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Ruma BHATTACHARYYA

REVEALED COMPARATIVE ADVANTAGE AND COMPETITIVENESS: A CASE STUDY FOR INDIA IN HORTICULTURAL PRODUCTS

Abstract

This paper seeks to quantify the extent to which India has a comparative advantage in vegetable, fruits and flower trade in the Asian, EU and North American (USA & Canada) markets as compared to selected other South East Asian countries. To study India's competitiveness two widely used indexes are calculated: the revealed comparative advantage (RCA) and the comparative export performance (CEP) index. In addition, import demand functions of the EU are estimated for rival countries for particular commodities, like onion, mango and fresh flowers. Using regression analysis it is hypothesized that if India is a competitor for these countries, its price will have a statistically significant effect on export demand functions. Both index and regression results indicate that India has a strikingly high comparative advantage in the vegetable and fruit markets in the EU but this is not the case in the flower market.

Key words:

Horticulture, Revealed Comparative Advantage, Comparative Export Performance.

JEL: Q10, Q17.

Bhattacharyya Ruma, Dr., Associate Professor, Department of Economics, Calcutta Girls' College, Kolkata, India.

1. Introduction

It is generally recognized that trade is essential for growth and that growth is critical for poverty reduction. Production and trade of agricultural commodities continues to play a major economic role in many developing countries including India, as they are mostly dependent on agriculture. The prices in real terms of the traditional agricultural commodities have been steadily declining over the past decades. Diversification of agricultural production is seen as a priority for most of these countries because it is considered one of the possible ways out of the commodity dependence. In particular, high value horticultural production has been indicated as a sector that can provide real opportunities for enhancing farm incomes and reducing poverty in developing countries. International trade in Fresh Horticultural and Floricultural Products (FHFP) is growing at a rate of 7 per cent per year, compared with only 2 per cent for staple crops. According to the World Bank, high-value products provide an opportunity for farmers in developing countries to compete for a share of this lucrative export market. Trade in horticultural products is often considered an example of successful exports in some South East Asian countries, with some of them managing to gain access into the horticultural value chains. Because of their characteristics as mainly perishable products, and in view of the comparative advantage enjoyed by many South East Asian countries in producing them, horticultural products may offer substantial prospects for export growth due to the growing World markets.

The performance of the Indian horticultural sector in the last decade has provoked dramatically differing assessments. Some have described it as a «golden revolution», presumably to distinguish it from the earlier «green revolution» (Bannerjee 2005). Others have dismissed these views as a hyperbolic description of a fundamentally stagnant sector. The truth from a trade perspective is however more complex. The sector is beginning to come alive and in fact at present it is the most dynamic segment of Indian agriculture as well as international trade. However its trade performance has not been satisfactory enough as there are factors that are undermining India's potential for reaching supermarkets across the globe. India is one of the largest and lowest cost producers of high value agricultural commodities and yet has a minuscule share in global trade. It produces nearly 11 per cent of all vegetables and 15 per cent of all fruits and 5 per cent of flowers in the world. Yet its share in global exports of vegetables is only 2.1 per cent and in fruits a meagre 1.2 per cent and in flowers about 1.1 per cent. The country produces 54 per cent of the world's mango, 23 per cent of banana, 24 per cent cashew nuts, 36 per cent of green peas and about 10 per cent of world's onion. Although part of the reason is India's large domestic market, more importantly, the horticulture sector has not leveraged on the export market as a proactive source of revenue till recently. At the same time, India's own market is heavily protected which forms a formidable constraint in its

development of trade. Finding an explanation for this strange conjunction of low costs, low exports, and high protection is vital to any assessment of the competitiveness of Indian agriculture in a liberalized global trading environment. However between 2005 and 2009 the export has grown at a CAGR of 20.61 per cent for fruits and 7.2 per cent for vegetables and 3.14 per cent for flowers which has a significant implication in terms of trade prospects in high value crop.

Many of the South East Asian countries have great similarities with India in terms of both the magnitude of agricultural goods as a share of total exports, and ratios of exports from these countries to others countries. India faces severe competition in case of trade in high value crops from these countries as the products are very similar. China and Thailand account for 32 per cent of developing countries exports of processed fruits and vegetables. India's rank in terms of global exports in the year 2008 was 14 and 15, respectively for fruits and vegetables. Potato is the leading vegetable produced in India with a share of over 20 percent of total vegetables production. Other major vegetables produced in India include eggplants, tomatoes, cassava, cabbage, dry onions and cauliflower. As regards fruits, banana is the major fruit grown in India, accounting for over one third of total fruit production. Other major fruits produced in India include mangoes, oranges, apples, grapes, pineapples and papayas. At present fresh onions account for 30 per cent of agricultural export earnings for India and mangoes account for 12 per cent while floriculture accounts for 4 per cent.

