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Relations between incomes and expenditures on food in Polish households – a regional perspective

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Abstract: The article assesses the economic condition of households with regard to their incomes and expenditure (including food expenditure) on the all-Poland scale in the period from 2000 to 2016. It compares selected relations of these categories and indicates the economic health of the households in different regions of Poland. It has been assumed, as a point of reference, that polarization of the analysed variables is dependent on the geographical area of residence. The data from the research on household budgets performed by the Chief Statistical Office (GUS) was used. A comparative analysis shows that despite the significant improvement in the financial status of households, there are still serious regional disparities. Especially, the eastern regions of the country are adversely marked in this respect.

Keywords: income, expenditures, expenditures on food and beverages, prosperity, household, regional analysis.

JEL codes: D 14, D 31, R 2

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1. Introduction

Income disproportion in Polish regions that determines the economic prosperity level and the direction of social development of households through the expenditure channel (including food expenditures) is becoming a crucial, contemporary diagnostic problem. Not only to the contemporary development disproportion, but it is also relevant due to the phenomenon of exclusion of the areas with lower development level, and the 'problematic' areas (including Eastern

Poland). The major train of thoughts is to point out how important the income dimension of social inequalities is for sustainable development and socio-economic consistency in the regional structure of Poland. The European strategy of limiting social exclusion refers to the conception of regional development and income factor that determines the dynamical development and competitive advantage of a region. According to it, the higher income transforms not only into economic effects but also into social effects resulting in advantageous changes in the consumption structure, which makes for a higher economic level of households. The strategy refers to the humanization of economy (Rzepka et al., 2017: 384-391; Horodecka, 2015: 9-39), and 'fair inequalities', which is shown by the need to ensure socio-economic coherence in the EU development. (the European Commission, 2010). For Poland, an approach of this kind is particularly important in the context of the need to limit the development distance (The Council of Ministers, 2017; Krajowa Strategia... , 2011). Therefore, the regional policy focuses on the rise in competitiveness seen in terms of dynamization and harmonization of development processes in the socio-economic dimension in accordance with the principle of sustainable development. The danger of current global trends, such as the increase in income inequalities and life chances, are a real threat to durable and sustainable development (Rogall, 2010). One of the economic objectives of this development on the microeconomic level that takes account of social prosperity is relevant disposable income of households, i.e. the one that allows a household which modernizes its consumption structure to indulge in higher level needs as well as the basic ones. Moreover, the countervailing character of the regional policy of the European Union aims to deal with the problems of gross regional disparities, not to mention inequalities (Wuensche, 2006). The regional diversities themselves, are the universal aspects and arise out of the state when regions function under the condition of mechanism that increases competitiveness. The article assumes that competitive regions are those capable of creating development effects which ensure not only achievement of a high level of real incomes, but also incomes dynamics, long-term increase as well as improvement of the relation in consumption expenditures structure. According to Engel's Law, the reduction in the shares of food expenditure in overall expenditures indicates the modernization in the structure of households consumption and makes a positive contribution to their prosperity. The favourable trends in the real income increase or improvement must be related to changes in the overall expenditures structure as the reduction in the share of the food expenditure. Such a trend has an impact on households in regions lagging behind and enriches

their development opportunities. In this context, the positive development of income status of households and the structure of expenditures (including the share of food expenditure) can be considered a crucial factor that creates socio-economic development processes. It was assumed that the changes concerning the incomes and related to Engel's Law are one of the dimensions that determine the advances of socio-economic consistence in Polish regions.

The study on revenue ratio and the range of changes in the share of food expenditure in the overall expenditures also refers to the search of different ways to achieve socio-economic consistency. Moreover, a sufficiently high level of income and its dynamics in time, as well as related to them dropping share of food expenditure in overall expenditures, determine the improvement of the socio-economic consistency in the least developed regions. The purpose of the article is to assess the changes in the economic condition of households in Poland and in regions within the period between 2000 and 2016 with reference to microeconomic categories of financial nature, i.e. incomes, overall expenditures, food expenditure, and some of their interactions. Generally, assessment of the socio-economic consistency in the regional comparison builds on GDP per capita as the indicator of an income nature (Blajer-Gołębiewska et al., 2014); however, the perspective of a household seems to be a much more reliable factor as changes to financial level of citizens' lives reflects, with great accuracy, the indicators of the microeconomic nature, including incomes and expenditures of households (Stiglitz et al., 2013). It is not just the macroeconomic chart of the GDP development but its merging that finally determines the disposable incomes of households (Bywalec, 2010: 69). By contrast, the application of microeconomic determiners allows assessing aspects of socio-economic nature directly concerning households (Bywalec, 2017). A household categorized by CSO was a research subject adopted. A selection of measures of its income condition according to expenditures, including the food expenditure as well as their relations on an all-Poland scale, were analysed along with their development in different regions in the years 2010 and 2016. Relative measures were applied for the increase in average incomes or expenditures may vary in different regions. As a reference point it was assumed that the income and expenditure gap, including the food expenses, which is the key dimension of inequality in economic prosperity, depends on the geographical point of the given household's location.

