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Consumption of lifetime of society and its differentiation according to income groups

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Abstract

The consumption of lifetime (CL) and its analysis and understanding of consumption patterns across the life course are important in developing economic policies that aim to increase wealth and the standard of living of the population while reducing poverty. The objective of the article is to analyse consumption of lifetime and its differences in relation to income groups. The presented category of consumption of lifetime and the method of determining consumption of lifetime estimation (CLE) and matrix of consumption of lifetime (MCL) constitute an original solution to the problem under consideration proposed by the author. The article is empirical and it proposes a novel method of determining CL. The calculations of the value were made using individual data from Statistics Poland. Consumption of lifetime was analysed by income groups from the poorest to the richest, and the estimated value of consumption realized by a person during their life was shown, which results from consumption in individual phases of life. In the literature on the subject, there are no analyses of consumption in all phases of life in a single research approach. Analyses that can be found in the literature focus only on young or senior consumers. However, the introduced concept of consumption of lifetime allows for a comprehensive research approach and analysis of consumption in a holistic approach. Consumption of lifetime is determined, on the one hand, by human needs and the choices made by them throughout their life, and on the other hand, it is limited by the consumer's income.

Keywords: consumption of lifetime, consumption, matrix of consumption of lifetime, life phase, income, economic policy

JEL: E21, D15, D11, D12

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1. Introduction

Analysing and understanding consumption patterns over the life course are important in developing economic policies that strive to increase people's living standards while reducing poverty. 'Consumption analysis is not simple due to the complexity of individual factors influencing consumer behaviour. But however complex they may be, they will always be a significant economic problem.' (Deaton 2005). It is worth mentioning that Steptoe, Deaton and Stone (2014) emphasize that: 'Current psychological and economic theories do not take into account the appropriate differences with age, depending on the phase of life, in the models of well-being and consumption.'

The proposed concept of consumption of lifetime (CL) makes it possible to look at consumption in a holistic approach, i.e. by integrating the specific phases of life that make up CL in one analytical approach. CL is related to the theory of consumption and concerns the total amount of consumption over the entire period of a person's life. The concept of CL has not been precisely defined in the literature on the subject so far, therefore, based on the theories of life cycle models, its definition was proposed: CL is an economic category depicting the estimated value of a person's consumption during their life and results from consumption in individual stages of life. It is conditioned, on the one hand, by a person's needs, aspirations and choices, and on the other hand, it is limited by the consumer's income and savings. This research approach allows for a practical analysis of CL, making it possible to omit unimportant consumption changes that took place several decades ago and which no longer affect current consumption. CL is measured in the form of a value, though consumption of certain types of goods can be expressed quantitatively. CL is estimated on the basis of current data from an analysis of household budgets based on Statistics Poland data, enabling consumption to be related to the current socio-economic conditions.

The proposed method of estimating consumption of lifetime has a very high cognitive and analytical value. Moreover, analysing CL is possible depending on the established analytical profile, factor or group of factors determining it. This approach has great planning significance in the scale of the state's economic policy, as well as for an individual indicating the effects of consumption decisions. Research on consumption models is becoming more and more important because they are a better measure of society's wealth and standard of living than income data and show the determinants of consumption, which is particularly important in the context of the emerging consumer stratification of society, between the poorest and the richest groups, and life extension. The method of determining consumption of lifetime presented in the article and the created matrix of consumption of lifetime (MCL) are an attempt to make a novel contribution to the methodology of consumption research.

Consumption is a complex and very important issue for the modern economy and society. Consumers are more willing to allocate their surplus income for CL when they have a certain level of savings, which gives them a subjective sense of material security. According to Engel's law, after meeting basic consumption needs that are necessary for human functioning, when consumers' financial resources are large enough to create a surplus, there is the possibility of saving and it increases with income (Zalega 2012). The development of savings over various phases of life depends on the income available to consumers. During the period of economic activity, when there are grounds for doing so, it is possible to accumulate savings that will allow you to repay loans and credits taken out when your income was below consumption desires and needs, and will allow you to secure the level of consumption in retirement. Savings can help keep consumption relatively constant over certain

life phases. Consumption of lifetime expenditures are financed from lifetime income, i.e. earned over the entire life of the consumer, while in each phase of life only part of real accumulation and part of earned earnings are allocated for consumption purposes.

Cognitive issues related to CL include an attempt to answer the research questions:

RQ1: What is the value of CL in relation to the income achieved and do income groups actually influence the level of CL?

RQ2: What is particularly important in the context of CL and the emerging consumer stratification of society, between the poorest and the richest?

The objective of the article is to analyse CL and its differences in relation to income groups. The cognitive and utilitarian usefulness of life consumption, both for consumers and society in relation to its differentiation in relation to income, was the most important reason for taking up this topic.

The article is structured as follows. The first part of the article describes the economic aspects of CL, the subsequent parts present the proposed, novel methodology for estimating CL and present, together with the analysis, the calculated values of CL according to income groups. The final part of the article discusses the findings, implications and indicates future research potential. The considerations and analyses carried out in the article are an attempt to answer the research questions and refer to the hypotheses, and provide an opportunity to look at the issue of CL. The presented category of CL and the method of determining consumption of lifetime estimation (CLE) and MCL matrix constitute an original, proprietary solution to the examined problem.

