

## Research Article



## Measuring Living Standards with Income and Expenditures Evidence from the Households Enkeleda LULAJ, Albert QARRI

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### ABSTRACT

The purpose of this research is to measure living standards for households in urban and rural areas such as: income, expenses, consumption, savings and other related issues related to the living standards of households in Kosovo. Considering that the standard or wellbeing of the residents, affects the economic development of the country, research will be conducted through a survey which provides data on the socio-economic conditions in which families live. On these data will be included some variables or research questions, where the survey will respond to different families, whereby will come up with results found through the statistical and econometric model by confirmed the hypotheses (the moment method and logistic regression). This scientific research will help in softening information on the standard of living of households, aiming for the state of Kosovo to increase the well-being of its inhabitants. The paper will be a reference point in the future to make major analyzes for growth and economic development, reduction of unemployment and poverty in the country. In other words, the rise of economic welfare for households.

**Keywords:** Life standard, income, expenses, consumption, savings, economic development, econometric and statistical models etc.

### INTRODUCTION

As Blundell and Preston (1996) note, "standard economic arguments suggest that consumption expenditure will better reflect expected lifetime resources than income". The standard of living for households is measured by revenue and expenditures. Consumption is often preferred as an indicator of economic well-being for two reasons: revenues are sensitive to some people and are therefore underestimated, and revenues often change over time as compared to consumption. The purpose of households is to equalize the difference in income with the help of savings and loans. If we compare the income in cash with expenses (not including consumption non-expendable), then it turns out that 90% of revenues consists of the costs. Economic Progress in Kosovo in recent years will be defined as improving living conditions in comparison with the period immediately after the war. Based on this, through economic indicators will be measured the standard of living by providing data for GDP (gross domestic product and weighted profit of consumer prices).

#### What are households (personal finances)

Today family finances are one of the most discussed and tangible issues for everyone. They play an important role in people's lives as they affect the quality of life of every individual, household, society, and the economy as a whole. Regarding this, we should have considering at these reasons:

- The first reason - begin with the description of what "We want", and really what "We Need", this helps to

show the importance of recognizing the personal finance management.

- The second reason - intends to recognize the borrowing market as part of personal finance,
- The third reason - how to get the finances or budget of the households

Households are made up of one or more people who merge income and where decisions are taken jointly in the family.<sup>1</sup>

#### The main household income

The main household income is salaries from the public and private sector, from pensions, own business incomes, money sent from abroad (remittances). From year to year we have an increase in the budget of households. Where, within the main sources of household income, remittances have increased by 1% year-on-year, for example 2014 (8%),2015(9%)<sup>2</sup>.

#### Expenditures to family economies

#### Some of the costs for measuring the standard of living "WE NEED"

- Housing
- Food
- Expenditures needed as wood, gas, electricity, telephone line
- Transport
- Health
- Education
- Insurance
- Future Expenditures etc.



**Some of the expenses that "WE WANT"**

- Home appliances
- Television
- Car
- Eating in the hotel/restaurant
- Ready-made food
- Alcohol
- Personal expenses
- In expensive apparel
- Continuous education etc.

**The model of financial knowledge for measuring the standard of living**



**Building measures for consumption, income and expenditure**

- **Expenditure and consumption**

The basic purpose of building of measure for expense or expense in cash, is that all expenditures in a household are recorded at certain times, depending on the planning of the households.

- **Income**

Building of measure for income is made taking into account the expenditures. Incomes in cash and expense in cash, this difference between them presents saving<sup>4</sup>.

**Consumption in Kosovo**

Consumption is known to be an important part of the life of the population, so the level of consumption and its size are essential to the well-being, while wealth and poverty depend on other aspects of life. Consumption data is obtained from households, while income is earned by individuals. Alcohol and tobacco, clothing, entertainment and some other specific things can be consumed individually, but the biggest part as, food; housing and supply are used jointly by household members.<sup>5</sup>

Based on the table no.1 Descriptive sample analysis ,we come up with these assumptions for the variables: The average age is 38.27 or 38 years, university education had the highest average: 43.2, average income 200-300 euro about 40.5%, children in urban areas have a better standard of living than children in rural areas, about 29.7%, at the gender variable: men are interviewed about 62.2 while women about 37.8, at the management variable: the standard of living is difficult to manage if the income are small at approximately about 67.6 %.<sup>12</sup>

Consumption calculated on the basis of the harmonization of national accounts and the price index. Most of the consumption is based on goods purchased and services paid during the reference period, and a smaller share in self-produced goods. Consumption for households in recent years has decreased by 1.4% compared to the previous year. In urban settlements there has been a decrease in consumption of 1.8 percent and in rural areas by 0.9 percent.

