

## EDUCATION AND THE ECONOMIC SITUATION OF HOUSEHOLDS IN THE SUBCARPATHIAN VOIVODESHIP

Piotr Cyrek, Magdalena Cyrek ✉

University of Rzeszów, Poland

### ABSTRACT

**Aim:** This paper attempts to diagnose the economic situation of households in the Subcarpathian Voivodeship in the years 2014–2022, and to determine the importance of education as a differentiating factor. **Methods:** For this purpose, an analysis was conducted of the results of questionnaire studies conducted in five consecutive periods, which rendered it possible to compare the situation over time. The data are sufficient to present a general account of the economic situation, as well as its 8 different aspects. Variance analysis allowed for the statistical verification of the significance of education from the perspective of the economic situation of households. **Results:** The results obtained indicate that better education improves the economic situation of a household, although the differences disappear with general economic change. The research indicates that the least educated are exposed to the most socioeconomic risk, which manifests in difficulties in meeting their most basic subsistence needs. Simultaneously, the economic situation of those with the highest human capital is the most stable, which proves that higher education is a factor that improves the resilience of one's living standards to external disruption. **Conclusions:** Generally, it is possible to conclude that education remains a factor in strengthening households' economic security. The research is original in that it fills an empirical gap related to verifying the existence of differences in material living standards due to educational attainment by way of using dynamic comparisons to diagnose the situation in a peripheral region of Poland.

**Key words:** education, economic situation, households

**JEL codes:** D14, D19, D31, I26, I31, R29.

### INTRODUCTION

A household consists of a group of individuals co-managing their assets and budget for the purpose of satisfying the (individual and group) needs of all its members [Bywalec 2012, p. 16, Orszulak-Dudkowska 2019, p. 38 as cited in: Utzig et al. 2022, pp. 11–12]. Households constitute an important category of economic entities, and their condition is one of the primary determinants of the general state of the economy.

The economic condition (situation) of a household is typically assessed from the perspective of its finan-

cial situation, determined by its income, savings, debt, but also assets (possession of durable goods and housing) and consumption (expenses) [Dudek and Konat 2022, Gawel-Luty 2022, p. 169, Kalinowski et al. 2022, Zbyrad 2022, p. 65, Korzeniowska et al. 2023, p. 7]. Assessed subjectively, the economic situation is also referred to as financial well-being [Duczowski and Słowik 2022, p. 42]. The economic situation also has a fundamental impact on economic security, which is contingent upon employment stability, income, the ability to generate savings and the security of personal finances [Kosowski and Kułakowska 2022, p. 333].

Piotr Cyrek, <https://orcid.org/0000-0002-8306-1612>; Magdalena Cyrek, <https://orcid.org/0000-0001-5020-9273>,

✉ [mcyrek@ur.edu.pl](mailto:mcyrek@ur.edu.pl)

Analyzed more broadly, the economic situation of a household is closely related to the economic aspects of quality of life, defined as living standards or life level and pertaining to the socioeconomic conditions of functioning, in particular, the degree to which material needs are being met [Gawel-Luty 2022, p. 164, 169]. In the literature, living standards are most frequently defined as the degree to which material and fundamental human needs are being met, while the quality of life reflects the general well-being encompassing one's satisfaction with life, freedom of choice and self-realization, and is thus a subjective category [Dąbrowa 2011, Petrovska and Pantyley 2014, Kalamucka 2017 as cited in: Petrovska and Pantyley 2022, pp. 77–78, Skórska 2022, p. 9].

The economic situation of a household and its market and consumer behavior is influenced by a series of factors that define the household's demographic profile – educational attainment being one of the most significant ones [Adamczyk 2002 as cited in: Utzig et al. 2022, p. 19]. The role of educational attainment in influencing the economic situation of a household is conceptually defined by the human capital theory [Majchrowska and Roszkowska 2013, Jabłoński 2021], and has been widely verified empirically. It has been demonstrated that educational attainment determines an individual's ability to join the workforce, thus determining their living standards. Numerous studies indicate that individuals who are better educated are more likely to find work, and their salaries and income are higher [King 1990, Callander et al. 2012, p. 8, Wałęga 2012, Lavrinovicha et al. 2015, Piekutowski 2020, p. 26, Szytyber 2021, p. 19, Stasiak 2022, p. 97], and that preparing students for work becomes the primary goal of education [Jeran 2016, p. 52]. Educational attainment does not only impact the level of salaries, but also the rate of return on education [Majchrowska and Roszkowska 2013, Psacharopoulos and Patrinos 2018]. In addition, the impact of human capital on a salary is considered to be the main factor determining social status [Domański 2020, p. 289]. Both education and income are also used to reflect the objective socioeconomic position of individuals [Lindberg et al. 2022]. Moreover, education determines individual happiness, and the impact of education on happiness can also be mediated by income as an intermediary mechanism [Yang et

al. 2022]. Higher education significantly reduces the risk of material and social deprivation [Fabrizi et al. 2023], and better education reduces poverty [Spada et al. 2023]. In addition, it has been observed that it is not only the economic situation, but also social participation, values, lifestyle and quality of life that change with the level of educational attainment [Piekutowski 2020].

Although positive effects of education on living standards have been identified, numerous studies indicate the existence of diminishing returns from higher education in Poland [Majchrowska and Roszkowska 2013], which may be connected to what is known as the overeducation effect and the replacement of the traditional criterion of formal education by new indicators of educational achievement [Domański 2020, s. 291]. As the average level of education in Polish households increases [Utzig et al. 2022, p. 24], it is to be expected that, similar to more developed countries, changes in the level of educational attainment sufficient to achieve a decent standard of living will also change [Callander et al. 2012, p. 18]. Similar problems are also diagnosed in other economies. Turčínková and Stávková [2012], concerning the income situation of households in the Czech Republic, point out that although the most vulnerable group comprises households with primary education or no education, a higher level of education is no guarantee of a lower risk of poverty and more and more attention should be paid to the applicability of university graduates in practice. Klein [2015] explains the widening unemployment gap between the low-educated and all other education groups in Germany by worsening macroeconomic conditions rather than structural crowding out, which proves the necessity of being educated for employability during economic downturns.