This paper seeks to quantify the extent to which India has comparative advantage in the vegetable, fruit and flower industries over a few selected South East Asian countries. As trade in high value crop is a very new development with high potential, the performance pattern, quality and competitive power of India with respect to China, Thailand, Malaysia and Indonesia needs to be investigated in the light of development.

Table 1

Selected Agricultural Indicators, 2009

Countries	Share Of Agriculture In GDP (%)	Share Of Agriculture In Export(%)	Share Of Agriculture In Imports(%)	Share In World Total Export(%)	Share Of Working Population Engaged In Agriculture (%)	Share Of Agricultural Land (%)
China	9.6	3.4	7.6	9.6	39.5	31
Thailand	11.4	18.4	7.0	1.22	26	35.7
Malaysia	10.1	13.3	9.9	1.26	13	24
Indonesia	17	21.1	12.4	0.96	45	40
India	16.1	10.2	5.6	1.32	52	16.6

Source: CIA World Fact Book

To understand potential effects of the other South East Asian countries on the Indian agricultural sector, this study looks into the performance patterns of these countries in the year 2009 for trade with Europe, Asia and North America (including USA and Canada) in three product categories, vegetables, fruits, and flowers. Better understanding of these interactions might enable the policy makers to predict the future of Indian horticulture. Table 1 shows some agricultural indicator for the countries under consideration. It shows that the share of agriculture in GDP of India, though a little on the higher side, is not much different to that of her rival countries. Whereas Indonesia has the largest share of export in agriculture in her trade balance, India has the lowest share in import of agricultural products. Agriculture in India provides the highest employment and China has the second highest share of working population engaged in agriculture. Indonesia has the largest share of area under cultivation whereas Malaysia has the lowest. China leads in its share in world total export but the rest of the countries have almost similar performance. Given the basic structural similarities between these countries this paper aims to study India's competitiveness and her progress in horticulture trade.

In this paper two indices have been used, Revealed Comparative Advantage (RCA) and Comparative Export Performance (CEP). The basic logic behind RCA is to evaluate comparative advantage on the basis of a country's specialization in exports relative to some reference group countries. CEP deals with a similar concept but uses the whole world instead of only intra-country trade. In the last section an estimate has been carried out using a particular form of import demand function of the EU for rival countries. The degrees of substitutability of particular product like onion, mango and fresh flowers are estimated in these regressions.

2. Sources of Data

The data used in this study is secondary data collected from different official sources for the years 2005–06 to 2008–09. For Indian data this study heavily relied on Agricultural And Processed Food Products Export Development Authority (APEDA), Ministry Of Commerce & Industry, Government Of India. Both monthly and yearly export data and international prices for horticultural products have been obtained from various publications of APEDA. Different volumes of national statistical bulletins of CMIE and different volumes of statistical abstract have also been consulted. Further facts and figures have been obtained from National Horticulture Mission Board publications. Data from Food And Agricultural Organization of United Nations (FAO) country profile has been used extensively for all the countries under consideration. IMF India statistical information have also been utilized regarding prices. Data has also been consulted from United Nations International Merchandise Trade Statistics.

Horticulture products have been grouped into three broad categories, vegetables, fruits and flowers. Vegetables include all varieties like onions, potatoes, chickpeas, tomatoes, cucumbers, leguminous vegetables, beans, cabbage, cauliflower and other vegetables. Pineapples, Mangoes, banana, grapes, lemons and other citrus fruits are included in the fruit category. Fresh flowers of all varieties and foliages, trees and shrubs are included in the flower group.