**Case Study: Households**

**Econometric and statistical models**

Finding outcomes and hypotheses confirmation:

a. Calculation of expenditure for households

b. Calculation of income for households

$$Y = \beta_0 + \beta_1 x + u \quad 0 < \beta_1 < 1 \quad (1)$$

$$\text{Wage} = \beta_0 + \beta_1 \text{educ} + \beta_2 \text{exper} + u \quad \dots i = [1-k] \quad (2)$$

n    ^    ^

$\sum (Y_i - \beta_0 - \beta_1 x_{i1} - \beta_2 x_{i2})^2$  – Calculation of income based on education and experience to families<sup>6</sup>(3)

l=1

$\sum \beta_i T_i / \sum \beta_i$ - Calculation of expenditures<sup>7</sup>

~    ^    ^    ^    ^

$$Y = \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k \quad (4)$$

$\mu$  = The error term (stochastic variable)

y = Consumption

x = Income (explanatory variable)

$M = 1 / (1 - MPC) =$  Multiplier of income<sup>8</sup>

**Method of Moment**

n    \_    n    \_

$$\sum_{i=1}^n (x_i - \bar{x}) = \sum_{i=1}^n (x_i - \bar{x}) \quad (5)^9$$

i=1    i=1

n    \_    n    \_    \_

$$\sum_{i=1}^n x_i (y_i - \bar{y}) = \sum_{i=1}^n (x_i - \bar{x}) (y_i - \bar{y}) \quad (6)^{10}$$

i=1    i=1

**The first Hypothesis: Living standard in urban areas is better than in rural areas?**

To prove the first hypothesis, we all survey questions in our study are coded from number 1 to 4 .Using Statistical Analysis Software (SPSS) and Cross tabulation, we find the averages of all 21 variables related to the measurement of living standard in different areas of residence. From table 2 shows that all variables averages in urban areas is larger than in rural areas, apart from the three variables that the average for transport in rural areas is slightly



higher than urban areas. If viewable at the total , average for all variables it is about 2:46 to rural areas whereas urban areas about 2.80.

From the data in Table 2, we can easily say that the first hypothesis / or the first research question, proves that the standard of living in rural areas is lower than in urban Areas.