The goal of the study is to diagnose the economic situation of households making purchases from retail outlets in the Subcarpathian Voivodeship from 2014 to 2022, and to determine the significance of educational attainment as a differentiating factor. Based on previous research, it is assumed that increases in education should improve material living standards, although this influence may change over time due to increasing access to higher education.

## MATERIALS AND METHODS

The results of five studies conducted by the author in 2014, 2016, 2018, 2020 and 2022 were compiled for the purpose of the study. The research instrument was a questionnaire comprising, in addition to those presented in the paper, numerous other closed, semi-open and open questions pertaining to the views and behavior of retail clients. The data were collected in randomly selected localities and retail outlets in the Subcarpathian Voivodeship. The selection of respondents was made in accordance with the principle of conducting direct interviews with clients in numerically repeated intervals until the moment 10 respondents were interviewed in a given outlet. Respondents were both rural residents (with a share ranging from 35.6 to 54.5%) and urban ones (from 45.5 to 64.4%), of which 31 to 52.8% were residents of Rzeszów – the capital of the voivodeship. The final number of analyzed questionnaires was also determined by the completeness of the data acquired. Table 1 presents the properties of the samples from the years 2014–2022.

For the purpose of conducting a comparative analysis of the results of all studies, the same method was used every time when selecting the sample, research instrument and research technique. The studies were conducted exclusively in the Subcarpathian Voivodeship, and thus reflect regional characteristics, which means that the results obtained cannot be extrapolated to the entire population of Poland. However, despite the limited potential for generalizations, the studies can be used to compare

changes over time and determine differences among households with different demographic profiles, including their level of educational attainment.

The responses acquired as part of the questionnaire studies were used to arrive at a general assessment of the economic situation of the households, which is based on responses pertaining to specific variables, i.e.:

- $X_1$  – changes in the consumption of food products (increase – positive values/decline – negative values),
- $X_2$  – changes in clothing, footwear and cosmetics purchases (increase – positive values/decline – negative values),
- $X_3$  – changes in durable goods purchases (increase – positive values/decline – negative values),
- $X_4$  – changes in luxury goods purchases (increase – positive values/decline – negative values),
- $X_5$  – taking out loans (negative values) vs increase in the amount of disposable financial resources (positive values),
- $X_6$  – an increased propensity to save (negative values)/spend (positive values),
- $X_7$  – changes in housing standards (improvement – positive values/decline – negative values),
- $X_8$  – living near the poverty line (negative values) vs being well-off (positive values).

Respondents described their situation with respect to these categories on a scale of –3 to 3, and the arithmetic average of every question was used to assess the results. When the value was negative, it

**Table 1.** Sample size and structure

Specification	2014	2016	2018	2020	2022
Total respondents	787	611	250	391	353
Primary	129	109	38	81	52
Secondary	368	245	105	184	167
Higher	290	257	107	126	134
Share of the sample (%)	2014	2016	2018	2020	2022
Total respondents	100.0	100.0	100.0	100.0	100.0
Primary	16.4	17.8	15.2	20.7	14.7
Secondary	46.8	40.1	42.0	47.1	47.3
Higher	36.8	42.1	42.8	32.2	38.0

Source: own research.

adopted the character of a destimulant, and when the value was positive, it was a stimulant. In addition, a general assessment of the respondents' economic situation was conducted by calculating the average of the results for all 8 questions, which is a typical taxonomic solution.

The results are presented jointly and grouped by education, with three groups being defined, i.e., primary education (including middle school, primary school and lower, as well as primary vocational education), secondary education (including secondary vocational education, general secondary and post-secondary) and higher education (including first-cycle, second-cycle and other types of higher education). For the purpose of determining the existence of differences between these groups, a one-way analysis of variance was conducted with a significance of 0.05. However, the statistical results must be treated cautiously as the compared groups were not equally numerous. Nevertheless, they shed some light on possible differences connected with educational attainment.

## RESULTS AND DISCUSSION

### Educational attainment as a determining factor of the individual economic situation in Poland

Educational attainment is a factor that has a noticeable impact on the economic situation of Polish households. In particular, the status of individuals possessing higher education is, in numerous respects, better compared to other social groups. This is reflected in their position in the labor market, where individuals possessing higher education are more economically active, find employment easier and remain unemployed less frequently. The least educated individuals find themselves in the opposite situation. These differences persist throughout the entire period of analysis, i.e., from 2014 to 2022 (Table 2).

Similarly, the income of individuals possessing a high human capital was higher than in the general population, although this advantage declined over time. At the same time, the mean and median income of the least educated respondents was lower, but the difference also decreased over time (Table 3). These data indicate that higher education had

**Table 2.** Economic activity by education level in Poland in 2014–2022

Educational attainment	2014	2015	2016	2017	2018	2019	2020	2021	2022
Economic activity rate (%)									
Primary	41.5	41.2	40.5	40.5	39.9	39.2	39.1	40.4	39.9
Secondary	60.5	59.8	60.2	59.8	59.3	58.8	58.0	60.0	59.6
Higher	80.3	80.4	80.4	80.1	80.4	80.2	79.8	81.5	81.3
Employment rate (%)									
Primary	36.4	36.8	36.8	37.5	37.6	37.4	37.5	38.6	38.1
Secondary	54.8	55.1	56.4	56.8	56.8	56.7	55.9	58.1	57.6
Higher	76.5	77.2	77.8	78.2	78.8	78.6	78.2	80.3	80.3
Unemployment rate (%)									
Primary	12.5	10.7	9.0	7.4	5.6	4.6	4.3	4.3	4.6
Secondary	9.5	7.8	6.3	5.1	4.2	3.5	3.6	3.3	3.4
Higher	4.7	4.0	3.3	2.4	2.0	2.0	1.9	1.4	1.3

secondary: secondary vocational, general secondary and post-secondary; primary: primary vocational and middle school, primary and lower.

Source: [GUS 2022a, 2023, GUS and BDL 2023a].

