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Revealed Comparative Advantage and Competitiveness: Turkey Agriculture Sector

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Abstract: The purpose of this study was to determine the competitiveness of the agricultural sector of Turkey in the international arena. For this analysis, food and agriculture trade data belong to Food and Agriculture Organization (FAO) in for the years 2000 to 2011 were used. The Revealed Comparative Advantage Index (RCA) was calculated for the 601 agricultural items for Turkey. If RCA greater 1, 1^{th} goods to the j_{th} country shows that it has a comparative advantage. On the condition that only selected 78 agricultural items were founded over one value for RCA. According to these RCA index values, agricultural items were divided into two groups. Although the first group's RCA values had range between 0 and smaller than 1, the second group's RCA values had greater and equal to 1. It means that the higher RCA values correspond to the more stronger competitiveness. Namely, the strength of the second group's competitiveness was better than the first group.

Keywords: Revealed Comparative Advantage Index, Competitiveness, Turkey

Açıklanmış Karşılaştırmalı Üstünlükler ve Rekabet: Türkiye Tarım Sektörü

Özet: Bu çalışmada, Türkiye tarım sektörünün rekabet gücünün uluslararası alanda belirlenmesi hedeflenmiştir. Bu analizde, 2000 ve 2011 yılları arasında Gıda ve Tarım Örgütü (FAO)'ne ait gıda ve tarım ticaret verisi kullanılmıştır. Açıklanmış Karşılaştırmalı Üstünlükler İndeksi (AKÜ), 601 adet tarımsal madde için hesaplanmıştır. Eğer AKÜ değeri, birden büyükse, ilgili malda o ülke rekabet avantajına sahiptir. Türkiye için, 78 adet tarımsal maddede AKÜ değerleri birden büyük bulunmuştur. AKÜ indeks değerlerine göre, tarımsal maddeler iki gruba ayrılmıştır. Birinci grubun AKÜ değerleri sıfır ve birden küçük değerlere sahip iken, ikinci grubun AKÜ değerleri bire eşit veya daha büyük değerlere sahiptir. Daha yüksek AKÜ değerleri, daha güçlü rekabet demektir. Yani ikinci grubun rekabet gücü, birinci grubun rekabet gücünden daha iyidir.

Anahtar Kelimeler: Açıklanmış Karşılaştırmalı Üstünlükler İndeksi, Rekabet, Türkiye

Introduction

Competition is an important term in the economy because all countries in the world want to sell their production to the other countries. For that reason, countries have given an importance to competitiveness of their goods and products. During this period, countries have given the subsidies, investment to the research and developments technologies.

The competitiveness of a country refers to an increase in its production capability and capacity. If a firm's or country's economic performance is measured, we can compare to the International competitiveness. With regard to this measuring, we can decide the situation of firm's or country's economic performance.

As we know that competition law is globalized nowadays. There are two important effective and influential competition regulation in the world: These are United States anti-trust law and European Union competition law. Modern competition regulations have been shaped in every country's boundary that countries should adapt to their regulations quickly.

In Turkey, Gross Domestic Product (GDP) by production based approach increased by 9.0 % at 1998 prices and increased by 15.9 % at current prices in 2010 compared to the previous year. As a result, GDP was realized as 105 738 813 thousand TL at 1998 prices and 1 103 749 801 thousand TL at current prices in 2010. At 1998 prices, agriculture sector value have 9.999.429 thousand TL and current prices value is 92 739 021 thousand TL. Agriculture sector grew 2.4 percent in 2010 comparison to the previous year. Agriculture sector share in GDP is 10.1 percent in 2000 and 8.4 percent in 2010. According to this statistics, the share of agriculture is observed to decline (Turkstat 2014).

As we know that global crisis affects the whole economy that Turkish economy has been affected from this economic crisis in 2008. During the 2010 year, private sector fixed capital investments are observed to increase by 20 percent and then the shares of agriculture in the private sector fixed capital investment is seen to increase. At the same time, public sector fixed capital investments are observed 8.6 % in 2008, 9.8 % in 2009 and 12.8 % in 2010, respectively that these shares are increasing, steadily. In the central government budget investments of 19.3 billion TL, which account for 69.3 percent of the 27.8 billion TL investment budget allocated in 2010. agriculture sector with 17.8 percent in this central government budget investment (Mod 2014).

