

# Food security in Ukraine: Indicative analysis of problems and perspectives of Their Solution

Lyudmila Shymanovska-Dianyeh<sup>1</sup>, Nazariy Popadynets<sup>2,3</sup>, Svitlana Hrynkevych<sup>4</sup>, Svitlana Shults<sup>3</sup>, Tymur Ishcheikin<sup>1</sup> and Roma Staryk<sup>5</sup>

<sup>1</sup>Department of Management,

Poltava University of Economics and Trade

*Koval str, 3, 36014, Poltava - Ukraine*

<sup>2</sup>Department of the Economy and Marketing,

Scientific-Educational Institute of Entrepreneurship and Perspective Technologies of Lviv Polytechnic National University

*Horbachevskoho str, 18, 79044, Lviv - Ukraine*

*Address separated by commas - Country*

<sup>3</sup>Department of Regional Economic Policy at M. I. Dolishniy Institute of Regional Research of NAS of Ukraine,

*Kozelnytska str. 4, 79026, Lviv - Ukraine*

<sup>4</sup>Department of Marketing and Logistics, Lviv Polytechnic National University

*S.Bandery str. 12, 79013, Lviv - Ukraine*

<sup>5</sup>Lviv Vocational College of Food and Processing Industry of the National University of Food Technologies

*I.Pulyuya str. 42, 79060, Lviv - Ukraine*

**Abstract**— the paper aims to reveal the advantages of the food behavior of the Ukrainian population and the problems of forming of domestic consumer demand in the context of indicators of the country's socio-economic development. Obtained results characterize the food security condition of Ukraine. Maintenance of food independence in every country is and will always be a very urgent matter from the viewpoint of the constant need for proper addressing the primitive necessities of the population for food by the state. The advantages and problems of food security organization in Ukraine are characterized based on the assessment of its Global Food Security Index rankings and indicators of the country's development level. Growing indicators of food accessibility and quality/security and improving the level of consumption of certain food groups and nutrition standards, in particular in terms of their dietary diversity are the indisputable advantages of Ukraine. Indicative analysis of food security policy implementation in Ukraine has shown that the dynamics of GDP, trade volumes, production scales, purchase power and inflation dynamics impact the consumer capacities of the Ukrainian population. The paper substantiates that the perspectives of food security in Ukraine depend on the support of own production, the stability of food provision, growing quality of products, adequate management of national food reserves, rational pricing and development of trade and transport infrastructure. The paper aims to reveal the advantages of the food behavior of the

**Ukrainian population and the problems of forming domestic consumer demand in the context of indicators of the country's socio-economic development. Obtained results characterize the food security condition of Ukraine.**

**Index Terms**— market, security, consumer goods, consumption, factors.

## I. INTRODUCTION

Food security as the component of economic security guarantees the welfare of the population and shows the dynamism and efficiency of national economic development. In the XXI century, food security maintenance is an issue of not only national but also regional and global levels. Attention paid to this issue in the USA and many African, Asian and European countries testifies to that. The level of food security is to some extent the feature or the characteristics of a country's development level as well as certain evaluation of its population's welfare.

The issue of food security is a complex one related to the range of important questions. When it comes to the need to provide food security, the problem of efficiency of domestic

food production in both the quantitative aspect and correspondence with the demand comes to the fore. Special attention in the system of food security maintenance should be paid to the development level of logistics and trade systems, which provide food supply to the population. On the other side of this problem, we place the purchasing power of population. It directly depends on the level of population income and other financial and economic parameters of national economy stipulated by price fluctuations at a food market, peculiarities of energy sources market and naturally – the national culture of food consumption. Nowadays Ukraine faces the problems of food security in various fields of state social and economic policy, therefore the maintenance of food security along with the political and economic ones are the issues of utmost importance.

## II. RECENT RESEARCH AND PUBLICATION ANALYSIS

A country's food security is an interdisciplinary social and economic phenomenon. It characterizes a country's capacity to provide balanced nutritious food with qualitative and safe products in conditions of proper physical and economic access to them based on the country's external food independence. Nowadays there are multiple approaches to the research of the indicators' separate or cumulative impact on the development of the national economy and the strengthening of food security.

Bureau, J.-C., Swinnen, J. F. M. (2018) in their research examine the evidence of EU policy's impact on the global food security, concentrating on several political spheres: agrarian policy, policy in the sphere of bioenergy, nutrition standards, trade and development policies (food assistance). The authors emphasize that fluctuations in food prices and the impact of EU policy on food security of poor countries depend on whether they are the consumers or the producers, either importing or exporting countries.

De Pieri B. et al (2017) in their research reveal that although high-income countries have been considering their population to be protected in terms of food security, economic and financial crisis undermines such an assumption even in very rich countries.

Toderasc S.A. (2017) defines that EU countries used to grant the retail trade with a major role in food security strengthening, which shifted to supermarkets and shops in time. The new role of institutes called wholesale trade provided jobs for a non-qualified workforce in the chain of food supply to the retail trade.