**Table 3.** Relative income by educational attainment level in Poland in 2014–2022

<b>Educational attainment</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Mean equivalized net income as a percentage of mean income in the general population (%)									
Primary	66.6	66.8	68.6	70.2	70.8	70.7	71.1	72.5	73.5
Secondary	89.7	89.6	88.8	88.9	90.0	89.6	89.0	89.0	88.3
Higher	143.6	143.3	141.1	139.7	135.3	135.5	132.6	129.7	128.1
Median equivalized net income as a percentage of median income in the general population (%)									
Primary	70.8	69.0	71.1	74.0	74.2	74.4	72.2	74.5	77.1
Secondary	93.7	93.5	92.6	93.3	93.1	93.0	91.3	91.7	91.8
Higher	146.2	142.0	143.1	138.2	132.3	133.4	129.3	128.2	125.6

primary – levels 0–2, secondary – levels 3–4, higher – levels 5–8 according to ISCED2011

Source: [Eurostat 2023a, b].

progressively less impact on the improvement of the economic situation of individuals. The rapid pace of economic change necessitates constant adaptation and acquiring new skills, including those outside of the formal education system. Higher education provides a solid base for this, although it is not the

sole determining factor with regard to earning an above-average income.

As a result of their favorable position in the labor market and relatively high income, individuals possessing higher education are more resilient to various socioeconomic risks. The percentage of individuals at risk

**Table 4.** Socioeconomic risk by educational attainment level in Poland in 2014–2022

<b>Educational attainment</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
At risk of poverty rate (%)									
Primary	35.6	37.3	36.4	29.7	31.5	29.5	33.0	28.4	26.6
Secondary	17.9	19.0	19.4	17.9	17.1	17.4	16.7	16.8	16.5
Higher	4.4	5.3	5.3	5.2	4.8	6.0	5.1	5.1	4.9
Material and social deprivation rate (%)									
Primary	32.3	27.3	22.2	20.9	18.6	18.0	13.2	13.1	12.7
Secondary	21.5	16.6	12.6	12.7	10.6	8.9	7.1	7.5	7.4
Higher	6.8	4.6	2.9	3.3	2.7	2.1	1.7	1.8	2.0
Persons living in households with very low work intensity (%)									
Primary	17.9	18.2	16.4	17.4	17.9	16.4	16.9	16.7	16.0
Secondary	8.7	8.4	8.3	7.4	7.0	6.0	5.5	5.5	4.9
Higher	2.9	2.9	2.0	1.4	2.0	1.7	1.5	1.7	1.4

primary – levels 0–2, secondary – levels 3–4, higher – levels 5–8 according to ISCED2011

Source: [Eurostat 2023c, d, e].

of poverty is much lower in this group. Situations where a household is incapable of meeting its essential needs due to material reasons are rare. The percentage of individuals being part of households with a very low work intensity is also relatively low. The aforementioned risks primarily affect the least educated respondents (Table 4).

### Changes in the economic situation of households in the Subcarpathian Voivodeship in the years 2014–2022 – results of the author’s own research

The Subcarpathian Voivodeship is one of the poorest Polish regions with the disposable gross incomes per capita reaching about 3/4 of its level for Poland (76.3% in 2014 and 78.6% in 2020) [GUS, BDL 2021c] and less favorable labor market indicators such as the unemployment rate, which was 15.3% in the last quarter of 2014 (compared to 8.3% for Poland) and 5.0% (compared to 2.9%) in the last quarter of 2022 [GUS 2021]. However, in this region, the position of the highly educated in the labor market is much more favorable than the others. Either the economic activity or the employment rates are higher for the group with a higher level of human capital (Table 5).

The households from the Subcarpathian Voivodeship analyzed throughout the entire research period assessed their economic situation relatively favorably, although cautiously so (all synthetic measures are positive, al-

though close to 0 – Table 6). Their assessment was increasingly favorable from 2014 to 2018, which co-occurred with an economic upturn in the country. A similar, positive correlation between the acceleration of economic growth of the domestic economy in 2015 and 2016 and the improvement of the financial situation of families in Poland has been pointed out by Wereda and Prokopowicz [2017, p. 254]. Research conducted by Statistics Poland (GUS) indicated that in 2015 in Poland 69.3% of respondents were satisfied and 9.1% were very satisfied with life, 51.6% expressed positive and 8.3% very positive opinions about their professional situation (character of work, work time, salary), while 52.5% were satisfied and 4.9% very satisfied with their material living conditions. Only the financial situation was assessed more critically – every third respondent was satisfied with it, and every 28th was very satisfied [GUS 2015b]. Moreover, research by Statistics Poland (GUS) about the subjective evaluation of the material situation of households shows a steady trend of improvement, as in 2014, 8.6% of respondents assessed it as very good and 18.5% as rather good [GUS 2015a, p. 247], in 2018 the shares were 20.9 and 23.1%, respectively [GUS 2019, p. 259]; in 2020, 25.3% of respondents declared it as good and 26.4% as a rather good situation [GUS 2021, p. 267] and in 2021 it was 25.9 and 27.1%, respectively [GUS 2022b, p. 179].

However, in the presented research conducted in the Subcarpathian Voivodeship after the 2018 peak, the eco-

**Table 5.** Economic activity by education level in the Subcarpathian Voivodeship in 2014–2022

Educational attainment	2014	2015	2016	2017	2018	2019	2020	2021	2022
Economic activity rate (%)									
Primary	40.9	40.1	40.8	40.6	38.7	37.3	37.9	35.1	32.9
Secondary	60.4	60.3	61.3	61.4	60.0	57.6	56.2	57.3	55.9
Higher	80.1	78.8	80.1	80.1	78.9	80.4	80.5	80.4	81.7
Employment rate (%)									
Primary	33.8	34.9	35.5	36.0	35.4	34.9	35.7	33.1	30.0
Secondary	51.0	51.7	55.5	55.6	55.3	54.4	54.0	55.5	53.1
Higher	74.2	73.9	75.4	76.7	76.1	77.9	77.5	78.5	80.1

secondary: secondary vocational, general secondary and post-secondary; primary: primary vocational and middle school, primary and lower

Source: [GUS 2022a, 2023, GUS and BDL 2023a].

conomic situation of households appeared less optimistic. The lowest synthetic measure was observed in 2022, undoubtedly impacted by multifaceted crises such as the pandemic, increased inflation and the Russian invasion of Ukraine. It suggests that the region appears to be more vulnerable to downturns and external tensions.