When the EU accession period, ensuring competition in markets and providing sustainability in sectors is taken into account, it is of important that agriculture supports will be differentiated founded on product and area and their implementation and control will be based on areas. The prices of agricultural crops which are subject to activities of Agricultural Sales Cooperatives and Associations and State Economic Enterprises increased at an average of 9.5 % and 7 % in 2008 and 2009, respectively. The primary objective in the agricultural sector is to ensure food safety, reliability and establish an organized and highly competitive structure while observing the sustainable use of natural resources. During the EU accession period, necessary institutional and administrative transformation will be given priority in order to increase the competitiveness after full membership (Mod 2014).

In assessing the performance of the country in export of the commodities referred. The Revealed Comparative Advantage Index (RCA) is used in this study. Comparison is made between the periods 2000-2011. This comparison is to facilitate identification of the performance status of the commodities prioritized under Turkey's economic conjuncture. In this period, Turkey come across two economic crises that one of them is national in 2001 and the other is international in 2008. For that reason, owing to these comparisons between the 2000 and 2011, we can easily evaluate the competitiveness trend of the Turkey's agricultural sector in the international arena.

Export performance or competitiveness has been defined in several ways along several dimensions in literature. The comparative advantage and competitiveness of Turkey and the other countries sector have been addressed in national and international studies. Some of these studies include: (Aktan and Vural 2004), (Altay and Gacaner 2003), (Hillman 1980), (Bowen 1983), (Kojima 1970), (Balassa 1965), (Balassa 1977), (Balassa 1986), (Richardson and Zhang 1999). Some of these studies are explained as follows:

Bender and Li (2002) explained to changes in comparative advantage should reflect changes in factor endowment, but increasingly, changes in trade policies also affect a region's trade performance. Based on the arguments in Balassa's stages of comparative advantage thesis, this paper looks at the performance of manufacture exports in a number of Asian and Latin American economies over the period 1981-1997 and examines the revealed comparative advantage indices between economies in East Asia, Southeast Asia and Latin America.

Çoban and Kök (2005) emphasized to assess the dynamic comparative advantages in the textile sector between Turkey and the EU, using the revealed comparative advantage approach developed by Balassa. The results of the empirical analysis show that in terms of the product groups within both SITC 2-digit and SITC 3-digit classifications, the competitiveness of the Turkish textile industry is quite high and Turkey has a competitive structure in the sub-industries of this sector in the international markets. More recently; however, there has been a considerable decline in the competitiveness of almost all product groups. The empirical results, on the other hand, reveal that in order not to lose the competitive advantage in the Turkish textile industry, it is essential to focus on the production of high value-added goods and to

develop a new trademark policy with an eye towards creating brand names on the basis of product differentiation and in response to regional market characteristics.

Hinloopen and Marrewijk (2004) analyzed the dynamics of Chinese comparative advantage as measured by export shares and the Balassa index using 3-digit and 4-digit sectors for the period 1970 – 1997. They use novel tools to identify periods of rapid structural change and the persistence of comparative advantage, such as Galtonian regressions, probability-probability (p-p) plots, and the Harmonic Mass index, to supplement the usual descriptive statistical methods and mobility indicators associated with Markov transition matrices.

Karakaya and Özgen (2002) explained to the main aim of this paper is to measure the feasibility of Turkey's integration with the EU from an economic point of view. For this purpose, they decompose the effect of economic integration into trade creation (TC) and trade diversion (TD) by using the well-known revealed comparative advantage (RCA) index. The RCA index has also been used to analyze the impacts of Turkeys' accession into the European markets with Customs Union Agreement on Mediterranean countries' (namely Greece, Portugal and Spain) trade. Diversity in the RCA indices among member countries and Turkey should be closely related to the magnitude of TC. On the other hand, TD occurs in the case of a union in goods in which the outside region as a whole has a comparative advantage. The results show that the export structures differ significantly between Turkey and the EU. Based on the RCA index, they would expect an intra-regional trade creation effect in the case of commodity groups' agriculture, food, beverages and tobacco, textiles, paper products, chemicals, non-metals, basic metals and metal manufacture. The results also suggest that the Mediterranean countries trade with the EU might be jeopardized as a result of Turkey's accession into the European markets without trade barriers.

