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ECONOMICS

TRENDS IN THE DEVELOPMENT OF THE WORLD FOOD MARKET

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Annotation. *The research is aimed at identifying the factors of the forming influence and trends of the world market for the main types of food: cereals, meat, vegetable oil, milk and dairy products and sugar. The main trend in the development of the world food market is the steady growth of its volumes in both physical and monetary terms. The factors leading to the growth of the global food market are the increase in consumption, which is conditioned by an increase in people's incomes against the backdrop of accelerated technological and social development of developed and developing countries, as well as an increase in the population. It has been established that world consumption growth rates exceed the growth rate of production in the majority of commodity positions, namely: cereal, sugar, meat and dairy products. Thus, the main factor driving growth in food prices is demand, which grows faster than production.*

Key words: *world food market, trends in the development of the world food market, food consumption, world food prices, factors of development of the world food market.*

Problem statement. The accelerated technological development of the industrial and information-communication sectors of the world economy in the last three years is accompanied by an increase in food shortages. In today's post-industrial world, we are observing contradictory trends in increasing the number of mobile and Internet connections in the poorest regions of Africa, Asia, and Latin America, while simultaneously increasing the number of people suffering from food shortages. So we can say that scientific and technological progress does not provide a solution to the problem of food shortages. And the deterioration of the environmental situation, population growth and the spread of armed conflicts only deepen the corresponding range of problems, giving them global significance.

Under current conditions, the price, quantitative and structural trends of the world food market are becoming important factors of world order. On the basis of their analysis, an informational basis for forecasting the further development of a corresponding segment of international economic and political relations, as well as strategies of economic activity of large commodity producers is determined. This information is relevant for identifying the possible risks of socio-political destabilization or its deepening at the global and regional levels.

Research objective. The presented research is aimed at identifying the factors of the forming influence and trends of the world market for the main types of food: cereals, meat, vegetable oil, milk and dairy products and sugar.

Analysis of the latest research and publications. A large number of studies are devoted to the research problems of the development of the world market of basic food products. Among the main factors influencing the price and quality of wheat A. Enghiad A., D. Ufer, A. Countryman, D. Thilmany call climatic conditions, yield, energy prices and global demand [1].

The study of J. Ali, E. Pappa is devoted to the structural changes in the global meat market, characterized by an increase in the proportion of white meat in the markets of developed countries[2].

The growth of the global economy as the main factor in increasing the demand and peculiarities of the oil industry in the world economy, expressed in increasing demand for health-promoting oils and fats in developed countries, and the energy mix in developing countries, have been studied by J. Parcell, Y. Kojima, A. Roach, W. Cain [3].

Dependence of the main trends in the development of the world food market on the level of economic activity of the leading world economies was proved by K.S. Brenzovych, O.I. Dubliak, L.V. Strashinskaya, A.G. Goncharuk, [4-6].

Research results. The dialectic of socio-economic development is reflected in the fact that negative trends in the context of social demography can be considered by individual players as additional opportunities for economic development. Thus, the shortage of food in some regions may be a factor in diversifying export flows and increasing production of products that are in high demand or rising in price.

The problem of food shortages has begun to deepen over the past three years. According to the Food and Agriculture Organization (FAO) estimate in 2016-2017, the share of the world's population suffering from food shortages has increased to 10.9%, which is 820.8 million people.

The hardest is the situation in Asian countries, where 515.1 million people suffer from food shortages, or 11.4% of the population. In African countries, the number of hungry people is 256.5 million people - 20.4% of the population. In Latin America, the number of starving is 32.3 million people - 5.4% of the population [7, p. 4-6].

