

**Julia Krystofiak, MSc**  
**Karolina Pawlak, Assoc. Prof., PhD**  
**Poznań University of Life Sciences**

<https://doi.org/10.26366/PTE.ZG.2017.110>

### **Economic access to food in European Union households**

#### **Abstract**

The aim of this article is to present the scale of problems concerning economic access to food problem in European Union countries, above all, by determining the disposable income of European Union (EU) households, the share of households' food expenditure and the price level of food products. Despite the opinion that the economic aspect of the food security problem is not significant in highly-developed EU countries, in 2015 almost every tenth inhabitant of the EU lived in material deprivation, and for financial reasons was not able to afford a meal with meat, chicken, fish (or a vegetarian equivalent) every second day.

**Keywords:** food security, economic access to food.

**JEL CODE:** O15, D12, Q11.

### **Ekonomiczna dostępność żywności w gospodarstwach domowych krajów Unii Europejskiej**

#### **Abstrakt**

Celem artykułu jest przedstawienie skali problemu ekonomicznego dostępu do żywności w państwach Unii Europejskiej (UE), m.in. przez zbadanie wielkości dochodów rozporządzalnych mieszkańców, udziału wydatków gospodarstw domowych na żywność oraz poziomu cen produktów żywnościowych. Choć powszechna jest opinia, że problem zapewnienia bezpieczeństwa żywnościowego w wymiarze ekonomicznym w wysoko rozwiniętych krajach UE nie ma istotnego znaczenia, przeprowadzone badania dowiodły, że w 2015 roku niemal co dziesiąty mieszkaniec UE żył w poważnym niedostatku materialnym i z powodów finansowych nie mógł sobie pozwolić na spożywanie mięsa, ryb lub ich roślinnego ekwiwalentu co drugi dzień.

**Słowa kluczowe:** bezpieczeństwo żywnościowe, dostępność ekonomiczna żywności.

#### **Introduction**

The economic availability of food is one of the conditions that must be met in order to guarantee the food security of the individual. Officially in the terminology of food security,

this aspect appeared only in 1983, although the problem itself was noticed much earlier. During the Great Depression in the 1930s, the backlog of unsold goods led to a fall in the prices of industrial goods, raw materials and agricultural produce. This resulted in a decrease in production and further increase in unemployment, which in turn resulted in mass poverty and malnutrition. The world, plunged into crisis, faced a paradox – „poverty in the midst of plenty”, which was manifested by the occurrence of chronic malnutrition despite the oversaturation of the markets with basic food products (Shaw 2007, p. 5). Even today, the lack of food security is more economic than physical. In the world, enough food is produced to feed all of humanity, and yet nearly 800 million people are malnourished, mainly residents of the Global South. This does not mean that the problem of malnutrition concerns only LDC's (least developed countries).

Due to the strong correlation between the economic availability of food and poverty, the problem of malnutrition also affects the residents of highly developed countries, including European Union (EU) citizens (Marzęda-Młynarska 2014, p. 261). In 2014, almost one in ten EU residents lived in severe material deprivation and could not afford to eat meat, fish or their plant equivalents every other day for financial reasons (Eurostat Statistic Explained 2014). The economic availability of food is influenced by factors of the micro, meso and macro scales (Weingärtner 2005, p. 13). However, ultimately, economic prosperity of individual countries is of the greatest importance in shaping the purchasing power of their inhabitants. The efficiency of the economy from the macroeconomic perspective affects the level of income of its residents and the level of prices of consumer goods, including food prices (Eurostat 2015).

The aim of the article is to present the extent of the problem of economic access to food in EU households. The article examines the purchasing power of EU residents and the structure of their expenses. The consumer purchasing power on the food market was determined by taking into account: income, food prices and prices of other goods and services. To determine the purchasing power and structure of EU household spending, data collected by the World Bank and EUROSTAT in the years 2010-2015 were used.

### **Economic availability of food as a condition for ensuring food security**

Food is a good of paramount importance to human life, because it satisfies the existential need of an individual, which is freedom from hunger and thirst. Therefore, the quest for food security has been accompanying humanity for centuries. The problem of food security in

international discourse has been discussed since the beginning of the 1930s (Shaw 2007, p. 6), however it was not officially defined until 1974, due to the growing global food problem, when in the aftermath of weak harvests across the world, cereal stocks decreased, supply of food fell while the prices rose, and a significant drop in the availability of basic food products occurred (Małysz 2008, pp. 21, 85, CFS 2012). Originally, the concept of food security referred only to the supply side of food and included the international dimension (Obiedzińska 2012, p. 9). It was defined as „the availability at all times, on a global scale, of the supply of basic foodstuffs, to maintain a continuous growth of food consumption and to balance the fluctuation of production and prices” (Kowalczyk 2009, p. 15). Over a few decades, this concept has evolved, expanding the scope of the concept of food security with new aspects and dimensions. In 1983, the Food and Agriculture Organization of the United Nations (FAO) defined food security as „ensuring that all people, at all times, have the economic and physical access to the basic food products they need”. In 1996, during the World Food Summit another aspect of food security was highlighted – food safety and the multidimensionality of the concept under discussion were emphasized, expanding its scope to the level of the individual and the household. A definition was formulated, according to which „food security at the individual, household, national, regional and global level will be achieved when every human being has at all times physical and economic access to sufficient, safe and nutritious food – which is the basis for an active and healthy life – that satisfies the needs of their body and fulfills their preferences” (Marzęda-Młynarska 2014, p. 102). The current food security terminology adopted at the World Food Safety Summit in 2009 extends the previous definition by a social aspect, defining „food security as a situation where all people have continuous physical, social and economic access to sufficient, safe and nutritious food at all times, one that satisfies their nutritional needs and preferences for an active and healthy lifestyle” (Obiedzińska 2012, p. 10). On the basis of the evolution of the concept of food security presented here, it is possible to identify four aspects that must be met simultaneously in order to guarantee food security:

