Inter-Vulnerability of Financial Institutions and Households in the System of National Financial Security Assessment

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Abstract:

Purpose: *The aim of this article is to study the concept of financial institutions and households' interrelation of vulnerabilities to the risk of money laundering and the integration of this concept into the methodology of a national ML/TF (Money Laundering and Terrorist Financing) risk assessment.*

Design/Methodology/Approach: *At the theoretical and methodological levels, authors utilized a risk-based approach, which involves the separation of the object of study in risk levels and its impact on each risk level. At the methodological and analytical levels, authors utilized methods of grouping, descriptive analysis, comparison, synthesis, and graphic visualization of data.*

Findings: *The most significant scientific results obtained in the course of the study include: proprietary algorithm for calculating the intensity coefficient of threats to national financial security, which practical approval on data of 27 countries allowed determining the structure of threats to financial security in the international landscape in the period 2013-2018; originally developed questionnaire on the assessment of the risks of deviations in the financial behavior of households and individuals.*

Originality/Value: *The key findings are targeted at their widespread application in assessing money laundering risks at the national and international levels, in developing strategic documents on the development of systems to fight money laundering and terrorist financing. The methodology for identifying the propensity to deviations of financial behavior, based on a questionnaire survey, could serve as the basis for developing scoring systems.*

Keywords: *Crypto currencies, corruption, matrix of threats, fraud, money laundering, the risk - focused approach, terrorism financing.*

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1. Introduction

According to a 2017 economic crime survey conducted by Price Waterhouse & Coopers (PwC, 2017), 48% of respondents in Russia faced economic crimes, which is a quarter higher than the global total of 36%. At the same time, both in the world and in Russia, among the main types of economic crimes is the legalization of proceeds from crime. Contributors at Price Waterhouse & Coopers also note that among the external perpetrators of economic crimes in Russia, 35% are clients of financial institutions, organizations and enterprises in the real economy. This proves the interrelations between the vulnerabilities of financial institutions and households to the risk of money laundering and determines the relevance of the research of these processes.

Considerable attention is given to various aspects of the financial behavior of the population. In 2015, a textbook was published by Roshchina (2015) summarizing the study of the High School of Economics' team on the preparation of the first domestic course on financial behavior. Considerable attention is paid to various aspects of the financial behavior of the population. The study of Burdyak and Galishnikova (2012) is devoted to savings behavior. Ibragimova and Gribova (2011) focus on credit behavior and its relationship with savings behavior. Kuzina (2013) and Kozyreva *et al.* (2012) investigates simultaneously several financial activities of the population. In our earlier works, a conceptual hypothesis was proposed and substantiated about the impact on systemic risk of financial institutions and households' vulnerabilities to the risk of money laundering in financial market (Nivorozhkina *et al.* 2016). Also, in other works, a simulation and statistical assessment of the risks associated with the population's credit behavior was carried out. The concept of statistical assessment of the risks of involving financial institutions' clients in money laundering schemes was proposed for the first time by Nivorozhkina (2016; 2012). The concept of changing the systemic risk of the financial market under the vulnerabilities of systemically important financial institutions to the risk of ML/TF has been developed and scientifically grounded (Evlakhova, 2016).

Fundamentals of financial behavior of the population are grounded in the studies of classic Noble awarded scientists: Keynes, J. (1936), Friedman, M. (1970), Modigliani F. (1988), Deaton, A., Muellbauer, J. (1980), Thaler, H.R. (2008). However, we do not know modern foreign studies on the formation of the financial behavior of Russians in the market economy.

Insufficiently complete information on the relationships between individuals, households and financial institutions both at macro and micro levels leads to incomplete information, uncertainty and unpredictability between economic agents and intensifies the search for theoretical and empirical approaches to identify the most common types of hidden, criminal activities, the forms of their symbiosis with the legal economic sphere, the degree of vulnerability of financial institutions as a result

of this activity. One of the objectives of such an analysis is to identify groups of the population who are the actors in the shadow economy, deriving informal, shadow, hidden incomes. At the same time, issues remain poorly studied and developed to integrate the concept of interconnection of financial institutions and households' vulnerabilities to the risk of money laundering in the methodology of a national assessment of the ML/TF risk, which is a topical issue of great practical importance.

