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RA VEGETABLE OIL MARKET COMPETITIVE SITUATION ASSESSMENT

Vegetable oil is an important product from nutritional, social, and strategic points of view. Currently, only imported vegetable oil is consumed in the RA, and sunflower oil is the dominant component. Meanwhile, a key part of imports (more than 95%) is supplied from one country, and among the importers exist companies with a large share of the market, which makes the analysis of the competitive situation very important. In the paper, the authors analyze the market structure and the level of competition, characterizing the market by features of an oligopolistic market. The authors conclude

that the development and implementation of appropriate strategies for the promotion of domestic production, as well as for the diversification of the import geography are important – given also turbulence in international markets and the sudden increase in the prices in recent years.

Keywords: vegetable oil market, import, market share, sales volume, market dominance
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Introduction. Armenia consumes about 30,000 tons of vegetable oil annually, most of which, more than 90%, is sunflower oil. During the last 25 years, the volumes of vegetable oil consumed in the RA have continuously increased, and currently, it is a type of product that assumes daily consumption in the consumer basket of RA households, which acquires strategic importance in nutritional and social terms. Moreover, according to the RA Law "On Material Reserves" adopted on May 4, 2020, vegetable oils are also included in the list of strategic reserves, for a clear schedule for the accumulation of non-decreasing reserves of imported raw materials which is defined.¹

However, sunflower oil, which is a product of strategic importance, has been exclusively imported in recent years, although during the times of the Soviet Union Armenia produced volumes of production of vegetable oil, especially sunflower oil, (7.0-8.5 thousand tons of vegetable oil annually, which provided almost 60 percent of the consumer demand of the country). After independence, due to many objective and subjective reasons, the volume of vegetable oil production has significantly decreased – having a discrete character (sunflower oil in small volumes was produced in 2002-2003, 2006, and 2013-2014). However, even in the mentioned years with some volume of production domestic supply had an insignificant impact on the total consumption, and the demand for vegetable oil was completely or almost completely satisfied by import.

This phenomenon is worrisome because meeting the domestic demand for vegetable oil depends solely on imports when there are both experience and capabilities for its production. Meanwhile, more than 95% of the vegetable oil imported to the RA is sourced from the Russian Federation, which means that the market of vegetable oil in the RA becomes vulnerable. The sensitivity of the vegetable oil market to external factors can be studied based on post-2020 events, like Covid-19, the Artsakh war, and the escalation of the Russian-Ukrainian conflict and the war. The latter led to turbulence in the RA vegetable oil market, when the market reacted with significant price increases (up to 87% for June 2021 compared to June 2020), or supply disruptions and shortages (April-May 2022).

It should also be noted that the players in the RA vegetable oil market are exclusively the importing companies. Among them, there are large importers, which have a dominant market, and can have a decisive influence on the structure of the market. The oligopolistic characteristics of the RA vegetable oil

¹ N 1593- N decision of the Government of the Republic of Armenia dated September 28, 2020.

market can limit economic competition through the abuse of a dominant position or other anti-competitive actions. Given the market situation, and social, nutritional, and strategic importance, the product group of vegetable oils is included in the list of food product groups subject to annual review by the RA Economic Competition Commission.

The aim of the research is the analysis of vegetable oil import and consumption tendencies, import structure and geography, the competitive situation of the domestic market, market participants, their shares and their structural changes and the determination of the degree of market concentration, and based on this, developing policy recommendations.

Literature review. Many authors and international organizations have addressed the analysis of vegetable oil markets. This analysis shows that the economy of the Republic of Armenia depends on imports, which is mainly related to the agro-climatic conditions, which do not allow growing the required amount of commodities for oil processing. The above-mentioned circumstance naturally affects the sensitivity of the RA vegetable oil market to external factors and their changes. Thus, as the events of recent years have shown, the direct impact of the increase in world prices, the reduction of sowing areas, and unfavorable weather conditions in neighboring countries, as well as in some countries (Russia, Ukraine, Moldova) that produce vegetable oil lead to turbulence in the RA vegetable oil market.

The conflict between Ukraine and Russia has already had a significant impact on the world markets of some types of food (including vegetable oil) and the general conditions of commodity circulation. In particular, the halt of vegetable oil factories and ports in Ukraine and the sanctions of Western countries against Russia limit trade from that region. USDA's recently released study, "**Global Vegetable Oil Market Analysis 2017-2021, Forecast 2022-2026**",² is a preliminary assessment of the short-term impact of these actions, including the current state of the global market and an assessment of its growth prospects. The paper presents the current data of more than 100 countries of the world in the global market of vegetable oils and forecasts for the 25 leading countries in this field.

Tebiz Group,³ a leading Russian marketing research company, in its "**Analysis of the vegetable oil market in Russia - 2022: Indicators and Forecasts**"⁴ the report covers the Russian vegetable oil market, sales volumes, import and export statistics, regional rankings, analysis of manufacturers, and forecasts of global market development in a negative, inertial and innovative scenario for 10 years. The study examines the impact of geopolitical risks, the Ukraine conflict, Western sanctions, as well as the coronavirus on the economy and their possible consequences.

