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Peculiarities of saving behavior Using social survey data in the republic of Armenia

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Abstract

The growing population presents new challenges for food security, including issues related to food availability, affordability, adherence to physiological norms, unregulated diet structures, and problems of underweight and overweight. According to statistical data in Armenia, from 2009 to 2023, more than half of the population (56%) is at the threshold of food security, while 23% are food insecure. During the same period, household incomes have increased. Our statistical analysis demonstrates the income-expenditure ratio of households under conditions of nutrition that meet physiological norms. The primary aim of this article is to identify key factors limiting adherence to a standardized diet and to analyze saving behavior patterns among Armenian households. Using empirical methods of social surveys, we examined the unexplained relationship between household income growth and persistent malnutrition (2232 kcal), as well as rising savings rates among households in Armenia. To explore the motivations behind increasing savings rates, we employed the DATA ANALYSIS ANOVA: single-factor method. Our research established the interaction between income, expenditure, and savings, and identified the peculiarities of saving behavior among the Armenian population.

Keywords: Food insecurity, Households, Income-expenditure, Malnutrition, Saving behavior.

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1. Introduction

The interaction between income, expenditure, and savings among the population is one of the key factors in the reproductive economic process, which can influence a country's overall economic condition. Therefore, studying the economic behavior of the population is a fundamental issue in economics.

Household economic behavior is highly heterogeneous, as subjective motives, preferences, and constraints play a significant role in decision-making regarding economic activities. Ultimately, the economic behavior of the population, in its functional significance, determines the conditions of their livelihood. In the Republic of Armenia, the income-expenditure-savings relationship exhibits certain peculiarities, as both increasing savings rates and malnutrition are observed simultaneously. The population's level of malnutrition, deviations from physiological dietary norms, an imbalanced diet structure, and, paradoxically, unexplained levels of savings and the failure to use financial resources for food purchases necessitate an in-depth study of saving behavior from an economic and behavioral economics perspective. Such research is essential for identifying the economic and socio-psychological factors influencing household economic behavior in Armenia, the motives behind consumer and saving behavior, and the interrelationships between income, expenditure, and savings.

The main objective of this article is to identify the key factors limiting adherence to a standardized diet and to determine the patterns of saving behavior among Armenian households.

To achieve this goal, the following tasks were set:

1. To analyze the relationship between household income, food expenditure, and savings in dynamics based on official statistical data of the Republic of Armenia.
2. To examine the population's lifestyle and the factors affecting it through social surveys.
3. To analyze deviations in nutrition from physiological norms and actual food expenditures.
4. To assess the interaction of the income-consumption-expenditure-savings chain through dispersion analysis.
5. To identify the peculiarities of saving behavior among the Armenian population.

Ethical requirements of social research: The study of the population's saving behavior was conducted using the empirical method of social surveys, as it is the most suitable option for research to directly identify the characteristics of the "problem bearer." The research was based on the results of a survey conducted on a social network, which was carried out in accordance with the ethical norms outlined in the survey.

A questionnaire consisting of 16 different questions characterizing the "lifestyle" of the population (Table 3) was posted on the social network, observing the rules of ethics. The survey was conducted by the authors between 16.09 and 11.10.2024. 1604 questionnaires were filled out, of which 1528 were complete. The information in the database was classified according to the demographic characteristics of households: gender, age, place of residence, number of family members, education, source and size of income, consumption patterns, etc [1, 2]. In addition, the questionnaire includes information on the motives for household savings.

The purpose of the survey, the need to use the results, and information about the research organization and group members were presented before the questionnaire.

The compliance of the questionnaire with ethical norms was approved by the Scientific Council of the Institute of Economics after Kotanyan National Academy of Sciences of the Republic of Armenia [3]. The questions presented in the questionnaire are formulated in accordance with ethical rules and do not include questions of a narrow personal nature that may embarrass respondents. The survey is anonymous; the results of the questionnaire are presented only in summary and indicator groups.

