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UZBEKISTAN'S AGRICULTURAL EXPORT COMPETITIVNESS IN RUSSIA

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Abstract

This study analyses Uzbekistan's agricultural products export competitiveness in Russian market over the years 2005-2015. Balassa comparative advantages index is used to examine competitiveness for the selected 20 agrarian products. The results show that Uzbekistan's export of agricultural products to Russia had downward trend during 2005-2013, seven out of 20 selected products lost their competitiveness in the Russian market during this period. Uzbekistan's agricultural export since 2014 has an upward trend. The values of revealed comparative indices for the majority of selected agricultural products in the Russian market increased during 2013-2015. However, Uzbekistan's agricultural export volume in 2015 did not reach its volume in 2005 in the Russian market. This study finds out some important implications for policy makers to enhance the competitiveness of Uzbekistan's agricultural export on the Russian and global markets.

Keywords: Agriculture, Export competitiveness, Revealed Comparative Advantage, Uzbekistan

INTRODUCTION

The economy of Uzbekistan has increased significantly during last two decades. Since the early 1990s, Uzbekistan has undertaken substantial reforms in transforming its economic system structure by giving priority to the diversification of the economy to get sustainable growth. Thanks to these reforms, Uzbekistan's' GDP has grown up from billion 14.3 US dollars in 2005 to US dollars 66.73 billion with average growth rate of 8.3% (World Bank). Uzbekistan decreased dependence on its top five export products. However, its dependence on the top five

export destinations increased dramatically, from 45 % to almost 82 % during 2002 – 2011 (Varele, 2011). Moreover, Uzbekistan significantly increased non-agriculture sectors contribution to GDP and their share in exports. Nevertheless, the agriculture still is an important sector of the economy, as of 2015, Agriculture accounts for18.26% of GDP (World Bank). The dependence on cotton production and inefficient land use were the main problems of Uzbekistan's agriculture at the beginning of the 1990s. Thus, the government attempted to increase the efficiency of production through farm restructuring and reducing the dependence on the import of food, diversify agriculture by decreasing cotton crops and increasing crops for grain, fruits, and vegetables. Uzbekistan gradually decreased its cotton crops and in substitution increased other agrarian products such as grain, vegetables, and fruits during the agrarian reforms. However, there are some issues, which negatively influence the export growth of agricultural products. First, fruits and vegetables mainly produced by small peasant (family) farms, which in turn makes difficult organization of purchasing, storage, transportation and export of these agricultural products. For example, these farms produced 64.1% of vegetables and 51.9% of fruits in 2012 (Almanac Uzbekistan, 2013).Second, small farms are not able to provide high performance of production because of technical inefficiency (Karimov, 2013). Third, Uzbekistan is a double-landlocked country that has impacts on export cost due to impeding direct access to seaborne trade. Furthermore, unpredictable weather patterns due to climate change and water availability challenges increase farmers' risk depending on their locations within the irrigation system, farm specialization and temperature fluctuations (Bobojonov et al. 2016).

Uzbekistan government announced reforms in agriculture for the 2016-2020 years, which implies to reduce the cotton crops' area by 30,500 hectares. The vacated lands will be used for planting vegetables and creation new vineyards and orchards. Uzbekistan has a favorable agro-climatic condition that is suitable for the production of the wide range of fruits and vegetables.At present paper, we examine Uzbekistan comparative advantages of selected vegetables and fruits in the Russian market.

METHODOLOGY

We used revealed comparative advantage index to measure the competitiveness of selected vegetable and fruit crops. The original measure of Revealed Comparative Advantage (RCA) was proposed by Balassa (1965) for analysis of countries' specialization in international trade. Numerous studies focused on the investigation of export competitiveness through Revealed Comparative Advantage indices. Nevertheless, Balassa index (BI) as a measure of RCA has not escaped criticism from various researchers. For example, Ferto and Hubbard (2002) find

that observed trade patterns can be distorted by government interventions and may so misrepresent BI results. De Benedictis and Tamberi (2004) find that BI does not have a stable distribution over time. Some researchers suggested solutions of RCA asymmetry problem by using the logarithm of BI (Vollrath, 1991)while Laursen (2015) recommended using a symmetric version of the RCA, as called the symmetric Revealed Comparative Advantages index.