² <https://businessstat.ru/catalog/id8306/>

³ <https://tebiz.ru/>

⁴ <https://tebiz.ru/assets/pdf/mi/rynok-rastitelnogo-masla-v-rossii.pdf>

According to **Oil World forecasts**⁵ based on USDA data, world production of sunflower oil in 2022 will be 20,141 million tons (as of September 2022). According to experts, Russia (6,195 million tons), EU countries (4,479 million tons) and Ukraine (4,085 million tons) will lead the world's top three producers. According to analysts, the sunflower oil market can grow by 8.13 billion by 2026.

In the late 60s and early 70s of the 20th century, the American scientist **I. Ansoff**⁶ proposed a definition of strategic management, which was based on the analysis of the current situation and development trends of the external environment (including competition), and also formulated the problems of the long-term development of organizations. In the development stage of strategy and activity planning, it is necessary to analyze five competitive forces that affect the development of competitive, efficient, sustainable, and safe oilseed production. In his article "Competition of Vegetable Oils and Substitute Products in Food Markets", **Belikina** stated that one of the five competitive forces operating in the market is the effect of substitute products.⁷ Competition arises not only between agricultural organizations operating in the industry but also among economic entities operating in the product markets that replace them, which limits the potential profit for agricultural organizations in the domestic market of the food industry. The lower the price of the substitute product, the greater obstacles it creates for the profit received by the entrepreneur operating in the given branch of industry.

Joseph Glauber,⁸ **David Lebord**,⁹ and **Abdullah Mamoun**¹⁰ discuss global food security issues in the context of the war in Ukraine in the article "**The Impact of the Ukraine Crisis on the Global Vegetable Oil Market**".¹¹ The war in Ukraine has pushed agricultural prices to historic highs, and global food security concerns have come to the forefront of world leaders' attention, as evidenced by recent meetings of the IMF and the World Bank. So far, the focus has been on grain exports, but the authors present another important food security issue: the negative impact of war on the circulation of vegetable oils. Thus, the Black Sea countries are the main exporters of sunflower oil, and the crisis has led to a significant increase in the prices of vegetable oils, as well as the reaction of global trade policies, which in turn further restricts supplies and increases the prices of the product.

⁵ <https://www.oilworld.biz/>

⁶ Ансофф И., Стратегическое управление, М., Экономика, 1989, 303 с.

⁷ Беликина А.В., Пять конкурентных сил в производстве и на рынке масличных культур. Материалы межд. научно-практической конф. «Вклад аграрной науки в развитие земледелия Юга Российской Федерации», посв. 90-летию НВНИИСХ, и школы молодых ученых и специалистов «Инновационное развитие АПК», 16-19.06.2015 г. / Нижне-Волжский научно-исследоват. ин-т сел.хоз-ва. – Волгоград:ООО «СФЕРА», – 2015. – С.431.

⁸ Joseph Glauber | IFPRI : International Food Policy Research Institute

⁹ David Laborde Debucquet | IFPRI : International Food Policy Research Institute

¹⁰ Abdullah Mamun | IFPRI : International Food Policy Research Institute

¹¹ <https://www.ifpri.org/blog/impact-ukraine-crisis-global-vegetable-oil-market>

Methodology. As data sources, we apply United Nations Food and Agriculture Organization (FAO) data on the global production, consumption, trade, and global reserves of vegetable oil, the databases of the RA Statistical Committee, the State Revenue Committee on the volumes of production, import and consumption of RA vegetable oil, as well as the publications of the RA State Commission for Competition Protection from different years.

The period covered by the research and the calculation of the main indicators were carried out based on 2020-2021 data due to data availability issues. They cover the number of companies importing vegetable oil of the four-digit classification product groups of Foreign Economic Activity Commodity Nomenclature (FEACN) 1512 and 1515, sales and own production information on importing companies, frequency of imports, import prices, largest importers, as well as countries of origin.

In the case of the information available from the repositories of the RA SC, the total import volume, total and per capita consumption volumes, total supply and production volumes, and other information were presented and analyzed for the longest period.

A survey of large business entities in the field was conducted. Selection of the composition and number of businessmen to be interviewed was made according to the principle of the leadership of the position occupied in the field, taking as a basis the list of 1000 large taxpayers published by the RA Tax Service during January-December 2021.¹² Since the information received from business entities contains information containing trade secrets, which are not subject to publication, a grouping was applied, in particular, the import volumes of companies with large volumes of vegetable oil imports were grouped according to the principle of combining the first 3 large and the first 7 large ones, were calculated total market shares and market concentration indices of the latter: CR3, IHH and Linda indices.

During the research, we also applied multivariate analysis, graphical analysis, and statistical methods.

