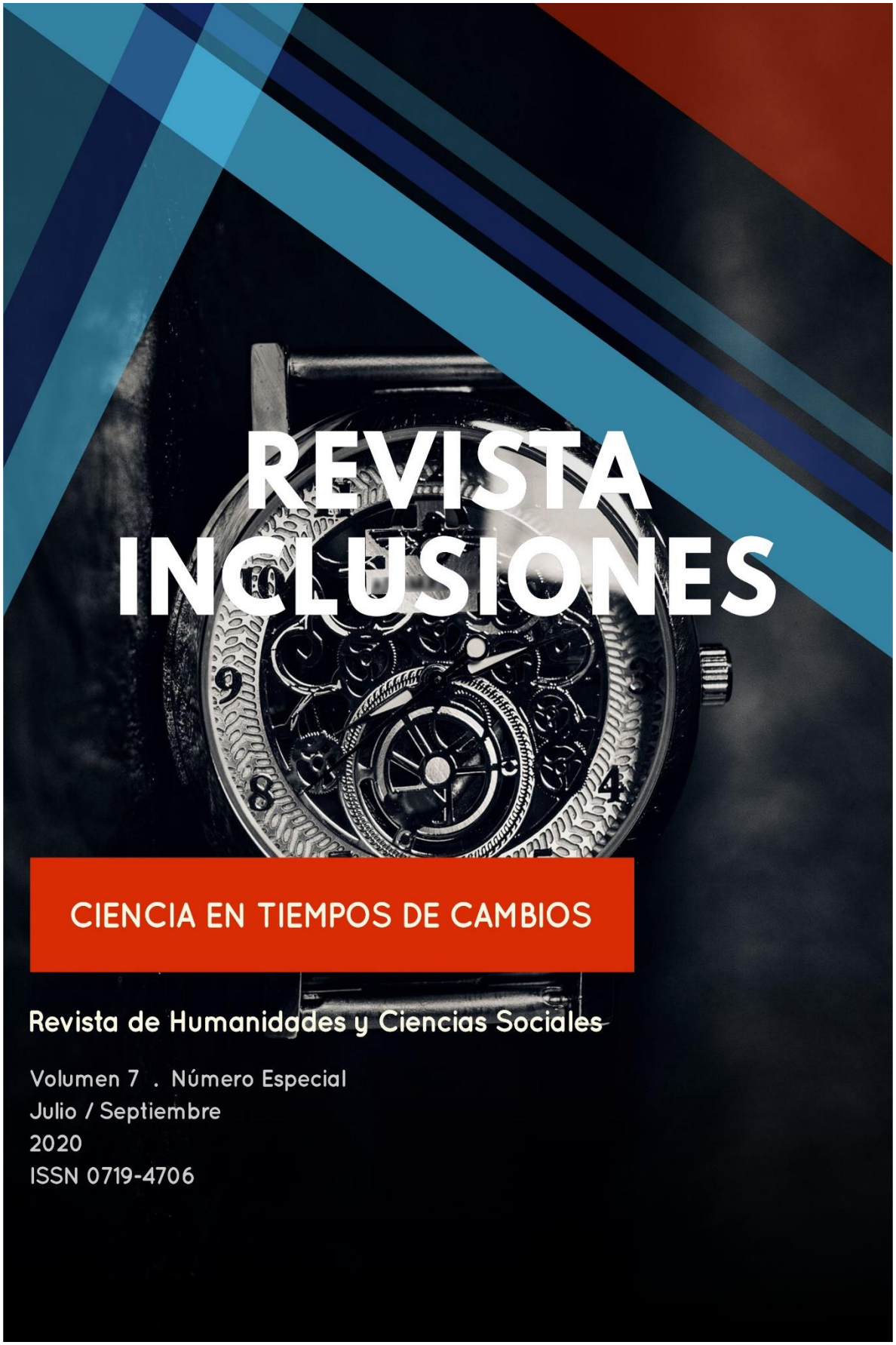

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RESEARCH ON THE PRINCIPLES OF THE ECONOMIC TRUST INDEX CONSTRUCTION

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Abstract

This paper studies the issues of the index of economic trust construction in Russia. The work analyzed the characteristics of various trust indices used in foreign systems to assess the investment climate. The aim of the paper is to develop the methodology to determine the trust index in Russia to solve the problem of asymmetric information in shaping the socio-economic policy of for the subjects of management.

Keywords

Index of economic trust – Index of investor sentiment – Behavioral finance – Economic trust

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Introduction

Economic trust is a generalizing factor that explains the relations between the individual elements of the macro, meso and micro levels of the economy involved in the reproduction and consumption of products (works/services), supporting various kinds of social needs that arise in the process of its development, as well as describing the degree of their interaction in order to create the conditions for qualitative transformation of the socio-economic system as a whole.

One should distinguish the general notion and the private ones, such as "consumer trust", "business trust", "investor trust", "consumer confidence", etc. The definition presented in this work is a generalization for the concept of trust in economics, while the above mentioned describe the relations for the separate components (consumers, businesses, investors, etc.). Economic trust accumulates all possible sub-levels, being a leading indicator of changes in the economy.

It would be hard to overestimate the importance of the studied element for modern economics. High trust level between the elements of an economic system ensures their harmonious development, contributes to the qualitative transformation of the system, allows discovering and developing new industries, elements, and mechanisms. The business and investment climate improves at all levels, the conditions of partnership simplify, and all this creates favorable conditions for business development, etc. The general welfare and stability of the country increases, which is reflected in the appreciation of the currency, the equalization of price fluctuations, and the increase in the investment attractiveness. The high trust level results in positive changes in the socio-economic system and strengthens it.

A study of economic trust allows describing the general state of the economy and its separate spheres, identifying the trends and prospects of development, and building forecasts and plans. To implement these capabilities, there exist special indicators – trust indices.

Problem statement. The trust index is a cyclical indicator of the degree of trust of different economic entities based on their attitude towards the current economic and political situations, and the degree of hope or doubt for the future. The index has a multiple application, since it is the composite indicator, consisting of the included calculation of the array of disaggregated data. The result is that one of the important distinctive features is its the function as an indicator. At the macro level, the practical application primarily affects the economic fields that requires planning and forecasting, including the financial market as a separate subsystem, the functioning of which is connected with the possibility of determining the period of effective investment and withdrawal of funds.

In Russian practice, the existing indicators do not fulfill the needs of financial market participants in a certain reference point for its activities due to a high degree of their subjectivization. The situation is complicated by the asymmetry of the market, resulting in the distorted information entering the calculations.

The other economic entities' use of existing indicators is also ineffective because the indicators existing in the Russian practice are based on survey data for a particular question. Therefore, today the determination of the level of economic trust in Russia is impossible. The available indicators are fragmented and disparate and also have a focus appropriate to the needs of the study, which does not allow to apply the final value of the indicator in any

other purposes and fields apart from tje mentioned in this study. Thus, the analysis of existing indicators and attempt to reduce them to a single indicator obtaining objective data is impossible. Moreover, the indicators based on survey data can have significant margin of error as a result of the influence of such psychological factors as reserved respondents, reluctance in revealing the true opinion and financial status, distrust in research, etc. Therefore, it is necessary to introduce the corrective statistical indicators that can normalize the final calculated result and bring it closer to the real values.

Thus, the lack of a comprehensive composite index of economic trust in Russian practice is a significant problem that impedes the solution of a number of practical problems of improving the accuracy of predictability of different spheres of economic life, as well as their application in the financial markets.

The performance of the function of the indicator and the forecast function requires accuracy in the construction of the index, which is one of the significant problems typical to the similar indices developed in Russia. The same indicators aimed at reflecting the real economic situation and the trust level in the country are mostly based on the survey data, predetermining the low level of accuracy. The popularity of the indices application in the Russian practice is extremely small. The above mentioned problem is one of the key factors that explains the provision of the indicator. Contribution to the science. This study of the principles of composite economic sentiment indicator construction is referred to behavioral finance. This direction of the theory of the stock markets functioning appeared is relatively new: it appeared in 1980s, and gained the maximum popularity among the investors due to its high practical significance.

The functioning of financial markets is directly related to the real production and the enterprise preformance. In this regard, the behavioral finance is of practical importance not only for the financial market participants, but also to economic entities at various levels: enterprises, credit institutions, companies, municipalities, etc. The economic trust index is an indicator which can be applied in various fields of socio-economic life of society, and its colligation with stock market is just one of its applications. The indicator also can be widely used at the macro level: for planning the volume and quality of production, defining the priority sectors of development, planning the macroeconomic indicators, solving management tasks, and also acting as the signalling indicator of problems in a particular area. At the micro level, the calculated values can be used in determining the advantageous group of goods among the consumers, determining the volumes and quality of production, in forming the strategy and tactics of enterprise development, planning the financial indicators, etc. Thus, this study has a high theoretical and practical significance. The presented results can be applied in foreign practice, especially for countries with developing financial markets, since they have practical importance and wide application.

The founders of the theory of consumer trust are F. Fukuyama and George Coleman[1]. These works formed the basis of the concept of trust, including trust in economics. In his book 'Trust. Social Virtue and the Creation of Prosperity"[2] F. Fukuyama defines the economic value of trust. This work highlights the importance of concepts of "honesty" and "trust" in the development of economic life of society.

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The study of trust in the economy were carried out by contemporary foreign authors, such as P. Bourdieu[3], Breton, A.[4], Furlong D.[5], Sztompka P.[6], Stolle D.[7], M. Levi[8], Bartley T.[9], Cashore B.[10], Mishler W., Rose R.[11], and others[12].

The contemporary authors study the basic concepts of economic trust as part of the development trends of the components of the world economic system, which determines the specificity of the approaches to the definition of its functions and elements.

As a result, the common understanding of the nature of trust as an economic component at the moment is not formed.