Despite the Balasa index's weaknesses mentioned above it widely used to measure the country's Revealed Comparative Advantages and its export competitiveness. For example, Utkulu and Seymen (2004) analyzed the competitiveness and trade specialization of Turkey's export to the EU. Torayeh (2013) analyzed the competitiveness of the Egyptian agricultural export in the EU market. Bojnec and Ferto (2015) investigated agri-food export competitiveness in the EU countries. We also used Balassa index (BI) for measure the competitiveness of Uzbekistan's agricultural exports which expressed as follows:

$$BI_i^t = (Xuzi/Xuza)/(Xwi/Xwa) \quad (1)$$

where, $Xuzi$ is Uzbekistan's exports of selected product i to Russia

$Xuza$is Uzbekistan's Total agricultural exports to Russia

Xwi is World's exports of selected product i to Russia

$Xwa$is World's total agricultural exports to Russia

The selected product has a revealed comparative advantage if BI_i^t>1. If BI_i^t is less than 1, we concluded that the country has a comparative disadvantage in this product within the agricultural products.

We used trade data of UNCOMTRADE database. Unfortunately, this database has not data of Uzbekistan's exports. Thus, we use Russia's import flows data. The analysis spreads over the period 2005-2015. Our dataset includes agriculture products at the 6-digits level of Harmonized system 2002 (HS6-2002) classification. Agricultural export in our sample is defined as HS commodities from 01 to 15 chapters except chapter 03 (Fish and crustaceans) which contain 425 agrarian products at 6-digits level. For our research, we selected twenty agricultural products with the highest share in Uzbekistan's export to Russia in 2005 and 2015.

ANALYSIS AND RESULTS

Russia is one of the main importers of food and agricultural commodities in the world (2.8% of global import in 2014) thus the CIS countries consider Russia as one of the important direction of their agriculture exports. Fig. 1 shows the dynamics of Russia's agricultural products import from the world as well as from Uzbekistan during 2005-2015. As it is evident from the figure that agricultural products' import growth in Russia was not steady, it had upward trend until 2013

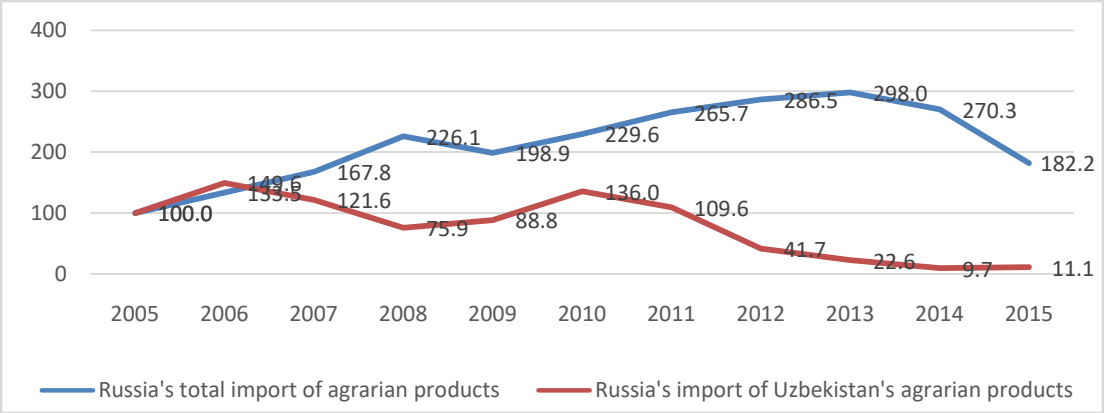
(except 2008, when import was collapsed, and 2011) and declined dramatically during the 2013-2015.The decrease in imports in 2008 was caused by the global financial crisis, whereas the decline in the last two years is due to Russia's restrictive policy.

Russia's restriction on agricultural products import from some countries (The EU, the USA, Ukraine and others) also influenced on the structure of main import partners of agriculture products. Russia's top ten import partners of agricultural commodities in 2005 were Brazil, Ukraine, Belarus, the USA, DEU, Ecuador, Argentina, China, Netherland, and Uzbekistan. The countries such as Ukraine, USA, and DEU dropped out of this list by 2015.In contrary, the countries such as Turkey, Peru, India, and Egypt shifted to Russia's top 10 import partners of agricultural products during the 2005-2015. As for Uzbekistan, it dropped out from this list more early, in 2011.