Therefore the verification of this thesis based on empirical data also refers to the regional

scale. The six regions of Poland (according to the CSO methodology) are composed of the following voivodeships: The Central Region (Mazovian and Lodz Voivodeships); The Southern Region (Lower Poland and Silesian Voivodeship); The Eastern Region (Lublin, Subcarpathian, Podlaskie and Swietokrzyskie Voivodeships); The Northwest Region (Lubusz, Greater Poland and West Pomeranian Voivodeships); The Southwest Region (Lower Silesian and Opole Voivodeships); The Northern Region (Kuyavian-Pomeranian, Pomeranian and Warmian-Mazurian Voivodeships). Aiming to verify the power of reliance existing between the level of incomes and: overall expenditures, food expenditures or the share of food expenses in overall expenditures, Pearson's linear correlation coefficient was implemented. It is particularly important to specify the effects in the share of food expenses in overall expenditures (measured by the level of average monthly outgoings per person in households) determined by the level of disposable incomes, specific of different regions of Poland. The crucial point is not the unbiased level of income and food expenditure, but their relations in Poland, which indicate the scale of development disparities in the regional view. The scale of the gap in this matter points to the effects of temporary development changes.

2. The importance of food expenditures in the process of meeting households' basic needs

Management of income and expenditure is an essential element of managing household finances (cf. Świecka, 2009: 6; Bogacka-Kisiel et al., 2012; Waliszewski, 2016).

The development of income influences the overall expenditure of households, including food expenditures, and determines the household diversification regarding economic prosperity. The vital source of satisfying the need for food, which is one of the biological (physiological, primitive or born) needs, is physical and psychical characteristics of a human body as well as their social environment. Sciences like economy, psychology and sociology indicate the fundamental role of biological needs in the needs hierarchy. The need for food placed low in the hierarchy, however, is dominant in the needs structure. We feel a superior need, and it becomes important to us only when the inferior need is satisfied. That is why the demand for food is prior to all others. Regarding the demands related to food as a starting point, it is indicated that these needs must be necessarily satisfied, at least on the minimal level, because it is an essential condition of human existence. They are not only prior to social needs that arose secondarily in the process of socio-

economic development, but also they are the strongest and the most common needs. The fact that food sustains and nourishes us determines its place among all individual human demands. These needs, with their intensity, predominate over other biological needs that require satisfying; however, along with the rising standard of living in society, the requirement for sustaining and nourishing evaluates to increasing demand of culinary experience. Food, however, does not only sustain and nourish us, but it also provides building material crucial for constant regeneration, determines man's psycho-physical condition, their immunity and susceptibility to illnesses, and consequently – the lifespan. The category of food expenditure is targeted at the demands of household members and affects their activities and scope for action either directly or indirectly. It also has an impact on the health of household members. Food and diet are the components of a social culture (Malysz, 2008: 19-22). Food is emphasized to be an asset of a particular kind that meets the collective need, which the optimal social development and harmonious social coexistence are when the individual demands are rationally satisfied. However, it is important to provide consumers with education on care with food once the food is economically affordable for every member of society. The rate of handling the demands on the household level can be associated with consumption expenditures, including those on food, whereas incomes determine the opportunities of satisfying those needs. At the international level we recognize three basic structures of material consumption, varying in dependence on the level of society's incomes. The first type is relevant to the group of countries with underconsumption of food, in which societies suffer from malnutrition or famine, whereas the third type of the consumption structure features countries of high prosperity.

Table 1. The basic types of consumption structures in modern societies (in % of overall expenditures in households)

| Consumption type | Food | Beverage and tobacco | Clothing and footwear | Accommodation and furnishing | Health care and hygiene | Transport | Entertainment and relax |
|------------------|------|----------------------|-----------------------|------------------------------|-------------------------|-----------|-------------------------|
| I | 50 | 11 | 12 | 15 | 4 | 5 | 3 |
| II | 39 | 10 | 13 | 20 | 5 | 9 | 4 |
| III | 25 | 10 | 14 | 26 | 6 | 14 | 5 |

Source: Author's own elaboration based on: Małysz, 2008: 22.