However, the assessments are not homogeneous with regard to the various aspects of the economic situation. Throughout almost the entire period of analysis (with the exception of 2018), households attempted to increase their savings to protect themselves from a potential downturn. This caution was greatest in the most difficult year – 2022. In addition, except for 2018, households limited their purchases of luxury goods, whose consumption is the most affected by changes in income levels. In addition, durable goods purchases were also lower in 2022, which is an important indicator of a decline in the economic situation. In the remaining aspects, the assessments of the economic situation were favorable, which indicates that, despite major changes in the economy, household economic security was not at risk. These observations are also confirmed by the most favorable assessments of living standards, which were assessed as well-off significantly more frequently than near the poverty line, as well as the assessment of housing standards, as deprivation in this respect would be a strong indicator of economic

difficulty. All of these indicators also demonstrate that the economic peak was in 2018. Their relative levels illustrate typical reactions aimed at maintaining a certain living standard, including increased thrift during an economic downturn, with the greatest restrictions put on luxury goods purchases, followed by durables.

Multidimensional research on the economic situation of households in Poland for 2009–2019 conducted by Kozak and Mrówczyńska-Kamińska [2022] also reflected its general improvement. However, the authors perceived some differences between the income or expenditure situation of households and their asset situation, which confirms the diversified tendencies concerning specific aspects of the economic situation identified in this study for Subcarpathian citizens.

#### **Differences in the economic situation of households with different education levels – results of the author’s own research**

Assessments of the economic situation of the respondents’ own households differed by educational attainment level (Table 7). The economic situation was assessed unfavorably primarily by individuals with primary education. Such households assessed their situation unfavorably in 2014, 2016 and 2022, i.e., during periods of general economic downturn. In 2022, generally negative assessments expressed by the synthetic measure

**Table 6.** Household economic situation characteristics

Specification	2014	2016	2018	2020	2022	Average by year
Decline – / increase + in the consumption of food products	0.20	0.20	0.40	0.26	0.25	0.2620
Decline – / increase + in clothing purchases	0.15	0.24	0.55	0.37	0.01	0.2640
Decline – / increase + in durable goods purchases	0.04	0.00	0.30	0.21	–0.12	0.0860
Decline – / increase + in luxury goods purchases	–0.33	–0.25	0.02	–0.04	–0.49	–0.2180
Taking out loans – / generating savings +	0.09	0.08	0.45	0.30	0.12	0.2080
Propensity to save – / spend +	–0.39	–0.26	0.16	–0.05	–0.61	–0.2300
Decline – / improvement + in housing standards	0.31	0.46	0.60	0.69	0.36	0.4840
Living near the poverty line – / being well-off +	0.54	0.53	0.75	0.74	0.51	0.6140
Synthetic measure	0.0763	0.1250	0.4038	0.3100	0.0038	

The values were calculated as the arithmetic average of responses on a scale of –3 to 3, where 0 – no opinion, 3 – I strongly agree.

Source: own research.

**Table 7.** Household economic situation metrics by respondent educational attainment level

Specification	2014			2016			2018			2020			2022		
	Primary	Secondary	Higher												
Decline – / increase + in the consumption of food products	-0.08	0.16	0.37	-0.01	0.12	0.37	0.37	0.35	0.47	-0.06	0.35	0.32	0.35	0.34	0.12
Decline – / increase + in clothing purchases	-0.04	0.09	0.30	0.11	0.13	0.39	0.53	0.56	0.55	0.10	0.41	0.48	-0.17	0.05	0.03
Decline – / increase + in durable goods purchases	-0.18	0.01	0.17	-0.09	-0.13	0.16	0.08	0.34	0.35	0.01	0.31	0.20	-0.29	-0.10	-0.09
Decline – / increase + in luxury goods purchases	-0.55	-0.34	-0.21	-0.40	-0.35	-0.09	-0.08	0.15	-0.07	-0.41	0.04	0.08	-0.62	-0.51	-0.42
Taking out loans – / generating savings +	-0.11	0.12	0.13	-0.01	0.08	0.12	0.39	0.56	0.36	0.07	0.30	0.43	-0.02	0.04	0.28
Propensity to save – / spend +	-0.53	-0.48	-0.22	-0.29	-0.32	-0.18	0.16	0.10	0.21	-0.26	0.07	-0.09	-0.54	-0.69	-0.54
Decline – / improvement + in housing standards	0.18	0.26	0.43	0.40	0.38	0.56	0.68	0.66	0.52	0.27	0.81	0.78	0.21	0.37	0.40
Living near the poverty line – / being well-off +	0.36	0.48	0.68	0.21	0.60	0.58	0.61	0.89	0.67	0.36	0.85	0.83	0.21	0.45	0.70
Synthetic measure	-0.1188	0.0375	0.2063	-0.0100	0.0638	0.2388	0.3425	0.4513	0.3825	0.0100	0.3925	0.3788	-0.1088	-0.0062	0.0600

The values were calculated as the arithmetic average of responses on a scale of -3 to 3, where 0 – no opinion, 3 – I strongly agree.

Source: own research.

were also observed in households possessing secondary education, which highlights the extent of disruption during this period. At the same time, no group assessed their economic situation unfavorably in 2018 and 2020, as indicated by the positive synthetic measures.

Despite the vulnerability to negative economic phenomena of individuals possessing primary education, it should be noted that such individuals did not live in poverty or observe a decline in their housing standards in any of the analyzed periods. In the most difficult periods, they focused on limiting their luxury goods purchases, and declared being more thrifty. Thus, the group's behavior was in line with the general trend affecting all households.