2. Literature Review

The increase in the world's population brings with it a number of problems related to food insecurity [4], malnutrition, income, and food expenditure mismatch [5]. These problems have always been at the core of economists' studies, examining the gendered vulnerability to malnutrition [6], food intake and demographic changes, household expenditure diversification, and consumer expenditure modeling [7], and other issues. Among its many impacts, those on agriculture and food supply are particularly critical due to their direct connection to human sustenance and global food security [8]. Food is the most important condition for maintaining life, and if the diet consists of "empty calories," then the body's vital systems will gradually weaken. A physiologically correct diet should have a complete structure and should contain the required amounts of proteins, fats, and carbohydrates, which will provide the necessary fuel for vital activity calories [9]. Research shows that malnutrition, regardless of age or gender, can cause not only health problems in the short term, but can also lead to a weakening of human capital over a longer period of time: impaired health, mental development, low work capacity, and difficulty socializing [10].

Malnutrition, food expenditure, and income disparities may not only be socio-economic consequences but also results of natural and regional factors. Government policies may not have sufficient impact to overcome the problems of malnutrition, food availability, and accessibility of the population [11].

Deviations from physiological norms are manifested not only in malnutrition but also in excessive food intake. Numerous studies are devoted to the problems of overweight and obesity, taking into account their global prevalence [12]. Deviations from physiological norms are not only related to socioeconomic factors but can also be caused by behavior: lack of self-control, emotional fluctuations, and psychological problems [13].

Studies of the interaction between income, expenditure, and savings have been conducted in different countries around the world through surveys and statistical research [source: Summary of Results of the 5th Survey on Household Finances

and Savings, Japan Post Foundation Savings Economy Research Department [14]. Food and Agriculture Organization (FAO) & The World Bank [15] as well as interregional prospective comparison and mapping of income inequality using a non-traditional method of measuring and expressing income inequality through the method of non-weighted average absolute deviation [16]. The main purpose of household expenditure surveys is to assess the consumption and well-being of the population [17]. Daily income management, the relationship between expenditure and savings, are key issues in financial behavior [18]. The motives for saving presented by Keynes [19] and Katona [20] are presented in modern research with behavioral drives specific to each nation [21] and period [source: [1]Public opinion, V. ts. i. Results of public opinion polls: March - April 2009. The study of consumer behavior through surveys of the new Generation Z reveals new features: a preference for online shopping, the main determining factor of which is not the location of residence but demographics, age. The new generation is also characterized by a preference for discount coupons, the intensity and frequency of purchases [22]. New consumer and savings behaviors, higher incomes (or willingness to pay for delivery) [23], as well as the degree of income volatility, are also significant factors driving the number of people preferring online grocery shopping [24].

3. Materials and Methods

3.1. Data Collection

The article employed the results of a social survey. The survey was completed by citizens of Armenia. The article also utilized officially published data from the Statistical Committee Republic of Armenia.

3.2. Methods Used

Descriptive statistics, grouping, statistical inference methods, and econometric models were also used for the study. Frequencies and percentages were calculated to assess the phenomena, and cross-tabulations were compiled. To identify the motivations for increasing the population's savings, the single-factor analysis of variance (DATA ANALYSIS ANOVA: single factor) method was employed [25]. It is typically employed when a single independent variable or factor is present, and the objective is to ascertain whether variations or different levels of that factor have a measurable effect on a dependent variable. This technique assists in determining whether any observed group differences are statistically significant or likely to have occurred by chance.

3.3. Mathematical and Statistical Analysis

The one-way ANOVA compares the means among groups and determines whether any of these means are statistically significantly different from each other. Specifically, it tests the null hypothesis:

$$H_0: \mu_1 = \mu_2 = \mu_3 = \cdots = \mu_k \qquad (1)$$

where μ = group mean and k = number of groups.

If, however, the one-way ANOVA yields a statistically significant result, we accept the alternative hypothesis (H_A), which states that there are at least two group means that are statistically significantly different from each other.

Three models were constructed to describe the impact of various factors on savings. The factors considered included population income, food expenditures, and savings directions, each divided into five groups. The following variables were analyzed:

1. Dependent variable: the amount of monthly savings per person, drams (Y),
2. Independent variables:

- Average monthly income of the family ($X_{1.1}$-$X_{1.5}$)
- Amount of food expenditures ($X_{2.1}$-$X_{2.5}$)
- Savings goal ($X_{3.1}$-$X_{3.5}$).

To test the null hypothesis, F_{STAT} was calculated as the ratio of between-group (MSA) and within-group (MSW) variances:

$$F_{STAT} = \frac{MSA}{MSW} \qquad (2)$$

The Republic of Armenia was selected as the subject of the research because it is the most vulnerable country in the region, due to its geographical location and political tensions.