- 1) physical availability of food – guaranteeing the right amount of food to the public, which will cover the necessary energy intake and the necessary nutrients (Małysz 2008, p. 88). We talk about physically available food when it is on the market; it can be produced on a farm, imported or received as part of social assistance (Marzęda-Młynarska 2014, p. 103);

- 2) economic availability of food – guaranteeing adequate purchasing power to the public to obtain the right amount of physically available food (Małysz 2008, p. 94);
- 3) social availability of food – guaranteeing food which is in line with the cultural and social preferences of a specific group (Marzęda-Młynarska 2014, p. 103);
- 4) availability of safe food – guaranteeing food free of pollutants and containing optimal nutrients for the society (Małysz 2008, p. 88).

### **The purchasing power of EU households**

The EU is one of the largest economies in the world. In 2015, its GDP amounted to USD 16229.4 billion, which ranked it as second in the world in terms of GDP, just behind the US (World Bank 2016). The GDP per capita in the EU in 2015 amounted to USD 31843.2 and was over three times higher than the global value of this indicator (USD 10004.9). Among the largest world economies, only Australia, Canada and the USA were characterized by a higher GDP per capita than the entire EU. GDP per capita in the EU, both in USD and as purchasing power parity (PPP), exceeded multiple times the value of this indicator in the BRIC countries (Brazil, Russia, India, China) (World Bank 2016).

However, it should be remembered that the generalization of estimates for the entire grouping does not reflect the actual level of economic development of individual Member States, which across the EU is very diverse. The EU concentrates the richest countries in the world, as well as those whose GDP per capita does not exceed the global level. The EU's wealthiest countries in the world include Luxembourg, whose GDP per capita is the highest in the world (101450.0 USD in 2015) and Denmark, Ireland and Sweden – all having almost twice as low GDP per capita than Luxembourg, but nevertheless in this respect remaining in the lead globally.

The situation of Bulgaria and Romania is dramatically different, where the value of GDP per capita is below the global average (Table 1).

This diversification in terms of the level of economic development allows for the division of EU member countries into two groups of countries whose level of development is either higher or lower than the EU average. The less developed countries are 17 EU Member States, characterized by the level of GDP per capita below the average determined for the entire EU. These are primarily countries that joined the EU in 2007 and 2013, namely Croatia, Romania and Bulgaria, ten countries that have been EU members since 2004 (Poland, Hungary, the Czech Republic, Slovakia, Slovenia, Lithuania, Latvia, Estonia, Cyprus, Malta), as well as

four southern countries of the „old EU” – i.e. Italy, Portugal, Greece and Spain, which in recent years have been struggling with the financial crisis. The 11 countries of the EU-15 (Germany, France, Belgium, Luxembourg, the Netherlands, United Kingdom, Ireland, Sweden, Denmark, Finland, and Austria) are the EU countries of a higher level of development.

The level of GDP per capita translates into the amount of income in households of EU residents. The most important from the point of view of the economic availability of food is the disposable income of households, because it is the sum of current income from individual sources, reduced by taxes and social and health insurance premiums (Lewandowska 2016). The annual disposable income in households in the EU amounted to EUR 16121.0 in 2015 and was almost seven times higher than its value for the country with the lowest wages (in Romania). It should be noted that differences in the amount of disposable income between individual EU countries exceeded even the differences in GDP per capita. The highest net income was achieved by the residents of Luxembourg (35270.0 EUR) and it was over 15 times higher than in Romania (2315.0 EUR). This means that for an annual income earned in Luxembourg, the average family in Romania could sustain itself for 15 years.

Noticeably smaller differences in GDP per capita and disposable income can be observed when their values take into account different price levels in EU Member States. It can be stated that after converting income using the PPP, the purchasing power of the citizens of the more developed EU countries decreased, while for the citizens of the less developed countries it increased; ultimately, the income of a citizen of the rich Luxembourg has been almost seven times higher than that of an average Romanian (Table 1).