2. Economic aspects of CL

The state's economic policy takes into account the social distribution of the creation and distribution of the domestic product. The state influences macrosocial relations mainly through its fiscal and monetary policies. In terms of fiscal policy, it is government spending policy and tax policy, and in terms of monetary policy, it is creating the money supply in the market. The CL of society may be influenced by income, price and social policy, with particular emphasis on social, health, cultural and educational policy. An important aspect of the state's economic policy is that it allows for income transfers according to criteria such as age or income level. Policies may give priority to low-income people, favour young and seniors, or favour middle-aged people (Deaton 2018).

Angus Deaton, in his study of consumer savings, made the empirical discovery that consumption behaviour does not fluctuate much when people are hit by income shocks. This phenomenon was called Deaton's paradox (Bondarenko 2024). Deaton showed that changes in consumption occur with a lag relative to changes in income. The formation of consumption habits implies a different response to income shocks, which reflect a gradual adjustment to new circumstances. The speed of the response depends on the strength of habit. This contrasts with Friedman's permanent income theory, which assumes that a permanent income shock will cause an immediate and complete adjustment in spending. A considerable amount of evidence from macroeconomic data suggests that consumption responds slowly to macroeconomic shocks (Caroll 2016). Deaton in revising his views on economics, argues that the emphasis on the virtues of free, competitive markets and external technical change can distract us from the importance of power in setting prices and wages, in choosing the direction of technical change, and in influencing policy to change the rules of the game (IMF 2024). Without a broader analysis, it is difficult to understand inequality or anything else in the contemporary economy.

Real incomes (the resultant of nominal incomes and the price level) enable policy actions to be taken to shape nominal incomes of the population and the prices of consumer goods. State activities in the area of shaping people's income include: wage policy, social benefits and other income; shaping the remuneration of public sector employees; tax policy. Wages are directly shaped in enterprises, but the state may indirectly influence their value; the state's special competence is setting the minimum wage, the value of which influences the structure of wages in the economy. State policy may also influence the level of pensions, annuities and other social benefits, which is related to important problems of redistributing the gross domestic product between specific social groups and determining the criteria for its division. Which is quite a complicated topic, because there are doubts about whether it is a criterion of contribution to its creation or a criterion of social equality. As you can see, state policy has a significant impact on the spatial structures of consumption and the standard of living of society (Mishel, Eisenbrey 2015). The appropriate structure of the tax system can significantly influence the diversity of society's wealth, and thus its propensity to consume and save.

Indirect taxes have no direct connection with income, they are included in the prices of goods and are charged to consumers when they purchase a given good. Changes in tax rates for specific goods should be made by the state with particular care, because such changes will be felt to varying degrees by different social groups (Bywalec 2007). For example, regulations on indirect taxes on basic products will be most felt by the least affluent groups, but there are also other goods for which demand is increased in specific social groups, so it is important that such decisions are analysed.

Consumers' reactions to price changes are noticeable in the structure and level of consumption. At a low or medium price, the volume and frequency of purchases and consumption are maintained as much as possible. An increase in prices is usually accompanied by a decrease in consumption, and the reaction is often the search for other, cheaper and more advantageous alternatives. And lowering prices generally results in increased purchases and increased consumption (Górska-Warsewicz 2013; Czeczotko et al. 2017). Building value around products causes greater interest in them and leads to development and attracts consumers (Żmija, Szafrańska 2015). The payment system for purchased goods is also important, especially the possibility of crediting sales by commercial institutions (Pilarczyk, Mruk 2007).

Consumption can enhance well-being by alleviating material hardship and making life easier (Wang, Cheng, Smyth 2019; Mynaříková, Pošta 2023). Researchers (O'Neill et al. 2018; Arto et al. 2016; Steinberger, Roberts 2010) suggest that consumption could be reduced in wealthy countries without impacting objective well-being; physical needs (i.e. nutrition, sanitation, access to energy, and elimination of poverty) could likely be met without significantly transgressing sustainable limits. Sustainable consumption aims to meet present needs without jeopardizing the need fulfilment of future generations by using resources at their natural production rate (Fischer et al. 2023), for example, green buying (e.g. electric cars, clothing made from recycled textiles) and waste behaviour such as recycling (Carrero, Valor, Redondo 2020; Micheletti 2003; Mont, Plepys 2008). Substitutions are also a part of sustainable consumption; this can include taking the train instead of taking a flight or eating a vegetarian option instead of a meat-based meal. They are behaviours that can be considered pro-environmental or ecological behaviours (Tian, Liu 2022), because ever-growing material consumption is not necessarily associated with increased well-being (Tsurumi et al. 2020). Consumption is a complex concept, and it can provide significant improvements in well-being (Vollebregt et al. 2024). Affluent societies seem to adequately meet basic needs (Social Progress Imperative 2022).

It is also worth noting that the subjective assessment of the quality of living conditions in a given country is strongly correlated with the assessment of one's own social position, correlated with the assessment of one's own socio-economic status (Rokicka, Petelewicz 2014). The subjective sense of well-being is related to such important variables as age and income (Busseri 2015), which is reflected in the structure of consumption of lifetime.

These considerations show that CL is related to the state's economic policy and is a key effect of management on a macroeconomic scale, and analyses of its size and distribution are important for a high standard of living and an efficiently functioning state.

Considering the research questions and the abovementioned aspects, the following hypotheses were developed:

H1: the level of CL depends on the income group and therefore on the income achieved,

H2: CL in the context of the emerging consumer stratification of society, between the poorest and the richest, allows us to establish important conclusions regarding life consumption patterns.

