



НАЦИОНАЛЬНЫЙ ИССЛЕДОВАТЕЛЬСКИЙ
УНИВЕРСИТЕТ

THE SUBJECTIVE PERCEPTION OF PROPERTY INEQUALITY IN RUSSIA – THE URBAN-RURAL DIFFERENTIATION

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Moscow, 2020



FOUNDATIONS FOR THE RESEARCH

Previous studies:

1. Bartels, L. 2008. *Unequal Democracy: The Political Economy of the New Gilded Age*.
2. Loveless, M. and Whitefield, S. 2011. Being unequal and seeing inequality: Explaining the political significance of social inequality in new market democracies.
3. Binelli, C., Loveless, M. 2016. The urban-rural divide: Perceptions of income and social inequality in Central and Eastern Europe.
4. Milanovic, B. *Worlds Apart. Measuring International and Global Inequality*.
5. Kaltenhaler, K., Ceccoli, S. and Gelleny, R. Attitudes toward eliminating income inequality in Europe.

Model of Binelli and Loveless (Binelli, C., Loveless, M. 2016. The urban-rural divide: Perceptions of income and social inequality in Central and Eastern Europe):

$$y_i = \beta_0 + \beta_1 \mathit{income}_1 + \beta_2 \mathit{urb_rural}_i + \beta_3 (\mathit{income}_i * \mathit{urban}_i) + X_i' \gamma + \varepsilon_i \quad (2)$$

where X_i is an indicator developed in an earlier 2011 paper by Lovelace and Whitefield, represents a set of variables denoting individual characteristics



VARIABLES AND HYPOTHESES

Applying this econometric model to the data of the Russian Federation, the authors of this work optimized it in order to make it more responsive to the peculiarities of Russian social realities. The study used materials from RLMS-HSE 2016 (Russian Longitudinal Monitoring Survey - HSE) based on the sample of 5,210 adult citizens of the Russian Federation.

Variable **stair10** was chosen as dependent variable, and shows individuals' perception of social and financial status of their family on a scale from 1 to 10. The authors have also modified the indicator X_i , derived by Lovelace and Whitefield. Instead of aggregate indicator X_i , the variables selected in the course of qualitative analysis using the QCA method were introduced. It includes the individual characteristics of the respondent (age, completed level of education, marital status - family, children, gender, place of birth, etc.) and his or her socio-economic status (work, work experience, availability of credit).

Hypotheses:

Hypothesis 1: Rural residents tend to rate their material and social status more highly than urban residents.

Hypothesis 2: Perceptions of income and social status are directly proportional to the respondent's income.



VARIABLE DESCRIPTION

Dependent variable	Independent variable - 1	Independent variable - 2
<p>Stair10 – artificial criteria based on data from RLMS-2016, that shows answer to the question: “On which of the steps of the ladder ,on the first step of which the poorest individuals are located, and on the 10 are wealthiest, he or she would put himself”</p>	<p>Urb_rural – dummy variable, where (1) for city and (0) for rural area</p>	<p>work – (0) if a Respondent does not have a job (0), (1) if a respondent is currently working.</p>
	<p>Gender – (0) for female, (1) for male</p>	<p>Workexperience– (0) for persons with less than 10 years of experience, (1) for individuals with more than this period of experience.</p>
	<p>Age – (0) for young and middle age individuals and (1) for elderly people</p>	<p>Total_income - divided bases on level of income with possible values from 1 to 10, where 1 - income from 0 to 10 000 rubles, 2 – from 10000 to 20000 ruble and 10 – respondents with income more than 90000 rubles.</p>
	<p>Diplom – (0) for no education or secondary - level education, (1) for higher education</p>	<p>Income_satisfaction – (0) for dissatisfaction with the current job (i.e. answers "not satisfied at all " and "not very satisfied"), (1) - for relative satisfaction (i.e. answers "both yes and no", "rather satisfied", "completely satisfied").</p>
	<p>Family – (0) for the single the respondents, (1) for married respondents.</p>	<p>Credit - (0) if the Respondent does not have credit, (1) if there are credits</p>
	<p>Born - place of birth, where (0) is for rural area and (1) is for urban area.</p>	
	<p>Children - (0) if there are no children, otherwise – (1)</p>	