**Table 1. Nominal and real GDP per capita and median disposable income as well as a comparative income and price ratio in EU countries in 2015**

Country	GDP per capita		Median disposable income		Comparative income ratio	Comparative price ratio	
	in USD	in PPP	in EUR	in PPP	UE=100	UE=100	
More developed countries	Austria	43 438,9	43 892,7	23 260,0	21 783,0	144,3	105,2
	Belgium	40 231,3	41 138,4	21 690,0	19 954,0	134,5	107,1
	Denmark	52 002,2	43 415,2	28 364,0	20 384,0	175,9	136,8
	Finland	41 920,8	38 642,8	23 763,0	19 430,0	147,4	119,7
	France	36 248,2	37 305,7	21 415,0	19 885,0	132,8	105,4
	The Netherlands	44 433,4	46 374,4	21 155,0	19 262,0	131,2	109,1
	Ireland	51 289,7	51 899,2	**19 477,0	**15 997,0	**120,8	**122,5
	Luxembourg	101 450,0	93 552,6	35 270,0	29 285,0	218,8	119,2
	Germany	41 219,0	44 053,1	20 644,0	20 342,0	128,1	99,8
	Sweden	50 272,9	45 296,5	26 639,0	21 215,0	165,2	121,3
	United Kingdom	43 734,0	38 657,8	20 947,0	17 714,0	129,9	131,3

Less developed countries	Bulgaria	6 819,9	16 956,4	3332,0	6 882,0	20,7	46,7
	Croatia	11 535,8	20 430,0	5458,0	8 259,0	33,9	65,4
	Cyprus	22 957,4	30 309,6	13 793,0	15 313,0	85,6	87,4
	Czech Rep.	17 231,3	29 805,3	7423,0	11 652,0	46,0	63,3
	Estonia	17 295,4	26 929,7	7882,0	10 423,0	48,9	75,2
	Greece	18 035,6	24 617,0	7527,0	8 810,0	46,7	83,4
	Spain	25 831,6	32 814,5	13 352,0	14 463,0	82,8	90,2
	Lithuania	14 172,2	26 396,9	5180,0	8 251,0	32,1	62,7
	Latvia	13 664,9	22 628,4	5840,0	8 108,0	36,2	69,2
	Malta	*22776,2	*29126,8	13 493,0	16 681,0	83,7	80,5
	Poland	12 494,5	24 835,9	5560,0	9 957,0	34,5	54,8
	Portugal	19 222,9	26 690,1	8435,0	10 317,0	52,3	80,9
	Romania	8 972,9	19 925,5	2315,0	4 357,0	14,4	51,9
	Slovakia	15 962,6	27 394,2	6930,0	10 220,0	43,0	66,6
	Slovenia	20 713,1	28 941,9	12 332,0	15 102,0	76,5	79,9
	Hungary	12 259,1	24 474,5	4567,0	7 938,0	28,3	57,2
	Italy	29 847,0	33 587,1	15 846,0	15 395,0	98,3	100,9
UE 28	31 843,2	35 385,0	16 121,0	-	100,0	100,0	

Note: \*data for Malta for 2013, \*\*data for Ireland for 2014

Source: Own study based on: <http://databank.worldbank.org/data/> and <http://ec.europa.eu/eurostat/data/database> (ilc\_di04) (tec00120) (retrieved 09.11.2016).

It should also be noted that in 2015, the highest prices of consumer goods and services in the EU were in Denmark, Sweden, Luxembourg and Finland, i.e. the countries with the highest income. The lowest, on average lower by half than the average in the EU, were in force in Bulgaria, Romania and Poland. Due to higher costs of living in the more developed EU countries, the purchasing power of their inhabitants in PPP is lower. This is particularly evident in the case of Denmark, where high prices of consumer goods and services have reduced the purchasing power of its residents by almost 30%, reducing disposable income from the nominal, amounting to EUR 28 364.0 to a real value of EUR 20 384.0 (Table 1).

In addition, when analyzing the comparative income and price ratio, it was noted that the income in most EU Member States was much lower than the EU average much more than the price level, „positive” in wealthier or „negative” in less developed countries. For example, in Romania, the average disposable income was 85% lower than in the EU, while prices were lower only by 50%, while in Sweden the income exceeded the EU average by 65% and prices only by 20%. Ultimately, residents in the more developed countries had a significantly higher purchasing power than the those of less developed countries (Table 1).

The change in the economic availability of food depends on the change in income and food prices. The disposable income of EU-28 residents increased in 2010-2015 by almost 8%.

On the scale of the entire EU, this change was similar to the growth rate of consumer goods and services prices and food, but in individual countries the dynamics of changes in the level of income were diversified. In Ireland and the six southern EU countries (Spain,

Portugal, Italy, Greece, Croatia, Cyprus) a decrease in disposable income in relation to the base year was observed. The decrease fluctuated between 1% and 15%. It should be noted that in most cases it was accompanied by a rise in prices of both consumer goods and services, as well as food, while – except in Portugal – the rise in food prices was larger than the increase in prices of other products and services. An exception, not only among countries with declining income, but also in the entire EU, was Ireland, where in the analyzed period a drop in food prices was recorded. The largest increase in disposable income in 2015, when compared with 2010, was noted in Sweden, Poland, Malta, Lithuania and Latvia. The price increase in the EU ranged from 4.6% in Greece to 17% in Malta. The economic availability of food during the period considered improved in Sweden, Denmark, Belgium, the United Kingdom, France, Malta, Slovakia, Estonia, Lithuania, Poland, Latvia, Romania and Bulgaria, where the disposable income increased to a greater degree than the price level. Deterioration of the economic availability of food to the economic situation of households was observed mainly in Italy, Spain, Portugal, Greece, Croatia and Cyprus, where food and other consumer goods prices increased despite declining income (Table 2).