Nagyová L. et al. (2016) confirms that production efficiency is one of the decisive factors influencing the economic stability of agriculture, in particular in terms of food items. It is closely related to the policy of assistance, which partially provides enterprises' financial accessibility. EU subsidies are a very important instrument to maintain the economic stability of the economy in general and food provision in particular.

Bingxin Yu and Lingzhi You (2013) revealed that the developing countries, which are unprotected, require various methods of political assistance to solve their unique food and economic problems. They also emphasize that the typology of

food security and the links between agricultural capacity and food security contribute to a better understanding of the efficiency of various political interferences with the conditions of a country's economic development.

Regarding the issues of food security in Ukraine, the authors define major approaches that promote the forming of purchase behavior of consumers, in particular in terms of food items and reveal the fact that income of the population, i.e. its purchase power, has the most impact on the consumers' purchase behavior. A general model of differences in purchase behavior at consumer markets of the EU Member States and Ukraine is developed, testifying to the availability of significant differences in purchase behavior among the EU Member States and between them and Ukraine. The biggest demand fluctuations among the major consumer basket products are found for bread, cereals and fruits. The least fluctuations of consumer preferences are peculiar to meat, fish and seafood. The research concludes that consideration of the revealed differences helps the domestic consumer to not only take into account one's income when buying a product, but also to link purchase behavior to national traditions and level of awareness (Popadynets, Shults, & Barna, 2017).

While mapping the issue of the development of the Ukrainian national economy in the indicative display of its food security, it is worth mentioning that food security is the component of not only agrarian but also an economic policy of the state. The awareness about its nature and consequences is the foundation of the macroeconomic state's impact on the development of the national economy.

Having analyzed the available approaches to the definition of food security (Afonina, 2014; Kyrylenko et al., 2017; Kozak, 2014; Kyrylyuk, 2015; Panukhnyk et al., 2019; Vasylytsiv et al., 2017), we conclude that it is the component of the concept of national economic security. It is aimed at maintenance of the level and quality of the national economy's development to meet the needs of individuals and society to the fullest extent, to improve the living standards of the population and to create sufficient state reserves and active trade balance and balance of payments.

## III. RESEARCH METHODOLOGY AND METHODS

The research input data consists of official statistical data, Global Food Security Index data and scientific literature on food security foundations and national economic development.

The research is grounded on historical-logical method – while researching the theoretical foundations of food security and revealing the major features of national economy development; methods of theoretical generalization, system and historical-economic analysis – to examine the genesis of Ukraine's economic development and to define main obstacles and explain the directions of its further development; system approach and analysis and synthesis methods – to ground the conceptual foundations of food security; calculative-constructive method – to analyze the modern condition of national economic development in Ukraine, to define its main development indicators and to determine the level of food

security in the country.

The paper aims to reveal the advantages of the food behavior of the Ukrainian population and the problems of forming of domestic consumer demand in the context of indicators of the country's socio-economic development. Obtained results characterize the food security condition of Ukraine

#### IV. MAIN RESEARCH RESULTS

Strengthening the country's and its regions' food security is related to the guaranteed sustainable and sufficient level of food production that completely meets the needs of the population. Food security can be achieved only in case of the guaranteed physical and economic access of the population to food and if agricultural production is steadily supplied in the needed quantities to both regional and global markets. Provision of the population with qualitative food that corresponds to the requirements and is safe for life and health is the final element of food security.

A solution to the problem of food security maintenance both at global and national levels is based on the growth of the volumes of food production and consumption, which correspond to the requirements and are safe for life and health. All this is possible only in case of proper socio-economic development of the national economy. Moreover, one should understand that food needs are growing and, in so doing, are changing the approach to conducting of agricultural production and the consumers' preferences.

To assess the level of food security across countries in 2012 the Corteva Agriscience™, Agriculture Division DowDuPont and analytical agency The Economist Intelligence Unit (EIU) developed the Global Food Security Index (GFSI) (The Economist Intelligence, 2012). The major reason to suggest the Index was the fact that global farming faces the difficult challenge in the foreseeable future – to optimize agricultural production in such a way that less natural resources are used, there is a less negative influence on the surrounding environment and the production grows. Therefore, DuPont specialists raised an issue of the lack of a single global index to display real problems with food in the countries. The first report was released in 2012 and comprised a detailed analysis of the food situation for 109 countries in the world. Later it was extended to 113 countries. At first, the Index was calculated by 3 major criteria: financial accessibility of production, availability of food variety, quality and safety of products. These criteria comprised 28 parameters to define the main pros and cons concerning food security in developed and developing countries. These parameters are the basis for the calculation of indicators to form the country's position in the Global Index. Meanwhile, food security is defined here as the full access to qualitative, healthy and affordable food (Myhailushkin, & Barannikov, 2013).

General GFSI picture shows major problems and flaws of food security organization for a state and business to take further measures to improve it. Annual Index calculation contributes to observing and evaluating the dynamics of food security development in a country.

