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Household Budget Management: Selected Statistical Aspects

Abstract: Household budget management plays an important role in shaping the socio-economic situation of individuals. The aim of the article is to examine the structure of income and expenditure of Polish households and ways in which its finances are managed on the basis of data from GUS Household Budget Survey of 2022. In addition it is to determine the factors differentiating ways of effectively managing a household budget as expressed through selected aspects. Planning, organization, motivation and control of household finances are discussed, emphasizing the importance of meeting the needs of household members. The empirical part shows the development of distribution of the income and expenditure of households. Attention is paid to differentiation due to the assessment of the financial situation of the household while an ordered logit regression model was used to identify factors differentiating the methods of effective management of a household budget through selected aspects. As a result of this modelling, four classes of household budget management were identified. An attempt was also made to define effective management of a household budget.

Keywords: expenditure; household budget; income; logit model; management

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Introduction

Managing a household budget may seem to be an insignificant issue due to its micro-scale. However, in Poland alone, according to census data, in 2021 there were 12.5 million households which contained an average of almost three individuals. Because of its sheer volume, the consumption-related monetary flows generated by households plays a crucial role in every country's economic system, serving as the main engine of future economic growth and shaping business conditions for nearly all economic entities (Taujanskaitė et al., 2017). Therefore the proper management of household budgets should be of wider

interest to both researchers and practitioners.

In the everyday life of households, management will primarily be a set of activities focused on the resources of a given household to meet the needs of its members. This corresponds directly with the theory of cognition, where the essence of human activity is to bring about conscious (intentional) changes, which means striving for a specific goal in given conditions and using appropriate means, so as to move from those existing to those corresponding to the adopted goal (Kotarbiński, 1982). In praxeological terms, this relates to the concept of thriftiness, which is the opposite of waste (Świecka, 2011).

Undoubtedly, the macroeconomic situation in national and global terms has a significant impact on the economic situation of households. However, it is also worth paying attention to the differentiating factors which include the region, the size of the locality inhabited by a household, membership of a socio-economic group, the number of individuals (including the number of children and those with disabilities), and the sources of income. Such diversity of conditions and households affects their ability to achieve the goal of satisfying the needs of their members. This also has an impact on the effectiveness of managing financial resources so that, in addition to achieving this goal, it is possible to accumulate savings and pay off its liabilities on an ongoing basis.

The aim of the article is to illuminate the results of household budget management in terms of a study of income and expenditure, and the management of finances to meet its needs. In addition, the aim is to determine the factors differentiating the ways of effectively managing a household budget expressed through selected aspects. It will potentially allow ways of managing a household budget to be determined. Three important aspects have been distinguished, i.e. debt, saving and satisfying needs. In the context of this objective, it was hypothesized that there are statistically significant household characteristics differentiating the effectiveness of budget management in terms of these aspects. In addition, the presence of debt is not synonymous with ineffective management and is related to the overall financial situation of a household.

To achieve this goal, individual data from the Household Budget Survey of 2022 were used, which allowed for an analysis of the distribution and structure of household income and expenditure, thus indicating the differentiation of an assessment of its meeting selected household needs, as well as determining the results of household budget management in terms of its debts, saving opportunities and money management.

In the next part of the article, we will present discussion of the problem of household budget management. Then, the results of the empirical study will be presented, followed by a discussion of the results and an indication of the limitations of the study.

In the literature review we found a lack of analysis of household budgets from a management perspective with the majority viewing household budgets from only an economic perspective. Also, emerging from the literature, we want to verify and propose more accurate factors for measuring effective management.

Managing a household budget

According to Statistics Poland, a household is a group of related or unrelated people who live together and support themselves, constituting a multi-person unit. On the other hand, a single-person household is where such a person supports himself/herself, regardless of whether living alone or with others (GUS, 2024).

Household finances constitute all the funds that a household has at its disposal and is closely related to property resources, and its size is in some way related to the way a household budget is managed. Many different factors affect the formation of household income: economic, biological, ecological, demographic, social and cultural. Differences in income result, among other things, from different sources of income, the number of people in a household, the education of its members, and the place of residence. Household expenditure can be differentiated in a similar way (Barbachowska, 2014).