**Table 2. Change in the level of disposable income, food prices and other consumer goods and services in the EU in 2010-2015 (2010 = 100)**

	Countries	Disposable income (EUR)	Food prices	Consumer goods and services prices
More developed countries	Austria	109,5	112,3	109,9
	Belgium	110,3	109,1	107,9
	Denmark	109,5	108,9	105,9
	Finland	110,2	112,7	109,2
	France	106,8	105,4	106,0
	The Netherlands	104,1	106,2	108,0
	Ireland*	94,7	97,8	103,8
	Luxembourg	108,3	109,5	108,6
	Germany	109,0	110,9	106,8
	Sweden	125,9	106,7	103,6
	United Kingdom	118,3	108,5	110,6
Less developed countries	Bulgaria	109,5	111,2	103,3
	Croatia	93,6	108,7	107,5
	Cyprus	82,7	107,5	104,9
	Czech Rep.	104,9	116,4	107,4
	Estonia	127,3	114,5	112,0
	Greece	41,1	104,6	100,7
	Spain	90,6	107,0	105,9
	Lithuania	122,3	111,8	107,6
	Latvia	123,2	109,3	107,0
	Malta	122,7	117,0	108,2
	Poland	120,8	108,1	107,3
	Portugal	97,1	106,5	106,8
	Romania	112,1	106,5	112,3
	Slovakia	111,7	111,4	108,3
	Slovenia	104,8	112,1	106,2
Hungary	107,1	114,3	110,5	

	Italy	99,3	108,0	107,4
	UE-28	107,7	108,3	107,4

Note: \*data for Ireland for 2014.

Source: Own study based on: <http://ec.europa.eu/eurostat/data/database> (ilc\_di04), (prc\_hicp\_aind).

In order to ensure the economic availability of food, the state can interfere in the purchasing power of its residents, directly affecting the disposable income of citizens, for example by setting a minimum wage or applying social transfers. Table 3 presents the minimum monthly and annual wages in EU countries, the level of the poverty line and of income which does not guarantee meeting basic needs, as well as the level of reduction of poverty and income inequality through social transfers. It can be noted that the value of the minimum annual wage does not always ensure economic security. In many EU countries, the minimum wage was lower than the average income in households which, for financial reasons, had difficulties in meeting their needs. This means that the minimum wage did not guarantee consumers sufficient purchasing power. This was the case in Luxembourg, Ireland, France, Spain, the Czech Republic, Malta, Slovenia, Slovakia, Estonia, Portugal, Lithuania, Croatia, Bulgaria, Hungary and Latvia. In addition, in the Czech Republic and Estonia, the value of the minimum annual salary was below the poverty threshold (Table 3).

**Table 3. Minimum wage in the EU countries compared to the poverty line and the income threshold at which households have difficulty in meeting basic needs and the level of reduction of poverty and income inequality through social transfers in 2015**

	Kraje	Minimum monthly wages (EUR)*	Minimum yearly wages (EUR)	Poverty line (EUR)	Median income of households having difficulties in meeting basic needs (EUR)	Reduction of income inequality through social transfers (%)	Reduction of poverty through social transfers (%)
More developed countries	Austria	:	:	13956,0	19189,0	19,0	45,7
	Belgium	1501,8	18021,8	13014,0	15564,0	24,3	44,2
	Denmark	:	:	17018,4	23510,0	26,3	52,7
	Finland	:	:	14257,8	19001,0	25,7	53,7
	France	1457,5	17490,2	12849,0	18334,0	17,3	43,1
	The Netherlands	1501,8	18021,6	12693,0	16361,0	18,5	45,5
	Ireland	1461,9	17542,2	11686,2	17735,0	32,6	58,1
	Luxembourg	1923,0	23075,5	21162,0	23885,0	17,9	43,8
	Germany	1440,0	17280,0	12386,4	13263,0	17,1	33,5
	Sweden	:	:	15983,4	18599,0	22,5	46,1
	United Kingdom	1378,9	16546,4	12568,2	16236,0	20,8	42,8
Less developed countries	Bulgaria	184,1	2208,8	1999,2	3183,0	7,7	22,5
	Croatia	395,6	4747,3	3274,8	5156,0	17,1	35,5
	Cyprus	:	:	8275,8	12504,0	9,7	36,2
	Czech Rep.	331,7	3980,5	4453,8	6752,0	15,0	42,3
	Estonia	390,0	4680,0	4729,2	6356,0	8,7	22,3
	Greece	683,8	8205,1	4516,2	7220,0	6,3	16,1
	Spain	756,7	9080,4	8011,2	10979,0	12,2	26,6
	Lithuania	300,0	3600,0	3108,0	4658,0	10,0	22,4
	Latvia	360,0	4320,0	3504,0	5129,0	6,6	17,6



Malta*	720,5	8645,5	8095,8	11129,0	14,1	31,2
Poland	409,5	4914,4	3336,0	4864,0	9,5	23,1
Portugal	589,2	7070,0	5061,0	7471,0	10,1	26,1
Romania	217,5	2610,0	1389,0	2137,0	7,4	13,3
Slovakia	380,0	4560,0	4158,0	6424,0	13,2	35,3
Slovenia	790,7	9488,8	7399,2	11147,0	19,1	42,3
Hungary	332,8	3993,1	2740,2	4250,0	17,8	42,0
Italy	:	:	9507,6	14118,0	6,9	21,7
UE-28	-	-	9672,6	11490,0	14,8	33,2

Note: \* The minimum wage is not fixed by law in Sweden, Austria, Denmark, Finland, Italy and Cyprus.

