

## CONSUMPTION IN LARGE HOUSEHOLDS

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**Purpose:** The aim of the article is to identify the level and structure of consumption in Polish households with at least three dependent children and to divide them into groups according to consumption patterns and, on this basis, to assess their standard of living.

**Design/methodology/approach:** The CSO database was used to examine the consumption patterns of large households. Households were divided into three groups using the Ward cluster method.

**Findings:** Households with many children are in the most difficult financial situation. Identified consumption patterns are: Cluster I: the lowest standard of living due to limited income, low propensity to consume and focus on basic needs; cluster II: the highest standard of living thanks to high income, high flexibility in spending and better development opportunities; Cluster III is characterized by an average standard of living, but with financial challenges related to the high costs of housing.

**Research limitations/implications:** A limitation of the research process is the exclusion of clusters containing a small number of cases, which may lead to the loss of potentially valuable information. In the future, it may be possible to examine how consumption is shaped in large households of biologically incomplete families.

**Practical implications:** The clusters created may constitute market segments for entrepreneurs. For cluster I, they should target inexpensive, basic products, especially in the food and non-alcoholic beverage categories; for cluster II - luxury goods and offers related to recreation and culture, for cluster III - products and services related to the use of housing, water, electricity, gas and other fuels.

**Social implications:** Households from cluster I should be the object of interest of social welfare units. Policies should focus on improving access to education, nutritional support and programs that equalize children's development opportunities.

**Originality/value:** The article conducted new research presenting the difficult financial situation of large households and their consumption patterns. It is of value to social policy and entrepreneurs. Policies should focus on improving the living standards of the households discussed in the article. In turn, entrepreneurs can create products and services tailored to the specific needs of specific consumer groups that have been identified.

**Keywords:** large households, expenses, cluster analysis, Ward's method, consumption patterns, standard of living.

**Category of the paper:** Research paper.

## 1. Introduction

Consumption is considered a way of meeting human needs through the use of goods and services (Bywalec, 2010). Sojkin (1994) clarifies that it is "not only a direct act of consumption that meets individual needs, but a complex process of attitudes, actions and decisions, reflected in the consumption behavior of individuals, groups and societies". Currently, consumption is becoming one of the most important categories in economics, management and socio-economic policy (Sobocińska, 2021). Consumer behavior is influenced by various factors, which, according to one classification, can be assigned to four groups: social (reference groups, family), cultural (culture, social class), psychological (beliefs, attitudes) and personal (gender, age) (Kotler, 2005).

The level and structure of consumption is also determined by the size and composition of the family and the biological connections between household members. Due to this criterion, there are households without dependent children, households with dependent children (one, two or three or more) and households of single parents (Laskowski, Piekut, 2018). In this study, attention was paid to households consisting of at least three children.

The issue of large families, i.e. families with at least 3 dependent children, remains relatively marginal in economists' research (Kośny, 2021). In the scientific literature, the category of large families appears in studies on living conditions and quality of life (Bebel, 2012; Bonisławska, 2008, 2010; Kołaczek, 2009; Szostek, 2014). As a rule, analyzes of living conditions in large families are the background for further considerations about poverty and social exclusion, where large families are sometimes described as particularly vulnerable to these phenomena, especially in the context of limited income in relation to the high expenses related to raising children (Deskur, 2005; Jędrzejczak, 2013; Kaźmierczak-Kałużna, 2015; Zasepa, 2016). The issue of the standard of living in large families also appears in the aspect of unemployment. These studies analyze the impact of instability in the labor market on the financial situation of large families (Balcerzak-Paradowska, 1997a).