3. Revealed Comparative Advantage Index

In the light of an increasingly competitive international environment, it is useful to examine where India's comparative advantage lies. Comparative advantage is the term used to describe the tendency for countries to export those commodities which they are relatively adept at producing, vis-à-vis the rest of the world. In other words, if a country can produce a good at a lower relative cost than other countries, then with trade, that country should devote more of its scarce resources to the production of that particular good. Through trade, that country can obtain other goods at a lower price (opportunity cost), in exchange for the good in which it has a comparative advantage

The literature on Comparative advantage in general takes two discourses. If the goal is to test between competing static theories of international trade, then the preferred approach has been to use net factor flows or industry shares of GDP. If instead, the objective is to explain the effects of commercial policy, transport costs or other shocks on the competitive situation of a set of countries, the usual method has been the gravity model. A popular but recently contested approach to estimating the effect of technology and factor supplies on comparative advantage uses Balassa's (1965, 1979) measure of Revealed Comparative Advantage RCA. This measure reflects comparative advantage accurately for a given industry and period across countries. Much empirical research on trade has been devoted to testing theories of comparative advantage. A widely used approach is the technique pioneered by Leontief over a half century ago and extended more recently by Trefler (1993, 1995). Using input-output tables, Trefler calculated the net trade in the services of each production factor for a group of trading economies. Comparing these flows with factor abundance by country and allowing for differences in tastes and productivity, he was able to find empirical support for both the technological and factor endowments theories of comparative advantage. Unfortunately, this approach has little to say about international exchange of *commodities* as opposed to factors. In addition, since it does not take account of trade costs such as tariffs, non-tariff barriers and transport costs, it tends to overestimate the amount of trade. Harrigan (1997) proposed an alternative measure of comparative advantage, namely, the share of each industry in a country's GDP. Although his specification does not deal explicitly with intermediate inputs, it has the advantage of allowing productivity differentials to vary across industries. He too found that comparative advantage

depends on both factor abundance and differences in productivity. However, as he himself admitted, his estimates had low predictive power. Harrigan and Zakrajsek (2000) obtained similar results using a larger and more varied sample of countries but without directly estimating technology differences. One problem with this approach is the assumption that trade costs have no effect on production patters. Two recent studies by Anderson and van Wincoop (2004) and Hanson (2004) have concluded that such costs can have a major impact on the goods a country produces. If the objective is to explain observed flows of *commodities*, the most frequently used approach has been the gravity equation. Here the dependent variable is the bilateral trade between two countries, either aggregated or by commodity. Evenett and Keller (2002) used a version of this technique in which trade flows are disaggregated by sector to test alternative trade theories. Although the gravity model provides a good explanation of bilateral trade flows, it is not easy to infer its implications for the determinants of a country's *relative* trading position. Balassa's (1965) index of Revealed Comparative Advantage seemed to provide a cure for these shortcomings, since the normalization should allow for comparisons over time and across industries. The Balassa index is defined as the ratio of a country's share in world exports of a given industry divided by its share of overall world trade. It owes its popularity to several advantages it has compared with the others. As with the gravity model, the data are readily available. However, unlike the gravity model, the normalized dependent variable may be interpreted directly as a measure of a country's relative trading position. The Balassa index basically measures normalized export shares, with respect to the exports of the same industry in a group of reference countries. Although pros and cons of the Balassa index are still debated in the literature, it stands as the most widely used revealed comparative advantage index. In the literature numerous empirical studies have used the Balassa index to identify a country's strong sectors. The index is not satisfactory as a cardinal or ordinal measure but provides a useful tool in detecting comparative advantages of India in particular sectors.

The Revealed Comparative Advantage (RCA) index is measured by this formula

$$RCA = ln\,(X_{iB}/X_B)\,/(X_{iA}/X_A), \qquad (1)$$

Where

X_{iB} : India's's exports of good *i* to a particular country group

X_B : India's total merchandise export to the particular country group

X_{iA} : The rival country's exports of good i to a particular country group

X_A : The rival country's total merchandise export to the particular country group

A positive value of RCA might be interpreted as an indication of India's comparative advantage against a rival country in the markets of Asia, Europe and North America. Table 2 lists the Balassa index values calculated for vegetable, fruits and flowers for the year 2009.

Table 2

Revealed Comparative Advantage Index, 2009

RCA	Vegetable			Fruits			Flowers		
	Asia	Europe	North America	Asia	Europe	North America	Asia	Europe	North America
China	-0.638109	0.105262	0.189402	-0.63066	0.260008	-0.98846	0.112797	0.656713	0.761415
Thailand	0.878244	0.29388	0.063834	-1.4471	0.027271	1.07134	0.23655	0.4603	0.799022
Malaysia	-0.09613	0.93333	0.749792	-1.2939	0.445656	-0.03113	-0.74436	0.484692	1.964925
Indonesia	0.443154	1.188164	0.155327	-1.3822	0.0145	0.95775	-0.50863	0.868575	1.277549

In the vegetable markets, India has a significant comparative advantage over China, Thailand, Malaysia and Indonesia in European and North American markets as measured by the Balassa index. In the Asian market however China and Malaysia has an advantage over India in terms of vegetable.