Serin and Civan (2008) examined to quantify the extent to which Turkey has a comparative advantage in the tomato, olive oil, and fruit juice industries and how this has changed over the period 1995-2005 in the EU market. To study Turkey’s competitiveness and its progress 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. Using regression analysis we hypothesize that if Turkey 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 Turkey has a strikingly high comparative advantage in the fruit juice and olive oil markets in the EU but this is not the case in the tomato market.

Şahinli (2011), in his study, all sub-groups in Turkey as of the competitiveness of the cotton sector in the international arena to reveal. The study using data pertaining to the years 2001-2009, Turkey’s exports are industrial products are among the highest rates were for cotton. For this purpose, within the sub-product of all varieties of cotton sector Revealed Comparative Advantage Index (RCA) were calculated. According to Revealed Comparative Advantage Index, 52, 5208, 5205, 5209, 5211, 5210, 5206, 5202, 5204, 5207 coded products that have comparative advantage is seen that Turkey’s cotton. However, 5201, 5212 and 5203 coded products, while in some years there is no question of comparative advantage, comparative advantage in some years there has been the subject.

Şahinli (2013) determined the competition in agricultural sector between Turkey and European Union. For this analysis, food and agriculture trade data for 2008 are used. The Revealed Comparative Advantage Index (RCA) is calculated for the 420 agricultural items with relevance to the agricultural sector. While Turkey has comparative advantage in 95 agricultural items, European Union has comparative advantage in 186 agricultural items in 2008. European Union has more comparative advantage in agricultural items than Turkey.

Utkulu and Seymen (2004) analyzed the competitiveness and the pattern of trade flows/trade specialization from Turkey to the EU on sectoral levels. Our research is mainly based on different measures of Revealed Comparative Advantage (RCA) measures (in addition to simple Balassa Index). Accordingly, alternative RCA indices are calculated. The stability of different measures of RCA is also tested. The present work also aims to explain if the ongoing customs union process between Turkey and the EU has significant effects on trade patterns, comparative advantages and competitiveness. In the light of evidence, some policy implications are drawn.

Yılmaz (2003), in his study is to examine the international competitiveness of the Turkish economy and the structure of specialization in foreign trade in comparison with the five EU candidate countries (Bulgaria, the Czech Republic, Hungary, Rumania and Poland) and the EU/15. This research work attempts to find out Turkey's ability to overcome difficulties and challenges that might arise from the hard competition with the enlarged EU, mainly in the field of foreign trade.

Yue (2001) studied statistically whether China's export pattern coincide with the law of comparative advantage, and whether there are obvious difference in export patterns between coastal region and interior region. Regressions are also run to test the impacts of real effective exchange rate and comparative advantage strategy on export flows.

Weiss (2004) found that there is now considerable evidence, as surveyed here, that PRC's recent rapid growth has generated substantial opportunities for trade and investment in regional partner economies. This rapid growth has sucked in large volumes of imports of both primary and manufactured goods that have compensated its neighbors for their losses of market share in the US and Japan.

Material and Method

Data Sources

The detailed food and agriculture trade data collected processed, and disseminated by FAO, in accordance with the standard International Merchandise Trade Statistics Methodology, is provided mainly by the national authorities and other international organizations. The total merchandise trade value by a particular country is annually updated according to the national publications on Balance of Payment and trade statistics and harmonised with the consolidated figures disseminated by the Inter-Agency Common Data Set (CDS) on Total Merchandise Trade Statistics by countries (FAO 2014).

The study primarily made use of secondary data on value of exports for the respective agricultural commodities from Turkey, that for aggregate agricultural exports and their corresponding world values. All data used were gathered from the agricultural trade database of the FAOSTAT for the period 2000 to 2011.

Application of Revealed Comparative Advantage Index (RCA)

In this study, the comparative advantage and competitiveness of Turkey agricultural sector in the global market to investigate the changes. The Revealed Comparative Advantage Index (RCA) is calculated to determine the comparative advantage and competitiveness of the sector for pre-determined agricultural products.