Large families are a special type of household. They are characterized by the fact that they consist of a large number of people and there are relatively few individuals earning income, which is the reason for their more difficult financial situation than other households (Bebel, 2012). According to research by Prokopowicz (2017), in Poland it has been observed for many years that the relatively lowest income is obtained by families with at least three dependent children. The situation is similar in the case of the housing situation and the equipment of households with durable goods. According to the above-mentioned author, the "Family 500 plus" program has reduced the size of this phenomenon (Prokopowicz, 2017). It was introduced because in recent decades, large families were most at risk of poverty, especially extreme poverty. This is a phenomenon that causes exclusion from socio-cultural life. Households in which poverty occurs have limited opportunities to use social institutions and services,

the consumption market, work, cultural institutions or health care (Każmierczak-Kałużna, 2019; Kapela 2018). In 2023, large families at risk of extreme poverty (consumption below the subsistence level) constituted 6.9% of households. Compared to 2022, this percentage increased by 0.9 percentage points. The greater the number of dependent children in a household, the greater the extent of extreme poverty (Central Statistical Office, 2024). In households of large families, difficulties in meeting cultural and recreational needs are indicated. These families struggle with financial constraints, which translate into limited access to culture, recreation and education (Balcerzak-Paradowska, 2004; Bebel, 2013; Kopeć, 2020; Piekut 2014). Large families are one of the main beneficiaries of support programs in the context of family and social policy, and they are also presented as victims of their imperfections (Balcerzak-Paradowska, 2004; Bebel, 2012).

The aim of the article is to identify the level and structure of consumption in Polish households with at least three dependent children and to divide them into groups according to consumption patterns and, on this basis, to assess their standard of living.

## **2. Research material and research methodology**

The information basis was data from the household budget survey of the Central Statistics (CS) for the years 2006-2022 and from individual (source) data from household budget surveys for 2022. The subject of the survey were Polish households with at least three children to support. The analysis covered thirteen or twelve categories of consumer spending.

To examine consumption patterns in households, only households of biologically complete families, married couples with three or more children to support were selected. 892 cases were selected from the Central Statistical Office database and then grouped using the Ward cluster method. The most effective division included 8 groups. Among these groups, the clusters included the following number of cases: 434, 315, 98, 36, 6 and three groups were single-element. It was decided that the first three clusters with the largest number of cases would be qualified for further analysis. The remaining five clusters containing 1 to 36 cases were excluded from the analysis due to the small number of cases.

### **Cluster Analysis Using Ward's Method**

Cluster analysis is a statistical technique used to group objects based on their similarity. Ward's method, developed by Joe Ward in 1963, is one of the hierarchical algorithms applied to identify natural clusters within a dataset. It minimizes the total within-cluster variance, making it particularly effective for forming homogenous groups (Piekut 2014a).

Ward's method employs an agglomerative approach, where each observation starts as an individual cluster. Clusters are iteratively merged in pairs, minimizing the increase in within-cluster variance. The process continues until all observations are combined into a single cluster.

Advantages of Ward's Method are: a) creates clusters with similar sizes and high homogeneity, which is crucial in many applications; b) minimizes within-cluster variance, facilitating the interpretability of results; c) relatively robust to outliers compared to other methods.

Disadvantages of Ward's Method are: a) high computational complexity, making it challenging for large datasets and b) sensitive to the choice of distance metric, with Euclidean distance being the most commonly used but not always optimal.

In our own analysis, the square of the Euclidean distance was chosen as the distance measure. The most effective number of clusters was selected based on a tree diagram of binding distances versus binding stages. In the place where the tree's branches became noticeably longer, it was decided to cut the tree.

The analysis was performed using Excel and Statistica 13.3.

### 3. Results

#### 3.1. Expenditures on consumer goods and services - comparative analysis

This part presents the share of individual categories of consumption expenditure (for food and non-alcoholic beverages; alcoholic beverages, tobacco products and drugs; housing, water, electricity, gas and other fuels; clothing and footwear; education; recreation and culture; home furnishings and household management; transport; health; restaurants and hotels; pocket money and other services and consumer goods) in relation to total expenses, excluding other expenses, which include:

- some taxes,
- gifts given,
- income tax advances and social security contributions paid by the taxpayer,
- other non-consumer expenses.

The division of expenditure on consumer goods and services is based on the classification according to the purpose of consumption COICOP (Central Statistics, 2024).

Analyzing households divided according to their biological type, it was observed that in 2022 the highest average income (PLN 2937.35) and expenses (PLN 1938.53) per person were recorded for married couples without children. In turn, the lowest income (PLN 1646.93) and expenses (PLN 1086.16) were recorded by married couples with at least three children (Table 1).