The top ten agricultural products in Russia's import in 2005 were 020230-"Meat of bovine animals", 020714-Cuts & edible offal of species", 040690-"Cheese", 020329-Meat of swine, 080300-"Bananas", 151190-"Palm oil, 080810-"Apples", 070200-"Tomatoes", 080610-"Grapes, fresh", and 020321-"Carcasses of swine". These ten products accounted about 50 % of Russia's agricultural products import. The structure of top imported products changed during the 2005-2015, the products such as 020714-Cuts and edible offal of species", 080810-"Apples", 800610-"Grapes, fresh", 020321-"Carcasses of swine left from top ten list, while, the products such as 60310-"Cut flowers", 80520-"Mandarins", 90240-"Tea, Black" and 120100-"Soya beans" shifted to top 10 imported agricultural products.

As it shown in fig 1 Uzbekistan agricultural export to Russia's has a downward trend(except some short periods when it has grown), its share in Russia's agricultural products import decreased more than nine times during the study period. The decline of Uzbekistan's share in the Russia's agricultural products import can be explained through various factors. First, Uzbekistan focused on the diversification of export by increasing of non-agricultural products in its export structure.

Figure 1. Russian import of agricultural products 2005-2015 (2005=100)



Second, Russia's agricultural import mainly growth in products, which are not important in the structure of Uzbekistan's export. Thus, the share of these agricultural products in Russia's import decreased over the study period. For example, the major agricultural products of Uzbekistan's export in 2005 were 080610-"Grapes, fresh," 070200-"Tomatoes," 080719-"Melons," 081090-"Fresh fruit,n.e.s.", 070310-"Onions," 080920-"Cherries," 080910-"Apricots," 070990-"Vegetables, n.e.s.", 080940-"Plums," 080620-"Grapes dried."Moreover, over the period looked at, the share of some commodities such as dried grapes, melons, apricots, and plums are decreased in the export of Uzbekistan to Russia, while the share of commodities such as cabbages, dried vegetables, lemons, and peaches are increased. As it clear, Uzbekistan exports mainly vegetables and fruits (chapters 07 and 08 of HS), the share of these commodities are not significant in Russia's agricultural import. For example, vegetables and fruits (Chapters 07 and 08of HS) accounted 13.1% of Russia's agricultural import in 2015, while the share of products such as "Live animals", "Live tries and other plants" "Vegetable saps and extracts", "Oil seed and oleaginous fruits" and (Chapters 01, 06, 13 and 15of HS) was 8.9%, 8.5%,11.1% and 22.9% respectively.

Now we turn to analyze of BI results for Uzbekistan agricultural export to Russia. Uzbekistan exported 79 types of agricultural products (at 6-digits level of HS) in 2005, the types of exported products decreased to53 in 2013 and increased up to 66 in 2015. The number of agricultural products with BI>1 also varies across years. Uzbekistan had Revealed Comparative Advantages in the export of 47 agricultural products in 2005. By 2013, the number products had dropped down to 32, however, in 2015, this figure went up to 44.

Balassa Indices for 20 important agricultural products of Uzbekistan's export to Russia presented in Table 1. These results showed that Uzbekistan had a comparative advantage in the exports of 19 out of 20 products in 2005. The number of agricultural products, which has comparative advantages, had tended to decrease to 13 products in 2013. Uzbekistan lost comparative advantages in the Russian market of products such as "Onions," "Cucumbers," "Capsicum, Fresh," "Grapes, fresh," and "Fresh fruit, n.e.s." during this period. Uzbekistan's export values of these products dropped dramatically, "Onions" 82 times, "Cucumbers"18.2 times, "Capsicum, Fresh"33.3 times, and "Grapes, fresh"122.9 times. The countries such as Netherlands, Ukraine, Turkey, Egypt, Chile, China, Israel and Spain pushed Uzbekistan out from the Russian market in these products during 2005-2013. For example, values of Uzbekistan's grapes export to Russia decreased from US dollars 77.1 million to US Dollars 627.5 thousand (122.9 times), while the export of countries such as Turkey, Chile, Italy, and Peru increased 3.57, 2.73, 3.17, and 337.4 times respectively during 2005-2013.