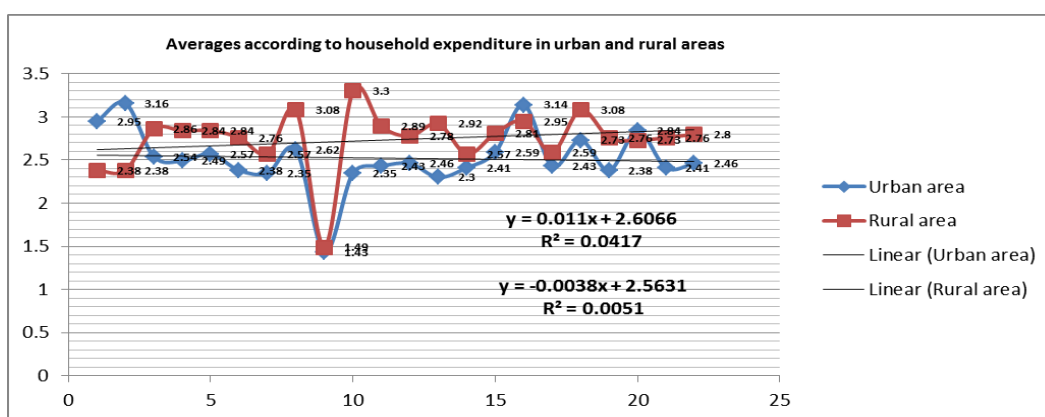
$$Y = B_0 + B_1X_1 + u_i$$

**Table 1:** Descriptive sample analysis (Living Standard of Households in Urban and Rural Areas)<sup>11</sup>

Variables	Characteristic	Frequency	Percent
The age of respondents in both areas	27-31 years old	14	18.9
	32-36 years old	24	32.4
	37-41 years old	12	16.2
	42-46 years old	13	17.6
	47-51 years old	5	6.8
	52-56 years old	5	6.8
	57-61 years old	1	1.4
Education in both areas	Secondary education	24	32.4
	University education	32	43.2
	Primary education	17	23.0
	I did not go to school	1	1.4
Monthly income in both areas	50-100 euro	4	5.4
	100-200 euro	10	13.5
	200-300 euro	30	40.5
	300-400 euro	24	32.4
	400-500 euro	5	6.8
	More than 500 euro	1	1.4
The living standard of children in urban areas	2-5 years old	12	16.2
	5-8 years old	18	24.3
	8-12 years old	22	29.7
	12-15 years old	11	14.9
	15-18 years old	11	14.9
	over 18 years old	11	30.1
Gender in both areas	Female	28	37.8
	Male	46	62.2
The living standard of children in rural areas	2-5 years old	19	25.7
	5-8 years old	14	18.9
	8-12 years old	7	9.5
	12-15 years old	9	12.2
	15-18 years old	9	12.2
	over 18 years old	16	21.6
Assessment of the situation of households in both areas	Easily manageable	4	5.4
	On average manageable	20	27.0
	Hardly manageable	50	67.6
Total			100.0

**Table 2:** Averages according to household expenditure in urban and rural areas

Variables	Average calculated by variables in urban and rural areas	
	Rural area	Urban area
Transport	2.95	2.38
Wood heating	3.16	2.38
Food	2.54	2.86
Non-alcoholic drinks	2.49	2.84
Clothing and footwear	2.57	2.84
The furniture	2.38	2.76
Tobacco	2.35	2.57
Health care	2.62	3.08
The education	1.43	1.49
The recreation	2.35	3.30
Hotels and Restaurants	2.43	2.89
The communication	2.46	2.78
Electric heating	2.30	2.92
Rent apartment or different equipments	2.41	2.57
Financial difficulty	2.59	2.81
Borrowing to Financial Institutions	3.14	2.95
Recession on the well-being of families	2.43	2.59
Non-payment of loans	2.73	3.08
Employment Status	2.38	2.76
Borrowing at family members	2.84	2.73
Revenue Reduction	2.41	2.76
The overall average	2.46	2.80



**Figure 1:** Averages according to household expenditure in urban and rural areas<sup>14</sup>

**The second hypothesis: High income and saving affecting in living standard better than income and low savings?**

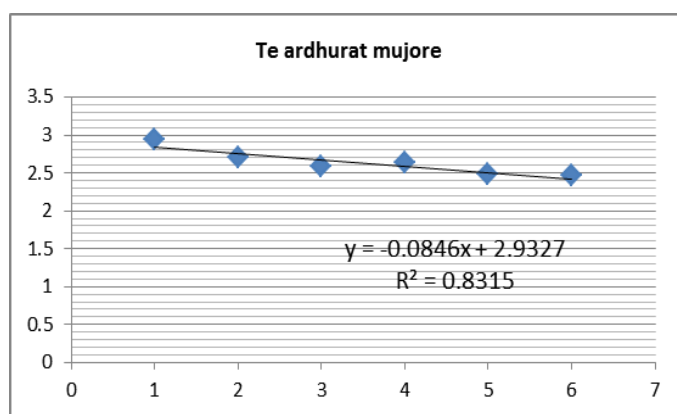
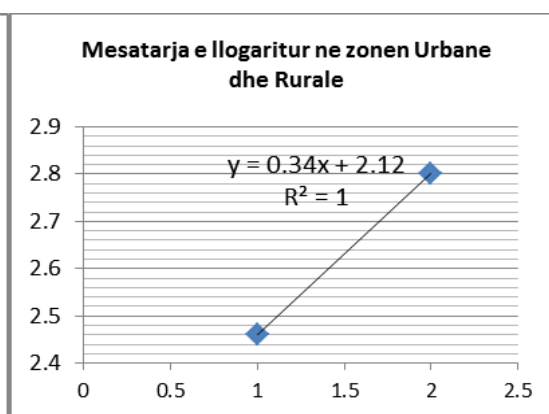
Also the second hypothesis is confirmed, based on the dependent and independent variables. Based on the found results, we can conclude that high incomes and high savings within household (inherited, salaries, or other forms) increase the household's living standard. In