Generally speaking, household budget management is all the activities and actions undertaken in obtaining and spending funds in accordance with assumed goals (Samsel, 2019; Wiśniewska, 2017; Zaręba & Łukasiewicz, 2024). Many households operate under conditions of limited financial resources, which translates into the problem of choosing between competing needs, and thus the need to divide funds between competing goals (Kata et al., 2021). Effective management of household finances is understood as an activity leading to an increase in financial resources, while maintaining costs at a level leading to an increase in wealth and quality of life (Świecka, Musiał, 2014; Masrunik et al., 2024). Managing a household budget is the collection, distribution and spending of financial resources to meet the needs of its members. Proper management also means proper synchronization of savings and debt, to prevent the loss of financial liquidity (Gorzałczyńska-Koczkodaj & Koczkodaj, 2017). The basic criterion for efficient household budget management is the balance between income and expenses (Michalak et al., 2018) and proper management can also link to consumption optimization, which means postponing consumption over time or giving up, i.e. saving, as well as the possibility of debt with proper consideration of its advantages and costs (Kubiczek, 2023).

The overriding goal in managing a household budget should be to meet the needs of its members and secure their future (Barbachowska, 2014; Taujanskaitė et al., 2017). The goals (needs) of households differ, among other things, due to belonging to a specific socio-economic group, but also to its size, disposable income, source of income, and time and place of residence (Podolec, 2017), however, not only the goals but also other factors can be differentiated according to these categories. Achieving these objectives requires the implementation of a budget management process whose financial goal should be limited in time and respond to the needs of household members (Musiał, 2015).

In management theory, there are four stages of the management process: planning, organizing, motivating and controlling. Samsel (2019) proposes that the process of managing a household budget should include elements such as financial planning, preparation of a short- and long-term budgets, making short- and long-term financial decisions and controlling these decisions. Wiśniewska (2017) has a similar view on household budget management, which indicates activities such as obtaining funds, meeting liabilities, consumption, saving, planning and identifying risk in the context of future events. In another perspective, household budget management can be divided into stages. The first is to gather information and assess the financial situation. The next is to set a financial goal followed by implementing a financial plan, using tools such as keeping to a household budget in which decisions are made to monitor the allocation of income and expenses. The last stage is to revise the plan and adapt it to the current life situation (Rubing, 2017). In all these proposals either some management function is missing, or they are mixed, while others include stages of planning, for example setting goals. This may indicate a greater focus from authors on financial aspects of household budgets rather than on the management approach.

Planning in the case of a household budget means identification of sources of income and expenses, while also learning about the financial situation along with habits and the optimization of decisions as a part of budgeting (Kata et al., 2021). The primary goal, however, should be to financially secure the household (Kotliński, 2022). The most common period for planning household finances is a month (Abramczyk, 2018) and is often associated with accumulating savings. In addition to planned (systematic) saving, there is residual saving, which does not result from a specifically defined goal (Stalończyk, 2015).

In the process of managing a household budget, organizing is associated with the choice of sources of income and the directions of spending (Kata et al., 2021). Organization means, among other things, the involvement of all household members in activities aimed at achieving the goal. The functioning of households is associated with motivating its members, and controlling is associated with the verification of such a plan through its final implementation (Świetlik, 2011). The higher or stronger the locus of control, the more effective the household's financial management (Eka et al., 2022).

Although managing a household budget is much more than keeping a monthly budget, such a tool can make it easier to plan household finances (Masrunik et al., 2024). Research shows that only one quarter of respondents run such a budget in Poland. Most often, household members use a spreadsheet, followed by handwritten notes, and least often using mobile or computer applications (Samsel, 2019). Problems with efficient management are also common in other countries as in Lithuania, where the share of unbalanced household budgets amounts to 40% (Taujanskaitė et al., 2017), computer applications can however support planning and control (Kubiak, 2011; Chumakova, 2019). It should be emphasized, however, that although creating a household budget is common among Polish households, the use of more innovative tools than pen and paper is still insignificant (Musiał, 2015). Recent events on global markets, such as a progressive, continuous increase in prices, lead to the exhaustion of the classic method of managing a household budget. The answer to the ever-changing situation may be the implementation of machine-learning tools, however research shows that most of these are not yet adapted to the reality that households face (Akash et al., 2023).

An important element influencing the decisions made is uncertainty, often resulting from limited knowledge (Di Maggio & Lo Verde, 2023). The level of financial knowledge directly affects the ability to take advantage of income opportunities, which translates into the financial situation in a household. Increasing the level of financial literacy also has an impact on reducing relative poverty (Wang, Cao & Huang, 2022) while a lack of financial knowledge can lead to constantly increasing debt (Kurovs & Paluch, 2017).

Activities related to managing a household budget cause a drop in mood and an increase in stress and as a result, these activities are less likely to be undertaken than others (Korankye, Pearson, 2023). On the other hand, overall satisfaction with life depends on effective financial management (Baryła-Matejczuk et al., 2020).

In a financial crisis, those managing a household budget are most often aware of the situation and take remedial measures to limit the impact of a crisis on a macroeconomic scale (Michalska, 2012). For example, a study run in Germany showed that there are four overarching strategies used to improve or stabilize the economic situation in a time of crisis: budget management, subsistence production, the liquidation of household assets, and the parsimonious procurement of essentials. The likelihood of its use decreases with increasing income (Achatz et al., 2025).