3. Research methodology

3.1. Consumption of lifetime estimation

To answer research questions (RQ1 and RQ2) and to verify hypotheses (H1 and H2), the values CL were analysed and the author's own method of determining CL was used.

Through the conducted research on CL using the proposed, novel methodological procedure CLE, with the use of the designed models for the MCL, a database of results used for the analysis of CL was obtained. The novel procedure for determining CL comprises the following stages:

1) the development of a concept of the method to determine CL with the use of a matrix calculation,
2) the determination of the structure and value of the indicators on the basis of relevant data,
3) the achievement and analysis of test results showing the values of CL.

The social and economic importance of the CL is shown with the use of the outcomes of the MCL analysis. Matrix indicators are estimated on the basis of the individual data from Statistics Poland from the study of household budgets in 2022. It provides a resulting database that can be used to analyse CL. MCL ensures the estimation of the values of CL and its individual consumer goods, phases of lifetime and for income groups.

3.2. Validity of cohort studies

In terms of the methodology of consumption research over time, Deaton, the 2015 Nobel Prize Laureate in Economics, made a breakthrough in the 1980s by introducing cohort studies. This was a response to the problem of obtaining data on how individual consumption changes over time, which is virtually non-existent. He established that individual consumption variability does not have to be visible at the aggregate level.

Using statistical methods, he proved that the study of various cohorts, i.e. a group of people identified on the basis of shared events that occurred at a specific moment or period, can simulate

panel studies. And with sufficiently large samples, cohort studies can be more confident of reliable results than in panel studies, in which different units decline over time (Deaton 1985, 1997). Cohorts are used in comparative studies, e.g. between different generations, or the same age cohorts are studied after a specified period of time (https://stat.gov.pl/metainformacje/slownik-pojec/pojecia-stosowane-w-statystyce-publicznej). The age cohort ranges in the MCL were established based on the classification used by Eurostat, i.e. four life phases were distinguished in the range: under 30 years, 30–44 years, 45–59 years, 60 years and over.

3.3. List of symbols related to determining CL using the matrix of consumption of lifetime

The presented list of symbols was used in the developed of MCL matrix. It was used to determine formulas enabling the calculation of CL using matrix calculus.

C – consumption
CL – consumption of lifetime
MCL – matrix of consumption of lifetime
x_i – consumption of i-th good category according to COICOP
a_{ijq} – coefficients in MCL
i – consumption of the good category according to COICOP from 1 to 12:
1) food and non-alcoholic beverages
2) alcoholic beverages and tobacco
3) clothing and footwear
4) housing, water, electricity, gas and other fuels
5) furnishings, household equipment and routine maintenance of the house
6) health
7) transport
8) communications
9) recreation and culture
10) education
11) restaurants and hotels
12) miscellaneous goods and services
j – lifetime (lifespan) phase according Eurostat from 1 to 4:
1 – less 30
2 – 30–44
3 – 45–59
4 – 60 and more
q – income (quintile) group
t_j – j-th phase of lifetime
k_j – duration of j-th phase of lifetime in years
CLx_i – CL for good of x_i
CLt_j – consumption during whole duration of j-th phase of lifetime

The category of CL and the method of determining CLE and the established of MCL matrix, as presented in the article, constitute an original and proprietary solution to the problem being studied. The obtained values of CL and their analysis are presented in the next part of the article.

3.4. Matrix of consumption of lifetime

The basis for approaching CL in the form of a matrix is the formula proposed by Modigliani, who considered consumption over a long period and assumed that consumption is constant in each period of life.

Hence $C \cdot L$, where C is the projected consumption level and L is life years. Hence, consumption in a given year can be written in the formula $\frac{Yd}{L}$, where Yd is income of lifetime allocated to expenses, equivalent to C – consumption.

The concept of CL was introduced in the developed matrix, assuming that CL is determined by MCL_{ij}, which is written in the formula derived from the MCL matrix $CL = \sum a(x_i, t_j, k_j)$.

Using this relationship CL for individual goods can be determined. This relationship can be written in the form of a matrix equation $CLx_i = a_{m1}k_1 + a_{m2}k_2 + a_{m3}k_3 + \ldots + a_{mn}k_j$, hence for x_1 the equation has the form $CLx_1 = a_{11}k_1 + a_{12}k_2 + a_{13}k_3 + \ldots + a_{1n}k_j$, which in shortened form takes the form $CLx_1 = \sum a(x_1, t_j, k_j)$, for property x_2 $CLx_2 = a_{21}k_1 + a_{22}k_2 + a_{23}k_3 + \ldots + a_{2n}k_j$, which in shortened form is $CLx_2 = \sum a(x_2, t_j, k_j)$, for property x_3 $CLx_3 = a_{31}k_1 + a_{32}k_2 + a_{33}k_3 + \ldots + a_{3n}k_j$, which in shortened form takes the form $CLx_3 = \sum a(x_3, t_j, k_j)$.