The most works of modern Russian researchers consider the theoretical aspects of the concept of trust in economics. For example, the works of Eroshin, D.A. [13], Sasaki, M.[14], Tatarko A.N.[15], Rybakova, I .N.[16], Nikolaev, I.A.[17], Tulaev S.A.[18] Lukin V.N.,[19] Dement'ev

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V.E.[20], Klimova N.V.[21], and others[22] study trust as a component of social capital, the basic problems of trust in the socio-economic theory and the economics in general. Under the leadership of P.M. Kozyreva[23], a sociological study of institutional trust of Russian citizens with emphasis on problems of legal culture was carried out.

The work of Dement'ev V.[24] touches upon the relation of the concept of trust and information asymmetry. The influence of trust on the amount of transaction costs is covered by the work of Lyasko A.[25], The author believes that in many cases, trust is either neutral towards the transaction costs, or increases their level. Many contemporary authors agree about the significance of the trust level in the development of world socio-economic system.

The work by Ayzatullen V. and Koryagina N.[26] describes the aspects of the practical application of trust index in economics. The studies of trust in economics were conducted by O. V. Takhanova: her work "International and Russian methods to determine trust indices in economics"[27] covers the sociological and economic methods to produce a quantitative estimate of the trust level. Sociological methods of measurement are discussed through the indexes of consumer trust, consumer expectations, and interpersonal trust. From an economic point of view, the assessment is viewed through the prism of investor trust in Russian economics. In another study ("Interpersonal trust as a factor of socio-economic development of society"[28]), the author studies the phenomenon of trust from the point of view of capital. In addition, this paper presents a method for assessment of the interpersonal trust, which enabled the qualitative evaluation of the socio-economic status of the studied group.

At the junction of the presented directions is work by Usenko N.I. Yakovleva L.A., and Otmakhova Yu[29] that considers the relation between information asymmetry and

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consumer behavior. Another work by Donskova L. A[30] defines the role of information flows in the formation of the movement of goods flows.

The theoretical foundations and the place of behavioral finance in modern science are covered in the works by Ivanitsky V.P.[31], Borisova A.Yu[32] ; the development of this direction in Russia continues in works by Bogatyrev S.Yu.[33]

Research on the role of behavioral finance in the financial systems was carried out by Korshunova G.V.[34], Romanova L.E.[35], and Sinel'nikov M.V.[36]. Sinelnikov in his paper "International practice of implementing behavioral finance"[37] defines the scope of application of the theoretical knowledge to solve practical problems, including the sphere of state regulation. Applied aspects and effects of behavioral finance are studied by Ivanova O.V.[38]. Thus, the works of these authors touches upon the relation between the theory of behavioral finance and its importance for the development of the financial market. Regarding the developed system of indices based on behavioral finance, their adaptation for use in different spheres of economic life, as well as in the developing financial markets, is possible. The most well known indices are presented in the table. They amount to more than 350 (see Table A.1, Appendix A).

Appendix A shows that the construction of indicative indicators is rather widespread abroad. Russian instruments in this area also have a large number of indicators. However, most of them are little known, specific and inadequate for an objective assessment of the level of economic trust. It should be noted that an integrated indicator reflecting the trust level in citizens in foreign practice is also missing. There are similar studies of investors' expectations (the trust index of investors/investment optimism) and leaders of organizations (business trust/optimism business indices).

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In Russia there is a number of individual indices based on surveys conducted by various organizations (Russian Federal State Statistics Service, Russian Public Opinion Research Center, FOMnimbus, InvestFuture, Nielsen). One should emphasize the ongoing fragmentation in research: the studies have no correlation, they have different purposes. It is also due to the lack of proper attention to this issue. The concept of economic trust, that is, the integrated indicator, at the moment does not exist. The most impressive are the studies conducted by Anti-Corruption Foundation[39] and the HSE[40]. The authors studied the theoretical foundations and the construction of the indicative indicator in a holistic manner. The reports noted the basic drawbacks of the existing methods, and proposed ways of eliminating them. The presented methods are based on the opposite ones: the work made by Anti-Corruption Foundation proposed the construction of the indicator solely on the basis of statistical data. The authors do not consider the possibility of including the proportion of survey values into the content of this indicator. In turn, the authors of the study performed by HSE eliminate the use of any statistical indicators, laying the basis for the indicator consisting on the data collected from questionnaires only. However, it should be noted that the use of purely statistical data in the study of the level of trust in economics can significantly distort the result. The reasons are the following:

- a study carried out on this basis has a retrospective character, i.e., it doesn't reflect the current sentiment of consumers (managers/investors), and their expectations for the next period of time. The predictive function of an indicator (its accuracy), is lost;
- the fluctuation of the indicator based on statistical data reflect fluctuations in prices, currencies, inflation, stability, changes in fiscal and monetary policy of the country, etc. It is impossible to take the single trust factor out of this total.

Questionnaire method reflects the real sentiment and expectations of the investigated entities, but the integrity of the study also depends on a number of factors that can distort the aggregate data. Among these are:

- psychological type and temperament of respondents;
- psychological state of respondent;
- gender and age of respondents and their affiliation with particular social groups;
- mentality.

For example, Russians tend to "make a poor mouth", talking about their income is impolite. 69.85% employees of the 14 543 surveyed of "middle" and "upper middle" classes identified themselves as "poor" (this fact is also implicitly characterizes the level of trust in Russia).

However, the practical value of the indicator is high when it best reflects the real sentiment of the citizens, because these data may be useful for economic entities of different levels. Enterprises, political organizations, investors, and economic entities need the information about the current sentiment of the consumer and changes in the current period to make certain decisions aimed at solving emerging issues and challenges, etc.

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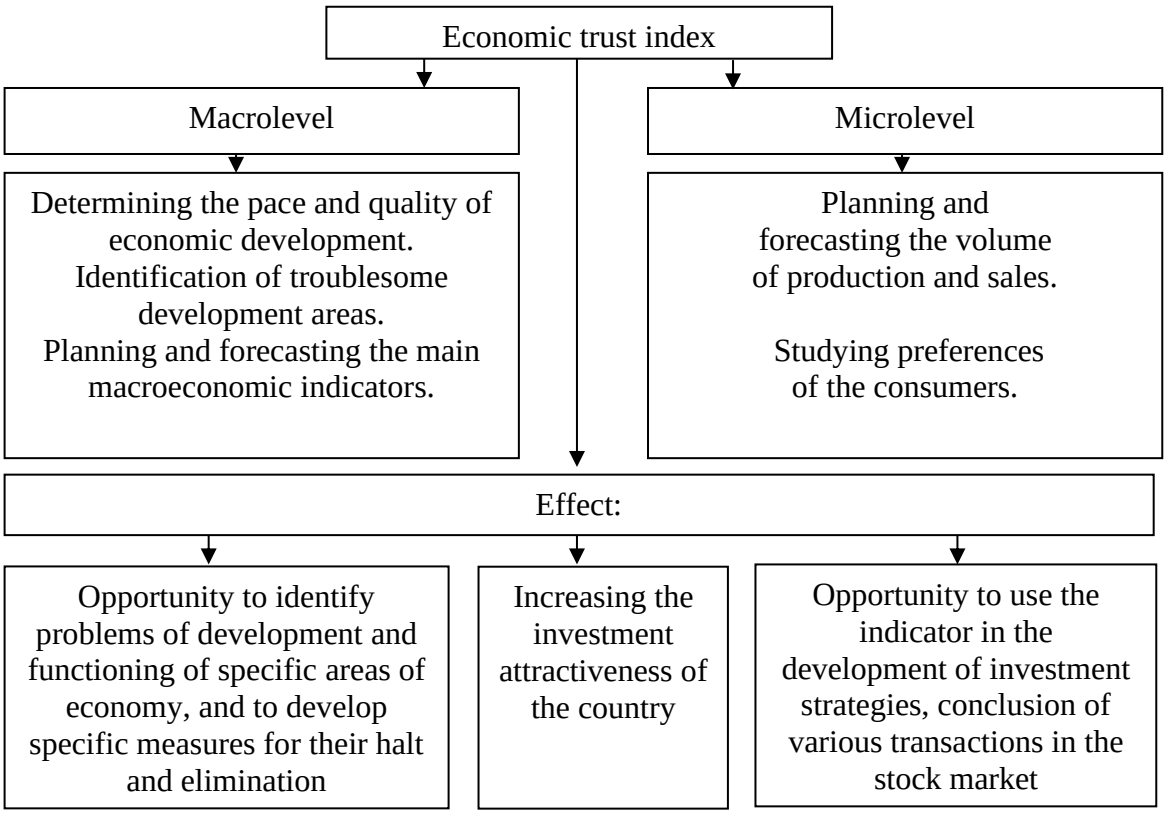

Figure 1
Application of economic trust index

Based on the foregoing, the main areas of application of the indicative indicator (trust index) can be represented as a diagram (Fig. 1). As can be seen from the figure, the indicator should be objective and versatile.

In line with this, the main functions of the economic trust index are:
- informational;
- signal;
- predictive.

The above mentioned features of the considered methods have a negative impact on the quality of the final values of this indicator, thus the algorithm of index calculation requires the corrective statistical component.

Methods

One of the main problems of constructing the composite index is the degree of its objectivity. The calculation should use both the survey data and the statistical data to maximize the reliability of the real sentiment of the economic entities. In addition, the following requirements should be met:

1. The survey should engage the subjects of different social groups and sectors of the economy. Depending on the social group, the separate lists of questions should be developed.