To summarize, managing a household budget involves obtaining and allocating financial resources to meet household needs while maintaining financial stability. Key components of budget management follow the classic management cycle: planning, organizing, motivating and controlling. Most of the literature on the issue discussed here presents household budget management from an economic rather than a management perspective. In addition, quantitative research in this area is based on data on household income and expenditure, i.e. objective data, omitting information about the household budget obtained in a subjective way, though this assessment is made by respondents. In this respect, this article fills a perceived research gap.

In microeconomic terms, household income and expenditure are the most important indicators of household wealth, especially when converted to per person or an equivalent unit, obtaining equivalent income or expenditure in the latter case. Due to the fundamental importance of income and expenditure, it is necessary to define these categories in a conceptual and also in an operational approach. In the case of conceptual definitions, a broader discussion on the definition and nature of income began at the beginning of the twentieth century by Fetter (1907), Plehn (1924) and Hewett (1925) and is carried on to the present day (Smeeding, Weinberg, 2001; UN, 2011). This has led to the development of the concept of income, which became the basis for the definitions used in individual countries, including Poland. According to Polish HBS, available income is “a sum of a household’s current incomes from various sources reduced by prepayments on personal income tax made on behalf of a tax payer by the tax-remitter (this is the case with income from hired work and social security and other social benefits), by tax on income from property, taxes paid by the self-employed, including those in free professions and individual farmers, and by social security and health insurance premiums” (GUS, 2024: 34–35).

Household expenditure is defined as the sum of consumption and non-consumption (ILO, 2003). Official Statistics in Poland (GUS) recognises expenditure in a similar way, and its division is based on the guidelines set out in the Classification of Individual Consumption by Purpose for Household Budget Surveys (COICOP/HBS) (UN, 2023).

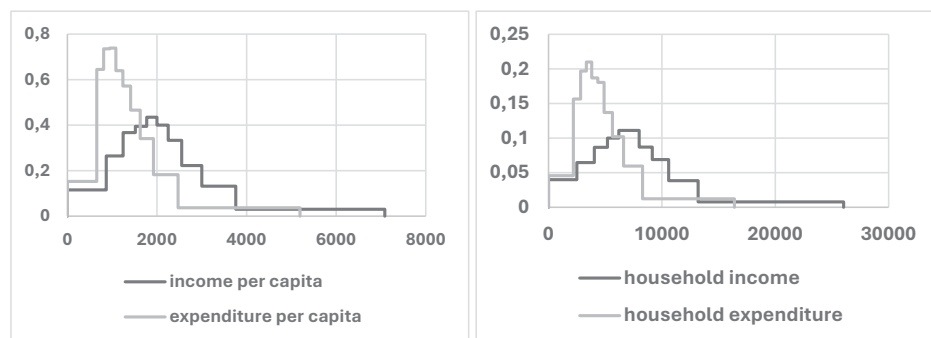
Based on an agreed understanding of the categories of income and expenditure, the concept of a household budget is defined by Official Statistics in Poland as “a systematic statement of revenues and expenses of the household for a given period” (GUS, 2024: 34).

Results

The results on household budgets presented below were obtained on the basis of individual data from the 2022 Household Budget Survey. This is one of the most important sample surveys conducted by Statistics Poland concerning the socio-economic situation of households. The full data set from 2022 counts 28383 observations of households. All results were obtained under the assumption that the statistical unit is a member (person) of the household and using the weights included with the dataset.

Table 1 presents selected characteristics of income and expenditure of households in PLN as well as income and expenditure per capita. However, the development of these distributions is shown in Figure 1. This graph shows decile distributions by determining the empirical density for successive decile groups of the surveyed households.

Figure 1. Empirical distribution of income and expenditure per household and per capita in Poland in 2022 (in PLN)



Source: own calculations based on HBS 2022.

Table 1. Descriptive characteristics of the distribution of income and expenditure per household and per capita in Poland in 2022 (in PLN)

Specification	Income	Expenditure	Income	Expenditure
	per person		per household	
Mean	2249.830	1475.270	7901.240	5017.760
Median	2000.000	1237.280	7100.000	4350.690
Mode	1893.080	949.960	7100.000	3511.230
Relative average deviation	0.221	0.232	0.232	0.222
Coefficient of variation	0.590	0.633	0.621	0.600
Gini coefficient	0.314	0.325	0.331	0.312
Asymmetry	0.269	0.562	0.163	0.504

Source: own calculations based on HBS 2022.