Different indices have been reported to measure the strength of the competition. Among them, the Balassa Comparative Advantage Index (RCA) is the most commonly used index. In the Balassa's RCA approach, the true form of comparative advantage assumes that trade after the data (Balassa 1965). With this approach, related to goods or industry, the Balassa tried to determine whether the country has a comparative advantage.

The Balassa index was formulated as follows:

$$RCA_{ij} = (x_{ij} / X_j) / (x_{iw} / X_w) \quad (1)$$

where;

RCA_{ij}; revealed comparative advantage index for the i_{th} goods of the j_{th} country.

x_{ij} : j_{th} country's i_{th} exported goods

X_j : j_{th} country's total exports

x_{iw} : i_{th} goods of the global exports

X_W : total global exports

The revealed comparative advantage (RCA_{ij}) index has a relatively simple interpretation. If RCA > 1, i_{th} goods to the j_{th} country shows that it has a comparative advantage. That is, the country's total export share in goods of an interest is greater than the share in global trade. On the other hand, if RCA < 1 then that the goods of an interest as a comparative disadvantage.

Results and Discussion

In this study, food and agriculture trade data are used between the 2000 and 2011. The At first, Revealed Comparative Advantage Index (RCA) is calculated for the 601 agricultural items. On the condition that, If RCA greater 1 ith goods to the jth country shows that it has a comparative advantage, only selected 78 agricultural items belong to over one value for RCA about the agricultural sector (Table 1).