The structure of expenditure on consumer goods and services indicates that the highest share in each group of households was spent on food and non-alcoholic beverages. Households of married couples with at least three dependent children were most burdened with these expenses, accounting for 27.5%. This proves the least favorable financial situation of the households mentioned, because, according to Engel's law, the higher the share of food expenses in total expenses, the worse the financial situation.

In second place were expenses related to the housing, water, electricity, gas and other fuels. For large families, they were among the lowest and amounted to PLN 173 per person, or 16% of total expenses. A smaller share was observed only among married couples with two dependent children (15.8%), although the amount was higher and amounted to PLN 225 per person. This situation may be related to the scale effect of management. The greater the number of household members, the lower the unit expenses (Gutkowska, Piekut, 2014).

Moving on to home furnishings and household maintenance, it was observed that compared to other types of households, the share of this category of expenses was the highest in large families (6%). Due to having children, the apartment must be properly equipped, which involves incurring additional costs. Clothing and footwear (5.4%, or approximately PLN 60) and education (3%, or approximately PLN 32) also had an equally high share in consumer spending. Having children determines the incurring of higher educational expenses. Large families came second in terms of meeting recreational and cultural needs, which are higher-order needs. They accounted for 7.7% of total expenses, i.e. PLN 83 per person on average.

The lowest share among large households compared to other groups was spent on health (4.2%, i.e. approx. PLN 46 per person). Compared to households of married couples without children, where this percentage amounted to 7% (PLN 136), it was a share lower by 3.8 percentage points. This is due to the demographic structure, because members of households in large families are usually young people whose health condition is relatively better (Gutkowska, Piekut, 2014).

**Table 1.**

*The level of expenditure and the structure of consumption expenditure in Polish households according to the biological type of the family in 2022*

| Specification                                    | Married couple with no dependent children | Married couple with 1 child to support | Married couple with 2 children to support | Married couple with 3 or more children to support | Mother or father with dependent children |
|--------------------------------------------------|-------------------------------------------|----------------------------------------|-------------------------------------------|---------------------------------------------------|------------------------------------------|
| Disposable income                                | 2937.35                                   | 2538.38                                | 2147.63                                   | 1646.93                                           | 1845.43                                  |
| Total expenses                                   | 1938.53                                   | 1712.49                                | 1427.72                                   | 1086.16                                           | 1615.44                                  |
| Food and non-alcoholic beverages                 | 26.4                                      | 24.2                                   | 24.4                                      | 27.5                                              | 24.0                                     |
| Tobacco products, alcoholic beverages and drugs  | 2.8                                       | 2.4                                    | 2.0                                       | 1.8                                               | 1.8                                      |
| Housing, water, electricity, gas and other fuels | 20.8                                      | 17.0                                   | 15.8                                      | 16.0                                              | 19.3                                     |

Cont. table 1.

|                                                                       |     |      |      |     |      |
|-----------------------------------------------------------------------|-----|------|------|-----|------|
| Furnishings, household equipment and routine maintenance of the house | 5.2 | 5.4  | 5.5  | 6.0 | 4.6  |
| Clothing and footwear                                                 | 3.3 | 4.9  | 5.4  | 5.4 | 5.5  |
| Health                                                                | 7.0 | 4.6  | 4.8  | 4.2 | 4.3  |
| Communications                                                        | 4.2 | 4.4  | 4.1  | 4.3 | 4.4  |
| Transport                                                             | 9.7 | 11.5 | 10.7 | 9.5 | 12.2 |
| Education                                                             | 0.1 | 1.9  | 2.8  | 3.0 | 2.6  |
| Recreation and culture                                                | 5.4 | 7.0  | 8.6  | 7.7 | 6.7  |
| Restaurants and hotels                                                | 3.9 | 5.8  | 5.7  | 5.6 | 5.8  |
| Miscellaneous goods and services                                      | 5.8 | 6.8  | 6.4  | 6.0 | 5.9  |
| Pocket-money                                                          | 0.3 | 0.7  | 0.6  | 0.7 | 0.5  |

Source: own study based on Central Statistical Office (2023). *Household budgets in 2022*. Warsaw.

