
THE POSSIBILITY OF SUPPLYING THE DEFENSE SYSTEM WITH FOOD PRODUCTS IN CONDITIONS OF DISTURBANCE ON THE MARKET

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ABSTRACT

Recently, as a result of COVID-19 and the war conflict in Ukraine, the supply system in the world has been very difficult. In addition to the above consequences, a number of other activities lead to disruptions in the market, which complicates the supply system at the global level. The defense system in the conditions of war conflicts is considered unique in defining regulations and procedures and has a special treatment in treating the supply process in such conditions. In this sense, this paper theoretically discusses the food supply system, the available market for food products with reference to the food industry and possible market disturbances and their effect on the supply system. The goal of the work is to find alternative solutions for the supply of food products to the defense system of the Republic of Serbia in conditions of disruptions in the market.

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Introduction

Food, in addition to air and water, is one of the essential bases for the maintenance of the human organism. As one of the physiological needs of man, food consists of chemical substances that give the organism the necessary energy and substances for its renewal, growth and development, for the performance of basic life functions and the development of the organism's defense capabilities. Nutrition directly affects the maintenance of health, work ability and psychophysical condition of a person. Insufficient, incomplete and often incorrect nutrition is the cause of the weakening of the human body's resistance to various diseases. Because of all this, it is necessary to take into account the quality of nutrition, that is, the quality of food products that should be in the function of the intellectual and material development of man, and therefore of the entire nation and society. Current events in the economic, i.e. economic sphere lead to major changes in the way and organization of business of all economic entities. The Serbian Army is not a commercial entity, but it is still forced to comply with the demands of a market-oriented economy. At the time of the Socialist Federal Republic of Yugoslavia, the army had priority in meeting its needs, which has not been the case for a long time in the conditions of a market economy, and there are even opposite tendencies, in the sense that certain manufacturers avoid doing business with the defense system. Supply, as one of the most important functions of logistics, certainly follows market trends and adapts to all changes that are almost daily. The main source of food supply for the defense system is the market of the Republic of Serbia. Hence the importance of its study and research, because the possibility of timely and sufficient supply of units and institutions of the defense system depends on the dynamics of the market. Effective execution of supply also saves financial resources, which is always of great importance with the defense system.

The problem of supply on the market and the possibility of supply on the same market in conditions of disruption is the subject of research in this paper. The paper discusses in detail the theories of the supply of food products, which are necessary to understand the specificity of food products in relation to other goods. Because of the specific character of these products, special conditions of circulation arise, which in turn condition the existence of an appropriate market organization. The basic elements of the market, supply and demand, are processed through the presentation of the production possibilities of food products and their consumption in the Republic of Serbia. Prices are formed in the face of supply and demand. Within the framework of the market, the conditions of purchase and sale on the world market were processed, and due to the possible eventual import of food products for the needs of the defense system. Certain market disturbances in the production and trade of food products in the world, which are currently reflected in the market of food products in the Republic of Serbia, and thus also in the supply of the defense system with food products, were considered.

Theoretical consideration of the supply of food products

Everything that can be bought on the market for consumption is classified as food products. Products of varying degrees of technological treatment are used for food, starting from unchanged agricultural products (milk, meat, fish, fresh fruits and vegetables, rice, honey, etc.), and ending with products that have undergone more or less complex technological processing (sugar, oil, biscuits, chocolate, ready meals, jams, some fruit juices, extracts and concentrates of spices, etc.). For these reasons, for the group definition of all these products, there are several related names such as food products, agricultural-food products, foodstuffs or food items. The term foodstuff has the broadest meaning and includes all consumer goods that are introduced into the human body to meet physiological needs, except for medicines that fall into a special category (Milanović et al., 2023). The term food products is usually used in commerce for those foods that can be bought on the market. It is synonymous with the term agricultural and food products. A more detailed definition of food products is that they are living foods of plant and animal origin. Based on the above, the term food products is a common or collective name for all products that are used as food, whether they are processed or unprocessed, as well as for raw materials and various additives used in their processing and processing. One of the specificities of food products is that many of them are used directly for food (fresh fruits and vegetables, etc.) or for the preparation of meals for consumers, so without special technological treatment in industrial or craft processing. This specificity resulted in the division of food products into (Issa et al., 2022):

- raw - unprocessed (agricultural products, hunting and fishing products that are used fresh) and
- industrial - food products.

According to the standard international trade classification (SITC), the product was classified. The most general classification of food products in the Serbian Army is given within the structure of food for daily meals. Seen from the point of view of food classification, all food products used in the diet in the defense system are divided into eight groups, as given in Table 1.