On the other hand, individuals with the highest level of educational attainment assessed their economic situation as the highest most frequently. During unfavorable periods, the group declared increased tendencies to save money and limit luxury goods purchases. Interestingly, in the favorable year 2018, individuals possessing higher education also opted to limit luxury goods purchases, which may reflect a relatively high level of saturation with such goods. In addition, in 2020, they declared an increase in their propensity to save money, which may be a result of earning a higher income, thus allowing for saving and being able to quickly anticipate the crisis phenomena related to the pandemic. In the difficult year 2022, on the other hand, the group declared an increase in disposable financial resources much more frequently than the re-

maining groups, which indicates that such individuals were the least affected by the negative consequences of a general economic downturn. The synthetic measures of the economic situation of individuals with the highest human capital also remain the most stable over time. It was the only group that assessed its situation favorably in 2022.

Individuals possessing secondary education were the most affected by the upturn of 2018 and 2020, as in those years, the synthetic measures of their economic situations were the highest out of all groups. At the same time, variance in their living standards over time was higher compared to individuals possessing higher education, and similar to those possessing primary education (although their assessments were higher on average compared to the primary education group).

A general comparison of the economic situation of individuals by education level confirms that, as the education level increases, so does the favorability of assessment. However, the advantage of those possessing the best education primarily consists in resilience, and disappears during periods of economic upturn, which favored those with secondary education (most likely due to the positive impact of professional skills).

A one-way variance analysis was conducted for the purpose of verifying the significance of the difference in household economic situation assessments among groups with different educational attainment levels (Table 8).

**Table 8.** Variance analysis results for differences between educational attainment levels (*p* values)

Specification	2014	2016	2018	2020	2022
Decline – / increase + in the consumption of food products	<b>0.0047</b>	<b>0.0247</b>	0.8086	0.0663	0.2959
Decline – / increase + in clothing purchases	<b>0.0453</b>	0.0929	0.9911	0.1755	0.5742
Decline – / increase + in durable goods purchases	0.0605	0.0595	0.5095	0.2702	0.5528
Decline – / increase + in luxury goods purchases	0.1033	0.0827	0.4341	<b>0.0281</b>	0.6637
Taking out loans – / generating savings +	0.1500	0.6750	0.4582	0.1699	0.1303
Propensity to save – / spend +	<b>0.0391</b>	0.5664	0.8523	0.2640	0.6117
Decline – / improvement + in housing standards	0.1046	0.1884	0.6726	<b>0.0121</b>	0.5715
Living near the poverty line – / being well-off +	<b>0.0158</b>	<b>0.0078</b>	0.2739	<b>0.0131</b>	<b>0.0275</b>
Synthetic measure	<b>0.0029</b>	<b>0.0240</b>	0.7367	<b>0.0044</b>	0.3945

*p* values in bold denote statistically significant differences

Source: own research.

The differences in the synthetic assessment of household economic situations by education level proved to be significant in the case of 2014, 2016 and 2020. The test did not confirm the significance of these differences in 2018 – the year of the economic upturn, and in 2022 – a year of crises. It can thus be concluded that fluctuations in the general situation blur previously existing, traditional differences between individual education groups. During an upturn, every group experiences an improvement in their situation, with the most impactful changes occurring in groups with lower resources of human capital.

Educational attainment has been demonstrated to be a differentiating factor only in the case of selected aspects of a household's economic situation. Significant differences with regard to durables purchases, taking out loans and gathering disposable financial resources were not identified in any of the analyzed periods. In relation to clothing purchases, significant differences were only observed in 2014, luxury goods purchases – only in 2020, changes in propensities to save/consume – in 2014, and in housing standards – in 2020. Educational attainment level proved to be the most significant differentiating factor with regard to being well-off or near the poverty line, as well as food product purchases. In all of these cases, the economic situation of households at the lowest level of educational attainment is the most serious. This confirms that the group in question suffers from the highest risk of such socioeconomic phenomena as poverty and material deprivation, which manifest in difficulties in meeting essential needs.

Other research conducted in the region also confirms that education can determine the subjective assessment of the economic situation. It is perceived as one of the diagnostic features of subjective evaluation of household budget management in the model of discrimination proposed by Kasprzyk [2016]. Education also appears among determinants of life quality in research presented by Kawa et al. [2017]. Although the research methodologies used in this research are incomparable, the conclusions about the role of education for well-being are consistent.

## CONCLUSIONS

The study indicates a relatively favorable assessment of the socioeconomic situation of households in the Subcarpathian Voivodeship. However, these assessments have changed greatly with changes in the general economy, proving the significance of the relationship between the environment in which households function and the situation the micro-entities are in. The analyses also enabled the identification of differences existing between individuals with different educational attainment levels. In particular, these differences indicate that the economic situation of households possessing the lowest human capital is relatively unfavorable, and that living standards increase together with the level of educational attainment. The differences between educational attainment groups also disappear in situations where the general economy changes significantly – both during upturns and crises. It can thus be concluded that higher education has a special influence on one's economic situation, one that is primarily resilience-related and mitigates disruptions to the quality of life of individuals from this group. Therefore, education remains a factor in strengthening households' economic security.

The results presented here are limited to the assessment of the economic situation of households from the Subcarpathian Voivodeship. Due to regional features, they cannot be extrapolated to the entire population or used to form generalizations. Nevertheless, the analyses presented in this paper are in line with more general trends identified in the relevant literature, which indicates that education has a positive impact on the economic situation. In addition, the analyses fill an empirical gap pertaining to verifying the existence of such an impact from a dynamic perspective in a relatively less economically developed region, that is, the Subcarpathian Voivodeship. A more detailed assessment of the significance of education to material living standards would require taking into account other factors, including non-formal avenues of acquiring education and skills.