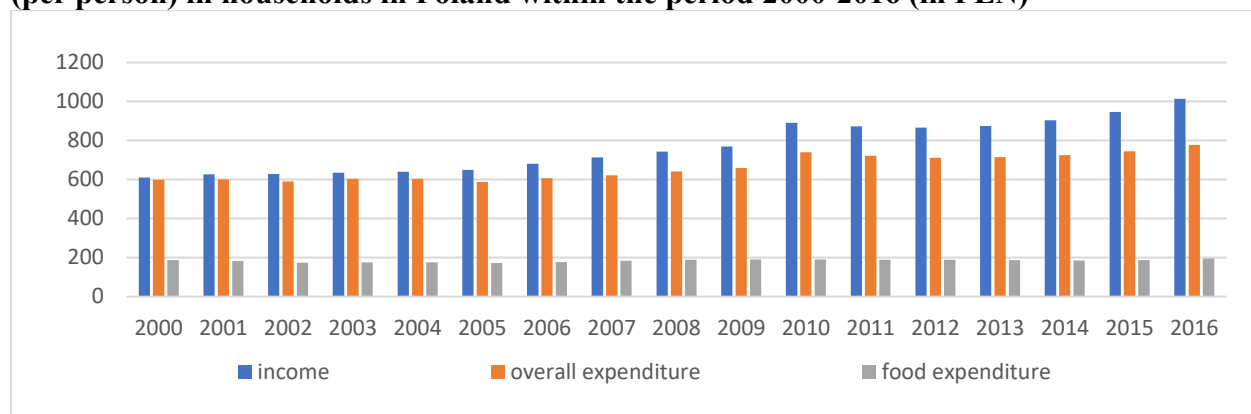
In societies of high incomes, consumers disburse relatively less on primary assets. According to the rise in incomes not only does the overall sum of the expenditures in households increase, but also their structure develops and the share of food expenses in overall expenditures decreases. The lower the share of expenditures on fundamental needs is, the higher is the standard of living in society. The society's living standard determines the position of expenditures on different assets and services, including food expenses. With the growing incomes of society, the share of food in the consumption structure decreases and finally loses its dominant position. Despite the relative drop in the share of food in the consumption structure which characterizes the third type of the consumption structure, people's diet is of a higher quality, and their average daily ration is optimal or higher than the norms recommended in highly-developed countries.

Overconsumption – a new phenomenon – develops in this type of consumption structures. It can have a negative impact on the fundamentals of social life (Bywalec, 2010). The particular awareness of negative results of this phenomenon should be universal, because the abundance of food along with the high incomes provokes a part of society to consume an excessive amount of food which in turn results in the development of 'civilization diseases' (arteriosclerosis, diabetes, obesity, cancer) (Małysz, 2008: 22). Therefore highly-developed countries acknowledge the necessity to resist overconsumption, since the diseases of affluence have been developing at an alarming pace.

3. Changes to the condition of incomes and expenditures (including food expenditure) in households in Poland

Graph 1 shows the development of incomes and overall expenditures along with food expenses on the all-Poland scale in accordance with their real level. The assessment of the angle of deviations in average monthly incomes and overall expenditures in absolute view is economically essential.

Graph 1. The level of real* disposable income, overall expenditure, and food expenditure (per person) in households in Poland within the period 2000-2016 (in PLN)**



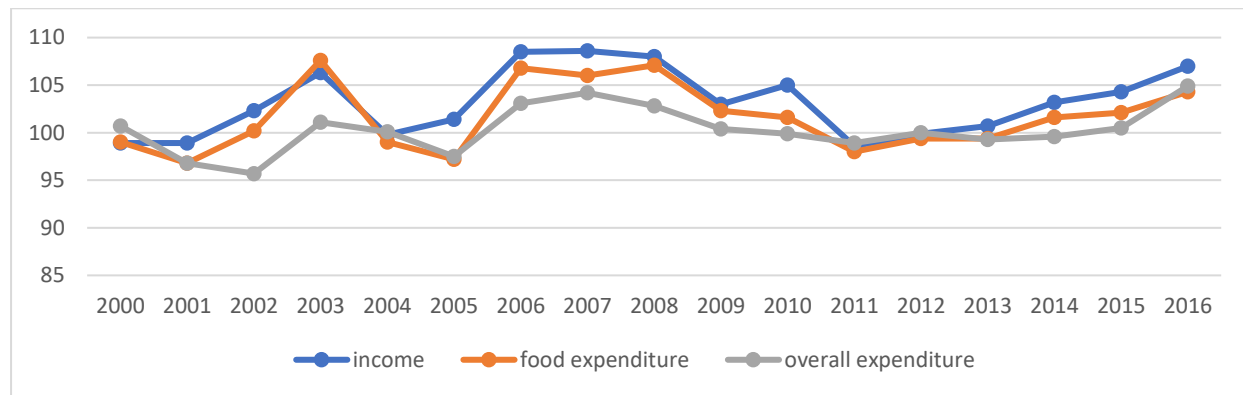
*) records presented in PLN were reduced to the comparability of constant prices. The levels of nominal categories were corrected for the inflation indicator – goods prices and consumption service indicator was applied (the previous year=100)

**) food expenditure including non-alcoholic beverages

Source: Author's own elaboration based on: www.stat.gov.pl [access: 11.09.2018].