Source: own study based on: <http://ec.europa.eu/eurostat/data/database>, (ilc\_di04)(ilc\_di10) (tespm050) (ilc\_di12c) (tps00155) (retrieved 23.11.2016).

The state may also interfere in the amount of disposable income of residents by paying out social transfers (i.e. family benefits, social assistance, pensions, etc.) (Eurostat 2014). Social benefits adjust inequalities in disposable income in individual countries and reduce poverty. In 2015, throughout the EU, social transfers reduced the poverty scale by 33% and income inequality by almost 15%. The greatest importance of social benefits in reducing the number of people at risk of poverty was observed in Ireland (by almost 60%). This also affected the largest decrease in disproportions in income distribution in the EU (by 32.6%). Based on the data presented in Table 3, it can be stated that the more affluent EU influenced the amount and inequalities of income through social transfers to a greater degree than countries with a lower level of economic development. For example, in Romania, social benefits reduced poverty by just over 13%, and in Greece they reduced income inequality by just 6% (Table 3).

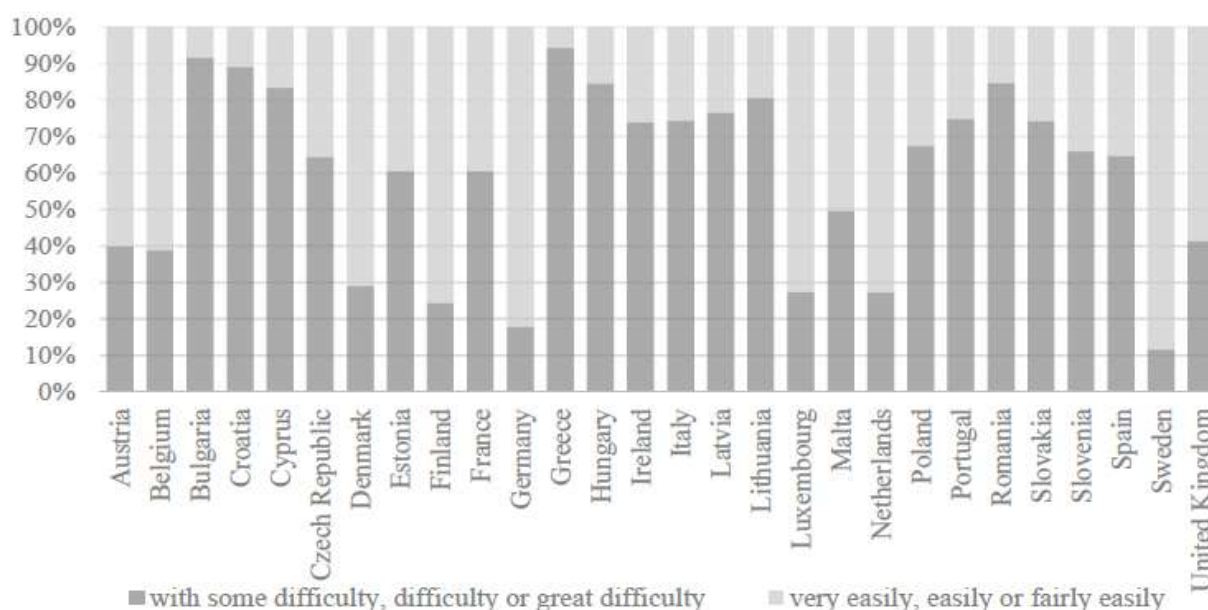
### Household expenditures in the European Union

The prices of consumer goods and services and the amount of income directly affects the level and structure of the households' expenses. Low incomes guarantee meeting mainly basic needs, the fulfilling of which is necessary for life. The gradual increase in income leads to a shift in the expenditure structure from basic goods to higher-order goods. The level of income is reflected the most in the level of food expenditure. Accompanying an increase in income, the share of food expenditure decreases in favor of higher-order goods (education, culture, etc.) (Chmielewska 2015, p. 320).

EUROSTAT research shows that in 2015 more than half of the EU's population had difficulty meeting basic needs for financial reasons. This means that for 53% of the citizens of the Member States, the monthly income was not enough to cover the most important expenses, but the scale of these problems in the various countries of this group has been different. The residents of countries with GDP levels exceeding the EU average definitely fared better in this respect, but this was not a rule. People whose income barely stood to cover

monthly expenses are primarily residents of countries with the lowest GDP per capita in the EU, especially Greece, Bulgaria, Croatia and Romania, where the problem concerned 95%, 92%, 89% and 85% of inhabitants respectively. On average, in poorer EU countries, 75% of citizens struggled to cover their expenses with income, in countries with a higher level of economic development, 25% of residents. The Swedes assessed their financial situation as most comfortable, with 88% declaring that it is very easy, easy or quite easy to settle their monthly obligations. An exception to the rule was Ireland, where despite the very high level of economic development manifesting itself as the second highest GDP per capita in the EU according to the PPP, the residents had difficulties with covering the monthly expenses on a level similar to the scale of this problem in countries such as Portugal, Italy or Slovakia (Chart 1).