Table 1. Description of the variables



QCA ANALYSIS - 1

Term	Consist	RawCov	UniqCov	ObsConsist	ObsInconsist
URB_RURAL*age*FAMILY*GENDER*BORN*TOTAL_INCOME*INCOME_SATISF*CHILDREN*WORK*workexperience*credit+	1.00	0.17	0.08	10;7	-
URB_RURAL*age*DIPLOM*FAMILY*GENDER*born*TOTAL_INCOME*CHILDREN*WORK*workexperience*credit+	1.00	0.17	0.08	6;9	-
urb_rural*age*diplom*family*gender*born*TOTAL_INCOME*INCOME_SATISF*CHILDREN*WORK*workexperience*credit+	1.00	0.08	0.08	15	-
urb_rural*age*diplom*FAMILY*GENDER*born*total_income*income_satisf*children*WORK*workexperience*CREDIT+	1.00	0.08	0.08	13	-
URB_RURAL*age*DIPLOM*family*gender*born*TOTAL_INCOME*INCOME_SATISF*CHILDREN*WORK*workexperience*credit+	1.00	0.08	0.08	8	-
URB_RURAL*age*DIPLOM*FAMILY*BORN*TOTAL_INCOME*INCOME_SATISF*CHILDREN*WORK*workexperience*credit+	1.00	0.17	0.08	10;21	-
urb_rural*age*DIPLOM*FAMILY*GENDER*BORN*TOTAL_INCOME*INCOME_SATISF*CHILDREN*WORK*workexperience+	1.00	0.17	0.08	14;18	-
URB_RURAL*age*DIPLOM*FAMILY*GENDER*TOTAL_INCOME*INCOME_SATISF*CHILDREN*WORK*workexperience*credit+	1.00	0.17	0.00	10;6	-
urb_rural*age*diplom*FAMILY*GENDER*born*TOTAL_INCOME*INCOME_SATISF*CHILDREN*WORK*workexperience*credit+	1.00	0.08	0.08	17	-
URB_RURAL*AGE*diplom*family*gender*born*total_income*INCOME_SATISF*CHILDREN*work*WORKEXPRIENCE*credit+	1.00	0.08	0.08	3	-
age*DIPLOM*FAMILY*GENDER*BORN*TOTAL_INCOME*INCOME_SATISF*CHILDREN*WORK*workexperience*credit	1.00	0.17	0.00	10;14	-

Table 2. Positive configurations at the first stage of the study

Term	Consist	RawCov	UniqCov	ObsConsist	ObsInconsist
age*DIPLOM*FAMILY*GENDER*TOTAL_INCOME*WORK*credit+	1.00	0.33	0.08	10;14;6;9	-
age*DIPLOM*FAMILY*GENDER*TOTAL_INCOME*INCOME_SATISF*WORK+	1.00	0.33	0.08	10;14;18;6	-
age*DIPLOM*FAMILY*TOTAL_INCOME*INCOME_SATISF*WORK*credit+	1.00	0.33	0.00	10;14;21;6	-
AGE*diplom*family*gender*total_income*INCOME_SATISF*work*credit+	1.00	0.08	0.08	3	-
age*family*gender*TOTAL_INCOME*INCOME_SATISF*WORK*credit+	1.00	0.17	0.08	15;8	-
age*DIPLOM*gender*TOTAL_INCOME*INCOME_SATISF*WORK*credit+	1.00	0.17	0.00	21;8	-
age*FAMILY*GENDER*TOTAL_INCOME*INCOME_SATISF*WORK*credit+	1.00	0.42	0.17	10;14;17;6;7	-
age*diplom*FAMILY*GENDER*total_income*income_satisf*WORK*CREDIT	1.00	0.08	0.08	13	-

Table 3. Positive configurations at the final stage of the study



QCA ANALYSIS – RESULTS

- 1) age*DIPLOM*FAMILY*GENDER*TOTAL_INCOME*WORK*credit
- 2)age*DIPLOM*FAMILY*GENDER*TOTAL_INCOME*INCOME_SATISF*WORK
- 3) age*DIPLOM*FAMILY*TOTAL_INCOME*INCOME_SATISF*WORK* credit
- 4) age*FAMILY*GENDER*TOTAL_INCOME*INCOME_SATISF*WORK* credit.

From the obtained configurations, it can be seen that the majority of respondents who assess their financial situation as **above average** are **young married people with high-paying jobs**. We also see that in the presented configurations the respondents are mostly males, which is confirmed by the quantitative part of the study, which notes that women tend to assess their financial situation worse than men. The presence of the mandatory total_income indicator in position (1) confirms the hypothesis 1 that people with higher incomes tend to evaluate their financial situation higher than people with lower incomes.

Analyzing the resulting configurations by comparing them allows us to draw conclusions about the importance of factors such as **age, gender, marital status, degree, income and satisfaction, job availability, and partially the presence or absence of loans**.



