

EXPORT COMPETITIVENESS AND COMPARATIVE ADVANTAGE OF EDIBLE FRUITS AND VEGETABLES IN INDIA

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Abstract

Exports are considered as a vehicle for economic growth and development of a country. Being an agrarian economy, India has great potential for export of its agricultural products, particularly perishable agricultural produces like fruits and vegetables. The contribution of fruits and vegetables in the export basket is negligible, though India claims the largest producer of fruits and vegetables in the world. The present paper is an attempt to analyse the export potential of Indian fruits and vegetables and to identify the products in which India can achieve a relative comparative advantage in Export.

Key words:- Agriculture, Comparative Advantage, Exports, Export Potential, Fruits and Vegetables.

Exports are on the priority list in the economic structure of developing economies as it contributes significantly to the pool of foreign exchange. Each country is blessed with various assets and natural resources and some countries may produce the same

good more efficiently than others and thus sell it at a lower cost. If a country cannot produce an item efficiently, they can obtain it through trading with another country. This kind of specialization in international trade enables countries to make use of their scarce resources

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efficiently so that they can expand to international markets. India is endowed with diverse climatic condition which ensures the availability of a wide range of fresh fruits and vegetables.

India is not among the top agricultural exporters list, for instance India occupied second position in the world wheat production but ranks 34th in export. Despite of being world's 3rd largest producer of vegetables, the export ranking of India is only 14th. It is in the case of fruits also, where India is the second largest producer in the world but export ranking is 23rd (Press Information Bureau, Government of India,2020).

Review of Literature

Export of Indian agricultural products showed an increasing trend over the years but the share of agricultural export to the total export basket has declined (Kumar,2022).India exhibited a declining trend in the comparative advantage with respect to agricultural export compared to other Asian countries in the international markets (Reddy et al.2021).Export value of fresh fruits was lower than the value of import and exports value of processed fruits and juices was higher than the value of imports. In contrast to this, value of import of fresh vegetable was lower than the export value (Singh et al.,2020).

India enjoys Revealed Comparative Advantage (RCA) in the export of agriculture products like meat and edible offal, frozen fish, oilseed, rice, wheat, coffee and tea (Ansari and Khan,2015).India should export that commodity in which it has comparative

advantage like rice because Rice has attained highest RCA value(Bansal et al.,2021).

Objectives of the study

1. To analyse the export competitiveness of edible vegetables and fruits from India by using Trade competitiveness Index (TCI).
2. To identify the export potential of edible vegetables and fruits from India in the global markets by analysing the Revealed Comparative Advantage (RCA).

Research Methodology

The present study is based on secondary data collected from the websites of International Trade Centre (ITC), Geneva, Switzerland. Two-digit HS code product 07 (Edible vegetables and certain roots and tubers) and 08 (Edible fruit and nuts; peel of citrus fruit or melons) are taken for the study. To analyse the export competitiveness of selected agricultural products, data from 2017 to 2021 are taken and for identifying the export potential, Revealed Comparative Advantage (RCA) values from 2017 to 2021 are computed.

Analytical tool

1. TC Index (TCI)

It is a tool used to measure the export competitiveness of agricultural products and the value of TC index ranges in between -1 to +1.Strongest export competitiveness is reflected when TC value is equal to 1 and -1 represents the Import competitiveness.TC index values can be calculated as follows;

$$TCij=(Xij-Mij)/(Xij+Mij)$$

Where TC_{ij} represents the trade competitiveness of i^{th} country in j^{th} product. Where X_{ij} denotes export value of j^{th} product in the i^{th} country and M_{ij} denotes import value of j^{th} product in the i^{th} country.

2. Balassa’s Index of Revealed Comparative Advantage (RCA)

Balassa’s Index of Revealed Comparative Advantage (RCA) was introduced by Balassa in 1977 and can be computed by the following equation;

$$RCA_{ij} = \frac{X_{ij}/X_w}{X_i/X_w}$$

Where,

X_{ij} = Exports of j^{th} commodity in i country

X_{wj} = Exports of j^{th} commodity in world

X_i = Total Merchandise exports in i country

X_w = Total merchandise exports in world

A country’s comparative advantage can be analysed by the value of RCA. If RCA values are more than unity for a commodity then the country has comparative advantage in the export of that commodity and If RCA is less than one then the country has comparative disadvantage on that commodity or service.

Data analysis and Discussion

Export competitiveness of edible vegetables and certain roots and tubers (HS 07) and Edible fruits and nuts (HS 08)

Export competitiveness of edible vegetables and certain roots and tubers and edible fruits and nuts are measured

by using Trade Competitiveness Index (TC Index) are shown in table 1 and 2.

It is clear from the table that vegetables like tomatoes, fresh or chilled (0702), lettuce, fresh and Chilled (0705) and cucumbers and gherkins, fresh or chilled (0707) have strongest export competitiveness whose TC index is equal to 1. Whereas all other vegetables showed either very strong export competitiveness or strong export competitiveness except dried leguminous vegetables (0713).