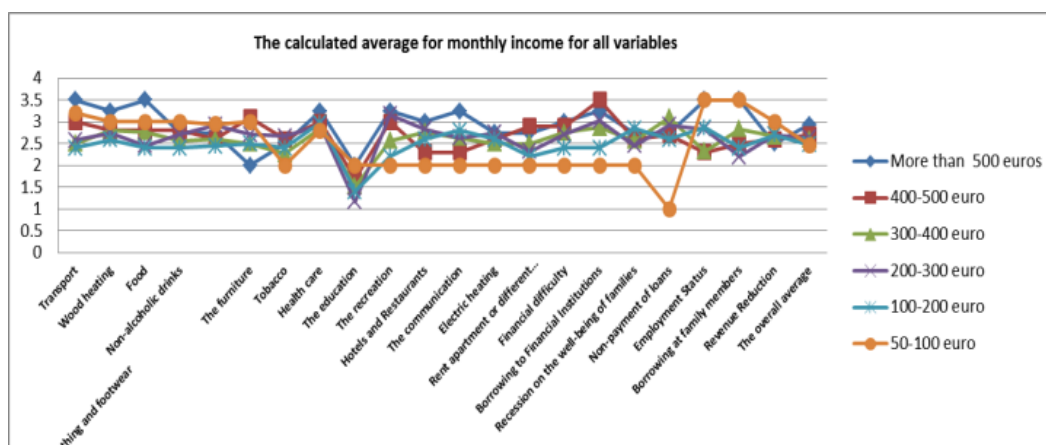
this case, taking into consideration the variables in the table, we come up with the assumption that the higher the monthly salary, the higher the standard of living in the two areas, while families who have lower incomes have lower living standard, but we should be noted that some variables are necessary even if wages are low such as: food, heating, clothing etc. More can see at the table and graph.



**Table 3:** Monthly income of households<sup>15</sup>

Variables	Monthly income					
	More than 500 euros	400-500 euro	300-400 euro	200-300 euro	100-200 euro	50-100 euro
Transport	3.50	3.00	2.50	2.58	2.40	3.20
Wood heating	3.25	2.80	2.80	2.75	2.59	3.00
Food	3.50	2.80	2.77	2.46	2.40	3.00
Non-alcoholic drinks	2.75	2.80	2.57	2.71	2.40	3.00
Clothing and footwear	2.75	2.60	2.60	2.92	2.45	2.95
The furniture	2.00	3.10	2.50	2.71	2.50	3.00
Tobacco	2.50	2.60	2.27	2.67	2.40	2.00
Health care	3.25	3.00	2.86	2.92	2.98	2.80
The education	2.00	1.70	1.53	1.17	1.40	2.00
The recreation	3.25	3.00	2.57	3.17	2.20	2.00
Hotels and Restaurants	3.00	2.30	2.77	2.83	2.60	2.00
The communication	3.25	2.30	2.63	2.63	2.80	2.00
Electric heating	2.75	2.60	2.50	2.75	2.60	2.00
Rent apartment or different equipments	2.75	2.90	2.50	2.33	2.20	2.00
Financial difficulty	3.00	2.90	2.76	2.71	2.40	2.00
Borrowing to Financial Institutions	3.25	3.50	2.87	3.02	2.40	2.00
Recession on the well-being of families	2.75	2.60	2.57	2.46	2.85	2.00
Non-payment of loans	2.75	2.70	3.10	2.92	2.60	1.00
Employment Status	3.50	2.30	2.33	2.83	2.87	3.50
Borrowing at family members	3.50	2.50	2.83	2.20	2.40	3.50
Revenue Reduction	2.50	2.60	2.67	2.70	2.70	3.00
The overall average	2.94	2.70	2.59	2.64	2.48	2.47