Table 1. Structure of food for military meals

Nu.	Food groups	Food subgroups
1	Cereals	Flour, pasta, rice
2	Vegetables	Dry - beans
		Fresh, canned and dried
3	Meat, fish and eggs	Fresh meat
		Meat products
		Fresh fish
		Fish products
		Fresh eggs
4	Milk and milk products	Fresh milk
		Dairy products

Nu.	Food groups	Food subgroups
5	Fats	Fat, oil, margarine and butter
6	Fruits	Fresh and dry fruits
7	Sugar and sugar-based products	Sugar and products
8	Other	Condiments and beverages

Source: Pravilnik o intendanturi („Službeni vojni list“ br. 31/21)

A more detailed classification of food products was made within the aforementioned 14 subgroups, which form the basis for the grouping of foods in nutrition plans.

The market as the main source of supply of food products in the Republic of Serbia

The market as a place where goods are bought and sold is closely related to trade. Trade affects market movements (formation of supply and demand) and it is connected with the market to such an extent that the problems of the market are also the problems of trade and vice versa (Cvjetković et al., 2021). A market is essentially a set of interrelated elements such as organization, buyers and sellers, space, time, supply and demand, prices and others. Depending on the organization of these elements, we have different markets where different forms of trade operate. This is how we distinguish trade adapted to wholesale trade, retail trade and purchase of goods. The market and the trade network perform their functions through organizational forms: wholesale (wholesalers), retail (retailers) and wholesale and retail (gross-retailers). In order for agricultural products to appear on sale after certain processing, it is necessary that the primary products be purchased from the producers (Krstić et al., 2022).

Table 2. Sale and purchase of agricultural, forestry and fishing products
in the Republic of Serbia

Name	2019. (t)	2020. (t)	2021. (t)	2022. (t)
Wheat	1.136.549	1.338.757	1.601.286	1.359.404
Corn in the grain	2.907.065	3.058.364	1.783.471	1.349.793
Potato	34.436	50.361	52.434	33.282
Beans	94	121	92	145
Onion	13.767	15.923	13.135	18.084
Cabbage	16.809	18.695	15.852	15.991
Apples	172.516	146.764	172.132	134.040
Beef	35.755	39.154	37.494	31.294
Piglet	3.902	3.622	3.525	2.332
Fattened pigs	136.068	133.912	117.209	86.915
Lambs	1.832	2.355	4.639	4.571
Broiler chickens	53.514	43.301	17.892	22.809
Consumable eggs (thousand pcs.)	553.810	530.453	594.919	681.148
Cow's milk (thousand lit.)	848.484	874.270	858.360	790.575
Freshwater fish	4.601	3.712	6.646	4.604

Source: Internet stranica Republičkog zavoda za statistiku: www.stat.gov.rs

In the trade of agricultural products, the existence of a purchasing trade network is characteristic, due to the fact that in agriculture there is a large number of individual producers, scattered over a wide area. Accordingly, there is a large number of business entities that deal with purchases at their purchase stations and forward purchase departments (Lepojević & Samardžić, 2022). The following participate in the purchase of surplus agricultural production: specialized purchasing trade companies, agricultural cooperatives and food industry companies.

Wholesale trade is organized and carried out in the wholesale trade network. In the wholesale trade mechanism, a specialized buying trade network sells agricultural products to a wholesale trade network (wholesalers). These companies shape their product stocks according to the type and purpose of the goods, in order to distribute them to the appropriate sales markets (Nadoveza & Pešić, 2020). Retail trade (retailers) appears as the last participant in this turnover. The bearers of the first stage of product turnover on the way from the producer to the consumer are usually wholesale trade companies. In wholesale trade, in addition to institutional wholesale trade, other subjects are engaged, especially agricultural cooperatives and food industry companies. Agricultural producers are sometimes directly associated with the food industry, which in some cases is also owned by them, as well as with retail trade. The existence of a retail network owned by the manufacturer implies their regular supply with a wide range of products, which often exceeds the capabilities of the parent company. The involvement of other subjects in the trade did not eliminate the wholesale trade. It exists in circulation thanks primarily to the unification of the needs of retail trade, large consumers (e.g. the Serbian Army, health and social protection organizations, etc.) and processors (Jeločnik et al., 2022).

