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Trade issues of fruit and vegetable sector of Uzbekistan

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Abstract

The article investigates trade of the fruit and vegetable sector in Uzbekistan. It addresses some of the theories which explain mainly agriculture sector analyzing its determinants. Furthermore, the sector, main reforms, trade potential of fruit and vegetables and key problems of the sector will be presented. Finally, the research will recommend possible policies to develop current state of fruit and vegetable trade in Uzbekistan.

Introduction

International agricultural trade is a major driver of economic growth in developing countries, particularly in Uzbekistan, where agricultural commodities account for a large portion of exports. One of the study's priorities is to investigate traditional and modern trade theories with regard to agriculture, as well as to identify appropriate applications of theories in the case of Uzbekistan in order to develop recommendations for further improvement, resulting in economic expansion and welfare.

Despite being the primary employer of labor and the primary export commodity in Uzbekistan, agriculture is not the top major exporter of the products. It is, on the contrary, a net importer of agricultural and food products. This is due in part to limited market access, market distortions, and low productivity due to a lack of capital and modern technologies.

Uzbekistan should take advantage of its unique climatic conditions and focus on producing and processing in large quantities those commodities that the West and other parts of the world cannot produce in large quantities for self-sufficiency and exports.

One of Uzbekistan's industries with all of the prerequisites for rapid growth is fruit and vegetable production. A large portion of the country's agricultural regions are suitable for fruit and vegetable production. The potential of the sector is quite high, due not only to the availability of favorable climatic conditions, but also to the experience gained by local producers.

During the country's independence, many efforts were made to fundamentally restructure its agricultural sector. Economic transformations in agriculture are implemented in stages in accordance with the reform principles formulated by the First President of the Republic of

Uzbekistan. The government of Uzbekistan places a high value on the development and reform of the fruit and vegetable production industry. The full extent of the available potential, however, has yet to be revealed. Farmers lack up-to-date knowledge and experience with modern technologies for growing, storing, and exporting fruit and vegetable crops. Fruit and vegetable exports are also restricted administratively.

Literature review

For many years, the traditional theory of comparative advantage based on the neoclassical approach has served as the foundation of empirical agricultural trade analysis. For example, empirical research on the impact of recent GATT round trade liberalization was largely based on this theoretical framework, despite the limitations of the most commonly used trade models (see Peterson, Hertel, and Stout, 1994). Agricultural trade research, on the other hand, has advanced to include trade determinants identified by more recently developed theories. The empirical work is reviewed in the following sections to demonstrate the contribution of those studies from applying recent theoretical developments to gain a better understanding of agricultural commodity and food product trade.

The classical Ricardian and neoclassical H-O-S theorems are traditional trade theories. The primary emphasis is on comparative advantage, which is related to relative production costs (relative labour productivity). According to the survey of trade theories, differences in labor productivity between countries are the main driver of trade in the Ricardian theory. Labor productivity varies by country due to differences in technological know-how and applications, as well as differences in natural

endowments. Ricardian goods are goods where natural production circumstances (soil, climate, geographical location) are the primary determinants of trade patterns. Climate, natural resources, and geographical location are all location-specific factors. Obviously, some of these factors are critical for agricultural production allocation.

Hirschberg et al. (1994) findings support two Helpman-Krugman model predictions, namely that IIT in food processing is a positive function of a country's GDP per capita and correlates positively with GDP per capita equality between countries. Furthermore, it was discovered that such trade is strongly influenced by the distance between trading partners, as well as membership in customs unions and free trade blocs. Distance between countries has a negative impact on IIT (the greater the distance between two countries, the lower the IIT level), whereas membership in a customs union or a free trade zone has a positive impact on intra-industry trade.

During the 1980s, theoretical models incorporating differentiated products were developed primarily to explain the existence of intra-industry trade. Price discrimination is the other explanation for intra-industry competition. Firms can limit their markets in the domestic market and sell abroad with lower markups by segmenting their markets. Pick and Park's (1991) study is a (first) example of this approach to agricultural commodity trade. Pick and Park created a pricing-to-market (PTM) behavior model to test for imperfect competition in agricultural trade 1) Exporters can use market power to adjust prices for different export destinations, resulting in price discrimination. Pricing to market behavior refers to exporters' decisions to maintain or even raise export prices in the face of currency depreciation relative to the importer's currency.

Given the shortcomings of various trade theories in explaining trade in the fruit and vegetable sector, the Gravity trade theory comes into play, which is based primarily on the assumption that trade volume is generated by mass or economic size in the importing country, which is proxied by GDP (the gravitational force), and is inhibited by distance (friction). The model describes the flow of trade between two countries as being proportional to their economic "mass" (national income) and inversely proportional to their distance apart. Traditional trade explanations, such as the Heckscher-Ohlin (H-O) trade model, assumed that trade occurs in a perfectly competitive and frictionless world with no transportation costs. The gravity model is one of the models that have only recently acknowledged the role of transportation costs as a determinant in international trade.