2. The final indicator should be cleared of seasonality.
3. The final data should be comparable.

Components:	
Questionnaire	
Social trust index	Business trust index
1. Assessment of consumer sentiment 2. Assessment of trust in employer 3. Assessment of trust in the banking and insurance systems	1.Assessment of the environment and development prospects of the company 2. Assessment of trust in the employees 3. Assessment of trust in the banking and insurance system (including a willingness to investing free cash)
4. Assessment of trust in the state structure and the degree of satisfaction with its services 5. trust and willingness to purchase services of alternative organizations 6. Assessment of trust in the state apparatus 7. Assessment of trust in the tax system	
Investor trust index	
Statistics (in case of sufficient sample size)	

Table 1
Components of economic trust index

Following on from the stated above, the research method is a survey of respondents of different gender and age given according to the question form (Appendix A) during March, April and May 2018. In addition, the research problem affected the formulation of the following hypotheses and definition of their testing tools:

1. are there any differences in the answers in the dynamics of three periods (months)?

H^1_0 – no significant differences;

H^1_1 – there are significant differences (more than 5% at a 95% trust interval).

Validation tool is frequency analysis.

2. Are there any differences in the respondents selected for the survey regarding gender, age, position (are there any distinguished groups)?

H^2_0 – no significant differences;

H^2_1 – there are significant differences (more than 5% at a 95% trust interval)[41].

The validation tool is the crosstables (crosstab).

3. Is there statistically significant changes in three dependent samples, that is, are there any regularities (preliminary analysis)?

H^3_0 – no regularities;

H^3_1 – there are regularities.

Validation tool is distribution-free tests (Friedman test), calculation and comparison of median.

4. Is it possible to identify the factors that explain the population?

H^4_0 – the factors are difficult to identify;

[41] Historically, the psychological and pedagogical research consider 5% level (a <0,05) to be the low level of statistical significance, sufficient level - 1% level (a <0.01), and higher - 0.1% level (a <0,001). That's why the tables of critical values usually contain the values of the criteria corresponding to the levels of statistical significance a <0,05 and a <0,01, and sometimes a <0,001. Here thy authors follow the rejecting the hypothesis of no difference (H_0) and accepting the hypothesis of statistical significance of differences (none) until the level of statistical significance reaches a = 0.05

H^4_1 – the factors are clearly identified.

Validation tool is factor analysis (correlation (Pearson), method of factor extraction: principal component analysis; method of rotations: "varimax" with Kaiser normalization);

5. If the factors are clearly identified, it necessary to check if the questions are appropriate:

H^4_0 – the factors are difficult to identify;

H^4_1 – the factors are clearly identified.

Validation tool is suitability analysis (Cronbach's alpha).

All calculations are implemented using the statistical package SPSS.

Results

General description of respondents is given in Table 2.

This table shows the frequency and percentage of respondents. The study engaged 9 respondents. The survey data showed that the ratio of men and women among the respondents was 3 men (33.3%) and 6 women (66.7%). Total: 9 people (100.0%). Also, the assessment of the number of children showed that 7 respondents (77.8%) had no children, 1 respondent (11.1%) had one child, 1 respondent (11.1%) had two children. None of respondents had more than two children. Considering the age of the respondents the following data were obtained: aged 0-16 - 0 respondents (0%); 17-25 - 1 respondent (11.1%); 26-36 - 4 respondents (44.4%); 37-44 - 2 respondents (22.2%); 45-60 years - 2 respondents (22.2%); aged 60 and above - 0 respondents (0.0%).

Gender:	Frequency	Percentage
Male	**3**	**33.3**
Female	**6**	**66.7**
Total	9	100.0
Number of children:	Frequency	Percentage
none	7	77.8
one	**1**	**11.1**
two	**1**	**11.1**
more than two	0	0.0
Total	**9**	**100.0**
Age: years	Frequency	Percentage
0-16	0	0.0
17-25	1	11.1
26-36	**4**	**44.4**
37-44	2	22.2
45-60	2	22.2
60 and older	0	0.0
Total	9	100.0
Scope of activities:	Frequency	Percentage
student	1	11.1
worker	1	11.1
assistant	1	11.1
leading specialist	**4**	**44.4**
administrative position	1	11.1
retired	1	11.1
Total	9	100.0

Table 2

Frequency table. General description of respondents

With regard to the differentiation of respondents according to their occupation, 4 people (44.4%) are the leading experts, 1 person (11.1%) falls on students, workers, assistants, management, and the retired.

The obtained data show that the sample contains enough different people, who also are the recognized experts in economics (even master's students have a number of notable publications and 5 wins in various contests on socio-economic issues). Therefore, this sample is considered as conditionally representative, i.e. the one reflecting the opinion of a single team, namely the university where the authors of this paper work.

Thus, let us proceed to the test of the considered hypotheses.

First hypothesis. Its essence is finding out whether there are differences in the answers of the questioned in the dynamics of three periods of time (months). The null hypothesis means there is no significant difference, and the tested hypothesis - that there is a significant difference in the answers (more than 5% at a 95% of a trust interval). Validation tool is frequency analysis. The test result is presented in Table 3.

The levels of monthly income of the respondents are:

- very high (can afford only high quality and expensive goods and services)

Monthly income:	March		April		May	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
up to 10 and including	1	11.1	1	11.1	1	11.1
above 10 but not more/equal to 20	1	11.1	2	22.2	3	33.3
above 20 but not more/equal to 40	2	22.2	**4**	**44.4**	**5**	**55.6**
above 40 but not more/equal to 60	**4**	**44.4**	2	22.2	0	0.0
above 60 but not more/equal to 90	1	11.1	0	0.0	0	0.0
Total	9	100.0	9	100.0	9	100.0
Saved part of income	March		April		May	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
spend savings	1	11.1	1	11.1	0	0.0
can't save	**4**	**44.4**	**4**	**44.4**	**4**	**44.4**
less than 10%	2	22.2	2	22.2	**4**	**44.4**
10-20%	0	0.0	2	22.2	0	0.0
above 20%	2	22.2	0	0.0	1	11.1
Total	9	100.0	9	100.0	9	100.0

Table 3
Financial status of respondents

- range from 60 to 90 thousand;
- middle (can afford all the necessary goods and services of good quality at a reasonable price) - range from 40 to 60 thousand;

- low (buy only necessary goods and services of inadequate quality, but at a low price) - range from 20 to 40 thousand;
- very low (can't buy goods and services) - range from 10 to 20 thousand and less.

The data obtained from 9 respondents are presented in the table (see Table 4). The following conclusions may de drawn:

In March, the vast majority of respondents (44.4%) belong to the fourth group (40-60 thousand rubles). Considering the rest of the respondents, it can be said that in the first, second and fifth groups had 1 person each (11,1%); the third group was of 2 people (22.2%).

In April, the structure changed: the vast majority of respondents (44.4%) belonged to the third group (20-40 thousand rubles). Only 1 person (11.1%) had monthly income of up to 10 thousand inclusively (group 1); the second and fourth group had 2 people each (22,2%); the fifth group had 0 people (0.00%).

In May, the trend was on the rise: the vast majority (55.6%) belonged to the third group (20-40 thousand rubles); 1 person (11.1%) had the monthly income up to 10 thousand inclusively; 3 people earned 10 to 20 thousand rubles (33.3%); the remaining groups didn't have any respondents.

Based on the same table, it is possible to analyze the dynamics of savings of the respondents. The savings are divided into five groups in this questionnaire:

1) spend savings (previously saved);
2) can't save;
3) less than 10%;
4) 10-20%;
5) above 20%.

Let us consider this figure by the month:

- in March, the vast majority of respondents (44.4%) belonged to the second group (can't save). One person spends their savings (11.1%); 4 people can't save (44.4%); 2 people (22.2%) had less than 10% of savings; 0 people saves 10-20% (0,00%); 2 people (22.2%) had more than 20% savings .
- in April, the structure has changed: the fourth group had two of the respondents (22,2%, p[reviously - 0%); the fifth group lost the same number (previously - 2 (22.2%), currently - 0%); the other groups didn't change.
- in May, the changes were even more prominent: the respondents were split into 2 groups (2 and 3), 4 people each (44,4% each). The fifth group had one respondent (11.1%); the other groups had none.

Having considered all the data obtained through these three months, it is clear that the dynamics of income savings of the respondents has not been stable and has partially changed. In other words, the savings logically decreased simultaneously with the decrease in the income of the respondents.

The frequency analysis of the responds to the questionnaire (see Appendix B, Table B.1–B.17) showed that the values for the three periods had slightly changed and had no outlying cases. Thus, the null hypothesis is confirmed - there are no significant differences in the answers.

The second hypothesis to be tested is the existence of separate groups of respondents depending on gender, age, position (H^2_0 – no significant differences; H^2_1 – significant differences (more than 5% at a 95% of trust interval)). The validation tool was the crosstables (crosstab).

These hypotheses were testes by analyzing the crosstables data presented in Appendix C.

The analysis showed that some respondents refused to answer, but it had no significant impact on the results. One cannot tell or sure the respondents possess prominent group attributes. Women traditionally earn less than men, but the survey didn't take into account the number of rates.

The third hypothesis implies the identification of statistically significant changes in three dependent samples. The null hypothesis – no regularities; the tested hypothesis - there are some. The tool test are the distribution-free tests (Friedman test), as well as the calculation and comparison of a median.

Friedman test is used to compare the indicators measured in c terms ($c \geq 3$) in the same sample consisting of n respondents. This tool establishes the fact that the values of the indicators change from the condition to the condition, but it does not indicate the direction of change and in this sense, it is similar to the sign test. Taking into account the null hypothesis validity, the Friedman statistics values (Friedman's test) are small, i.e., empirical criterion is less than the critical one. It means that the differences are random and unreliable[42].

In this case, none of the indicators showed the presence of any regularities (statistical significance for all questions in the questionnaire exceeded the 0.1, which very high), which confirms the null hypothesis (see Table D.1 – D.6 (fragment of calculation results), Appendix D).