Table 1. RCA index values for agricultural items, Turkey, 2000-2011 years

Items	Year											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Apricots, dry	84.3	68.8	92.7	82.1	79.3	62.5	80.0	93.1	77.5	71.4	73.6	74.2
Hazelnuts, shelled	79.6	81.2	91.4	73.0	77.4	61.9	85.1	84.8	74.3	63.5	69.2	66.4
Figs dried	66.4	59.6	77.4	63.9	58.7	47.5	60.7	65.5	57.6	55.6	56.7	53.2
Quinces	0.0	41.1	58.6	39.1	36.8	26.1	26.9	32.4	31.6	30.2	0.0	37.4
Poppy seed	32.6	40.8	39.0	51.6	36.5	23.3	29.4	21.9	18.7	29.6	29.2	32.4
Figs	0.0	28.9	28.3	31.8	27.8	23.4	29.6	30.0	29.3	28.1	0.0	29.2
Raisins	32.8	29.0	33.2	29.2	28.5	22.3	28.3	29.4	26.5	28.1	22.3	24.8
Nuts, prepared (exc. groundnuts)	30.5	26.1	28.8	23.6	31.3	29.4	25.9	26.2	23.2	18.9	20.9	21.6
Flour, mixed grain	2.5	1.1	0.9	1.0	1.1	1.7	1.4	2.3	5.2	8.5	12.3	16.7
Cotton waste	10.6	10.8	12.1	11.4	12.5	9.9	11.4	13.9	13.4	12.9	14.5	15.8
Lemons and limes	10.4	10.0	12.7	8.5	9.0	11.6	11.5	12.1	9.5	14.1	13.6	15.8
Flour, wheat	4.4	2.0	3.0	6.0	9.2	14.8	10.7	11.8	11.3	12.9	13.9	15.1
Lentils	14.5	19.6	16.1	21.7	17.1	9.4	22.5	14.4	7.7	10.4	11.3	12.0
Grapefruit (inc. pomelos)	5.6	4.4	7.2	6.4	8.5	6.8	9.4	8.4	9.9	9.7	10.3	11.4
Cereal preparations, nes*	1.6	0.7	0.8	0.5	0.4	0.4	0.4	0.5	1.9	3.3	5.2	11.1
Vegetables, fresh or dried products nes*	6.2	7.8	5.6	4.1	2.9	2.9	3.6	4.2	3.7	3.1	9.2	10.7
Vegetables in vinegar	12.7	12.1	13.5	12.3	12.4	10.1	10.9	12.7	13.3	12.1	12.1	9.8
Cotton linter	13.6	14.5	12.5	16.9	11.1	12.5	12.4	16.7	16.4	4.7	4.8	9.2
Eggs, hen, in shell	0.4	2.0	0.4	0.9	1.1	1.1	1.0	3.1	4.5	3.5	4.4	8.3
Cherries	7.9	13.9	16.1	17.0	19.6	11.8	15.8	17.3	11.7	11.2	10.5	7.9
Tangerines, mandarins, clementines, satsumas	4.0	5.4	5.0	4.6	4.5	3.6	5.2	5.1	5.9	6.5	6.9	7.4
Apricots	1.9	2.3	2.5	4.1	4.4	3.3	3.5	4.8	8.7	5.0	6.2	6.6
Olives preserved	3.6	4.7	5.1	6.2	6.4	5.4	5.2	5.8	5.4	5.2	5.1	6.0
Fat, liver prepared (foie gras)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6
Macaroni	0.5	0.6	1.0	1.3	2.0	2.1	2.6	3.0	3.8	3.3	3.9	5.2
Oranges	2.2	2.5	2.7	2.6	1.8	2.4	3.3	2.8	2.5	3.7	3.1	5.0
Tomatoes	1.5	1.7	2.5	2.2	2.5	2.4	2.9	4.2	5.3	5.2	5.2	4.7
Anise, badian, fennel, coriander	11.7	9.4	13.7	9.8	8.2	6.2	3.5	2.6	3.5	4.3	4.5	4.2
Spices, nes*	7.3	6.2	6.1	5.3	5.6	4.5	5.8	8.0	7.1	5.3	4.1	4.0
Pumpkins, squash and gourds	0.0	0.3	0.6	1.1	1.3	1.2	1.6	1.9	2.4	2.3	3.5	3.8
Margarine, short	6.2	5.5	4.4	3.8	2.7	3.5	3.0	3.5	5.5	2.4	3.2	3.6
Chick peas	10.9	16.4	17.3	25.0	19.4	15.7	12.9	10.1	11.1	9.3	6.0	3.5
Oil, sunflower	1.4	0.9	0.5	1.1	0.7	0.6	2.2	0.8	2.3	1.8	1.6	3.3
Sugar confectionery	2.4	2.4	2.7	2.5	2.6	2.5	2.7	3.1	3.4	2.8	3.0	3.1
Fruit, fresh nes*	0.4	0.6	1.1	1.4	1.4	1.1	1.2	1.4	2.3	2.5	3.3	3.1
Tobacco, unmanufactured	7.2	6.0	6.4	5.9	5.8	5.5	6.1	5.0	4.2	3.9	3.3	3.0
Chestnut	2.7	3.6	8.5	5.4	4.8	4.0	2.9	0.6	2.5	1.9	1.8	3.0
Tomatoes, paste	9.8	6.9	6.9	7.3	7.7	6.0	4.7	4.1	5.0	5.4	4.4	3.0
Flour, maize	0.0	0.0	0.0	0.0	0.6	0.6	1.2	2.0	2.2	1.7	3.3	2.9
Vegetables, dehydrated	2.4	2.5	3.2	3.5	3.2	3.3	3.5	4.1	4.5	3.5	2.9	2.9
Oil, maize	1.5	1.8	1.6	1.4	2.3	2.8	3.5	1.0	0.5	2.0	2.6	2.8
Cucumbers and gherkins	0.5	0.8	1.1	0.9	1.0	1.0	1.7	2.1	2.8	3.3	3.3	2.7
Pastry	1.4	1.4	1.8	1.9	1.8	1.5	1.7	2.1	2.1	2.0	2.2	2.5
Nuts, nes*	0.8	1.2	3.6	4.2	3.6	2.1	2.1	5.3	6.2	5.1	5.6	2.4
Walnuts, shelled	0.6	0.5	0.2	0.3	0.3	0.2	0.2	0.7	1.5	1.1	2.0	2.4

Table 1. RCA index values for agricultural items, Turkey, 2000-2011 years (continued)