**Graph 2:** The monthly income<sup>16</sup>**Graph 3:** Calculated averages in urban and rural areas<sup>17</sup>



**Graph 4:** The calculated average for monthly income for all variables<sup>18</sup>

**The third hypothesis: Spending and small consumption, the households consider more easily manageable?**

**Table 4:** The average rating by expenditure altitude (according to the household budget categories)<sup>19</sup>

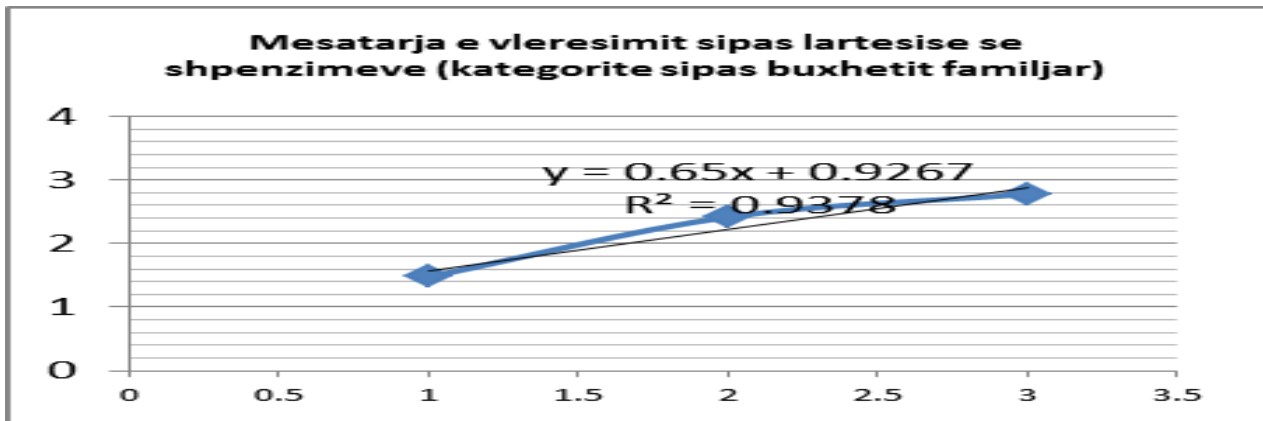
Variables	The average rating by expenditure height (Family budget categories)		
	Easily manageable	On average manageable	Hardly manageable
Transport	1.25	2.30	2.92
Wood heating	1.50	2.35	3.04
Food	1.50	2.35	2.94
Non-alcoholic drinks	1.25	2.35	2.90
Clothing and footwear	1.50	2.35	2.94
The furniture	1.25	2.35	2.04
Tobacco	1.00	2.20	2.68
Health care	1.50	2.84	3.00
The education	1.00	1.45	1.50
The recreation	2.25	2.55	2.98
Hotels and Restaurants	1.75	2.45	2.90
The communication	1.50	2.40	2.80
Electric heating	1.75	2.55	2.70
Rent apartment or different equipments	1.00	2.25	2.70
Financial difficulty	1.50	2.42	2.96
Borrowing to Financial Institutions	1.25	3.25	3.10
Recession on the well-being of families	1.25	2.40	2.66
Non-payment of loans	2.50	2.75	3.00
Employment Status	1.50	2.35	2.74
Borrowing at family members	1.5	2.5	3.08
Revenue Reduction	1.50	2.42	2.78
The overall average	1.48	2.42	2.78

Based on the table, it is proved the hypothesis 3. Because the expenditures and consumption the lower for households, the easier the household standard is managed. Based on the survey, some of the variables are easier to manage, some easy, and some variables are