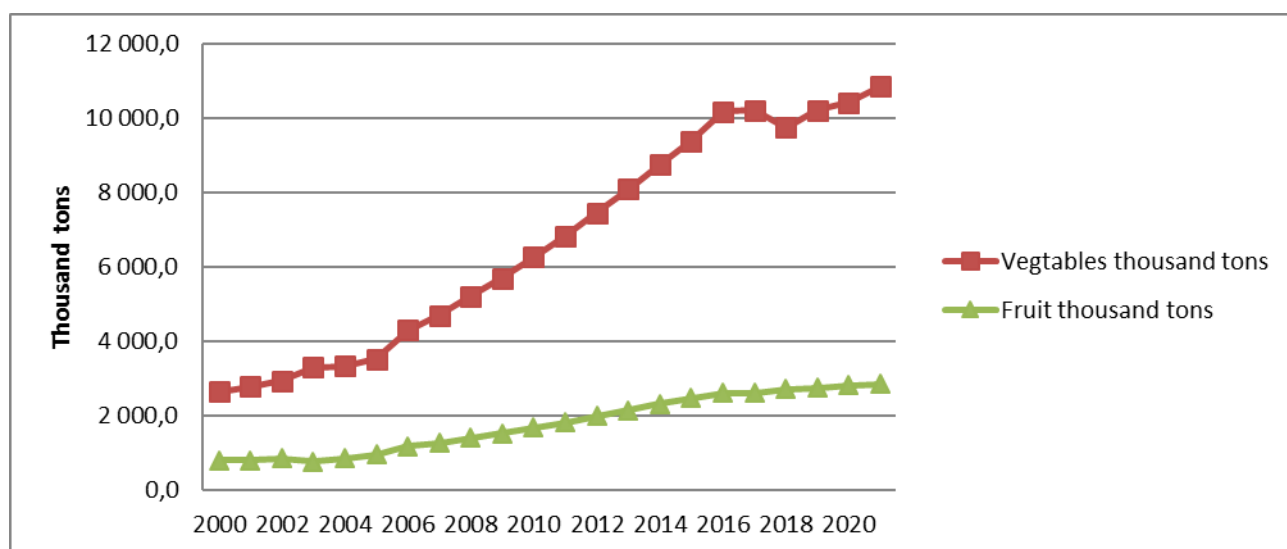
Analysis and results

The ongoing reforms indicate that the government intends to make Uzbekistan one of the world's largest exporters of fresh and processed fruit and vegetables. The Action Strategy on five Priority Development Directions of Uzbekistan for 2017-2021, approved by the President of the Republic of Uzbekistan on February 7, 2017, envisions the implementation of 434 projects aimed at modernization and intensive development of the rural economy. It also calls for the establishment of 14 trade and logistical centers in the provinces to process, store, package, and export fruit and vegetable products with a capacity of more than 310 thousand tons by 2020. The availability of relevant infrastructure, which would ensure high quality delivery, storage, sorting, grading, packaging, certification, and exporting, will have to be taken into account during the establishment process. In 2017-2021, this is expected to result in a 14-fold increase in food product production, a doubling of processed fruit and vegetable product output, and a 2,3-fold increase in fruit and vegetable product exports.

Agriculture is regarded as one of the most important sectors of the Uzbek economy, accounting for roughly 28% of GDP and 27% of employment. Despite the fact that cotton and grain remain the country's primary crops, the removal of quotas and price controls in 2020-2021 will pave the way for a shift to higher-value fruit and vegetable cultivation. Exports of agricultural products are expected to account for 8.8 percent of Uzbekistan's external earnings in 2020. Despite being one of the most important industries in the country, agriculture faces a number of challenges, including incomplete transformation, over-reliance on land and resources, a lack of innovation, and low productivity (Connolly, 2015).

In July 2017, horticultural export was liberalized and no longer controlled by the state via "Uzagroexport." The value of exports increased from \$633 million in 2017 to \$851 million in 2018. This represents an impressive growth rate of nearly 35%. This is due in part to more land being allocated to the horticulture sector, and in part to the effect of direct economic gain for farmers.

As a major participant in the global food market, Uzbekistan produces more than 70 different types of fruit and vegetables, according to The Export Promotion Agency. Every year, the country produces more than 21 million tons of fruit and vegetables, with over 180 different types of fresh and processed fruit and vegetables exported to foreign markets.