Consumption in a given j-th phase of life is marked with the symbol CLt_j. Therefore, CLt_1 means consumption in a given life phase t_1, which is written in the formula $CLt_1 = \sum a(x_i, t_1, k_1)$ derived from matrix calculus. Hence, consumption in a given life phase t_2, i.e. CLt_2, takes the form $CLt_2 = \sum a(x_i, t_2, k_2)$, while consumption in a given life phase t_3, denoted by the symbol CLt_3, is expressed by the formula $CLt_3 = \sum a(x_i, t_3, k_3)$. The above relationships can be written in the form of the following matrix equations, for the phase of lifetime t_1 $CLt_1 = a_{11}k_1 + a_{21}k_1 + a_{31}k_1 + \ldots + a_{m1}k_1$; for the phase of lifetime t_2 $CLt_2 = a_{12}k_2 + a_{22}k_2 + a_{32}k_2 + \ldots + a_{m2}k_2$; for the phase of lifetime t_3 $CLt_3 = a_{13}k_3 + a_{23}k_3 + a_{33}k_3 + \ldots + a_{m3}k_3$.

Therefore, the general record of consumption in a given j-th phase of lifetime was expressed as follows: $CLt_j = a_{1n}k_j + a_{2n}k_j + a_{3n}k_j + \ldots + a_{mn}k_j$.

Based on the derived formulas resulting from the use of matrix calculus, a synthetic notation of the MCL was made, enabling the substitution of specific data. The estimation of the CL function in terms of economic mathematics is based on the analysis of a number of components reflecting the consumption activities of consumers throughout their lives.

4. Results and discussion

4.1. CL according to income groups

The research results include the development and analysis of consumption of lifetime (CL) according to income groups. The use of formulas from the developed MCL matrix and the use of consumption

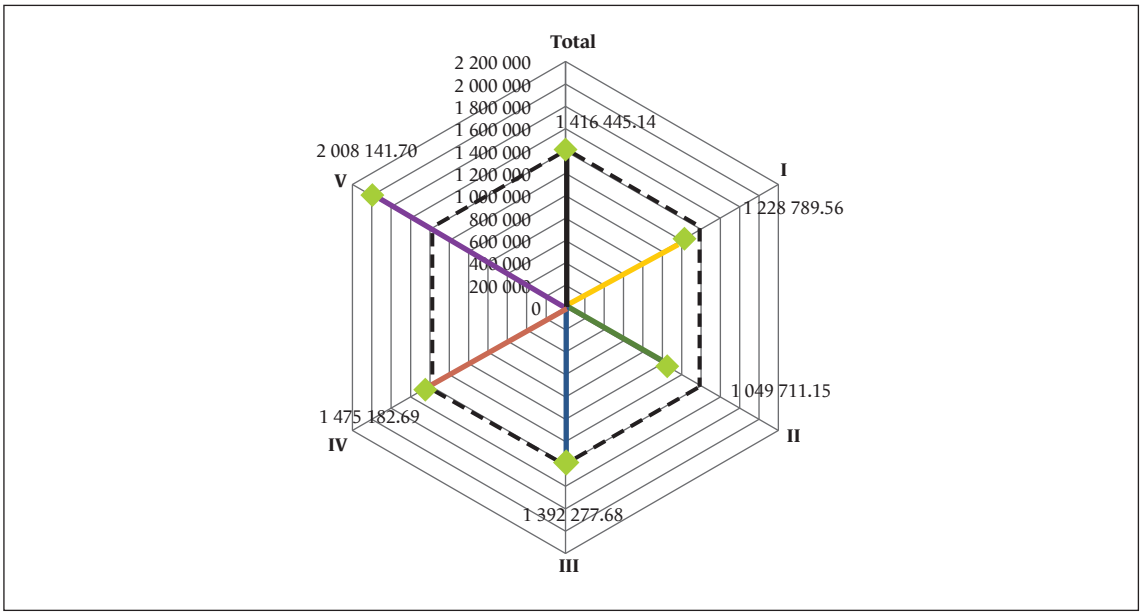
data according to life phases allowed for the estimation of the value of CL and its value for given consumer goods and according to income groups.

The economic and social importance of the concept of CL is demonstrated with the use of the results of the MCL analysis. The indicators of MCL matrix are estimated on the basis of the individual data generated by Statistics Poland from the study of household budgets. Thanks to this, a database of results was obtained for the analysis of CL.

The analysis of the results is supported by the knowledge visualization technique, because the presentation of all data causes information noise in which it is difficult to see the basic structure (Paradowski 2010). Depending on the goal, a conscious choice must be made between preserving and sacrificing a detail. It is worth applying the principle of appropriateness (Norman 1991), i.e. the visual presentation of data should present content with the level of detail necessary to convey the information, and divisions and symbols should be legible. The CL analyses performed are presented in charts using the same scale to facilitate comparative analysis of income groups. Each income group was assigned a colour. When naming consumer goods, a constant nomenclature was adopted throughout the text, according to the classification of individual consumption by purpose, abbreviated as COICOP system.

This system has international application, it is used by Eurostat and statistical offices of European countries – in Poland, Statistics Poland.

Figure 1
CL (PLN/person) and its differentiation according to income groups



I – first income group
II – second income group
III – third income group
IV – fourth income group
V – fifth income group
– – CL (average)

Source: own elaboration based on the MCL matrix and Statistics Poland individual data.