The authors conclusion is proved by the analysis of the median obtained for 3 periods of answering the questionnaire (see Table D.7, Appendix D). Basically it does not change, especially in such important issues as monthly income, assessment of their own financial status over the past 3 months; the current political situation. The most notable change in the median was observed for the question about the favorable period for the operation of the enterprise for the next 3 months. It varied from 3 in March to 1 in April, and in May went back to 1 for the functioning of the enterprise, but in this case, the Friedman test did not confirm the presence of patterns in the answers to this question.

The fourth tested hypothesis checks whether it is possible to identify the factors that explain the population? (H^4_0 – the factors are difficult to identify; H^4_1 – the factors are clearly identified). Validation tool is factor analysis (correlation (Pearson), method of factor extraction: principal component analysis; method of rotations: "varimax" with Kaiser normalization);

[42] Comparison of several dependent samples: Friedman test (n.d.). Retrieved from: http://kineziolog.su/content/statisticheskiy-kriteriy-fridmana.

Factor analysis starts with determining the correlations of the questions of the questionnaire (stage 1). The calculation is presented in Table E.1 (Appendix E).

As it can be seen from the table, there are questions with high strength of relationship (for example, gender and monthly income), and evaluation of housing and utilities sector closely correlat with age. Then the "Total explained variance" (see Table E. 2, Annex E), which indicates the fact of exceeding 1 values of the variance for the seven components.

Thus, 7 factors were selected for the analysis. The first factor explains almost 36% of the total variance, the second explains 19%, third - 15%, fourth - 11, fifth - about 7%, the sixth and seventh explain of about 5%. Then the matrix components are calculated. The table shows the rotated matrix of components, that indicates that 7 components (factors) have different correlation with the questions of the questionnaire (which is rather natural). The authors are interested in maximum values that are allocated on each row, that is, for each item of the questionnaire (see Table E.3, Appendix E). For example,

- "assessment of their own financial status for the past and future 3 months"; "trust in the banking system, tax service and the state-owned enterprises"; "favorable period for the operation of the enterprise for the next 3 months" (having negative correlation), and "evaluation of educational institutions and infrastructure" correlate with the first factor (component);
- "gender and age of respondent" and "evaluation of housing and utilities sector and transport" best correlate with the second component;
- "monthly income"; "current economic state" (with negative correlation); "a favorable period for investment (for next 3 months)"; "current political situation" correlate with the third;
- "number of children"; "trust in the employees/employer"; "manner of managing the funds available" (with a negative correlation) correlate with the fourth component;
- the fifth component has close connectio with ionly two components: "favorable period for making major purchase" and "how the economic and political situation is going to change (for next 6 months)";
- the sixth is correlated only with the question of the saved part of income;
- the seventh - with the scope of activities of the respondent.

Discussion

The results of factor analysis will be successful in case of meaningful interpretation of the identified factors, based on the meaning of the indicators characterizing these factors. This stage of work is very responsible, for it requires from clear idea of a meaningful content of analyzed indicators and that serve as a basis for the factors identification. Therefore, in the prior selection of indicators for factor analysis, the researcher should regard their substantive meaning and not try to identify as many factors as possible.

Therefore, the authors faced two tasks:

1. To explain the factors;
2. To reduce the items of the questionnaire (which is done in the following subsection).

In order to explain the factors, they will be put in a table, where the set of questions with the highest correlation, both positive and negative (see table 4), correspond to each component:

1 Component ("OPTIMIST")	
"positive correlation"	**"negative correlation"**
2.1. Assessment of their own financial status for the past 3 months.	
2.1. Assessment of their own financial status for future 3 months	
4.2. trust in the banking system	
4.3. trust in the tax service	
4.4. trust in the state companies	
	5. 5. The favorable period for the enterprise (next 3 months)
10.3. Assessment of educational institutions activities:	
10.4. Evaluation of the infrastructure activity	
2 Component ("REALIST")	
Gender:	
Age:	
10.1. Assessment of housing and utilities sector activities:	
10.2. Assessment of transport:	
3 Component ("ALARMIST")	
Monthly income	
	1. Current economic state
7. Favorable period for investment (next 3 months):	
8. Current political situation:	
Component 4 ("HOMEMAKER")	
	Number of children
4.1. Trust in employees/employer	
	6. The manner of managing the available funds
5 Component ("BIG SPENDER")	
3. Favorable period for making major purchase	
9. How the economic and political situation is going to change (for next 6 months)	
6 Component ("PENNY PINCHER")	
Saved part of income	
7 Component ("WORKAHOLIC")	
Scope of activities	

Table 4
Explanation of selected factors

Let us analyze each of the seven components, and try to find content-wise name for them. The components are quite conventional and may not characterize a particular respondent, that is, real respondents can answer some questions differently.

The first component (factor) is defined as "optimist" (nominal respondent): the assessment of their own financial status over the past and future 3 months correlated with trust in the banking system, tax service, and the state-owned enterprises, as well as with the assessment of the activities of educational institutions and infrastructure. However, the factor is in inverse correlation with the favorable period for the operation of the enterprise for the next 3 months: it turns out that the nominal respondent is fairly young and commands the services of various governmental bodies, banking sector; the respondent may teach children, but their future is not assigned to the current employer. Such respondent hopes to obtaining a position in other place and with other salary.

The second component have a highest possible correlation with age and gender of the respondent, and with the assessment of housing and utilities sector and transport activities. The authors call such respondents "realists": they are senior people, probably retired, who often uses public transport and are concerned about the services of municipal organizations.

The third component ("alarmist") includes such questions as monthly income, which correlates with a favorable period for investment (next 3 months), and the "current political situation"; the factor has a negative correlation with the current economic state. This means, the conditional respondent is an "alarmist". "Alarmists" relate their personal financial status to the economic situation, and also, they do it inversely: despite the political stability, their income and opportunity to invest expect the problems in the economy.

The fourth component ("homemaker") includes such questions as "number of children" (which negatively correlates with "trust in employer") and "manner of managing the funds available". This means, the more children - the less trust in employers, and the less (almost none) available funds.

The fifth component ("big spender") has only 2 closely related points: "favorable period for making major purchase" and "how the economic and political situation is going to change (for next 6 months)".

The sixth component ("penny pincher") implies that the nominal respondent "care" only about the saved part of income.

The seventh component ("workaholic") means that the nominal respondents is only "interested" in questions concerning the scope of their activities.

The sixth hypothesis is aimed at determining the adequacy of the questions based on the factors identification, while the null hypothesis states that the factors are difficult to identify. The test hypothesis is that the factors may be identified clearly and the irrelevant questions in the questionnaire may be reduced. Validation tool is suitability analysis (Cronbach's alpha).

The authors process this example using SPSS [40]. The results are summarized in table (see Table F.1, Appendix F). The Cronbach's alpha value was 0,666. Thus, comparing the data of the last column of the Table F.2 ("Cronbach's alpha excluding the element": if it is more than 0,666 – the question is appropriate, it is it below, the question is excluded) some items of the questionnaire may be excluded as they poorly correlate with the others. These questions are: gender of the respondent, age, monthly income, assessment of their own financial state over the past and next 3 months, assessment of changes in the economic and political situations for the next 6 months (question No. 9), and assessment of housing and utilities sector, transport, schools, and infrastructure activities. The result may indicate that respondents selected as experts took their minds off their views (gender, age), but nevertheless retained the subjectivity in their opinions. The conclusions can be explained through the respondents' tendency to negative expectations. However, the authors didn't exclude them from the questionnaire – otherwise the data for different periods would not have been comparable. These points need to be factored into the calculation of the trust index, since it reflects the mentality of the respondents, which is extremely important to guarantee the representativeness of the study.

Thus, having conducted the survey for three periods and settled some methodological issues, we may proceed directly to the calculation of the trust index. The calculation of the consolidated trust index was carried out according to the formula of weighted average (Table 5). The authors present is as a modified (since the weight is not computed and determined by the respondent alone) formula. To do this, first one needs to present all the answers in matrix form:

$$\left[x_1^1 \frac{}{w_1} \dots x_1^i \frac{}{w_i} \dots \dots \dots x_n^1 \frac{}{w_i} \dots \frac{x_n^i}{w_i}\right] \quad (1)$$

where:

i – the number of questions in the questionnaire;
n – the number of respondents:
x_i - the score of the answer in the questionnaire (corresponding to the response group that was specified by the respondent; the answers on gender, age and monthly income are not included in the calculation of the index, the answers were recoded, that is, if the answer refers to the first group (typically it is a positive one), it is assigned 5 points, second - 4 points, and so on);
w_i — the weight of the question in the questionnaire (indicated by the respondent while determining the importance of the question, for example 1 – very important; the division by one doesn't affect the points of the answer. However, if the question is not important in the respondent's opinion, the points will be divided by 5);[43]
The formula of the composite trust index can be represented as follows:

$$Aggregate\ trust\ index = \frac{\sum_1^{i\left(\frac{\sum_1^n x_i}{w_i}\right)}}{n} \quad (2)$$

The number of respondents was n = 9 people, but it can be increased depending on the requirements of representativeness.The trust index is in the range of 23.83 to 38.50 for three of the studied period. The authors believe it is a good sign, as the values are in the same dimension and, therefore, can be compared. The authors presented the calculated index and the dynamics of the main economic indicators of the Republic of Crimea during the same period in the table (on the same graph below, see Table 5 and Fig. 2):

Indicator	FEBRUARY	MARCH	APRIL	MAY	JUNE	nse type**
Aggregate trust index (ATI)	-	38.50	**3.83**	35.00	-	-
Retail trade turnover – total (RTT)*	102.2	107.5	**99.9**	105.0	113.0	**P**
me of paid services to the population (PSP)	98.1	102.2	96.0	98.7	119.7	**P**
Consumer price index (CPI)	101.2	**101.4**	102.0	102.4	103.5	**Z**
and dynamics in the minimum product set (MPS)	101.6	101.7	106.4	**111.8**	117.1	**O**