4. Results

4.1. Household Income, Consumption Expenditure and Savings

Increasing the well-being of the population and overcoming hunger and poverty are goals of Armenia's strategic and sustainable development. However, in recent years, a number of economic phenomena occurring worldwide, such as climate change and food insecurity, have further exacerbated inequalities between countries and among members of society [8]. One of the direct indicators of this inequality is the poverty level. Poverty in Armenia is accompanied by a slowdown in economic growth, unemployment, education, health levels, and other socio-economic problems, and the level of food insecurity continues to remain a major problem. According to the results of the "Food Security and Vulnerability Assessment of the Republic of Armenia," more than half of the republic's population (56%) is already at the threshold of food security, and 23% are food insecure [source: Decree of the government of the Republic of Armenia on approval of the "Food security system development strategy and action program for 2022-2026]. The gap between food insecure and food secure households is widening: in 2023, the population polarization by income index was 0.348, and by consumption index, it was 0.230 [source: Statistical Committee of the Republic of Armenia [26]].

Since 2001, the World Bank and the RA Statistical Committee have been regularly conducting "Integrated Surveys of Living Conditions" of households in the RA using an integrated survey method, which includes comprehensive and valuable data on the well-being, income, expenses, poverty level, and living standards of individuals. The conducted surveys prove that the actual daily energy intake per capita of the population (2232 kcal) is 180.1 kilocalories lower than the daily energy intake per capita set by the Ministry of Health (2412.1 kcal). In addition, the amount of microelements, vitamins, and minerals defined by the norm is violated in the diet's structure. According to the RA Statistical Committee [27] 77.4% [source: RA Statistical Committee [27]] of the republic's population consumed less than 2,100 kcal per day (59.4%[source: Food security and poverty, 2006] in RA Statistical Committee [28]), and more than 70% of their diet consisted of bread and potatoes, compared to 27.2% [source: RA Statistical Committee [28]] of the population in 2005 and 10.5% [source: RA Statistical Committee [27]] in 2023. Since the latest integrated surveys of the RA households' livelihoods were conducted in 2019, Figure 1 presents the actual consumption indicators for 2005 and 2019. The figure shows that the consumption volumes of bread products in the years under study (2005: 489 g, 2019: 461.1 g) exceeded the daily consumption rate of bread products set by the Ministry of Health (355 g). This is due to national customs, the cheap energy equivalent of bread products, the shortage of animal products, and ultimately, the socio-economic situation.