Items	Year											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Fruit, prepared nes*	2.3	2.3	2.5	2.6	2.7	3.0	2.7	2.6	2.5	1.9	2.3	2.4
Cake, cottonseed	1.3	4.3	4.7	4.4	5.0	3.0	2.5	2.7	3.6	1.1	0.5	2.3
Grapes	1.3	1.3	1.5	1.7	2.5	1.9	1.9	2.5	3.0	2.5	3.0	2.3
Juice, fruit nes*	1.0	1.0	1.0	1.9	1.2	1.4	1.7	1.9	1.9	1.6	2.1	2.3
Wool, degreased	0.4	0.8	1.6	1.5	2.2	1.3	0.9	1.3	2.8	1.7	2.0	2.2
Cottonseed	0.5	0.4	1.3	0.9	0.9	2.4	2.7	2.4	1.7	1.8	2.5	2.1
Sunflower seed	0.6	0.6	0.6	0.8	0.9	1.1	1.6	1.5	1.2	1.3	2.1	2.0
Vegetables, temporarily preserved	3.8	3.4	4.4	3.1	2.2	2.0	2.3	2.9	2.7	2.9	2.6	2.0
Cheese, processed	0.0	0.0	0.0	0.0	2.7	2.8	3.7	4.2	5.2	3.4	2.8	1.9
Eggplants (aubergines)	1.4	1.4	1.7	1.9	1.5	1.6	1.4	1.4	1.6	1.6	1.7	1.8
Flour, pulses	1.7	1.2	0.1	0.2	0.3	0.3	0.3	0.2	0.4	0.3	0.3	1.8
Fat, nes, prepared	1.1	1.4	3.9	7.8	3.4	2.4	1.4	2.2	1.6	1.2	1.8	1.8
Chocolate products nes*	1.0	0.9	1.1	1.4	1.4	1.3	1.5	1.9	1.8	1.6	1.7	1.7
Cereals, breakfast	0.8	0.8	0.9	1.1	1.0	1.1	1.1	1.4	1.8	1.7	1.9	1.6
Chillies and peppers, green	1.4	1.1	1.8	1.6	1.6	1.7	1.8	1.6	1.6	1.6	1.5	1.6
Bran, wheat	0.1	1.5	1.8	0.6	0.0	1.4	0.2	0.1	0.3	2.0	0.4	1.6
Meat, chicken	0.1	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.5	0.8	1.0	1.6
Tomatoes, peeled	2.0	1.5	2.6	2.6	3.3	2.2	2.1	2.1	1.8	1.5	1.5	1.5
Oil, cottonseed	2.9	1.5	4.6	13.9	1.9	1.6	1.5	1.7	3.5	1.6	2.3	1.5
Almonds shelled	0.1	0.2	0.1	0.1	0.2	0.3	0.2	0.8	1.3	1.6	1.2	1.4
Food prep nes*	0.7	0.6	0.9	0.8	0.8	0.7	1.0	1.3	1.4	1.3	1.2	1.4
Leeks, other alliaceous vegetables	1.4	2.2	1.7	2.6	1.6	1.3	2.0	1.1	1.5	1.8	1.7	1.4
Fruit, dried nes*	1.7	1.5	2.0	1.4	1.4	1.6	1.8	1.9	2.0	1.7	1.7	1.3
Meat, nes	0.8	0.8	1.3	1.1	1.5	1.0	1.0	0.8	0.8	0.7	0.8	1.3
Cocoa, powder & cake	0.5	1.1	0.9	0.7	1.0	0.7	0.8	0.9	0.9	1.3	1.1	1.2
Fructose and syrup, other	2.9	1.4	0.1	0.1	0.2	0.5	0.8	0.6	0.5	0.1	0.7	1.2
Glucose and dextrose	0.7	0.1	0.1	0.5	0.1	0.1	0.4	0.6	1.0	0.6	1.0	1.2
Fruit, cooked, homogenized preparations	0.5	0.3	0.2	0.4	0.2	0.1	0.2	0.1	0.1	0.2	0.3	1.2
Tobacco products nes*	1.4	0.4	0.6	0.7	0.7	1.2	1.3	1.4	1.6	1.9	1.4	1.1
Cigarettes	0.8	0.6	0.9	0.7	0.5	0.5	0.8	0.9	1.3	1.0	1.2	1.1
Vegetables, preserved nes*	0.6	1.0	1.1	1.1	1.1	1.1	1.1	1.0	1.2	1.2	1.1	1.1
Silk-worm cocoons, reelable	2.3	0.0	0.1	8.0	7.1	6.5	5.6	0.0	0.0	4.9	9.0	1.0
Waters,ice etc.	0.4	0.4	0.5	1.0	1.3	1.1	0.7	0.7	0.7	0.8	1.0	1.0

*Nes: Including inter alia

RCA index values for determined agricultural items are shown in Table 1. According to the 2011 calculations, the RCA index varied in the range of 1.0 to 74.2. If RCA is greater 1, the RCA index reveals the competitiveness. In this study, we first take all agricultural items and then select the agricultural items whose RCA indices are greater 1.

