competitiveness due to poor management, international liquidity problems, and lack of value addition (Akhtar et al., 2009; Khan, 2000). Besides competitiveness, there are other issues come-up like quality compliance, the safety standard for horticultural products in the world market is a matter (Azhar, 1995; Mustafa, 2003; Rahman, 2018). Being a member of GATT since 1948 and a signatory of WTO since 1995, Pakistan has acknowledged both challenges

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and opportunities of trade liberalization ([Akhtar, 1999](#)). With the gradual reduction in trade barriers led by the globalization process, there is now a greater emphasis on promoting export competitiveness ([Prasad, 2004](#)).

In Pakistan, the horticulture sector, which includes vegetables, fruits, and cut flower production, plays a substantial role in Pakistan's trade profit ([Zafar, 2017](#)). Potatoes, tomatoes, onions and mangoes, dates, citrus are the most exported vegetables and fruits of Pakistan to the world, respectively. Total exports of vegetables in the world are \$72192017 out of which Pakistan is exported 0.3% to the world while fruits exports from the world having worth of \$12759716 and Pakistan is exported 0.3% to the world (ITC, 2020). Export earnings from fruits registered a growth of 2.8% in value and 4.4% in quantity, while vegetables also witnessed a growth of 53.7% in value; however, its quantity declined marginally by 0.9 ([GOP, 2020](#)). Due to the higher demand for domestic consumption, Pakistan is importing different varieties of fruits and vegetables from the global market. Pakistan importing fruits from international market worth \$227,399 while vegetables \$612,984 (ITC, 2020). Even though Pakistan is importing horticultural products from the global market, still its exports are higher than its imports.

Exports of Pakistani vegetables and fruits to the world, the market is increasing as the demand for Pakistani fruits and vegetables is increasing; due to their taste; however, there are still issues relating to international standards certification and sanitary and phytosanitary (SPS), etc. Thus, keeping in mind the value of exports and imports of Pakistan's horticulture commodities, an attempt has been made to estimate the horticulture comparative advantage and competitiveness in the world market. This study also provides an understanding of the factors limiting Pakistan's competitive advantage and what are the obstacles in expanding the horticultural export market. Moreover, it will also be estimated that if imports of Pakistan in terms of vegetables and fruits has been increasing and decreasing trend over time.

As a reference to the previous studies to estimate the trade advantage, a competitive advantage that refers to distortions markets is more reliable as compared to a comparative advantage which refers to undistorted markets. Several studies have been conducted to investigate the export and import competitiveness of Pakistan by using Revealed Comparative Advantage (RCA), Revealed Symmetric Comparative Advantage (RSCA), Domestic Resource Cost (DRC), Import coverage ratio (MC), and a few more. Whereas no study focused on using the Laffey index (LFI) and Relative Export Advantage (RXA), and Relative Import Advantage (RMA) in the case of fruits and vegetables individually to estimate export and import specialization and trade competitiveness among the countries. ([Anwar and Hussain, 2009](#)) used PAM, NPC, EPC, and DRC to analyze the comparative advantage and competitiveness of Pakistan's cotton crop from 2002-2007. ([Akhtar et al., 2016](#)) scrutinized tomatoes competitiveness in Punjab, Pakistan by utilizing Policy Analysis Matrix (PAM), Private Cost Ratio (PCR), DRC, NPC, and EPC. ([Maqbool et al., 2020](#)) examined the competitiveness of Pakistan's cereal by employing RCA, Vollrath Index (RCA#), RSCA, Net Export Index (NEI), Revealed Import Advantage (RMA) and Revealed Trade Advantage (RTA) from 2003-2018.

Materials and Methods

This paper compares Pakistan's horticulture commodities (Vegetables and fruits) with its major rivals in Asia. By using trade data during 2011-2019, export specialization and competition level of Pakistan in vegetables and fruits have been calculated based on their export share in total exports and import share in total imports. Data used in the study were drawn from an authentic website, i.e. International Trade Center (ITC), the Food Agriculture Organization of the United Nations (FAOSTAT), and others. In this paper, several indices are calculated to measure the export, import and trade competitiveness and comparative advantage. To get a clear picture, Revealed Comparative Advantage (RCA), Relative Export Advantage (RXA), Relative Import Advantage (RMA), Relative Trade Advantage (RTA), and Laffey Index was employed for Pakistan.

