



UNHCR
The UN Refugee Agency

ANALYSIS OF VULNERABILITY TO MEET BASIC NEEDS

FOR UKRAINIAN REFUGEES IN SLOVAKIA



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Introduction

Since the war in Ukraine began, over 2 million refugees from Ukraine have crossed into Slovakia¹. The vast majority (approximately 90 percent) are women and children, older people, and other persons living with disabilities and specific needs. Many require urgent medical care, including persons with chronic illnesses and those with mental health and physical disabilities. To ensure a favourable protection environment, UNHCR is supporting government-led efforts through a multisectoral response focusing on protection, as well as ensuring that basic needs are met, in particular with the delivery of cash assistance for the most vulnerable groups, including those with specific needs.

The Ministry of Labor, Social Assistance and Family (MoLSAF) of the Slovak Republic has an obligation to provide social assistance to those in need in the territory of Slovakia, meeting the conditions established in articles 10 -14 of the Act no. 417/2013 (Act of Assistance in Material Need). However, due to the high number of refugees entering the country and the need to respond quickly, Cash Working Group operational agencies were requested in April 2022 to support the Government in delivering assistance to those in need.

In agreement with the Government of Slovakia, UNHCR agreed to provide transitional cash as of May 2022 to support the basic needs of refugees fleeing Ukraine who are registered for Temporary Protection. The multipurpose cash (MPC) provided a safety net, until refugees could transition to the Governments' social protection systems or achieve self-reliance. The MPC was provided for 3 months (June-August 2022) and was exceptionally extended for a 4th month (September 2022).

An Inter-Agency Agreement was signed between UNHCR, UNICEF, IOM and IFRC/Slovak Red Cross on the Short-term Emergency Cash Assistance to support the Government in meeting Material Needs in Slovakia. UNHCR enrolled all eligible beneficiaries for Material Needs cash support alongside MoLSAF at Registration Centres and supported the provision of cash assistance for a percentage (60%) of the enrolled caseload. UNHCR provided lists of beneficiaries for the remaining caseload (40%) to UNICEF for their financial support.

In 2022, the multipurpose cash assistance programme targeted a total of 34,500 refugees (representing 60% of the 57,500 registered individuals) in the initial emergency phase. Until September, almost 52,327 individuals (26,806 families) were enrolled to receive cash assistance. UNHCR has effectively paid for around 32,000 individuals in 4 months, with a total of 7.5 M by October 2022.

Despite efforts in 2023 by UNHCR, UNICEF, and other CWG members to transition refugees from humanitarian assistance to the national system, some still struggled to meet their basic needs. This was due to several factors: the complexity of accessing specialized services (even for Slovak nationals), low social benefit rates, and the urgent needs of families with members with disabilities (PWSN).

Focus group discussions held in 2023² highlighted the strict eligibility criteria from MoLSAF, lack of proper information on applying for benefits, and language barriers as critical points that hinder access to social benefits. Communities were also consulted on the most vulnerable groups requiring financial support. In 2023 UNHCR Slovakia moved to a community-based and categorical a targeting approach³.

In April 2023, UNHCR and UNICEF launched the Cash for Protection for vulnerable individuals. The programme was implemented as a protection intervention to respond to specific protection situations or profiles, help reduce refugees' reliance on negative coping mechanisms and achieve further protection outcomes. By December 2023, UNHCR has assisted around 20,000 individuals with Cash for Protection and Winterization, and UNICEF has assisted around 32,000 individuals with Cash for Protection, Cash

¹ UNHCR Data portal: <https://data.unhcr.org/en/situations/ukraine/location/10785>

² Slovakia: Analysis of Focus Group Discussions on Social Protection and Cash Assistance - July 2023: <https://data.unhcr.org/en/documents/details/104469>

³ Individual targeting based on easily observable categories such as gender, age, disability, employment status.

for Education, and Winterization. Together, the interagency unique individuals assisted in 2023 were 35,055⁴.

UNHCR is now revising the targeting criteria for its cash assistance program that will potentially be used by UNICEF while providing cash assistance to refugees in Slovakia as part of a coordinated cash response. Following consultations with cash working group partners, the decision was made to develop a targeting methodology based on a scoring formula. This formula would utilize data-driven indicators to assess the vulnerability of refugees.

Following the [Slovakia MSNA](#) data collection in 2023, a vulnerability analysis was conducted to identify the level of vulnerability of households to meet their basic needs and determine significant variables that were associated with vulnerable groups to inform the revision of targeting criteria.

Data Collection

The [2023 Multi-Sectoral Needs Assessment \(MSNA\)](#) in Slovakia utilized a quantitative approach, gathering primary data through a comprehensive household survey conducted between July 7 and August 28, 2023. The survey covered 819 households with a total of 1,853 members. The target population consisted of households of refugees from Ukraine seeking temporary protection in Slovakia since February 24, 2022. The assessment covered all eight regions of Slovakia, including Bratislava, which hosts the largest refugee population. The survey utilized a structured questionnaire designed at the regional level in collaboration with UNHCR, the inter-agency Team in Slovakia, and sectoral leads.

The sampling design considered two population strata: refugees in collective sites and those in private accommodation. For the first stratum, a systematic random selection of households was used in collective sites monitored by UNHCR and IOM. For the second stratum, a multi-stage sampling design was employed, including stratified area-based sampling in the first stage and convenience sampling in the last stage.

Community Consultations

Alongside the quantitative analysis presented in this report, UNHCR conducted [Focus Group Discussions on Social Protection and Cash Assistance](#) in 2023 to obtain refugees' feedback, in particular, those coming from Ukraine and stateless people, and key local organizations in the different regions of Slovakia on criteria that reflect vulnerability as defined by refugee communities, and assistance needs in Slovakia. The objective was to design the 2023 cash programme based on the community consultation results.

From 1 to 20 March 2023, UNHCR held 13 focus group discussions in all regions of Slovakia proportionally based on the density of the refugee population. The focus group discussions took place in Bratislava, Košice, Banská Bystrica, Humenné, Michalovce, Nitra, Opatovská Nová Ves, Poprad, Prešov, Trenčín, Trnava, and Žilina. The majority of the refugees who participated in the discussions resided in state-subsidized collective accommodation centers.