All the presented distributions are characterized by positive skewness, manifested by a shift towards higher income values of the mean in relation to the median and mode. The average level of income, regardless of whether it is related to a household or per person, is clearly higher than the average value of expenditure (mean, median, mode). The differentiation (inequality) of income and expenditure is at a moderate level. It is worth noting that expenditure inequality is greater than income inequality when we relate it to a household, and vice versa, income inequality is greater than in the case of expenditure when we refer to these categories per person.

Table 2 presents structure of household income, while Table 3 presents expenditure.

The dominant source of income of Polish households is from hired work, and its share is related to the assessment of the financial situation of a household. This shows that its well-being, and that of the whole of society (social welfare), is generated mainly by work (wage-earning, self-employed and agricultural). On the other hand, a lower assessment of the financial situation is associated with a higher share of income from social security and other social benefits. Considering expenditure, a growing share on food and housing can be seen. These expenses are characterized by low-income elasticity, which means that they are not significantly reduced by a household with a decrease in its income, which

Table 2. Structure of total household income by assessment of a household's financial situation (in %)

Source of income	Assessment of the financial situation of a household					Total
	good	rather good	average	rather bad	bad	
Income from wage labour	58.7	60.7	55.3	49.1	44.5	57.8
Non-agricultural income from self-employment	8.6	5.2	3.4	0.5	2.3	5.6
Property income	0.1	0.0	0.0	0.0	0.0	0.0
Income from renting real estate	0.4	0.2	0.1	0.2	0.1	0.2
Social security benefits	11.9	15.8	21.1	26.7	32.0	16.6
Other social benefits	6.3	7.6	9.0	11.2	14.4	7.8
Other income	1.0	1.3	1.9	4.3	4.0	1.5
Sale of used consumer goods	0.2	0.1	0.0	0.0	0.0	0.1
Financial income	5.1	1.9	2.5	6.0	1.9	3.3
Income from running a farm	7.7	7.1	6.7	2.1	0.8	7.0

Source: own calculations based on individual data from HBS 2022.

Table 3. Structure of household total expenditure by assessment of a household's financial situation (in %)

Expenditure group	Assessment of the financial situation of a household					Total
	good	rather good	average	rather bad	bad	
Food	24.7	27.2	29.3	31.1	31.1	27.4
Alcoholic beverages, tobacco products and narcotics	2.2	2.3	2.7	3.1	2.9	2.5
Clothing & Footwear	5.0	4.8	4.1	3.2	2.5	4.5
Use of an apartment or house and energy	16.3	17.4	19.2	21.3	23.3	17.9
Furnishing an apartment and running a household	6.1	5.1	4.7	4.2	4.3	5.2
Health	5.0	5.0	5.2	5.4	6.9	5.1
Transport	10.7	10.6	9.9	8.4	5.7	10.3
Communication	4.0	4.5	4.7	5.0	4.8	4.5
Recreation and culture	7.7	6.4	5.1	4.2	5.3	6.2
Education	2.0	1.4	1.1	0.6	0.9	1.5
Restaurants and hotels	5.2	4.8	4.0	3.9	3.1	4.6
Other expenditure on goods and services	7.3	7.4	7.4	6.2	5.5	7.3
Other expenses	3.8	2.9	2.6	3.3	3.7	3.1

Source: own calculations based on individual data from HBS 2022.

in turn translates into its growing share in total expenditure along with the deteriorating economic situation of a household. On the other hand, along with this situation, the share of expenditure spent on satisfying higher-order needs (transport, recreation and culture, education, restaurants and hotels) is decreasing. These results show that the management of household expenses depends on its financial situation, which – as can be assumed – is generated in the long term by income.

Tables 4–6 present the results of an analysis of structure of expenditure and the assessment of the situation of the surveyed households in terms of debt, saving and money management. These results do not provide a direct insight into the way the household budget is managed, being rather a picture of the effect of this management on the one hand, and on the other, indicating those households which, due to insufficient funds, have to face difficult decisions. Table 4 shows answers to a question about the assessment of the level of satisfaction of various household needs, considering both basic and higher-order.

Table 4. Assessing the level of satisfaction of selected household needs (in %)

Needs regarding:	Assessment of the level of satisfaction of a household's needs					
	good	rather good	average	rather bad	bad	not applicable
Food	56.60	29.58	13.11	0.52	0.19	x
Clothing and footwear	45.98	31.61	20.40	1.70	0.32	x
Health	44.46 (44.87)	29.12 (29.39)	21.46 (21.66)	2.88 (2.91)	1.17 (1.18)	0.91
Timely payment of housing fees	66.01 (66.04)	24.34 (24.35)	8.65 (8.65)	0.60 (0.60)	0.36 (0.36)	0.04
Furniture and durable goods	38.05	30.31	27.79	3.00	0.84	x
Culture	26.04 (27.66)	22.33 (23.72)	33.32 (35.39)	8.04 (8.54)	4.41 (4.68)	5.85
Education and training for children and adults	33.92 (53.18)	18.97 (29.74)	9.79 (15.35)	0.71 (1.11)	0.39 (0.61)	36.22
Tourism and leisure outside the place of residence	21.65 (22.79)	20.41 (21.48)	34.62 (36.44)	10.71 (11.27)	7.61 (8.01)	5.00

Source: own calculations based on individual data from HBS 2022.