Analysis. The Republic of Armenia within the Soviet Union had significant production volumes of vegetable oil, especially sunflower oil. Thus, from 1985 to 1989, 7.0-8.5 thousand tons of vegetable oil were produced annually which provided almost 60 percent of the consumer demand of the country. After independence, due to many objective and subjective reasons, the volume of production of vegetable oil has decreased sharply, having discrete nature. In other words, the restarting of existing vegetable oil productions or the establishment of new productions did not ensure stable production volumes and were not continuous, which determined the highly fluctuating and disproportionate nature of vegetable oil production. Thus, in 1996 Armenia produced 1.4 thousand tons, 1.6 thousand tons in 2002, 2.2 thousand tons in 2003, 2.7 thousand tons in 2006, 4.7 thousand tons in 2013, and 4.0 thousand tons of vegetable oil in 2014. In other years, the production decreased sharply to the point where it can be said that there was almost no production, and after

¹² <https://www.petekamutner.am/Content.aspx?itn=tsTILists>

2015, the production volumes of vegetable oil are almost zero. Even in the mentioned years, when certain volumes of production were recorded, the production of vegetable oil did not have significant importance in the total consumption volumes, and its demand was completely or almost completely satisfied at the expense of imports.

This is also the reason for the very low self-sufficiency level of vegetable oil. Thus, from 2005-2020 the share of import in the total offer of vegetable oil in RA has always significantly exceeded the indicators of domestic production (over the entire period, on average, 17 times). The lowest indicator of the import/production ratio was recorded in 2013 (5.6 times) and the highest in 2020 (104.6 times). In 2020, imports have provided around 88 percent of the total supply of vegetable oil, and another 11 percent has been provided at the expense of last year's balances.

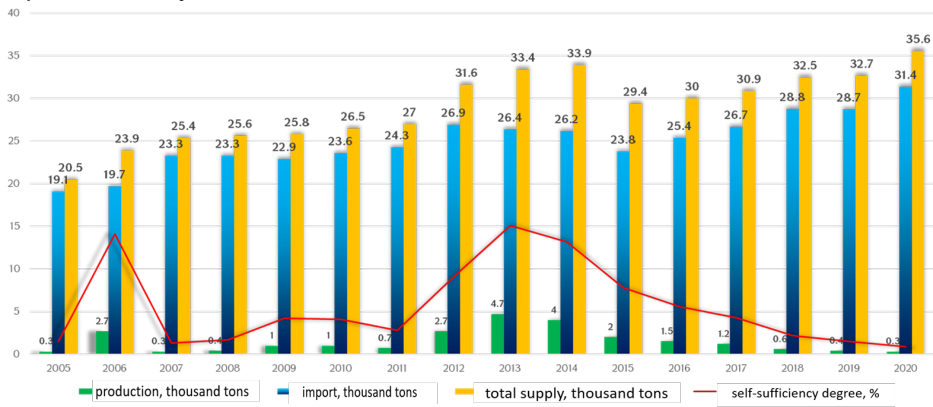


Figure 1. Volumes of vegetable oil production, import, total supply, and self-sufficiency level in RA, 2005-2020¹³

Although the import volumes of vegetable oil in 2005-2021 had a fluctuating nature, the general trend of change is increasing.¹⁴

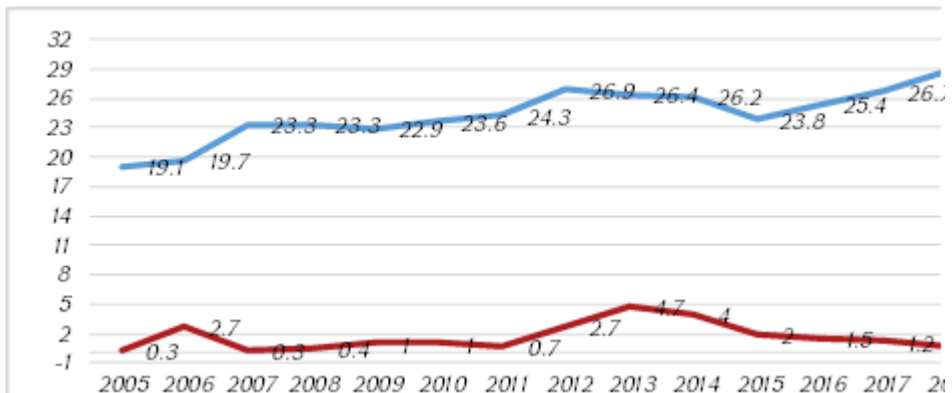


Figure 2. Volumes of import and production of vegetable oil in RA, 2005-2021 (thousand tons)¹³

¹³ The chart was made based on ArmStatBank database of the Statistical Committee of the RA.

¹⁴ The data of the RA Statistical Committee regarding the volume of import of vegetable oil in 1991-2005 are not available, therefore were considered the data for 2005-2021.

If the trends of the RA in terms of changing the proportions of production and import of vegetable oil coincide with the trends of developed countries, where the import of vegetable oil is preferable compared to production, then, we think, their reasons are radically different. Thus, the instability of the volume of vegetable oil production in the RA and its fragmentation over the years can be explained by the non-superior quality characteristics and price uncompetitiveness of the produced vegetable oil compared to the imported one, and not by which country prefers the production of technological products the most (such as the USA, EU countries), and trying to meet the demand for low-tech products at the expense of imports.