Table 2 indicates that under the HS code category-08, any other fruits except Banana have not attained strongest export competitiveness during the study period. Rest of the produces has showed both very strong and strong export competitiveness and very few showed very poor export competitiveness.

Revealed comparative Advantage of Edible vegetables and certain roots and tubers (HS code -07) and edible Fruits and nuts (HS Code -08)

Revealed comparative Advantage of edible vegetables and certain roots and tubers and edible fruits and nuts are measured by using Revealed comparative Advantage Index (RCA Index) are shown in table 3 and 4.

It is evident from table 3 that onions, shallots, garlic, leeks and other alliaceous vegetables (0703,) vegetables provisionally preserved (0711), dried vegetables (0712) and dried leguminous vegetables (0713) showed a revealed comparative advantage during the study period, where the value of RCA is greater than 1.

Table 1

TC Index of Edible vegetables and certain roots and tubers (HS code -07)

HS code	Product specification	2017	2018	2019	2020	2021
0701	Potatoes, fresh or chilled	0.994244	0.995606	0.982991	0.981961	0.968061
0702	Tomatoes, fresh or chilled	0.999428	1	1	1	1
0703	Onions, shallots, garlic, leeks and other alliaceous vegetables, fresh or chilled	0.991174	0.994054	0.804309	0.660543	0.935644
0704	Cabbages, cauliflowers, kohlrabi, kale and similar edible brassicas, fresh or chilled	0.836484	0.848899	0.522703	0.446989	0.243261
0705	Lettuce ""Lactuca sativa"" and chicory ""Cichorium spp."" , fresh or chilled"	0.748031	0.883333	1	1	1
0706	Carrots, turnips, salad beetroot, salsify, celeriac, radishes and similar edible roots, fresh.	0.968927	0.923547	0.813333	0.893016	0.89122
0707	Cucumbers and gherkins, fresh or chilled	0.99511	1	1	1	1
0708	Leguminous vegetables, shelled or unshelled, fresh or chilled	0.936531	0.76699	1	0.865385	0.990074
0709	other vegetables, fresh or chilled (excluding potatoes, tomatoes, alliaceous vegetables, edible	0.987802	0.985869	0.96772	0.987556	0.98459
0710	Vegetables, uncooked or cooked by steaming or boiling in water, frozen	0.995472	0.993918	0.986458	0.993246	0.989024
0711	Vegetables provisionally preserved	0.927084	0.926865	0.896163	0.948243	0.932754
0712	Dried vegetables, whole, cut, sliced, broken or in powder, but not further prepared	0.923037	0.923795	0.933778	0.946667	0.960657
0713	Dried leguminous vegetables, shelled, whether or not skinned or split	-0.90438	-0.5731	-0.78041	-0.71463	-0.7338
0714	Roots and tubers of manioc, arrowroot, salep, Jerusalem artichokes, sweet potatoes and similar	0.999743	1	0.993	0.991252	0.979899

Source: computed, raw data taken from the website of ITC Geneva (Trade map)

Table 2
TCI Index of edible Fruits and nuts (HS Code -08)

HS code	Product specification	2017	2018	2019	2020	2021
0801	Coconuts, Brazil nuts and cashew nuts, fresh or dried, whether or not shelled or peeled	-0.1759	-0.39579	-0.2921	-0.39811	-0.37043
0802	Other nuts, fresh or dried, whether or not shelled or peeled	-0.9378	-0.93536	-0.95345	-0.96741	-0.95166
0803	Bananas, incl. plantains, fresh or dried	1	1	1	0.999763	1
0804	Dates, figs, pineapples, avocados, guavas, mangoes and mangosteens, fresh or dried	-0.2929	-0.34535	-0.24982	-0.43595	-0.35923
0805	Citrus fruit, fresh or dried	-0.2112	-0.5897	-0.22298	0.38611	-0.17021
0806	Grapes, fresh or dried	0.560373	0.498269	0.483252	0.475045	0.500595
0807	Melons, incl. watermelons, and papaws (papayas), fresh	0.94683	0.967665	0.96595	0.949957	0.906731
0808	Apples, pears and quinces, fresh	0.757247	0.902078	0.941333	0.944081	0.907258
0809	Apricots, cherries, peaches incl. nectarines, plums and sloes, fresh	-0.94244	-0.96907	-0.98208	-0.98049	-0.98249
0810	Fresh strawberries, raspberries, blackberries, back, white or red currants, gooseberries	0.41818	0.212865	0.269089	0.153643	0.029625
0811	fruit and nuts, uncooked or cooked by steaming or boiling in water, frozen,	0.960794	0.915452	0.921099	0.945905	0.90598
0812	Fruit and nuts, provisionally preserved,	0.887043	0.557549	0.83296	0.90566	0.974026
0813	"Dried apricots, prunes, apples, peaches, pears, papaws ""papayas""", tamarinds and other edible	0.989536	0.985371	0.990952	0.997488	0.999609
0814	Peel of citrus fruit or melons, incl. watermelons, fresh, frozen, dried or provisionally preserved	0.806982	0.627329	0.892308	0.84466	0.535545