Revealed Comparative Advantage (RCA)

Balassa (1965 and 1977) interprets and constructs a framework of Revealed Comparative Advantage (RCA) based on Lisner's (1958) first analysis of comparative advantage. The purpose of the Balassa index is to compare the country's performance in a single commodity or sector to the reference group of countries' performances by using export flows based on "revealed" data or observed export patterns. In spite of numerous critics of Balassa's

basic methodology, for instance, the problem of asymmetric value, logarithmic transformation problem as well as not accounting for import, the RCA index is still a widely used framework for empirical trade analysis ([Hoang et al., 2017](#); [Yeats 1985](#); [Vollrath, 1991](#); De Benedicits and Tamberi 2001; [Bojnec and Ferto, 2008](#)). RCA index is defined as:

$$RCA_{ijt} = (X_{ij} / \sum X_{tj}) / (X_{iw} / \sum X_{tw})$$

Where, X_{ij} is the export of commodity i in country j , $\sum X_{tj}$ is total world exports of commodity i of country j , X_{iw} exports of i commodity in the world, and $\sum X_{tw}$ total world exports. RCA value is between 0 to ∞ . A greater than 1 value of RCA indicates the comparative advantage of a country in a particular product, while less than 1 value shows the comparative disadvantage of a country for a specific product ([Akhtar et al., 2013](#); [Hoang et al., 2017](#)).

Relative Trade Advantage (RTA)

[Vollrath, 1991](#) demonstrated the Relative Trade Advantage (RTA) based on the analysis in the context of RCA. RTA is the difference between Relative Export Advantage (RXA) and Relative Import Advantage (RMA). The main difference between the Balassa RCA index and Vollrath indicators is that double counting of product and country eliminated by RXA also evaluates all countries and all traded goods except subgroups and refers to the intensity of world trade. Furthermore, RTA embodies both export and import ([Hoang et al., 2017](#); Harvila and Gunawardana, 2003).

Relative Export Advantage (RXA)

$$RXA_{ijt} = (X_{ij} / \sum X_{tj}) / (X_{iw} / \sum X_{tw})$$

Where X is used for exports, i represents the product, j denotes a country, t denotes total products, and world denotes by w . $RXA > 1$ shows higher competitiveness and comparative advantage of a country, while $RXA < 1$ represents weak competitiveness and comparative disadvantage of the country.

Relative Import Advantage (RMA)

$$RMA_{ijt} = (M_{ij} / M_{tj}) / (M_{iw} / M_{tw})$$

Where M denotes Imports, country denoted by j , t is all products and world denoted by w . $RMA < 1$ indicated higher competitiveness and comparative advantage, and $RMA > 1$ indicates weak competitiveness and comparative disadvantage ([Akhtar et al., 2013](#)).

Laffey Index (LFI)

Laffey (1992) measures the comparative advantage and specialization of a country's selected product or sector. The difference between the normal trade balance of each product and the total normalized trade balance is measured by this index. The result is then weighted by the share of each commodity in overall trade. In this regard, the comparative advantage can be explained as the positive difference between the current trade deficit of a sector and the theoretical one, which corresponds to its importance for trade ([Ban, 2017](#)). This index is also used to abolish the impact of cyclic factors, which may affect the volume of trade flows in the short-term, and focus on bilateral trade relations ([Faheem, 2019](#)). Laffey index is defined as:

$$LFI_j = 100 \times \dots \times$$

Where X_j and M_j indicate export and import of a commodity j by the selected country to the world market, the number of analyzed item denoted by N . LFI value is between $-\infty$ and $+\infty$ while the neutral point of comparative advantage is 0. The positive value of LFI indicates higher specialization and the existence of comparative advantage, while the negative value shows the absence of specialization and comparative disadvantage. $= 0$ means that an increase in the comparative advantage of a sector leads to a decrease of others ([Hoang et al., 2017](#)).