The calculated values of CL presented in this article and the comparative analyses performed show that the level of CL depends on the income group and thus on the income achieved, and confirm that CL in the context of the emerging consumer stratification of society, between the poorest and the richest, allows for the determination of significant conclusions regarding life consumption patterns. The differentiation CL by income groups is shown in radar Figure 1, which clearly shows the differences between five income groups. The CL values of each income group are marked on the figure by a line in a different colour, e.g. the yellow line is the CL in the first income group, and the pink line shows the CL in the fifth income group. The black, dashed line marks the average CL value, which additionally made it possible to notice differences between the average CL values and the CL values of the (five) given income groups. The average CL is PLN 1,416,445.14/person and is exceeded only by CL in the fifth and slightly in the fourth income group. It was observed that in the fifth income group, the richest, CL is almost twice as high as in the first income group, the poorest. The visible discrepancies are the result of consumers in these groups having higher incomes and being able to spend a larger part of them on consumption expenses.

Table 1
Differences in the value of CL of individual goods (CLxi) between income groups V and I

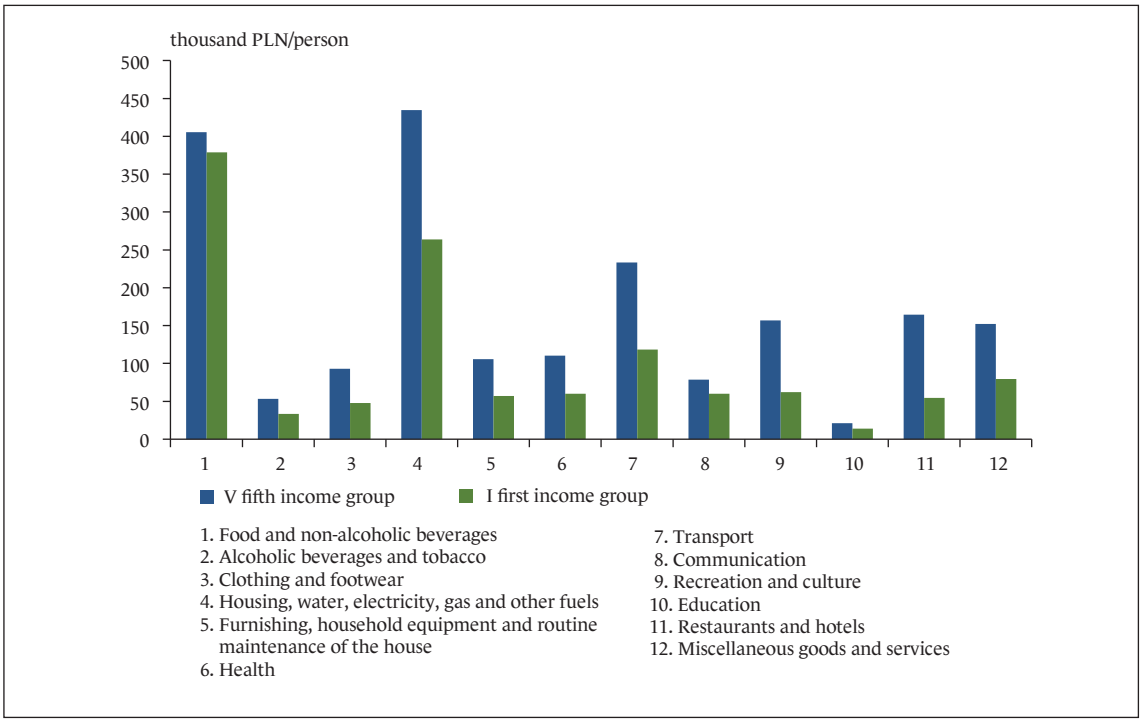
Good xi	Difference in the value of CL between income groups V and I (PLN/person)
x4. Housing, water, electricity, gas and other fuels	171,178.52
x7. Transport	115,041.74
x11. Restaurants and hotels	109,852.59
x9. Recreation and culture	94,639.25
x12. Miscellaneous goods and services	72,907.84
x6. Health	50,086.17
x5. Furnishings, household equipment and routine maintenance of the house	48,396.20
x3. Clothing and footwear	45,164.87
x1. Food and non-alcoholic beverages	26,763.95
x2. Alcoholic beverages and tobacco	19,630.46
x8. Communications	18,673.46
x10. Education	7,017.08
CL (PLN/person)	779,352.14

Source: own elaboration based on the MCL matrix and Statistics Poland individual data.

The greatest consumption stratification of society occurs between income groups I and V, hence Figure 2 shows a comparison of the value of CL of individual goods (CLxi) according to income groups I – the poorest and V – the richest income group. The comparison of CL values according to income

groups I and V for 12 individual groups of goods makes it possible to show the differences in CL between their values. The differences in the value of CL of individual goods (CLxi) between income groups V and I are given in Table 1, presented in order from the highest value to the lowest. The greatest differences in values between the V – the richest and the I – poorest income group were recorded in CL related to: housing, water, electricity, gas and other fuels (group 4 according to COICOP), transport (group 7 according to COICOP), restaurants and hotels (group 11 according to COICOP), recreation and culture (group 9 according to COICOP). However, the smallest differences were observed in the case of alcoholic beverages and tobacco (group 2 according to COICOP), communication (group 8 according to COICOP) and education (group 10 according to COICOP).