As for the scope of use, the only direction of the use of vegetable oil is consumed as food, which varies in the range very close to the full supply (import and production), adjusted by the balances at the beginning of the year and the end of the year, and for production of feed and biofuel, vegetable oil is not used in the RA.

The trend of import and consumption of vegetable oil in the RA in 2005-2021 is presented below.



Figure 3. Import and consumption of vegetable oil, 2005-2021 (thousand tons)¹⁴

Import and consumption trends of vegetable oil in the RA are alike. There is a certain deviation in 2012–2014 when an increase in consumption was accompanied by a decrease in imports, which was compensated by a certain increase in the volume of local production. Starting in 2014, the changes in the volumes of consumption and import coincided. In this case, they have already started to decrease, which is explained by adverse external shocks, in particular, the increase in vegetable oil prices caused by the escalation of the Russian-Ukrainian conflict in 2014. In 2015-2017, the decline of local production volumes continued, and the gap between import and consumption volumes disappeared.

During the observed period, the import of vegetable oil responded very precisely to the changes in consumption volumes, which was expressed by the overall growth of consumption and import volumes and very close rates of average annual growth. Thus, during the mentioned period, consumption

¹³ The indicators were calculated by the authors based on ArmStatBank database of the Statistical Committee of the RA.

¹⁴ The indicators were calculated by the authors based on ArmStatBank database of the Statistical Committee of the RA.

increased by 53% and imports by 45%, and their average annual growth rates are 3% and 2.6, respectively.

Changes in per capita consumption of vegetable oil also generally coincide with trends in total consumption. Thus, in 2021, 10.2 kg of vegetable oil was consumed per capita per year (compared to the index of 2020, it decreased slightly by about 1 percentage point), which increased by 64.5 percent compared to the beginning of the considered period, and the average annual growth rate is 3.5 percent. However, even under the conditions of such growth, the RA is quite far from the average levels of vegetable oil consumption per capita of the world and developing countries.

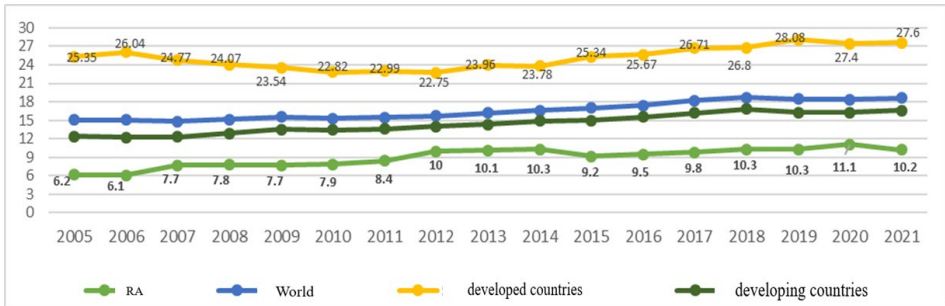


Figure 4. Vegetable oil consumption per capita in developed and developing countries, the world, and Armenia, kg¹⁵

Although the growth of the consumption of vegetable oils per capita was consistent with the growth rate of the same indicator of developing countries and the world, in the entire observed period, it is about 1.6 times inferior to the developing countries, 1.8 times to the world and 2.9 times the same indicators of developed countries. For comparison, note that the consumption of butter per capita in the RA (about 2.0 kg/year) is significantly higher than the indicators of both the world (about 1.5 kg/year) and developing countries (about 1.2 kg/year). This indicates that, firstly, the share of fat-based food in the diet of the RA population is not large, in addition, being a middle-income country (according to the World Bank classification) and a developing economy (according to the OECD classification), the consumption of butter is more preferable than could be expected. Of course, as mutually substitutable products, the increase in the price of butter can be accompanied by the replacement of the latter by vegetable oil, at the same time, the volume of consumption of vegetable oil, both total and per capita, increased significantly during the considered period. However, even in the conditions of such growth, compared to the world and developing countries, the consumption of butter prevails in Armenia, which, perhaps, cannot be explained by the low incomes of the population.

Another important factor in the process of importing sunflower and corn oils is the geography of the exporting countries, considering the complex geopolitical events, particularly the Russian-Ukrainian conflict.

¹⁵ https://statbank.armstat.am/pxweb/hy/ArmStatBank/ArmStatBank_7%20Food%20Security/FS-1-2021.px/?rxid=9ba7b0d1-2ff8-40fa-a309-fae01ea885bb

Table 1

Import volumes of sunflower and corn oils in 2020-2021 according to exporting countries, thousand tons (SRC data of RA)¹⁶

2020				2021			
Exporting country	Corn oil	Sunflower oil	All	Exporting country	Corn oil	Sunflower oil	All
Russian Federation	0.4	27.5	27.9	Russian Federation	0.4	24.7	25.1
Ukraine	-	0.8	0.8	Ukraine	-	0.2	0.2
Italy	0.1	0.1	0.2	Italy	0.1	0.07	0.17
Cyprus	0.04	0.03	0.07	Cyprus	0.03	0.03	0.03
Georgia	0.006	-	0.006	Georgia	-	0.005	0.005
Belarus	0.001	0.005	0.006	Belarus	-	0.005	0.005
All	0.6	28.4	30.0	All	0.5	25.1	25.6

The data in the table show that almost the entire volume of sunflower and corn vegetable oils (95 percent or more) is imported from the Russian Federation.