### 3.2. Expenditures on consumer goods and services of large households in 2006-2022

Moving on to the analysis of consumption expenditure in households with at least three dependent children, it was observed that the food and non-alcoholic beverages category in total expenditure had the highest share in 2006, which accounted for almost 1/3 of total expenditure (approx. PLN 147 per person). In the years 2012-2018, there was a decrease in the share of food expenditure, while in 2020 it increased again (by 4.8 percentage points compared to 2018). The year 2020 is a time after the outbreak of the COVID-19 pandemic and high inflation, which brought negative economic consequences that affected household budgets. In 2022, there was a reduction in the share of food expenses, which then amounted to 27.5% (approx. PLN 299 per person in large households) (Table 2).

The second important item among consumer expenditures was housing, water, electricity, gas and other fuels. Households with at least three dependent children spent on average approximately 16.9% for this purpose in the analyzed years. The category of expenses related to housing maintenance has shown a decreasing trend in recent years of the analysis. This could be due to the government's support for families through, among others, impact on the prices of gas and electricity or the introduction of allowances for households: coal, electric, protective and other aid activities (Karwowska, 2024).

Transport is also an important category of expenditure in household budgets. During the analyzed period, this category fluctuated significantly. The highest share was recorded in 2012, when large households allocated 11.8% (approx. PLN 78 per person) of their expenses for this purpose. As a result of the COVID-19 pandemic, 2020 was characterized by the lowest share of transport expenses, amounting to PLN 74 per person, or 8.3% of total expenses (Piekut, K., Piekut, M., 2022).

The share of expenditure on health, as well as expenditure on education and expenditure on home furnishings and household maintenance, increased in the analyzed years. In poor families, educational expenses are usually lower, but their increasing share indicates an improvement in the financial situation of households. The increase in income related to the "Family 500 plus"

program could have influenced this category of expenses, because poorer families had a greater opportunity to meet the educational needs of their children, and not only elementary needs (Każmierczak-Kałużna, 2019).

Large households spent on recreation and culture from 7.2% (PLN 64) in 2020 to 9.8% (PLN 65) in 2012. A better financial situation made it possible to meet higher-level needs to a greater extent.

**Table 2.**

*Expenditures on consumer goods and services of households of married couples with at least three dependent children in selected years 2006-2022*

| Specification                                                         | 2006   | 2012   | 2014   | 2016    | 2018    | 2020    | 2022    |
|-----------------------------------------------------------------------|--------|--------|--------|---------|---------|---------|---------|
| Disposable income                                                     | 499.46 | 756.98 | 806.5  | 1050.97 | 1259.83 | 1365.23 | 1646.93 |
| Total expenses                                                        | 454.78 | 660.25 | 687.21 | 789.31  | 917.17  | 890.87  | 1086.16 |
| Food and non-alcoholic beverages                                      | 32.3%  | 28.8%  | 28.0%  | 25.6%   | 24.4%   | 29.2%   | 27.5%   |
| Tobacco products, alcoholic beverages and drugs                       | 2.2%   | 1.9%   | 2.0%   | 1.7%    | 1.6%    | 2.1%    | 1.8%    |
| Housing, water, electricity, gas and other fuels                      | 17.2%  | 17.4%  | 17.6%  | 17.2%   | 16.4%   | 16.4%   | 16.0%   |
| Furnishings, household equipment and routine maintenance of the house | 5.3%   | 4.5%   | 4.5%   | 5.9%    | 6.0%    | 6.2%    | 6.0%    |
| Clothing and footwear                                                 | 6.3%   | 5.8%   | 6.4%   | 7.2%    | 6.3%    | 5.1%    | 5.4%    |
| Health                                                                | 2.9%   | 3.1%   | 3.2%   | 3.8%    | 3.8%    | 3.8%    | 4.2%    |
| Communications                                                        | 5.0%   | 4.1%   | 5.1%   | 4.9%    | 3.8%    | 5.0%    | 4.3%    |
| Transport                                                             | 9.9%   | 11.8%  | 9.9%   | 8.5%    | 10.9%   | 8.3%    | 9.5%    |
| Education                                                             | 1.7%   | 1.7%   | 1.8%   | 1.9%    | 2.9%    | 2.7%    | 3.0%    |
| Recreation and culture                                                | 7.7%   | 9.8%   | 8.0%   | 9.1%    | 8.0%    | 7.2%    | 7.7%    |
| Restaurants and hotels                                                | 2.2%   | 3.2%   | 4.6%   | 5.7%    | 6.4%    | 4.7%    | 5.6%    |
| Miscellaneous goods and services                                      | 4.7%   | 4.7%   | 5.7%   | 5.6%    | 6.3%    | 5.9%    | 6.0%    |
| Pocket-money                                                          | 0.8%   | 1.1%   | 1.0%   | 0.8%    | 0.6%    | 0.9%    | 0.7%    |