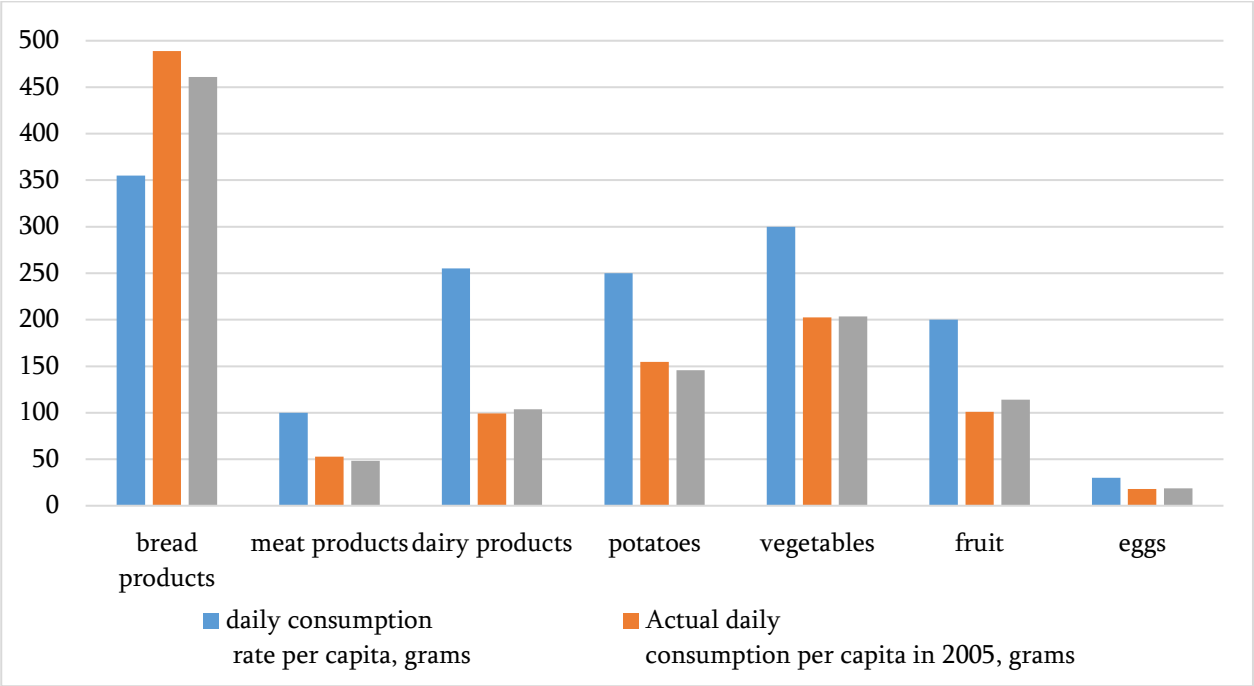

Figure 1.
Actual and standard consumption expenditure of basic food products per capita (2005 and 2019, Republic of Armenia) *

* The figure was compiled by the authors based on data from the National Statistical Service of the Republic of Armenia [29]

In order to identify the reasons for food insecurity, malnutrition, and the inexplicable increase in population savings, the dynamics of incomes, food expenditures, and savings of the population of the republic were studied for the period 2009-2023 (Table 1).

In 2009-2023, the incomes of the population increased by approximately three times or by 55,520 drams. During the same period, the average monthly expenditure on food consumption increased by about 1.7 times (10,864 drams), and expenditure on non-food goods and services rose by 2.3 times (16,457 drams).

Table 1.
Per capita monetary income, consumption expenditure and savings of the RA households (calculated at current prices) *

Years	Average monthly monetary income of households per capita, AMD	Average monthly expenditure of all households on food products (including cigarettes), AMD	The share of food expenses in monetary income, %	Average monthly expenditure of all households on non-food goods and services per capita, AMD	Average monthly savings of all households per capita, total AMD	Share of savings in income, %
2009	28038	15418	55.0	12249	371	1.3
2010	31553	16125	51.1	12521	2907	9.2
2011	34206	18552	54.2	14033	1621	4.7
2012	39056	18500	47.4	16421	4135	10.6
2013	42404	19146	45.2	17641	5617	13.2
2014	49535	20283	40.9	20487	8765	17.7
2015	52377	20356	38.9	22511	9510	18.2
2016	56544	20115	35.6	23863	12566	22.2
2017	58474	20416	34.9	23997	14061	24.0
2018	61047	20471	33.5	25317	15259	25.0
2019	61076	20955	34.3	26369	13752	22.5
2020	71182	20404	28.7	26399	24379	34.2
2021	76058	25884	34.0	24115	26059	34.3
2022	74021	27056	36.6	25623	21342	28.8
2023	83558	26282	31.5	28706	28570	34.2

Note: *The table was compiled by the authors based on data from the National Statistical Service of the Republic of Armenia [30].

As for the income-expenditure ratio, it improved significantly from 2009 to 2023: in 2009, a person spent 98.7% of their monthly income, whereas in 2023, it was 65.8%, including on food products: 55% in 2009 and 31.5% in 2023. As a result, the average monthly household savings increased from 371 drams to 28,570 drams (approximately 77 times or by 28,199 drams). Naturally, the increase in income and savings should have led to an improvement in the level of nutrition, since, according to 2023 data, the 2,412.5 kilocalories set by the norm could be provided at the expense of savings of 28,570 drams per capita (Table 2).

Table 2.
Per capita, the monetary income, food expenditures, and savings of all households in the RA are calculated based on a physiologically normal diet (calculated at current prices)*

Years	Average monthly monetary income of all households per capita, total AMD	Monthly food norm cost per capita, AMD	Savings per capita per month in case of eating according to physiological norms, AMD
2009	28038	23068.7	-7280
2010	31553	28064.4	-9032
2011	34206	30397.8	-10225
2012	39056	28498.9	-5864
2013	42404	31876.2	-7113
2014	49535	31977.6	-2930
2015	52377	31296.2	-1430
2016	56544	30496.2	2185
2017	58474	31407.8	3069
2018	61047	33930.8	1799
2019	61076	34121	586
2020	71182	34471.7	10311
2021	76058	38135.8	13807
2022	74021	41329.3	7069
2023	83558	40716.7	14135

Note: *The table was compiled by the authors based on Table 1.