[43] x11/w1 – that is the way the answers are presented as points of the first respondent to the first question, which is weighted (divided) by a specified weight of the first question (in the questionnaire it is shown as importance).

cost of the fixed set of consumer goods and services per capita per month, RUR (January -13388.90) (FSCG)	13419.03 (100.23)	13416.74 (**99.98**)	13537.01 (100.9)	13687.51 (101.11)	13846.34 (101.16)	**Z**
Number of officially registered unemployed at the end of the month (January - 6471) (NUM)	6983 (107.91)	6621 (94.82)	5847 (**88.31**)	5363 (91.72)	4541 (84.67)	**P**
Wage paid per employee per month (WP)	108.4	**104.4**	106.9	107.8	109.1	**Z**
Real wage paid per employee (RWP)	102.0	**98.1**	100.7	101.4	102.1	**Z**
Average cash income per capita per month RUR (Jan - 13415.3) (CIP)	19414.5 (144.72)	19664.8 (101.29)	20299.1 (103.23)	20122.3 (**99.13**)	23903.8 (118.79)	**O**
Real cash income in % to the corresponding period of the previous year (RCN)	107.9	**104.3**	106.6	117.9	114.1	**Z**
in % to the previous period (%RCN)	129.5	101.1	102.6	**98.8**	117.5	**O**
Real disposable income (income minus the obligatory payments adjusted to consumer price index) (RCC)	105.6	**101.4**	104.6	115.1	111.0	**Z**

Table 5
Comparison of the main economic indicators of the Republic of Crimea and the calculated "Composite trust index"

*Source: Short-term economic indicators of the Republic of Crimea in January-April 2018. Simferopol, 2018. Federal State Statistics Service Federal Service of State Statistics in the Republic of Crimea and Sevastopol, (tables 1.12, 1.13, 1.9, 3.5, 3.6, 4.3., 5.2.);
** Response type: A – advanced; P – proportional; L - lagging.

The authors calculated the composite trust index (CTI) has a different type of relation with the main economic indicators of the Republic of Crimea. This relation is rather nominal, since the survey involved only 9 people; the presence of these links is partly possible. However, the demonstration of this connection is primarily methodological. The increase in sample size will allow to use this approach more soundly based on the requirements of representativeness.

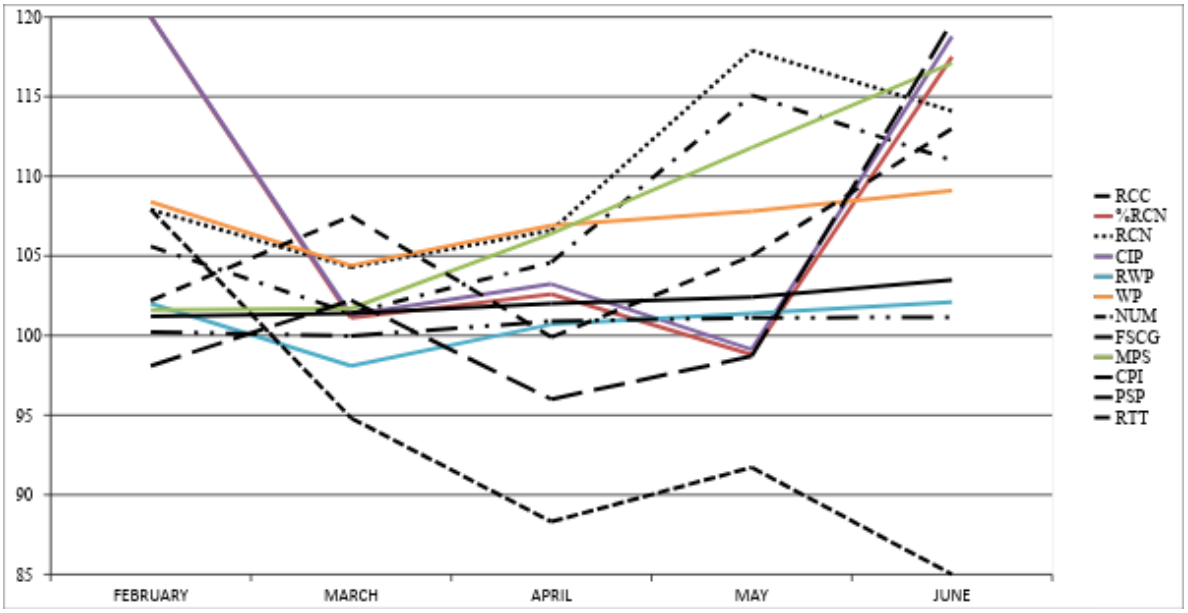

Figure 2
Comparison of the main economic indicators of the Republic of Crimea
and of calculated "Composite trust index"

The calculated index is directly (proportional response type) connected with retail trade turnover – total (RTT); the volume of paid services to the population (PSP); the number of officially registered unemployed at the end of the month (NUM). This fact is explained simply: paid services and retail trade are rendered every day, and the price changes will be reflected in the sentiment in a moment. The unemployed do not appear on closed areas, and if the neighbors lose their jobs, it becomes known pretty quickly.

Advanced response demonstrates the following to the index: cost and dynamics in the minimum product set (MPS), average cash income per capita per month, RUR (CIP), real cash income in % to the corresponding period of the previous year (%RCN). Only an increase in negative expectations on the basis the prices dynamics for food products and related indicators characterizing incomes can explain this result.

Lagging response demonstrates the following to the index: consumer price index (CPI), wage paid per employee per month (WP), real wage paid per employee (RWP), real cash income in % to the corresponding period of the previous year (RCN), real disposable income (income minus the obligatory payments adjusted to consumer price index) (RCC). The lagging in these indicators is most likely due to the method of their calculation.

Conclusion

To summarize the study, the following results should be mentioned:

- first of all, the authors defined the theoretical bases of the trust index construction on the basis of a systematic analysis of the theoretical sources, as well as practical mechanisms for the use of such indices in both developed and developing capitalist countries, which is especially valuable for the Russian Federation;

- the methodological bases for collecting the primary relevant information about the population's attitudes to various socio-economic events through the survey have been developed; Based on the formulated hypotheses and tools, the authors carried out the testing of the main parameters characterizing the respondents' answers and the suitability of the questionnaire for calculating the confidence index;
- this study is special due to its particularly small sample of only 9 respondents, but their knowledge on issues of trust of the population were equal to this of experts. In any case, the aim was not to get representative results, but the development of methods for determination of trust index in Russia. The developed theoretical and methodological bases of trust index calculation and corresponding analyses would be of interest to public authorities, business, media, and analysts financial and commodity markets.

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APPENDICES

Appendix A

investor sentiment

№	Name	Source
1	2	4
1	Sentix investors Confidence index (Sentix Index) (EU)	Sentix company's official website.
2	State Street Investor Confidence Index (USA)	State Street financial company

2	Barron's Investor trust index	http://ogrik2.ru/b/esme-faerber/vsyo-ob-akciyah/10155/indeks-doveriya-investorov-barron-s/50
3	Tankan report (Japan)	The Bank of Japan
4	Consumer expectations index, University of Michigan (Consumer Sentiment Index)	https://www.investopedia.com/terms/c/consumer-sentiment.asp
5	*Core PCE Price Index - Basic price index of personal consumption costs* (USA)	https://tradingeconomics.com/united-states/core-pce-price-index
6	*Business expectations index of the German research Institute IFO (IFO business expectations) — Germany*	*CESifo Group Munich* http://www.cesifo-group.de/ifoHome.html
7	*GFK consumer trust index (Gfk Consumer Confidence) — Germany*	
8	*ZEW economic expectations index (ZEW economic expectations) — Germany*	Official website: https://www.zew.de/en/
9	*CCI of Russia*	Federal State Statistics Service http://www.gks.ru
10	Consumer price index (CPI) (France)	https://www.rateinflation.com/consumer-price-index/france-cpi
11	*Consumer confidence index (Consumer confidence) — France*	https://ieconomics.com/france-consumer-confidence
12	*Trust index in business (Business confidence) — France*	https://tradingeconomics.com/france/business-confidence
13	Indonesia Consumer Confidence	https://www.investing.com/economic-calendar/indonesia-consumer-confidence-1090
14	Consumer prospects index (Consumer Outlook Index) India	http://keyfeed.herokuapp.com/india/consumer-outlook-index/
15	Global consumer confidence index NIELSEN	Official website: http://viz.nielsen.com/consumerconfidence-ru/

Table A.1.
Major world indices describing

QUESTIONNAIRE

SOCIOLOGICAL SURVEY (METHODOLOGICAL)
Dear Respondent , please, spend a few minutes
to fill in the following questionnaire
(results are not disclosed, are anonymous, the questionnaire serves the purposes of the formation of research bases and the development of the survey techniques and results analysis)

Specify (put any symbol, for example "+" or "√"):

Gender: M ☐ F ☐

Age (years):

from 0 to 16	from 17 to 25	from 26 to 36	from 37 to 44	from 45 to 60	over 60

Approximate monthly income, thousand RUR.

up to 10 and including	above 10 but not more/equal to 20	above 20 but not more/equal to 40	above 40 but not more/equal to 60	above 60 but not more/equal to 90	above 90

Scope of activities: _____

Occupation:

Student	☐	Leading specialist	☐
Worker	☐	Manager	☐
Assistant/trainee	☐	Retired	☐
Master	☐	Unemployed	☐
Office worker	☐	Other: _____	

1. How do you assess your current economic state?

Worse than last year	☐
Better than last year	☐
Much worse than last year	☐
Much better than last year	☐
Cannot say	☐

Rate this question:	
- very important;	
- important;	
- neutral;	
- not important;	
- not important at all;	

2. How do you assess your own financial state on a 5 point scale?

	1	2	3	4	5
over the past 3 months					
for the next 3 months					

Rate this question:	
- very important;	
- important;	
- neutral;	
- not important;	
- not important at all;	

3. Do you think that the next 3 months is a favorable period for making large/expensive purchase?

Yes	☐
More likely than not	☐

Rate this question:	
- very important;	

Unlikely		- important;	
None		- neutral;	
Cannot say		- not important;	
		- not important at all;	

4. Rate your attitude (trust) to:

	1	2	3	4	5		
employer/employees						Rate this question:	
banking system						- very important;	
tax service						- important;	
state-owned enterprises						- neutral;	
						- not important;	
						- not important at all;	

5. Do you think that the next 3 months is a favorable period for the operation of the enterprise in which you work?

Yes		Rate this question:	
More likely than not		- very important;	
Unlikely		- important;	
None		- neutral;	
Cannot say		- not important;	
		- not important at all;	

6. How do you dispose of a free amount of cash?

Invest in the development of my business/enterprise		Rate this question:	
Make a bank deposit		- very important;	
Buy expensive valuable things		- important;	
Save, avoiding the bank services		- neutral;	
Spend on current expenses		- not important;	
		- not important at all;	

7. Do you think that the next 3 months is a good period for investment (making the deposit, investment in business, etc.)?

