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TRENDS IN BEHAVIOUR OF MODERN FOOD CONSUMERS IN POLAND

The aim of the paper is to present the changes in the level and structure of food consumption in Poland during 2013-2017 from a macro and micro-economic perspective, based on CSO (Central Statistical Office) data gathered from national accounts and household budgets. Analysis of the data showed that in an improved economic climate and significantly improved income situation households changed their preferences both in terms of the amount of food consumed as well as in the structure of consumption. Real expenditure on food increased despite reduced volume in consumption, with more eating out and less self-catering. The increase in the share of highly processed foods and more expensive products in the basket of foods contributed to the stabilisation of the share of expenditure on food as part of total household expenditure.

Key words: consumption behaviour, conditions for consumption, food, food consumption, household.
JEL Codes: D01**,** D12, D19, E21, M31.

Introduction

The term "consumer behaviour" is derived from the American term *consumer behaviour* and in the Polish nomenclature the term behaviourism means a psychological approach which is focused on studying human behaviour[1]. The interdisciplinary interest in human behaviour is one reason that each field of science has a slightly different definition of behaviour, although the literature on the subject most often provides an encyclopaedic definition: *each observable reaction to external stimuli or the whole set of reactions and attitude of a living organism to the environment*[2]. The notion of consumer behaviour is about the behaviour of consumers, i.e. behaviour referring to consumption.

Consumer behaviour reflects the process of satisfying human needs, therefore, it is defined as a certain organised sequence of actions related to searching, purchasing, using and assessing goods and services, which are able to satisfy needs. According to E. Kieżel, consumer behaviour is the *coherent whole of activities, actions, procedures related to making choices in the process of satisfying consumer needs in specific social, cultural and economic conditions*[3]. This definition highlights the issue of choice. The consumer chooses what part of their income is to be allocated for consumption and for savings, what their needs are, and in what order those needs will be satisfied. They choose the place and time of satisfying needs, the means and objects of consumption,

[1] Światowy G., *Consumer behaviour*, PWE, Warsaw 2006, p. 12.
[2] *PWN Great Encyclopaedia*, PWN Polish Scientific Publishers, Warsaw 2005, p. 183.
[3] Kieżel E. (ed.), *Consumers and their behaviour in the European market,* PWE, Warsaw 2010, p. 42.

and the manner of financing and using goods[4]. Taking account of the above-mentioned actions, we may say that the content of consumer behaviour is composed of purchasing behaviour related to making choices aimed at purchasing goods and services and of household behaviour which largely includes actions related to using objects of consumption[5].

Using goods is an essential part of consumption. The above-mentioned aspects of consumer behaviour are closely interrelated; one is dependent on the other. They are organised in a specific order and they interact. Since needs, including, in particular, biological needs, revive, there is a need to repeat these activities. Consumer behaviour is therefore a cyclical process[6], whose final result is to satisfy needs as verified by the specific level and structure of consumption. As noted by J. Kramer, *consumer behaviour is a set of empirical units of consumption observation, as consumption itself is a complex set of types of this behaviour*[7]. It is determined by many factors, both consumer-dependent and resulting from external economic and non-economic assumptions. According to E. Kieżel, economic assumptions are, *inter alia*: general economic situation of the country, income, savings and level of equipping households with durable goods as well as supply and prices of consumer articles. On the other hand, non-economic assumptions are: demographic, social, geographical and natural as well as civilisation and cultural factors, and also institutional information[8]. These conditions are permanently evolving, thus modifying consumer behaviour, creating new phenomena and trends in consumption.

In recent years in Poland, the economic situation of the country has been subjected to dynamic changes. In 2014, after a period of economic slowdown, being an aftermath of the global financial and economic crisis, the macroeconomic activity intensified. In the years 2015-2016, the positive economic situation was accompanied by deflation, recorded for the first time since the 1990s. 2017 brought a radical change in demand conditions in the food market related to the high rise in food prices, not recorded since 2008, after two years of their absolute fall.

In the context of these two phenomena, several interesting questions arose: what consequences in the sphere of consumer demand were implied by the economic recovery? How did households react to strong fluctuation in the prices of food products? And how did consumers change their behaviour with regard to food consumption? The aim of this paper is to attempt to find the answers to these questions and to present the selected aspects of household behaviour related to satisfying food needs in the years 2013-2017, as well as to provide empirical verification of Engel's law and indication of factors causing disruption in its functioning. Results of the conducted analyses have significant application as a premise and factor of marketing activity and successful outcomes for businesses operating in the agricultural-foodstuff sector.

[4] Rudnicki L., *Consumer behaviour in the market*, PWE, Warsaw 2012, pp. 40-42.
[5] Rudnicki L, *op. cit*., p. 11-12.
[6] Włodarczyk K., *Market behaviour of Polish consumers in the age of globalisation of consumption*, Adam Marszałek Publishing House, Toruń 2013, p. 79.
[7] Kramer J., *Market as a subject of studies*, Publishing House of the Academy of Economics in Katowice, Katowice 1995, p. 14.
[8] Kieżel E. *Market behaviour of consumers*, Publishing House of the Academy of Economics in Katowice, Katowice 1999, pp. 104-107.

Data sources and study methodology

The starting point of the presented considerations was the description of selected macroeconomic determinants of consumption. Focusing on the basic determinants of economic development such as GDP, employment and unemployment, population income, inflation levels and food prices, which essentially determine the consumption trends, we discuss the impact of these conditions on the evolution of food expenses and quantitative consumption of food in macro- and microeconomic terms. The subjects of the undertaken analyses were: household income, retail prices of selected groups of consumer goods and services, and consumption of food in aggregate (value) terms and in physical units, broken down by 10 groups of products, according to groupings consistent with the international Classification of Individual Consumption According to Purpose (COICOP)[9]. In the subjective aspect, the studies covered the sector of households as one of the institutional sectors in national accounts[10], individual households identified in the theory of economics with the concept of consumer[11] and the individual consumer i.e. the statistical resident of the country. Due to the tight framework of the article, the subject of studies has been limited to identifying changes in the structure of consumption preferences of households in total.