The RCA values are sorted in descending order for the year 2011. We take the year 2011 as a reference year and then categorize the RCA values. The RCA values for the year 2011 are categorized as follows: The first category is under the 1 and the second category is over the greater and equal 1. While the first category means that a country or firm's competitiveness has uncompetitiveness, the second category means that has competitiveness. According to the explanations, we didn't take an ignore the first category and not given here. The second category is crucial in determining the competitiveness. The first and second categories have a total of 601 agricultural items that the first category of them has 523 and the second category of them has 78 agricultural items. Belong to the second category's RCA values are shown as in Table 1. Although the lowest RCA index among 78 agricultural items in the second category is calculated for waters ice etc., the highest RCA index in these items is apricots dry in 2011 (Table 1). By comparing the RCA values from the year 2000 and 2011 (reference year), we observe that RCA indices

of the some agricultural items in the second category significantly dropped and approached to zero in 2000 (Table 1).

Comparison to the year 2000 and 2011, some agricultural items have between zero and one values. By comparison to the 2000 and 2011, while these RCA values have over 1 in 2011, the other RCA values have under 1 that are given as follows: in 2000, RCA values have under 1 like this: Quinces; Pumpkins, squash and gourds; Cheese, processed; Fat, liver prepared (foie gras); Flour, maize; Bran, wheat; Meat, chicken; Almonds shelled; Wool, degreased; Eggs, hen, in shell; Waters, ice etc.; Fruit, fresh nes; Fruit, cooked, homogenized preparations; Cucumbers and gherkins; Cottonseed; Macaroni; Cocoa, powder & cake; Vegetables, preserved nes; Walnuts, shelled; Sunflower seed; Glucose and dextrose; Food prep nes; Cereals, breakfast; Meat, nes; Cigarettes; Nuts, nes. From that here, we can conclude from that Turkey hasn't any competitiveness belong to these indicated 27 agricultural items in 2000 but Turkey have a good gain about the competitiveness of these 27 agricultural items in 2011. Especially, Quinces and Figs have 37.4 and 29.2 RCA values, respectively. It is very important to get a market for these items in the World.

If the RCA index values are higher, the country will have a more superior competitiveness in the global market. We can evaluate the RCA values in line with agricultural items. According to agricultural items in the second group the RCA values indicate a strong competitiveness.

Conclusion

In this study, the RCA indexes for a pre-determined 601 agricultural items from Turkey were computed for the years from 2000 to 2011. According to calculations based on the Balassa's Revealed Comparative Advantage Index (RCA), Turkey was found to have a strong competiveness in the 78 agricultural items in comparison to the global market.

According to our analysis, Turkey has a good and robust competitiveness in the second group in the global market, as shown in Table 1. For the years 2000 to 2011, although the RCA values in first group were smoothly decreasing, the RCA values in the second group were slightly decreasing. At this point, Turkey should take urgent precautions with regard to increase in the export of the agricultural items in the first group.

Turkey's economy has been steadily growing since the year 2002. Turkey has many well-qualified agricultural engineers, employees, sufficient and necessary infrastructure, and good geographic conditions, which create important opportunities for Turkey in the current global market. However, in order to maintain and further improve its competiveness Turkey should give priorities to improving existing infrastructure and productivity.

In order to enhance competitiveness in agricultural exports, necessities for directing export subsidies towards foreign trade and consumer oriented, high value added and brand name products, and efficient use of scarce public resources, still continue.

The RCA values between the year 2000 and 2011 shows significant discrepancies and that such discrepancies are critical in determining the competitiveness of a country in the global market. Our analysis revealed that Turkey has a good competitiveness for the second group of agricultural items in the world. As a result, from this analysis, Turkish authorities with related to agricultural sector should take a precaution for strengthen about the first category of agricultural items and give a priority for sustainability of the second group of agricultural items.

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