## REFERENCES

- Adamczyk, G. (2002). Analiza profilu demograficznego gospodarstw domowych i jego implikacje na rynku żywności (Analysis of Household Demographic Profiles and Their Implications for the Food Market). *Roczniki Akademii Rolniczej w Poznaniu*, 343, 17–29.
- Bywalec, Cz. (2012). *Ekonomika i finanse gospodarstw domowych (Household Economics and Finances)*. Wydawnictwo Naukowe PWN, Warszawa.
- Callander, E.J., Schofield, D.J., Shrestha, R.N., Kelly, S.J. (2012). Sufficient education attainment for a decent standard of living in modern Australia. *Journal of Social Inclusion*, 3(1), 7–20.
- Dąbrowa, W. (2011). Badania poziomu życia – metodologia konstrukcji wybranych wskaźników (Living Standards Research – the Methodology of Constructing Selected Indicators). *Zeszyty Naukowe Małopolskiej Wyższej Szkoły Ekonomii w Tarnowie*, 1(17), 67–82.
- Domański, H. (2020). Zmiany w stratyfikacji społecznej w Polsce (Changes in Polish Social Stratification). *Ekonomista*, 2, 286–305. <https://doi.org/10.52335/dvqp.te156>
- Duczkowski, N., Słowik, L. (2022). Wpływ subiektywnej oceny sytuacji materialnej na zadłużenie gospodarstw domowych (The Impact of Subjective Assessments of Material Status on Household Indebtedness). *Wiadomości Statystyczne (The Polish Statistician)*, 67(8), 41–63. <http://doi.org/10.5604/01.3001.0015.9701>
- Dudek, S., Konat, G. (2022). Kondycja gospodarstw domowych. I kwartał 2022 Badania Koniunktury Gospodarczej Instytutu Rozwoju Gospodarczego SGH, Badanie okresowe nr 118. (Household Condition Assessment. 1st Quarter 2022, Economic Research by the SGH Institute of Economic Development, Periodic assessment no. 118). Warsaw University of Economics, Warszawa.
- Eurostat (2023a). Mean and median income by educational attainment level – EU-SILC survey. Retrieved from [https://ec.europa.eu/eurostat/databrowser/view/ilc\\_di08/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/ilc_di08/default/table?lang=en) [accessed: 01.08.2023].
- Eurostat (2023b). Mean and median income by age and sex – EU-SILC and ECHP surveys. Retrieved from [https://ec.europa.eu/eurostat/databrowser/view/ilc\\_di03/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/ilc_di03/default/table?lang=en) [accessed: 01.08.2023].
- Eurostat (2023c). At-risk-of-poverty rate by poverty threshold and educational attainment level – EU-SILC survey. Retrieved from [https://ec.europa.eu/eurostat/databrowser/view/ilc\\_li07/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/ilc_li07/default/table?lang=en) [accessed: 01.08.2023].
- Eurostat (2023d). Material and social deprivation rate by age, sex and educational attainment level. Retrieved from [https://ec.europa.eu/eurostat/databrowser/view/ilc\\_mdsd03/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/ilc_mdsd03/default/table?lang=en) [accessed: 01.08.2023].
- Eurostat (2023e). Persons living in households with very low work intensity by educational attainment level (population aged 18 to 59 years) – EU 2020 strategy. Retrieved from [https://ec.europa.eu/eurostat/databrowser/view/ilc\\_lvhl14n/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/ilc_lvhl14n/default/table?lang=en) [accessed: 01.08.2023].
- Fabrizi, E., Mussida, Ch., Parisi, M.L. (2023). Comparing Material and Social Deprivation Indicators: Identification of Deprived Populations. *Social Indicators Research*, 165, 999–1020. <https://doi.org/10.1007/s11205-022-03058-6>
- Gawel-Luty, E. (2022). Wybrane konteksty jakości życia (Selected Quality of Life Contexts). *Colloquium Pedagogika – Nauki o Polityce i Administracji (Colloquium Pedagogics – Political and Administrative Sciences)*, 3(47), 163–173. <http://doi.org/10.34813/28coll2022>
- GUS (2015a). Budżety gospodarstw domowych w 2014 r. (Household budget survey in 2014). Informacje i opracowania statystyczne (Statistical Information and Elaborations). Zakład Wydawnictw Statystycznych, Warszawa.
- GUS (2015b). Subiektywny dobrobyt w Polsce. Na podstawie badania spójności społecznej 2015 (Subjective well-being in Poland. Based on the 2015 social cohesion survey). Departament Badań Społecznych i Warunków Życia GUS, Urząd Statystyczny w Łodzi. Retrieved from [https://stat.gov.pl/files/gfx/portalinformacyjny/pl/defaultaktualnosc/5486/20/1/1/subiektywny\\_dobrobyt.pdf](https://stat.gov.pl/files/gfx/portalinformacyjny/pl/defaultaktualnosc/5486/20/1/1/subiektywny_dobrobyt.pdf) [accessed: 25.08.2023].
- GUS (2019). Budżety gospodarstw domowych w 2018 r. (Household budget survey in 2018). (2019). Informacje statystyczne (Statistical Information). Zakład Wydawnictw Statystycznych, Warszawa.
- GUS (2021). Budżety gospodarstw domowych w 2020 r. (Household budget survey in 2020). (2021). Informacje statystyczne (Statistical Information). Zakład Wydawnictw Statystycznych, Warszawa.
- GUS (2022a). Aktywność ekonomiczna ludności Polski – 4 kwartał 2021 r. (Labour force survey in Poland – quarter 4/2021), Informacje statystyczne (Statistical information). Zakład Wydawnictw Statystycznych, Warszawa.
- GUS (2022b). Budżety gospodarstw domowych w 2021 r. (Household budget survey in 2021). Analizy (Statistical Information). Zakład Wydawnictw Statystycznych, Warszawa.
- GUS (2023). Aktywność ekonomiczna ludności Polski – 4 kwartał 2022 roku (Labour force survey in Poland – quarter 4/2022), Informacje statystyczne (Statistical information). Zakład Wydawnictw Statystycznych, Warszawa.
- GUS, BDL (2023a). Rynek pracy/Aktywność ekonomiczna ludności w wieku 15 lat i więcej według BAEL (dane