In total, 101 Ukrainian refugee women and 34 men of ages ranging from 15 to 87, including people with diverse specific needs, participated in the discussions. Conscious of age, gender, and diversity considerations, older persons, single parents, and people with disabilities were particularly encouraged to take an active part in the discussions. For instance, older people participated in 12 of the 13 FGDs; likewise, single parents (mostly mothers) and persons with disability were represented, participating in 8 out of 13 FGDs. Their participation ensured that information about specific needs of persons in vulnerable situations is heard, and their opinions and views understood.

⁴ The total achieved is not the result of the sum of the organizations achievements, as an individual may have received several types of assistance provided by different organizations.

UNHCR complemented the focus group discussions with structured key informant interviews with representatives of the national and local authorities, as well as local NGOs.

The focus group discussions were conducted with the support of community outreach volunteers and other community structures in safe and suitable environments (mostly in urban settings) and with due consideration to preferences of refugees and their availability. UNHCR staff facilitated all the FGDs using a semi-structured template with pre-identified topics and basic open questions to encourage discussions.

The following topics were discussed:

1. UNHCR's role in cash assistance.
2. Socio-economic resilience.
3. Eligibility criteria for cash assistance: Main vulnerabilities identified by refugees.
4. Proposed additional eligibility criteria.
5. Effective access to the social protection system in Slovakia.
6. Provision of information.

During the discussions, the need for additional financial support was highlighted, in particular by single parents, persons with disabilities, families with children, and older people. Most of the priority unmet needs cited by them were related to basic daily expenses, such as expenses for young children, medical costs, including for people with disabilities, transportation, and general school supplies. In addition, families with children with autism mentioned the need to cover extra costs to ensure their access to education. Refugees highlighted a lack of job prospects as the main barrier preventing them from earning an adequate income and becoming self-reliant.

Many participants agreed to the need to further assign cash assistance by examining the individual circumstances of refugees on a case-by-case basis. Participants highlighted the needs of individuals who were not able to access steady jobs and those with insufficient income, such as those with regular jobs but minimum wages that were not able to adequately cover daily costs. Refugees also recommended considering accommodation as a determining factor for assistance.

Majority of the participating refugees were aware of the Government cash assistance programme for persons with material needs, and most were registered. Focus group discussions generally highlighted the strict eligibility criteria from the MoLSAF, lack of proper information on the process of applying for social benefits, and language barriers as critical points that hindered access to state social benefits.

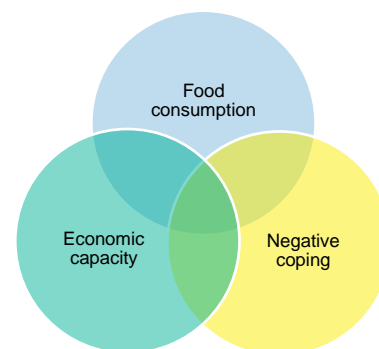
While the analysis of the community consultations is not included in the vulnerability profiling findings listed in this report, they serve as a complementary data source for triangulation and comparison of findings, and to ensure refugee voices are included in any decisions on vulnerability criteria, and broader decisions on the targeting and prioritization of assistance.

VULNERABILITY ANALYSIS RESULTS

Measuring Households' Ability to Meet Basic Needs

UNHCR conducted a vulnerability analysis in several stages. Respondent households were first grouped according to their levels of vulnerability to meet their basic needs, based on a measure of vulnerability calculated on a composite score of three variables from the data set:

1. **Food Consumption Score**, that assesses the frequency and diversity of food consumed, which is a fundamental aspect of meeting basic needs.
2. **Economic capacity**, that measures through expenditure, a person's ability to access essential goods and services including food, housing, healthcare, WASH, education, and others.
3. **Negative coping**, that assesses the degree to which a household has had to resort to negative coping strategies to meet their basic needs, such as withdrawing children from school, borrowing money, or selling assets.



The methodology employed for this vulnerability assessment is based on the [UNHCR-WFP Joint Analytical Framework](#) and [WFP Essential Needs Guidelines](#), that provides a robust and standardized measurement of household vulnerability.

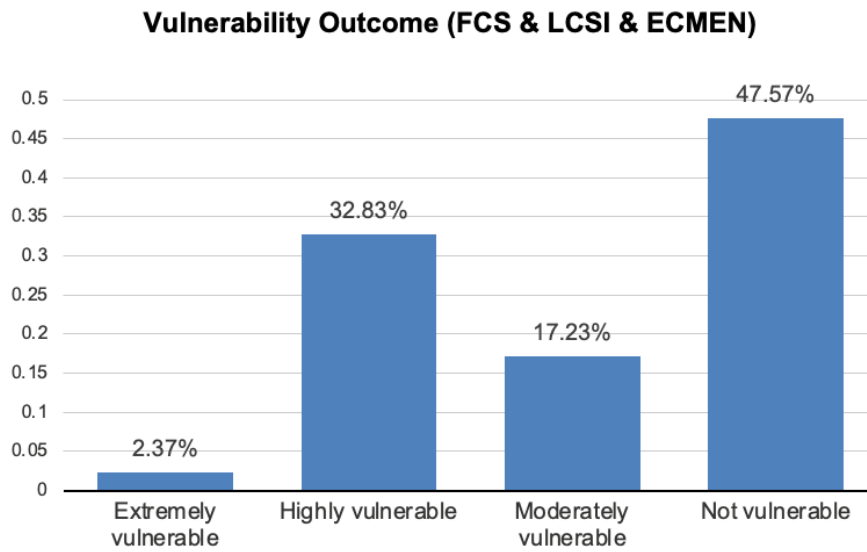
Vulnerability Outcome Indicator

The Vulnerability Outcome Indicator, derived from the Food Consumption Score (FCS), Livelihood Coping Strategies Index (LCSI), and Economic Capacity to Meet Essential Needs (ECMEN), categorizes 801 households into four distinct vulnerability levels. This indicator incorporates dimensions of **dietary diversity**, **coping strategies**, and **economic resilience**.