Source: Own study based on Central Statistical Office (2007-2023). *Household budgets in 2006-2022*. Warsaw.

The analysis concerned selected years from 2006 to 2022. During this period, the "Family 500 plus" program was introduced (in 2016), under which benefits of PLN 500 were initially paid for the second and subsequent children. Currently, the benefit amount has been increased to PLN 800. Therefore, large households obtained an additional source of income, so their situation improved (Prokopowicz, 2017). In 2016 and 2018, the lowest shares of expenditure on food and non-alcoholic beverages in relation to total expenditure were observed, while the category of restaurants and hotels accounted for the highest share. Recreational and cultural needs were also met to a greater extent compared to most of the analyzed years. This means that large households could allocate a larger percentage of their expenses to higher-level needs.

Another factor affecting the situation of households was the outbreak of the COVID-19 pandemic. The years 2020-2022 indicate a deterioration in the financial condition of families with at least three dependent children, due to the growing share of food and housing expenses. This period also reduced the possibilities of meeting recreational and cultural needs, using hotel and catering services, and also resulted in lower expenditure on clothing and footwear.

On the other hand, education expenditure has been systematically increasing and has not decreased in 2020-2022. Due to the fact that large households, compared to other types of households, are most at risk of poverty, by providing children with good education they gain a chance to escape the cycle of poverty.

### **3.3. Consumption patterns in households with 3 or more dependent children**

The use of cluster analysis to group large households according to expenditure on consumer goods and services made it possible to identify the consumption patterns of these households. Cluster I, the largest, covering 48.7% of all analyzed households, was characterized by the lowest disposable income per person and the lowest expenditure on almost all categories of consumer goods and services (expenditures on alcoholic beverages and tobacco products as well as on clothing and footwear in cluster I were slightly higher than in cluster III) (Table 3). These households were also characterized by the lowest propensity to consume - nearly 56% of disposable income (in the remaining clusters 61% and 70%) was spent on consumption expenses. In the disposable income in cluster I, what is noteworthy is the relatively highest share of expenditure on food and non-alcoholic beverages (approx. 21% compared to other clusters 17-18%). The shares of expenditure in disposable income on alcoholic beverages and tobacco products and on communications are also higher compared to other clusters. This cluster more often than the others recorded a larger number of dependent children. There were 45% of households of married couples with 4 or more children compared to 28-32% in other clusters. People representing cluster I had a lower level of education compared to other clusters (Table 4). Over 6% of people representing cluster I had at most secondary school education, and slightly over 23% had higher education. These households were slightly more often located in villages, i.e. nearly 49% compared to 41-43% in other clusters. In turn, in the largest cities, i.e. 200 thousand inhabitants and more, there were about 11%, while in other clusters it was over 21% and 36%. To sum up, in cluster I the lowest standard of living is observed due to limited income, low propensity to consume and focus on basic needs.

Cluster II, covering 35.3% of all households, was characterized by the highest disposable income and, with the exception of the category of expenditure on housing, water, electricity, gas and other fuels the highest expenditure on consumer goods and services. In disposable income, there were relatively high shares of expenditure on clothing and footwear - 4.7% compared to 1.6% and 2.7% in other clusters, and on recreation and culture - 7.6% compared to 2.5-2.7%. The share of expenditure on housing and energy in disposable income was the



lowest of all clusters (approx. 9% compared to approx. 10% and 22%). A characteristic feature of the analyzed cluster was the highest percentage of households represented by people with higher education, i.e. nearly 56%. Cluster II is characterized by the highest standard of living thanks to high income, high flexibility in spending and better development opportunities.