If we separate the import volumes of sunflower and corn vegetable oils according to the geography of import, the composition of the countries and their proportions are slightly different.

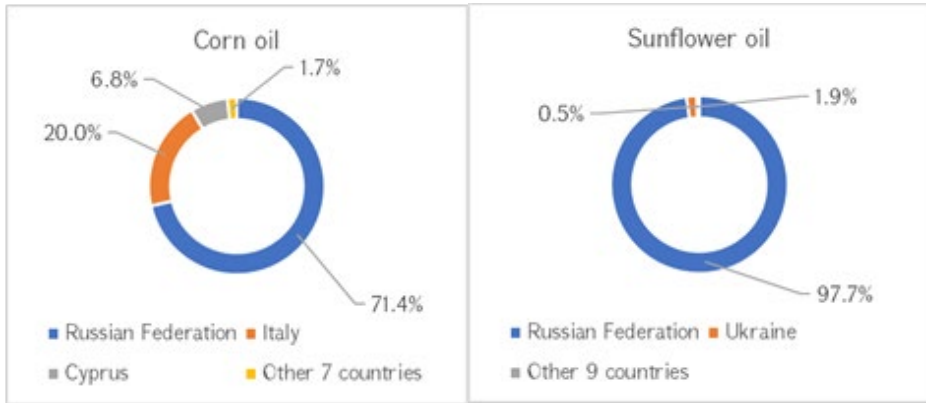


Figure 5. Import shares of sunflower and corn vegetable oils, 2020-2021, according to export countries (data from RA SRC)

It is obvious from the chart that during the observed period, sunflower vegetable oil was almost completely imported from the Russian Federation (about 98%). A small volume was imported from Ukraine, and the total volume of imports from the rest of the countries is about 0.5%. More than 71% of corn vegetable oil was imported from Russia, but in this case, a significant share was also imported from Italy, about 20%, as well as from Cyprus, about 7%. The share of corn vegetable oil import from other countries was 1.7% during the observed period. In other words, the geography of vegetable oil imports is highly concentrated.

¹⁶ In 2020 and 2021, there were also imports of both sunflower and corn oils from Turkey, France, Greece, the USA, Germany, the UAE, and the Netherlands, but due to their very small volumes, they were not presented separately in the table but were included in the total import volumes.

Since the demand for vegetable oil in the RA is met by imports, the economic entities in that part of the market are exclusively the companies that import sunflower and corn vegetable oil, the number of which has not undergone significant changes in recent years. In the framework of this research, the information presented by the RA SRC, as well as the surveys among the largest importing companies were considered.

According to the data of the RA SRC, in 2020, 142 business entities and in 2021 144 business entities imported commercial products (including sunflower and corn oil) belonging to the four-digit classification product groups of Foreign Economic Activity Commodity Nomenclature (FEACN) 1512 and 1515. It is necessary to note that the product groups of the above classifications also include other types of vegetable oil, which, although they do not have a large consumption in the RA, should be filtered and removed from the import volumes of the product groups determined by the mentioned classifications. As a result of filtering, it turns out that in 2020 103 economic entities and in 2021 100 economic entities imported products belonging to the four-digit classification product groups of Foreign Economic Activity Commodity Nomenclature (FEACN) 1512 and 1515.

Among the mentioned number of business entities, some have a very small volume of import and/or have carried out the one-time import. Therefore, to assess the situation more precisely, those business entities whose share in the total import volume is greater than or equal to 0.1% were considered in parallel. Applying such a filter to the number of business entities, it turns out that in 2020, 46 business entities imported vegetable oil to the RA, whose import share is greater than or equal to 0.1 percent of the total import volume, and in 2021, the number of such entities is 56.

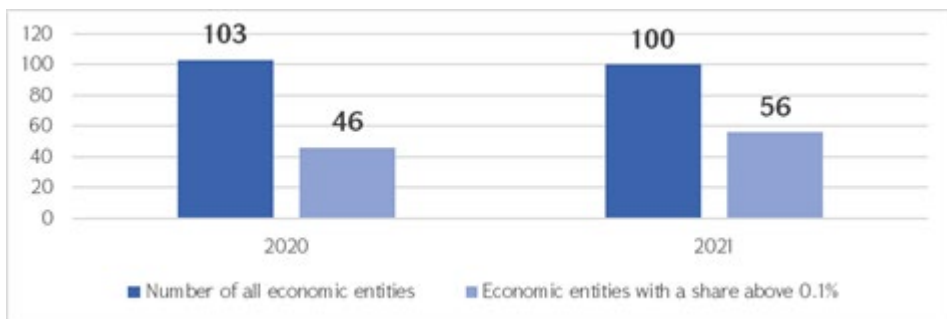


Figure 6. The number of business entities importing sunflower and corn oil (data from the RA SRC)

Although the number of entities importing sunflower and corn vegetable oil increased significantly in 2021, there was no significant change in the shares of the latter and their redistribution. In particular, in 2020, the share of the 3 business entities with the largest import volume was 59.2%, and in 2021 - 59.1%.