As the advantages of wholesale trade, its collection and assortment functions stand out. The wholesale trade supplies the retail trade to a greater extent than the manufacturing industry. This is especially pronounced with fruits and vegetables. When selling grain, it is aimed at the food industry, considering that it is the basic material for reproduction in the mentioned industry. Wholesale organizations generally purchase food products directly from producers or through purchases from individual agricultural producers (Žutinić & Zrakić Sušac, 2021). They are directed to a greater extent to the supply of retail trade than to the supply of the processing industry. Wholesale trade in the Republic of Serbia does not show sufficient readiness to develop its own retail network. On the other hand, we have a problem in the fragmented character of agricultural production, which came to the fore even more with the liquidation of large agricultural combines. In such conditions, it is normal to expect a large role of wholesale institutions, both in purchasing and in the domain of sorting, exporting, retail supply, etc. In order to modernize the wholesale trade in food products in the Republic of Serbia, it is necessary to build a large number of appropriate distribution centers, wholesale markets and stock exchanges. Trade in the Republic of Serbia needs a turn from its strictly distribution role to a true marketing role. The wholesale trade sector should experience the greatest degree of transformation. Large wholesale organizations with adequate distribution and storage capacities, which are marketing oriented, are necessary.

Agricultural production in the Republic of Serbia

Agriculture is of great importance in the development of any country. As an economic activity, it has specific features and importance in relation to other economic branches. The development of agriculture is characteristic because its share in the national product decreases from year to year with a simultaneous decrease in the agricultural population. This legality is also expressed in the agriculture of the Republic of Serbia. The share of agriculture in the creation of the social product is an indicator of the level of overall socio-economic development of each country. When it comes to the economy of the Republic of Serbia, this indicator shows a low level of development compared to highly developed market economies. The share of the agricultural population in the total population has so far been higher than the share of the social product of agriculture in the total social product (Ivanova & Ristić, 2020). A change in that ratio represents a relative increase in agricultural productivity. Agriculture of the Republic of Serbia makes a significant contribution to the positive effects in foreign trade exchange because it achieves a positive trade balance. The importance of agriculture is invaluable, primarily because of its role as a producer of human food. Apart from food, raw materials for some industrial branches are also produced in agriculture, and it is also a relevant market for numerous non-agricultural products of industrial origin (Klinčov et al., 2022). The Republic of Serbia has about 3.8 million ha of agricultural land and is characterized by a significantly larger agricultural area per inhabitant (0.57 ha) than the European average (0.28 ha). A significant part of these areas falls on highly productive soils (chernozem and clay loam), which are located mainly in lowland areas. These areas are characterized by a relatively long vegetation period and a high number of hours of sunshine. Insufficient rainfall is a limiting factor in achieving high and stable yields in the most fertile agricultural regions. An adequate irrigation system has not yet been built in these regions. In hilly and mountainous areas, shallow and erodible soils prevail, with moderate to significant limitations for cultivation. From the perspective of the long-term strategy of agricultural development, it is necessary to take appropriate soil protection measures. In addition to negative phenomena, compared to most other countries, the Republic of Serbia is characterized by very favorable climatic, pedological and other natural conditions for the development of diverse, high-quality and highly productive agricultural production.

In an open market economy, a prerequisite for the adequate use of abundant land resources is the complete abandonment of extensive methods of production⁶. Otherwise, agriculture becomes a burden on the economy, instead of being one of the most important levers of the country's economic development (Vasić, 2022). Achieving progress in this area is conditioned by the elimination of limitations of a structural, technical-technological and organizational nature. Limitations include the large fragmentation of family farms, the low level of general and professional education of agricultural producers, insufficient development of the advisory service, solving the liquidation

6 Extensive production methods are characterized by high investment of labor, land, material inputs per product unit, i.e. high production costs.

procedures of former large agricultural combines, etc. Increasing the efficiency of the use of production factors must take precedence over forcing the growth of agricultural production (Zekić & Brajković, 2022). The Republic of Serbia as a whole, viewed through domestic production, meets its own needs for basic agricultural products: wheat, corn, sugar and fruit. In addition to such positive developments, the fact remains that the Republic of Serbia has more imports than exports for a large number of products (fresh vegetables, meat and meat products, fresh fish, milk and dairy products).

Wheat yields vary depending on natural conditions, primarily due to the small areas that are irrigated (Živković, 2022). In 2022, wheat production was realized on an area of about 630,000 ha with an average yield of 4.9 t per ha. The achieved production satisfies the total needs of the population, and a part remains for livestock feeding, reproduction (seeds) and for export. The current production of barley and oats meets the needs of the industry for the production of animal feed and the production of beer. The expansion of the production of the mentioned crops to hilly and mountainous areas filled the gap in demand that existed in the previous period. In 2022, barley was produced on an area of about 94,000 ha with an average yield of 4.8 t per ha, and oats on an area of about 14,500 ha with an average yield of 2.9 t per ha. In recent times, maize is the export product of the Republic of Serbia, and from an economic point of view, it is the most important grain product. About 35-40% of the total corn production is used for feeding livestock. Newly created high-yielding varieties created in our institutes can provide a stable and significantly higher production compared to the existing ones. In 2022, corn production was realized on an area of about 950,000 ha with an average yield of 4.5 t per ha.