Moreover, each year the criteria that define the GFSI are reviewed and supplemented to characterize the situation broader on the global scale. That is why in 2017 GFSI was supplemented by the fourth criteria related to climate changes – natural resources and resilience. It defined the new approach to agriculture in terms of preserving natural resources and adaptation to climate change – sustainable agricultural production that contributes to the evaluation of the impact on the environment in the long-term perspective (Filipov, 2016).

The GFSI report released in 2018 revealed that Singapore for the first time took the leading position in the rankings in 2017 – partially due to GDP per capita growth almost by 30% since 2012, partially due to consumer expenditures on food that amount to 6.9%. Singapore also has the lowest duties on imports of agricultural production among all the countries covered by the Index (Economist Intelligence Unit, 2017).

Regarding Ukraine, its position in the rankings has been steadily falling in the last five years and nowadays the country is ranked 63rd with general indicator 55.7. Vietnam (62nd place) and Morocco (64th place) turned out to be Ukrainian neighbors in the rankings. If Singapore is the leader by the Index, the last position is occupied by Burundi (113th place). EU countries mostly take higher positions in the rating (Corteva, 2018).

Moreover, the growth of parameters of availability and quality/safety of food products in Ukraine should be emphasized. Herewith it should be noted that the general indicator for Ukraine has increased by 1.8 points, while the indicator of quality and safety of food products has increased by 4 points up to the 46th place. The availability indicator has grown by 3.6 points up to the 73rd place (Economist Intelligence Unit, 2017).

According to GFSI, a small percentage of the population below the global poverty level (99.8 points out of 100 possible) is the main advantage of the country. Moreover, food product safety (98.4 points), low level of production losses, moderate tariffs on agricultural products' import, the sustainability of production volumes and availability of food security programs are also among the strengths (Economist Intelligence Unit, 2017). The biggest problems named by experts are low GDP per capita level, insufficient volumes of funding of scientific research and advanced developments in the agrarian sector and political instability risks. Ukrainian agricultural producers also have problems with access to cheap credits.

GFSI for 2017 shows that Ukraine's provision with food is estimated at 98.4 points with a price level of 84.6 out of 100. The availability of products on the Ukrainian market annually expands; however, great availability not always means the quality (Economist Intelligence Unit, 2017).

It is worth mentioning that in Ukraine vegetable products dominate animal products (only 29%) among consumer food products. It is an average level of consumption of meat and dairy products, in the first place in terms of their high price rather than gravitation towards healthy food. Thus, in 2017, food expenditures in Ukraine amounted to 51.6% - the highest rate among European countries (State Statistical Service of Ukraine, 2018). According to GFSI, food consumption in the

share of households in 2018 reduced by 20.7%, which means that Ukrainians are buying fewer products (Economist Intelligence Unit, 2017).

Analytics of Economic Discussion Club show that average food consumption has improved by 5 out of 10 main food groups, in particular: meat consumption has grown by 0.3 kg, fish - by 1.2 kg, fruits - by 3.1 kg, potatoes - by 3.6 kg, eggs - by 6 units (Economic Discussion Club, 2018).

Herewith, milk and dairy consumption have reduced by 9.5 kg and amounts to 200 kg per individual a year, providing only 53% of the rational norm. Low rates of rational norm coverage can be observed across other food groups most valuable for a consumer: fish and fish products - 54%, fruits - 59%, meat, and meat products - 65%. Investment expenditures in animal production that stipulate long payback periods are the main reason thereof.

In 2018, the growth of consumed kcal per capita amounted to + 7.7%. It is an optimal rate because in recent years the number of consumed energy per capita has been constantly falling. If in 2008 the rate was 3 000 kcal / per capita / a day, in 2018 - only 2 700 kcal / per capita / a day (State Statistical Service of Ukraine, 2018).

The level of food norms in a country is one of the GFSI indicators. It is a complex indicator that shows the government's disposition towards the improvement of nutrition standards. It encompasses national dietary recommendations, national plan, and strategy of nutrition as well as monitoring and observance of nutrition norms. In Ukraine the indicator remains to be quite high compared to many countries, but it still reduces - in 2018 it reduced by 14.7% and now amounts to 65.4%. Moreover, dietary variety is gradually improving, this year the growth accounts for + 11.2%. Many people are nowadays increasingly turning to healthy food and the consumption of more vitamins. GFSI rates by the vitamin group grow in Ukraine in 2018: + 8.1% micronutrients, + 31% vitamin A, iron - by 3.3%, protein quality - by 6.6% (Economist Intelligence Unit, 2017).

In the developed countries, so far the animal protein (especially meat) is the main menu component. In Ukraine, meat production remains to be a quite difficult and complex process, and investment takes more than 10 years to pay off. In 2018, agricultural companies increased meat production by 2.1%, instead, the households reduced it by 3.7% (State Statistical Service of Ukraine, 2018). Economic Discussion Club data shows that in 10 months Ukrainian meat enterprises of all types produced 1 845 thous. tons in carcass weight, which is 0.2% more than in the relevant period of the previous year (Economic Discussion Club, 2018).