In general, Polish households assess the satisfaction of basic needs as good or rather good (very often this assessment was indicated for food, housing payments and education¹; often for clothing and footwear, and health care). Slightly worse assessments concern home furnishings, culture, tourism and leisure. These results indicate – statistically speaking – the rationality of satisfying the needs of the household. First of all, basic needs are satisfied at the appropriate (good or rather good) level, followed by higher-order needs. Therefore, if there is no financial capacity to meet all of them, the respondents indicated difficulties in satisfying higher-order ones, which can be associated with a possible resignation from or reduction in the satisfaction of this type of need. It is worth noting that the satisfaction of individual needs was rarely assessed rather badly or badly.

¹ Considering only those households that reported such a need. The relevant shares are shown in parentheses.

Only in the case of tourism and leisure is the share of these ratings relatively high. This may indicate the importance of this need (expressed by expectations as to the manner and quality of rest) in the context of the inability to satisfy it at the expected level.

Tables 5 and 6 present the situation of households in terms of debt, the possibility of saving and the way of managing money, broken down by socio-economic group (Table 5) and biological type of household (Table 6).

Table 5. Situation of a household in terms of selected aspects of budget management by socio-economic group (in %)

Specification	Socio-economic group					Total
	1	2	3	4	5	
Situation of the household due to its indebtedness						
Debt-free	63.46	73.40	62.08	85.51	73.54	68.59
Debt is not a burden and its repayments are made on time	15.82	12.34	21.47	6.06	7.74	14.03
Debt is a burden, but its repayments are made on time	19.47	13.04	15.84	7.05	14.46	16.09
Debt is a heavy burden and its repayments are not always made on time	0.94	1.14	0.58	1.01	3.46	1.01
Inability to meet debt obligations on an ongoing basis	0.30	0.07	0.04	0.36	0.80	0.29
Household situation in terms of saving opportunities						
Saving part of income regularly	23.84	15.35	30.16	20.54	6.42	22.89
Setting aside part of income irregularly	61.15	72.31	60.02	57.90	40.77	60.27
It is possible to set aside part of income, but it is not saved	5.07	2.17	5.18	4.00	9.71	4.87
No saving and there is no possibility of saving anything from the income obtained	9.94	10.17	4.64	17.56	43.10	11.97
The way of managing money in the household						
We can afford a certain level of luxury	2.90	1.35	6.24	1.46	0.28	2.28
We have enough without any special savings	22.38	18.35	31.54	15.39	5.05	21.21
We have enough for everyday use, but we have to save for more serious purchases	62.53	68.40	56.85	59.85	45.58	61.12
We have to manage very economically on a daily basis	11.86	11.78	5.37	22.12	44.34	14.26
We don't even have enough for our basic needs	0.33	0.12	0.00	1.18	4.74	0.60

Note: 1 – employees; 2 – farmers; 3 – self-employed; 4 – pensioners; 5 – subsisting on unearned sources

Source: own calculations based on individual data from HBS 2022.

Table 6. Situation of a household in terms of selected aspects of budget management by selected biological types of household (in %)

Specification	Household Type					
	number of dependent children					6
	1	2	3	4	5	
Situation of the household due to its indebtedness						
Debt-free	80.76	57.81	51.65	54.51	59.27	85.40
Debt is not a burden and its repayments are made on time	9.92	18.71	22.09	19.07	19.17	6.26
Debt is a burden, but its repayments are made on time	8.38	22.39	25.39	24.43	19.48	6.75
Debt is a heavy burden and its repayments are not always made on time	0.65	1.06	0.75	1.64	1.53	1.02
Inability to meet debt obligations on an ongoing basis	0.30	0.03	0.12	0.35	0.55	0.57
Household situation in terms of saving opportunities						
Saving part of the income regularly	29.31	28.18	28.15	22.18	13.66	20.00
Setting aside part of income irregularly	57.94	60.90	61.36	58.36	63.27	52.14
It is possible to set aside part of the income, but it is not saved	3.90	3.92	4.30	6.50	7.81	4.90
No saving and there is no possibility of saving anything from the income obtained	8.85	7.00	6.20	12.70	15.25	22.96
The way of managing money in a household						
We can afford a certain level of luxury	3.73	4.25	4.53	2.70	3.18	2.39
We have enough without any special savings	24.29	26.55	26.55	24.67	14.92	14.31
We have enough for everyday use, but we have to save for more serious purchases	59.67	60.43	61.28	59.09	63.26	51.92
We have to manage very economically on a daily basis	11.90	8.63	7.57	12.86	18.05	28.96
We don't even have enough for our basic needs	0.40	0.14	0.06	0.68	0.59	2.43