Vulnerability categorisation of households was based on the following calculations:

Vulnerability group	Scoring	Expenditure	Negative coping	Food consumption
Extremely vulnerable	At least 2 of the following:	Below SMEB	Adopting emergency coping	Poor food consumption score
Highly vulnerable	1 of the following:			
Moderately vulnerable	At least 1 of the following:	Between SMEB and MEB	Adopting crisis or stress coping	Borderline food consumption score
Not vulnerable	All of the following:	Above MEB	Not adopting coping strategies	Acceptable food consumption score

Graph 1. Vulnerability Indicator Overview for Slovakia (N = 801)



The vulnerability distribution in the sample shows 2.37% as extremely vulnerable, 32.83% as highly vulnerable, 17.23% as moderately vulnerable, and 47.57% as not vulnerable, highlighting a relatively stable segment of the population. In total, 35.2% of respondents were considered vulnerable, emphasizing the need for targeted support measures.

CHARACTERISTICS RELATED TO VULNERABILITY

The outcome measurement vulnerability scores were then correlated against other variables in the data set to identify the main socio-demographic, protection, and economic characteristics of vulnerable refugee households. In doing so, these characteristics can inform the eligibility criteria.

Vulnerability	Drivers / enablers	Characteristics of the extremely and highly vulnerable	Possible eligibility criteria? (Examples only)
Extremely vulnerable	Household demographics Gender of household head Shelter conditions Income activity Asset ownership	High dependency ratio Elderly head of household Heating source Living in government accommodation No income sources	High dependency ratio Elderly head of household Living in government accommodation Unsafe shelter standards No income sources
Highly vulnerable			
Moderately vulnerable			
Not vulnerable			

The following findings highlight critical factors influencing vulnerability and expenditure levels among refugees in Slovakia. The findings are based on two statistical models (logistic and multi-linear) outlined in later sections of the report.

Notably, **household size**, synonymous with the presence of children, is consistently correlated with vulnerability.

Formal employment shows a pronounced association with vulnerability, while general employment in the host country was linked to total expenditure. **Duration of stay** emerged as a significant factor in both statistical models that were used, indicating an improvement in living situations over time for those with longer stays.

Accommodation type and **arrangement** proved crucial identifiers of vulnerable populations, as those in such accommodations were likely vulnerable before arriving in the host country.

Priority needs, particularly food, served as markers of vulnerability.

The statistical analysis based on an expenditure model introduced additional drivers, including higher expenditures associated with male-headed households and those households with disabilities. Gender-based violence awareness correlated with overall higher expenditure, potentially reflecting better knowledge of services in the host country.

Alarming, reports of local hostility were more common among households with higher expenditures. Additionally, vulnerability indicators such as stress and crisis mechanisms were linked to increased expenditure. **Food-related reduced coping strategies** (rCSI) were significantly associated with higher expenditure, suggesting a potential proxy indicator which could be used in future assessments of food security.

In summary, the combined findings underscore the multifaceted nature of vulnerability and expenditure among Ukrainian refugees in Slovakia, emphasizing the need for tailored interventions addressing diverse factors influencing their economic well-being.

Commonalities and distinctions in the results provide nuanced insights into the complex dynamics of economic well-being within this population.

Determinants linked to vulnerability

Consistent determinants linked to vulnerability to meet basic needs include:

- **Household size:** In both models, an increase in household size is associated with heightened vulnerability. Conversely, in expenditure, an additional person in the household corresponds to an increase in total expenditure.
- **Household head age:** Older household heads consistently contribute to increased vulnerability, while in expenditure, there is a decrease associated with older household heads.
- **Education level of household head:** Higher education levels, particularly having a bachelor's degree or a master's degree, are linked to reduced vulnerability and increased expenditure.
- **Duration of Stay:** Longer stays in the host country are consistently associated with decreased vulnerability and increased expenditure.
- **Total Household Income:** Higher total household income is a protective factor, correlating with decreased vulnerability and increased expenditure.
- **Accommodation:** Own accommodation and full payment for accommodation consistently contribute to lower vulnerability and higher expenditure.
- **Priority needs (food):** Households prioritizing food needs face increased vulnerability and decreased expenditure.

Additional insights in the multi-regression model:

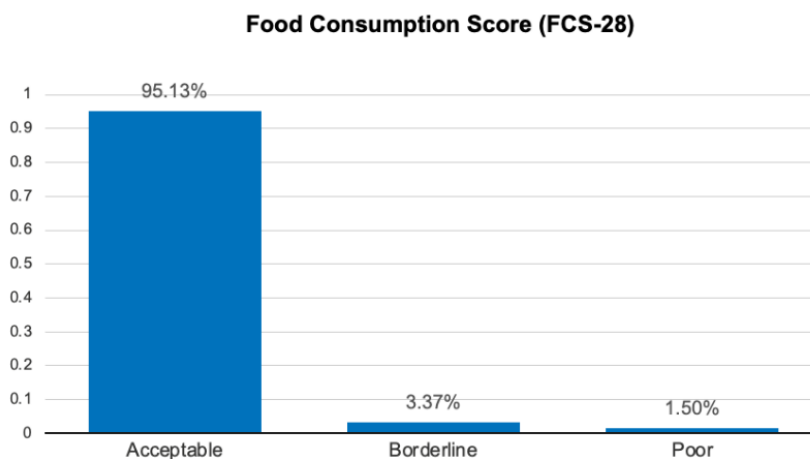
- **Household head gender:** While not significant in vulnerability, households with a male head exhibit higher expenditure in the multi-linear regression model.
- **Income source employment in host country:** The logistic model emphasizes the importance of employment contracts in mitigating vulnerability, whereas the multi-linear model underscores that households with income from employment in the host country have higher total expenditure.
- **Disability status:** In the multi-linear model, households without a disability tend to have lower total expenditure, however it does not significantly correlate with vulnerability.
- **GBV Awareness:** Greater awareness of Gender-Based Violence (GBV) services is associated with an increase in total expenditure in the multi-linear model.
- **Local Hostility:** Reported local hostility is more common among households with higher expenditure in the multi-linear model.
- **Priority Needs (employment):** In the multi-linear model, households prioritizing employment needs exhibit decreased total expenditure.
- **Livelihood Coping Strategies:** Stress and crisis coping mechanisms positively correlate with expenditure, suggesting a complex relationship with vulnerability levels.
- **rCSI (Reduced Coping Strategies Index):** A higher rCSI indicating better food security is associated with an increase in total expenditure.