Therefore, in conditions of Ukraine's global development and reconstruction of the national economy in correspondence with modern conditions, the level of food security becomes an important factor in the maintenance of sustainable economic development. Along with other components of the economic system, it is the driving force of the country's economic development. Therefore, it is worth noting that the abovementioned GFSI is a logical manifestation of economic development in the recent years, which, unfortunately, hasn't been stable due to changes in foreign economic market

conditions and internal markets, in particular increased state interference with the distribution of financial resources, inconsistent state economic policy, lack of progress in conducting of structural reforms, political and economic instability.

In recent years, because of the difficult political situation, the Ukrainian economy, in general, has been functioning in extremely unfavorable conditions. Low economic activity in the countries that are the main trade partners of Ukraine and the loss of Russian Federation markets has affected its development. Starting since 2014, Ukraine's economic development has been characterized by negative tendencies in industrial production and construction. We can observe the deceleration of positive tendencies in the financial sphere and growing salary arrears and household services and energy sources debts.

However, in 2016 certain positive tendencies emerged, which gave the researchers reasons to assert the beginning of the exit of the Ukrainian economy from the deep crisis. GDP growth by 2.9% compared to the previous year testifies to this. Ukraine strengthened its positions in global investment attractiveness rankings by 1 point and investment activity improved: 3.1 billion dollars of foreign direct investment came to Ukraine. However, we can deem these positions to be too low, as far as the closest Ukrainian neighbors have much higher rankings. Thus, Poland rose from 25 to 24 place, Belarus from 50 to 37, Moldova from 47 to 44, Georgia from 23 to 16 place, Russian Federation lost its positions but still takes the 40 places (Doing Business Measuring Business Regulations, 2018).

Domestic consumer demand, in particular for food products, has remained at quite a high level and in recent years has been the major factor of business activity in the country. The increase in agricultural production volumes had a positive impact on the development of consumer demand in Ukraine. High rates of agricultural production have contributed to preserving of price policy in Ukraine.

While researching the country's economic development, the scientists in the first place pay attention to the parameters of economic growth: expansion of production scales, growth of output, increase of national income or Gross Domestic Product (Venher, 2016).

Comparison of GDP per capita rates with those of other countries in the world shows that Ukraine is ranked 159 among 225 countries, displaying the low level of the country's economic development. We can see from the Figure that Ukraine significantly lags behind the most economically developed countries. If to compare with the rates of 2013, when the GDP per capita rate was the highest in the analyzed period, Ukraine has lost 8 positions in the World Bank rankings in these years.

However, such a low level of national economic development can be explained by the impact of the range of negative factors of both objective and subjective nature.

Solving the problem of food security the country creates relevant conditions to provide the population with food products, in particular through their sales at the consumer market. Among the indicators of consumer market functioning

one can emphasize the trade parameters, in particular retail trade, consumer food and non-food items trade and services trade (Table 1).

These data highlight the relations between trade volumes and the level of economic development because the tendency of these parameters' dynamics is the same as the tendency of GDP and GDP per capita rates. In 2014-2015, the rate showed a

substantial fall in trade activity. Only in 2016-2017, it recovered by 4.5%-4.6% correspondingly. While analyzing the retail trade parameters one should also pay attention to the commodities structure of turnover and their origin. We can observe the ratio of food and non-food items at 40:60 accordingly, moreover, in 2014-2017, the share of food items increased by almost 3%.

TABLE 1. MAJOR PARAMETERS OF RETAIL TRADE IN UKRAINE IN 2000-2017

Year	Volume of enterprises' retail turnover, billion UAH	Including the share, %		Enterprises' retail turnover indices compared to the previous year, at comparable prices, %
		of food items	of non-food items	
2007	178233	35.3	64.7	129.5
2008	246903	34.4	65.6	117.3
2009	230955	40	60	79.1
2010	280890	39.5	60.5	110.1
2011	350059	38.9	61.1	113.2
2012	405114	40.2	59.8	112.3
2013	433081	41.1	58.9	106.1
2014	438343	41.3	58.7	90
2015	487558	41.1	58.9	80.2
2016	555975	41	59	104.5
2017	595675	42	58	104.6

Source: Compiled based on The World Bank Group (2018)

The share of sold goods, in particular the food items, at domestic market in Ukraine is an important indicator of

consumer market functioning that shows the country's economic development (Table 2).

TABLE 2. SHARE OF SALES OF CONSUMER GOODS PRODUCED IN UKRAINE IN 2008-2017

Parameter	Share of goods, %									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
All goods	64.5	63.1	67.4	64.3	61.9	58.9	57.2	57.8	58.1	55.8
Food items	88.2	88.2	88.4	88.2	87.2	86.3	85.5	85.6	85.2	84.8
Non-food items	52.9	51.2	54.7	50	47.2	41.9	39	39.5	39.3	35.6

Source: compiled based on The World Bank Group (2018)

Most of food items sold in trade networks of Ukraine are produced by domestic enterprises. The share of goods produced in Ukraine ranges by almost all groups. Fresh fruits, canned fruits and berries, vines and coffee are the only exceptions.