Study material consisted mainly of secondary data from the Central Statistical Office (CSO). To identify macroeconomic conditions of consumer behaviour, data from the CSO national accounts was used. To diagnose transformations in the consumption of food and segmentation analyses we used data on consumption in the household sector, balance sheets of agricultural products, time series of prices published by CSO and results of surveys of household budgets. To describe price determinants of consumption, we used indices of retail prices of consumer goods and services, estimated by CSO, i.e. aggregated average annual price indices with the fixed and variable basis. The detailed image of price changes was obtained by comparing partial indices, i.e. relative price changes of smaller groups of products. The sources of information were also results of the author's own multifaceted analyses of market statistics and the literature on the subject. The study used the methods of statistical, descriptive and comparative analysis.

The timeframe of the study covered the years 2013-2017. The base year for comparisons was 2013. In some cases, references were made to earlier years, which allowed to make assessments and comparisons of observed phenomena from the longer term and to draw more appropriate conclusions.

Speed of economic growth and population income

The basic condition affecting the consumption of food goods is the level and rate of development of the national economy measured by gross domestic product (GDP). GDP

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[9] Classification of Individual Consumption by Purpose.

[10] In accordance with the national accounts ESA 2010, the household sector covers natural persons or groups of natural persons who live together and earn their livelihood together i.e. share income, expenses and assets or natural persons permanently staying in collective living facilities (e.g. residents of social welfare homes, educational facilities, monasteries/nunneries, prisons, etc.) i.e. so-called collective households. *National accounts by institutional sectors and subsectors in the years 2013-2016*, CSO, Warsaw 2018, p. 22, 236.

[11] Nasiłowski M., *Market system. Fundamentals of micro- and macroeconomics,* Edition 7, scientifically edited by M. Garbicz, Key Text, Warsaw Publishing House 2016, p. 40.

is considered to be a factor representing the further environment of consumption and, first of all, the determinant of the standard of living and wealth of the society[12]. The derivative of GDP is population income, which is one of the most important economic factors affecting consumer behaviour. The basic economic category describing the amount of population income on the "macro" scale is gross available income in the household sector, whose level is closely correlated to the amount of national income[13].

The analysis of basic indices describing the socio-economic situation of Poland shows that after a slowdown in the years 2012-2013, caused by the second wave of the global financial and economic crisis, the Polish economy entered the stage of recovery. In the years 2014-2017, the average rate of economic development was at the level of about 4% and in 2017 it was 4.8% and was at its highest since 2011. In 2017, when compared to 2013, GDP grew in real terms by 15.9% (Table 1). The major factor of economic growth was the private consumption in households whose rate was similar to that of GDP. The growing consumption was positively affected by the improved situation in the labour market, reflected by the increased level of employment, lower unemployment rate and increased remunerations.

In 2017, average employment in the economy was greater by 845,000 people, i.e. by 8.9% higher than in 2013. At the end of 2017, the registered unemployment rate was 6.6%, compared to 13.4% at the end of 2013. The reduction in unemployment and limited availability of new employees created pressure to increase salaries, especially in the business sector. In 2017, when compared to 2013, average monthly gross remunerations in the economy increased by 16.3% and in the business sector by 17.5%. Average monthly real pensions and annuities increased by 9.8% and real gross pensions and annuities of individual farmers by 5.7%. Given other sources of income, CSO estimates that in 2017, in relation to 2013, the increase in real available gross income in the household sector was 15.8% and per capita – 16.2% (Table 1). The highest increase, by 24.1%, applied to income of persons making their living by working in individual farms in agriculture, while the lowest – to those who were self-employed outside agriculture (by 10.4%). Income of paid employees increased by 18.9%, of pensioners and disabled pensioners by 14.2%. and those making their living on unearned income by 15.1%[14].

Table 1. Indices of gross domestic product (constant prices) and real disposable income of the household sector

Specification	2013	2014	2015	2016	2017	
	previous year = 100					2013 =100
GDP	101,4	103,3	103,8	103,1	104,8	115,9
per capita	101,5	103,4	103,9	103,1	104,8	116,1
Real income	100,8	102,8	103,5	106,0	102,7	115,8
per capita	100,9	102,9	103,6	106,1	102,7	116,2

Source: Data of Central Statistical Office and author's own calculations.

[12] Milewski R. (ed.), *Elementary issues of economics*, PWN Polish Scientific Publishers, Warsaw 2012, pp. 249-251;
[13] Noga M., *Microeconomic fundamentals of macroeconomics. Conceptualisation of the national economy*, CeDeWu, Warsaw 2018, p. 112,116.
[14] *Statistical Yearbook of the Republic of Poland*, CSO, Warsaw 2018, p. 730.

According to the surveys of household budgets, in 2017, when compared to 2013, average monthly real income *per capita* increased by 22.4%[15]. In the years 2016-2017, a significant contribution to this growth rate came from benefits related to the "Family 500+" government program[16]. The program contributed to a significant improvement in the financial situation of the least wealthy population groups. From the CSO studies it can be seen that in 2017, in relation to 2013, average monthly real income of the poorest households (first quintile group) increased by 61.4% and that of the wealthiest households (fifth quintile group) – by 12.6%. In 2017, average monthly nominal available income of persons with the highest income (fifth quintile group) was 5.2 times higher than the identical income of persons who are relatively the poorest (first quintile group), while in 2013 it was nearly seven times higher. The reduced diversification of income *per capita* in households is confirmed by the Gini coefficients, which since 2014 have demonstrated a clear downward trend[17]. The reduced income stratification and poverty range of the society[18] was essential to the evolution of the demand for food.