The study revealed that from 2009 to 2015, the physiological norm for food intake was unattainable, with the main reason for malnutrition being low income. After 2016, the situation changed: on the one hand, the average salary set in the republic, considered the main factor in income formation, increased, and on the other hand, the gross agricultural product grew. The increase in production volumes, the decreasing cost price of agricultural products, and the falling prices of food products should have allowed the population to eat according to the norm and even have some savings. However, for some reason, the population continued to be malnourished and save an amount equal to their food expenses. This deviation from

rational behavior can be explained by the peculiarities of the population's saving habits, which were revealed through a social survey (see Table 3).

4.2. The "lifestyle" of the population through a survey

Questions 1-5 of the questionnaire, compiled by the research team, address factors influencing a person's lifestyle. According to the survey results, the majority of respondents are regional residents, whose main activity is agriculture on their own small plots of land. The average age is 41, indicating that a significant portion of the respondents are of working age, with a predominance of women.

Table 3.
Summary data from 1528 questionnaires describing the "lifestyle" of the population*

Questionnaire	Options	Number of people	Percentage, %
1. State your gender	male	718	47
	female	810	53
2. How old are you	under 18 years old	2	0.1
	18-63 years old	1487	97.3
	over 63	39	2.6
3. Place of residence	Yerevan	488	31.9
	regions	1040	68.1
4.Number of family members	Up to 2	142	9.3
	3-4	552	36.1
	5-6	489	32.0
	7-8	230	15.1
	9 and more	115	7.5
5. Highest level of education	school, college	1011	66.2
	University	425	27.8
	scientific degree	92	6.0
6. What are your main means of transportation	own car	358	23.4
	Public transport	1067	69.8
	Bicycle/motorcycle	41	2.7
	On foot	62	4.1
7. What type of insurance do you use (you can choose several directions)**	health	215	
	car	358	
	Other (agricultural, life)	78	
	None	902	59.0
8.What are your sources of income (you can choose several directions)**	salary	712	46.6
	pension	39	
	scholarship	21	
	bank deposit income	21	
	other (sale of own funds, sale of own products, rental fee, transfer)	825	
9. How many times a month do you eat out	never	149	9.8
	1-2 times	845	55.3
	3-5 times	398	26.0
	6-9 times	97	6.3
	10 or more times	39	2.6
10.Amount of bread consumed per family member per day	Up to100 grams	59	3.9
	100-200 grams	62	4.1
	300 -400 grams	521	34.1
	500 and more grams	886	58.0
11. Monthly amount of potatoes consumed per family member (1 potato is 120-150 grams)	Up to 100 grams	367	24.0
	100-500 grams	902	59.0
	600 and more grams	259	17.0
12. Monthly family income	Up to 35000 AMD	29	1.9
	36000-70000 AMD	199	13.0
	71000-100000 AMD	557	36.5
	101000-150 000 AMD	418	27.4
	151000 - 500000 AMD	325	21.3
13.Monthly spending areas (you can select multiple areas)**	Food purchase	1526	
	Utilities	1471	

	Credit: non-cash purchases	852	
	Non-food purchases	1463	
	Other services (healthcare, education, transportation, recreation)	1235	
14. Monthly food expenses per family member	Up to 20000 AMD	128	8.4
	21000-25000 AMD	401	26.2
	26000-39000 AMD	755	49.4
	40000-45000 AMD	221	14.5
	More than 46000 AMD	23	1.5
15. How much money do you save per month as a family	Up to 10000 AMD	21	1.4
	11000-20000 AMD	627	41.0
	21000-30000 AMD	801	52.4
	31000-40000 AMD	61	4.0
	More than 41000 AMD	18	1.2
16. The primary goal of saving	Facing climate disasters	26	1.7
	Inheritance from generations	451	29.5
	acquisition of material values /including the resumption of agricultural reproduction/	405	26.5
	military-geopolitical uncertainty	558	36.5
	other (hobbies, travel, professional training, pandemic)	88	5.8

Note: *The table was compiled by the authors based on a survey
**In the questionnaire, where there is an opportunity to choose multiple options, the Percentage of the options has not been calculated to avoid double counting.