- średnioroczne)/Ludność wg typu aktywności i poziomu wykształcenia (Labour market/Economic activity of people aged 15 and above according to BAEL (annual average data)/Population by type of activity and educational attainment). Retrieved from <https://bdl.stat.gov.pl/bdl/metadane/metryka/2350?back=True> [accessed: 01.08.2023].
- GUS, BDL (2023b). Rynek pracy/Aktywność ekonomiczna ludności w wieku 15–89 lat według BAEL (dane kwartalne)/Stopa bezrobocia wg płci (Labour market/Economic activity of people aged 15 and above according to BAEL (quarterly data)/Unemployment rate by gender). Retrieved from <https://bdl.stat.gov.pl/bdl/metadane/metryka/2361?back=True> [accessed: 23.08.2023].
- GUS, BDL (2023c). Rachunki regionalne/Nominalne dochody w sektorze gospodarstw domowych – PKD 2007 – ESA 2010/Dochody do dyspozycji brutto na 1 mieszkańca (Regional accounts/Nominal incomes in households' sector – PKD 2007 – ESA 2010/Disposable gross income per capita). Retrieved from <https://bdl.stat.gov.pl/bdlarch/metadane/cechy/3524> [accessed: 23.08.2023].
- Jabłoński, Ł. (2021). Ewolucja podejść do kapitału ludzkiego w naukach ekonomicznych (The Evolution of Approaches to Human Capital in Economics: The National Economy). *Gospodarka Narodowa*, 2(306), 91–120. <http://doi.org/10.33119/GN/134630>
- Jeran, A. (2016). Nieoczywiste konsekwencje zwiększania poziomu kwalifikacji pracowników z wyższym wykształceniem (Less Obvious Consequences of Increasing Competencies of Employees Possessing Higher Education). *Edukacja Ustawiczna Dorosłych*, 2, 51–59.
- Kałamucka, W. (2017). Jakość życia i zabezpieczenie egzystencji z perspektywy geograficznej (Quality of Life and Securing Existence from a Geographic Perspective). Wydawnictwo Marii Curie-Skłodowskiej w Lublinie, Lublin.
- Kalinowski, S., Łuczak, A., Szczygieł, O., Wojciechowska, A., Klimkowski, S., Komorowski, Ł. (2022). Diagnoza do opracowania programu przeciwdziałania ubóstwu i wykluczeniu województwa mazowieckiego na lata 2023–2026 (Diagnosis for the Development of a Programme for Combatting Poverty and Deprivation in Mazowieckie Voivodeship for 2023–2026). MCPS. Retrieved from [https://mcps.com.pl/wp-content/uploads/2023/02/Diagnoza\\_ubostwo2.pdf](https://mcps.com.pl/wp-content/uploads/2023/02/Diagnoza_ubostwo2.pdf) [accessed: 01.08.2023].
- Kasprzyk, B. (2016). Subiektywne oceny dobrobytu ekonomicznego w gospodarstwach domowych w świetle modelowania dyskryminacyjnego (Subjective assessments of economic well-being in households in the light of discrimination modelling). *Ekonomista*, 2, 235–252.
- Kawa, M., Kisiel, M., Grzybek, M. (2017). Wybrane aspekty jakości życia mieszkańców Podkarpacia (Selected aspects of life quality of Podkarpacie residents). *Nierówności Społeczne a Wzrost Gospodarczy*, 49 (1), 182–194. <http://doi.org/10.15584/nsawg.2017.1.14>
- King, E.M. (1990). Does Education Pay in the Labor Market? The Labor Force Participation, Occupation, and Earnings of Peruvian Women. Living Standards Measurement Study Working Paper No. 67. World Bank, Washington, D.C.
- Klein, M. (2015). The increasing unemployment gap between the low and high educated in West Germany. Structural or cyclical crowding-out? *Social Science Research*, 50, 110–125. <https://doi.org/10.1016/j.ssresearch.2014.11.010>
- Korzeniowska, A.M., Rutecka-Góra, J., Swacha-Lech, M., Waliszewski, K. (2023). Wpływ pandemii COVID-19 na finanse osobiste (Impact of the COVID-19 Pandemic on Personal Finances). Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu, Wrocław. <http://doi.org/10.15611/2023.47.3>
- Kosowski, B., Kułakowska, A. (2022). Percepcja bezpieczeństwa ekonomicznego gospodarstw domowych (Perception of Household Economic Security). *Politeja*, 4(79), 327–342. <https://doi.org/10.12797/Politeja.19.2022.79.16>
- Kozak, J.M., Mrówczyńska-Kamińska, A. (2022). Economic situation of households in Poland. *Annals of the Polish Association of Agricultural and Agribusiness Economists*, 36(1), 134–160. <https://doi.org/10.5604/01.3001.0015.7629>
- Lavrinovicha, I., Lavrinenko, O., Teivans-Treinovskis, J. (2015). Influence of education on unemployment rate and incomes of residents. *Procedia – Social and Behavioral Sciences*, 174, 3824–3831. <https://doi.org/10.1016/j.sbspro.2015.01.1120>
- Lindberg, M.H., Chen, G., Olsen, J.A., Abelsen, B. (2022). Combining education and income into a socioeconomic position score for use in studies of health inequalities. *BMC Public Health*, 22, 969. <https://doi.org/10.1186/s12889-022-13366-8>
- Majchrowska, A., Roszkowska, S. (2013). Czy wykształcenie i doświadczenie zawodowe mają znaczenie? Wyniki równania Mincera dla Polski (Do Education and Professional Experience Matter? Results of the Mincer Equation for Poland). *Roczniki Kolegium Analiz Ekonomicznych*, 30, 235–253.
- Orszulak-Dudkowska, K. (2019). Arytmetyka codzienności. Antropologiczna analiza rachunków domowych (Everyday Arithmetic: An Anthropological Analysis of House Budgets). Wydawnictwo Uniwersytetu Łódzkiego, Łódź.
- Petrovska, M., Pantyley, V. (2014). Poziom życia obwodu lwowskiego na Ukrainie: diagnoza stanu (Living Standards