Saturation of consumer market with domestic goods is stipulated by the level of their production and import. The share of domestic goods sold at domestic market will also depend on the volumes of goods production at domestic enterprises, in particular food items.

In 2017, the food, beverages and tobacco production increased compared to the previous year by 4.4%. Production of meat and meat products increased by 4.5%, fish processing – by 15.6%, vegetable oil and animal fats – by 16.5%, sugar – by 36.2%, beverages – by 6%. At the same time, the dairy production reduced by 1.4%, bread and bakery products – by 2.3% (Table 3). While noting the tendency towards the growth of the volumes of sold food products, it is also important to understand that the increase in sales volumes at domestic market in UAH equivalent is mostly stipulated by the growth of prices. In particular, prices for food products grew in 2017 by 9%.

Consumer Price Index is an important indicator for the analysis of national economy condition in a country. In particular, high inflation level reduces the purchase power of

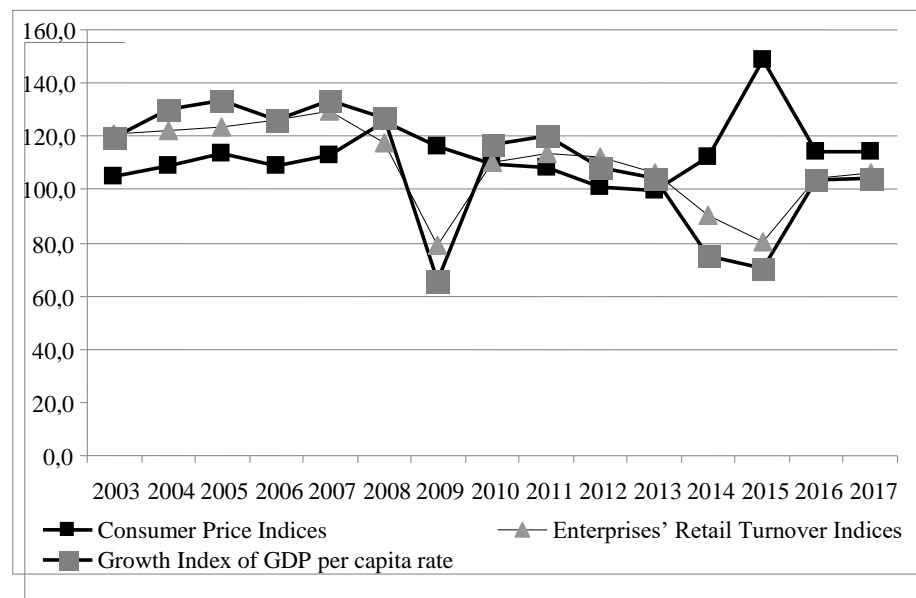
population, which, in its turn, affects the level of sales, the volumes of goods turnover, the enterprises' profitability and further the country's GDP. To confirm the truth of this statement we analyze the Consumer Price Indices, retail turnover volumes and GDP per capita rates in Ukraine in 2003-2017 (Figure 1). Maintenance of stable UAH exchange rate, increased funds depositing and saturation of food market (due to agricultural production growth) at the background of reduction of global prices for food had a significant impact on low inflation rates in 2010-2013.. In 2014, inflation dynamics changed drastically: inflation grew quickly and reached its maximum – 60.9% – in April 2015. In the first quarter of 2015 inflation growth was accompanied by GDP fall by 16%. At the end of 2014, inflation entered the galloping phase and the economy moved from the recession to deep depression. Because of the reduction of population income (real salary fall paces reached its historical minimum in 2015 – minus 30%) and effective demand, in particular, due to strict monetary policy, the paces of price growth had fallen by the end of 2015 down to 43.3%, however, they remained to be in the galloping inflation phase. Prolonged action of anti-inflation factors, the high basis of price level comparison and maintenance of currency stability contributed to further slowing down of price growth paces (Financial and Economic Analysis Office in the Verkhovna Rada of Ukraine, 2016).