As we mentioned above Russia banned agricultural products import from EU, USA, Australia, Norway and Canada in the middle of 2014, and later, at the end of 2015 banned some agricultural products import from Turkey. Thanks to these restrictions, Uzbekistan, and other countries got good opportunity to increase their share in the Russian market. As it shown in

Table 1. Comparative Advantages of Selected Agricultural Products of Uzbekistan on the Russian Market (2005-2015)

HS_code	product	2005	2007	2009	2011	2013	2015
070200	Tomatoes	5.823	3.615	2.723	2.296	1.946	0.964
070310	Onions	5.169	3.569	0.277	0.000	0.758	4.466
070490	Cabbages	4.054	9.660	10.832	9.818	6.075	6.486
070610	Carrots & turnips	3.638	0.862	1.198	1.324	2.519	3.843
070700	Cucumbers	4.540	2.202	1.033	0.220	0.368	0.537
070960	Capsicum, fresh	3.421	2.110	1.008	0.944	0.210	1.004
070990	Vegetables, n.e.s.	16.351	16.976	26.423	25.482	78.784	88.930
071290	Dried vegetables, n.e.s.	2.373	2.339	2.805	3.195	12.761	25.525
071333	Kidney beans	12.184	14.852	5.429	7.359	16.837	17.803
080550	Lemons	0.002	0.006	0.017	0.010	0.050	2.402
080610	Grapes, fresh	10.147	6.920	7.443	10.814	0.455	13.813
080620	Grapes, dried	5.553	8.058	12.065	2.935	3.145	6.748
080719	Melons	16.940	19.345	17.718	55.381	31.693	37.448
080910	Apricots, fresh	13.982	11.536	17.617	23.695	92.255	8.093
080920	Cherries, fresh	10.871	8.296	4.686	12.402	20.717	4.789
080930	Peaches	2.151	3.321	3.557	4.767	3.175	4.299
080940	Plums	8.661	6.584	6.584	5.171	10.023	2.333
081090	Fresh fruit, n.e.s.	9.676	12.449	14.753	11.836	0.043	1.755
090420	Capsicum, dried	6.266	5.860	3.100	6.539	50.799	39.269
120220	Groundnuts, shelled	2.110	3.901	4.882	0.417	0.004	0.099

Source: Author's own calculations

Table 1, the RCA values of the most of Uzbekistan's main agricultural products increased in 2015 compared to 2013. Only three products: tomatoes, cucumbers, and shelled groundnuts had comparative disadvantages in the Russian market in 2015. Uzbekistan enjoyed comparative advantage even in the export of lemons in 2015 (Uzbekistan had comparative disadvantages in the export of lemons during the 2005-2013). Nevertheless, the RCA values of some products such as tomatoes, fresh apricots, cherries, plums, and dried capsicum declined over this period. Seemingly late frosts, coupled with cold weather in the spring and hot weather in the summer of 2015 negatively effect on the harvest of this fruits.

Moreover, BI values of some products such as onions, fresh capsicum, apricots, cherries, and fresh fruit, n.e.s. are still less in 2015 compared to 2005. In contrary, BI values of products such as cabbages, carrots, vegetables, n.e.s., dried vegetables, n.e.s., kidney beans, fresh grapes, dried grapes, melons, peaches, and dried capsicum increased during this period. Although Uzbekistan increased export of these products during 2013-2015, values of their export are still less than in 2005.

To investigate the stability matter of the BI, we followed Utkulu and Seymen(2004) in examining changes in the distribution of the BI. The results of the distribution of the BI of Uzbekistan's agricultural products export in the Russian market presented in Table 2. These results showed that Uzbekistan's revealed comparative advantage the distribution varies across years, a higher percentage of low value indices (BI<1) was in 2011. The mean of the BI values significantly increased in 2013, and the maximum value growth from 23.9 to 177.4 during 2005-2013.The mean value of the BI decreased from 14.4 to 10.5; the maximum value falls from 177.4 to 95.3 during 2013-2015. However, the share of products higher indices (BI>1) increased up to 66.7% during this period.