Food prices

The level and structure of consumption depend not only on the amount of nominal income but also on the level and structure of prices. Household income in the market is turned into real purchasing power and defines the demand volume while prices of consumer goods and services determine the material structure of this demand[19]. The demand reacts to changes in income but the buyer who has the given income reacts mainly to changes in prices[20].

From the CSO data it can be seen that in 2017, in relation to 2013, the rise in retail prices of food and non-alcoholic drinks was 2.3% (food – by 2.8% and non-alcoholic drinks – by 0.2%). This was the result of two opposite trends: downward from 2014-2015 and upward from 2016-2017. In the first period, prices of food and non-alcoholic drinks fell by 2.6%, with a fall in consumer prices in total by 0.9%, while in the second period they rose by 5.0% with an inflation rate of 1.4% (Table 2).

The deflation in the food market was a phenomenon that had not been recorded in Poland since the years 2002-2003, and the average annual fall in prices of consumer goods and services occurred for the first time in 1989[21]. In 2015, in comparison with 2013, all basic groups of food products in Poland went down in price, with the exception of dairy products, citrus fruit and confectionery. In 2016, this trend was reversed and prices of food rose by 1.0% on an annual scale. In 2017, the growth rate of domestic

[15] *Household budgets in 2017,* CSO, Warsaw 2018, p. 22.
[16] From the data of the Ministry of Family, Labour and Social Policy, it results from a 2016 policy that, as part of child-support benefits, families received PLN 17.03 billion and in 2017 – PLN 23.45 billion.
[17] In 2017, the value of this coefficient was 0.298 when compared to 0.338 in 2013. *Household budgets in 2017,* CSO, Warsaw 2018, p. 348.
[18] *Range of economic poverty in Poland in 2017*, CSO, Warsaw 2018, p. 1.
[19] Gazda Z., *Courses on economics. Part one – microeconomics*, WSEiA in Kielce, Kielce 2000, pp. 79-80.
[20] Świetlik K., *Prices of food in the process of market transformations of the Polish economy (1994-2004)*, IAFE-NRI, Warsaw 2008, series: Studies and monographs No 141, p. 75.
[21] In 2002, prices of food and non-alcoholic drinks fell by 0.7% and in 2003 by 1.5% y/y. Świetlik K., (ed.), *Demand for food. State and prospects*, IAFE-NRI, AMA, MARD, Warsaw 2016, series: Market analyses No 17, p. 22, 27.

food prices accelerated. The rise in their average annual level was 4.6% and was its highest since 2011. The total rise in food prices from 2016-2017, by 5.6%, neutralised their fall in the years 2014-2015. As a result, in 2017, all basic groups of food products monitored by CSO, with the exception of sugar, were more expensive than in 2013 (Table 2).

Table 2. Price indices of consumer goods and services

Specification	2013	2014	2015	2016	2017	
	previous year = 100					2013=100
TOTAL	100,9	100,0	99,1	99,4	102,0	100,5
Food and non-alcoholic beverages	102,0	99,1	98,3	100,8	104,2	102,3
food	102,2	99,1	98,2	101,0	104,6	102,8
bread and cereals	101,1	100,1	99,6	100,4	102,1	102,2
bread	100,5	99,8	99,8	100,6	102,7	102,9
vegetables	110,7	96,4	99,3	102,8	102,9	101,3
fruit	102,2	97,2	101,7	105,5	108,0	112,6
meat, pluck and meat preparations	101,8	98,9	97,0	100,0	104,8	100,5
pork	100,8	97,0	94,0	101,5	108,6	100,4
fish and seafood	101,1	100,0	99,7	103,6	103,4	106,8
oils and fats	102,1	99,7	93,6	99,2	116,0	107,4
butter	104,2	102,5	89,9	99,2	131,0	119,7
milk and dairy products	102,2	103,8	96,9	98,0	104,9	103,4
eggs	93,3	93,7	98,0	97,8	112,9	101,4
sugar, jam, honey, chocolate and confectionery	98,3	93,5	99,1	105,0	102,5	99,7
sugar	91,7	71,2	91,0	126,9	105,5	86,7
non-alcoholic beverages	100,3	99,7	99,6	99,8	101,1	100,2

Source: Data of Central Statistical Office and author's own calculations.

The rise in prices of food and non-alcoholic drinks in the years 2013-2017 (by 2.3%) was higher than the inflation rate (0.5%). Greater price increases than for food, however, were seen in spirits and tobacco products (by 6.7%), restaurant and hospitality services (by 6.4%) and goods and services related to the use of apartments, including mainly rental fees (by 7.1%). By contrast, there was a fall in prices of energy carriers (by 0.8%), of transport-related goods and services (by 12.0%, including fuels for private means of transport by 16.4%) and clothes and footwear (by 17.8%), thus stabilizing the overall index of family maintenance costs.

The significant increase in population income, recorded in the years 2013-2017, (nominally by 16.4%) under conditions of low inflation resulted in a significant improvement in the financial situation of households. The confrontation of income dynamics rates and retail prices of foodstuffs in the compared periods indicates an increase in the purchasing power of income with regard to all food products monitored by CSO, except for butter and berry fruit.

Consumption of food according to macroeconomic data

In the system of national accounts, consumption is the value of products used to satisfy the population's needs and it includes: private consumption, i.e. consumption in households, consumption in the sector of non-commercial services for households and public consumption in the sector of government and self-government institutions as well as collective consumption[22]. The consumption of food in the household sector consists of expenses incurred by the population for purchasing products and market services, including expenses in catering and self-catering establishments, valued at prices paid by consumers and the natural consumption of agricultural products from self-production, valued at buying-in prices of raw (unprocessed) products[23].