TABLE. 3. OUTPUT OF MAIN FOOD ITEMS IN UKRAINE IN 2013-2017

Types of products	Production volumes by years					In percents to the previous year				
	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
Meat and meat products, thous.t	1342.8	1531.8	1480.8	1472.1	1592.3	100.0	114.1	96.7	99.4	108.2
Fruits and vegetable juices, thous.t	761.0	749.0	686.0	465.0	446.0	106.9	98.4	91.6	67.8	95.9
Natural canned vegetables, thous.t	125	118	144	145	143	81.2	94.4	122.0	100.7	98.6
Crude sunflower oil and its fractions, thous.t	3804	3403	4400	3716	4412	119.7	89.5	129.3	84.5	118.7
Margarine and consumable fats, thous.t	328	283	271	192	187	91.4	86.3	95.8	70.8	97.4
Milk and dairy, thous.t	1736.6	1837.0	1908.7	1691.8	1673.1	102.2	105.8	103.9	88.6	98.9
Flour and flour products, thous.t	5154.0	4983.0	4467.0	4139.5	3952.3	98.7	96.7	89.6	92.7	95.5
White crystal beat sugar, thous.t	2143	1262	2053	1459	1997	92.1	58.9	162.7	71.1	136.9
Sugar confectionary, thous.t	218	202	186	190	182	94.8	92.7	92.1	102.2	95.8
Spirits, million. dal	354.2	325.6	282.4	231.0	211.3	98.6	91.9	86.7	81.8	91.5
Waters and non-alcohol beverages, million. dal	278.7	255.0	234.6	218.8	234.5	100.6	91.5	92.0	93.3	107.2
Tobacco products, billion.units	93.9	86.1	86.0	92.9	98.2	98.3	91.7	99.9	108.0	105.7

Source: Compiled based on State Statistical Service of Ukraine (2018)

FIGURE. 1. CONSUMER PRICE INDICES, RETAIL TURNOVER VOLUMES AND GDP PER CAPITA RATES IN UKRAINE IN 2003-2017



Source: Compiled based on State Statistical Service of Ukraine (2018)

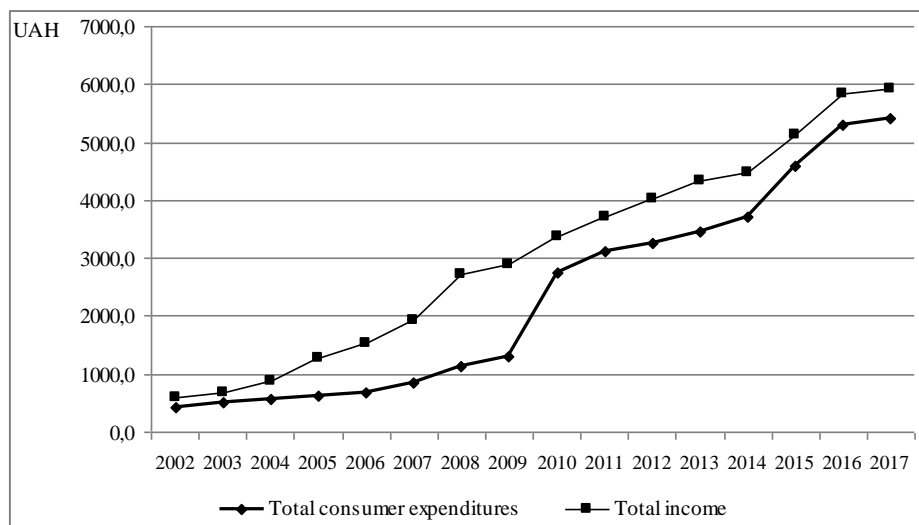
Another important factor that defines the condition of national economic development in Ukraine and maintains its food security is the level of population income and consumer expenditures (Figure 2).

The graph shows that the lion's share of households' total income was spent on consumption (70-74%), testifying to a rather low level of real income of the population.

Moreover, it is worth mentioning that the parameters of functioning and development of Ukraine's national economy mirror the changes in the level of the population's wellbeing and its social protection in the country. In particular, fluctuations in

the level of consumer prices for food items directly influence the welfare of the population. The substantial growth of prices for essential goods leads to the changes in the structure of expenditures, reducing the population opportunities to provide the quality of life. Such indicators as the level of food consumption, households' provision with non-expendable items and healthcare, education, recreation and culture expenses remain to be an important feature of population welfare improvement.

FIGURE 2. OVERALL AVERAGE MONTHLY INCOME AND CONSUMER EXPENDITURES OF POPULATION PER ONE HOUSEHOLD IN 2002-2017



Source: Compiled based on State Statistical Service of Ukraine (2018)

Despite the growth of households' income and nominal wages, high inflation and national currency devaluation in 2015 caused the fall in real wages and income. It contributed to substantial reduction of purchase power and lagging of households' demand by the structure of consumer expenditures behind the real needs and value priorities.

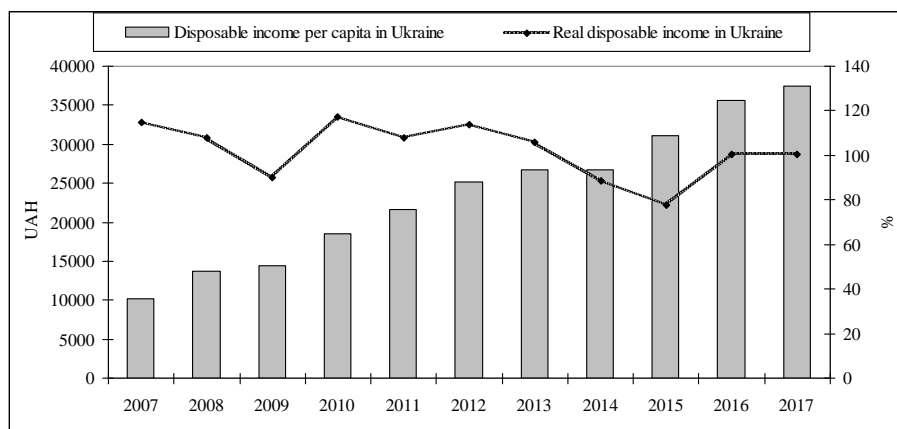
The population's welfare improvement depends in the first place on the level of average per capita income and if it is sufficient to meet the needs. Figure no. 3 shows that nominal income per capita in 2002-2017 is characterized by stable tendency. However, we have already mentioned that income growth is necessary but not sufficient condition of the improvement of population welfare.