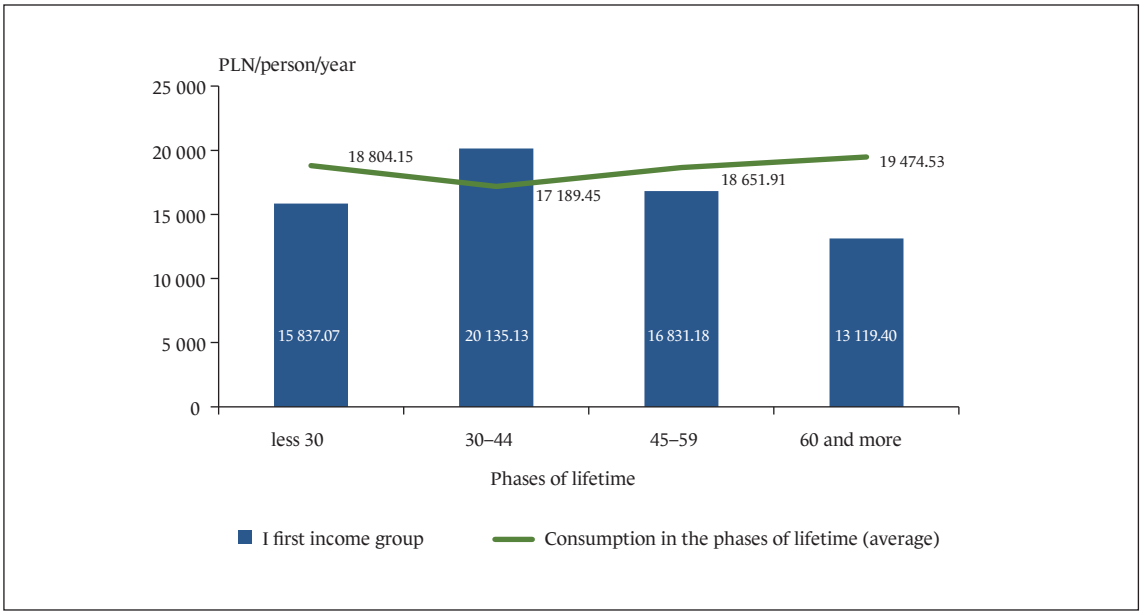
Figure 2
Consumption of lifetime of individual goods (CLxi) and the differentiation of its value according to income groups I and V



Source: own elaboration based on the MCL matrix and Statistics Poland individual data.

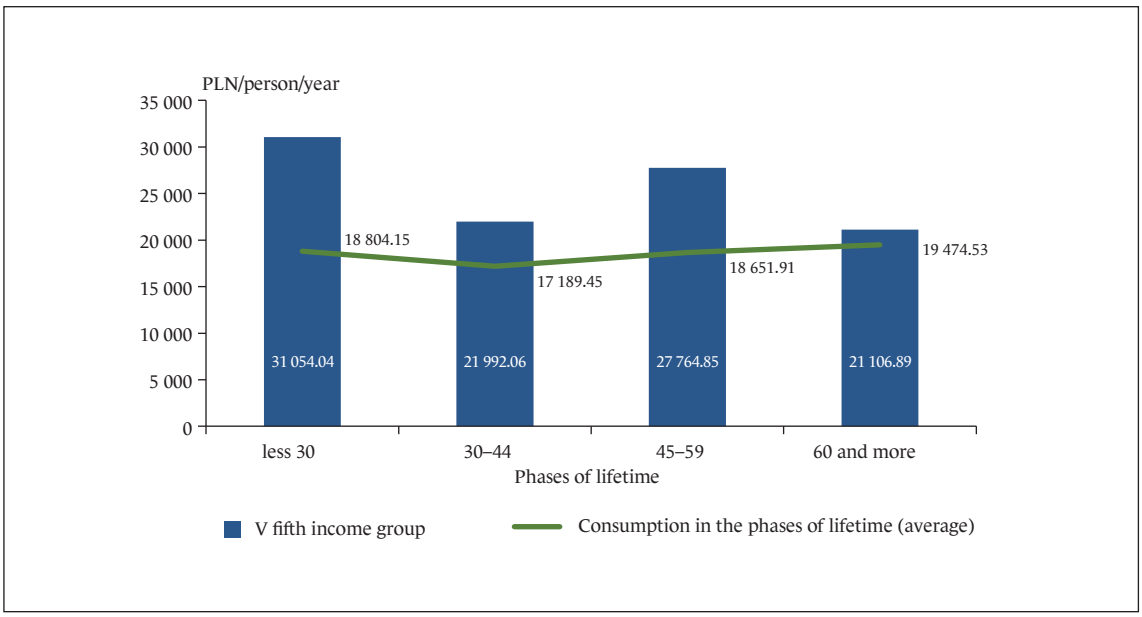
The income group (income) is a very important factor determining CL. Income is the economic basis for consumers' functioning, influencing the level of wealth, the level and structure of CL and the possibilities of its implementation. The structure and value of CL change with the income group. CL changes with the income group (income), but is also influenced by the phases of lifetime (age). By dividing CL into individual phases of lifetime, it is possible to observe the influence of the life phase on its shape, and also taking into account the income group, it is possible to additionally analyse its differentiation according to income groups.

Figure 3
Consumption in the phases of lifetime (CLtj) – average and according to income group I



Source: own elaboration based on the MCL matrix and Statistics Poland individual data.

Figure 4
Consumption in the phases of lifetime (CLtj) – average and according to income group V



Source: own elaboration based on the MCL matrix and Statistics Poland individual data.