Table 3. Grain production in the Republic of Serbia (thousand tons)

Year	2019.	2020.	2021.	2022.
A type of grain				
Wheat	2534	2873	3442	3109
Rye	12,9	15,2	18,6	17,8
Barley	373	490	554	452
Oats	56,2	52,1	55,9	42,2
Corn	7344	7872	6027	4283
In total	10.320,1	11.302,3	10.097,5	7.904

Source: Internet stranica Republičkog zavoda za statistiku: www.stat.gov.rs

Sugar production meets domestic needs, and in recent years, exports have also stabilized. From a country that was an importer in the past, today the Republic of Serbia is an exporter of sugar. Edible oil is also an export product in the Republic of Serbia. The production of sunflower, soybean and rapeseed as raw material for oil production has been stabilized for many years.

Table 4. Production of industrial plants in R. Serbia (thousand t)

Year	2019.	2020.	2021.	2022.
A type of herb				
Sugar beet	2305	2018	2048	1667
Sunflower	729	636	607	643
Canola oil	84,3	73,6	73,5	87,8
Soy	700	751	540	398

Source: Internet stranica Republičkog zavoda za statistiku: www.stat.gov.rs

When it comes to vegetables, the production of potatoes as one of the basic foodstuffs has been in decline for years and does not meet the needs of the population, so the solution was found in imports. The production of potatoes in Serbia is accompanied by a small number of warehouses and poor storage conditions that do not suit this crop. The production of beans does not meet the needs of the population, so the missing quantities are provided by imports. The situation with other types of vegetables for human consumption is the same or similar as with potatoes and beans, with the exception of onions and peppers where the amount of imported vegetables is negligible compared to the amounts exported.

Table 5. Production of vegetables in the Republic of Serbia (thousand tons)

Year	2019.	2020.	2021.	2022.
A type of vegetable				
Potato	702	664	613	523
Beans	9,1	9,2	8,9	7,9
Peas	25,6	27,6	23,7	21,1
Onion	29,5	33,1	37,3	35,1
Cabbage and kale	178	179	185	165
Paprika	118	106	147	144
Tomato	111	103	135	148
Melons and watermelons	163	141	145	183

Source: Internet stranica Republičkog zavoda za statistiku: www.stat.gov.rs

The areas under orchards are increasing every year, and yields and total production depend significantly on irrigation and the degree of application of agrotechnical and protection measures. The demand for these products is constantly increasing, both on the domestic and foreign markets, and with it the possibility of further increasing production.

Table 6. Production of fruit and grapes in the Republic of Serbia (thousand tons)

Year	2019.	2020.	2021.	2022.
A type of fruit				
Apples	499	489	513	486
Pears	54,8	67,1	55,9	59,7
Quince	11,1	11,1	10,4	10,8
Plums	558	582	412	488
Cherries	17,1	14,9	15,8	22,9

Year	2019.	2020.	2021.	2022.
A type of fruit				
Cherries	97	165	155	164
Apricots	40,9	30,5	31,3	44,3
Peaches	48,2	41,4	30,8	31,8
Nuts	8,8	8,4	7,6	11,8
Grapes	163	160	155	162

Source: Internet stranica Republičkog zavoda za statistiku: www.stat.gov.rs

In recent years, livestock has stagnated or declined, which has a negative impact on meat production and imposes the need for imports. The stabilization of livestock and poultry production depends on the increase in the production of animal feed and the ratio of the price to the market price of live fattening livestock. Regarding the production of fresh fish, our country has favorable conditions for the profitable production of carp and trout, but additional investments in capacities are necessary in order to reduce dependence on imports. Mass production of poultry and pork is necessary to satisfy domestic consumption, and greater production of beef and mutton for export to foreign markets is necessary.