Results and Discussion

Analyses of selected horticulture products, i.e. vegetables and fruits, are conducted to identify the

Comparative and competitive advantage. Balassa (1965) RCA index, [Vollrath, 1991](#) RTA, RXA, and RMA has been used in this section. Moreover, Laffey Index has been used to measure comparative advantage and intra trade change in selected products between Pakistan and other participating countries. Time series data of horticulture selected products of Pakistan and Asian leading countries China Viet Nam, Turkey, Thailand, Philippines, India, Myanmar, and Uzbekistan is taken from International Trade Center (ITC) for the period 2011 to 2019.

For the year 2019, which is under investigation, results revealed that Pakistan makes up 0.1 percent of the world's exports while China's share reported as 13.4 percent, Turkey accounts for 0.9 percent, Thailand for 1.3 percent, the Philippines for 0.4 percent, India for 1.7 percent, both Myanmar and Uzbekistan account for 0.1 percent. On the other hand for the same year, the contribution of Pakistan's imports in world's total imports is about to be 0.3 percent, China's share in world's imports is accounted for 10.9 percent whereas Viet Nam share is recorded as 1.3 percent, Turkey's share in world's imports is about to be 1.1 percent, Thailand accounts for 1.3 percent, Philippines for 0.6 percent, India's share is approximately 2.5 percent while Uzbekistan and Myanmar's share in world's total imports is 0.1 percent has been recorded.

The main idea of Table 1 is to consider whether Pakistan has a comparative and competitive advantage in fruits over its competitors in Asia. As compared to major Asian exporters and importers of fruits, Pakistan's import and export share to the world market is indicated in Table 1. By using the following indices, Pakistan's fruits export value was 310936 thousand USD for the year 2011, which is increasing to 398771 thousand USD in 2019 shows great export potential, while Pakistan's import value is recorded as 227399 thousand USD in 2019 from 121079 thousand USD in 2011 showed a great increase but its better than previous years 2015 to 2017 these years considered to be bad years for Pakistan because of their import values. There was no comparative advantage in fruits exports for China and India over the study period based on RCA values because these values are less than unity. Viet Nam's RCA value was fluctuating over the study period and stood at 3.17 in 2009. Same as Viet Nam, Turkey also has a comparative advantage during the entire study period because its RCA value remained greater than unity, but the year 2011 was considered to be a good one because the RCA value in this year was highest than the coming years. Thailand's RCA value was gradually increasing and reached 2.25. While the Philippines's RCA value has also remained great than unity shows comparative advantage. Pakistan also has a comparative advantage in fruit export from 2011 to 2019, but 2016 is considered to be the luckiest year for Pakistan because this year, Pakistan's RCA value is 3.08, which is the highest value during the study period. Results of RXA are the same as RCA.

Table 1: Comparative and Competitive Advantage of Pakistan and Selected Asian Countries for Fruits for 2011 to 2019.

Countries	Indicators	2011	2012	2013	2014	2015	2016	2017	2018	2019
China	RCA	0.35	0.37	0.36	0.33	0.36	0.38	0.35	0.33	0.37
	RXA	0.35	0.37	0.36	0.33	0.36	0.38	0.35	0.33	0.37
	RMA	0.34	0.39	0.37	0.44	0.52	0.51	0.48	0.60	0.79
	RTA	0.01	0.04	0.02	-0.01	0.03	0.04	0.01	-0.01	0.03
	Laffey Index	0.00	-0.01	-0.01	-0.04	-0.06	-0.05	-0.05	-0.10	-0.16
Vietnam	RCA	3.67	3.50	2.93	3.06	3.20	3.79	4.26	3.82	3.17
	RXA	3.67	3.50	2.93	3.06	3.20	3.79	4.26	3.82	3.17
	RMA	1.30	0.86	1.10	1.06	1.31	1.78	2.44	1.95	1.62
	RTA	3.34	3.16	2.59	2.72	2.86	3.46	3.92	3.48	2.83
	Laffey Index	0.55	0.64	0.46	0.54	0.56	0.66	0.56	0.56	0.50
Turkey	RCA	5.98	5.05	4.95	4.91	4.80	3.95	3.73	3.66	3.58
	RXA	5.98	5.05	4.95	4.91	4.80	3.95	3.73	3.66	3.58
	RMA	0.31	0.36	0.30	0.29	0.33	0.37	0.34	0.37	0.33
	RTA	5.65	4.71	4.61	4.57	4.46	3.61	3.39	3.33	3.25
	Laffey Index	1.26	1.10	1.15	1.23	1.36	1.19	1.09	1.03	1.10
Thailand	RCA	0.90	1.08	0.90	1.02	1.01	1.10	1.46	1.71	2.25