- in Lviv Oblast, Ukraine: a Diagnosis). *Annales Universitatis Mariae Curie-Skłodowska sec. B*, 69(2), 97–117.
- Petrovska, M., Pantyley, V. (2022). Wybrane elementy poziomu i jakości życia ludności obwodu wołyńskiego: diagnoza stanu (Selected Elements of Living Quality and Standards of the Population of Volhynia Oblast: a Diagnosis). *Prace i Studia Geograficzne*, 67.4, 77–87. <http://doi.org/10.48128/pisg/2022-67.4-04>
- Piekutowski, J. (2020). Mapa polskich różnic. Opracowanie na zlecenie Laboratorium „Więzi” w ramach projektu Oczyszczalnia 2020 (Map of Polish Differences: An Analysis Commissioned by the „Więzi” Laboratory as Part of the Oczyszczalnia 2020 Project). Towarzystwo Więź, Warszawa.
- Psacharopoulos, G., Patrinos, H.A. (2018). Returns to Investment in Education: A Decennial Review of the Global Literature. Policy Research Working Paper 8402. World Bank Group. Retrieved from <https://documents1.worldbank.org/curated/en/442521523465644318/pdf/WPS8402.pdf> [accessed: 24/08/2023].
- Skórska, A. (2022). Praca a jakość życia Polaków – zmiany w okresie pandemii COVID-19 (Work and the Quality of Life of the Polish People – Changes during the COVID-19 Pandemic). Wydawnictwo Uniwersytetu Ekonomicznego w Katowicach, Katowice. <https://doi.org/10.22367/uekat.9788378758181>
- Spada, A., Fiore, M., Galati, A. (2023). The Impact of Education and Culture on Poverty Reduction: Evidence from Panel Data of European Countries. *Social Indicators Research*. <https://doi.org/10.1007/s11205-023-03155-0>
- Stasiak, J. (2022). Rynek pracy a edukacja w Polsce (The Job Market and Education in Poland). [In:] A. Stępnik-Kucharska, M. Kapela (Eds.). *Współczesne problemy gospodarcze – Zrównoważony rozwój (Modern Economic Issues – Sustainable Development)*. Kolegium Nauk Ekonomicznych i Społecznych, Politechnika Warszawska, Płock.
- Sztyber, W.B. (2021). Wpływ poziomu wykształcenia na dochody pracowników (The Impact of Educational Attainment on Employee Income). *Polityka Społeczna*, 48(1), 18–23. <http://doi.org/10.5604/01.3001.0014.9654>
- Turčínková, J., Stávková, J. (2012). Does the Attained Level of Education Affect the Income Situation of Households? *Procedia – Social and Behavioral Sciences*, 55, 1036–1042. <https://doi.org/10.1016/j.sbspro.2012.09.595>
- Uzsig, M., Raczkowska, M., Chądryński, M., Wrzeńska-Kowal, J. (2022). Otoczenie ekonomiczne polskich gospodarstw domowych – wybrane elementy (The Economic Environment of Polish Households – Selected Aspects). Wydawnictwo SGGW, Warszawa.
- Wałęga, A. (2012). Zróżnicowanie poziomu i źródeł dochodów gospodarstw pracowniczych w Polsce (Diversity of level and sources of employees’ households income in Poland). *Acta Universitatis Lodziensis. Folia Oeconomica*, 271, 219–232.
- Wereda, W., Prokopowicz, D. (2017). Economic and financial situation of households in Poland – analysis and diagnosis. *Zeszyty Naukowe Polityki Europejskiej, Finanse i Marketing*, 18(67), 240–258. <https://doi.org/10.22630/PEFIM.2017.18.67.37>
- Yang, D., Zheng, G., Wang, H., Li, M. (2022). Education, Income, and Happiness: Evidence From China. *Frontiers in Public Health*, 10, 855327. <http://doi.org/10.3389/fpubh.2022.855327>
- Zbyrad, T. (2022). Warunki życia Polaków oraz aktywność zawodowa (Quality of Life in Poland and Professional Activity). [In:] R.M. Staniszewski (Ed.), *Pomiędzy pandemią Covid-19 a wojną w Ukrainie. Diagnoza stanu polskiego społeczeństwa (Between the Covid-19 Pandemic and the War in Ukraine: A Diagnosis of Polish Society)*. Wydawnictwo ToC, Kraków, 63–83.

## WYKSZTAŁCENIE A SYTUACJA EKONOMICZNA GOSPODARSTW DOMOWYCH W WOJEWÓDZTWIE PODKARPACKIM

### STRESZCZENIE

**Cel:** Celem opracowania jest diagnoza sytuacji ekonomicznej gospodarstw domowych w województwie podkarpackim w latach 2014–2022 oraz identyfikacja znaczenia wykształcenia jako czynnika różnicującego tę sytuację. **Metody:** Realizacja tego zadania opiera się na analizie wyników badań kwestionariuszowych przeprowadzonych w kolejnych pięciu edycjach, co pozwala na dokonanie porównań w czasie. Zgromadzone dane pozwalają na prezentację oceny sytuacji ekonomicznej w ujęciu syntetycznym, jak i w ośmiu szczegółowych aspektach. Zastosowanie analizy wariancji pozwala na statystyczną weryfikację istotności

poziomu wykształcenia dla oceny sytuacji ekonomicznej gospodarstw domowych. **Wyniki:** Uzyskane wyniki potwierdzają, że wzrost poziomu wykształcenia poprawia sytuację ekonomiczną gospodarstw domowych, jednak zróżnicowanie to zanika w sytuacjach zmian koniunktury. Badania wskazują, że osoby o najniższym kapitale edukacyjnym są w największym stopniu narażone na ryzyka społeczno-ekonomiczne, wyrażające się w problemach zaspokojenia najbardziej podstawowych potrzeb bytowych. Jednocześnie sytuacja ekonomiczna osób o najwyższym poziomie kapitału ludzkiego okazuje się najbardziej stabilna, co dowodzi, że wyższe wykształcenie ma charakter czynnika zwiększającego odporność standardu życia na zaburzenia zewnętrzne. **Wnioski:** Można wnioskować, że edukacja pozostaje czynnikiem wzmacniającym bezpieczeństwo ekonomiczne gospodarstw domowych. Oryginalność badań przejawia się w wypełnieniu luki empirycznej związanej z weryfikacją istnienia różnicowań materialnego standardu życia w układzie edukacyjnym, diagnozującą sytuację w jednym z peryferyjnych regionów Polski w ujęciu dynamicznych porównań.

**Słowa kluczowe:** wykształcenie, sytuacja ekonomiczna, gospodarstwa domowe