General comparative overview of disparities in income values and expenditures in real terms indicates that whereas incomes were almost equal to overall expenditures in households in 2000, the angle of their absolute deviations in recent years points to a distinct increase in the spread between those categories. Incomes have been becoming increasingly higher than expenditures as from the year 2001. A gradual growth in the spread between these categories is noticeable, as absolute difference was about PLN 36 in 2004, followed by PLN 150 in 2010 up to PLN 236 in 2016. An indicative fact is that the level of real food expenditure has remained quite steady for the whole period considered. Graph 2 shows the dynamic of incomes and overall expenditure with the food expenditure, which allows interpreting the direction and the dynamic force of these categories.

Graph 2. The dynamics of average monthly disposable incomes, overall expenditures and food expenditure (per person) in households (in real terms) in Poland in the period 2000-2016 (the previous year=100)



*) records presented in PLN were reduced to the comparability of constant prices. The levels of nominal categories were corrected for the inflation indicator – goods prices and consumption service indicator was applied.

**) food expenditure including non-alcoholic beverages

Source: Author's own elaboration based on: www.stat.gov.pl [access: 11.09.2018].

In the years 2000-2016, the real income per person in Poland increased by about 66%, while the real expenditure by only 30% (in nominal categories the increase was by 142% for income and by 89% for expenditure, respectively, which means that the incomes rose almost two and a half times, whereas expenditures did not even double). In addition, it is noteworthy that during the whole period considered the pace of real expenditure development was lower than the dynamics of the real income changes.

In the first decade of the 21st century, the average pace of the real income and expenditure development was quite slow and stood at 3.2% for incomes and 1.6% for expenditure (Kasprzyk, Leszczyńska, 2012: 263-273). The average yearly pace of real income development in the whole period considered, however, amounted to 3.6%, whereas the expenditure development pace was slower – only 1.8%. The expenditures in 2001 and 2005 faced a real but mere decrease, while in the years 2011-2015 the real incomes slightly dropped and remained stagnant with a more significant decline in the overall expenditure at the same time. It was only later on that the income and expenditure development pace reached a satisfactory level, whereas expenditures generated domestic demand and the growth in assets and services consumption in households. A fact to be considered is that child benefit ('rodzina 500+') launched for certain families on 01.04.2016

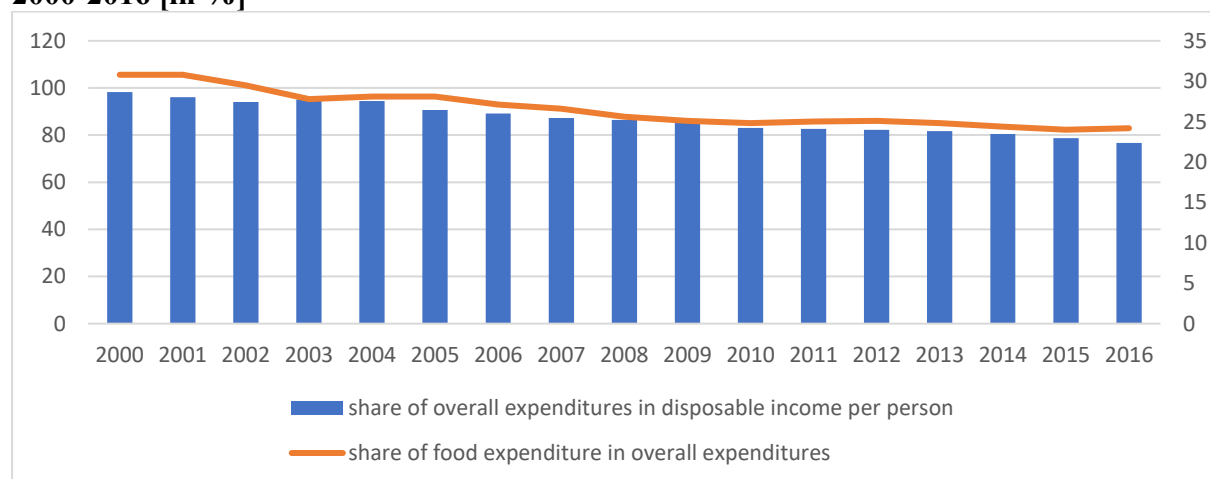
accounted for 16.8% of disposable income per person in households entitled (Budżety, 2017). The benefit will result in an increase in the economic prosperity in households later on, as its profitable effect will not influence the expenditure structure immediately.

Food expenditure, in turn, was characterized by diverse dynamics of development. Before the year 2005, the dynamics of development for these real expenditures had been rather poor. It improved slightly no earlier than in the years 2006-2008.

In the following period, the dynamics remained pretty stable to reach a significant increase of 5% in 2016. The average yearly pace of food expenditure development was surprisingly low (0.3%).

Graph 3 shows the development of the share of expenditures in disposable incomes and the share of food expenditure in overall expenditures. Both are important relations when analysing the economic prosperity development.