Note: married couples: 1 – without dependent children; 2 – with one dependent child; 3 – with two dependent children; 4 – with three dependent children; 5 – with four or more dependent children; 6 – one-person household. Source: own calculations based on individual data from HBS 2022.

Lack of debt is most often reported in households of pensioners, married couples without dependent children and single-person households. In both cases, these are most often households of the elderly who, on the one hand, have a stable income, and on the other, it can be assumed, do not report many needs fulfilled in households of other types (e.g. married couples with dependent children). In addition, older people are more

cautious in incurring financial liabilities and the budget of their household is more stable, for example by constantly obtaining funds from social insurance (pension). Since these benefits are not very high on average, in the households of pensioners and the single-person the share of indications of the inability to save any money from the income obtained is quite high. Also, relatively often in these households, the need for daily frugal money management and the situation when there is not enough money even for basic needs is pointed out. This result confirms the prudent management of available funds by avoiding debt even at low-income levels and this requires economical use of funds. However, most often the problem of money management concerns households that live from non-profit sources. Despite the fact that these households quite often avoid the state of debt, in the case of incurring debt, the possibility of repaying it is relatively difficult or even impossible. By far the most common situation in these households is that there is no possibility of saving any income, and money management is very frugal on a daily basis or even lacks the funds to meet basic needs. Considering the result of household budget management due to biological type, it can be seen that large households such as those of married couples with at least three dependent children are clearly more likely not to be able to save any income and much more often have to manage very frugally on a daily basis. With these difficulties in meeting needs, they are not much different from married couples with one or two dependent children in terms of the frequency of debt (or its absence). This indicates rational (in statistical terms) management of a household budget. However, it should be remembered that the data from the Household Budget Survey provides insight into the results of budget management and not into financial decisions made daily. To thoroughly analyse the rationality of such decisions, special research in this area should be carried out.

An extension of the above analysis is by the use of regression modelling for the variables included in Tables 5 and 6. They are variables with several ordered categories, therefore the appropriate approach is to use the multinomial ordered logit model. The characteristics of the household and its head were taken as explanatory variables. Within the first group, the following were used: household size, class of place of residence (six categories – the first refers to the largest cities, the last to villages), a set of variables identifying socio-economic groups (farmers, self-employed, pensioners, those subsisting on unearned sources, reference category – employees), and the decile class of income per capita. Within the second group referring to the head of the household, the following were taken into account: gender (0 – female, 1 – male), a set of binary variables identifying marital status (married, widower, divorced, reference category – single), education level (four categories – the first refers to primary education, the last to tertiary), disability (0 – no, 1 – yes) and age in years. The models for the three dependent variables² are presented in two versions: a full model with all variables and a model without a variable relating to income per capita. This variable can potentially be treated as endogenous in the context of other independent variables. To limit its impact on the formation of the relationship between the other independent variables and the studied dependent variable, it was decided to estimate the models without its participation. Table 7 presents the results of the estimation of these models.

² These variables and their category names are listed in Tables 5 and 6.

Table 7. Estimation results of multinomial ordered logit models for three dependent variables relating to selected aspects of budget management