Countries	Indicators	2011	2012	2013	2014	2015	2016	2017	2018	2019
Philippines	RXA	0.90	1.08	0.90	1.02	1.01	1.10	1.46	1.71	2.25
	RMA	0.42	0.47	0.48	0.50	0.61	0.65	0.59	0.51	0.54
	RTA	0.57	0.75	0.56	0.69	0.67	0.76	1.13	1.37	1.91
	Laffey Index	0.11	0.14	0.10	0.14	0.11	0.14	0.28	0.38	0.57
	RCA	4.03	4.03	4.70	4.91	2.19	2.91	2.86	4.76	5.42
	RXA	4.03	4.03	4.70	4.91	2.19	2.91	2.86	4.76	5.42
	RMA	0.47	0.59	0.51	0.46	0.46	0.52	0.49	0.51	0.61
	RTA	3.70	3.70	4.36	4.57	1.85	2.57	2.53	4.43	5.08
	Laffey Index	0.84	0.83	1.09	1.23	0.53	0.78	0.75	1.27	1.54
	RCA	0.99	0.97	0.94	0.92	0.89	0.89	0.92	0.74	0.69
India	RXA	0.99	0.97	0.94	0.92	0.89	0.89	0.92	0.74	0.69
	RMA	0.87	0.72	0.82	0.94	1.14	1.08	1.08	1.09	0.87
	RTA	0.66	0.63	0.61	0.58	0.55	0.55	0.59	0.40	0.36
	Laffey Index	0.01	0.05	0.02	-0.02	-0.10	-0.08	-0.07	-0.13	-0.07
Pakistan	RCA	2.53	2.86	3.27	3.07	2.98	3.08	2.40	2.82	2.46
	RXA	2.53	2.86	3.27	3.07	2.98	3.08	2.40	2.82	2.46
	RMA	0.54	0.59	0.53	0.72	0.95	1.01	0.86	0.53	0.64
	RTA	2.20	2.52	2.94	2.74	2.64	2.74	2.07	2.48	2.12
	Laffey Index	0.44	0.51	0.66	0.58	0.55	0.59	0.40	0.59	0.53

Source: ITC calculations based on UN COMTRADE and ITC statistics

By using eq. 3 RMA value has been calculated. Results revealed that Pakistan, China, Turkey, Thailand, and the Philippine have a competitive advantage and strong competitiveness because of $RMA < 1$. On the other hand, both India's RMA value is less than unity in 2019, better than in previous years, but Viet Nam has a huge competitive disadvantage showed by its RMA value. Years 2013 and 2018 are considered to be the luckiest years for Pakistan because in this year RMA value is recorded as 0.53, which is the lowest value. Pakistan's RTA value is fluctuating over the study period like its competitors, but Turkey is one of those countries whose RTA value is high than its Asian rivals.

Table 1 disclosed that Pakistan has a comparative advantage in exports of fruits by the average value of RCA, which is 2.83, while Viet Nam and the Philippine have an advantage over Pakistan, China, and India, but Turkey has a great comparative advantage over its Asian competitors. Pakistan's RMA value is 0.71 shows an advantage, but Turkey has a highly competitive advantage over Pakistan and other selected countries; however, the positive value of the RTA of Pakistan indicates a net revealed competitive advantage.

Table 2: Comparative and Competitive Advantage of Pakistan and Selected Asian Countries for Vegetables for 2011 to 2019.