A characteristic feature of cluster III, which included 11.0% of large households, was the highest percentage of expenses on housing and energy in disposable income – 22%. These households were characterized by the highest propensity to consume (the share of consumption expenditure in disposable income was over 70%). Households from cluster III were more often than others located in large cities with 200,000 inhabitants and more – 36%. To sum up, cluster III is characterized by an average standard of living, but with financial challenges related to the high costs of housing.

**Table 3.**

*The level of expenses and their share in disposable income in households of married couples with 3 or more children to support*

| Specification                                                         | Level of expenditures |             |             | Share expenditures in income |             |             |
|-----------------------------------------------------------------------|-----------------------|-------------|-------------|------------------------------|-------------|-------------|
|                                                                       | 1st cluster           | 2nd cluster | 3rd cluster | 1st cluster                  | 2nd cluster | 3rd cluster |
| Food and non-alcoholic beverages                                      | 264                   | 353         | 306         | 20.6                         | 17.6        | 16.5        |
| Tobacco products, alcoholic beverages and drugs                       | 18                    | 25          | 17          | 1.4                          | 1.2         | 0.9         |
| Clothing and footwear                                                 | 35                    | 94          | 29          | 2.7                          | 4.7         | 1.6         |
| Housing, water, electricity, gas and other fuels                      | 125                   | 171         | 411         | 9.7                          | 8.5         | 22.1        |
| Furnishings, household equipment and routine maintenance of the house | 36                    | 80          | 38          | 2.8                          | 4.0         | 2.1         |
| Health                                                                | 26                    | 78          | 31          | 2.0                          | 3.9         | 1.7         |
| Transport                                                             | 53                    | 173         | 70          | 4.1                          | 8.6         | 3.8         |
| Communications                                                        | 45                    | 49          | 48          | 3.5                          | 2.4         | 2.6         |
| Recreation and culture                                                | 32                    | 152         | 49          | 2.5                          | 7.6         | 2.7         |
| Education                                                             | 12                    | 61          | 22          | 0.9                          | 3.0         | 1.2         |
| Restaurants and hotels                                                | 26                    | 64          | 41          | 2.0                          | 3.2         | 2.2         |
| Miscellaneous goods and services                                      | 43                    | 112         | 64          | 3.3                          | 5.6         | 3.4         |
| Amount of disposable income/consumption expenses in income            | 1283                  | 2004        | 1857        | 55.5                         | 60.7        | 70.4        |

Source: own study based on: individual data from the Central Statistical Office household budget survey, 2023.

**Table 4.**

*Characteristics of types of large households*

| Household types                                                          | 1st cluster | 2nd cluster | 3rd cluster |
|--------------------------------------------------------------------------|-------------|-------------|-------------|
| Households of married couples with 3 dependent children                  | 55.4        | 72.1        | 67.9        |
| Households of married couples with 4 or more children to support         | 45.0        | 27.9        | 32.0        |
| average number of people in the household                                | 5.7         | 5.4         | 5.4         |
| average age of the household representative                              | 40.6        | 41.9        | 41.4        |
| Households with a representative with higher education                   | 23.4        | 55.7        | 39.2        |
| Households with a representative with secondary education                | 35.7        | 23.2        | 31.7        |
| Households with a representative with basic vocational education         | 34.7        | 18.6        | 26.7        |
| Households with a representative with at most secondary school education | 6.3         | 2.5         | 2.5         |

Cont. table 4.

|                                       |      |      |      |
|---------------------------------------|------|------|------|
| Households located in:                |      |      |      |
| cities: 500 and more inhabitants      | 6.4  | 12.1 | 23.8 |
| cities: 200-499 thousand inhabitants  | 4.3  | 9.4  | 12.4 |
| cities: 100-199 thousand inhabitants  | 7.2  | 5.1  | 5.6  |
| cities: 20-99 thousand inhabitants    | 17.7 | 18.0 | 9.4  |
| cities: under 20 thousand inhabitants | 15.9 | 14.4 | 5.7  |
| Village                               | 48.6 | 41.0 | 43.2 |

Source: own study based on: individual data from the Central Statistical Office household budget survey, 2023.