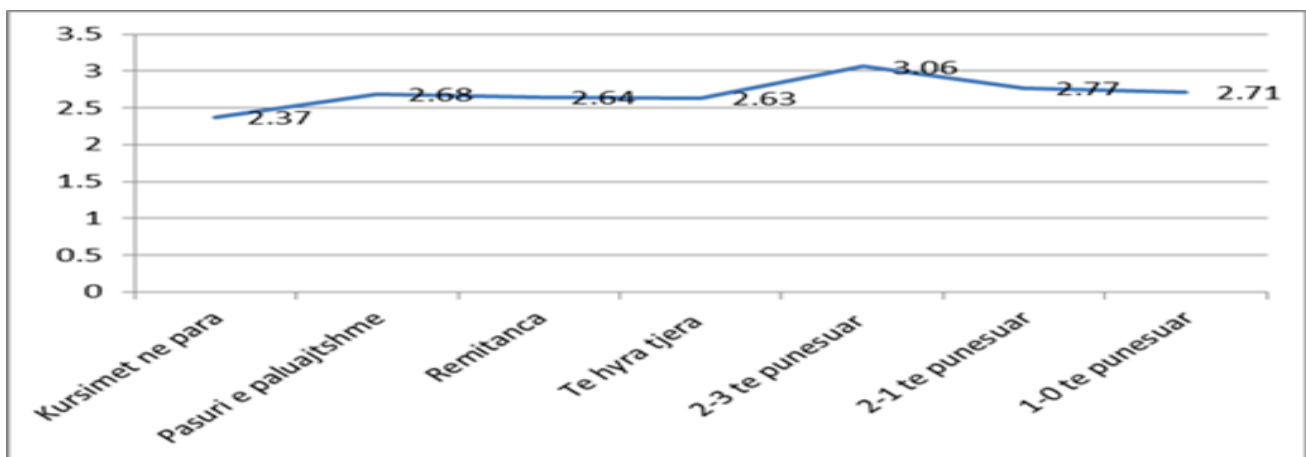
difficult to manage. The overall average for managing the standard of living in both areas is: difficult to manage 2.78, managed on average 1.48, easy to manage 1.48. Variables such as : borrowing from financial institutions, non-payment of loans, heating with wood,



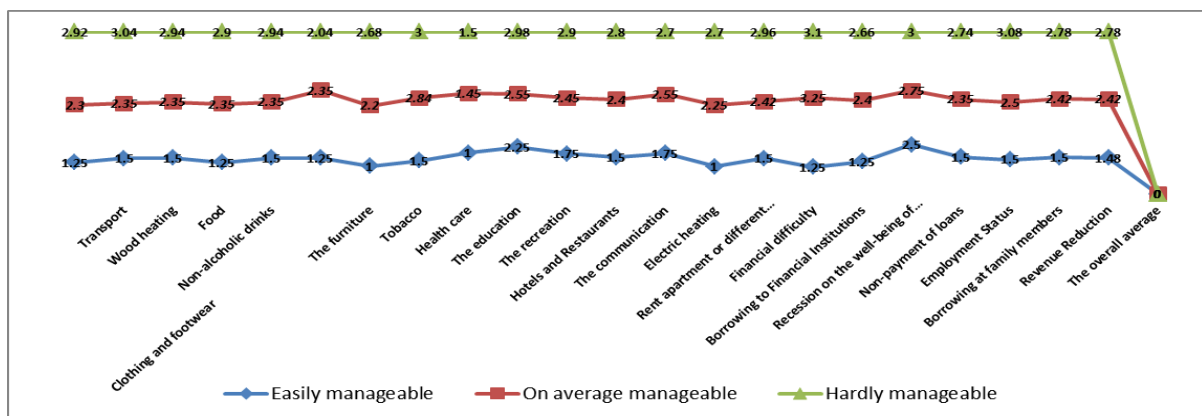
transportation, financial difficulties, borrowing from members of families, are difficult to manage, also adversely affect the living standard of households.



Graph 5: Rating average according to the height of expenditures and consumption.