Graph 3. Interactions: share of average monthly expenditure overall in disposable income, and share of food expenditure in overall expenditures per person in households in the years 2000-2016 [in %]



* food expenditure including non-alcoholic beverages.

Source: Author's own elaboration based on: www.stat.gov.pl [access: 11.09.2018].

The trends in the development of the share of overall expenditure in disposable incomes of households confirms previous absolute disparities of income and expenditure called angle of deviation. It is worth noticing that those trends are determined by the directions observed in highly-developed countries, although they are still far behind. It turns out that the share of overall

expenditure in disposable income in Poland reduced systematically over the years from 98% in 2000, 90% in 2005, 83% in 2010 to fall to merely 77% at the end of the period considered. Such a positive trend indicates an increase in the ability to collect savings by households. In the years 2000-2016, there was a significant decrease in the share of food expenditure percentage in overall expenditure, from almost 31% in 2000 to 24% in 2016. It is still more than in higher-developed countries of the UE. According to Eurostat, food and non-alcoholic beverages accounted for a maximum of 15% of the overall expenditure of a model household in the countries attaining a high Human Development Index (European Commission a., 2017; European Commission b., 2017). However, it is worth highlighting that the share of food expenditure in overall expenditures coincides with the third type of consumption structures of contemporary society.

Worth emphasizing is also the beneficial nature of the fact that along with the increase in the overall income, the decreasing share of food expenditures in total expenditures, in accordance with Engel's law, indicates the consumption structure modernization and refers to the economic prosperity growth of households in Poland. However, it is necessary to point out that the share of food and non-alcoholic beverages expenditure of about 24% is still the highest among other categories in households' overall expenditures structure. The share mentioned has remained at constant level since 2014.

4. The development of income, overall expenditure and food expenditures in households – a regional perspective

Following is how the economic circumstances of households, regarding income and expenditure, depends on the region of residence. Table 2 shows the specific relationship and regional disparities in regard to disposable incomes, overall expenditures, food expenditure and interrelation of these categories. It also indicates the extent of the persistence of regional disparities from 2000 to 2016.

Table 2. Average monthly disposable income, overall expenditure, food expenditure* (per person) in households in Poland by regions in the years 2010 and 2016 (relations and dynamics in %)

| Specification | Income | | Overall expenditure | | Food expenditure | | Income | Overall expenditure | Food expenditure | Share of expenditure in income | | Share of food expenditure in overall expenditure | |
|---------------|-----------------|------|---------------------|------|------------------|------|---------------------|---------------------|------------------|--------------------------------|------|--|------|
| | relations (in%) | | | | | | real dynamic (in %) | | | relations (in%) | | | |
| | 2010 | 2016 | 2010 | 2016 | 2010 | 2016 | 2016/2010 | | | 2010 | 2016 | 2010 | 2016 |

RELATIONS BETWEEN INCOMES AND EXPENDITURES ON FOOD OF POLISH HOUSEHOLDS
— REGIONAL PERSPECTIVE

| | | | | | | | | | | | | | |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|
| Total | 100 | 100 | 100 | 100 | 100 | 100 | 114.3 | 105.6 | 102.8 | 83.1 | 76.7 | 24.8 | 24.2 |
| Central | 113.7 | 122.6 | 122.3 | 116.4 | 107.3 | 104.8 | 106.1 | 100.5 | 100.5 | 82.9 | 78.5 | 21.8 | 21.8 |
| Southern | 100.1 | 95.9 | 99.2 | 100.2 | 101.3 | 100.1 | 114.4 | 106.8 | 101.6 | 85.9 | 76.9 | 25.4 | 24.1 |
| Eastern | 85.9 | 82.9 | 83.7 | 86.1 | 93.8 | 96.4 | 118.7 | 108.6 | 105.6 | 83.9 | 76.9 | 27.8 | 27.0 |
| North-western | 97.4 | 96.1 | 93.8 | 93.0 | 97.3 | 96.7 | 116.0 | 104.7 | 102.1 | 81.1 | 73.3 | 25.8 | 25.1 |
| South-western | 104.2 | 101.2 | 102.8 | 106.7 | 102.0 | 103.2 | 117.8 | 109.5 | 103.9 | 84.5 | 78.2 | 24.6 | 23.4 |
| Northern | 96.6 | 98.8 | 94.7 | 95.6 | 97.0 | 98.6 | 111.8 | 106.5 | 104.5 | 79.7 | 75.9 | 25.4 | 24.9 |

* food expenditure including non-alcoholic beverages.

Source: Author's own elaboration based on: www.stat.gov.pl [access: 11.09.2018].

It is necessary to emphasize that on a regional basis there are continuous significant disparities with regard to the analysed categories of economic prosperity. The Eastern Region persistently ranks the last place in the regions table. Over the projection horizon, the Northern Region suffered a decrease in the income classification (from the third to the fifth place) which indicates the deepening of the distance from the national average. The Southern Region alone improved in its ranking position (from the fifth to the third place). The other regions kept their ranks in this regard.