Observation of the results allows us to conclude that a characteristic feature of consumption in different phases of lifetime, according to income groups, is that consumption in almost all phases, i.e. under 30 years, 45–59 years and over 60 years, in the first poorest income group shows values two times lower than the fifth income group, and in the 30–44 years of age, consumption is almost 10% lower. The diversity of consumption in different phases of lifetime according to the poorest and richest income groups is presented in Figures 3 and 4. Consumption in different phases of lifetime is expressed in annual values per person. Analysing the differentiation of consumption in different phases of lifetime according to the first income group, the poorest (Figure 3), it was noticed that the consumption values in almost each of the phases, except for those aged 30–44, are lower than the average consumption value in the different phases of lifetime. In the 30–44 years phase, the consumption value is higher than the average value by approx. PLN 3,000/person/year. This may be due to social support intended for families in this income group. The analysis of the data shows that a slight difference in this phase (30–44) compared to the phase over 60 is visible especially in the case of expenditure on food and non-alcoholic beverages (approx. PLN 120/person/month more) and transport (approx. PLN 100/person/month more). Observing the average consumption in different phases of lifetime and according to the fifth income group (Figure 4), it can be concluded that the consumption values in each phase of lifetime are higher than the average consumption value in the different phases of lifetime. Only slight fluctuations in consumption between phases of lifetime can be observed in income group V, between the phases of lifetime below 30 years and 30–44 years and above 60 years, this is a difference of approx. PLN 700/person/month, which, according to the data analysis, is the result of the fact that younger consumers (under 30 years of age) spend more financial resources, especially on housing, water, electricity, gas and other fuels (approx. PLN 300/person/month more), restaurants and hotels (approx. PLN 150/person/month more) and transport (approx. PLN 100/person/month more). However, it is worth emphasizing that these fluctuations are insignificant on the scale of consumption research. Focusing especially on consumption in the different phases of lifetime (average), it can be noticed that in all the phases of lifetime, i.e. under 30 years, 30–44 years, 45–59 years and over 60 years, the value of consumption does not change significantly (differences between phases of lifetime are only approx. PLN 100/person/month). This is consistent with Modigliani's life cycle theory and Friedman's theory of permanent income. It can be concluded that over the years of a person's life, the value of consumption does not show significant changes over the course of a person's life, but the structure of CL, i.e. the share of expenditure on particular types of consumer goods, changes.

5. Conclusions

The research results allowed to answer the research questions and confirm the hypotheses. The obtained research results and the analysis of consumption of lifetime (CL) in the context of consumer stratification of society, between the poorest and the richest, allowed for the establishment of conclusions regarding life consumption patterns. The calculated values of CL made it possible to present how consumption is shaped in individual phases of lifetime and throughout life, as well as what the level and differentiation of CL are in relation to the income group.

The presented category of CL and the method of determining CLE and the established MCL matrix constitute an original, proprietary solution to the examined problem. CL is of great theoretical

importance, and its definition provides an opportunity to fill the conceptual gap in this area, which is a premise for a contribution to the development of economic theory, because so far it has not been precisely defined in the literature on the subject. It is worth pointing out the great practical importance of CL in the implementation of the state's income and social policy, as well as in determining the method of measuring CL, which is an important issue in the methodology of consumption research. The obtained values of CL, as well as their analysis, support its usefulness for the theory and practice of economics.

According to the research conducted, the average CL amounts to PLN 1,416,445.14 per person and it is exceeded only by CL in the fifth and slightly in the fourth income group. CL in the fifth, richest, income group amounts to PLN 2,008,141.70 per person, while in the first, poorest income group, CL amounted to PLN 1,228,789.56 per person. It follows that in the fifth income group, the richest, CL is almost twice as high as in the first income group, the poorest.

The greatest differences in values between the fifth and the first income groups were recorded in CL related to: housing, water, electricity, gas and other fuels PLN 171,178.52 per person; transport PLN 115,041.74 per person; restaurants and hotels PLN 109,852.59 per person; recreation and culture PLN 94,639.25 per person.

The smallest differences in values between the fifth and the first income groups in CL were observed in the case of alcoholic beverages and tobacco PLN 19,630.46 per person, communication PLN 18,673.46 per person and education PLN 7,017.08 per person.

Observation of the results allows us to conclude that the characteristic feature of consumption in different phases of lifetime, according to income groups, is that consumption in the richest income group in almost all phases (over 30 years, 45–59 years and over 60 years) is twice as high as in the poorest income group. Only consumption in the 30–44 years age group shows smaller differences in relation to the income group (the difference was approx. 10%).

Analysing the differentiation of consumption in different phases of lifetime according to the poorest income group, it was noticed that the consumption values in almost every phase of lifetime (except 30–44 years) are lower than the average consumption value in the given phases of lifetime. In the 30–44 years phase, the consumption value is higher than the average value by approx. PLN 3,000/person/year. This may be the result of social support intended for families in this income group.

Observing the average consumption in given phases of lifetime and according to the fifth income group, it can be concluded that the consumption values in each phase of lifetime are higher than the average consumption value in different phases of lifetime.

Consumption in all phases of lifetime (average), i.e. under 30 years, 30–44 years, 45–59 years and over 60 years, does not change significantly (differences between phases of lifetime are only approx. PLN 100/person/month). This observation is consistent with Modigliani's life cycle theory and Friedman's theory of permanent income. It can be concluded that over the course of phases of lifetime, the value of consumption does not show significant changes over the course of a person's life, but the structure of CL, i.e. the share of expenditure on particular types of consumer goods, changes.