Table 2. Changes in Balassa indices during 2005-2015

	2005	2007	2009	2011	2013	2015
Mean	4.13	5.32	4.28	4.77	14.44	10.48
maximum	23.9	38.2	29.27	55.38	177.43	95.26
BI>1 (%)	59.5	56.6	63.4	51.5	60.4	66.7

Source: Author's own calculations

The highest value of mean in 2013 was due to decrease values of Uzbekistan's main exporting products. Although the share of products with BI>1was more in 2013 than in 2005, the share of this types products in Russian import was not significant. Thus, we may conclude the mean and percentage of high values of BI are poor indicators of competitiveness. It is a better to focus on the stability of these indicators. BI values fluctuations show instability in the export of Uzbekistan's agricultural products in the Russian market and are not ensuring long-terms relationships between Uzbekistan exporters and Russian importers.

In order to ensure the growth of exports of agricultural products of Uzbekistan to the Russian market, it is important to enhance the competitiveness of agricultural export in products that have a significant share in the Russian market. Furthermore, Uzbekistan has a favorable condition for the production of the wide range of agricultural products, so it is important tofind new markets for Uzbekistan's main agricultural products in which Uzbekistan has comparative

advantages in the global market. However, finding new markets for new products is one of the main challenges for developing countries (Otamurodov et al., 2017) and to achieve this goal, it is necessary to develop a comprehensive program for promoting its agricultural products in new markets. This program should include exploring the possibility of producing new agricultural products, increasing productivity in agriculture, ensuring the cooperation of farms and food processing producers, and have to reduce transportation costs.

CONCLUSIONS

This article presents results regarding the revealed comparative advantages indices for selected agricultural products export performances of Uzbekistan on the Russian market in the 2005–2015. Uzbekistan diversified its export by increasing of non-agricultural products in its structure during the last two decades. Thus, the share of agricultural commodities in its export had a downward trend. Uzbekistan's share in Russia's agricultural commodities import decreased more than nine times during the 2005-2013. Furthermore, Russia's import of agricultural products grew significantly during 2005-2013, but this growth was mainly due growth of agricultural products that Uzbekistan's agriculture traditionally doesn't produce (citrus, bananas, palm oil, etc.) or production is not enough to export. Also, Uzbekistan decreased its market share in Russia by 2015 even in those products that had a significant share in 2005.In the result, Uzbekistan lost competitiveness in products such as fresh grapes, onions, cucumbers, fresh capsicum, groundnuts and fresh fruits n.e.s., which accounted more than 44 % of Uzbekistan's agricultural export to Russia in 2005. Russian consumption of these products was filled by imports from the other countries, mainly from Netherlands, Ukraine, Turkey, Egypt, Chile, China, Israel and Spain. Russia banned agricultural imports from some countries (EU,USA, Canada, Australia and other), in 2014, and at the end of 2015 (Turkey). Thus, Uzbekistan got good opportunity to increase its share in the Russian agricultural products market. However, the devaluation of the Russian currency negatively influences the price of agricultural commodities. The quantity of agricultural products' export of Uzbekistan grew by 137.9% (2.37 times), while its values in USD grew for 14.4% during 2013-2015. Nevertheless, the number of products that has a revealed comparative advantage in the Russian market increased during this period.

Uzbekistan implies to increase vegetable and fruits crops during the reforms in agriculture for the 2016-2020 years. Thus, it is important to study its agriculture products competitiveness in the neighbor countries market as well as in global markets. Moreover, it is important to ensure the stability of exports, because the fluctuations in the production of agricultural products and its exports have a negative impact on the sustainability of long-term

relationship. From a policy perspective, Uzbekistan should facilitate export opportunities for agriculture producers and increase the efficiency of related logistical systems and the capacity to connect the global supply chain. The scope of this study was limited by the investigation of export competitiveness in the Russian market. In future, these surveys should include all Uzbekistan's agricultural export destinations. Moreover, it is important to identify obstacles, which negatively influence on agricultural export competitiveness.

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