Table 7. Meat production in the Republic of Serbia (thousand tons)

Year	2019.	2020.	2021.	2022.
Kind of meat				
Beef	71	75	77	79
Pork	298	299	307	299
Sheep	34	31	31	31
Poultry	114	115	111	116
In total	517	520	526	525

Source: Internet stranica Republičkog zavoda za statistiku: www.stat.gov.rs

Table 8. Production of crude fat in the Republic of Serbia (thousand t)

Year	2019.	2020.	2021.	2022.
A type of fat				
Beef	2	2	2	2
Pork	27	27	28	24
In total	29	29	30	26

Source: Internet stranica Republičkog zavoda za statistiku: www.stat.gov.rs

Stable milk production is directly dependent on the purchase price and subsidies that the state will provide to individual agricultural producers. The fact is that the number of cows and heifers is decreasing year by year, which automatically affects milk production, so their number is three times lower today compared to 2002. Continuous purchase of milk at a price that ensures normal reproduction will encourage producers to increase the number of cows.

Table 9. Milk production in the Republic of Serbia (million l)

Year	2019.	2020.	2021.	2022.
Kind of milk				
Cows	1509	1495	1473	1425
Sheep	11	9	10	9
In total	1520	1504	1483	1434

Source: Internet stranica Republičkog zavoda za statistiku: www.stat.gov.rs

Table 10. Production of chicken eggs (million pieces) and honey (t)

Year	2019.	2020.	2021.	2022.
Product type				
A hen's egg	1775	1706	1711	1632
Honey	7600	6838	7438	14228

Source: Internet stranica Republičkog zavoda za statistiku: www.stat.gov.rs

The food industry as part of the development of agricultural production in the Republic of Serbia

The food industry in modern economic conditions represents the basic strength of the development of primary agricultural production. The increase in market demand for processed agricultural products encourages the development of the food industry, so that today in developed countries it processes more than 70% of agricultural products (Cao et al., 2022). The food industry of the Republic of Serbia participates in the total industrial production with about 21%, and together with agricultural production, this sector participates in the formation of GDP with 10% to 13%, depending on the observed year. It is a pure food industry, without the production of animal feed and tobacco processing. The food industry, with some exceptions, relies on raw materials from domestic sources, and in exports compared to other branches, it achieves the highest net foreign exchange effect. This industry has modern processing capacities and infrastructure for receiving, storing and maintaining the quality of agricultural products and is a natural integrator of primary agricultural production (Friedman & Ormiston, 2022). Currently, after the realization of the privatization of agro-industrial combines and other production and processing capacities, the food industry is in the phase of technical-technological modernization and structural adjustment.

Today, the Republic of Serbia has significant capacities and storage space in the food industry, which are capable of processing almost all types of agricultural products. The food industry sector is labor-intensive and employs over 70,000 people in 3,907 economic entities. The share of building colors by individual processing activities in the total number of food industry facilities is proportional to the participation of individual basic agricultural branches in total primary production. The largest share is the capacity for meat and milk processing. Within the total number of buildings, there are also outdated ones with a small volume of production, but there are also modern large-scale industrial capacities, such as export slaughterhouses, sugar mills, oil mills,

dairies, cold stores, etc. The capacity of the food industry is unevenly equipped. In each group there are companies that are at the very top of technical and technological equipment and have highly educated staff of world quality, but there are also companies that are technologically far behind. Involvement in new market flows, which started with the processes of ownership transformation (privatization) at the beginning of this century, took place in two ways (Stranieri et al, 2021):

- Cooperative type of building relations between agricultural producers, processors and traders of agricultural products and
- Through the entrepreneurial type of rule from above, where entrepreneurs in the framework of trade and processing control all phases of production and turnover.

The cooperative type of agro-industry development is based on the influence of agricultural producers on the work and operations of the organization, due to the fact that they participated in the construction of processing capacities as a condition for the finalization of their products. In our country, however, the second type prevailed, where the main influence is exerted by companies of the processing industry, traders, specialized transport and other companies, where they act from the top down and in this way control all phases of work and fertilization of invested capital (Sabeti et al., 2019). These are corporations and multinational companies that control the entire production, finalization, transportation and sale of agricultural and food products. In the current conditions of the ownership structure, the food industry and agriculture must connect with each other and find a form of organization and cooperation that will unite producers of small and medium-sized enterprises and cooperatives with large enterprises or unite them into cooperative-type organizations.