At the same time, most of the total volume of sunflower and corn oil imports falls on sunflower oil - on average, around 97%-98%. Thus, in 2020, the share of sunflower oil import in the total volume of imports of products classified under

the classification of FEACN 1512 and 1515 was about 97%, and in 2021 - about 98%.

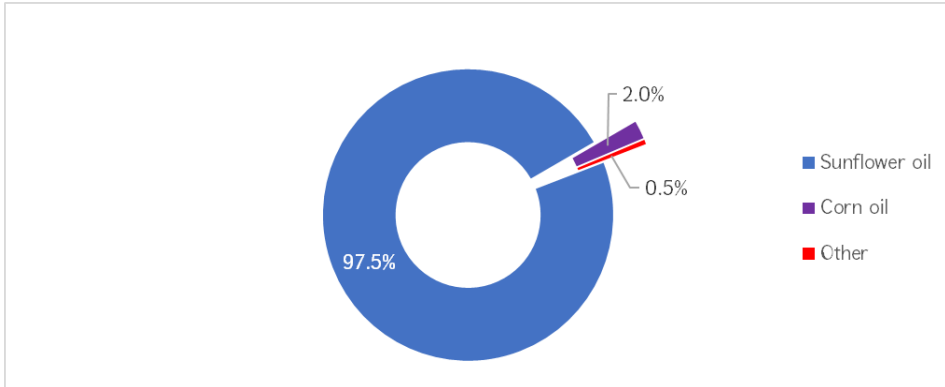


Figure 7. 2020-2021 The specific weight of the goods imported under the classifications of FEACN 1512 and 1515, according to types

Only in the case of the import of sunflower oil, when considering the change in the number of economic entities and the redistribution of shares, the picture is slightly different. Thus, the number of economic entities importing sunflower vegetable oil has increased, in particular, in 2020 imported 84 economic entities, and in 2021 98 economic entities.

However, in this case, along with a certain increase in the number of economic operators in the import process, the changes are not significant from the point of view of their shares and structural shifts in the market.

A slightly visible trend of decreasing concentration can be recorded when observing the indicators of the 10 companies with the largest volume of imports. In 2020, the shares of the top 10 companies importing sunflower oil together made up 84.4% of the total volume, and in 2021, this figure decreased to 78.8%. In fact, the shares of the leading companies together fell by around 7%.

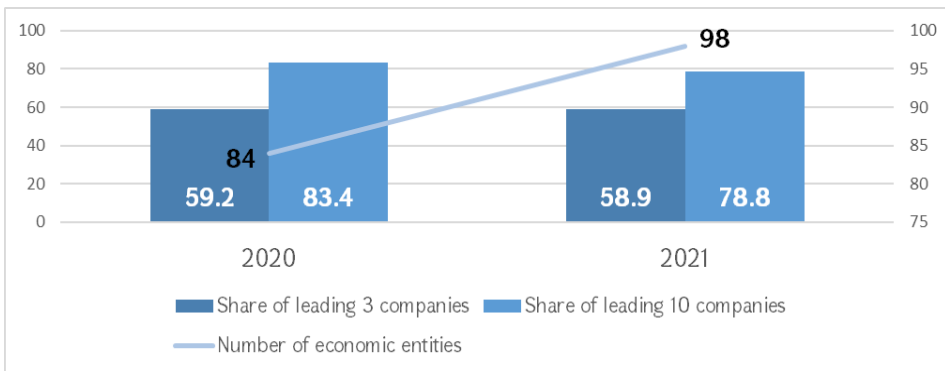


Figure 8. The number of business entities importing sunflower vegetable oil and the share of business entities with the largest volumes of imports (Competition Protection Commission data)

The structural shifts in the sales process are similar to imports, with minor differences, which is since the entire volume of sales of sunflower and corn vegetable oils is imported.

In this case, it is necessary to note that not all business entities carrying out imports are participants in the vegetable oil market, because the purpose of importing some of them, sunflower and corn vegetable oils, is to use them in their production processes. Therefore, when considering the structural shifts in terms of sales, the indicators of those business entities with the largest import volumes, which did not sell vegetable oil after import, were not taken into account. As a result, in 2020, about 100 economic entities sold sunflower and corn vegetable oils, and in 2021, about 97 economic entities. The share of the leading 3 business entities with the largest volumes of sales together made 62.1% in 2020, and 64.4% in 2021.