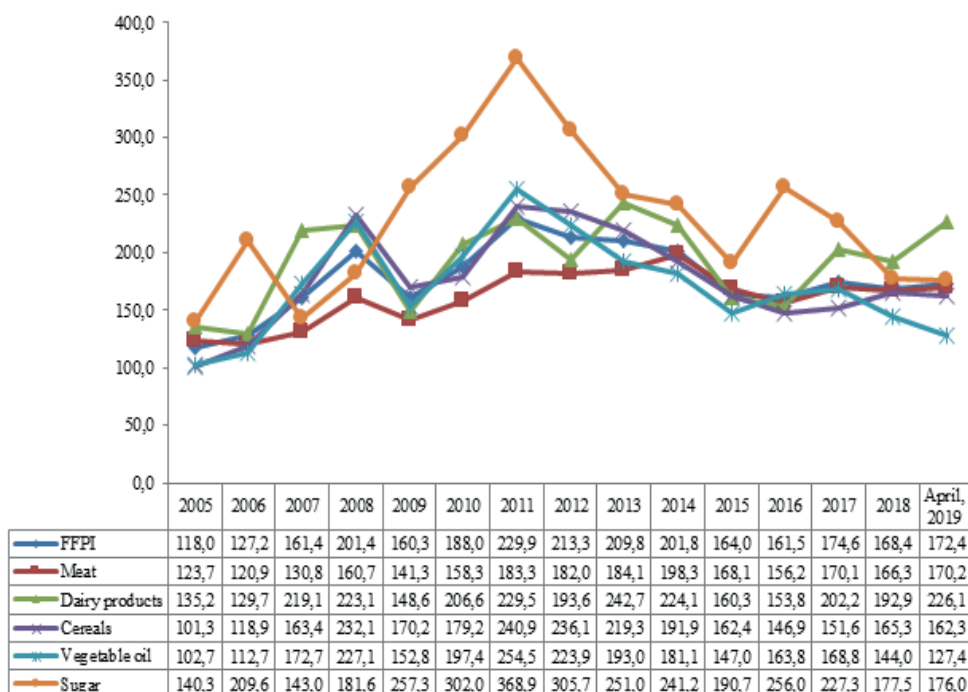
In order to illustrate the thesis about the unevenness of technological and product development, the dynamics of the level of penetration of mobile communication and the Internet for the period 2016-2018 in the above-mentioned regions of the world was analyzed. The level of penetration of mobile communications has increased in the countries of Africa by 0.9%, in Asia - by 19.2%. The number of individual Internet connections has increased in Africa by 35.5%, in Asia by 23.7% [8].

The given statistics indicate that problems of industrial and technological development are solved more quickly and effectively than problems of food shortages. Typically, the differentiation of regions and countries according to the level and quality of food consumption has objective natural, climatic, economic and political preconditions. A relevant fact in the relevant context is the conclusion made by FAO experts in 2017

that the cause of most recent manifestations of hunger was the increase in the number of military conflicts and adverse climate change [9].

An analysis of the dynamics of world food prices suggests a steady trend towards their overall growth. Periods of decline in food prices traditionally coincide with economic crises and economic slowdowns. Thus, in the analyzed period, world food prices reached the lowest levels in 2009 and 2015-2016.

The FAO Food Price Index (FFPI), which consists of average values of the price indices of five commodity groups relative to the average price for 2002-2004 (2002-2004 = 100) of the world price for the corresponding products, was the most widely distributed in the relevant field of research., Fig. 1.



**Formed by the authors on the materials of the source [10].*

Figure 1 - Dynamics of FAO Food Price Index

From the presented dynamical rows it is clear that since the introduction of the updated Food Price Index with the base period in 2002-2004 in one of the product groups, the price did not fall below the base.

Based on the analysis of trends in the field of production, export and import of agricultural products for the second half of 2019, it is possible to forecast a gradual increase in prices for meat and dairy products within 3%. Prices for cereals and sugar have stabilized and no significant fluctuations are expected. The price of vegetable oil has a dynamics to decrease in the range of 3-5%.

In our opinion, the list of the main factors that determine the overall growth of food prices are:

- growth of consumption of products against the backdrop of population growth and general socio-economic progress;
- Situational tendencies of the development of the world economy;
- deterioration of climatic conditions and unfavorable forecasts of agricultural production.