DESCRIPTIVE VULNERABILITY ANALYSIS RESULTS

Food Consumption Score

Food Consumption Score (FCS) is a quantitative measure designed to assess the dietary diversity and quality of an individual or household's food intake. Food Consumption Score considers the consumption of various food items, such as grains, fruits, vegetables, dairy, protein sources, and fats. A higher Food Consumption Score indicates a more diverse and nutritionally balanced diet, suggesting better access to a variety of foods. A lower score may signal potential food insecurity or dietary deficiencies.

Graph 2. Food Consumption Score (FCS) results for Slovakia (N=801)

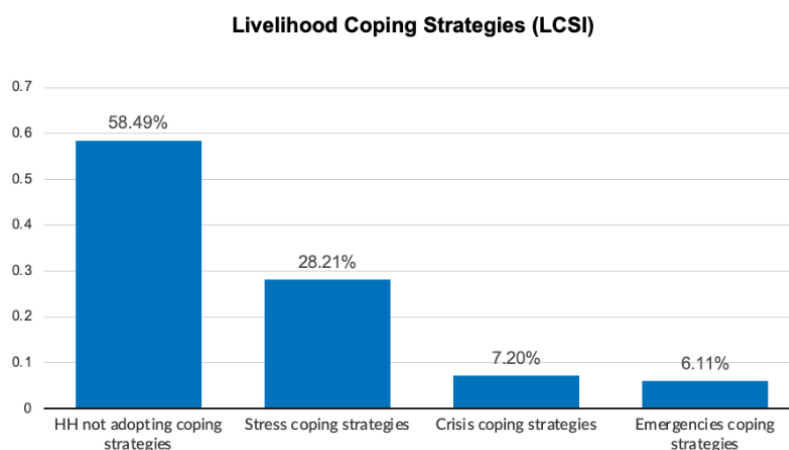


Out of the total 819 respondents in the sample, 18 were missing the food consumption score due to non-response. Among the remaining 801 respondents, 95.13% were categorized as having an acceptable food consumption score, 3.37% as borderline, and only 1.5% as poor. This shows that the majority of respondents are not food insecure even if their financial situation is not favourable.

Livelihood Coping Strategies Index

The Livelihood Coping Strategies Index (LCSI) is a quantitative tool designed to assess strategies households employ to cope with economic challenges and shocks. It serves as a measure adaptive mechanisms people adopt to sustain their livelihoods in the face of adversity. The LCSI captures a range of coping strategies, including both positive and negative coping mechanisms.

Graph 3. Livelihoods Coping Strategies (LCSI) results for Slovakia (N=801)

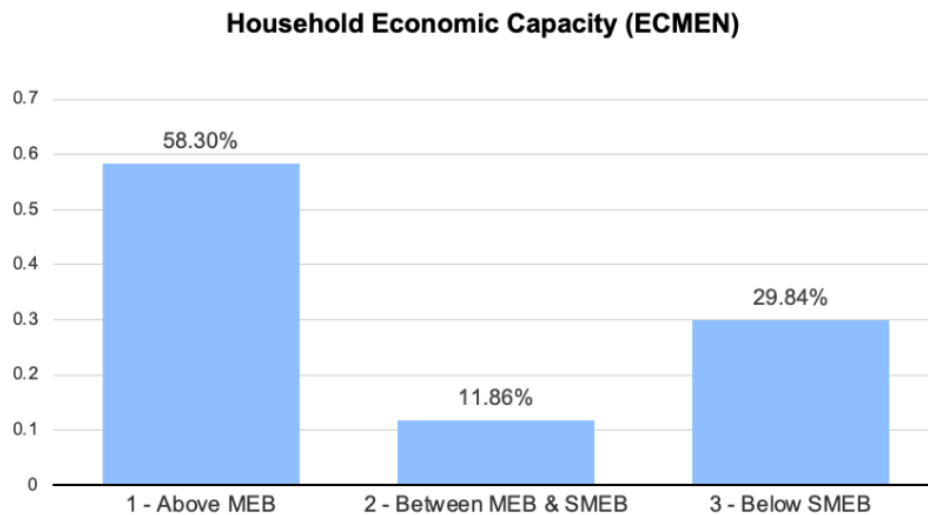


Economic Capacity to Meet Basic Needs

Economic Capacity to Meet Basic Needs (ECMEN) refers to the financial capability of households to fulfil essential needs for a decent standard of living. This concept assesses the extent to which economic resources enable households to meet their fundamental needs such as food, shelter, healthcare, and education. A higher economic capacity suggests that individuals or households are better positioned to afford and sustain their basic needs over time, promoting overall well-being.

- **Minimum Expenditure Basket (MEB)**⁵ - for this analysis, we calculated the MEB at the household level using a formula. The MEB was determined based on government-provided thresholds, considering family composition, including the number of household members and their respective ages.
 - EUR 268.88 per month, in the case of an adult natural person *
 - EUR 187.57 per month, in the case of another jointly assessed adult natural person*
 - EUR 122.77 per month, in the case of an independent minor or a dependent child*
- **Survival Minimum Expenditure basket (SMEB)** – was derived using 80% of the Minimum Expenditure Basket (MEB) as a proxy. This approach was employed due to the absence of an official SMEB source.