2. Theoretical, Empirical and Methodological Grounds

The concept of interconnection of financial institutions and households' vulnerabilities to the risk of money laundering is as follows: financial institutions accumulate vulnerabilities to the risk of money laundering, both inherent to them and transferred from households. And the money laundering mechanism triggers along with the formation of vulnerabilities corresponding to the threats.

The inter-vulnerability of financial institutions and households is twofold due to the risks of financial institutions, on the one hand, and to the risks generated by household actions, on the other hand. We note the synergy effect in the interaction of financial institutions and households, since panic actions of households aggravate the crisis, and on the other hand a systemic crisis of financial markets leads to an outflow of customers-individuals and reinforces the long-term negative effect in their interaction. An important point in the context of the developed methodology is the issue of the financial behavior's subject. As a rule, it is not a separate individual, but a family or household, even if formally the actions (for example, operations with a bank account, credit) could be attributed to one person. Any significant decisions are made in the family together i.e., financial actions are made taking into account the likely reactions of other family members or become the result of an appropriate distribution of household rights and responsibilities and even the result of many daily discussions of these issues.

For a long time, economic theory made decisions on employment, consumption, savings, and loans as individual, or taken by one household member for all others, based on his preferences and his utility function (Apps and Reers, 2009). At present, to explain decisions in the field of consumption, savings, loans, it is theoretically more reasonable to analyze the behavior of households - economic agents having the goal to maintain or improve their own well-being, basing on their goals and the limitations to achieve them. It should be noted that this approach does not exclude consideration as a subject and individual when it comes to identifying motivations and causes in creating states of vulnerability on the part of households (Al'bekov *et al.,* 2017).

Substantiation of the concept of inter-vulnerabilities of financial institutions and households to the risk of money laundering as well as defining its individual components, identification of key elements of the ML/TF risk methodology allowed identifying areas of integration of this concept into the methodology of ML/TF risk

this aspect is presented in more detail in the study by Alifanova *et al.* (2018b). This article presents the results of the implementation of the proposed concept of inter-vulnerabilities of financial institutions and households to the risk of money laundering in two directions as follows:

1) identification, structuring and systematization of threats to national financial security in the context of ML/TF national risk assessment system;
2) development of a genuine methodology for assessing the propensity of the population to the deviant financial behavior including ML/TF risks.

2.1 Study of threats to national financial security in the context of ML/TF national risk assessment system

According to the FATF (Financial Action Task Force on Money Laundering) conceptual position, the risk of money laundering and terrorist financing is a triad of "threat-vulnerability-consequences", the elements of which are as important as their combination with each other (FATF Guidance, 2013). Under the threat in the reports of the national ML/TF risk assessment are persons or actions that can cause damage to the state, society, economy (National risk assessments). As for the threats to the financial security of Russia, the results of their analysis, the classification of threats by areas of occurrence, as well as the use of characteristics of threats to national security in the formation of a specific block of indicators of national financial security are presented in the study by Alifanova *et al.* (2018a).

In order to identify and arrange threats to national financial security in the context of assessing the ML/TF national risk, 27 official reports on the national ML/TF risk assessment for the period 2013-2018 of the following countries were processed: Armenia, Australia, Bhutan, Canada, Austria, Czech Republic, Fiji, Ghana, Hong Kong, Ireland, Isle of Man, Jersey, Japan, Lithuania, New Zealand, Nigeria, Russia, Philippines, Serbia, Singapore, Sri Lanka, Sweden, Switzerland, Tunisia, Ukraine, United Kingdom, USA (National risk assessments). During the period of 2013-2018, 30 countries were investigated for national ML/TF risk assessment, reports from 4 countries (Panama, Portugal, Denmark, Cook Islands) were presented in national languages, which excluded them from the analysis. In the case of Russia, the Public version of the National Assessment of the Risks of Legalization (Laundering) of Criminal Incomes 2017-2018, posted on the Rosfinmonitoring website, was utilized, since the assessment procedure is scheduled for 2019 (National Money Laundering Risk Assessment, 2018).

Based on the analysis of threats identified in the framework of national assessments of money laundering risk and the financing of terrorism, we consider it possible to suggest the following directions / criteria for structuring them: 1) by the nature of the threats (depending on the classification of FATF predicate crimes), 2) by the degree of intensity of threats in analyzed countries, 3) by threat level (very significant / very

significant; significant / significant, medium / moderate, low), 4) by the nature of threats (endogenous / exogenous).