Aspects	Dependent variable					
	debt level		level of savings		money management	
Cut1	0.27**	-	-4.53***	-3.20***	-7.71***	-5.84***
Cut2	1.06***	0.78***	-1.47***	-0.25**	-5.18***	-3.40***
Cut3	3.58***	3.30***	-1.09***	-	-1.75***	-0.21**
Cut4	4.90***	4.63***	X	X	1.79***	3.21***
Household size	0.15***	0.11***	-0.11***	0.05***	-0.17***	0.04***
Class of place of residence	-0.07***	-0.08***	0.02***	0.04***	0.04***	0.07***
Farmers households	-0.43***	-0.46***	-0.12*	-	-0.19***	-
Household of the self-employed	-	-0.47***	-0.30***	-0.30***	-0.62***	-0.62***
Pensioners' and retirees' households	-0.36***	-0.42***	0.08*	0.28***	0.17***	0.46***
Households subsisting on unearned sources	-0.37***	-0.48***	1.13***	1.60***	1.27***	1.86***
Decile classes of per capita income	0.05***	X	-0.19***	X	-0.26	X
Gender	-0.06*	-	-0.19***	-0.28***	-0.30***	-0.41***
Age	-0.03***	-0.03***	-0.01***	-0.01***	-	-0.01***
Education	0.05***	0.09***	-0.37***	-0.49***	-0.48***	-0.63***
Disability	0.38***	0.34***	0.50***	0.59***	0.55***	0.66***
Married	0.54***	0.54***	-0.38***	-0.42***	-0.48***	-0.51***
Widow/Widower	0.34***	0.34***	0.17***	0.20***	0.19***	0.25***
Divorced	0.66***	0.66***	0.31***	0.34***	0.19***	0.25***
McFadden R sq	0.146	0.144	0.153	0.131	0.249	0.214
Likelihood Ratio Test	7019.0	6949.3	10076.9	8597.6	17653.4	15179.0
VIF	<3.2	<3.2	<3.2	<3.2	<2.5	<3.1

p-value: (*) – 0.051–0.1; (**) – 0.011–0.05; (***) – ≤ 0.01

VIF – variance inflation factor

Source: own calculations based on individual data from HBS 2022.

In most cases, the considered factors significantly affect the probability of the occurrence of subsequent categories of dependent variable. In the case of some variables, the elimination of per capita income from the model affected the sign of the parameter (e.g. household size) or its statistical significance (e.g. farmers households). However, in most cases, the sign and the overall level of the estimated parameter are consistent for these two models for each of the analysed dependent variables. The level of model-fit to the data is acceptable for this type of model, and VIF did not indicate the existence of significant collinearity between the independent variables.

In the course of the analysis of the impact of individual factors on dependent variables, reflecting selected aspects of household budget management, four groups can be distinguished.

The first one, including factors increasing the probability of a smaller household debt, less possibility of saving part of income and a greater need for economical money management are:

- the class of the place of residence of the household – the smaller the town, the greater the probability,
- a household living on a retirement or disability pension or from unearned sources (in relation to a household living mainly from hired work).

The second group, in which the factors reducing probability, i.e. increasing the debt of the household, increasing the possibility of saving part of the income and reducing the need for economical money management, are:

- the head of the household being married,
- higher level of education of the head of the household,
- higher level of income per capita.

The third group refers to households of widowers, widows, the divorced and the disabled, in the case of which there is an increased likelihood of greater problems with debt, the inability to save a part of income and a greater need to manage money economically.

On the other hand, the fourth group consists of households living mainly from agriculture and self-employment (in relation to households living mainly from hired labour), households where the head is an elderly person and a man – they are characterized by a lower probability of debt, greater opportunities to save a part of income and a lower need for economical money management.

Discussion

This article discusses the problem of household budget management. The research shows that the distribution of expenditure into individual categories, the level of debt and coping with it, the level of savings and the general assessment of meeting needs depend on the basic source of income, its level and the type of biological household. The research shows that with limited resources, spending on tourism and recreation and on culture are the first to be abandoned. Similar conclusions were reached by Anna Michalska (2012) in her study on the behaviour of Polish household members in the era of the financial crisis. It showed that after the crisis, three quarters of the respondents had reduced their spending on entertainment, and almost 59% were forced to change their holiday plans. In 2022, 40.9% of Polish residents aged 15 or over did not participate in tourist trips (23.2 percentage points less than in 2019). The decrease in the number of non-participants could have been caused by, among other things, the end of the COVID-19 epidemic, but the main reasons influencing not taking at least a two-day trip for personal purposes were financial (32.9%) and lack of motivation to travel (15.5%) (GUS, 2023). On the other hand, it is worth noting that in 2022 the “Tourist Voucher” (*Bon Turystyczny*) for holiday trips in Poland was still in operation, which in turn could have increased interest in such trips. Differences in determining the hierarchy of needs and their satisfaction, depending on the affiliation of a household to a specific socio-economic group, were pointed out by Barbara Podolec (2017) when examining the income elasticity of individual types of expenditure. It also showed that the diversity of the level and structure of consumer expenditure is significantly influenced by household size, financial situation, disposable income, source of income, place of residence and time. Achatz et al. (2025) see

income as a key factor for managing household budgets as a rise of income decreases the need to use strategies for improving and stabilizing a household's economic situation.

Mary Declaro-Ruedas and Mary Guico (2023) in their research show that households of young, educated, married couples have no problem with satisfying their own needs, which was partially shown by the results of regression models. In addition to obvious factors, such as double income, the authors also point to another important aspect of such a situation, which is the financial knowledge of the members of such households. Also research by Łukasz Kurowski (2021) shows that both debt and financial literacy significantly reduce the probability of indebtedness. Our work, which covers biological types of households primarily related to marriage, shows that the ability to meet needs is not directly related to the number of people in the household.