Graph 4. Economic Capacity to Meet Basic Needs (ECMEN) (N = 594)



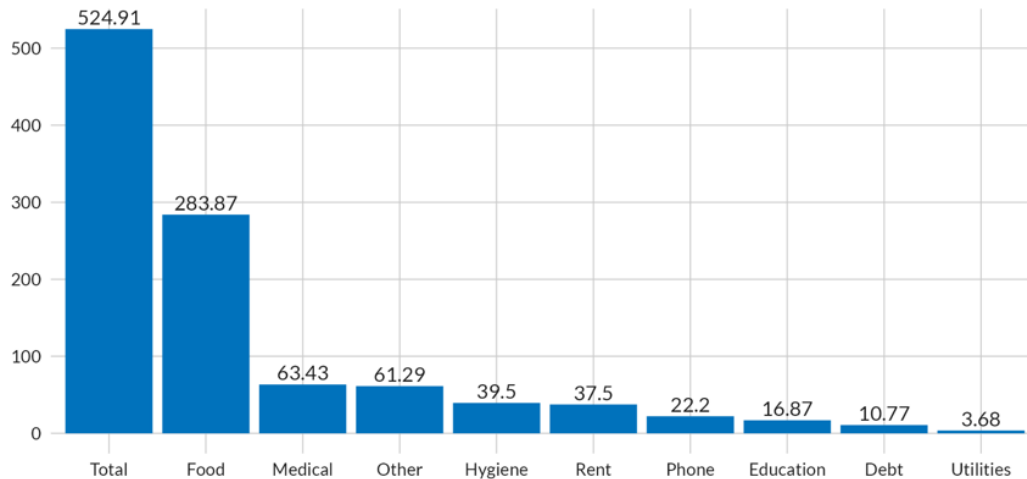
⁵ Source: Ministry of Labour, Social Affairs & Family of Slovak Republic

Total Household Expenditure

Graph 4. Total average household expenditure

Average Expenditure by Category in Slovakia

Household Level



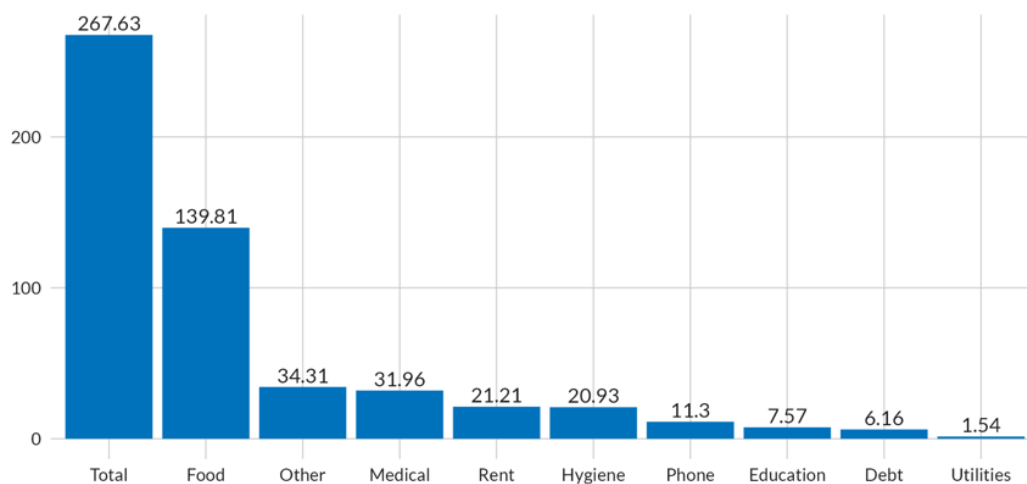
Including those who responded 0, but removing prefer not to respond

In terms of total average expenditure, the average spending per household stands at 524.9 euros (excluding respondents who prefer not to respond). The three most common expenditure categories are food, medical, and other. To address non-responses, medians were imputed within each expenditure category, ensuring minimal missing values for the dependent variable.

Graph 4. Average Household Expenditure Per Capita

Average Expenditure per Capita by Category in Slovakia

Total Household Expenditure per Household Member



Including those who responded 0, but removing prefer not to respond

In terms of total average expenditure per capita, the average spending per individual stands at 267.6 euros (excluding respondents who prefer not to respond). The three most common expenditure categories are food, other, and medical.

STATISTICAL ANALYSIS

In conducting the analysis, two distinct statistical methodologies - logistic regression and multiple linear regression - were employed to evaluate the influence of various variables on vulnerability outcomes. For logistic regression, the composite vulnerability indicator was selected as the outcome, while for multiple linear regression, expenditure served as the chosen outcome variable. Logistic regression is specifically designed to forecast the likelihood or odds of experiencing vulnerability based on a set of independent variables. In contrast, multiple linear regression focuses on predicting the anticipated value of vulnerability for a given set of independent variables.

By integrating these two approaches, the analysis seeks to provide a more nuanced understanding of the relationships within the dataset. This comprehensive approach contributes to a deeper comprehension of how variables interconnect and influence the levels of vulnerability in meeting basic needs.

TABLE 1. List of dependent variables

Name	Question in Survey	Category	Comments
Vulnerability log	Calculated. Combination of FCS, LCSi & ECMEN.	1 – Vulnerable, 0 – Not vulnerable	0 - 427 1 - 374 (46% sample vulnerable)
Total Household Expenditure	Calculated. Combined all monthly expenditures (food & non-food)	Numeric in Euro	For missing values, median imputation was used by expenditure category.

TABLE 2. List of independent variables

Name	Question in Survey	Category	Comments
Household size	How many persons (including yourself) who left Ukraine are there in your household currently living together and sharing expenses?	Numeric	Included. Range (1 – 7).
Age of head of household	Calculated using individual level data. <ul style="list-style-type: none"> Multiple household heads: selected the household head with highest level of education in the household and use their age. No household head reported: used the respondent's age. 	Numeric	Included. 96 households reported multiple household heads. 17 households did not report any household head.
Education of head of household	Calculated using individual level data. <ul style="list-style-type: none"> Multiple household heads: selected the household head with 	Bachelor (ref); Master and above; Technical; Lower education;	Included. 17 household did not report any household head.