QUANTITATIVE ANALYSIS - DESCRIPTIVE STATISTICS

VARIABLE	MEAN	ST.DEVIATION
stair10	3.6131	1.3790
urb_rural	0.6835	0.4652
age	52.8848	16.3930
diplom	2.8369	0.9433
family	0.5810	0.4934
gender	0.3664	0.4819
total_income	2.8764	1.7852
income_satisfaction	3.6971	1.0999
work	0.5447	0.4980
credit	0.0269	0.1617

Table 4. Descriptive statistics

	log_stair	urb_rural	total_income	age	family	diplom	work	Income_satisfaction	credit
log_stair	1.0000								
urb_rural	0.0090	1.0000							
total_income	0.2501	0.1572	1.0000						
age	-0.1407	0.0398	-0.1820	1.0000					
family	0.1346	-0.0485	0.0661	-0.1791	1.0000				
diplom	0.1876	0.1461	0.2353	-0.1802	0.0919	1.0000			
work	0.1936	0.0385	0.4314	-0.5783	0.1498	0.1901	1.0000		
Income_satisfaction	-0.4060	-0.0512	-0.2258	-0.0884	-0.0241	-0.0935	-0.0669	1.0000	
credit	0.0729	0.0340	0.1059	-0.1207	0.0088	0.0602	0.1052	-0.0125	1.0000

Pic. 1. Correlation matrix



QUANTITATIVE ANALYSIS – REGRESSION ANALYSIS

	(1) stair10	(2) log_stair	(3) log_stair	(4) log_stair	(5) log_stair	(6) log_stair
total_income	0.208*** (0.0109)	0.0632*** (0.00319)	0.0590*** (0.00331)	0.0525*** (0.00333)	0.0265*** (0.00340)	0.0263*** (0.00330)
urb_rural	-0.109** (0.0406)	-0.0296* (0.0130)	-0.0187 (0.0128)	-0.0330* (0.0129)	-0.0342** (0.0118)	-0.0342** (0.0118)
gender			-0.0307* (0.0125)	-0.0126 (0.0126)	-0.00325 (0.0117)	
age			-0.00219*** (0.000370)	-0.00170*** (0.000371)	-0.00264*** (0.000422)	-0.00263*** (0.000421)
family			0.0990*** (0.0124)	0.0892*** (0.0124)	0.0769*** (0.0114)	0.0763*** (0.0112)
diplom				0.0569*** (0.00659)	0.0461*** (0.00605)	0.0464*** (0.00596)
work					0.0286 (0.0148)	0.0287 (0.0148)
Income_sat~f					-0.152*** (0.00513)	-0.152*** (0.00513)
credit					0.0992** (0.0332)	0.0993** (0.0332)
_cons	3.090*** (0.0432)	1.037*** (0.0139)	1.111*** (0.0267)	0.951*** (0.0326)	1.656*** (0.0423)	1.655*** (0.0421)
N	5210	5210	5210	5210	5210	5210
R-sq	0.071	0.064	0.084	0.097	0.233	0.233
adj. R-sq	0.070	0.063	0.083	0.096	0.231	0.231
rmse	1.330	0.428	0.424	0.421	0.388	0.388

Standard errors in parentheses
 * p<0.05, ** p<0.01, *** p<0.001

Pic. 2. Evolution of the regression models



QUANTITATIVE ANALYSIS - RESULTS

$$y = 1.65 + 0.026 * \text{total}_{\text{income}} - 0.03 * \text{urb}_{\text{rural}} - 0.002 * \text{age} + 0.046 * \text{diplom} + 0.07 * \text{family} + 0.028 * \text{work} - 0.15 * \text{income_satisfaction} + 0.1 * \text{credit}.$$

Results of the research:

1. Factors that affect the respondent's assessment of their own financial condition are age, income satisfaction, income size, availability of higher education, family, job availability, and gender of the Respondent.
2. We are able to fully prove the hypothesis that rural residents tend to rate their material and social status higher than urban residents. The average difference in subjective perception between the city and the village was 10.3%.
3. The hypothesis that perceptions of material and social status are directly proportional to the respondent's income was partially confirmed, since in General, there are 2 trends in the data- the tendency to lower the assessment of one's own property well-being with an increase in wages in the range of up to 40 thousand rubles, as well as the tendency to increase the perception of material well-being with a further increase in income above the value of 40 thousand rubles.
4. The accuracy of the econometric model has improved with the addition of indicators that indirectly affect the standard of living and well- being, as well as the attitude of citizens.