Countries	Indicators	2011	2012	2013	2014	2015	2016	2017	2018	2019
China	RCA	1.33	1.04	1.02	0.99	0.98	1.13	1.19	1.14	1.07
	RXA	1.33	1.04	1.02	0.99	0.98	1.13	1.19	1.14	1.07
	RMA	0.31	0.39	0.36	0.36	0.38	0.26	0.26	0.26	0.20
	RTA	1.03	0.73	0.71	0.68	0.67	0.82	0.88	0.83	0.76
	Laffey Index	0.18	0.10	0.11	0.11	0.12	0.19	0.19	0.16	0.17
Myanmar	RCA	37.8	52.0	23.0	22.9	28.2	27.6	16.4	12.3	14.0
	RXA	37.8	52.0	23.0	22.9	28.2	27.6	16.4	12.3	14.0
	RMA	0.0	1.0	0.1	0.1	0.2	0.7	0.7	0.1	0.0
	RTA	37.5	51.7	22.7	22.5	27.9	27.3	16.1	12.0	13.7
Turkey	Laffey Index	6.5	8.2	4.0	3.9	5.4	5.8	3.2	2.3	2.7
	RCA	2.30	1.96	1.95	1.94	1.80	1.50	1.54	1.74	1.58
	RXA	2.30	1.96	1.95	1.94	1.80	1.50	1.54	1.74	1.58

Countries	Indicators	2011	2012	2013	2014	2015	2016	2017	2018	2019
Thailand	RMA	0.45	0.35	0.36	0.53	0.54	0.52	0.54	0.47	0.41
	RTA	2.00	1.65	1.64	1.63	1.49	1.19	1.23	1.43	1.27
	Laffey Index	0.29	0.25	0.26	0.24	0.24	0.21	0.20	0.23	0.23
	RCA	1.62	1.85	1.99	2.23	2.12	1.46	1.42	1.31	0.92
	RXA	1.62	1.85	1.99	2.23	2.12	1.46	1.42	1.31	0.92
	RMA	0.38	0.44	0.44	0.51	0.71	0.83	0.89	0.96	1.08
	RTA	1.31	1.54	1.68	1.92	1.81	1.16	1.12	1.01	0.61
	Laffey Index	0.21	0.22	0.27	0.30	0.28	0.14	0.11	0.07	-0.03
	RCA	0.00	0.00	0.00	0.00	0.00	0.00	5.22	7.59	8.46
Uzbekistan	RXA	0.00	0.00	0.00	0.00	0.00	0.00	5.22	7.59	8.46
	RMA	0.00	0.00	0.00	0.00	0.00	0.00	0.84	0.74	0.36
	RTA	-0.31	-0.31	-0.31	-0.31	-0.31	-0.31	4.91	7.28	8.15
	Laffey Index	0.00	0.00	0.00	0.00	0.00	0.00	0.90	1.21	1.50
India	RCA	0.97	0.92	1.19	1.00	1.08	1.01	0.94	1.02	0.87
	RXA	0.97	0.92	1.19	1.00	1.08	1.01	0.94	1.02	0.87
	RMA	1.19	1.39	1.36	1.62	2.31	2.56	2.14	0.58	0.86
	RTA	0.66	0.61	0.88	0.69	0.77	0.70	0.63	0.71	0.56
Pakistan	Laffey Index	-0.03	-0.08	-0.04	-0.11	-0.24	-0.33	-0.24	0.08	0.01
	RCA	2.97	2.37	2.82	1.94	2.63	1.95	1.91	2.80	2.72
	RXA	2.97	2.37	2.82	1.94	2.63	1.95	1.91	2.80	2.72
	RMA	3.81	4.05	3.13	3.86	3.77	4.52	4.11	2.97	3.23
	RTA	2.66	2.06	2.52	1.63	2.32	1.64	1.60	2.49	2.41
	Laffey Index	-0.12	-0.27	-0.07	-0.32	-0.21	-0.48	-0.37	-0.02	-0.08