Indian's comparative advantage over China, Thailand, Malaysia and Indonesia in the fruits market of Europe is once again significant. Whereas in the Asian market India stands at a disadvantage compared to all these countries. Also China and Malaysia has a comparative advantage over India in the North American market for fruits.

In case of flower market India enjoys comparative advantage both in the markets of Europe and that of North America. In Asian market both Malaysia and Indonesia has a comparative advantage over India.

4. Comparative Export Performance (CEP) Index

Another index used to measure comparative advantage is the Comparative Export Performance (CEP) index. It is a slightly modified version of the Balassa index. It measures the export specialization of a country for particular product groups using the formula

$$CEP = ln\,(X_{iB}/X_B) \,/\, (X_{iA}/X_A) \qquad (2)$$

Where

X_{iB} : country *B*'s exports of good i

X_B : country *B*'s total merchandise exports

X_{iA} : total world exports of good *i*

X_A : total world merchandise exports

An index value of India higher than the index value of any other country indicates relative comparative advantage of India against that country.(indicated in bold in the table)

Table 3

Comparative Export Performance Index

RCA	2005			2009		
	Vegetable	Fruits	Flowers	Vegetable	Fruits	Flowers
China	1.758346	2.131982	1.385441	1.899260	**1.220831**	1.162375
Thailand	**1.242271**	1.645337	1.594625	**2.157958**	2.491952	1.429365
Malaysia	**1.132675**	1.386255	1.431662	**1.006325**	**1.407581**	**0.133458**
Indonesia	**0.056438**	**0.962564**	**0.054316**	**1.963292**	**0.458943**	**0.162738**
India	1.483171	1.100232	0.921452	2.364744	2.270089	0.838758

In the case of flower exports, China and Thailand have always had higher competitiveness than India, whereas India was superior to Indonesia only in 2005 and thereafter Indonesia and Malaysia in 2009. China has had a consistent competitive advantage over India in all the products including vegetable, fruits and flowers till 2005. However India has acquired superiority in fruits in the recent years. In 2009 India has gained an edge over all the products with respect to Malaysia and Indonesia. It is therefore China and Thailand which has evolved as the main competitors of India in the global market for horticulture.

5. Regression Analysis

In this section an exercise has been carried out to find out the impact of the change in price of export products of India on the export quantities of the other countries in the EU market. The choice of the EU market is because of the fact that the RCA values show that India has a consistent advantage in all the product groups in this market. Also since price is the independent variable here so individual item like onions in vegetable group, mangoes in the group of fruits and fresh flowers has been considered. India is one of the largest producer of onions and it has the largest production of mangoes. The country has 26% of word area under production of flowers. While trade in dry flowers have been thriving for a long period of time India has started exporting fresh flowers in the

recent years. The objective of the exercise in this section is to find out the relative importance of the Indian product in terms of the products of the other countries in the EU market. If India has competitive power, and therefore substitutes its goods for products of rival countries it is expected that European exports from the other countries will be significantly affected by Indian export prices. Thus the hypothesis here is that if India is a competitor for these countries, its price will have a statistically significant effect on export demand functions for selected product groups.

There is a substantial literature on import demand function. Import function constructions usually appear as a part of balance of payments block of macroeconometric models. Some models are estimated by OLS using two step cointegration/ error correction Engle Granger methodology. Lagged econometric models have also been used by many authors. The econometric estimation of the price and income elasticity of imports has been the subject of a large literature both for developed and developing countries (see, for example, Malley and Moutos (2002), Caporale and Chui (1999), Hooper et. al. (1998), Ghei and Pritchett (1999), Faini, Pritchett and Clavijo (1992), Winters (1987), and Goldstein and Khan (1985)). Reliable estimates of the elasticity parameters are important for informed policy analysis in a number of areas, such as exchange rate policy, fiscal implications of tariff reductions under trade liberalization programs, and calculation of optimal taxes .Goldstein and Khan (1985) provides a survey of studies on income and price effects in foreign trade, with an excellent discussion of the specification and econometric issues in trade modeling, as well as a summary of various estimates of price and income elasticities and related policy issues. Having estimated these functions using OLS, Khan reported that the prices did play an important role in the determination of imports and exports of developing countries and Marshall-Lerner Condition is satisfied. Bahmani-Oskooee (1986) used quarterly data for 1973–1980 period and provided the estimates of aggregate import and export demand functions for seven developing countries. They also provided estimates of price and exchange rate response patterns by introducing a distributed lag structure on the relative prices and on effective exchange rate, applying the Almon procedure. Since the dynamics of the determination of the trade flows are involved, Bahmani-Oskooee (1986) presented a more realistic setup. Based on the estimates of these models, Orcutt's earlier conjecture that trade flows adjust differently to different price stimuli was supported. Namely, according to Bahmani. Oskooee (1986)'s findings, trade flows are more responsive to changes in the relative prices than to changes in the exchange rates in the long-run.