	<p>highest level of education in the household and use their age.</p> <ul style="list-style-type: none"> No household head reported: used the respondent's education level. 		96 households reported multiple household heads.
Gender of head of household	<p>Calculated using individual level data.</p> <ul style="list-style-type: none"> Multiple household heads: selected the household head with highest level of education in the household and use their age. No household head reported: used the respondent's gender. 	Female (ref); Male	Included. 96 households reported multiple household heads. 17 household did not report any household head.
Arrival number months	Question: How many months has this individual been in the [host country]?	Numeric	Average number of months for all members of the household.
Total income sum	Sum of all the income questions / variables.	Numeric	No imputation used.
Income – none	Multi-response question	Yes (1); No (0)	Included.
Income from employment in host country (dummy)	Multi-response question	Yes (1); No (0)	Included.
Income from social protection host country (dummy)	Multi-response question	Yes (1); No (0)	Included.
Income from social protection Ukraine (dummy)	Multi-response question	Yes (1); No (0)	Included.
Household with disability (dummy)	Any person in the household has the following specific needs/Person with disability	Numeric	Partially included in merged variable "Households with persons with disability, chronic illness or serious medical condition"
Household with chronic illness (dummy)	Any person in the household has the following specific needs/Person with chronic disease?	Yes (1); No (0)	Partially included in merged variable "Households with persons with disability, chronic illness or serious medical condition"
Households with children (dummy)	Calculated using individual level data. Children age < 18.	Yes (1); No (0)	Included.
Household with single female head (dummy)	Calculated using individual level data	Yes (1); No (0)	Included.

Household with children not enrolled in education in host country (dummy)	Calculated using individual level data	Yes (1); No (0)	Excluded. Limited information since some households don't have children so it's not meaningful for them.
Household with at least one pregnant woman (dummy)	Any person in the household has the following specific needs/Pregnant lactating woman?	Yes (1); No (0)	Included. But only 27 households in yes category.
Households with older persons (dummy)	Individual level data, age >= 65	Yes (1); No (0)	Included. 179 households with older persons.
Households with at least one employed person (regardless of employment type)	Calculated using individual dataset.	Yes (1); No (0)	Included.
Households at least one person with employment contract	Calculated using individual dataset.	Yes (1); No (0)	Included.
Household with at least one person who had health problem in the last 30 days	Calculated using individual dataset.	Yes (1); No (0)	Included.
Household with at least one person with psychological issue	Calculated using individual dataset.	Yes (1); No (0)	Included.
Rural Urban	Is the HH living in an Urban or Rural environment?	Rural (ref); Urban	Included.
House heating source	Thinking about coming colder months in autumn or winter, does this site/flat have sufficient / adequate heating to keep you and your family warm?	Yes (1); No (0)	Not included. Only 16 respondents selected "No".
Accommodation type (merged)	What type of accommodation arrangement is the household residing in?	Collective site (ref); Hotel hostel; Own accommodation; Shared accommodation; Other	Included. "Other" 19 respondents.
Accommodation arrangement (merged)	What is the arrangement for your household accommodation?	Full payment by household (ref); Partial payment by household; No payment - free; Other;	Included. "Other" 6 respondents.
Pressure to leave accommodation	Are you under pressure to leave your accommodation?	Yes (1); No (0)	Not included. Because only 19 respondents selected "yes".
Accommodation duration	How long do you believe you can stay in this accommodation if you need to?	6 months or longer (ref); Less than 6 months; I am not sure;	Included.
Living conditions (dummy)	What issue, if any, are you facing in terms of living conditions in your accommodation?	Yes (1); No (0)	Included. If reported no issues then 0, else 1

<i>Crowding</i>	<i>Calculated. Variable "Household size" divided by variable "Rooms"</i>	<i>Numeric</i>	<i>Not included. This variable cannot be used together with "Household size" because of multicollinearity. Household size is a priority.</i>
<i>Safety in neighbourhood</i>	<i>RMS indicator: impact3_3_safety_walking</i>	<i>Yes (1); No (0)</i>	<i>Included. Missing values filled with 0;</i>
<i>GBV awareness</i>	<i>outcome4_1_GBV Health services Psycho-social services Safety and security services Specific helpline Legal assistance</i>	<i>Yes (1); No (0)</i>	<i>Included. Missing values filled with 0;</i>
<i>Owns bank account</i>	<i>RMS indicator: outcome13_1_bank_account</i>	<i>Yes (1); No (0)</i>	<i>Included. Missing values filled with 0;</i>
<i>Income compared to last year</i>	<i>RMS indicator: outcome13_2_income</i>	<i>Yes (1); No (0)</i>	<i>Included. Missing values filled with 0;</i>
<i>Social protection</i>	<i>RMS: outcome16_2_social_protection (SE2.11b_SM_BEN_HST) Covered with social protection benefits: disability, cash,</i>	<i>Yes (1); No (0)</i>	<i>Included. Missing values filled with 0;</i>
<i>Housing conditions</i>	<i>RMS indicator: outcome9_1_housing Living conditions & crowding</i>	<i>Yes (1); No (0)</i>	<i>Not included. Too similar with "living conditions".</i>
<i>Local hostility</i>	<i>Have you or anyone in your household experienced what you felt was hostile behaviour or attitudes from the local population since arriving to [host country]?</i>	<i>Yes (1); No (0)</i>	<i>Included.</i>
<i>Priority needs - none</i>	<i>Multi-response question</i>	<i>Yes (1); No (0)</i>	<i>Included.</i>
<i>Priority needs – accommodation</i>	<i>Multi-response question</i>	<i>Yes (1); No (0)</i>	<i>Included.</i>
<i>Priority needs - employment</i>	<i>Multi-response question</i>	<i>Yes (1); No (0)</i>	<i>Included.</i>
<i>Priority needs - food</i>	<i>Multi-response question</i>	<i>Yes (1); No (0)</i>	<i>Included.</i>
<i>Priority needs - childcare</i>	<i>Multi-response question</i>	<i>Yes (1); No (0)</i>	<i>Included.</i>
<i>Priority needs - healthcare</i>	<i>Multi-response question</i>	<i>Yes (1); No (0)</i>	<i>Included.</i>
<i>Priority needs – language courses</i>	<i>Multi-response question</i>	<i>Yes (1); No (0)</i>	<i>Included.</i>

<i>rCSI</i>	<i>Reduced Coping Strategies Index (rCSI)</i>	<i>Yes (1); No (0)</i>	<i>Included.</i>
<i>Additional columns for the Expenditure model:</i>			
<i>Food Consumption Score (FCS)</i>	<i>Score calculated based on food consumption questions</i>	<i>Numeric</i>	<i>Included.</i>
<i>Stress Coping Strategies</i>	<i>Used at least one stress coping strategy in the last 30 days</i>	<i>Yes (1); no (0)</i>	<i>Included.</i>
<i>Crisis Coping Strategies</i>	<i>Used at least one crisis coping strategy in the last 30 days</i>	<i>Yes (1); no (0)</i>	<i>Included.</i>
<i>Emergency Coping Strategies</i>	<i>Used at least emergency strategy in the last 30 days</i>	<i>Yes (1); no (0)</i>	<i>Included.</i>
<i>Reduced Coping Strategies (rCSI)</i>	<i>Reduced Coping Strategies Index (rCSI)</i>	<i>Yes (1); no (0)</i>	<i>Included.</i>

Statistical Insights: Logistic Regression Results

A logistic regression analysis was conducted to assess the likelihood of households experiencing vulnerability in meeting basic needs, with the outcome variable being the vulnerability composite indicator. This involved determining the probability of vulnerability based on different independent variables in the dataset. The results of this analysis are presented in the table below, including variables which were statistically significant in the model.