68.1% of respondents have a family of 3-6 members. The proportion of individuals with postgraduate education is low, and the number of certified specialists is also limited, which are factors influencing salaries.

Questions 6-11 of the questionnaire address the lifestyle of the population. The vast majority of respondents (69.8%) use public transport as their main mode of transportation. Those who own their own cars make up 23.4%. The insurance system in Armenia is almost non-functional; mandatory insurance is required only for private cars. The insurance system also does not operate in such a risky sector as agriculture. 59% of respondents do not have any type of insurance. When considering households by income sources, it was found that the main source of income for only 46.6% of respondents is salary, although 97.3% of respondents are of working age.

Questions 10 and 11 relate to the consumption of bread, bakery products, and potatoes. The survey results indicate that the diet of the majority of families was dominated by bread and bakery products (58% of respondents consumed 500 grams or more of bread per family member per day) and potatoes (59% of respondents consumed 100-500 grams of potatoes per family member per day).

Questions 12-16 of the questionnaire are of key importance, as they allow for the identification of the main objectives of the study: the interaction of income, expenses, and savings, the reasons for their irrational relationship, and the national characteristics of savings preferences.

5. Discussion

In accordance with the World Bank's methodological framework, the RA Statistical Committee undertakes an annual integrated survey of living conditions. The survey encompasses exhaustive and valuable data on the well-being of households and individuals, including populations' income, expenditures, poverty levels, and other changes in living standards. However, the data does not demonstrate the discrepancy in living standards and nutrition. The article elucidates the peculiarities of saving behavior.

The assessment of the impact of income and food expenses on household savings behavior was carried out using the single-factor analysis of variance (DATA ANALYSIS ANOVA: single factor) method.

Table 4.
Household Grouping by Income-Savings Interaction*.

Y	**Monthly Family Income, AMD**				
	$X_{1.1}$	**$X_{1.2}$**	**$X_{1.3}$**	**$X_{1.4}$**	**$X_{1.5}$**
Monthly savings per person, AMD	**Up to 35000**	**36000-70000**	**71000-100000**	**101000-150000**	**151000 - 200000**
Up to 10000 AMD	18	3	0	0	0
11000-20000 AMD	11	73	168	228	147
21000-30000 AMD	0	123	378	173	127
31000-40000 AMD	0	0	9	12	40
More than 41000 AMD	0	0	2	5	11

Note: *The table was compiled based on the survey summary data (Table 3, questions 12, 15)

Table 5.
Summary table of the one-way ANOVA (income-saving) *

Anova: Single Factor						
Summary						
Groups	**Count**	**Sum**	**Average**	**Variance**		
Up to 10000 AMD	5	21	4.20	61.20		
11000-20000 AMD	5	627	125.40	7160.30		
21000-30000 AMD	5	801	160.20	18937.70		
31000-40000 AMD	5	61	12.20	270.20		
More than 41000 AMD	5	18	3.60	21.30		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	114451.84	4.00	28612.96	5.41	0.00405	2.87
Within Groups	105802.80	20.00	5290.14			
Total	220254.64	24.00				

*The figure was compiled by the authors.

Table 6.
Grouping of households by food expenditure-saving interaction*

	Monthly expenditure on food per family member, AMD				
Y	**$X_{2.1}$**	**$X_{2.2}$**	**$X_{2.3}$**	**$X_{2.4}$**	**$X_{2.5}$**
Monthly savings per person, AMD	Up to 20000	21000-25000	26000-39000	40000-45000	More than 46000
Up to 10000 AMD	20	1	0	0	0
11000-20000 AMD	46	179	341	61	0
21000-30000 AMD	62	203	382	144	10
31000-40000 AMD	0	18	28	9	6
More than 41000 AMD	0	0	4	7	7

Note: *The table was compiled based on the survey summary data (table 3, questions 14, 15).

Table 7.
Summary table of the one-way ANOVA (income-food consumption)*

Anova: Single Factor						
Summary						
Groups	**Count**	**Sum**	**Average**	**Variance**		
Up to 10000 AMD	5	21	4.20	78.20		
11000-20000 AMD	5	627	125.40	18883.30		
21000-30000 AMD	5	801	160.20	20873.20		
31000-40000 AMD	5	61	12.20	120.20		
More than 41000 AMD	5	18	3.60	12.30		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	114451.84	4.00	28612.96	3.58	0.02337	2.87
Within Groups	159868.80	20.00	7993.44			
Total	274320.64	24.00				

Note: * The figure was compiled by the authors.