Yes		Rate this question:	
More likely than not		- very important;	
Unlikely		- important;	
None		- neutral;	
Cannot say		- not important;	

- not important at all;	

8. How do you assess the current political situation in the country?

Very stable	
Stable	
Neutral	
Unstable	
Very unstable	

Rate this question:	
- very important;	
- important;	
- neutral;	
- not important;	
- not important at all;	

9. How do you think, the economic and political situations in the country will behave in the next 6 months?

Will improve	
Will not change	
Will worsen	
Cannot say	

Rate this question:	
- very important;	
- important;	
- neutral;	
- not important;	
- not important at all;	

10. Rate the work of the enterprises of the municipality (housing and utilities sector, transport, schools, infrastructure, on a 5 point scale):

	1	2	3	4	5
Work of housing and utilities sector					
Transport					
Schools, educational institutions					
Infrastructure work (mail, communications, etc.)					

Rate this question:	
- very important;	
- important;	
- neutral;	
- not important;	
- not important at all;	

We will be happy, if you have any suggestions/comments on the questionnaire

_____

_____

Thank you!

Appendix B

FREQUENCY ANALYSIS OF THE ANSWERS

Table B.1

1. Current economic state:

Answers		March		April		May	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
1 – worse than last year;	1	3	**33.3**	3	**33.3**	6	**66.7**
2 - better than last year;	2	2	22.2	3	**33.3**	1	11.1
3 - much worse than last year;	3					1	11.1
4 - much better than last year;	5	4	44.4	3	33.3	1	11.1
5 - Cannot say	Total	9	100.0	9	100.0	9	100.0

Table B.2

2.1. Assessment of their own financial state oner the last 3 months

Answers		March		April		May	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
(rates from 1 to 5)	0			1	11.1		
	1	2	22.2			1	11.1
	2	1	11.1	2	22.2	2	22.2
	3	**4**	**44.4**	**5**	**55.6**	**5**	**55.6**
	4	2	22.2	1	11.1	1	11.1
	Total	9	100.0	9	100.0	9	100.0

Table B.3

2.2. Assessment of their own financial state in the next 3 months

Answers		March		April		May	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
(rates from 1 to 5)	0	2	22.2	2	22.2	1	11.1
	1	**2**	**22.2**				
	2	1	11.1	2	22.2	2	22.2
	3	2	**22.2**	**4**	**44.4**	**5**	**55.6**
	4	2	22.2	1	11.1	1	11.1
	Total	9	100.0	9	100.0	9	100.0

Table B.4

3. Favorable period for major purchase (next 3 months):

Answers		March		April		May	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
1 - Yes;	2	2	22.2	1	11.1		
2 - More likely than not;	**3**	**3**	**33.3**	5	55.6	3	33.3
3 - Unlikely	**4**	**3**	**33.3**	**3**	**33.3**	6	66.7
4 - No;	5	1	11.1				
5 - Cannot say	Total	9	100.0	9	100.0	9	100.0

Table B.5

4.1. Trust in employees/employer:

Answers		March		April		May	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
(rates from 1 to 5)	1	1	11.1			1	11.1
	2			3	33.3	1	11.1
	3	2	22.2	2	22.2	2	22.2
	4	**3**	**33.3**	2	22.2	4	44.4
	5	**3**	**33.3**	2	22.2	1	11.1
	Total	9	100.0	9	100.0	9	100.0

Table B.6

4.2. Trust in the banking system

Answers		March		April		May	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
(rates from 1 to 5)	0					1	11.1
	1	3	33.3			1	11.1
	2			2	22.2	1	11.1
	3	**4**	**44.4**	6	66.7	1	11.1
	4	2	22.2	1	11.1	5	55.6
	Total	9	100.0	9	100.0	9	100.0

Table B.7

4.3. Trust in the tax service

Answers		March		April		May	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
(rates from 1 to 5)	**0**					1	11.1
	1	**3**	**33.3**	1	11.1	1	11.1
	2	1	11.1	2	22.2	2	22.2
	3	2	22.2	4	44.4	1	11.1
	4	**3**	**33.3**	2	22.2	4	44.4
	Total	9	100.0	9	100.0	9	100.0

Table B.8

4.4. Trust in the state companies

Answers		March		April		May	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
(rates from 1 to 5)	1	2	22.2	1	11.1	1	11.1
	2	1	11.1	3	33.3	2	22.2
	3	**3**	**33.3**	4	44.4	2	22.2
	4	**3**	**33.3**	1	11.1	1	11.1
	Total	9	100.0	9	100.0	3	33.3

Table B.9

5. Favorable period (next 3 months) for the functioning of the enterprise:

Answers		March		April		May	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
1 - Yes;	0	1	11.1				
2 - More likely than not;	1	1	11.1	5	55.6	1	11.1
3 - Unlikely	**2**	**2**	**22.2**	1	11.1	2	22.2
4 - No;	**3**	**2**	**22.2**	1	11.1	2	22.2
5 - Cannot say	4	1	11.1	1	11.1	1	11.1
	5	2	22.2	1	11.1	3	33.3
	Total	9	100.0	9	100.0	9	100.0

Table B.10

6. The manner of managing the available funds

Answers		March		April		May	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
1 - invest in business;	1					1	11.1
2 - bank deposit;	2					1	11.1
3 - buy expensive valuable things;	3			1	11.1	1	11.1
4 - save;	4	5	55.6	5	55.6	4	44.4
5 - spend on current expenses	5	4	44.4	3	33.3	2	22.2
	Total	9	100.0	9	100.0	9	100.0

Table B.11

7. Favorable period for investment (next 3 months):

Answers		March		April		May	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
1 - Yes;	2	2	22.2			3	33.3
2 - More likely than not;	**3**	**2**	**22.2**	5	55.6	2	22.2
3 - Unlikely	**4**	**4**	**44.4**	3	33.3	3	33.3
4 - No;	5	1	11.1	1	11.1	1	11.1
5 - Cannot say	Total	9	100.0	9	100.0	9	100.0

Table B.12

8. Current political situation:

Answers		March		April		May	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
1 - very stable;	2	1	11.1	3	33.3	3	33.3
2 - stable;	**3**	**6**	**66.7**	2	22.2	2	22.2
3 - neutral;	4	2	22.2	3	33.3	4	44.4
4 - unstable;	5			1	11.1		
5 - very unstable	Total	9	100.0	9	100.0	9	100.0

Table B.13

9. How the economic and political situation is going to change (for next 6 months)

Answers		March		April		May	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
1 - will improve;	1	1	11.1	1	11.1		
2 - will not change;	**2**	**3**	**33.3**	6	66.7	4	44.4
3 - will worsen;	3	2	22.2	1	11.1	4	44.4
4 - cannot say	**4**	**3**	**33.3**	1	11.1	1	11.1
	Total	9	100.0	9	100.0	9	100.0

Table B.14

10.1. Assessment of housing and utilities sector activities:

Answers		March		April		May	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
(rates from 1 to 5)	**1**	**3**	**33.3**	3	33.3	3	33.3
	2	**3**	**33.3**	2	22.2	3	33.3
	3	**3**	**33.3**	4	44.4	3	33.3
	Total	9	100.0	9	100.0	9	100.0

Table B.15

10.2. Assessment of transport:

Answers		March		April		May	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
(rates from 1 to 5)	1	1	11.1	1	11.1	2	22.2
	2	**3**	**33.3**	1	11.1	1	11.1
	3	**2**	**22.2**	2	22.2	1	11.1
	4	2	22.2	5	55.6	4	44.4
	5	1	11.1			1	11.1
	Total	9	100.0	9	100.0	9	100.0

Table B.16

10.3. Assessment of educational institutions activities:

Answers		March		April		May	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
(rates from 1 to 5)	1	2	22.2	1	11.1	1	11.1
	3	2	22.2	3	33.3	3	33.3
	4	**4**	**44.4**	4	44.4	5	55.6
	5	1	11.1	1	11.1		
	Total	9	100.0	9	100.0	9	100.0

Table B.17

Gender:		Number of children: 1 - no; 2 - one; 3 - two; 4 - more than two				*Total*
		0	1	2	3	
Male	Number	**0**	**2**	**0**	**1**	**3**
	% gender: 1 - Male; 2 - Female	0,0%	66,7%	0,0%	33,3%	100,0 %
	% Number of children: 1 - no; 2 - one; 3 - two; 4 - more than two	0,0%	50,0%	0,0%	100,0 %	33,3%
	% total	0,0%	22,2%	0,0%	11,1%	33,3%
Female	Number	**3**	**2**	**1**	**0**	**6**
	% gender: 1 - Male; 2 - Female	50,0%	33,3%	16,7%	0,0%	100,0 %
	% Number of children: 1 - no; 2 - one; 3 - two; 4 - more than two	100,0 %	50,0%	100,0 %	0,0%	66,7%
	% total	33,3%	22,2%	11,1%	0,0%	66,7%
Total	Number	3	4	1	1	9
	% gender: 1 - Male; 2 - Female	33,3%	44,4%	11,1%	11,1%	100,0 %
	% Number of children: 1 - no; 2 - one; 3 - two; 4 - more than two	100,0 %	100,0 %	100,0 %	100,0 %	100,0 %
	% total	33,3%	44,4%	11,1%	11,1%	100,0 %