Graph 6: Income average according saving and employment (Categories by family budget)



Graph 7: Average for all variables according to family budget

**The fourth hypothesis: employment and wealth owned by households affects the raising of the standard of living?**

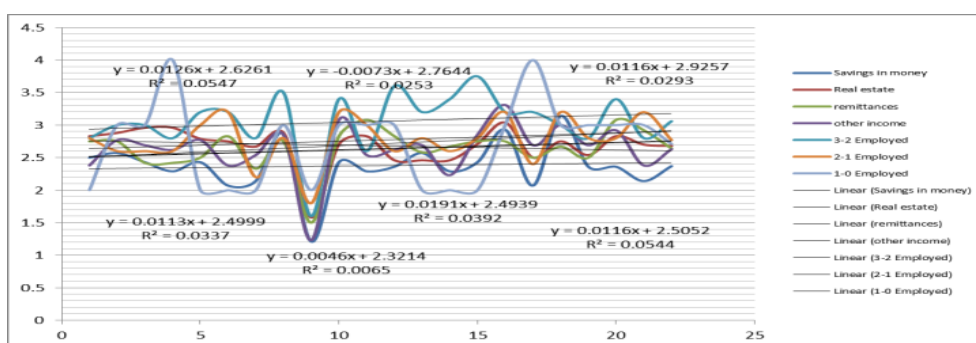
The higher the employment the higher the standard of living within households. The general average for the all

variables is: 2.37 cash savings, 2.68 real estate, 2.64 remittances, 2.63 other revenues, 3.06 with 2-3 employees, 2.77 with 2 -1 employees, 2.71 with 1-0 employees. Is verified and fourth hypothesis according econometric model.



**Table 5:** Income average according savings and employment

Variable	Income average according saving and employment						
	Savings in money	Real estate	remittances	other income	3-2 Employed	2-1 Employed	1-0 Employed
Transport	2.50	2.83	2.75	2.38	2.80	2.80	2.00
Wood heating	2.57	2.88	2.75	2.77	3.00	2.60	3.00
Food	2.43	2.96	2.42	2.69	3.00	2.60	3.00
Non-alcoholic drinks	2.29	2.96	2.42	2.62	2.80	2.60	4.00
Clothing and footwear	2.43	2.79	2.50	2.77	3.20	3.00	2.00
The furniture	2.07	2.75	2.83	2.38	3.20	3.20	2.00
Tobacco	2.14	2.67	2.33	2.54	2.80	2.20	2.00
Health care	2.86	2.88	2.75	2.85	3.50	2.80	3.00
The education	1.21	1.58	1.50	1.23	1.60	1.80	2.00
The recreation	2.43	2.71	2.83	3.08	3.40	3.20	3.00
Hotels and Restaurants	2.29	2.83	3.08	2.54	2.60	3.00	3.00
The communication	2.36	2.46	2.83	2.62	3.60	2.60	3.00
Electric heating	2.57	2.46	2.58	2.69	3.20	2.80	2.00
Rent apartment or different equipment's	2.29	2.46	2.67	2.23	3.40	2.60	2.00
Financial difficulty	2.43	2.71	2.75	2.85	3.75	2.80	2.00
Borrowing to Financial Institutions	2.93	3.04	2.75	3.31	3.20	3.20	3.00
Recession on the well-being of families	2.07	2.50	2.50	2.69	3.20	2.40	4.00
Non-payment of loans	3.14	2.75	2.67	3.00	3.00	3.20	3.00
Employment Status	2.36	2.54	2.50	2.69	2.80	2.80	3.00
Borrowing at family members	2.36	2.83	3.08	2.92	3.40	2.80	3.00
Revenue Reduction	2.14	2.70	2.92	2.38	2.80	3.20	3.00
The overall average	2.37	2.68	2.64	2.63	3.06	2.77	2.71



**Graph 8:** The general average for saving and employment

For more details, can be viewed table and the graph. Graph. 8. The average for all variables This research, besides the statistical description of the data, we also used the logistic regression (Fox 1997) to build the model that explains the measurement of the standard of living in urban and rural areas versus some other factors.