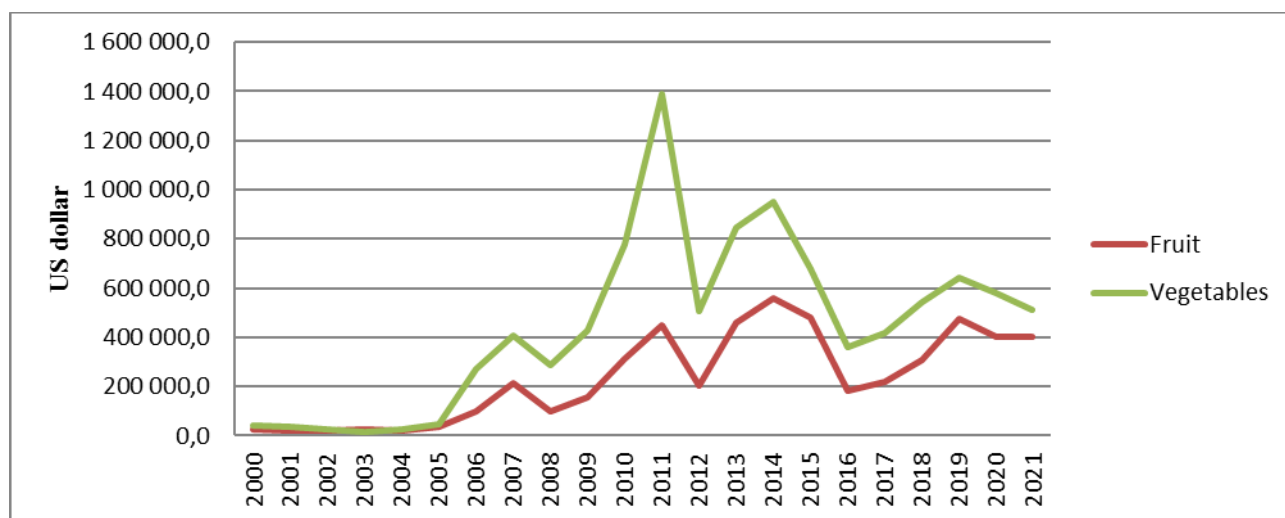


Pic. 1 Fruit and vegetable production in Uzbekistan

Sources: Author's calculations based on The State Committee of Republic of Uzbekistan on statistics.

According to official statistics, the production of both fruit and vegetables have been experiences substantial growth with ongoing reform and support by the government (investment in R&D, technology, irrigation

system and resource market support), with an almost 4 times increase in vegetables production and a double growth in fruit (Picture-1).

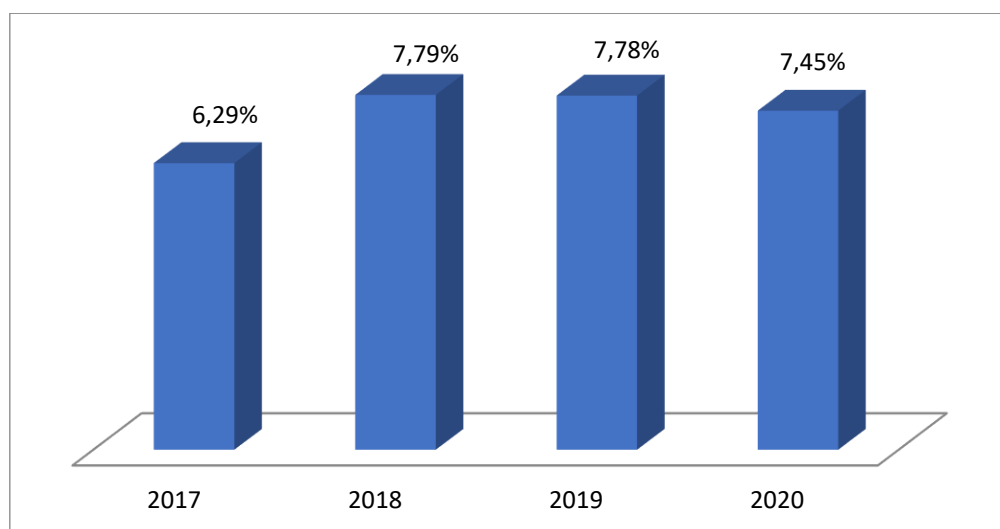


Pic. 2 Fruit and vegetables export value in Uzbekistan

Sources: Author's calculations based on The State Committee of Republic of Uzbekistan on statistics.

Meanwhile, fruit and vegetable export also maintained a growing trend, despite the fact that there has not been a quite large growth (Picture-2). It could be explained the challenges and shortcoming in the sector, mainly related with product quality assurances certification, not meeting world quality standards, poor access to funding and

scarcity of information about potential new markets and their requirement. Though there are a quite number of difficulties which should be addressed properly and timely, the government of Uzbekistan is actively working on improving the whole infrastructure and the sector.