## 4. Discussion of the results

Consumption in large households is subject to significant changes as a result of the decreasing number of such families and economic pressures. Despite the decline in the number of large-child households, those that exist face challenges related to the need to optimize expenses and cope with limited resources (Beaumont, 2011).

In cluster I, the low level of disposable income may negatively affect the development of children from these households. Cooper and Stewart (2021), focusing on the impact of household income on various child outcomes, including cognitive, social-behavioral and health development, showed that higher income contributed to better educational outcomes, social and behavioral development, as well as the health (especially in the context of low birth weight) of children. Large households were often in a more difficult financial situation, which meant that their children were more vulnerable to the negative effects of low income. The so-called mediating mechanisms in this area were indicated. Income improves mothers' mental health, which has a positive impact on parenting and the atmosphere at home. More financial resources enable the purchase of better educational materials and a healthy diet, which supports children's development. In particular, income growth had the greatest impact on outcomes for children from the poorest households. It was pointed out that income support policies, such as cash transfers, can be an effective tool for improving the living conditions of children from large and poor households. As indicated by the authors of the cited study (Cooper, Stewart, 2021), the introduction of financial support can significantly improve the situation of children in such families by: reducing the economic stress of parents, improving the quality of life and access to education, supporting the physical and mental health of children and parents. In cluster II, higher disposable income in large households resulted in greater expenditure on education, recreation and culture and other higher-level services, which can probably be associated with a beneficial impact on the cognitive and socio-behavioral development of children from these households.

## 5. Conclusions

The study identified the level and share of consumption expenditure in households with at least three dependent children and identified consumption patterns in the types of these households. The analyzes carried out enabled the implementation of the research goal specified at the beginning of the article.

It was found that large households, compared to other groups divided based on their biological type, were characterized by the lowest or one of the lower shares in terms of expenditure on: housing and energy, health, transport, tobacco products, alcoholic beverages and drugs. At the same time, one of the highest or highest shares was recorded for expenditure on: food and non-alcoholic beverages, home furnishings and household maintenance, clothing and footwear, education, recreation and culture, and pocket money. Due to the lowest disposable income and the highest share of food expenses in total expenses, large families are in the most difficult financial situation, which may indicate a low standard of living in these households.

It should be noted that consumption in households with at least three dependent children has fluctuated significantly over the years. In 2006, households met mainly basic needs. Food expenses then accounted for 1/3 of total expenses. The best situation for the analyzed households was 2016-2018. This was due to, among others, from the introduction of the Family 500 plus program. Then, the years 2020-2022 related to the COVID-19 pandemic resulted in the deterioration of the financial situation of large households.

Summarizing the conducted clustering research, three clusters of households of married couples with at least 3 dependent children with different living standards were distinguished, the lowest in cluster I and the highest in cluster II. These clusters may also constitute market segments for entrepreneurs. Companies can create products and services tailored to the specific needs of particular groups. For cluster I, these should be inexpensive, basic products, especially in the food and non-alcoholic beverage categories; for cluster II - luxury goods and offers related to recreation and culture, and for cluster III - products and services related to the use of housing and energy carriers. These clusters differ in location (e.g. villages vs. large cities), which allows advertising activities to be directed to appropriate geographical areas.

Households from cluster I, characterized by the lowest income and low propensity to consume, should also be the object of interest of social welfare units. These farms should be recipients of special social programs. Policies should focus on improving access to education, nutritional support and programs that equalize children's development opportunities. For households from cluster I, which are more often located in villages, it is also worth planning the development of educational, transport and communication infrastructure to support the availability of services. In turn, for cluster III, located mainly in large cities, it is advisable to increase the availability of housing and efficient energy systems.

In cluster I, where the share of people with at most lower secondary education is the highest, training programs and educational initiatives can be implemented aimed at improving professional qualifications.

In cluster III, where the share of expenditure on housing and energy carriers is the highest, energy efficiency improvement programs can be developed and energy saving products can be offered.

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