Both, in 2010 and 2016, the average income were the lowest in the Eastern Region compared to the all-Poland average and individual regions.

In consequence, the overall expenditures and food expenditure simultaneously were also the lowest (Przegląd Regionalny Polski, 2017). The Eastern Region (Lublin, Subcarpathian, Podlaskie and Swietokrzyskie Voivodeships), characterized by the least favourable index among all regions compared, ranks the last place of all the regions in Poland invariably. In the Eastern Region, the disposable income is smaller by about 17% in relation to the average income on a country-wide basis, and this difference increased compared to the year 2010. A slightly smaller difference applies to expenditures. Over the years 2010-2016, however, it was relatively constant, and the expenditures in the region were lower by about 14% from the national average. However, while in percentages the lowest average income in 2010 represented merely about 68% of the highest incomes produced by households, the relation raised to 75% in 2016. As it turns out, the same spread in 2010 and 2016 also referred to expenditures. In the Eastern Region, the most disadvantageous is the relation of the share of food expenditure in overall expenditures. In households residing in the Eastern Region, the food expenditure share of about 27% is the highest in relation to the average all-Poland rates and particularly in relation to the Central Region. The situation of the region is not the worst – similar to the average in the country – referring to the

relations showing the share of expenditures in disposable income. As it turns out, in 2010, the Northern and the North-Western Regions boasted the highest potential to generate savings out of current revenue, while the lowest ones affected the Southern Region. Furthermore, this relation improved in all the regions in 2016 and the value of the quotient between expenditures and disposable incomes ranged from 78% in the Central and the South-Western Regions to about 73% in the North-Western Region. The monthly incomes, expenditures and food expenditures per person are still the highest in the Central Region. In 2016, the incomes there were by over 22%, overall expenditures by 16% and food expenditures by about 5% higher than the national average (Regiony Polski, 2017). The South-Western Region (Lower Silesian and Opole Voivodeships) has also recorded favourable rates in this regard. Although in the South-Western Region incomes, as well as expenditures, were also higher than the national average, for both categories the rates were merely 1% and almost 7%, respectively. Incomes and expenditures similar to the national average characterize the Northern and the Southern Regions. The average income raised in all the regions in Poland for the period 2010-2016. The Eastern and the South-Western Regions recorded the most significant dynamics of incomes and expenditures in real terms, while for food expenditures the Eastern and the Northern Regions recorded the finest rates. The Central Region, with its relatively high incomes and expenditures compared to the other regions, has the least significant dynamics of these categories. Whereas the Eastern Region is characterized by relatively lowest incomes, overall expenditures and food expenditures in the country, it recorded the most impressive dynamic increase regarding these categories over the years 2010-2016.

While in the Central Region, incomes were higher than the national average by about PLN 203 and expenditures by about PLN 186 in absolute terms, in the year 2016, the rates for the Eastern Region were lower than the national average, and the differences were PLN 207 for incomes and PLN 158 for expenditures, respectively. The incomes in this region, therefore, were sharply lower by PLN 410 and expenditures by PLN 343 compared to the corresponding rates for the Central Region. The incomes were by 24.4% and the expenditures by 26.1% lower in comparison with those for the Central Region. However, it is essential to emphasize the improvement in the relations in these terms compared to 2010, when the distance to the Central Region in both, incomes and expenditures sharply stood at 32%. (cf. *Regiony*, 2011: 28; *Regiony*, 2017: 27-28).

The regions with the higher basic consumer goods expenditures, including food expenditures, were among those with low incomes. Among all the regions, the Eastern Region is

characterized by both, the lowest incomes and the highest share of food expenditures in overall expenditures (which further corresponds to contemporarily antiquated consumption structure type II).

The food expenditures dominate the expenditure structure in all regions. They represented from 22%-27% of the total expenditures. Mere changes in the share of food expenditure in the overall expenditures accompany the overall real increase in food expenditure – in absolute terms – in all the regions over the years 2010-2016. The share of food expenditure in the overall expenditures in the Eastern Region decreased by just under one percentage point, and this relation was still higher than the national average. It exceeded the rate of the Central Region by sharp five percentage points. The opposite tendency, however, characterized the Southern, South-Western and Northern Regions: these regions recorded a modest improvement, and the share of food expenditure in the overall expenditures was a little lower than the rates characteristic of the whole country. The direction and the power of interaction between the scrutinized categories of the financial nature, namely between the income level and: overall expenditures, food expenditure and the share of food expenditure in the overall expenditures, was also examined. Table 3 shows the result of the correlation analysis for the regions.