It is apparent from the CSO national accounts that in 2014, along with the economic recovery, the growth rate of consumption accelerated to 2.6% from 0.6% in the years 2012-2013. In 2017, the increase in total consumption was 4.9% and was its highest since 2008, providing a high level of macroeconomic activity. In 2017, when compared to 2013, the consumer demand of the household sector, measured by the amount of expenses from personal income, grew in real terms by 15.2% (Figure 1). The consumption was positively affected by: improved situation on the labor market and related growth in employment and remunerations, low inflation increasing the growth rate of available income of households in real terms, as well as optimistic consumer sentiment[24].

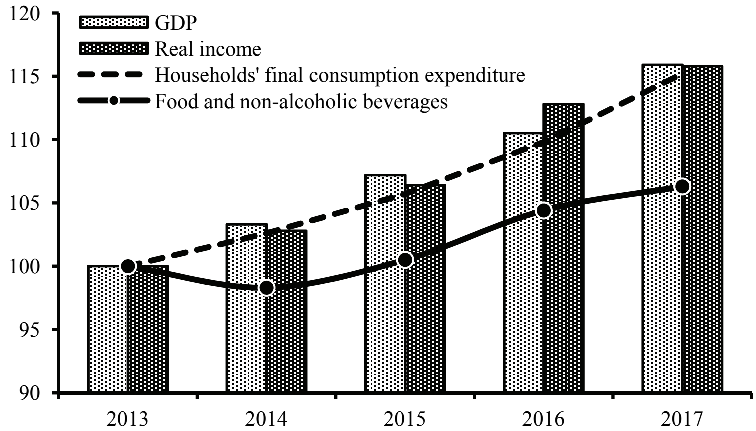

Figure 1. Indices of GDP, real gross disposable income and households' final consumption expenditure (constant prices, 2013=100)
Source: Author's own elaboration and calculations based on data of Central Statistical Office.

The deflation in the food market in 2014 did not revive the demand for food. In 2014, when compared to the previous year, the consumption of food in the household sector decreased by 1.7%. It was only in 2015, when, as a result of accelerating the growth rate of population income, reducing the average price level of consumer goods and services and deepening the downward trend in prices of food, the tendency of households to purchase food increased. In 2015, after four years of systematic declines,

[22] *Statistical Yearbook of the Republic of Poland 2018*, CSO Warsaw 2018, pp. 692-693.
[23] *Quarterly accounts of gross domestic product in the years 2010-2015*, CSO, Warsaw 2016, pp. 21-22.
[24] In 2017, for the first time since the CSO started studying the consumer economic situation, i.e. since 1997, consumer confidence indices were positive. *Consumer economic situation December 2017*, CSO, Warsaw 2017, p. 1.

the consumption of food and non-alcoholic drinks in the household sector increased by 2.2% y/y. Additional factors supporting its increase were: low rise rate of prices of living services related to the maintenance of a flat, rates from energy carriers, and a significant fall in prices of fuel for private means of transport (by 13.5%). In 2014, consumers in the first instance purchased durable consumer goods, put aside in time due to the crisis, and in 2015 they could spend more money on food without worrying about the possibility of satisfying other basic needs.

In 2016, the upward trend in the demand for food was strengthened. When compared to 2015, the consumption of food and non-alcoholic drinks in the household sector increased by 3.9%, i.e. at a rate not recorded since 1996. The revival of demand for food was supported mainly by: improved income situation of less prosperous population groups related to payment of benefits under the "Family 500 Plus" government program, further reduction in prices of living services and a downward trend in prices of fuel for private means of transport lasting for the fourth consecutive year[25]. In 2017, the growth rate of food consumption in the household sector slowed down to 1.8%. This was influenced by a decrease in the food consumption volume as a result of the rise in prices, including in particular, of products with the largest share in the market basket, i.e. meat, dairy products and fruit and, in addition, butter, eggs and sugar and the rise in prices of goods and services related to housing and transport. In 2017, the consumption of food and non-alcoholic drinks was at a level 6.3%, higher than in 2013 and similar to that recorded in 2010.

An important contribution to the increased consumption of food in the years 2013-2017 was the strengthened demand of the household sector for catering services. From the CSO data on retail sales estimated for annual periods in the full population of entities, it is apparent that in 2017, when compared to 2013, sales in catering establishments, at constant prices, increased by 41.7%, while retail sales in total executed by commercial and non-commercial enterprises increased by 22.7%, including sales of food and non-alcoholic drinks by 5.9%[26].

Consumption of food according to balance sheet data

From balance sheets of agricultural products prepared by CSO, it can be seen that in the years 2013-2017 among ten basic groups of food, the consumption of seven showed an upward trend, while that of the remaining three – a downward trend. The consumption of vegetables, fruit, meat, fish, fats, milk and sugar increased, while that of cereal products, potatoes and eggs decreased (Table 3). In 2017, the total weight of consumed foodstuffs expressed in raw materials, per one statistical resident of Poland, amounted to 754.8 kg and was by 23.2 kg, i.e. 3.2% higher than in 2013[27]. Its dynamic growth, up to 763.9 kg *per capita*, was recorded in the years 2013-2016. In 2017, as a result of decreased supply, increased food prices and the slowdown in the population's income dynamics, the consumption of food weight decreased by 9.1 kg *per capita* but remained

[25] The fall in prices of goods and services related to the use of a flat and energy carriers, recorded in 2016, occurred for the first time in 1989. In the years 2012-2016, prices of fuels for private means of transport fell by 25%.
[26] *Internal market in 2017*, CSO, Warsaw 2018, pp. 17-20.
[27] In the calculations, it was assumed that 1 litre milk = 1,0293 kg, and 1 hen egg = 0,0556 kg.

substantially higher than in 2013. Quantitative changes in the consumption of food were accompanied by significant structural and qualitative changes. In 2017, when compared to 2013, the consumption of plant products increased by 2.1 kg, i.e. by 0.5% and of animal products by 21.1 kg, i.e. by 6.8%. The share of plant products in the total weight of consumed food products decreased from 57.7% in 2013 to 56.3% in 2017, with an increase in the share of animal products from 42.3% to 43.8%.