The frequency of threats' occurrence, their prevalence in the countries of the world are the main indicators of international financial security. At the same time, an equally significant indicator is the breadth of the threat, the most important parameter of which is the intensity of its manifestation. To measure the intensity of threats to financial security, we have developed and tested a threat intensity indicator, which is a normalized value varying from 0 to 1. In case all countries are threatened, the factor is 1. If there is no threat, then the value is 0. Thus, the proposed coefficient is a statistical measure that reflects the prevalence of threats among the analyzed countries but does not pretend to assess the danger of threats to the public and economics. The greater the intermediate value of the coefficient, the stronger the threat; the lower the intermediate value of the coefficient, the weaker the threat.

The order for calculating the intensity of threats is as follows. At the first stage, the specific threats identified in the national ML/TF risk assessment report of each country are summarized into threat groups in accordance with the FATF classification, the number of threats for each country, their share in the total number of threats are calculated. At the second stage, countries are arranged in groups by type of the threat. At the third stage, a matrix is formed with the rows representing countries, and the columns representing threats. The intersection of the row and column is the value of the proportion of threats to a country in the total number of threats in all countries. The matrix is filled in the following way: if this threat is present in a country, then the matrix indicates the value of the share of threats in the total number of threats for all countries, calculated for the country. If there is no specific threat, then the value in the matrix cell is zero. At the fourth stage, the sum of the threat weights for all countries is calculated (*max_ threat*). For each column of threats, the sum is calculated by country (*sum_threat*). These amounts depend on how many countries experience this threat and what is the proportion of these threats. At the fifth stage, the value of the threat manifestation intensity ratio is calculated using the following formula:

$$K = 1 - \frac{(max_{threat} - sum_{threat})}{max_{threat}},$$

where max_{threat} – the sum of the weights of threats for all analyzed countries (all threats); sum_{threat} - the sum of the weights of threats for all analyzed countries (by each type of threat).

2.2 Developing an original methodology for assessing the propensity of the population to deviant financial behavior including risks of ML/TF

Financial behavior of individuals is affected by many factors, some of which are external to the individual, and some are internal. Determinants of financial behavior

could be divided into socio-demographic, economic and personal. If the study of socio-demographic, such as gender, age, number of members and type of household, presence of children, etc., and economic (employment, type of economic activity, housing security and others) is fairly traditional, then principles of study and patterns of influence on the financial behavior of personal characteristics is a new area of research (Nivorozhkina and Sinyavskaya, 2016; Arifin, 2017).

Personal characteristics of the individual, determining his financial behavior, are as follows: attitude (propensity, aversion, indifference) to financial risk; monetary attitudes and monetary personality type; financial literacy and financial awareness, as well as the desire to improve them; maturity and independence of financial decisions (or financial infantilism); propensity for strategic financial planning.

Propensity or inclination to risk generates the choice of appropriate strategies of financial behavior, characterized by a high degree of exposure to risks of financial behavior. So, the riskiest type of financial activity of individuals is investment activity, those not inclined to risk will not be credited, and so on. Monetary attitudes and personality type determine the attitude to the financial management, and, accordingly, affect the choice of financial strategy. For example, spenders are not inclined to savings, in contrast to misers.

Financial illiteracy closes the individual access to those types of financial activity that individuals do not know about and creates an opportunity to involve them in illegal financial schemes. A high level of financial awareness and a need for its improvement are often characteristic of financially active individuals. We note the experience of using financial services as creating prerequisites for future financial behavior. Negative experience will shape the reluctance of its repetition, positive, on the contrary, will be a factor encouraging the continuation of successful financial activity.

An important feature affecting the choice and types of financial behavior is maturity and independence in making financial decisions, the opposite of which is financial infantilism. Infantile personalities possess heightened emotionality, which determines their behavior, they are characterized by lack of planning, "momentaryness" of desires and their satisfaction, superficiality, lack of experience and awareness, or their extremely low level, the desire to "just know," rather than consciously eliminate gaps in knowledge. In other words, financial infantilism or its absence does not simply determine financial behavior but is also related to other characteristics like financial literacy, experience.

Financial behavior could be assessed from several viewpoints. Direct assessment is an assessment of its effectiveness, that is, not only of the strategy of behavior, but its results, how and how much the amount and structure of its assets and liabilities changed as a result of the financial actions performed by the individual. However, such an assessment is associated with several difficulties, the main of which is a

significant lag in most cases between a financial action and its result. Thus, in order to make savings, get a return on investment, return the loan, it takes time. Therefore, the assessment of the effect could be made only on those actions that were taken in the past, but due to changes in external conditions (sometimes significant) and the impossibility, therefore, of extrapolation of the results, such an assessment has only retrospective value.