Table 11. Production of food products in the Republic of Serbia (t)

Year	2018.	2019.	2020.	2021.
Product type				
Sausage products	68264	69838	66774	64470
Canned meat	18679	17739	17586	15477
Fruit and vegetable juices	178876	170830	147297	156946
Jams, jams and marmalades	3868	2932	2296	2918
Refined vegetable oils for food	173924	174741	157054	161695
Margarine and hydrogenated vegetable fats	33870	29826	29084	31790
Cheeses	37506	36996	36381	36870
Cocoa, chocolate, etc. products	41196	37311	35307	36429
Flour	490000	468000	466000	431000
Refined sugar	361000	246000	330000	329000
Food for breeding animals	1304000	1299000	1352000	1299000

Source: Internet stranica Republičkog zavoda za statistiku: www.stat.gov.rs

Table 12. Beverage production in the Republic of Serbia (thousand hl)

Year	2018.	2019.	2020.	2021.
Product type				
A beer	5654	5715	5396	5556
Mineral waters	/	7362	6910	7450
Other soft drinks	/	7105	7023	8387

Source: Internet stranica Republičkog zavoda za statistiku: www.stat.gov.rs

Optimal level of consumption and price analysis of food products in the Republic of Serbia

Domestic demand for food products is influenced by several factors: demographic (population), economic (household income) and cultural and historical. Producers and retailers of food products face numerous challenges that occur as a result of demographic changes: the aging of the nation, the increase in the number of single parents and single-person households, the increase in the number of employed women (Liu & Li, 2020). Long working hours are fueling demand for prepared foods, a category that has seen significant growth since the 1980s. In the Republic of Serbia, as in other transition countries, the share of food costs in household income is high and amounts to 30 to 40%, in contrast to developed countries where this share is far less and amounts to 7 to 15%. With the increase in household income, expenses for food also increase in absolute terms, but their share in the family budget decreases. Cultural-historical factors refer to eating habits that are passed down from generation to generation. The economic crisis and all the events in the previous period (the COVID-19 pandemic, the armed conflict in Ukraine and inflation at the global level as a result) have undoubtedly changed the level and structure of consumption, reducing the consumption of quality foods, while in the coming period, assuming the normalization of political and economic circumstances, an increase in the consumption of more expensive products, predominantly of animal origin, can be expected (Biswas et al., 2022).

Table 13. Consumption of food products in the Republic of Serbia by household⁷

Year	2017.	2018.	2019.	2021.
Product type				
Rice (kg)	9,7	9,6	9,8	9,8
Flour and products (kg)	86,7	84,7	86,3	86,1
Bread and pastries (kg)	204,5	187,4	178,5	163
Biscuit (kg)	19	18,1	18,6	18,9
Beef (kg)	13,9	16,2	16,8	21,3
Pork (kg)	45,4	47,2	49,6	49,9
Poultry meat (kg)	50	48,6	50,2	47,2
Cured meat products (kg)	38,9	38,6	37,4	38,1

7 The average number of household members in the Republic of Serbia is 2.65. The research for 2020 has not been done.

Year	2017.	2018.	2019.	2021.
Product type				
fish (kg)	11,7	11,2	10,1	8,5
Milk (l)	116,2	102,6	97,4	90,8
Eggs (pc)	590	589	600	585
Edible oil (l)	32,9	31,2	32	29,2
fat (kg)	6,2	6,5	5,9	6,7
Citrus fruits (kg)	22	25,1	23,9	26,8
Bananas (kg)	24,8	27	25,9	25,2
Apples (kg)	32,6	29,2	31,4	30,5
Grapes (kg)	6,7	6,5	6,2	6,8
Potatoes (kg)	89,8	86,8	81,4	79,8
Cabbage (kg)	47,7	45,2	46,3	41,6
Tomatoes (kg)	38,9	37	38,3	31,7
Beans (kg)	12,5	12	11,6	11,2
Black and garlic (kg)	34,2	33,6	35,8	33,5
Sugar (kg)	30,6	29,9	29,3	25,3
honey (kg)	2,2	2,3	2,3	2,4
Chocolate (kg)	3,7	3,6	3,7	3,6
Fruit juice (l)	45,7	42,5	41,8	35,6

Source: Internet stranica Republičkog zavoda za statistiku: www.stat.gov.rs

Forms of price control during the past years and decades in the Republic of Serbia have been changed very often: from prescribing the highest level, determining the way of education, to liberalization and attempts to control with economic instruments. Even in the SFRY until 1986, the prices of sugar, cooking oil, flour and bread were under the strictest price control regime (prescribing the highest allowed level). Full price liberalization came into force only in 1989. In a market economy, prices are formed on the market based on supply and demand. Prices are the most important element of agricultural policy. The price policy should provide the basic parameters for the production orientation, on the one hand, and on the other hand, it is a significant factor affecting the living standard of the population. That is why price policy in agriculture is a serious concern of the state.