Source: ITC calculations based on UN COMTRADE and ITC statistics

Table 2 postulated that Pakistan has a comparative advantage since 2009 in overall vegetables, and it implies that Pakistan maintained as well as attained the level of comparative advantage up to 2011 shown by RCA value which is stood at 2.72. Myanmar is one of Pakistan's selected rivals in the export of vegetables. By looking at its RCA values, it is concluded that it holds 1st highest comparative advantage. Results of RXA are the same as RCA. Table 2 also included a competitive advantage in overall vegetables for the study. Pakistan has a competitive disadvantage in the imports of fruits during the entire study period. It could be seen by RMA values which are more than unity. 1st highest value of RMA of Pakistan has been recorded in 2016, which was 4.52. Hence Uzbekistan has 1st competitive advantage over Pakistan, China, India, Thailand, Turkey, and Myanmar. Positive RTA values of Pakistan shows net revealed trade advantage in vegetables. Also, Pakistan has the highest RTA value in 2019 than others. Negative values of the Laffey index of Pakistan show the absence of specialization because LFI values vary between $-\infty$ to $+\infty$ means weak competitiveness and comparative disadvantage. By using LFI, it is postulated that Myanmar is one of those countries that have the highest comparative advantage and strong competitiveness in exports of vegetables.

Table 2 represents the Comparative and competitive advantage of Pakistan and other selected countries to the world market in vegetables from 211 to 2019. It can be observed by seeing the RCA average value of Pakistan that Pakistan has a comparative advantage in vegetables during the study period over China, India, Turkey, Thailand, and Uzbekistan except for Myanmar (Akhtar *et al.*, 2009).

Pakistan's RXA value is depicted as 2.46, which is the same as RCA. Moreover, Pakistan has a great competitive disadvantage in the imports of vegetables. Because the RMA value is 3.72, and it is a result of the rapid growth of the population. In this case, demand for horticulture products is also increasing. And other Asian rivals of Pakistan, including China, Turkey, Myanmar, Thailand, and Uzbekistan, have a competitive advantage over Pakistan except for India because it exhibits $RMA > 1$. The positive value of RTA also 2nd highest value indicates that Pakistan has a net revealed trade advantage over China, India, Turkey, Thailand, and Uzbekistan, while Myanmar has 1st highest net revealed competitive advantage.

Conclusion

This research concludes Pakistan's competitive position in the global fruits and vegetable export also import market over the period 2011 to 2019 against Asia's leading fruits and vegetables exporting and importing players based on RCA RXA RMA, RTA, and Laffey Index. Pakistan has a comparative and competitive advantage in both fruits and vegetables due to suitable climatic conditions based on Balassa's Revealed Comparative Advantage and Vollrath's Revealed Competitive Advantage. However, the overall comparative advantage of Pakistan is not sufficient. Because this study exhibited that Pakistan has the 2nd rank in gaining comparative and competitive advantage in the export of vegetables while 4th in fruits. In the imports of vegetables, Pakistan has a competitive disadvantage during the entire period. However, Pakistan has a competitive advantage in the imports of fruits for the whole period under analysis except in the year 2016. However, positive values of RTA indicate that Pakistan has net revealed competitive advantage in most of the years under consideration in vegetables over its rivals except Myanmar. Even Pakistan also has net revealed competitive advantage in fruits but by gaining 4th rank, which is not good. Laffey Index depicted that Pakistan has weak competitiveness in vegetables while strong in fruits. The study recommends that policymakers and the government should facilitate exporters for those markets where Pakistan's fruits and vegetables can get a lot of potentials. To boost its fruits and vegetable exports and reduce imports competitiveness, Pakistan needs to develop a better system to research and redesign its trade strategy. Pakistan also needs to invest in technological development to produce a better marketable surplus and devise foreign trade plans so that vegetables and fruits can make a big contribution to reducing Pakistan's negative trade balances.