Table 1. *Matrix of financial security threats' distribution by countries (Source: Alifanova E.N et al. 2018c)*

	Corruption and bribery	Terrorism and its financing	Fraud	Drugs distribution	Robbery and theft	Smuggling of weapons, tobacco, cash	Ecological crimes	Tax evasion	Kidnapping	Piracy, counterfeit goods	Forgery	Illegal gambling	Smuggling, illegal labor migration	Sexual abuse	Blackmail	Illegal licensed activities	Virtual currency, e-payments, rogue payments	Trafficking of stolen goods	Illegal manufacturing of weapons and explosives	Fakery	Offshores	Organized crimes
Canada	0,54	0,00	0,54	0,54	0,54	0,54	0,54	0,54	0,00	0,54	0,54	0,54	0,54	0,54	0,54	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Nigeria	0,46	0,00	0,46	0,46	0,46	0,46	0,00	0,00	0,46	0,46	0,46	0,00	0,46	0,00	0,00	0,00	0,00	0,46	0,00	0,46	0,00	0,00
Bhutan	0,33	0,00	0,33	0,33	0,00	0,33	0,33	0,33	0,33	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,33	0,00	0,00	0,00	0,00
Sri Lanka	0,33	0,00	0,33	0,33	0,33	0,00	0,00	0,00	0,00	0,00	0,33	0,00	0,33	0,33	0,33	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Ireland	0,29	0,00	0,29	0,00	0,29	0,29	0,00	0,29	0,00	0,00	0,00	0,00	0,29	0,29	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Ghana	0,25	0,00	0,25	0,00	0,00	0,00	0,25	0,25	0,00	0,00	0,00	0,00	0,25	0,25	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Singapore	0,25	0,00	0,25	0,00	0,00	0,00	0,00	0,00	0,25	0,00	0,00	0,25	0,00	0,00	0,00	0,25	0,00	0,00	0,00	0,25	0,00	0,00
Great Britain	0,25	0,00	0,25	0,25	0,00	0,25	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,25	0,25	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Armenia	0,17	0,17	0,17	0,17	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Fiji	0,25	0,00	0,25	0,00	0,25	0,00	0,00	0,25	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,25	0,00	0,00	0,00	0,00	0,25	0,00
Czech Republic	0,17	0,00	0,17	0,17	0,00	0,00	0,00	0,17	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Hong Kong	0,25	0,00	0,25	0,00	0,00	0,25	0,00	0,25	0,00	0,00	0,00	0,25	0,00	0,00	0,00	0,25	0,00	0,00	0,00	0,00	0,00	0,00
Lithuania	0,21	0,21	0,21	0,00	0,00	0,00	0,00	0,21	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,21	0,00	0,00	0,00	0,00	0,00	0,00
New Zealand	0,25	0,25	0,25	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,25	0,00	0,00	0,00	0,00	0,25	0,00	0,00	0,00	0,25	0,00
Philippines	0,21	0,00	0,21	0,00	0,00	0,21	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,21	0,00	0,00	0,00	0,00	0,21	0,00	0,00	0,00
Russia	0,25	0,25	0,25	0,25	0,00	0,00	0,00	0,25	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,25	0,00	0,00	0,00	0,00	0,00	0,00
Tunisia	0,17	0,00	0,17	0,00	0,00	0,17	0,00	0,17	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Serbia	0,17	0,00	0,00	0,17	0,00	0,00	0,00	0,17	0,00	0,00	0,00	0,17	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Jersey	0,13	0,00	0,00	0,00	0,00	0,00	0,00	0,13	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,13	0,00	0,00	0,00	0,00
Switzerland	0,13	0,00	0,13	0,13	0,00	0,00	0,00	0,13	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Australia	0,00	0,13	0,13	0,00	0,13	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Ukraine	0,00	0,08	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,08	0,00	0,00	0,00	0,00	0,00	0,00
Isle of Man	0,00	0,00	0,13	0,13	0,00	0,00	0,00	0,13	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Japan	0,00	0,00	0,13	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,13	0,00	0,13	0,00	0,00	0,00	0,00	0,00	0,00
Sweden	0,00	0,00	0,13	0,00	0,00	0,00	0,00	0,13	0,00	0,13	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
USA	0,08	0,00	0,00	0,08	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Austria	0,00	0,29	0,29	0,00	0,29	0,00	0,00	0,29	0,00	0,00	0,00	0,00	0,29	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,29	0,29