Table 3. The Pearson correlation coefficient (PCC) for regions in 2016

| Specification | Correlation coefficients identified are relevant for $p < ,05000$ $N=6$ | | |
|--|---|------------------|--|
| | Overall expenditure | Food expenditure | Food expenditure /overall expenditures |
| Variable: disposable income per person | .9777 | .9069 | -.9949 |
| | $p=.001$ | $p=.013$ | $p=.000$ |

Source: Own calculations.

The relations were statistically significant. In the regional view, there are strong tendencies of interaction between the level of households' incomes (per person) and: overall expenditures including food expenditure and the share of food expenditure in the overall expenditures. The link strength of these categories was calculated with the PCC and on average amounted to 0.977 for expenditures in overall, 0.907 for food expenditures and -0.994 for the share of food expenditures in overall expenditures. It is a sign leading to the conclusion that the level of incomes in households in 2016 (in regional perspective) significantly affected the level of overall expenditures, including

food expenditures, and the level of food expenditures in terms of overall expenditures (the coefficients calculated are statistically significant, $p < 0.05$).

It can, therefore, be concluded that the changes in the level of disposable income in Polish regions are associated with the decrease in the share of food expenditure in the overall expenditures in households, which is in accordance with Engel's law and indicates the modernization of their consumption structure along with the gradual increase in their economic prosperity.

Table 4, in turn, shows selected measures of differentiation between regions in Poland in accordance with: disposable incomes, overall expenditures and food expenditure as well as the food expenditure in terms of overall expenditures.

Table 4. Differentiation measures for regions in Poland

| Specification | Disposable incomes | | Disposable expenditures | | Food expenditure | | Food expenditure /overall expenditures | |
|--------------------------|--------------------|--------|-------------------------|--------|------------------|------|--|------|
| | 2010 | 2016 | 2010 | 2016 | 2010 | 2016 | 2010 | 2016 |
| Standard deviation | 154.43 | 135.29 | 128.34 | 121.33 | 11.73 | 9.49 | 1.96 | 1.75 |
| Coefficient of variation | 0.13 | 0.09 | 0.13 | 0.11 | 0.05 | 0.03 | 0.08 | 0.07 |

Source: Own calculations.

It is important to emphasize a satisfactory assessment of interregional differentiation. From 2010 to 2016 the regional differentiation declined with regards to the examined categories, as evidenced by the direction of changes in differentiation measures: standard deviation and coefficient of variation.

4. Conclusion

Empirical data unquestionably point to the fact that the average economic circumstances of households depend on the region of residence. There are still relatively significant deviations in this regard in Poland. It further stratifies Polish regions and stages them in a hierarchic structure. Presented aggregates reveal the development problems of households, especially those residing in the Eastern Region. In this region, consisting of Lublin, Subcarpathian, Podlaskie and Swietokrzyskie Voivodeships, there are the most significant negative deviations of incomes, expenditures and food expenditure in relation to the all-Poland and regional basis. The Eastern

Region ranks last in all the categories compared. The gap in relation to the country-wide basis refers to either income, overall expenditure and food expenditure, and amounts to 17%, 14% and about 4%, respectively. The region that sharply leads in the regional comparative analysis, in turn, is the Central Region, since it is characterized by far the highest income and expenditures including food expenditures.

The Eastern Region with its lowest level of disposable income in households in the country over the years 2010-2016, is distinguished, however, by significant dynamics of development. The opposite situation can be noticed in the Central Region, where the relatively highest level of income goes hand-in-hand with the lowest dynamics of changes. Moreover, it can be noted that the lower level of overall expenditures and food expenditures in households in eastern Poland is accompanied by the lower level of income.

Regarding the level of overall expenditures, the Eastern Region is persistently the lowest-ranking region. Over the years 2010-2016, the regions of 'Eastward Face' recorded the overall expenditures lower by about 14% than the national average and by about 26% than those in the leading Central Region. Although the income raises in Polish households, this has not yet resulted in modern consumption structure targeted on relatively higher disbursement of revenues on high-level goods. The structure of goods and consumption services expenditures per person is dominated by food expenditures and spending on non-alcoholic beverages, as well as the housing and energy products expenses. Therefore, the expenses which serve to meet fundamental needs account for a significant share.

Despite the persistence of disproportion of incomes in households in Poland, there are some welcome tendencies in their economic circumstances. The increase in income is accompanied by the decrease in the share of food expenditure in the overall expenditures and the decrease in the share of expenditure on income. Back in 2000, the rank of food in the household budget amounted to 32% and was located between the second and the third type of consumption structure. In the late 2008 and the early 2009, however, the consumption structure reached the model type three and indicated the high standard of living in households. The significant decrease in the rank of food in the overall expenditures structure indicates a growth in the wealthiness of Polish society. The share of expenditures in incomes gradually decreases, which allows households to build up savings out of generated profits, and results in a growth of their economic prosperity.

It is important to emphasize that the pace of the growth in the real disposable income in Poland was higher than the one in expenditures. Provided that the yearly average pace of the income increase stood at almost 4%, the development was rather dynamic. The dynamics of expenditures over the projection horizon, in turn, was less significant as its pace of development amounting merely to 2% was modest in relation to incomes.