Instead, the paces of real income changes look a little bit different (Figure 3).

Real income of Ukraine's population had a downward tendency in 2014-2015. Only in 2016-2017, the real income grew a little bit compared to the previous year (by 0.3% and 0.5% respectively). However, taking into account the previous fall, the level of real income of the population remains to be very low.

Salaries are the major source of households' income. They amount to almost 55% of households' income. Pensions, scholarships and social assistance account for 25-27% of income, entrepreneurship income – 4 - 6%, consumed production from domestic farms – 4-5%, relatives' support and other income – 6-8%.

FIGURE 3. DISPOSABLE INCOME PER CAPITA IN UKRAINE AND REAL DISPOSABLE INCOME IN UKRAINE, IN % TO THE CORRESPONDING PERIOD OF THE PREVIOUS YEAR IN 2002-2017



Source: Compiled based on State Statistical Service of Ukraine (2018)

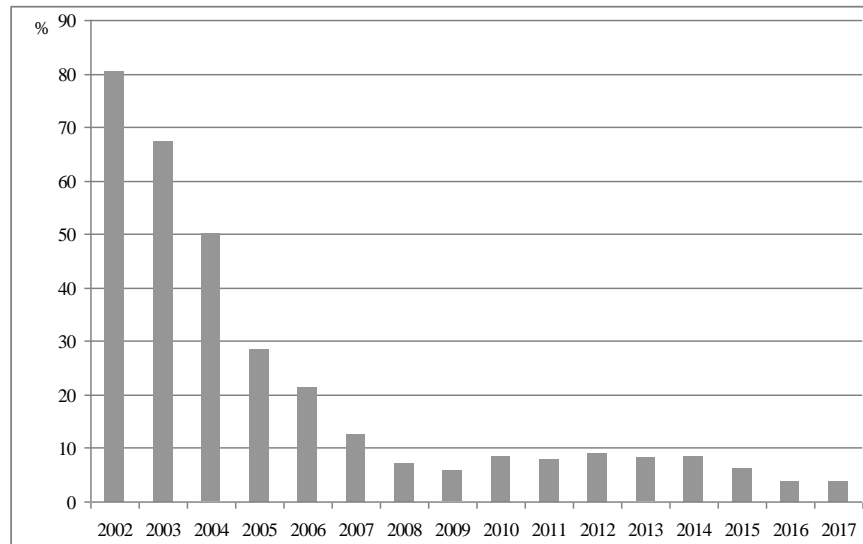
The ratio of income and the level of subsistence minimum is another indicator of the population's welfare, i.e. the valuation of consumer basket that includes the minimum set of food products, non-food items and services necessary to preserve health and maintain the living activity of individuals. Figure 4 shows the dynamics of the share of Ukraine's population with average monthly equivalent income per capita lower than the subsistence minimum in 2002-2017.

As we can see, the number of population with the income level below the subsistence minimum had been gradually reducing in the analyzed period. However, we should take into account that in calculations we use the legally established subsistence minimum that not always corresponds to the real cost of consumer basket. Therefore, in 2015-2017 more than the half of Ukrainian population was below the poverty line.

Food products are among the major components of consumer

basket. Let us analyze the dynamics of food products consumption by households in Ukraine and its dependence on the level of income and consumer prices (Table 4).

FIGURE 4. THE SHARE OF UKRAINE'S POPULATION AVERAGE MONTHLY EQUIVALENT INCOME PER CAPITA BELOW THE SUBSISTENCE MINIMUM IN 2002-2017



Source: Compiled based on State Statistical Service of Ukraine (2018)