Krystyna Świetlik (2011) states that the basic criterion of efficiency in managing a household budget is building a balance between income and expenditure, which she understands more broadly as the ability to meet current expenses, repay debt and accumulate savings. Our study showed that the possibility of timely repayment of debt or its complete absence is often not associated with the possibility of building savings, and this situation often occurs in the households of pensioners. Paradoxically, despite the lack of debt, these households often have problems with satisfying their own needs. Similar conclusions were obtained based on the logit models used, that identified a group of households living mainly on old-age pensions, disability pensions or unearned sources, characterized by lower debt, lower savings potential and a greater need for frugal money management. In the research of Jacek Michalak et al. (2018) on families receiving financial funds from the "500+ program" almost all had debt, but 73.3% were able to accumulate some savings. In research conducted by Monika Śpiewak-Szyjka (2018) on households of pensioners the main factor differentiating economic situation is not only level of income, but also its source and the number of people in a household. The households of pensioners can be supplemented by living from unearned sources and living in smaller towns. Therefore, a better measure of the efficiency of household budget management will be the degree to which needs are met. A similar opinion is expressed by Umberto Di Maggio and Fabio Lo Verde (2023). According to their research, household members prioritize consumption over investment, and savings are to be used to hedge against unexpected expenses which has a positive effect on well-being and family bonds. The study conducted by Agnieszka Samsel (2019) shows that most people do not plan their household budget, and any planning carried out does not easily affect the better satisfaction of needs. Similar conclusions were presented by Monika Śpiewak-Szyjka (2018) – 46% of surveyed pensioners do not plan or check their finances. In our study, due to the use of existing (secondary) data with a limited thematic scope, it was not possible to determine the impact of planning or the use of tools (e.g. computer applications) in the budget management process.

Limitations

The empirical results described in this article are based on statistical data from Statistics Poland i.e. secondary data. In the case of such data the scope of information reflected by the variables compiled in the database often does not fully coincide with the information needs of a given research project. This is also the case with the research described in this article. The Household Budget Survey data refer only to the financial performance of households and do not consider the impact of activities undertaken by the households themselves,

such as the use of budgeting tools. These data also do not allow the impact and degree of financial knowledge of household members in the field of effective budget management to be shown. Moreover, the data used are not essentially panel in nature, and therefore do not allow for insight into the variability of household financial decisions over a longer period of time in terms of the life cycle of a given household (family), which limits the ability to understand how households adapt to the changing economic situation.

As mentioned, the results presented here were obtained based on data on Polish households. Therefore, the conclusions presented refer to the financial and economic situation of Polish households and may not necessarily be applicable to societies in other countries.

These limitations point to the need for further research in household financial management, especially in the context of long-term strategies for saving, indebtedness and adaptation to changing economic conditions.

It is also worth mentioning that the data used was obtained in 2022, i.e. in a period when the effects of the COVID-19 pandemic could still be felt. This could have affected the results of the analysis carried out on household budget management.

Conclusion

Household budget management is a key aspect affecting the socio-economic situation of the population. The purpose of managing the household budget is primarily to meet the needs of its members, and on the scale of all households, to meet social needs. It is important in this process to properly plan, organize, motivate and control to meet the needs of household members, and it is also necessary to effectively combine savings with debt management. The financial situation of households in Poland largely depends on factors such as the level of income, its source, the number of members, as well as the degree of financial literacy. The results of the empirical study showed that the dominant source of household income is wages from hired labour, while expenditure on food and housing has the largest share in household budgets. Despite the increase in nominal incomes, not all households have the opportunity to save and many reduce spending on recreation and culture, focusing on basic needs such as food or housing. Most households, regardless of biological type and socio-economic group, cope with meeting their own needs. However, the situation is different in the ability to save or repay debts.

It is worth noting that the lack of debt is not always a good indicator of efficient management of a household budget, because it may result from the inability to take out a loan or the fear of such an action, which can often be the case with pensioners' households and those living off unearned sources.

The use of logit models has allowed four types of household to be distinguished due to selected aspects of household budget management:

1. households with low debt, small opportunities to save part of their income and economical use of money,
2. households with relatively high debt, significant opportunities to save part of their income and little need for economical money management,
3. households with relatively high debt, with little ability to save part of their income and a significant need to manage money sparingly.
4. households with low debt, relatively large opportunities to save part of their income and little need to manage money economically.

This classification of households was obtained as a result of analysis of logit models. In the authors' opinion, it could be used as a tool to assess the effective management of the household budget.

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