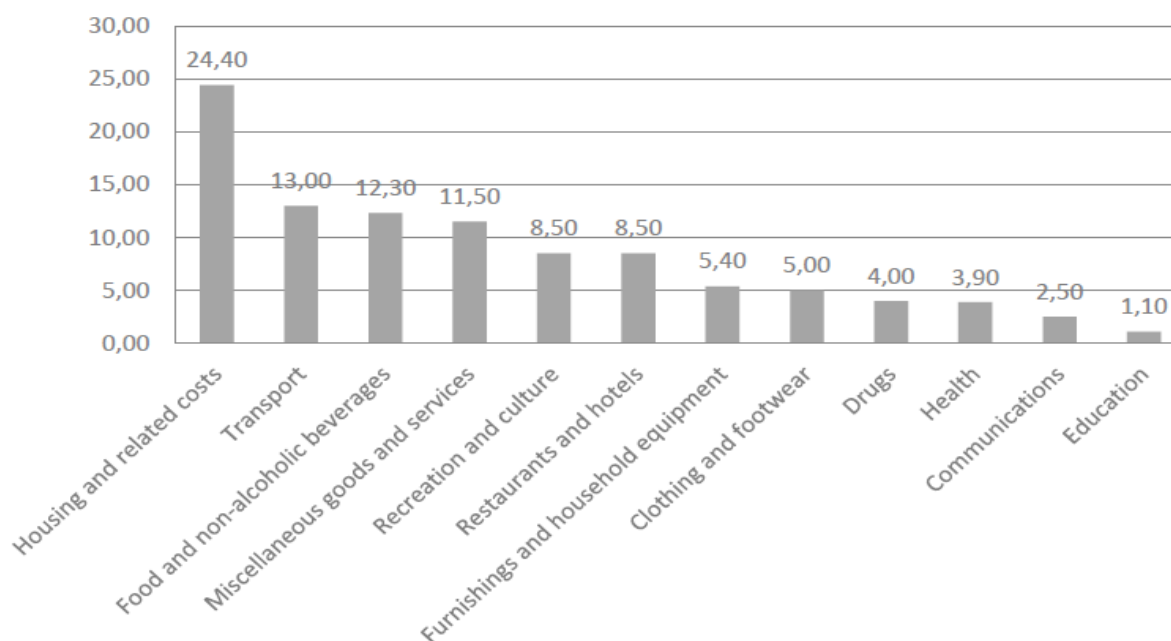
**Chart 1. Percentage of people in EU households listed in terms of their ability to cover monthly expenses with revenues in 2015**



Source: Own study based on: <http://ec.europa.eu/eurostat/data/database>, (ilc\_mdes09) (retrieved 23.11.2016).

In 2015, about  $\frac{1}{4}$  of EU household expenditures was spent on housing and related costs (24.4%). Food was the third category in terms of share in total consumption expenditure (12.3%), shortly after transport (13%). The least, because only a little more than 1% of total expenditures, EU residents spent on education (Chart 2).

**Chart 2. Structure of consumer goods and services expenditures in EU countries in 2015 (%)**



Source: Own study based on: <http://ec.europa.eu/eurostat/data/database> (nama\_10\_co3\_p3) (retrieved 21.11.2016).

In 2015, consumption expenditures of all EU residents accounted for 99.3% of their disposable income. It can be noted that in countries with a higher GDP per capita, expenditures are lower than revenues by about 5-18%, while in less wealthy countries, they are higher by 4-108%. United Kingdom is an exception among the countries with higher GDP, where consumer spending exceeds the level of disposable income on average by 16.3%, however this is caused by the high prices of goods other than food. Among the countries with lower GDP, some notable exceptions are Malta and Slovenia – countries with annual incomes close to the EU average, and prices 20% below the average. Romania faced the most difficult circumstances, where consumer spending was more than double the disposable income. The largest expenditures in 2015 were made by the residents of Luxembourg, Denmark and United Kingdom. At the same time, it should be noted that Luxembourg was the country with the highest income in the EU, and Denmark and the United Kingdom had the highest prices. The lowest expenses were incurred by citizens of the countries with the lowest incomes and prices, i.e. Bulgaria and Romania. Throughout the EU, in 2010-2015, the value of average annual food expenditure increased by around 12%. An exception was Greece, where, due to a significant reduction in income, despite the increase in food prices and an increase of its share in the structure of expenditures, the total expenditure on food decreased by 13% (Table 4).