Due to the specificity of the agricultural and food products themselves, the state is often in a situation to intervene in the price policy sector in different ways and to different extents. The system and price policy of agricultural and food products is based on: the principle of free education of (market) prices according to market conditions, the regime of protective prices and the regime of indicative (indicative) prices. Protective (guaranteed) prices can be established for strategic agricultural and food products. They are applied in the event that producers cannot sell their products on the market at prices higher than the protective prices. It is a guarantee that the producer will be recognized for his investments, at least for ensuring simple reproduction and minimal profit. Protective prices are usually established for cereals, industrial crops, potatoes, beans, apples, plums, grapes, live cattle, pigs, sheep and milk. Products are sold at the price

that is formed on the market, and in the event of a sudden drop in prices due to higher supply, the Republic Directorate for Commodity Reserves buys certain quantities at a guaranteed price. It then delivers these products to the processing industry or gives them to mills, stores them in silos and other storage areas. In addition to protective prices, the state can, if necessary, determine maximum prices for certain basic food products (flour, oil, sugar, bread, meat, milk). These are the prices at which certain food products can be found in retail. The goal of determining these prices is to establish a rational relationship between the price of the primary product and the price of the final product on the market, in cases where this relationship is in great disharmony, due to the disorganized market, the existence of monopolies and many intermediaries that appear from producers to consumers.

Market disturbances and their impact on the supply of food products

The most significant drivers of food market disruption may vary depending on various factors, including region, economic situation and specific market conditions. However, some of the general factors that can affect food market disruption include (Behnke & Janssen, 2020):

- inflation, because high inflation can lead to a general increase in prices, including the prices of food products. This may be due to increased costs of food production, transportation and distribution.
- fluctuations in the prices of raw materials, because the prices of raw materials such as grains, sugar, oil and meat can be subject to fluctuations on the world market. Changes in these prices can affect the prices of food products, especially if these raw materials are used as basic ingredients.
- trade policies, including tariffs and quotas, as well as regulatory requirements and standards that may have an impact on the prices and availability of food products. Restrictions on imports or exports can affect food supply and lead to market disruptions.
- economic factors, and above all macroeconomic factors, such as high unemployment, low incomes of the population and a weak economic situation that can limit the purchasing power of consumers and affect the demand and prices of food products.
- weather conditions and natural disasters, where extreme weather conditions such as droughts, floods or storms can adversely affect agricultural production, damage crops and food storage infrastructure, leading to reduced supply and increased prices.

It is important to note that these factors may be interrelated and that their impact may differ in different time periods and geographical areas. The agricultural and food sector has extremely important dimensions, so its success in the fight against challenges such as high prices of food and raw materials (especially fertilizers) will be crucial, because

global food security, and thus political stability, is threatened. High energy prices increase the input costs of agricultural production, which reduces farmers' profits. The agri-food sector is also sensitive to various structural factors, from biological risks to climate change. Another can be seen, for example, by the great heat and consequent drought that have ruled various parts of the world (Horn of Africa, India, etc.) since the beginning of the year, as well as large fires (such as Mexico, USA,...). All the above-mentioned factors follow the contracting and procurement procedures of food products for the needs of the Serbian Armed Forces. This decade is characterized by a number of phenomena that had or still have a global impact on the production and trade of food products, and above all, the COVID-19 pandemic and the armed conflict in Ukraine, which is still ongoing and shows no signs of ending soon, stand out. As a consequence of the above-mentioned armed conflict, the first impulse that caused a disturbance in the market of food products, which also affected the supply of the Serbian Armed Forces, was reflected in the following (Azzi et al, 2019):

- difficult or sometimes completely impossible supply of raw materials for canning food products, and above all tin for making cans,
- the impossibility of importing raw materials for the production of cardboard packaging for packaging food products,
- the difficult and complicated process of importing raw materials for the food industry due to the huge costs of forwarding and the impossibility of organizing the safe movement of transport capacities along regular transport corridors until the outbreak of an armed conflict.

All of the above affects the final price of food products, for which in the previous period the holders of contracts for the needs of the Serbian Armed Forces received justified requests from suppliers with whom contracts were signed, to correct the prices of certain food items, all in accordance with Article 158 of the Law on Public Procurement, and there were also individual cases of contract termination. Every company that has participated in the public procurement process knows that its preparation and implementation take a long time, often even months for larger procurements. That is why the question arises as to how inflation and daily price changes in Serbia and the world affect bidders, but also job orderers, and whether both can protect their business from devaluation. All of this becomes even more important if one takes into account that framework agreements are concluded for a period of 2-3 years for many food products.