The second and the most developed direction of the study of financial behavior is the study of actual, observed behavior (Burdyak, 2014; Nivorozhkina *et al.,* 2013). Regardless of the unknown result, in some cases not related to the quality of the financial decision made by the individual (realization of external risks, for example, default, crisis, etc.), a number of valuable conclusions could be made on the financial behavior of the individual on the basis of what strategies adheres to.

The third direction concerns mainly young people who do not have personal financial experience or have lack of it to make informed decisions and is based on a study of the intended (or planned) financial behavior. Such projective studies are less informative than actual ones, but they are the only possible ones for the young population.

3. Results

Let us consider the obtained empirical results in each of the areas of the implementation of concept of inter-vulnerabilities of financial institutions and households to the risk of money laundering.

3.1 Empirical results in threats to national financial security

In accordance with the algorithm for calculating the financial security threat intensity factor, we processed the official reports on the national ML/TF risk assessment for the period 2013-2018 of 27 countries of the world: the threat groups were compiled according to the FATF classification. We determined the number of threats for each country and the share of total threats. Next, countries were arranged by each of the threats and a matrix of distribution of threats to financial security by countries was formed (Table 1). Based on the obtained values of the threat intensity indicator, a ranking of threats to national financial security was compiled according to the intensity of their manifestation at the international level. According to the results of the ranking, the threats are grouped by the intensity of their manifestation using the Chaddock scale and the following conclusions were obtained:

- a very high intensity of manifestation is inherent to fraud (0.924), which is associated with the diversity of its types and forms;
- highly intense threats to financial security are corruption and bribery (0.852);
- medium intensity of manifestation is demonstrated by such threats to financial security as tax evasion (0.590) and drug distribution (0.499);
- weak intensity of distribution is inherent in threats related to the smuggling of weapons, tobacco products, and cash (0.415);
- human smuggling and illegal migration (0.400);
- sexual abuse (0.332), as well as to robbery and theft (0.380);
- other threats are characterized by very weak intensity.

The determined intensity of the manifestation of the threat of terrorism and the financing of terrorism (0.229) requires a separate explanation. So, despite the fact that terrorism and its financing is the most important threat to international financial security, it is concentrated in a relatively small range of countries (according to official reports on the national ML/TF risk assessment, only 7 out of 27 countries analyzed stand out for the threat and financing of terrorism namely, Austria, Australia, Armenia, Lithuania, New Zealand, Russia, Ukraine). This explains the very weak intensity of the manifestation of this threat in the international context.

The analysis of the matrix of threats in Table 1 also makes possible determining the threats concentration centers, that is, countries in which all 4 threats are characterized by high and medium intensity, or 3 of 4 such threats. They are Canada, Bhutan, Czech Republic, Russia, Nigeria, Sri Lanka, Ireland, Ghana, Great Britain, Armenia, Fiji, Tunisia, Serbia, Switzerland, the Isle of Man. The selection of threat concentration centers based on their intensity at the international level allows determining the risk zones for global financial security. In turn, this is a prerequisite for applying a risk-based approach to improve the effectiveness of the global ML/TF system.

3.2 Empirical results of the methodology for assessing the propensity of the population to deviant financial behavior, including ML/TF risks

Based on the methodology for assessing the propensity of the population to deviations in financial behavior, including ML/TF risks, an original questionnaire was developed on assessing the risks of deviations in financial behavior. Due to the complexity of the study, the questionnaire has a complex structure and consists of 60 questions grouped into seven blocks:

1) A block of individual financial assessments and decisions that allow characterizing the degree of familiarity with financial services and the experience of using them, as well as complementing assessments of financial literacy and risk liability. It includes questions about the respondents' future financial strategies, preferred methods of saving money and life safety strategies, optimizing welfare, options for material incentives, and increasing future retirement benefits. In addition, the block contains the question of whether the respondent keeps a record of income and expenses. The block includes questions about the actual use by the respondents of various financial services, as well as the preferred sources of information about financial services.