**Table 4. Consumer spending and food expenditure in EU households in 2015**

Country	Average annual consumer spending per household member	Average annual food expenditure per household member		Share of food expenditure in total spending		Share of consumer spending in disposable income	
		2015	2010=100	2015	2010=100		
More developed countries	Austria	21533,0	1889,7	100,2	8,8	101,1	92,6
	Belgium	17766,5	2161,8	114,4	12,2	104,3	81,9
	Denmark	26286,9	2634,0	111,4	10,0	100,0	92,7
	Finland	19845,5	2230,5	121,4	11,2	101,8	83,5
	France	17465,1	2126,8	109,6	12,2	102,5	81,6
	The Netherlands	17606,1	1887,3	114,5	10,7	104,9	83,2
	Ireland	18177,8	1553,7	108,9	8,5	96,6	93,3
	Luxembourg	33755,5	2770,0	112,7	8,2	97,6	95,7
	Germany	19091,2	1778,4	114,6	9,3	102,2	92,5
	Sweden	21252,2	2389,0	134,7	11,2	102,8	79,8
United Kingdom	24367,0	1787,5	164,0	7,3	94,8	116,3	
Less developed countries	Bulgaria*	4448,4	714,0		16,1	103,2	133,5
	Croatia			101,4			
	Cyprus	17257,3	2296,6	117,6	13,3	122,0	125,1
	Czech Rep.	7513,0	1123,0	121,7	14,9	120,2	101,2
	Estonia	8573,1	1626,2	141,1	19,0	103,3	108,8
	Greece	12942,9	2035,8	87,2	15,7	106,8	172,0
	Spain	13980,5	1720,7	108,0	12,3	106,0	104,7
	Lithuania	8049,0	1746,6	114,0	21,7	97,3	155,4
	Latvia	7756,6	1307,6	128,0	16,9	88,5	132,8
	Malta	13456,7	1406,8	113,2	10,5	89,7	99,7
	Poland	6573,2	1001,0	109,9	15,2	87,9	118,2
	Portugal	11948,5	1920,5	131,8	16,1	108,1	141,7
	Romania	4817,3	1342,3	107,3	27,9	106,9	208,1
	Slovakia	8199,6	1331,7	118,1	16,2	103,2	118,3
	Slovenia	10570,6	1477,9	114,2	14,0	106,9	85,7
Hungary	5807,8	909,0	113,4	15,7	106,8	127,2	
Italy	17036,6	2246,4	125,2	13,2	98,5	107,5	
UE-28	16014,0	1778,9	112,2	11,1	99,1	99,3	

Note: \*data for Bulgaria from 2014.

Source: own study based on: <http://ec.europa.eu/eurostat/data/database> (nama\_10\_co3\_p3) (fst\_hhnhtych) (tsdpc510) (retrieved 21.11.2016).

Food expenses in 2015 accounted for 11% of total expenditure in the EU. It can be stated that the structure of household consumption expenditure in the EU countries evidences the operation of Engel's law, according to which, when there's an increase in household wealth, the share of food expenditure decreases (Kwasek 2012, p. 37). In the more developed EU countries, food accounted for between 7 and 12% of total household expenditure, while in countries with lower GDP, for between 10 and 28%. In comparison, the smallest share of food in total expenditure on consumer goods and services was recorded in the United Kingdom – 7%, and the largest in Romania – 28%. In the analyzed period, the share of expenditure on food in total expenditure in the EU-28 countries decreased by less than 1%, however, in most EU Member States an increase was observed, the highest being more than 20% in the Czech

Republic and Cyprus, where at the same time there was a significant increase in food prices. The largest reduction in the share of food in the structure of consumer spending was observed in households in Poland, Malta, Lithuania and Latvia. These were the countries, in which during the period considered, income increased by over 20%, and the visible reduction in the share of food expenditure was a manifestation of Engel's law.

## **Conclusions**

The EU is the second largest economy in the world in terms of GDP, and its level of GDP per capita is three times higher than the global value of this indicator. The high level of economic development in the EU does not, however, mean that the problem of the economic availability of food does not affect its residents. The EU structures contain both the richest countries in the world, as well as those the economies of which are classified as below the global level of GDP per capita. The problem of guaranteeing the economic availability of food concerns mainly the residents of countries with GDP per capita below the EU average, which mainly include new member states, but also the southern EU states that have been struggling with the financial crisis in recent years.

The economic availability of food to households depends on their purchasing power and the structure of consumer spending of their residents. The purchasing power is influenced by the income and prices of consumer goods and services, especially food. The amount of disposable income in households of EU countries is proportional to the level of GDP per capita. The differences in the level of equivalent income between EU countries are significant, even 15-fold, with high individual incomes in the more developed countries translating into higher prices of consumer goods and services, and thus the real differences in the standard of living when comparison with the less affluent countries are slightly reduced. In countries with GDP per capita above the EU average, revenues expressed basing on the purchasing power parity are decreasing, while in less developed countries they increase in relation to their nominal value. However, because price differences between EU countries are not as significant as income differences, ultimately the inhabitants of countries with a higher level of development have less difficulty in meeting basic needs. In addition, a higher level of economic development allows for a more effective influence of the state on the income of its residents. Regardless of the level of economic development, minimum wages in EU countries are set at a level that does not guarantee financial security, and therefore the states must influence the income of their residents through the use of social transfers. The research shows

that countries with GDP per capita above the EU average, due to the amount of services provided, are more effective in combating poverty and inequalities through social transfers.

The change in the economic availability of food in EU households in 2010-2015 also differed by region. In the households of almost half of the EU Member States, due to faster growth of disposable income than of the prices of consumer goods and services, the economic availability of food improved. Said improvement took place in Sweden, Denmark, Belgium, Great Britain, France, Malta, Slovakia, Estonia, Lithuania, Poland, Latvia, Romania and Bulgaria. On the other hand, deterioration in the level of economic availability of food was observed especially in the countries where in 2010-2015 disposable income decreased, i.e. in Italy, Spain, Portugal, Greece, Croatia and Cyprus.