Table 3. Consumption of selected foodstuffs (according to balance sheet data, per capita)

Specification	2013	2014	2015	2016	2017	
	in absolute numbers					2013=100
Grain of 4 cereals in terms of processed products – in kg [a]	108	106	103	103	102	94,4
Potatoes – in kg [a]	102	101	100	97	96	94,1
Vegetables – in kg	102	104	105	106	105	102,9
Fruit – in kg	46,0	47,0	53,0	54,0	53,0	115,2
Meat and edible offal [b] – in kg	67,5	73,6	75,0	77,6	74,6	110,5
of which: meat	63,8	69,5	70,9	73,4	70,1	109,9
pork	35,5	39,1	41,4	40,8	38,2	107,6
beef	1,5	1,6	1,2	2,1	3,2	213,3
poultry	26,5	28,2	27,1	29,2	27,6	104,2
Fish and seafood [c] – in kg	12,2	13,5	12,5	12,9	12,5	102,5
Oils and fats [d] – in kg	31,8	32,7	33,7	34,5	35,1	110,4
edible animal fats	5,1	5,5	5,8	6,1	6,5	127,5
vegetable fats [e]	22,6	23,0	23,4	23,7	24,1	106,6
butter	4,1	4,2	4,5	4,7	4,5	109,8
Cows' milk – in l [f]	206	205	213	222	218	105,8
Hen eggs – in units	148	155	144	145	139	93,9
Sugar – in kg	41,9	44,3	40,5	42,3	44,5	106,2

[a] Data concern farming years, i.e., periods from 1 VII of a previous year to 30 VI of the given year. [b] Including meat and edible offal designated for processed products. [c] In live weight. [d] In commercial weight. [e] Data of Institute of Agricultural and Food Economics – the National Research Institute. [f] Including milk designated for processed products, excluding milk used in the production of butter.
Source: Data of Central Statistical Office and Institute of Agricultural and Food Economics – the National Research Institute

Structural changes in the consumption of food become more visible when foodstuffs are divided according to the nutrients they provide, into four categories: protein products (meat, fish, milk, eggs), carbohydrate products (cereal preparations, potatoes, sugar), fatty products (butter and other animal fats, vegetable fats) and products providing minerals and vitamins (vegetables, fruit). According to the balance sheet data, in the years 2013-2017 there was an increase in the consumption of protein products (by 19.25 kg *per capita*, i.e. by 6.9%), of products that are sources of minerals and vitamins (by 10 kg, i.e. by 6.8%) and fatty products (by 3.3 kg, i.e. by 10.4%), while the consumption of carbohydrate products decreased (by 6.4 kg, i.e. by 2.5%).

The increase in the consumption of protein products was determined by the increase in the consumption of meat, milk and fish. The Polish consumer is traditionally a supporter of pork, whose consumption in 2017 accounted for 51.2% of the total consumption of meat and offal. The share of poultry meat was 37% and of beef – 4.3%. When compared to 2013, the share of pork and poultry decreased, with an increase in the share of beef as a result of a significant increase in its consumption stimulated by the growing wealth of Polish society. The increase in the consumption of milk was a continuation of the trend observed since 2006. The relatively small increase in the consumption of fish (by 2.5%) was limited by the high price level of fish products. Essential changes also took place in the consumption of fats. The overall increase in their consumption was the result of an increased consumption of animal fats from 9.2 kg in 2013 to 11 kg in 2017, i.e. by 19.6% and of vegetable fats from 22.6 kg to 24.1 kg, i.e. by 6.6%. The share of animal fats in the total consumption of fats increased from 28.6% to 31.3%. The decrease in the consumption of carbohydrate products was determined by the reduced consumption of cereal and potato products, while the consumption of sugar showed an upward trend.

Consumption of food in households

The analysis of household budgets shows that in the years 2013-2017, the changes in the consumption of foodstuffs in households were multidirectional, with a predominance of downward trends. The quantitative consumption of all CSO-monitored groups of food was reduced, with the exception of meat and fruit products (Table 4).

Table 4. Average monthly consumption and expenditures on selected foodstuffs per capita in households

Specification	Consumption				Expenditures	
					nominal	real
	2013	2015	2017			
	in kg			2013=100		
Bread and cereals	6,45	6,06	5,67	87,9	106,5	104,2
bread	4,13	3,74	3,31	80,1	88,5	86,1
Meat [a]	5,26	5,27	5,28	100,4	103,4	102,9
pork	1,30	1,34	1,30	100,0	97,1	96,7
poultry	1,51	1,53	1,56	103,3	99,7	107,1
beef	0,08	0,09	0,09	112,5	110,1	108,7
processed meat	2,05	2,00	2,04	99,5	108,4	105,0
Fish and seafood [b]	0,34	0,33	0,29	85,3	112,0	105,5
Milk and milk products [c]	5,18	4,94	4,84	93,4	104,2	100,8
Eggs – in units	12,17	11,76	11,42	93,8	99,4	98,0
Oils and fats	1,23	1,15	1,11	90,2	107,2	99,9
butter	0,25	0,26	0,26	104,0	136,7	114,2
Fruit	3,43	3,59	3,64	106,1	129,3	114,8
Vegetables	9,03	8,68	8,24	91,3	111,5	110,1
potatoes	4,03	3,69	3,16	78,4	72,7	82,7
Sugar, jam, honey, chocolate and confectionary	1,89	1,83	1,72	91,0	110,3	110,6
sugar	1,17	1,09	0,93	79,5	68,0	78,3
Coffee, tea and cocoa	0,25	0,24	0,24	96,0	102,0	98,3
Mineral or spring waters – in l	4,09	4,57	5,16	126,2	121,9	124,7
Fruit juices – in l	0,72	0,80	0,81	112,5	112,8	112,2

[a] Meat, processed meat and other meat preparations, edible offal and offal preparations
[b] Excluding pickles, processed sea and fresh-water food and fish, canned fish and ready-to-serve food including coated food products
[c] Excluding milk drinks, sweet cottage cheese and milk desserts
Source: Data of Central Statistical Office and author's own calculations.