All major studies regress import volumes on relative import prices and real domestic income. While doing this, the underlying framework is the imperfect substitutes model of the trade literature. Theoretically, price and income elasticities are expected to have negative and positive signs respectively. It is expected that the import volume will shrink as the relative import price increases and expand as domestic real GDP increases. The data used in this study are collected from Handbook of Statistics on Indian Economy which is a publication of Re-

serve Bank Of India. Unit value of export price is obtained from International Financial Statistics, which is a publication of International Monetary Fund.

A simple import demand function was estimated in this study for EU for onions, mangoes and fresh flower exports of all the countries. The effects of own price, price of the rival countries' export , and EU per capita income was modeled. Differences were used as the object of the study is short term effects. Moreover, because seasonal effects are significant for the goods under examination, monthly differences are examined against their corresponding levels in the same month last year. Thus the dependent variable is the difference between the level of export of good A from country X to Europe in this month and the same month last year. Independent variables are the change in the own-price and the rival's price and the per capita income of EU. The hypothesis is that if India is a competitor for these countries, its price will have a statistically significant effect on export demand functions.

Regression results are presented in Tables 4A, 4B and 4C. The first column in Table 4A represents the export demand for China; the second, third and fourth columns are export demands for Thailand, Malaysia and Indonesia. Log-log specification is used, thus coefficients are estimated elasticities. According to the results, Indian onions are a significant substitute for Chinese and Thai, though its effect on Chinese export is much bigger, with a coefficient of 0.26; implying that a 100% rise in the onion price increases Chinese exports to Europe by 26%.

Table 4B presents the export demands for mango. The results imply that, the Indian mango price has significant effects on export levels of Thailand and Malaysia. A 100% rise in Indian mango price increases Thai exports by 24% and that of Malaysia by 19%. However, as the results presented in table 4.C indicate, Indian fresh flowers are not a good substitute for Chinese, Thai or Malaysian fresh flowers. In other words all the three countries have a better performance in terms of fresh flowers and that Indian fresh flowers are not good substitutes of their fresh flowers.

Table 4

Export Demand For Onions

Dependent Variable	Change in Export of onions by China to EU	Change in Export of onions by Thailand to EU	Change in Export of onions by Malaysia to EU	Change in Export of onions by Indonesia to EU
Change in onion price of India	0.26 (1.85)	0.18 (1.91)	0.09 (2.38)	-0.11 (4.24)
Change in onion price of China	-0.84 (-6.70)	0.32 (3.81)	-0.02 (-0.78)	-0.08 (-2.44)
Change in onion price of Thailand	1.51 (2.84)	-1.46 (-5.22)	0.54 (3.25)	0.03 (1.11)

Dependent Variable	Change in Export of onions by China to EU	Change in Export of onions by Thailand to EU	Change in Export of onions by Malaysia to EU	Change in Export of onions by Indonesia to EU
Change in onion price of Malaysia	-5.75 (-3.64)	1.19 (2.17)	-1.52 (-5.31)	0.26 (4.32)
Change in onion price of Indonesia	-3.42 (2.63)	0.45 (1.22)	0.16 (3.57)	-0.41 (-3.22)
Change in per capita income of EU	-19.25 (-3.07)	6.16 (2.34)	-1.14 (-2.69)	-11.23 (-3.89)
Constant	0.41 (2.12)	0.11 (3.28)	0.23 (1.73)	-0.02 (-1.16)
No. of observations	90	90	90	90
R^2	0.71	0.66	0.64	0.53