MODEL 1: Reduced Model with only significant variables (Dependent Vulnerability 1 – Extremely/Highly, 0 – Moderate / Not Vulnerable)

Variable	Estimate	Std. Error	z value	Pr(> z)
(Intercept)	-0.895	0.434	-2.064	0.039
hh_size	0.172	0.074	2.330	0.020
household_head_age	0.031	0.006	4.836	0.000
household_head_edu_levelbachelor	-0.469	0.271	-1.732	0.083
household_head_edu_levelLower education	-0.157	0.265	-0.592	0.554
household_head_edu_levelMaster and above	-0.258	0.203	-1.273	0.203
arrival_number_months	-0.043	0.017	-2.542	0.011
total_income_sum	-0.001	0.000	-3.600	0.000
accommodation_typeother	-0.527	0.291	-1.811	0.070
accommodation_typeown_accommodation	-0.515	0.222	-2.327	0.020
accommodation_typeshared_accommodation	-0.473	0.259	-1.821	0.069
accommodation_arrangementfull_payment_by_household	-0.859	0.442	-1.942	0.052
accommodation_arrangementother	-0.592	0.936	-0.632	0.528
accommodation_arrangementpartial_payment_by_household	-0.449	0.317	-1.415	0.157
dummy_adult_employment_contract	-0.670	0.188	-3.568	0.000
priority_need_food	0.475	0.232	2.044	0.041
priority_need_accommodation	0.442	0.233	1.899	0.058
priority_need_healthcare	0.303	0.175	1.729	0.084

The results indicate several significant drivers of vulnerability:

- **Household size** - positively influences vulnerability. This means that larger size households (including those with children) tend to be more vulnerable.
- **Age of the household head** - older household heads are associated with increased vulnerability.
- **Education level of the household head** (*ref technical / vocational training*) - the analysis suggests that households led by individuals with technical/vocational training tend to exhibit higher vulnerability compared to those headed by individuals with a bachelor's degree (however, result is only significant at 90% confidence interval).
- **Duration of stay (number of months since arrival)** - the analysis indicates that a longer duration of stay in the host country is linked to decreased vulnerability. This implies that, over time, refugees' circumstances tend to improve, and individuals who have been in the host country for an extended period exhibit lower levels of vulnerability.
- **Total household income** – total household income is a critical factor influencing vulnerability, with lower income levels correlating strongly with increased vulnerability.
- **Accommodation type** (*ref collective sites*) - various accommodation types play a role when it comes to vulnerability. Household staying in collective sites tend to be more vulnerable than those staying in own or shared accommodation. Notably, individuals in their own accommodation appear to be the least vulnerable.
- **Accommodation arrangement** (*ref free accommodation government /host*) - those covering full payment for accommodation appear to experience lower vulnerability than those residing in free government provided or hosted accommodation. These findings align with those of the accommodation type, as many residing in collective sites also fall under the category of free accommodation recipients.
- **Employment contract** - having at least one adult with an employment contract in the household decreases vulnerability. This variable holds greater significance than the general employment status variable, indicating that formal employment might play a more crucial role in mitigating vulnerability within the household.
- **Priority needs for food, accommodation, and healthcare** - all contribute to increased vulnerability.

The model's goodness of fit is indicated by the AIC value (910.82), with the residual deviance (874.82) suggesting a reasonably good fit to the data. The results highlight key variables influencing vulnerability, offering insights for targeted interventions and support measures.

Logistics Regression: Odds Ratios

The odds ratios provided in the output represent the change in the odds of an individual being vulnerable for a one-unit change in the corresponding predictor variable. Below is the interpretation of the odds ratios:

TABLE 1: ODDS RATIOS RESULTS

Variable	Odds Ratio	Lower Confidence Interval	Upper Confidence Interval
(Intercept)	0.409	0.175	0.956
hh_size	1.188	1.028	1.373
household_head_age	1.031	1.018	1.044
household_head_edu_levelbachelor	0.625	0.368	1.064
household_head_edu_levelLower education	0.855	0.509	1.436
household_head_edu_levelMaster and above	0.773	0.519	1.149
arrival_number_months	0.957	0.926	0.990
total_income_sum	0.999	0.999	1.000
accommodation_typeother	0.591	0.334	1.044
accommodation_typeown_accommodation	0.597	0.387	0.922
accommodation_typeshared_accommodation	0.623	0.375	1.037
accommodation_arrangementfull_payment_by_household	0.424	0.178	1.008
accommodation_arrangementother	0.553	0.088	3.468
accommodation_arrangementpartial_payment_by_household	0.639	0.343	1.189
dummy_adult_employment_contract	0.512	0.354	0.739
priority_need_food	1.608	1.020	2.536
priority_need_accommodation	1.556	0.986	2.455
priority_need_healthcare	1.354	0.960	1.909

The odds ratio table provides insights into the impact of various variables on vulnerability within the logistic regression model:

- **Household size** - for each unit increase in household size, the odds of vulnerability increase by about 19%.
- **Head of household head** - with each additional year of household head age, the odds of vulnerability increase by around 3%.
- **Education level of household head** - compared to technical/vocational training, households led by individuals with a bachelor's degree have approximately 38% lower odds of vulnerability.
- **Duration of stay (arrival number of months)** - for each additional month since arrival, the odds of vulnerability decrease by approximately 4%.
- **Total household income** - with each unit increase in total income, the odds of vulnerability decrease by 0.1%.