In order to quantify this phenomenon, the average monthly consumption of foodstuffs per capita was added up. According to the results of those calculations, in 2017, the total weight of food consumed by households (exclusive of non-alcoholic drinks) was 31.42 kg, while in 2013 – 33.9 kg[28]. The deflation in the food market in the years 2014-2015 did not increase this weight. However, it resulted in characteristic structural shifts in the market basket towards qualitatively better and more expensive products. Those shifts were made with the stabilization of nominal and increase in real food expenses by 1.8%[29]. In the years 2015-2017, as a result of the rise in food prices, the quantitative consumption of foodstuffs decreased by about 3.0%, with an increase in nominal and real food expenses by, respectively, 9.2% and 4.0%, indicating the continuation of qualitative changes in the consumption structure observed in previous years.

A detailed analysis of household budgets enables the identification of changes in intra-group consumption structures. In the years 2013-2017, from among cereal products households substantially reduced the consumption of bread (by 19.9%), rice (by 16.7%), groats and cereal grains (by 14.3%) and flour (by 12.1%, including wheat flour by 16.7%), and increased the consumption of other bakery products (by 27.4%)[30], breakfast cereals (by 7.1%), pasta and pasta products (by 2.7%) and pizza and flour semi-finished products, as evidenced by the increase in real expenses for the purchase of these products by 39.2%[31]. The decrease in the consumption of fish was determined by the reduced consumption of fresh fish (by 18.2%) and of frozen fish (by 8.3%), with the stabilized consumption of dried, smoked and salted fish and seafood. The domestic demand of households for frozen seafood and for fish and seafood preparations, measured by the increase in the real value of expenses for those products, significantly increased by, respectively, 50.5% and 30.0%[32].

Households reduced the consumption of all types of fats, except butter and olive oil. The consumption of pork fats was reduced by 22.2%, of margarine by 20.5% and of vegetable oils by 4.5%. The consumption of olive oil remained unchanged, while that of butter increased by 4.0%, despite a significant rise in its price (by 19.7%). As a result, the position of vegetable fats in the diet weakened. In 2017, their share in the total consumption of fats in households amounted to 70.3%, when compared to 72.4% in 2013. It can be assumed that the fashion for healthy lifestyles resulted in the lower interest of consumers in margarines. On the other hand, consumers noticed and appreciated the qualities of butter. Until recently, milk fat was a focus of great concern among consumers because of the widespread opinion that it was responsible for high cholesterol levels in the body and for cardiovascular diseases. There has now been a

[28] The calculations included the consumption of: bread and cereal products, meat, offal and products, fish (exclusive of fish products), milk products (exclusive of drinks and desserts), eggs, fats, fruit and products, vegetables and products, sugar, jams, honey, chocolate and confectionery and ice cream.
[29] Świetlik K., *Polish economy and consumption after the crisis*, „Consumption and Development" 2017, No 4, pp. 110-125.
[30] They include: crispbread, toast bread, challahs, buns and butter croissants, crackers, salty sticks, biscuits, gingerbread, waffles, pies, cakes, cookies, cupcakes, puff pastry croutons, etc.
[31] In household budget surveys, the consumption of these products is included in value terms only.
[32] They are included in value terms only and account for 30% of total household expenses for fish and seafood. Due to their significant increase in the analysed period, the total quantitative consumption of fish in households was higher in 2017 than indicated by budget data.

change in the perception of milk fat in the scientific community and weight media, which was reflected in the increased demand for butter, further supported by the increased wealth of the society.

Significant changes were also recorded in the consumption of dairy products. A decrease in the consumption of fresh drinking milk by 10.7% and of cream by 2.7% was accompanied by the increased consumption of ripened and processed cheese by 7.9%, with the stabilized consumption of cottage cheese and condensed and powdered milk. A strong upward trend was demonstrated by the consumption of milk drinks, milk desserts and flavored curds, so-called dairy goods (increase in real expenses by 23.6%).

In 2017, the consumption of eggs in households was by 7.4% lower than in 2013. A deep reduction also affected the consumption of sugar (by 20.5%). The total consumption of jams, marmalades and honey and of confectionery remained unchanged with a significant increase in the consumption of chocolate (by 26.7%) and ice cream (by 8.7%). The decrease in the consumption of sugar and eggs, just like of flour, is related to reduced preparation of cakes, desserts, second flour-based courses and fruit and vegetable preserves at home. There was a decrease in the demand of households for unprocessed potatoes (by 21.6%) and an increase in the demand for potato products (by 40.0%) and chips (by 33.3%). The decreasing consumption of potatoes was partially replaced with cereal products, mainly pasta and flour semi-finished products. The consumption of vegetables, except for potatoes, potato products and chips, increased by 0.4%. The consumption of fresh vegetables slightly decreased (by 0.3%) while the consumption of vegetable products increased (by 8.6%). Among fresh vegetables, households significantly reduced the consumption of cabbage (by 14.3%), beets (by 4.8%), onions (by 4.3%), tomatoes (by 2.4%) and cucumbers (by 3.9%).