10.4. Evaluation of the infrastructure activity:

Answers		March		April		May	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
(rates from 1 to 5)	1	1	11.1	1	11.1	1	11.1
	2	1	11.1	2	22.2	1	11.1
	3	2	22.2	2	22.2	2	22.2
	4	**4**	**44.4**	3	33.3	4	44.4
	5	1	11.1	1	11.1	1	11.1
	Total	9	100.0	9	100.0	9	100.0

Appendix C
Table C.1
1. Cross-tabulation Gender / Number of children:

Table C.2
Cross-tabulation Gender / Age

Gender:		Age: 1 (0-16); 2 (17-25); 3 (26-36); 4 (37-44); 5 (45-60); 6 (60 and over 60)				Total
		2	3	4	5	
Male	Number	1	2	0	0	3
	% gender: 1 - Male; 2 - Female	33,3%	66,7%	0,0%	0,0%	100,0%
	% age:	100,0%	50,0%	0,0%	0,0%	33,3%
	% total	11,1%	22,2%	0,0%	0,0%	33,3%
Female	Number	0	2	2	2	6
	% gender: 1 - Male; 2 - Female	0,0%	33,3%	33,3%	33,3%	100,0%
	% age:	0,0%	50,0%	100,0%	100,0%	66,7%
	% total	0,0%	22,2%	22,2%	22,2%	66,7%
Total	Number	1	4	2	2	9
	% gender: 1 - Male; 2 - Female	11,1%	44,4%	22,2%	22,2%	100,0%
	% age:	100,0%	100,0%	100,0%	100,0%	100,0%
	% total	11,1%	44,4%	22,2%	22,2%	100,0%

Table C.3
Cross-tabulation Gender / Monthly income

Gender:		Monthly income 1 (under 10); 2 (10-20); 3 (20-40); 4 (40-60); 5 (60-90); 6 (above 90)					Total
		0	1	2	3	5	
Male	Number	1	1	0	1	0	3
	% gender: 1 - Male; 2 - Female	33,3%	33,3%	0,0%	33,3%	0,0%	100,0%
	% monthly income:	100,0%	100,0%	0,0%	25,0%	0,0%	33,3%
	% total	11,1%	11,1%	0,0%	11,1%	0,0%	33,3%
Fema	Number	0	0	2	3	1	6
	% gender: 1 - Male; 2 - Female	0,0%	0,0%	33,3%	50,0%	16,7%	100,0%
	% monthly income:	0,0%	0,0%	100,0%	75,0%	100,0%	66,7%

le	% total	0,0%	0,0%	22,2%	33,3%	11,1%	66,7%
Total	Number	1	1	2	4	1	9
	% gender: 1 - Male; 2 - Female	11,1%	11,1%	22,2%	44,4%	11,1%	100,0%
	% monthly income:	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%
	% total	11,1%	11,1%	22,2%	44,4%	11,1%	100,0%

Table C.4
Cross-tabulation Gender / Saved part of income

		Saved part of income 1 (spend savings); 2 (cannot save); 3 (less than 10%); 4 (10-20%); 5 (above 20%)				Total
		0	2	3	5	
Male	Number	0	1	1	1	3
	% gender: 1 - Male; 2 - Female	0,0%	33,3%	33,3%	33,3%	100,0%
	% Saved part of income:	0,0%	25,0%	50,0%	50,0%	33,3%
	% total	0,0%	11,1%	11,1%	11,1%	33,3%
Female	Number	1	3	1	1	6
	% gender: 1 - Male; 2 - Female	16,7%	50,0%	16,7%	16,7%	100,0%
	% Saved part of income:	100,0%	75,0%	50,0%	50,0%	66,7%
	% total	11,1%	33,3%	11,1%	11,1%	66,7%
Total	Number	1	4	2	2	9
	% gender: 1 - Male; 2 - Female	11,1%	44,4%	22,2%	22,2%	100,0%
	% Saved part of income:	100,0%	100,0%	100,0%	100,0%	100,0%
	% total	11,1%	44,4%	22,2%	22,2%	100,0%

Table C.5
Cross-tabulation Gender / Scope of activities

Gender:		Scope of activities: 1 - student; 2 - worker; 3 assistant; 4 -master; 5 - leading specialist; 6 - manager; 7 - retired; 8 unemployed; 9 - other						Total
		0	1	2	5	6	7	
Male	Number	0	1	0	1	0	1	3
	% gender: 1 - Male; 2 - Female	0,0%	33,3 %	0,0 %	33,3 %	0,0 %	33,3 %	100,0 %
	% scope of activities:	0,0%	100,0 %	0,0 %	25,0 %	0,0 %	100, 0%	33,3 %
	% total	0,0%	11,1 %	0,0 %	11,1 %	0,0 %	11,1 %	33,3 %
Female	Number	1	0	1	3	1	0	6
	% gender: 1 - Male; 2 - Female	16,7 %	0,0%	16,7 %	50,0 %	16,7 %	0,0 %	100,0 %
	% scope of activities:	100,0 %	0,0%	100, 0%	75,0 %	100, 0%	0,0 %	66,7 %
	% total	11,1 %	0,0%	11,1 %	33,3 %	11,1 %	0,0 %	66,7 %
Total	Number	1	1	1	4	1	1	9
	% gender: 1 - Male; 2 - Female	11,1 %	11,1 %	11,1 %	44,4 %	11,1 %	11,1 %	100,0 %
	% scope of activities:	100,0 %	100,0 %	100, 0%	100, 0%	100, 0%	100, 0%	100,0 %
	% total	11,1 %	11,1 %	11,1 %	44,4 %	11,1 %	11,1 %	100,0 %

Appendix D

Calculation of the Friedman test (fragment)

Table D.1

Friedman test

Ranks	
	Average rank
5. Favorable period (next 3 months) for the functioning of the enterprise:	2.22
5. Favorable period (next 3 months) for the functioning of the enterprise:	1.56
5. Favorable period (next 3 months) for the functioning of the enterprise:	2.22

Table D.6
Statistical criteria [a]

N	9
Chi square	3.310
Df.	2
Asymptotic significance	,191
a. Friedman test	

Table D.7
Calculation of the median

Respondent No.	Month	Monthly income	Saved part of income	Question 1.	Question 2.1	Question 2.2	Question 3.	Question 4.1.	Question 4.2.	Question 4.3.	Question 4.4.	Question 5.	Question 6.	Question 7.	Question 8.	Question 9.	Question 10.1.	Question 10.2	Question 10.3	Question 10.4
Total	March	3.00	2.00	2.00	3.00	2.00	3.00	4.00	3.00	3.00	3.0	3.00	4.00	4.00	3.00	3.00	2.0	3.0	4.0	4.0
	April	3.00	2.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	1.00	4.00	3.00	3.00	2.00	2.00	4.00	4.00	3.00
	may	3.00	3.00	1.00	3.00	3.00	4.00	4.00	4.00	3.00	2.00	3.00	4.00	3.00	3.00	3.00	2.00	4.00	4.00	4.00