Hypotheses are also verified and through logistic regression. In this case, we see the relationships in between the two surveyed areas taking into account the variables such as: their monthly income, age, education, consumption, saving, spending. In other words, the standard of living in the both areas. By placing the MedCalc logging table, for the logistic regression. Data from questionnaire find this the results.

$$\logit(p) = \ln \frac{p}{1-p} = \alpha_i + \beta_1 X_{i1} + \dots + \beta_k X_{ik}$$

11<sup>20</sup>



**Table 6:** Logistic Regression<sup>21</sup>

<b>Logistic regression</b>				
Dependent Y	Measurement of the standard of living			
Method	Enter			
Sample size	74			
Cases with Y=0	15 (20.27%)			
Cases with Y=1	59 (79.73%)			
<b>Overall Model Fit</b>				
Null model -2 Log Likelihood	74.611			
Full model -2 Log Likelihood	53.867			
Chi-square	20.743			
DF	4			
Significance level	P = 0.0004			
<b>Coefficients and Standard Errors</b>				
Variable	Coefficient	Std. Error	P	
Gender P	0.81915	0.71102	0.2493	
Age P	-0.041083	0.32516	0.8995	
Monthly income	-0.079169	0.36528	0.8284	
Assessment of the state of the households	2.19841	0.62125	0.0004	
Constant	-4.8497			
<b>Odds Ratios and 95% Confidence Intervals</b>				
Variable	Odds ratio	95% CI		
Gender P	2.2686	0.5630 to 9.1408		
Age P	0.9597	0.5074 to 1.8153		
ARDHM	0.9239	0.4515 to 1.8904		
Assessment of the state of the households	9.0106	2.6665 to 30.4491		
<b>Hosmer &amp; Lemeshow test</b>				
Chi-square	3.3692			
DF	8			
Significance level	P = 0.9091			
Classification table (cut-off value p=0.5)				
Actual group	Predicted group		Percent correct	
	0	1		
Y = 0	5	10	33.33%	
Y = 1	1	58	98.31%	
Percent of cases correctly classified			85.14%	

Cases in which Y = 0, which in our case are 15 or 20.27% have a higher standard of living while cases in which Y = 1, which in our case are 59 or 79.73%, have a lower standard of living. For this set of variables, we benefit the model of log :

$$\logit(p) = \ln \frac{p}{1-p} = -4.850 + 0.819 * GP - 0.041 * MP - 0.079 * Inc + 2.198 * ASH$$



- The first variable: Living standard in the urban area increase to 0.819, as opposed to the rural area which has lowest standard of living.
- The second variable: the bigger the age in the family, the incomes have increased by 0.041. This means that if incomes are higher, then savings are greater. So even the standard of living is better with income and greater savings, or the opposite when are low incomes then standard of living is low.
- Third variable: if monthly incomes grow, expenditures reduced, standard of living for households increases for 0.079
- Fourth variable: easily manageable family situation, increases the standard of living for 2,198

The percentage of cases accurately forecasted in the both areas for the logistic regression is 85.14%.<sup>23</sup>

### Conclusions and recommendations

The purpose of this paper was that we come up with the results for the living standard for households. As seen, based on the research; the smaller incomes have lower living standards, also consumption, saving and expenditures are lower. While the higher incomes, standard of living is higher. Kosovo as new state should develop policies to raise the standard of living of citizens, taking into consideration the attracting foreign investors, through which the number of employees increases, in this case the increase in employment contributes to better welfare for households in the both areas urban and rural. Based on the scientific research in Kosovo, and on the survey and the econometric and statistical models, we must consider these cases:

- The wellbeing of residents is not good in both rural and urban areas, but the percentage indicates that urban areas are better compared to rural ones.
- Raised hypotheses emphasize that living conditions are better in the urban area
- If the income is higher, the family economic situation is easily manageable. We need to have many improvements as state in this regard
- If families enjoy wealth from their predecessors, their economy is better compared to those families that do not have inherited wealth. Kosovo needs to increase social assistance for such families
- Some of the variables are necessary even if families have a very low standard of living such as food, clothing, housing etc.

- This research is helpful to future researchers, will contribute to improving living conditions.
- Also will be a guideline for wider research, as Kosovo's living standard compared to other countries

Contributing to this scientific research it was the part of theory, literature for economy, research by economic experts, reports from the office of statistics, and ministry of economic development, ministry of finance, ministry for social work, central bank of Kosovo, survey with resident in both areas etc.

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