Alternative solutions for supplying the defense system with food products in conditions of market disruption

Bearing in mind the supply organization system in the Serbian Army, it can be concluded that the storage function is very important. In order to perform this function, it is necessary to have the appropriate storage space, which the Serbian Army has at its disposal. It is precisely these elements that represent the comparative advantage of the Serbian Armed Forces when supplying food products in conditions of disruptions on

the market. In conditions when there is not a sufficient amount of goods on the market, the Serbian Army is not forced to make purchases at the same time, because it can rely on its own reserves. Of course, this is not an adequate solution and is not applicable in the long term, because the procurement will still have to be carried out at some point. Procurement in such conditions will either not be possible or will be done at very high prices. The reason against strict reliance on the application of this solution is the storage costs, which are certainly not negligible. The existence of optimal quantities of food products at all levels in the Serbian Army is still a good form of protection against short-term market disturbances. In case of insufficient supply of some food products, the Serbian Army has the option of using the republic's commodity reserves, which was the case in the past, in the form of a loan. This item represents the most important link in the supply in the event that the capacities of the reserves of food items in the Serbian Army are exhausted.

The solution for supply in conditions of disruptions on the market can be the interventional import of food products that are missing on the domestic market. The state certainly resorts to this measure in order to stabilize market disturbances. The Serbian Army, as a state institution, has priority in such imports. This implies that it has the advantage of taking certain quantities of critical food products before they enter the market. All these measures, by which we mean reserves of food products in the Serbian Army, the use of the Republic's commodity reserves and eventual intervention imports, have been used in practice in the past and have proven to be good solutions. A higher degree of security in the supply of food products at the state level, including the Serbian Army as part of it, could be achieved by applying the so-called marketing concept. The marketing concept means purposeful production, i.e. the production of those goods for which there is a demand on the market. The general setting of the marketing concept is that both parties are satisfied, both the consumer (in this case the Serbian Army) and the producer, i.e. the trader.

In the conditions of market disturbances, the Serbian Army can consider several alternative solutions for the supply of food products. Here are some possibilities:

- reducing dependence on external sources: The army can increase its own food production through military farms or cooperate with local farms to provide part of the required food. This can reduce dependence on external sources and ensure continuous supply.
- creation of strategic food reserves: The military can establish strategic food reserves that are kept for emergency situations or periods of market disruption. These reserves can be canned or frozen to extend their shelf life.
- diversification of supply: Instead of relying on a single source of supply, the military can diversify its food suppliers. This may include establishing contracts with multiple suppliers to reduce the risk of supply disruptions.

- strengthening of logistics capacities: the Serbian Army can invest in logistics capacities and infrastructure in order to ensure an efficient supply of food products even in conditions of market disruption. This may include improving storage capacity, transportation networks, and information systems for inventory tracking.
- development of business continuity plans: The Serbian Army can develop business continuity plans that foresee scenarios of disruptions in the food market. These plans should include the identification of alternative sources of supply, procedures for managing food reserves, and mechanisms for monitoring and responding to changes in the market.

Conclusion

Bearing in mind the importance of the market in supplying the Serbian Army with food products and the influence of numerous factors on the imbalance of supply and demand, it was necessary to carry out appropriate market research and define the most influential factors. Apart from the market, the organization of supply in the Serbian Army is also of great importance.

The market is the main source for supplying the Serbian Army with food products. In the Republic of Serbia, it is unique, and prices are formed under the influence of supply and demand. The offer is represented by agricultural products that go into circulation unprocessed, as well as products of the food industry. The ratio of supply and demand, i.e. production and consumption, indicates self-sufficiency in most food products in the Republic of Serbia. Serbia. There is a bigger deficit only in rice, fish, vegetables and southern fruits. The state is the main regulator of the market and, in case of need, influences through the price system (protective and maximum prices), as well as by providing incentives for the cultivation of certain plant crops and types of livestock. Measures to protect the domestic market include the regulation of import quotas and levies. As far as the world market is concerned, there is an increased turnover of processed products compared to primary products.

The most influential factors that create market disturbances can be global or local in nature. The main influence is the economic crisis with all its causes and consequences, the decline in production, inflation that affects price growth, as well as the lack of investment in agriculture and the food industry. Disruptions are often artificially caused by the interests of big capital, but also sometimes by bad state economic policy measures, as well as low purchase prices of primary agricultural and food products in order to protect the living standards of the population. Solutions for supply under these conditions are primarily adequate reserves in the capacities of the Serbian Armed Forces, which can be used to intervene in the event of short-term disruptions. In those situations, the Serbian Army can use the republic's commodity reserves in the form of a loan, and there is also the possibility of the state resorting to interventional imports in case of need. For the supply of food products during a longer period of market

disruption, one of the solutions can be agricultural production within the military institutions, which operate as income institutions within the Ministry of Defense of the Republic of Serbia.

Conflict of interests

The authors declare no conflict of interest.

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