The main trend towards a general and sustained increase in the price of food products is formed under the influence of an increase in food consumption, which is conditioned by the growth of the population, the development of the world economy (the world GDP has doubled since 2000), as well as the steady growth of economies and living standards in Asian countries.

Current fluctuations of prices for individual food products groups occur under the influence of situational tendencies. Thus, the global tendency to reduce energy prices, which decreased during the first half of 2019, caused a downward impact on world sugar prices. This was due to the fact that manufacturers switched to sugar cane processing for sugar instead of ethanol.

The current situation in many segments of the world food market clearly demonstrates dependence on climatic factors. So, the rise in the price index for corn in April 2019 is due to deterioration of forecasts for its crop in the United States. At the same time, favorable prices for wheat harvest are balanced by the general price index of cereal products. Unfavorable weather conditions have led to a decrease in the projected yields for rape in Europe, which has led to an increase in the price of rapeseed oil. The increase in dairy prices has been linked to drought in the Pacific basin countries, which has led to a decline in export supply and adverse weather conditions in Europe, which has led to a decrease in milk production.

Growth in food consumption is a major factor driving growth in world prices. Based on the analysis of information on the volume of production and consumption of basic food products, one can conclude that in most regions of the world, their consumption is increasing faster than production. The corresponding trend leads to the formation of dissatisfied demand and the growth of food prices, tabl. 1.

The general statistics on cereal products are characterized by exceeding annual rates of consumption over the rates of production in all regions of the world. Moreover, the reduction in cereal production in Africa, South America, Europe has led to a decline in global production volumes in the 2018-2019 biennium in the trading year below the level of the previous period. The corresponding shifts were accompanied by an increase in the price index for cereals in 2018 by 9%. It should be noted that Europe was the only region that cut cereals consumption in that period.

Oil violates the general tendency to exceed the growth rates of consumption over production. The corresponding excess is observed only in Asia and Africa. Worldwide oil consumption increased, but its growth rate was less than 1.7%. The corresponding imbalance in consumption growth and oil production resulted in a 24.8% decrease in the price index.

Table 1

**Annual rates of production and consumption of basic products in the
2018-2019 marketing year relative to the previous period,% ***

Region	Cereals		Oil		Sugar		Meat		Dairy products	
	Production	Consumption	Production	Consumption	Production	Consumption	Production	Consumption	Production	Consumption
Asia	100,1	101,7	101,5	104,2	101,9	102,5	101,3	101,7	103,6	103,8
Africa	97,6	100,6	101,9	103,6	100,8	105,4	101,2	100,7	101,1	101,2
South America	90,3	102,6	110,9	104,9	100,7	100,5	100,4	100,5	101,1	101,3
North America	102,4	103,2	104,1	101,3	100,0	101,6	102,6	102,2	101,3	102,1
Europe	92,7	98,8	100,4	98,3	95,9	101,5	101,7	101,4	100,7	100,8
Oceania	85,5	100,7	64,9	100,0	104,0	108,3	103,3	100,8	101,0	100,6
World	97,9	101,5	104,6	102,9	100,4	102,5	101,5	101,5	101,9	102,2
Developing countries	98,6	101,9	106,5	104,3	101,1	102,6	101,2	101,4	103,1	102,1
Developed countries	96,8	100,6	102,0	99,7	98,4	101,8	102,2	101,7	100,8	102,3

* Calculated by the authors according to the source [11]

Consumption and production of sugar is also increasing worldwide. A relative decline in production occurred in Europe. And excess production rates over consumption rates occurred in South America for reasons that have already been mentioned above. The global growth rate of sugar consumption has exceeded the rate of production by 1.5%. But the availability of large inventories of goods that were produced in previous years and the diversification of production activity in the area of sugar cane processing caused a decrease in the price index in 2018 by 49.8%.

World consumption of meat has grown by 1.5% per year. The list of regions in which the pace of production exceeds consumption rates include: Africa, North America and Europe. The equilibrium in the production and consumption of meat determines the stable condition of world prices with small situational fluctuations within 3-5%.