The combination of the above indicators shows that there were no significant changes in the redistribution of shares and the number of business entities during the observed period. At the same time, many business entities are active in this product market, which at first glance may indicate the absence of barriers to entering the product market. However, from the point of view of the concentration of the product market, it is necessary to note that, despite a large number of operating business entities, the shares of large business entities in the mentioned period are quite significant in the total volume. Therefore, to get a clearer picture of the concentration of the product market, it is also necessary to evaluate the degree of concentration of the market.

While evaluating the volumes of import, production, and sales of the product market, the information of the Competition Protection Commission (CPC) of the RA is taken as a basis, but in the framework of a more general and long period, the data published by the Statistical Committee were also considered in parallel. Before addressing the estimation of the volumes, we should note that the data of the CPC and the Statistical Committee may be somewhat different due to the methodological features of the volume calculation.

According to the data of the CPC of the RA, the volumes of import of the product groups classified under the FEACN 1512 and 1515 in 2020 and 2021 respectively amounted to 29.2 and 25.6 thousand tons.

Table 2

The volumes of sunflower and corn oil imports in 2020-2021 according to the classification and types of the FEACN, thousand tons
(data of the SRC of the Republic of Armenia)

	2020	2021
Import, total	29.2	25.6
Import, filtered	29.0	25.55
including:		
Sunflower oil	28.4	25.1
Corn oil	0.6	0.5

Products that are not considered "Sunflower and corn vegetable oil" and therefore are not part of the mentioned product market are included in the classifications of the FEACN 1512 and 1515 from the mentioned volumes. As a

result, other types of vegetable oils in the volume of 0.2 thousand tons for 2020 and 0.06 thousand tons for 2021 were removed from the import volumes of vegetable oils.

Regarding the sales volume of sunflower and corn vegetable oil, we should note that in 2021, compared to 2020, the sales volume decreased by about 10%. In the table below, the largest 3, and the largest 7 economic entities are presented. The remaining 90 economic entities' sales volumes and shares for 2020 and 2021 were also extracted by applying the residual method.

Table 3

Sales volumes of sunflower and corn oil in 2020-2021, according to business entities (survey results)

RA	2020			2021		
	Name	Volume (thousand tons)	Weight (percentage)	Name	Volume (thousand tons)	Weight (percentage)
1	The volume of the leading 3 business entities	17.2	64.1%	The volume of the leading 3 business entities	15.5	64.6%
2	The volume of the leading 7 business entities	23.2	86.5%	The volume of the leading 7 business entities	19.5	80.9
3	The volume of the remaining 90 business entities	3.6	13.46%	The volume of the remaining 90 business entities	4.6	19.9%
	All	26.8	100%	All	24.1	100%

As we can see, although the number of business entities importing sunflower and corn vegetable oils is quite large, and the changes indicate the absence of barriers to entering the market, nevertheless, the presence of large entities with a large share in the market may indicate a significant degree of market concentration. Moreover, the market can also be characterized by features characteristic of an oligopoly market. For this purpose, the concentration of the "Sunflower and corn vegetable oil" product market was calculated using the most widespread indices. In particular, the degree of market concentration was estimated based on the shares of the 3 companies with the largest share in the market: CR3 (Concentration ratio).

$$CR3=S1+S2+S3,$$

where S1, S2, and S3 are the shares, respectively, of the first, second, and third companies with the largest market share. In this case, the market is considered highly concentrated if $70% < CR3 < 100%$. Accordingly,

- During 2020, CR3, according to the sales volume of the product market, made 64.1%.
- During 2021, CR3, according to the sales volume of the product market, made 64.6%.

It was calculated also by the Herfindahl-Hirschman index, which is one of the most common and accurate indicators of market concentration. It is, in fact, the sum of the squares of the shares of all economic entities operating in the market. The main advantage of the index is that it is very sensitive to changes in market shares.

$$IHH=S1^2+S2^2+S3^2+\dots+Sn^2 \cdot$$

where S1, S2, S3... are the shares of the companies with the largest market share, in order.

If $IHH < 1000$, the market is not considered concentrated, if $1000 < IHH < 1800$, the market is considered moderately concentrated, and if $IHH > 1800$, the market is considered highly concentrated.

- During 2020, IHH was 1468, according to realization.
- During 2021, IHH was 1443 according to realization.

To evaluate the product market from the point of view of the presence of oligopoly characteristics the Linda index was also calculated. The latter is calculated to determine the limits of market power and oligopoly, and also to make decisions on allowing or prohibiting concentrations in the EU member states. Linda's index is calculated using the following formula:

$$L_K = \frac{1}{K(K-1)} \times \sum_I^K \frac{A_I}{I} \div \frac{A_K - A_I}{K - I},$$

where **K** is the number of economic entities with the largest share in the given product market, **I** is the number of leading economic entities among the economic entities with a large share, **A_i** is the sum of the shares of **I** economic entities, **A_k** is the sum of the shares of **K** economic entities.

The specified index is calculated until the condition $L_K < L_{K+1}$ is satisfied. In this case, it is considered that **K** economic entities have market power or form an oligopoly in the product market.