- **Accommodation type** - households in their own accommodation have about 40% lower odds of vulnerability as compared to those staying in collective sites.
- **Accommodation arrangement** - those covering full accommodation payment have around 58% lower odds of vulnerability, as compared to those staying in free government provided accommodation or hosted.
- **Employment** - having at least one adult with an employment contract in the household results in approximately 49% lower odds of vulnerability as compared to households without formally employed members.
- **Priority need (food)** - the odds of vulnerability increase by about 61% for households prioritizing food as a need.
- **Priority need (accommodation)** - households prioritizing accommodation needs have around 56% higher odds of vulnerability.
- **Priority need (healthcare)** - households prioritizing healthcare needs have about 35% higher odds of vulnerability.

Overall, the logistic regression results show that certain variables strongly predict vulnerability. Specifically, households prioritizing food needs face a 61% increase in vulnerability, while households emphasizing accommodation needs have 56% higher odds of vulnerability. In addition, each additional member in the household contributes to a 19% rise in vulnerability. On the other hand, having at least one adult with an employment contract in the household reduces vulnerability by approximately 49%. Additionally, households covering full accommodation payments demonstrate a substantial 58% lower odds of vulnerability. These findings underscore the importance of addressing specific needs, household size, and employment status in vulnerability assessments.

Statistical Insights: Multiple Linear Regression Results

Table 6: Reduced Model only Significant Variables (Dependent – Total Household Expenditure)

Variable	Coefficient	Std.Error	t.value	Pr.Value
(Intercept)	119.447	67.195	1.778	0.076
hh_size	96.056	9.222	10.416	0.000
household_head_age	-2.532	0.811	-3.122	0.002
household_head_edu_levelbachelor	8.421	36.342	0.232	0.817
household_head_edu_levelMaster and above	79.169	32.533	2.433	0.015
household_head_edu_leveltech	-26.556	33.148	-0.801	0.423
household_head_gendermale	72.566	25.426	2.854	0.004
arrival_number_months	8.515	2.234	3.812	0.000
total_income_sum	0.119	0.023	5.178	0.000
income_source_employment_host	114.428	25.874	4.423	0.000
disability_dummyHH without disability	-78.067	32.436	-2.407	0.016
accommodation_typeother	97.656	36.801	2.654	0.008

accommodation_typeown_accommodation	85.478	28.060	3.046	0.002
accommodation_typeshared_accommodation	70.102	33.327	2.103	0.036
accommodation_arrangementfull_payment_by_household	531.362	42.471	12.511	0.000
accommodation_arrangementother	182.201	120.006	1.518	0.129
accommodation_arrangementpartial_payment_by_household	151.795	37.262	4.074	0.000
outcome4_1_GBVmissing	31.488	111.376	0.283	0.777
outcome4_1_GBVno	-72.547	24.515	-2.959	0.003
local_hostilityyes	56.673	23.984	2.363	0.018
priority_need_food	-97.062	30.657	-3.166	0.002
priority_need_employment	-56.841	25.421	-2.236	0.026
stress_coping_EN	54.346	23.910	2.273	0.023
crisis_coping_EN	99.226	37.343	2.657	0.008
rCSI	2.673	1.086	2.461	0.014

Note: The regression model is statistically significant (F -statistic = 31.09, $p < 0.05$), explaining approximately 49.02% of the variance in total expenditure. The model's multiple R -squared is 0.4902, indicating a reasonable fit to the data.

- **Household size** - for each additional person in the household, the total expenditure increases by approximately €96.06.
- **Household head age** - older household heads are associated with a decrease of approximately €2.53 in total expenditure.
- **Household head gender** - households with a male head of household exhibit an increase of approximately €72.57 compared to households with a female head.
- **Household head education level** - having a master's degree significantly increases total expenditure by approximately €105.72.
- **Income source employment in host country** - households with income from employment in the host country have higher total expenditure, with an increase of approximately €114.43.
- **Disability status** - the negative coefficient suggests that households without a disability tend to have lower total expenditure. However, the sample size was relatively small, and this relationship is mostly capturing outlier cases with very high expenditure.
- **Duration of stay in host country (arrival number months)** - each additional month of stay in the host country is associated with an increase of approximately €8.51 in total expenditure.
- **Total household income** - for each additional euro in total household income, the total expenditure increases by approximately €0.12.
- **Accommodation type** - the type of accommodation significantly influences total expenditure. For example, households in "own accommodation" show an increase of approximately €85.48, and those in "shared accommodation" exhibit an increase of approximately €70.10 in total expenditure compared to households in collective sites.

- **Accommodation arrangement** - households covering full accommodation payment have higher total expenditure, with an increase of approximately €531.36.
- **GBV awareness** – greater awareness of GBV services is associated with an increase in total expenditure, contrasting with those who reported being unaware of such services.
- **Local hostility** - tends to be more commonly reported by households with higher expenditure in the host country.
- **Priority need (food)** - households prioritising food needs exhibit a decrease of approximately €97.06 in total expenditure.
- **Priority need (employment)** - households prioritising employment needs exhibit a decrease of approximately €56.84 in total expenditure.
- **Livelihood coping strategies** – stress and crisis coping mechanisms are positively associated with expenditure. Additionally, emergency coping mechanisms are correlated with an increase in expenditure, although not statistically significant, possibly due to very low sample size. This indicates a nuanced relationship between expenditure and vulnerability levels.
- **rCSI (Reduced coping strategies Index)** - a higher rCSI indicating better food security situation is associated with an increase of approximately €2.67 in total expenditure.

In the linear regression analysis, key determinants of household total expenditure were identified. Notably, household size is associated with an increase of approximately €96.06 in total expenditure for each additional person. Income source employment in the host country leads to higher expenditure, with an increase of approximately €114.43. Moreover, households covering full accommodation payment experience significantly higher total expenditure, showing an increase of approximately €531.36. These results highlight the substantial impact of household characteristics, income sources, and accommodation arrangements on household spending patterns, emphasizing the need for targeted interventions in addressing economic capacity.