Source: computed, raw data taken from the website of ITC Geneva (Trade map)

Table 3

RCA index of Edible vegetables and certain roots and tubers (HS code -07)

HS code	Product specification	2017	2018	2019	2020	2021
0701	Potatoes, fresh or chilled	0.81942462	0.786893	0.860929	1.02945	0.898365
0702	Tomatoes, fresh or chilled	0.09174169	0.153577	0.177121	0.220508	0.139862
0703	Onions, shallots, garlic, leeks and other alliaceous vegetables, fresh or chilled	3.95315264	4.18612	2.915146	2.956258	3.390866
0704	Cabbages, cauliflowers, kohlrabi, kale and similar edible brassicas, fresh or chilled	0.03785196	0.028876	0.034042	0.030222	0.025928
0705	Lettuce, fresh or chilled"	0.00244655	0.00237	0.008893	0.009539	0.003254
0706	Carrots, turnips, salad beetroot, salsify, celeriac, radishes and similar edible roots, fresh .	0.02358951	0.017957	0.011433	0.020812	0.030919
0707	Cucumbers and gherkins, fresh or chilled	0.009784	0.004613	0.011417	0.01631	0.015376
0708	Leguminous vegetables, shelled or unshelled, fresh or chilled	0.05709782	0.019118	0.048959	0.031414	0.01304
0709	other vegetables, fresh or chilled (excluding potatoes, tomatoes, alliaceous vegetables, edible	0.66619333	0.638282	0.578591	0.616851	0.47533
0710	Vegetables, uncooked or cooked by steaming or boiling in water, frozen	0.35905658	0.34005	0.39033	0.572256	0.483273
0711	Vegetables provisionally preserved	6.71932117	8.595367	5.726264	9.411583	7.577839
0712	Dried vegetables, whole, cut, sliced, broken or in powder, but not further prepared	1.54152283	1.314185	1.917637	2.944311	3.006016
0713	Dried leguminous vegetables, shelled, whether or not skinned or split	0.97499841	1.845577	1.152562	1.406439	1.384002
0714	Roots and tubers of manioc, arrowroot, salep, Jerusalem artichokes, sweet potatoes and similar	0.17892318	0.144623	0.197144	0.195034	0.144133

Source: computed, raw data taken from the website of ITC Geneva (Trade map)

Table 4

RCA index of edible Fruits and nuts (HS Code -08)

HS code	Product specification	2017	2018	2019	2020	2021
0801	Coconuts, Brazil nuts and cashew nuts, fresh or dried, whether or not shelled or peeled	6.198929	4.873932	4.553756	3.744118	3.733271
0802	Other nuts, fresh or dried, whether or not shelled or peeled	0.109386	0.121106	0.075062	0.069217	0.093164
0803	Bananas, incl. plantains, fresh or dried	0.253954	0.262836	0.314297	0.452713	0.577826
0804	Dates, figs, pineapples, avocados, guavas, mangoes and mangosteens, fresh or dried	0.875226	0.74493	0.618923	0.606905	0.653924
0805	Citrus fruit, fresh or dried	0.089018	0.051359	0.116367	0.263373	0.232079
0806	Grapes, fresh or dried	1.893092	1.878526	1.921615	1.806933	1.727582
0807	Melons, incl. watermelons, and papaws (papayas), fresh	0.313603	0.275652	0.249012	0.253803	0.190636
0808	Apples, pears and quinces, fresh	0.02161	0.034212	0.057485	0.085725	0.074894
0809	Apricots, cherries, peaches incl. nectarines, plums and sloes, fresh	0.001784	0.000969	0.000804	0.000759	0.000617
0810	Fresh strawberries, raspberries, blackberries, back, white or red currants, gooseberries	0.433208	0.348347	0.354343	0.288922	0.227965
0811	fruit and nuts, uncooked or cooked by steaming or boiling in water, frozen,	0.483976	0.526742	0.519752	0.375317	0.330924
0812	Fruit and nuts, provisionally preserved,	0.525401	0.13119	0.302494	0.212683	0.124073
0813	"Dried apricots, prunes, apples, peaches, pears, papaws ""papayas"", tamarinds and other edible	0.518226	0.482645	0.620604	0.711448	0.685193
0814	Peel of citrus fruit or melons, incl. watermelons, fresh, frozen, dried or provisionally preserved	0.23639	0.201498	0.258647	0.234981	0.080031

Source: computed, raw data taken from the website of ITC Geneva (Trade map)

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