References

- Akhtar, M.R. 1995. Effects of Trade Liberalization on Agriculture in Pakistan: Commodity Aspects. Working Paper. 1438-2016-118938.
- Akhtar, W., M. Sharif and H. Shah. 2009. Competitiveness of Pakistani Fruits in the world Market. *The Lahore Journal of Economics*. 14(2):125-133.
- Akhtar, W., M. Sharif, A.H. Qureshi, K.M. Aujla, M.A. Khan. 2016. Competitiveness of Tomato Production in Punjab, Pakistan. *Pakistan Journal of Agricultural Research*. 29(2):197-187.
- Akhtar, W., N. Akmal, H. Shah, M.A. Niazi. And A. Tahir. 2013. Exports Competitiveness of Pakistan Horticultural Products. *Pakistan Journal of Agricultural Research*. 26(2):87-96.
- AMIPHM. 2009. Agricultural Marketing Infrastructure and Post-Harvest Management for the 10th Five Year People's Plan, 2010-215. Food and Agriculture Section, Planning Commission Islamabad.
- Anwar, S. and Z. Hussain. 2009. Dynamics of Comparative Advantage and Competitiveness of Cotton crop in Pakistan and Policy Implications. *Pakistan Journal of Applied Economics*. 19(2):79-101.
- Azhar, R.A. 1995. The Uruguay Round and Pakistan's Exports: In the Implications of Uruguay Round for Pakistan. Pakistan Institute of Development Economics, Islamabad. Pakistan.
- Ban, I.M. 2017. Measuring trade specialization dynamics: the case of Romania and Bulgaria. *Empirica*. 44(2):229-248.
- Bojnec, Š. And I. Ferto. (2008). European Enlargement and Agro-Food Trade. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroeconomie*. 56(4):563-579.
- Faheem, M. 2019. Analyzing revealed comparative advantages of wool, meat and dairy products trade in Pakistan. University of Agriculture Faisalabad. Unpublish Thesis.
- FAO. 2014. Food and Agricultural Organization, Statistics Division. [Online Available] <http://www.fao.org/faostat/en/#data>.
- GOP. 2020. Government of Pakistan 2019-2020. Trade and Payment. Finance Division, Islamabad, Pakistan.
- Hassan, M.R.U. 2013. An Analysis of Competitiveness of Pakistan's Agricultural Export Commodities. *IOSR Journal of Business and Management*. 11(5):29-33.
- Havrila, I. and P. Gunawardana. 2003. Analyzing comparative advantage and competitiveness: an application to Australia's textile and clothing industries. *Australian Economic Papers*. 42(1):103-117.
- Hoang, v.v; K.T. Tran and B.V. Tu. 2017. Assessing the Comparative Advantages of Agricultural Export Commodities in Vietnam. *Proceedings of the AsLEA2017*.
- Husiani, S.A. and J. Rehman. 2020. A Study on Horticultural Sector of Pakistan. Understanding the Bottlenecks and Opportunities in Value-Added Exports of Fruits and Vegetables. 1-64. [Available at] https://invest.gov.pk/sites/default/files/2020-07/PBC-Horticulture-Sector-Study-Report_compressed-compressed.pdf.
- Khan, S. 2000. Agriculture and New Trade Agenda in WTO 2000 Negotiations: Economics Issues and Policy Options for Pakistan. Mimeo, The World Bank.
- Maqbool, S.M., T. Mahmood, S. Hussain, and M. Ashraf. 2020. Analysis of Trade Competitiveness of Pakistan Cereal Products in Global Perspective. *Review of Economics and Development Studies*. 6(1):97-106.
- Mustafa, K., 2003. Barriers Against Agricultural Export from Pakistan: The Role of WTO Sanitary and Phyto sanitary Agreement. *Pakistan Development Review*. 42(4):487-510.
- Nawaz, M.A., F. Shireen, Y. Haung, B. Zhilong, W. Ahmed and B.A. Saleem. 2017. Perspectives of Vegetable Grafting in Pakistan: Current Status, Challenges and Opportunities. *International Journal of Agriculture and Biology*. 19:1165-1174.
- Prasad, R.N. 2004. Fiji's Export Competitiveness: A Comparison with selected Small Island Developing States. Working Paper 2004-2006. Economic Department Reserve Bank of Fiji.
- Rehman, H.U. 2018. Current Status, Challenges and Way Forward of Good Agriculture Practices (GAP) Standards and Harmonization of SARRC GAP for Vegetables and Fruits in Pakistan. 49-74.
- Vollrath, T. 1991. A Theoretical Evaluation of Alternative Trade Intensity Measures of Revealed Comparative Advantage. *Weltwirtschaftliches Archiv*. 127(2): 265-280.

- Yeats, A.J. 1985. On the appropriate interpretation of the revealed comparative advantage index: implications of a methodology based on industry sector analysis. *Weltwirtschaftliches Archiv*. 121(1):61-73.
- Zafar, F. 2017. Horticulture Sector: Fruits of Pakistan- Export Potential. [Online Available] : <https://www.researchgate.net/publication/330133899>.