Note: The numbers in parentheses are Newey-West standard errors

Table 5

Export Demand For Mangoes

Dependent Variable	Change in Export of mango by China to EU	Change in Export of mango by Thailand to EU	Change in Export of mango by Malaysia to EU	Change in Export of mango by Indonesia to EU
Change in mango price of India	-0.20 (-0.54)	0.24 (4.47)	0.19 (3.12)	0.02 (1.76)
Change in mango price of China	-1.04 (-3,78)	0.09 (2,84)	-0.01 (-0,31)	-0.04 (2.31)
Change in mango price of Thailand	-1.72 (-1.38)	0.03 (0.15)	0.10 (2.00)	0.11 (2.17)
Change in mango price of Malaysia	10.15 (6.61)	-0.48 (-2.34)	-0.62 (-7.99)	0.04 (0.26)
Change in mango price of Indonesia	-9.36 (-2.04)	0.26 (0,53)	1.85 (5.89)	-2.18 (-3.66)
Change in per capita income of EU	0.41 (2.12)	0.11 (3.82)	-0.02 (-1.24)	0.01 (1.56)
Constant	0.53 (2.12)	0.27 (3.66)	-0.11 (-3.18)	0.15 (2.54)
No. of observations	90	90	90	90
R^2	0.46	0.39	0.41	0.28

Note: The numbers in parentheses are Newey-West standard errors

Table 6

Export Demand For Fresh Flowers

Dependent Variable	Change in Export of fresh flowers by China to EU	Change in Export of fresh flowers by Thailand to EU	Change in Export of fresh flowers by Malaysia to EU	Change in Export of fresh flowers by Indonesia to EU
Change in fresh flowers price of India	-0.13 (-0.68)	-0.30 (-2.00)	-0.02 (-1.22)	-0.05 (-0.91)
Change in fresh flower price of China	-1.00 (-7.45)	0.19 (2.93)	0.01 (0.21)	0.25 (3.52)
Change in fresh flower price of Thailand	0.32 (0.88)	-0.70 (-1.62)	0.24 (1.69)	-0.21 (-1.42)
Change in fresh flower price of Malaysia	0.67 (1.81)	1.65 (8.60)	-1.11 (-2.45)	-0.39 (-2.28)
Change in fresh flower price of Indonesia	0.01 (1.05)	-0.43 (2.16)	0.02 (-1.56)	-0.35 (-1.57)
Change in per capita income of EU	3.00 (1.86)	5.11 (4.07)	2.62 (1.54)	1.18 (1.58)
Constant	-0.19 (-3.11)	-0,8 (-1.71)	-0.05 (2.23)	-0.03 (-1.48)
No. of observations	90	90	90	90
R^2	0.48	0.31	0.34	0.24

Note: The numbers in parentheses are Newey-West standard errors

6. Conclusion

This paper has presented an analysis of the competitiveness of India's horticulture sector against its main rivals in the Asian, North American and mainly EU markets, as against its South East Asian competitors China, Thailand, Malaysia and Indonesia. The empirical findings suggest that India has a comparative advantage over its main rivals in EU market in the vegetable and fruit sectors, but not in the flower sector. However, the results also showed that the advantages of India have been growing in the later part of the last decade. India however faces competition not only from the South East Asian countries but from some African countries and other countries like Mexico. Also, since the revealed comparative and comparative export performance indexes only meas-

ure observed trade data, factors like communication, transport, storage, distribution, quality, meeting specific quarantine requirements of the importing countries are not taken into account. As a result the actual performance of Indian exports in the global market might not be as expected. However that there has been a considerable increase in the volume of horticulture export since 2005 is encouraging for the country given the favourable comparative advantage values.

Moreover; India's import demand estimations imply that Indian prices significantly determine the market shares of the rival countries in the EU market. The econometric import demand of the EU model reveals that relative export prices matter in determining India's competitive power in the EU onion and mango markets. The Agriculture and Processed Food Products Export Development Authority (APEDA) has been promoting export of fruits through several measures such as infrastructure development, setting up of agri-export zones, opening up new markets for export, participation in international trade fairs and providing financial assistance to exporters for several activities. Other steps include integrated training programmes for quality and productivity of selected fruits and setting up pilot facilities for disinfestations. More efficient supply chains and better access to services will make Indian horticulture globally competitive and create the conditions for mutually beneficial trade negotiations and reaping the benefit of its revealed comparative advantage in the different markets.

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