Appendix E
Table E.1

Correlation	Gender:	Number of children	Age:	Monthly income:	Saved part of income	Scope of activities:	Question 1.	Question 2.1	Question 2.2	Question 3.	Question 4.1.	Question 4.2.	Question 4.3.	Question 4.4.	Question 5.	Question 6.	Question 7.	Question 8.	Question 9.	Question 10.1.	Question 10.2	Question 10.3	Question 10.4
Gender:	1.000	-0.500	0.658	0.585	-0.316	-0.104	-0.387	0.224	0.316	0.500	0.064	0.337	0.312	0.485	-0.097	0.158	0.082	0.555	0.305	0.866	0.722	0.299	0.204
Number of children:	-0.500	1.000	-0.493	-0.439	0.079	0.156	0.000	-0.447	-0.553	0.125	-0.768	-0.405	-0.375	-0.520	0.000	0.474	0.493	-0.208	0.114	-0.289	-0.492	-0.179	-0.306
Age:	0.658	-0.493	1.000	0.241	-0.338	0.514	0.127	0.184	0.156	0.164	0.011	0.122	0.113	0.217	0.295	0.182	-0.270	0.296	0.238	0.569	0.734	0.432	0.134
Monthly income:	0.585	-0.439	0.241	1.000	0.407	-0.146	-0.544	0.733	0.333	0.234	0.465	0.410	0.446	0.430	-0.313	-0.463	0.452	0.227	0.071	0.710	0.377	0.070	-0.024
Saved part of income:	-0.316	0.079	-0.338	0.407	1.000	-0.297	0.082	0.424	0.050	0.000	0.202	0.043	0.099	0.022	-0.123	-0.400	0.416	-0.482	-0.121	0.000	-0.145	-0.132	-0.258
Scope of activities:	-0.104	0.156	0.514	-0.146	-0.297	1.000	0.188	0.000	-0.198	-0.104	-0.240	-0.211	-0.195	-0.347	0.273	0.099	-0.051	0.087	0.238	-0.060	0.123	0.187	-0.085
Question 1.	-0.387	0.000	0.127	-0.544	0.082	0.188	1.000	-0.058	0.327	-0.065	-0.149	0.157	0.145	0.161	-0.038	0.000	-0.573	-0.645	0.000	-0.298	0.254	0.509	0.474
Question 2.1.	0.224	-0.447	0.184	0.733	0.424	0.000	-0.058	1.000	0.566	-0.224	0.630	0.693	0.811	0.682	-0.565	-0.778	0.037	-0.310	-0.375	0.516	0.323	0.374	0.365
Question 2.2.	0.316	-0.553	0.156	0.333	0.050	-0.198	0.327	0.566	1.000	0.237	0.364	0.704	0.771	0.789	-0.737	-0.600	-0.234	-0.132	0.072	0.365	0.561	0.510	0.775
Question 3.	0.500	0.125	0.164	0.234	0.000	-0.104	-0.065	-0.224	0.237	1.000	-0.512	0.034	-0.063	0.069	-0.170	0.395	0.452	0.347	0.877	0.433	0.525	0.209	0.102
Question 4.1.	0.064	-0.768	0.011	0.465	0.202	-0.240	-0.149	0.630	0.364	-0.512	1.000	0.475	0.440	0.444	-0.137	-0.749	-0.389	-0.124	-0.478	0.000	0.059	0.031	0.209
Question 4.2.	0.337	-0.405	0.122	0.410	0.043	-0.211	0.157	0.693	0.704	0.034	0.475	1.000	0.927	0.935	-0.701	-0.426	-0.321	-0.430	-0.175	0.467	0.602	0.790	0.853
Question 4.3.	0.312	-0.375	0.113	0.446	0.099	-0.195	0.145	0.811	0.771	-0.063	0.440	0.927	1.000	0.945	-0.813	-0.573	-0.205	-0.399	-0.334	0.541	0.484	0.665	0.791
Question 4.4.	0.485	-0.520	0.217	0.430	0.022	-0.347	0.161	0.682	0.789	0.069	0.444	0.935	0.945	1.000	-0.694	-0.417	-0.319	-0.308	-0.233	0.600	0.637	0.704	0.821
Question 5.	-0.097	0.000	0.295	-0.313	-0.123	0.273	-0.038	-0.565	-0.737	-0.170	-0.137	-0.701	-0.813	-0.694	1.000	0.538	-0.152	0.269	0.104	-0.336	-0.185	-0.395	-0.674
Question 6.	0.158	0.474	0.182	-0.463	-0.400	0.099	0.000	-0.778	-0.600	0.395	-0.749	-0.426	-0.573	-0.417	0.538	1.000	0.052	0.219	0.410	0.000	0.083	0.019	-0.258
Question 7.	0.082	0.493	-0.270	0.452	0.416	-0.051	-0.573	0.037	-0.234	0.452	-0.389	-0.321	-0.205	-0.319	-0.152	0.052	1.000	0.319	0.326	0.285	-0.248	-0.432	-0.537
Question 8.	0.555	-0.208	0.296	0.227	-0.482	0.087	-0.645	-0.310	-0.132	0.347	-0.124	-0.430	-0.399	-0.308	0.269	0.219	0.319	1.000	0.423	0.240	0.018	-0.481	-0.396
Question 9.	0.305	0.114	0.238	0.071	-0.121	0.238	0.000	-0.375	0.072	0.877	-0.478	-0.175	-0.334	-0.233	0.104	0.410	0.326	0.423	1.000	0.132	0.431	0.118	-0.031
Question 10.1.	0.866	-0.289	0.569	0.710	0.000	-0.060	-0.298	0.516	0.365	0.433	0.000	0.467	0.541	0.600	-0.336	0.000	0.285	0.240	0.132	10.000	0.682	0.414	0.236
Question 10.2.	0.722	-0.492	0.734	0.377	-0.145	0.123	0.254	0.323	0.561	0.525	0.059	0.602	0.484	0.637	-0.185	0.083	-0.248	0.018	0.431	0.682	1.000	0.793	0.590
Question 10.3.	0.299	-0.179	0.432	0.070	-0.132	0.187	0.509	0.374	0.510	0.209	0.031	0.790	0.665	0.704	-0.395	0.019	-0.432	-0.481	0.118	0.414	0.793	1.000	0.830
Question 10.4.	0.204	-0.306	0.134	-0.024	-0.258	-0.085	0.474	0.365	0.775	0.102	0.209	0.853	0.791	0.821	-0.674	-0.258	-0.537	-0.396	-0.031	0.236	0.590	0.830	1.000
a. Determinant = ,000	b. This matrix is not positive definite.																						

Table E.2
Explained explained variance

Component	Initial eigen values			The sum of squared extraction loadings			The sum of the rotation squares		
	Total	% of the variance	Total %	Total	% of the variance	Total %	Total	% of the variance	Total %
1	**8.264**	**35.929**	**35.929**	8.264	35.929	35.929	6.302	27.402	27.402
2	**4.428**	**19.251**	**55.181**	4.428	19.251	55.181	3.886	16.894	44.296
3	**3.492**	**15.181**	**70.362**	3.492	15.181	70.362	3.146	13.679	57.975
4	**2.532**	**11.007**	**81.368**	2.532	11.007	81.368	2.862	12.445	70.420
5	**1.525**	**6.630**	**87.999**	1.525	6.630	87.999	2.669	11.603	82.023
6	**1.212**	**5.270**	**93.269**	1.212	5.270	93.269	2.224	9.669	91.692
7	**1.054**	**4.582**	**97.852**	1.054	4.582	97.852	1.417	6.159	97.852
…	…	…	…	…	…	…	…	…	…
23	-9.016E-16	-3.920E-15	100.000	-	-	-	-	-	-
Factors allocation method: Method of principal components.									

Table E.3
Rotated matrix of components [a]

	Component						
	1	2	3	4	5	6	7
Gender:	0.198	**0.804**	0.392	0.148	0.257	-0.222	-0.137
Number of children:	-0.145	-0.403	0.039	**-0.889**	0.037	0.104	0.099
Age:	-0.078	**0.829**	-0.105	0.210	0.097	-0.173	0.427
Monthly income:	0.287	0.429	**0.591**	0.345	0.071	0.491	-0.002
Saved part of income:	-0.008	-0.154	-0.031	0.074	-0.002	**0.970**	-0.165
Scope of activities:	-0.165	0.122	-0.117	-0.110	0.017	-0.116	**0.953**
Question 1.	0.162	-0.083	**-0.923**	-0.015	0.102	0.055	0.155
Question 2.1.	**0.626**	0.237	0.181	0.369	-0.310	0.493	0.211
Question 2.2.	**0.790**	0.062	-0.131	0.460	0.307	0.014	-0.022
Question 3.	0.106	0.283	0.130	-0.253	**0.894**	0.047	-0.155
Question 4.1.	0.221	0.028	0.050	**0.817**	-0.423	0.148	-0.118
Question 4.2.	**0.861**	0.317	-0.158	0.165	-0.133	0.076	-0.128
Question 4.3.	**0.923**	0.235	-0.023	0.162	-0.214	0.125	-0.034
Question 4.4.	**0.836**	0.402	-0.102	0.230	-0.110	0.028	-0.245
Question 5.	**-0.948**	0.206	-0.172	0.050	-0.091	-0.097	0.063
Question 6.	-0.497	0.322	-0.150	**-0.652**	0.222	-0.346	-0.170
Question 7.	-0.094	-0.122	**0.707**	-0.382	0.329	0.466	0.044
Question 8.	-0.348	0.169	**0.666**	0.207	0.375	-0.461	0.061
Question 9.	-0.139	0.162	0.015	-0.118	**0.927**	-0.051	0.145
Question 10.1.	0.406	**0.774**	0.403	-0.067	0.113	0.132	-0.015
Question 10.2.	0.392	**0.781**	-0.245	0.148	0.382	-0.026	0.068
Question 10.3.	**0.634**	0.507	-0.514	-0.129	0.053	-0.023	0.139
Question 10.4.	**0.846**	0.141	-0.419	0.095	0.060	-0.261	-0.042
Factors allocation method: Method of principal components. Rotation method: "varimax" with Kaiser normalization) [a]							
a. Rotation converged in 10 iterations.							

Appendix F

Table F.1

Element statistics against the results of

	To scale the average value, with the exception of an element	To scale the variance with the exception of an element	The corrected correlation between an element and total	Cronbach's alpha with the exception of an element
Gender:	64.33	102.250	0.519	**0.649**
Number of children:	*65.00*	*117.750*	*-0.507*	*0.709*
Age:	62.44	96.028	0.538	**0.632**
Monthly income:	63.56	93.778	0.433	**0.633**
Saved part of income:	***63.33***	***106.750***	***-0.046***	***0.688***
Scope of activities:	***62.00***	***103.500***	***-0.031***	***0.710***
Question 1.	*63.00*	*100.750*	*0.084*	*0.680*
Question 2.1.	63.33	94.000	0.577	**0.626**
Question 2.1.	64.00	87.750	0.591	**0.611**
Question 3.	62.67	100.750	0.299	**0.651**
Question 4.1.	*62.22*	*104.444*	*0.061*	*0.672*
Question 4.2.	63.44	90.528	0.667	**0.613**
Question 4.3.	63.44	90.278	0.619	**0.614**
Question 4.4.	63.22	91.194	0.658	**0.615**
Question 5.5.	*63.22*	*126.194*	*-0.555*	*0.747*
Question 6.	*61.56*	*110.778*	*-0.298*	*0.680*
Question 7.	*62.56*	*111.028*	*-0.202*	*0.688*
Question 8.	*62.89*	*110.361*	*-0.235*	*0.680*
Question 9.	63.22	102.694	0.174	**0.661**
Question 10.1.	64.00	96.000	0.648	**0.629**
Question 10.2.	63.11	85.611	0.874	**0.589**
Question 10.3.	62.78	86.194	0.757	**0.596**
Question 10.4.	62.67	93.250	0.550	**0.625**
Reliability statistics				
Cronbach's alpha	**0.666**	N of elements		23