CL results from consumption in individual phases of lifetime, but also depends on income. The income group is an important factor influencing the value and structure of CL and the possibilities of its implementation.

A broader look at the issue of CL allows us to explain society's consumption decisions more accurately. Combining important assumptions about consumption is a good trend, enabling integrated

and comprehensive research as well as providing a better explanation of various phenomena of consumption economics. The level of per capita consumption is seen as the main measure of the productive success of an economy.

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Konsumpcja życiowa społeczeństwa i jej zróżnicowanie według grup dochodowych

Streszczenie

Analiza konsumpcji życiowej i zrozumienie wzorców konsumpcji w ciągu życia są ważne podczas opracowywania polityki gospodarczej, która powinna dążyć do wzrostu zamożności i poziomu życia społeczeństwa, a zarazem zmniejszać ubóstwo. Celem artykułu jest analiza konsumpcji życiowej i jej zróżnicowania w odniesieniu do grup dochodowych. Przedstawiona kategoria konsumpcji życiowej (CL – *consumption of lifetime*) i metoda wyznaczania CLE (*consumption of lifetime estimation*) oraz opracowane macierze MCL (*matrix of consumption of lifetime*) stanowią oryginalne, autorskie rozwiązanie badanego problemu. Artykuł ma charakter empiryczny, przedstawiono w nim własną metodę wyznaczania konsumpcji życiowej. Do obliczenia wartości zastosowano dane jednostkowe Głównego Urzędu Statystycznego. Konsumpcja życiowa została przeanalizowana według grup dochodowych od najbiedniejszej do najbogatszej. Ukazano oszacowaną wartość konsumpcji człowieka w ciągu życia, która wynika z konsumpcji w poszczególnych fazach życia.

W literaturze przedmiotu nie ma analiz konsumpcji we wszystkich fazach życia w jednym ujęciu badawczym. Analizy, które można spotkać w literaturze, skupiają się tylko na konsumentach młodych lub seniorach. Wprowadzenie pojęcia konsumpcji życiowej umożliwia kompleksowe podejście badawcze i analizę konsumpcji w ujęciu całościowym. Konsumpcja życiowa z jednej strony jest uwarunkowana przez potrzeby człowieka i dokonywane przez niego wybory, a z drugiej strony ograniczona jego dochodami. Prezentowane w artykule wyniki charakteryzują się unikatowością, ponieważ w literaturze nie występują takie obliczenia i zestawienia danych, które ukazują kompleksowy obraz konsumpcji społeczeństwa we wszystkich fazach życia w jednym ujęciu badawczym. Cechują się także wysoką jakością, ponieważ wykorzystano zakupione dane jednostkowe Głównego Urzędu Statystycznego, które posłużyły do obliczeń konsumpcji życiowej na podstawie opracowanych macierzy MCL. Zaproponowane ujęcie konsumpcji życiowej i uzyskane wyniki umożliwiają kompleksowe badanie konsumpcji oraz dają pełen obraz sytuacji konsumpcyjnej całego społeczeństwa. Jest to szczególnie istotne z punktu widzenia polityki gospodarczej państwa.

W artykule podjęto próbę odpowiedzi na następujące pytania badawcze:

a) jaka jest wartość konsumpcji życiowej w odniesieniu do osiąganych dochodów i czy faktycznie grupy dochodowe wpływają na poziom konsumpcji życiowej?

b) co jest szczególnie istotne w kontekście konsumpcji życiowej i pojawiającego się konsumpcyjnego rozwarstwienia społeczeństwa, między najbiedniejszymi a najbogatszymi?

Stosownie do pytań sformułowano następujące hipotezy:

1. Poziom konsumpcji życiowej zależy od grupy dochodowej i tym samym od osiąganych dochodów.

2. Konsumpcja życiowa w kontekście pojawiającego się konsumpcyjnego rozwarstwienia społeczeństwa, między najbiedniejszymi a najbogatszymi, pozwala na ustalenie istotnych wniosków dotyczących wzorców konsumpcji życiowej.

W pierwszej części artykułu przedstawiono autorską metodykę szacowania konsumpcji życiowej, a w kolejnych częściach opisano ekonomiczne aspekty konsumpcji życiowej oraz przedstawiono i przeanalizowano wyliczone wartości konsumpcji życiowej według grup dochodowych. Wyniki badań

pozwoliły odpowiedzieć na pytania badawcze i potwierdzić postawione hipotezy. Grupa dochodowa jest istotnym czynnikiem wpływającym na wartość i strukturę konsumpcji życiowej oraz możliwości jej realizacji. Konsumpcja życiowa jest związana z polityką gospodarczą państwa i jest kluczowym efektem gospodarowania w skali makroekonomicznej, a analizy jej wielkości w kontekście konsumpcyjnego rozwarstwienia społeczeństwa, między najbiedniejszymi a najbogatszymi, są istotne dla wysokiego poziomu życia i sprawnie funkcjonującego państwa. Warto podkreślić istotność konsumpcji życiowej przy implementacji polityki gospodarczej państwa, jak i ze względu na ustalenie sposobu mierzenia konsumpcji życiowej.

Słowa kluczowe: konsumpcja życiowa, konsumpcja, macierz konsumpcji życiowej, faza życia, dochód, polityka gospodarcza