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APPENDIX



SAMPLE FOR QCA ANALYSIS

case number	urb_rural	age	diplom	family	gender	born	total_income	Income_satisf	children	work	workexperien	credit	stair10
1	Город	47	законченное высшее образование	Состоит в официальном	Женский	В городе	0 - 10000	Совсем не удовлетворен	Да	У респондента нет работы	27	Нет	Самые бедные
2	Город	35	Законченное среднее образование	Состоит в официальном	Мужской	В сельской местности	20 000 - 30 000	И да, и нет	Да	Респондент сейчас работает	19	Нет	4
3	Город	79	Незаконченное среднее образование	В браке не состоит	Женский	В сельской местности	10 000 - 20 000	И да, и нет	Да	У респондента нет работы	48	Нет	5
4	Город	54	Законченное среднее специальное образование	В браке не состоит	Женский	В городе	30 000 - 40 000	Не очень удовлетворен	Да	Респондент сейчас работает	32	Нет	4
5	Город	63	законченное высшее образование	Состоит в официальном	Мужской	В городе	40 000 - 50 000	Не очень удовлетворен	Нет	Респондент сейчас работает	41	Нет	4
6	Город	34	законченное высшее образование	Состоит в официальном	Мужской	В сельской местности	50 000 - 60 000	Полностью удовлетворен	Да	Респондент сейчас работает	15	Нет	6
7	Город	35	Законченное среднее специальное образование	Состоит в официальном	Мужской	В городе	60 000 - 70 000	И да, и нет	Да	Респондент сейчас работает	12	Нет	5
8	Город	50	законченное высшее образование	В браке не состоит	Женский	В сельской местности	70 000 - 80 000	И да, и нет	Да	Респондент сейчас работает	25	Нет	5
9	Город	33	законченное высшее образование	Состоит в официальном	Мужской	В сельской местности	80 000 - 90 000	Не очень удовлетворен	Да	Респондент сейчас работает	10	Нет	6
10	Город	37	законченное высшее образование	Состоит в официальном	Мужской	В городе	90 000 и более	И да, и нет	Да	Респондент сейчас работает	15	Нет	7
11	С. местность	44	Законченное среднее специальное образование	Состоит в официальном	Женский	В городе	0 - 10000	Скорее удовлетворены	Да	Респондент сейчас работает	25	Нет	4
12	С. местность	51	Законченное среднее образование	Состоит в официальном	Мужской	В сельской местности	20 000 - 30 000	Скорее удовлетворены	Да	Респондент сейчас работает	25	Нет	4
13	С. местность	28	Законченное среднее образование	Состоит в официальном	Мужской	В сельской местности	40 000 - 50 000	Не очень удовлетворен	Нет	Респондент сейчас работает	7	Да	5
14	С. местность	39	законченное высшее образование	Состоит в официальном	Мужской	В городе	50 000 - 60 000	Скорее удовлетворены	Да	Респондент сейчас работает	16	Нет	7
15	С. местность	31	Законченное среднее специальное образование	В браке не состоит	Женский	В сельской местности	60 000 - 70 000	Полностью удовлетворен	Да	Респондент сейчас работает	7	Нет	8
16	С. местность	91	Законченное среднее специальное образование	В браке не состоит	Женский	В сельской местности	70 000 - 80 000	И да, и нет	Нет	У респондента нет работы	61	Нет	4
17	С. местность	27	Законченное среднее образование	Состоит в официальном	Мужской	В сельской местности	80 000 - 90 000	Скорее удовлетворены	Да	Респондент сейчас работает	11	Нет	6
18	С. местность	29	законченное высшее образование	Состоит в официальном	Мужской	В городе	90 000 и более	И да, и нет	Да	Респондент сейчас работает	6	Да	6
19	Город	59	законченное высшее образование	В браке не состоит	Женский	В сельской местности	40 000 - 50 000	Совсем не удовлетворен	Да	Респондент сейчас работает	38	Нет	Самые бедные
20	С. местность	34	Законченное среднее образование	Состоит в официальном	Женский	В городе	60 000 - 70 000	Скорее удовлетворены	Да	У респондента нет работы	7	Нет	2
21	Город	28	законченное высшее образование	Состоит в официальном	Женский	В городе	90 000 и более	И да, и нет	Да	Респондент сейчас работает	6	Нет	3
22	Город	45	Законченное среднее образование	Состоит в официальном	Мужской	В сельской местности	90 000 и более	Не очень удовлетворен	Да	Респондент сейчас работает	28	Нет	Самые бедные
23	Город	56	Законченное среднее образование	В браке не состоит	Женский	В сельской местности	20 000 - 30 000	Совсем не удовлетворен	Да	Респондент сейчас работает	38	Нет	3