The survey results revealed that 36.5% of households had monthly incomes ranging from 71,000 to 100,000 drams, and 27.4% had monthly incomes ranging from 101,000 to 150,000 drams. The majority of savings were observed in these groups: 41% of respondents saved between 11,000 and 20,000 drams per month, and 52.4% saved between 21,000 and 30,000 drams. The proportion of those who saved more than 31,000 drams is relatively small, at up to 4%.

Table 8.
Household Grouping by Savings Goal-Savings Interaction*

Y	Savings goal				
	$X_{3.1}$	$X_{3.2}$	$X_{3.3}$	$X_{3.4}$	$X_{3.5}$
Monthly savings per person, AMD	Facing climate disasters	An inheritance for generations	Acquisition of material values /including the resumption of agricultural reproduction/	military-geopolitical uncertainty	other (hobbies, travel, professional training, pandemic,)
Up to 10000 AMD	20	1	0	0	0
11000-20000 AMD	6	169	177	227	48
21000-30000 AMD	0	213	196	265	127
31000-40000 AMD	0	18	28	9	6
More than 41000 AMD	0	0	4	7	7

Note: *The table was compiled based on the survey summary data (table 3, questions 15, 16)

Table 9.
Summary table of the one-way ANOVA (saving-saving-goals)*

Anova: Single Factor						
SUMMARY						
Groups	**Count**	**Sum**	**Average**	**Variance**		
Up to 10000 AMD	5.00	21.00	4.20	78.20		
11000-20000 AMD	5.00	627.00	125.40	8783.30		
21000-30000 AMD	5.00	801.00	160.20	10454.70		
31000-40000 AMD	5.00	61.00	12.20	120.20		
More than 41000 AMD	5.00	18.00	3.60	12.30		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	114451.84	4.00	28612.96	7.36	0.00082	2.87
Within Groups	77794.80	20.00	3889.74			
Total	192246.64	24.00				

Note: * The figure was compiled by the authors.

These differences between the groups were also confirmed by the results of the analysis of variance:

- In the income-saving model, F_{stat} 5.41 > F_{crit} 2.87 with a significance of a=0.05 (the null hypothesis is rejected) (Table 5),
- In the income-food consumption model, F_{stat} 3.58 > F_{crit} 2.87 with a significance of a=0.05 (the null hypothesis is rejected) (Table 7),
- In the saving-saving goals model, F_{stat} 7.36 > F_{crit} 2.87 with a significance of a=0.05 (the null hypothesis is rejected) (Table 9).

6. Conclusions

According to the RA Statistical Committee, almost 77% of the population of Armenia is malnourished, consuming less than 2100 kcal per day. The Ministry of Health has determined that the minimum daily energy intake should be 2412 kilocalories of food (in developed countries, this figure is higher, about 2700 kcal). However, even with fewer calories, this figure is not maintained in our country (actually 2232), therefore, we can say that our country is facing a food security problem.

1. The study of the dynamics of the population's income revealed that the cause of malnutrition is not low income at all. During the period 2009-2023, incomes increased by about three times, while food consumption expenses increased by only 1.7 times, and non-food expenses by 2.3 times. That is, per month, one person allocates 65.8% of income to food and non-food consumption. Unused income constitutes household savings.

2. The calculations indicated that households could provide 2412.5 kilocalories, as defined by physiological norms, through savings; however, they exhibited different behavior for some reason.

3. Through the questionnaire, we identified the reasons for unjustified savings. The results fully characterize the peculiarities of the savings behavior of the Armenian population. 36.5 percent of respondents chose “military-geopolitical uncertainty” from the presented priority savings goals, which is conditioned by the periodically repeated military operations in the republic (1987, 1988–1994, 2016, 2020, 2022). The questionnaire also clearly shows the insurance of generations that stand out as “symbols” in Armenian society. A significant proportion is also saved for the purpose of acquiring material resources (26.5 percent), which is conditioned by the periodicity and seasonality of income generation (68.1% of

respondents direct their savings to agricultural reproduction). Savings in all directions are made at the expense of ensuring an uneven standard of living and quality of life throughout the year.

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