As a result, calculating Linda's index for the 2, 3, and 4 businesses with the largest volumes of sales in 2020, were obtained the following values: $L_2=0.53$ $L_3=0.38$ $L_4=0.60$. That is, $L_3 < L_4$, therefore, in 2020, 3 business entities with the largest volumes of sales practically had market power.

In 2021, Linda's index adopted the following values for business owners with the largest volumes of sales: $L_2=0.49$, $L_3=0.34$, $L_4=0.76$. That is, $L_3 < L_4$, therefore, according to Linda's index, in 2021 the first 3 business entities with the largest volumes of sales also had market power.

Thus, although many business entities are operating in the market of "Sunflower and corn vegetable oil", there are still companies with significant power in the field.

According to the calculations of the above indices, the market has a low and/or moderate level of concentration, as well as features characteristic of an oligopoly market.

Conclusions: Based on the analysis of the competitive situation in the RA vegetable oil market, the paper concludes the following:

- The market of vegetable oil in Armenia has been improved in terms of competition, but some risks still exist and there is room for further improvement.

Both imports consumption are on an increasing trend, which correlates with the increase in the number of players. Although the increase in the number of players did not significantly reduce the shares of major importers, it shows that there are no entry barriers in the market.

- To get a more accurate picture of the structural changes in the market we calculated concentration indices. The results showed, that the CR3 index does not indicate a high concentration level, and it is close to its lower limit (70%). According to the HHI index, the market has a moderate level of concentration. Such a level of concentration is primarily due to the number of economic entities operating in the commodity market, but the picture is worrying from the point of view of the shares of large economic entities. Meanwhile, Linda's index points to an oligopolistic structure, alarming the risks of a further increase in concentration.

- Import of vegetable oil is concentrated in the Russian Federation (about 98% on average, corn vegetable oil was also mainly imported from the Russian Federation). In the current geopolitical situation, the sanctions and restrictions applied to the Russian Federation, as well as the uncertainties in the economic developments of the Russian Federation, cause additional risks for the international food markets, which can have a significant impact on the RA food market, in particular, on the import of vegetable oils.

- In the context of structural changes, it is necessary to discuss the risk factors related to the extremely low level of self-sufficiency. We believe, that the main reasons for halted production are the insufficiency of commodities used for the production of vegetable oil and the relatively high prices of the production compared to import. Nevertheless, taking into account the ongoing geopolitical processes and the sudden increase in the average prices of vegetable oil in recent years, it becomes more important to develop and implement appropriate strategies for the promotion of domestic production, as well as for the diversification of the import geography.

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ՆԱՐԻՆԵ ՊԵՏՐՈՍՅԱՆ

ՀՊՏՀ մակրոտնտեսական ամբիոնի մագիստրանտ

ՀՀ բուսական յուղերի շուկայի մրցակցային իրավիճակի գնահատումը.– Բուսական յուղերը կարևոր նշանակություն ունենալով ապրանքատեսակ են սննդային, սոցիալական և ռազմավարական առումներով: Ներկայումս ՀՀ-ում սպառվում են միայն ներմուծվող բուսական յուղեր, որոնցում գերակշռող բաղադրիչը արևածաղկի ձեթն է: Միաժամանակ, ներմուծման հիմնական մասը (95%) իրականացվում է մեկ երկրից, իսկ ներմուծողների մեջ կան խոշոր մասնաբաժնով կազմակերպություններ, ինչը շուկայում մրցակցային իրավիճակի վերլուծությունը խիստ կարևոր է դարձնում: Հոդվածում հեղինակները վերլուծում են շուկայի կառուցվածքը և գնահատում մրցակցության աստիճանը՝ հայտնաբերելով օլիգոպոլ շուկայի հատկանիշներ: Հեղինակները եզրակացրել են, որ ներքին արտադրության խթանումը, ինչպես նաև ներմուծման կառուցվածքի բազմազանեցումը խիստ կարևոր են՝ հաշվի առնելով հատկապես վերջին տարիներին բուսական յուղերի միջազգային շուկայում գրանցված անկայունությունը և գների կտրուկ աճը:

Հիմնարաներ. արևածաղկի բուսական յուղ, արևածաղկի ձեթի ներմուծում, շուկայական մասնաբաժին, հրացման ծախսվներ, գերհշխող դիրք

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Оценка конкурентной ситуации на рынке растительных масел РА.

Растительные масла являются важным продуктом с пищевой, социальной и стратегической точек зрения. В настоящее время в РА потребляется только импортное растительное масло, преобладающим является подсолнечное масло. При этом ключевая часть импорта (более 95%) поставляется из одной страны, а среди импортеров есть компании с большой долей рынка, что делает очень важным анализ конкурентной ситуации. В рамках данной статьи авторы проанализировали структуру рынка и уровень конкуренции, выявив черты олигополистического рынка. Авторы делают вывод о важности разработки и реализации соответствующих стратегий продвижения отечественного производства, а также диверсификации географии импорта, учитывая турбулентность на международных рынках и резкий рост цен в последние годы.

Ключевые слова: подсолнечное растительное масло, импорт подсолнечного масла, доля рынка, объемы реализации, доминирующее положение

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