2) A block aimed at identifying the level of financial literacy containing four sections related to branches of individual financial knowledge necessary for everyday financial activity. Each section contains five questions and allows determining the direction in which the respondents have a higher level of financial knowledge, and in what direction they need to be significantly improved. The first section "General financial knowledge" includes questions about the most liquid assets, the grace period on a credit card, and others. The second section "savings and borrowings" contains

questions relating to different types of loans, as well as bank deposits. The "insurance" section is aimed at identifying respondents' awareness of various types of insurance and includes questions on various types of insurance. The "investments" section is aimed at identifying respondents' knowledge regarding modern types of financial investments and related concepts. To determine the level of financial literacy, the ratio of correct answers is calculated for each question as well as for the section of the questionnaire and for all sections of the block in general.

3) A block aimed at identifying individual attitudes regarding deviations of financial behavior is represented by five questions in which the respondent is invited to express their attitude to receiving backdoor (hidden) salaries, repeatedly pawning values at the request of a friend or relative, engaging in unregistered entrepreneurial activities, unofficial "thanks" (kickbacks) for some services, lowering the cost of an apartment when selling in order to reduce the amount of taxes. They characterize different aspects of the most common deviations of financial behavior. The complexity of formulating questions of this kind is related to the fact that the respondents will predictably refuse to answer the question about their attitude to a deliberate violation of the law in most cases.

4) Blocks for identifying attitudes toward money and risk appetite are presented in a single structure and represent a total of 71 statements with which the respondent is asked to express consent or disagreement.

5) A block, aimed at identifying attitudes towards money, contains 60 statements borrowed from the A. Furnham questionnaire (Lester and Lester, 2002) and supplemented with 10 questions from the G. Eysenck EPQ questionnaire, converted into statements (EPQ, 1968).

6) The questions grouped into a block aimed at identifying respondents' knowledge about countering illegal financial transactions and the tendency to engage in them for reasons of ignorance and gullibility were compiled considering the requirements of Russian ML/TF legislation.

7) Socio-demographic block and questions related to the financial behavior adopted in the respondent's family, to identify the relationship between the personal preferences of the young person and attitudes within the family. These are questions about whether it is customary in the family to keep financial records, what types of savings, investments and property are in the family.

4. Conclusions and Recommendations

According to this study the following findings were obtained:

1) The proposed system of criteria for structuring threats to national financial security (by degree of intensity, by nature, by level, by origin) complements the existing classification by area of occurrence of threats and allows expanding the scope of identifiable threats and thereby improve the accuracy of the ML/TF risk assessment.

2) The developed original algorithm for calculating the intensity of the manifestation of threats, which unlike other indicators, is a statistical rather than a normative assessment, and characterizes the degree of prevalence of threats.

3) The structure of threats to national financial security in the international landscape, revealed based on the ranking:

- by type of threat (the coefficients are distributed according to the Chaddock scale): the risk of fraud has very high intensity of manifestation; corruption and bribery has a high intensity of manifestation; risk of tax evasion and drug trafficking has medium intensity of manifestation; risk of smuggling of weapons, tobacco, cash; human smuggling and illegal migration, robbery and theft are of low intensity; illegal gambling, currency counterfeiting, environmental crime and others are of very weak intensity;
- by concentration of threats: countries - centers of concentration of threats are highlighted. Canada, Bhutan, Czech Republic, Russia, Nigeria, Sri Lanka, Ireland, Ghana, United Kingdom, Armenia, Fiji, Tunisia, Serbia, Switzerland, the Isle of Man have very high, high and medium intensity of manifestation.

4) Highlighting the threats concentration centers at the international level based on the intensity of their manifestation allows identifying areas of risk to global financial security. In turn, this is a prerequisite for applying a risk-based approach at the international level to improve the effectiveness of the global ML/TF system and develop adequate preventive measures to reduce threats.

5) Authors developed original methodology for assessing the propensity of the population to deviations in financial behavior, including risks in the field of ML/TF, suggesting data obtained through surveys as an information basis, during which real and projective financial strategies of individuals are tested, their tolerance to shadow financial schemes, taking into account the fact that, on the one hand, the state of financial institutions, the individual financial behavior of people, their socio-demographic characteristics determine manifestations of risk appetite in financial behavior, on the other hand, an individual risk appetite, panic exposure, inherent in some people, could cause deviations in their financial behavior and/or cause disruptions in the normal functioning of financial institutions.

6) Authors developed an original questionnaire on the assessment of the risks of deviations in the financial behavior of households and individuals.

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