The level of disposable income of EU residents and the level of prices of consumer goods and services translates into the structure of household expenditures. The average value of consumer spending of EU households was almost equal to the average disposable income. In all of the higher developed countries of the group (except the UK), expenses were lower than the equivalent income of their residents. It was different in the less prosperous EU countries, out of which only in Slovenia and Malta the incomes exceeded expenditures. The situation was the worst in Romania, where household consumer spending exceeded disposable income twofold. In 2015, the value of food expenditure increased in almost every EU country. However, in the entire EU, 11% of total expenditure was allocated to food, which was less than 1% less than in 2010. In addition, food in far less developed countries accounted for a much larger share in the expenditure structure. These results are in line with Engel's law, in accordance to which, the share of food expenses decreases with the increase in household wealth.

## References

- Bank Światowy (2016), *World Development Indicators*,  
<http://databank.worldbank.org/data/home.aspx>, (dostęp: 09.11.2016).
- CFS (2012), *Coming To Terms With Terminology. Food Security*, CFS 2012/39/4,  
[http://www.fao.org/fsnforum/sites/default/files/file/Terminology/MD776\(CFS\\_\\_\\_Coming\\_to\\_terms\\_with\\_Terminology\).pdf](http://www.fao.org/fsnforum/sites/default/files/file/Terminology/MD776(CFS___Coming_to_terms_with_Terminology).pdf), (dostęp: 28.11.2016).
- Chmielewska B. (2015), *Nierówności społeczne w aspekcie zróżnicowania wydatków gospodarstw domowych w krajach Unii Europejskiej*, *Nierówności Społeczne a Wzrost Gospodarczy*, nr 41 (1), s. 319-328.

Eurostat (2014), *Glossary: At-risk-of-poverty rate*, [http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:At-risk-of-poverty\\_rate](http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:At-risk-of-poverty_rate), (dostęp: 24.11.2016).

Eurostat (2015), *PKB i rachunki gospodarstw domowych na poziomie regionalnym*, [http://ec.europa.eu/eurostat/statisticsexplained/index.php/Archive:GDP\\_and\\_household\\_accounts\\_at\\_regional\\_level/pl](http://ec.europa.eu/eurostat/statisticsexplained/index.php/Archive:GDP_and_household_accounts_at_regional_level/pl), (dostęp: 01.12.2016).

Eurostat Statistic Explained (2014), *Europe 2020 indicators - poverty and social exclusion*, [http://ec.europa.eu/eurostat/statisticsexplained/index.php/Europe\\_2020\\_indicators\\_poverty\\_and\\_social\\_exclusion#Low\\_work\\_intensity\\_lowers\\_income\\_security](http://ec.europa.eu/eurostat/statisticsexplained/index.php/Europe_2020_indicators_poverty_and_social_exclusion#Low_work_intensity_lowers_income_security), (dostęp: 24.02.2016).

FAO (2015), *Food Security Indicators 2015*, <http://www.fao.org/economic/ess/ess-fs/ess-fadata/en/#.Vg3z-5cbgpl>, (dostęp: 18.11.2016).

Kowalczyk S. (2009), *Bezpieczeństwo żywności w erze globalizacji*, SGH, Warszawa.

Kwasek M. (2012), *Ekonomiczna dostępność żywności*, w: Kwasek M. (red.), *Z badań nad rolnictwem społecznie zrównoważonym (17). Ocena stanu wyżywienia ludności w Polsce w aspekcie bezpieczeństwa żywnościowego*, IERiGŻ, Warszawa, s. 31-45.

Lewandowska B. *Pojęcia stosowane w statystyce publicznej. Dochód rozporządzalny gospodarstwa domowego*, <http://stat.gov.pl/metainformacje/slownik-pojec/pojecia-stosowane-w-statystyce-publicznej/63,pojecie.html#>, (dostęp: 01.12.2016).

Małysz J. (2008), *Bezpieczeństwo żywnościowe strategiczną potrzebą ludzkości*, AlmaMer, Warszawa.

Marzęda-Młynarska K. (2014), *Ekonomiczna dostępność żywności*, w: *Globalne zarządzanie bezpieczeństwem żywnościowym na przełomie XX i XXI wieku*, Wydawnictwo Uniwersytetu Marii Curie-Skłodowskiej, Lublin, s. 260-287.

Obiedzińska A. (2007), *Bezpieczeństwo żywnościowe*, w: Kwasek M. (red.), *Z badań nad rolnictwem społecznie zrównoważonym (17). Ocena stanu wyżywienia ludności w Polsce w aspekcie bezpieczeństwa żywnościowego*, IERiGŻ, Warszawa, s. 9-22.

Shaw J. (2007), *World Food Security. A History since 1945*, Basingstoke-New York.

Weingärtner L. (2005), *The Concept of Food and Nutrition Security*, w: Klennert K. (red.), *Achieving Food and Nutrition Security*, Bonn, s. 2-31.

Wosiek R. (2010), *Poziom ubóstwa w Polsce na tle wybranych państw Unii Europejskiej – analiza wielowymiarowa*, w: *Ubóstwo i wykluczenie. Wymiar ekonomiczny, społeczny i polityczny*, s. 203-210.