Pic. 3. Fruit and vegetable export share in Uzbekistan's export

Sources: Author's calculations based on The State Committee of Republic of Uzbekistan on statistics.

Thus, the share of fruit and vegetable export in Uzbekistan's export is staying at approximate 7-8% (Picture-3), whereas Uzbekistan has all potential and comparative advantage in increasing this indicator, resulting to increase foreign turnover, GDP, creating new vacancies, welfare of the rural population.

Traditional cultivation, specialization, and primarily export to CIS countries are the main strengths of the fruit and vegetable production and export sector, with opportunities for processing, reaching new markets and varieties, and donor programs. Land ownership, low export quality, complicated registration processes, lack of field knowledge, and low marketable yield are examples of sector weaknesses. Legislation, certifications, gas allocation, import restrictions, and water management could all be identified as threats to the growth of fruit and vegetable production and export.

Discussion

Thanks to increasing consumer demand with a rising healthy living trend, Uzbekistan has to make strategic planning of its agricultural yield through irrigation, new variants of more effective seedlings (including dwarfs), greenhouses, and sustainable use of natural fertilizers.

Following, key barriers of production of fruit and vegetables sector are presented:

- Farm owners' (farmers') rights to use leased land are severely limited and poorly protected.
- Furthermore, the current system of mandatory land quotas for crops does not allow farmers to optimize production structure by taking into account soil features and climate, water availability, staff qualifications, and so on.
- Such state practice for cotton and wheat leaves many farmers in poor financial condition, lacking financial resources to invest in new know-hows, agro-technologies, limit their incentives to increase soil fertility.
- Unpredicted climate condition. In recent years, winter weather anomalies and frosts especially in early spring time has severely harmed agriculture commodities.

- Resource markets of the industry are controlled by the system of administrative regulation.

- At the same time, the regulatory and legal spheres continue to face numerous issues related to a lack of transparency, legislative inconsistency and inefficiency, extremely ineffective judicial and legal protection of property and transactions, and a lack of true separation of powers and checks and balances.

- There is no unified team of reformers who understand the goals and directions of reforms as well as the methods for implementing them.

- The knowledge of farmers, dehkans is unfortunately low to acquire and implement foreign experience of successful planting techniques.

- The infrastructure and soil condition are not adequate with standards to breed new variety of seeds and keep the fertility continuously, more frequently new varieties of seeds could be planted successfully one or two times, then face mortality.

- The scarcity of high-quality domestically produced packaging materials makes the Uzbek fruit and vegetables less competitive in terms of price and quality, not meeting world standard.

- Agriculture is a high-risk industry by definition because it is highly dependent on weather conditions that are beyond human control.

Conclusions and suggestions

The main target is to increase the volumes of production and achieve cost saving due to economies of scale, and as a result to improve the ability of Uzbek producers to compete with other fresh fruit and vegetable suppliers on price. As for inputs side, the scarcity of domestically produced fertilizers and pesticides leads to high production costs and resulting less price competitiveness for Uzbek products. The remedy to this weakness, connections must be reinforced between Uzbek producers and input suppliers, with the support of the domestic production of this kind of inputs. Further support to this remedy could be the facilitation of the access of high

quality planting materials without high import costs. These kinds of measures will lead to lessen production costs and higher yields per hectare.

To achieve high production volumes, it is very important to support sector coordination by making the registration of new associations easier via special Government bodies, and the key will be the effort to decentralize the registration. Sector associations and farmers must become more flexible in responding to market trends, which can only be accomplished through the dissemination of market research and the promotion of market-oriented production. Simultaneously, the sector will benefit from improved coordination among the various actors involved in the value chain, such as farmers, intermediaries, exporters, and researchers. The formation of agricultural clusters is dependent on agricultural production specialization, which advances the degree of specialization. Specialization of agricultural production can help to not only improve agricultural technology, but also to realize mechanization of farming, resulting in significant agricultural scale economies.

To increase the yield, it is crucial to adopt best farming practices. This could be achieved with a combination of policies, like the establishment and expansion of farmer field schools in the country's major agricultural areas. Another critical action to reach this goal is training and recruitment of female extension service providers. However, training alone will not be enough to maximize smallholder yields. Farmers must have better access to working capital in order to pay for improved production method. Measures to facilitate the expansion of commercial orchards will also be investigated. This strategic goal will also include activities aimed at increasing R&D investment in the sector. R&D is critical in several areas, including crop variety improvement and methods for extending production seasons. The outcomes of trials and pilot initiatives must be disseminated to stakeholders in the sector at all stages of the value chain.

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