The consumption of carrots and cauliflower vegetables remained stable, with an increase in the consumption of other vegetables and mushrooms (by 10.3%). The demand for common vegetables decreased while it increased for domestic and imported vegetables: eggplants, artichokes, endive, asparagus and broccoli. In the group of vegetable products, a decrease in the consumption of sauerkraut (by 15.8%) was accompanied by an increase in the consumption of frozen vegetable mixes (by 14.3%) and other vegetable products (by 16.7%)[33]. The market analyses and observations carried out show that in the consumption structure of vegetables there were shifts towards more processed, packaged products, mainly salads, as well as mixes produced with vegetables, meat, fish and cheese, and frozen foods[34]. The increased consumption of food (by 6.1%) resulted from the increased demand of households for bananas (by 46.7%), citrus fruit (by 1.5%) and "other fruit" (by 50.0%)[35], with a decrease in the demand for apples (by 11.5%), berries (by 4.7%) and stone fruit (by 5.7%). The consumption of frozen fruit remained unchanged, with an increase in the consumption of dried fruit and nuts (by 11.1%) and fruit products (by 20.0%).

[33] These are, inter alia, vegetable preserves, marinated vegetables, pickles, salads and canned vegetables.

[34] From the IAFE-NRI studies it shows that in Poland in the 2017/2018 season, frozen vegetables accounted for about 55% of the total production volume of vegetable preserves. Nosecka B. (ed.), *Market of fruit and vegetables. State and prospects*, IAFE-NRI, NASC, MARD, Warsaw 2018, series: Market analyses No 52, p. 34.

[35] Pears, melons, watermelons, figs, pineapples, kiwis, pomegranates, quinces, avocados, papayas, chestnuts, etc.

Changes in the consumption structure of meat products were reflected in the uneven dynamics of consumption of various types of meat and meat products. Households increased the consumption of raw meat (by 1.4%), slightly reduced the consumption of meat products (by 0.5%), while the consumption of offal and offal products remained unchanged. In the group of raw meat, there was an increase in the demand for raw beef (by 12.5%) and poultry meat (by 3.3%), with a stabilized demand for culinary pork and other types of meat. The decreased consumption of chicken meat (by 1.5%) was accompanied by a considerable increase in the consumption of goose, duck and turkey meat (by 46.7%). The consumption of pork and beef processed meats decreased (by 5.6%), that of poultry processed meats remained unchanged, and there was a significant increase in the consumption of other meat preparations (by 33.3%)[36]. In the years 2013-2017, the share of poultry meat in the consumption structure of culinary meat increased from 51% to 52%, with a slight decrease in the share of pork, from 43.9% to 43.3%. Among meat products, consumers preferred mainly pork and beef processed meats, whose share in the total consumption of processed meat decreased from 79% in 2013 to 75% in 2017 for the benefit of so-called "other" meat preparations (increase in the share from 11.7% to 15.7%). The increased demand for other meat preparations, including, in particular, meat delicatessen products such as meatballs, tripe, fried chops, stuffings, meatloaf, tongue in jelly, stuffed poultry and bacon, boiled pork knuckle, meat jellies, spit-roasted or smoked chicken involves consumers' pursuit of making their diet more diversified and the search for ready-to-eat products, which do not require much treatment and save time during meal preparation.

A high growth rate was characteristic of the consumption of non-alcoholic drinks, which in 2017 was by 18.5% higher than in 2013. This was determined by the increased demand for mineral and spring waters (by 26.2%), for vegetable and fruit and vegetable juices (by 14.3%), fruit juices (with 12.5%) and "non-alcoholic beverages not elsewhere classified" (by 12.3%)[37]. The consumption of tea decreased (by 16.7%), and the consumption of coffee, cocoa and chocolate powder remained unchanged. The increase in the consumption of mineral waters and juices is associated with a change in dietary habits and the emergence of a tendency to consume so-called "healthy food". Juices became a part of the daily diet of households as a necessary source of nutritive values and vitamins.

Family budget surveys show the growing popularity of eating out. In 2017, average monthly catering expenses per capita in households in total were in nominal and real terms by, respectively, 81.6% and 70.6% higher than in 2013. Their share in household expenses for food and non-alcoholic drinks increased from 9.9% in 2013 to 16.6% in 2017.

Households are decreasingly using self-supply, which is particularly evident in consumption behaviour in farmers' households. The decrease in self-supply is compensated by an increase in market food purchases. This is supported by, inter alia, increased wealth, improved commercial infrastructure in the countryside and an

[36] These are, inter alia: canned meat, pates and meat deli products.

[37] These are, inter alia, carbonated drinks such as lemonades, orangeades and coca-cola, non-carbonated drinks such as kvass, concentrates for the preparations of beverages and energy drinks, concentrated juices, fruit syrups, ice coffee and tea, etc.

expanding range in the supply of food products. In 2017, when compared to 2013, in farmers' households the value of food from self-supply decreased in real terms by 32% and its share (in nominal terms) in expenses of those households for food and non-alcoholic drinks decreased from 24.3% in 2013 to 15.5% in 2017.

In addition, the analyses of household expenses revealed a very interesting phenomenon, which is a sort of anomaly associated with the share of food expenses in family budgets. According to Engel's law, as household income increases, the share of expenses for food in total expenses should decrease[38]. In Poland, despite growing household income, this share has stabilized in recent years at a relatively high level. At the beginning of the 2000s, it amounted to 31%, in 2010 it decreased to 24.6%, and it remained at a similar level in the years 2013-2017 (Figure 2).

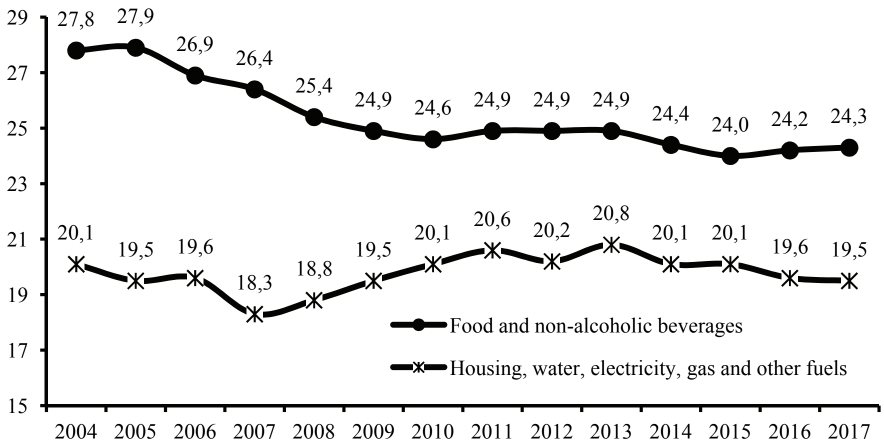

Figure 2. Share of average monthly expenditure per capita on food and non-alcoholic beverages and housing, water, electricity, gas and other fuels in the total expenditure of households, 2004-2017 (in %)
Source: Author's own elaboration based on data of Central Statistical Office.