TABLE 4. AVERAGE MONTHLY FOOD PRODUCTS CONSUMPTION PER CAPITA BY HOUSEHOLDS IN UKRAINE IN 2002-2017

Food products	Year										
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
- meat and meat products, kg	5.1	5.1	4.8	5.1	5.1	5	5.1	4.9	4.6	4.7	4.7
- milk and dairy, kg	22.1	22.6	19.8	19.2	19.1	19.6	20.3	20.3	19.8	19.6	19.5
- eggs, units	20	20	20	20	20	20	20	20	19	19	19
- fish and fish products, kg	1.9	2.1	1.8	1.8	1.7	1.7	1.8	1.6	1.2	1.2	1.3
- sugar, kg	3.2	3.4	3.2	3	3.2	3.1	3	3	2.8	2.7	2.7
- vegetable oil and other vegetable fats, kg	1.7	1.8	1.9	1.8	1.8	1.8	1.7	1.7	1.6	1.5	1.6
- potato, kg	8.3	8.4	8	7.7	7.9	7.8	7.1	6.9	6.6	6.7	6.7
- vegetables and melons, kg	8.7	9.3	10.1	9.5	9.9	10.1	9.4	9	8.8	9.2	9.3
- fruits, berries, nuts, grape, kg	3.6	3.7	3.6	3.7	3.7	3.7	4.1	3.7	3.1	3.3	3.2
- bread and cereal products, kg	9.6	9.6	9.3	9.3	9.2	9.1	9	9	8.5	8.3	8.4

Source: Compiled based on State Statistical Service of Ukraine (2018)

The table shows that deviation from the tendency towards the growth or fall in consumption of main food products is mostly caused by their prices. Such a structure of food products' consumption leads to the low-calorie content of daily consumption per person and low paces of its increase. Consumption of main food products has been changing with slow paces due to its low elasticity from the real paces of

households' income and paces of agricultural production volumes.

Consumer expenditures now constitute the lion's share of expenditures of Ukraine's population. In the analyzed period, their share was 90% and more. Meanwhile, food products account for the largest share of consumer expenditures (Table 5).

TABLE 5. RESULTS OF UKRAINE'S HOUSEHOLD'S SELF-ESTIMATION OF THE LEVEL OF THEIR INCOME IN 2008-2017

Indicators	Year									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
A number of households (thous.)	17199	17096.8	17050.3	17022.7	16984.1	16090	14455.5	15073.7	15033.4	15143.4



Households by the self-estimation of the level of their income in the last year (%):										
had enough income and managed to do savings	12.7	11.1	11.6	10.1	10.5	10.7	8.0	6.2	6.2	6.2
had enough income but didn't manage to do savings	51.8	45.3	47.8	48.4	49.0	50.9	46.9	45.7	45.7	45.7
were constantly refusing themselves what is most needed, except for food	32.9	40.2	37.5	39	37.6	34.9	41.4	43.2	44.0	44.1
didn't manage to provide even sufficient nutrition	2.6	3.4	3.1	2.5	2.9	3.5	3.7	4.9	4.1	4.9

Source: Compiled based on State Statistical Service of Ukraine (2018)

The survey results also show the low level of population welfare in Ukraine, moreover, the dynamics are negative. The percentage of those not able to provide even sufficient nutrition had increased by 2017 up to almost 5%.

To analyze the households' welfare and their consumer capacities in more detail we will use the data of the State Statistical Service's survey of certain goods' and services' accessibility. The survey program stipulated the examination of population's perception of poverty and deprivation signs in the sphere of its consumer capacities at existing standards in society and the level of importance of basic poverty and deprivation features for the population as well as the analysis of the expansion of certain deprivation displays in terms of meeting the needs of various levels among the households.

The survey results show that 95% of respondents see 7 economic deprivations, i.e. financial incapacities of households, as the signs of poverty and deprivation, including in the first place: to not deny themselves the most necessary affordable food products; to consume meat, chicken and fish dishes (or their vegetarian equivalents) in a day, etc.

In terms of deprivations in nutrition, 30% didn't have enough money to consume meat, chicken and fish dishes (or their vegetarian equivalents) in a day (in 2013 – 17%). In the regional aspect, Zakarpatska, Hersonska, Kirovohradska, Cherkaska, Ivano-Frankivska, Sumska and Ternopil'ska oblasti (88–41%) accounted for the largest share of such households, Rivnenska, Zhytomyrska, Kyiv'ska oblasti, and Kyiv accounted for the least (5–16%). 11% of the surveyed households reported that they hadn't had enough money for daily consumption of low-cost food (State Statistical Service of Ukraine, 2017).

## V. CONCLUSIONS

All the above mentioned testifies to the fact that consumer capacities of population, in particular regarding the food products that form the food security, are among the most important indicators of national economic development in any country, including Ukraine. The ability of the population to not only meet the main living needs but also to provide self-development shows the high social level of the country. And vice versa, significant restrictions in meeting these needs shows the low level of life quality in the country.

Food security should be directed at producing the necessary number of food domestically and if needed – by import; support

of sustainable food supply by reduction of supply fluctuations and yield, adequate management of national food reserves and development of transport infrastructure and sales systems. It is necessary to provide the social and economic relations that guarantee access to food for the whole population without exceptions.

Moreover, the opportunity for synthesis and unification of the problems of food security and national economic development should be emphasized. Such a tendency still does not enjoy the proper display in domestic scientific works, legal documents and methodical approaches to evaluation of both food security and the level of national economic development, indicating the possible directions of its improvement. This matter will be the subject of our further research.

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