The dynamics of food expenditure is also weak, as its average development pace stood just at about 0.3% and in real terms it remained at an almost persistent level. The apparent improvement in financial circumstances of households in Poland could be observed not earlier but 2012. It is revealed by the higher pace of changes in income and expenditures, and a significant increase in the surplus of revenues in relation to expenditures, which resulted in better savings opportunities for households. Although the economic prosperity was developing slowly, the households could gradually increase the extent of savings made out of income. The research suggests, however, that the regional disparities of income on a microeconomic basis adversely affect both, the cohesion with regard to food expenditure and the modernization of consumption structures in households. There is a significant gap in this regard between the Central and the other regions of Poland. The fact that an uneven share of income in Poland is relatively permanent and adversely affects socio-economic cohesion is disturbing. Significant regional disparities in income result in household disparities in regard to overall expenditures and food expenditure. Ranks of the regions, in terms of income, vary little from their ranks in terms of overall expenditures and food expenditure. Nevertheless, binding the two measures: disposable income per person and the share of food expenditures in the overall expenditures shows that in the regions characterized by relatively low incomes, the share of food expenditure in the overall expenditure is relatively higher.

As previously indicated, the Central Region sharply leads in the comparative analysis, while the Eastern Region, with its most significant negative deviations of examined categories in relation to the all-Poland scale, ranks the last. These disparities indicate the lower level of economic prosperity in the households in eastern Poland. The trends in changes in this area raise a threat for development in the region. The lower income along with retention of food expenditure level result in lowering the expenditures targeted on education and qualifications upgrading, which further results in a low level of wages or problems in the labour market. It is essential that the regional disparity in terms of categories analysed, which is present in this region, should target a pro-development character rather than a dysfunctional one. The problem is a particular challenge for

the ways of allocating support under the social policy for inhabitants in the eastern regions. The differentiation in incomes can stimulate the development of modern society, but it will not do so if it is too significant. It would thus seem that, in the regions of Eastern Poland, the spread of income in relation to the rest of the country can be a burdensome hindrance for the desirable development in terms of the expenditure structure in households, including the share of food expenditure (account should be taken in particular of the distance from the rest of the country in this regard).

Excessive income disproportions on a regional scale interacting with the food expenditure negatively affect the social development of households and become a hindrance to reducing the development spread of underdeveloped regions. The persistence of extreme disparities in these terms is particularly disadvantageous in the process of achieving the desirable socio-economic cohesion.

It seems that not only the strategy of incomes levelling should be the axis of modern model of social assistance in the regions (as people manage their income in different ways, even the income of the same value can be targeted on different individual benefits), but also the one to limit their excessive disparities. The strategy of removing disparities, whose primary objective is to improve the prosperity of households, is a part of the development of the European economy. It seems that the objectives and targets of an effective regional policy should be more subordinated to the strategy of sustainability. Regarding the full range of conditions, the most significant actions are those that result in the development of economic circumstances of households on a microeconomic basis, which transfers into their income situation.

Further evident regional disparities in terms of the examined categories can prevent the regions lagging behind the process of socio-economic development and the process of increasing the economic circumstances of households. There are also some feedback loops in this matter. It can, therefore, be said that the processes of regional polarization and exclusion are due to the socio-economic development implemented in Poland. It results in revealing internal hindrances to the development of civilization in Poland. Concerns are arising about the prospects for sustainable and balanced development referring to socio-economic cohesion and 'fair social inequalities'.

The process of socio-economic development is not all about meeting the essential needs, including food demand or limiting the poverty of those in need, but about creating conditions of life independence, improvement of social inclusion and fairer share of life opportunities.

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Dochody a wydatki na żywność gospodarstw domowych w Polsce – ujęcie regionalne

Streszczenie

W artykule dokonano oceny sytuacji ekonomicznej gospodarstw domowych w latach 2000-2016 w świetle dochodów i wydatków (w tym wydatków na żywność) w skali ogólnopolskiej. Porównano wybrane relacje tych kategorii i wskazano na kondycję polskich gospodarstw domowych w różnych regionach. Jako punkt odniesienia przyjęto bowiem, że polaryzacja analizowanych zmiennych uzależniona jest od geograficznej przestrzeni zamieszkiwania. Wykorzystano dane z badania budżetów gospodarstw domowych przeprowadzonych przez GUS. Z analizy porównawczej wynika, że mimo znacznej poprawy sytuacji materialnej gospodarstw domowych, w Polsce widoczne są nadal znaczne dysproporcje regionalne. W tym względzie niekorzystnie odznacza się zwłaszcza region Polski Wschodniej.

Słowa kluczowe: dochody, wydatki, wydatki na żywność, dobrobyt, gospodarstwa domowe, analiza regionalna