World production and consumption of milk and dairy products in 2018 increased quite equilibrium with a difference of only 0.3%. Most production and consumption have increased in Asia. The market equilibrium stabilized and reduced prices in 2018 by 9.3%.

Comparison of the dynamics of production and consumption of basic products by the grouping of countries by degree of development confirms the well-known fact that in developing countries consumption growth of grains, oil and sugar exceed developed countries, which in turn consume relatively more meat and dairy products products.

The imbalance between production and consumption, population and living standards makes it necessary to create export-import flows. According to the WTO, the

European Union (28) was the most powerful exporter (USD 647 billion - 37.4%) and the importer (649 billion US dollars - 36.6%) of agricultural products in the world in 2017. In terms of exports, the first five countries also included: European countries - Extra-EU (28) (10%); US (9.8%); Brazil (5.1%); China (4.6%). By volume of imports: Extra-EU (28) (10%); China (10.3%); US (9.1%); Japan (4.4%) [12].

Trade between countries is constantly evolving on the basis of comparative natural and economic competitive advantages, international specialization and cooperation. Thus, the United States, being the largest exporter of soy, corn, wheat and ready-made food, is at the same time the largest global importer of alcoholic and non-alcoholic beverages, coffee, meat and bakery products. In fifth place in the world in terms of import of food is Japan. This is due to the limited resources of the country and the shortage of food products of its own production. Japan independently provides itself with rice, fruits, vegetables and seafood, but at the same time is import-dependent of cereals, legumes and corn.

The volume of imports of agricultural crops and livestock products in terms of value has a tendency to increase. Thus, imports of agricultural products over the past 15 years have increased by 35%. Significant was the fall in volumes of export-import in 2008-2009, which were the years of the global financial crisis, in which countries reduced trade volumes.

According to WTO experts, China is the reason for the decline in global trade in 2016 both in general and in the food sector in particular. Data on China's foreign trade figures in 2016 indicate a decrease of 14.3% [12].

A comparative analysis of production, consumption, imports and exports in the main segments of the world food market in 2016 and 2018 provides an opportunity to specify the trends of its development. The summarized results of the analysis are presented in the table 2.

The general statistics of world grain trade indicate a decrease in their production in the last two years of 2016-2018 by 0.2% (2601.2 million tons). Consumption, import and export in 2018 increased in the range of 2.9-3.3%.

The production of wheat (727.9 million tons), import of those exports in 2018 decreased compared with 2016 in the range of 2-4.2%.

The highest grain crops are the growth rates of production (1068.9 million tons), consumption and trade in corn. Compared to 2016, corn imports grew by 12.2% and exports by 11.4%.

The rice market is one of the most balanced in dynamics of the basic quantitative indicators. The increase in the production of rice in 2018 by 2,4% (513 million tons), corresponded to an increase in consumption - 2,3%. Imports and exports of rice increased by 5.1%.

World oil and fat production in 2018 (91.1 million tons) grew by 4.5% compared to 2016. The increase in consumption in Asia and Africa has led to an increase in export-import operations by more than 5%.

Total world production of meat in 2018 (335.1 million tons) and consumption

increased by more than 4%. The high growth rate of meat consumption in Asian countries has affected the overall increase in exports and imports.

Table 2

Results of analysis of development trends in the main segments of the world food market for 2016 and 2018 *