In the interest of brevity, when indicating the reasons for this phenomenon, this paper focuses only on several key assertions. The results of the analysis lead to the conclusion that the stabilization of food expenses in household expenses is mainly related to qualitative and structural changes in the consumption of food, in which more expensive products have a growing share. The increasing pace and change in lifestyles, consumers' pursuit of shortening the time spent on preparing meals on the one hand, and, on the other, the increase in consumer awareness and greater expectations towards food, the high importance attached to healthy diets and increased interest in food quality has led to the occurrence of two opposing trends in the demand for food. There is dynamic growth in the demand for food which is "convenient", "fast", and highly processed, accompanied by a growth in the demand for food which is "healthy",

[38] Żelazna K., Kowalczuk I., Mikuta B., *Economics of consumption. Elements of theory*, WULS Publishing House, Warsaw 2002, pp. 73-74.

ecological, organic, and safe for human health and the environment. In both cases, this means a rise in the cost of nutrition.

Increased wealth also contributes to the rise in household expenses for luxury food, while the greater awareness of diet and the fashion for healthy lifestyles promotes the rise in expenses for functional, healthy food, enriched with physiologically active substances (nutrients), and for special purpose foods (e.g. dietary, GMO-free, lactose- or gluten-free food, and food for children), usually more expensive than conventional food. In the years 2013-2017, the food market was a major factor stimulating the recovery of demand in the least wealthy population groups, which spend higher amounts, in percentage terms, on food than other groups[39]. The growth in food expenses was also promoted by decreased self-supply (whose value is calculated in buying-in prices), compensated by the growth in market food purchases (calculated in retail prices). An additional reason for the stabilization of the share of food expenses in total expenses was the relative rise in prices of food and the persistent high level of its waste.

Summary

The strengthening of upwards trends in the economy, positive phenomena in the labor market and improvement in the income situation of the population in the years 2013-2017 was reflected in the growth of the demand for food. From the CSO macroeconomic data it can be seen that in 2017, when compared to 2013, the consumption of food and non-alcoholic drinks, at constant prices, increased by 6.3%. The consumption of most basic groups of food, including, in particular, animal products, increased. Household budget surveys highlighted significant changes in consumer preferences both in terms of the amount of food consumed and the consumption structure. Based on the analyses carried out, it can be concluded that:

- In Polish households, less and less food is consumed, as evidenced by the decrease in the quantitative consumption of most basic foodstuffs, recorded in the years 2013-2017;
- Households mainly reduced the consumption of low-processed products such as potatoes, milk, bread, flour, sugar, eggs, vegetables, oils, pork fats;
- Deconsumption of food is accompanied by structural and qualitative changes towards increasing the share in the market basket of better, in terms of quality, more processed products, with higher added value and higher unit price, convenient to use, saving time to prepare meals and resulting in the diversification and nutritive value of the diet. The consequence of these changes is a real rise in household expenses for food by 5.7%, as observed in the years 2013-2017, with a reduction in the volume of consumption;
- The decrease in the quantitative consumption of food in households is largely offset by the increased consumption outside of the home. In the years 2013-2017, the tendency to use catering services intensified, as evidenced by the increase in real household expenses for catering by 70.6%, when compared to the increase by 16.3% in the years 2009-2013;

[39] In 2017, when compared to 2013, in the least wealthy households belonging to the first quintile group, real expenses for food rose by 15.7% while in the wealthiest households (first quintile group) they fell by 0.5%.

- The fact that consumers prefer more expensive food results in, contrary to Engel's law, stabilization of the share of food expenses in total household expenses accompanying the increase in wealth. We may suppose that this phenomenon is transitional and in the coming years this share will gradually decrease, in line with the trends observed in highly developed countries.

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Tendencje w zachowaniach współczesnych konsumentów żywności

Streszczenie

Celem artykułu jest przedstawienie zmian poziomu i struktury konsumpcji żywności w latach 2013–2017 z perspektywy makro- i mikroekonomii w oparciu o dane GUS zebrane z rachunków narodowych i budżetów gospodarstw domowych. Analiza danych wykazała, że w lepszej sytuacji gospodarczej i znacznie lepszej sytuacji dochodowej gospodarstwa domowe zmieniły swoje preferencje zarówno pod względem ilości spożywanej żywności, jak i struktury konsumpcji. Realne wydatki na żywność wzrosły pomimo zmniejszonej ilości konsumpcji, z większą ilością jedzenia i mniejszą wyżywieniem we własnym zakresie. Wzrost udziału wysoko przetworzonej żywności i droższych produktów w koszyku żywności przyczynił się do stabilizacji udziału wydatków na żywność w ramach całkowitych wydatków gospodarstw domowych. Realne wydatki na żywność wzrosły pomimo zmniejszonej ilości konsumpcji, z większą ilością jedzenia i mniejszą wyżywieniem we własnym zakresie. Wzrost udziału wysoko przetworzonej żywności i droższych produktów w koszyku żywności przyczynił się do stabilizacji udziału wydatków na żywność w ramach całkowitych wydatków gospodarstw domowych.

Słowa kluczowe: zachowania konsumpcyjne, uwarunkowania konsumpcji, żywność, konsumpcja żywności, gospodarstwo domowe.
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