Product group	Production	Import	Export	The largest importing countries, million tons	The largest exporting countries, million tons	The highest consumption, million tons
Cereal	-0,2%	+3%	+2,9%	China (33,3) EU (27) Japan (23,9)	USA (98,3) Argentina (44,5) Russia (44,1)	China (539,1) USA (370,2) India (244,5)
Wheat	-4,2%	-2%	-2,4%	Egypt (12,5) Indonesia (10,5) Brazil (7,2)	Russia (35,5) USA (29) Canada (24)	EU (128) China (122,6) India (97,3)
Maize	+2,7%	+12,2%	+11,4%	EU (17,5) Mexico (16,7) Japan (15,4)	USA (62) Argentina (27) Brazil (25)	USA (322) China (249,7) EU (80,5)
Rice	+2,4%	+5,1%	+5,1%	China (5,8) Nigeria (2,5) Indonesia (2,2)	India (12,2) Thailand (10,8) Viet Nam (7)	China (145,4) India (100,2) Indonesia (48)
Oils and fats	+4,5%	+5,4%	+5,3%	India (15,7) EU (12,6) China (11,2)	Indonesia (30,9) Malaysia (18,9) Argentina (6,9)	China (43,9) EU (33,4) India (26)
Meat	+4,3%	+6%	+7,9	China (6) Japan (3,8) Mexico (2,3)	USA (8) Brazil (6,9) EU (5,1)	China (92) EU (44,8) USA (41,2)
Milk and dairy products	+0,6%	+5,8%	+5,5%	China (13,6) Algeria (3,8) Russia (3,4)	EU (20,3) New Zealand (19) USA (11,9)	Information is not provided
Fish and fishery products	+10,8%	+16,7%	+16%	EU (60) Extra-EU (31,6) USA (22,5)	EU (37,6) Norway (12,3) China (24,8)	Information is not provided

* Calculated by the authors according to the sources [9; 11].

The production of milk and dairy products in 2018 (826.9 million tons) was only 0.6% higher than the indicator in 2016. World growth of volumes of consumption led to an increase in prices and export-import operations by more than 5%.

The production of fish and fish products increased by more than 10% in 2018. In the structure of the fish industry there was an increase in the share of production within aquaculture by 2% in relation to the volume of industrial catch of fish. A large number of European countries, including Ukraine, provide part of the domestic needs for fish products by means of aquaculture [13].

The analysis of the dynamics of the main segments of the world food market gives grounds to state that there is a steady tendency to increase the volume of consumption and production. The corresponding conclusion is confirmed by information from the WTO that in the period from 2000 to 2018 the volume of world trade in agricultural

products in monetary terms has more than tripled. The average annual increase of this indicator is more than 6%, and if in 2000 it amounted to 570 billion dollars. In the USA, in 2018 it reached 1.7 trillion US dollars [12].

Ukraine occupies a significant place in the world food market. In 2018, 3.4% of the world wheat harvest, 2.3% of fodder grain; 2.7% corn; 3.5% of oilseeds; 1% sugar 0.7% meat; 1.2% milk and dairy products were produced on its territory.

The largest in the world food market are Ukraine's share of corn exports - 13.9%; fodder grain - 13.3%; wheat - 9.2%; oils - 6.8%, oilseeds - 2.7%; chicken meat - 2.3%; milk and dairy products - 1.1%.

Conclusions. As the main or fundamental trend of the world market of basic food products, it is necessary to indicate the steady growth of its volumes in physical and in monetary terms.

The factors leading to the growth of the global food market are the increase in consumption, which is conditioned by rising incomes against the backdrop of accelerated technological and social development of developed and developing countries, as well as an increase in the population. The role of China as the largest consumer of food is quite significant in these processes, India's influence is also increasing. Among the most influential players in the world food market are also EU and US.

World growth rates of consumption exceed the growth rate of production in most commodity positions, namely: cereals, sugar, meat, dairy products. Thus, the main factor driving growth in food prices is demand, which grows faster than production.

The corresponding trend leads to the fact that the poorest countries in Asia, Africa and South America are not able to meet their food needs. The food crisis destabilizes the political situation and is one of the causes of armed conflicts, which in turn provokes numerous waves of illegal migration to developed countries. In order to address the issue of hunger in the Third World, it is necessary to increase the volume of international humanitarian assistance and, under the auspices of the UN, to strive to secure the conditions for the economic development of the poorest countries.

The analysis of the fundamental trends of the world market of basic food products should be the basis for the formation of a national strategy for the development of agriculture and food industry in Ukraine. Given the current state and taking into account established trends of development, it is possible to forecast the further growth of export opportunities in the main segments of the world food market. Ukrainian producers, given their rather limited financial and technological capabilities, should stick to the strategy of preserving their market share with a focus on growing demand in Asian and African countries.

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