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**ESTIMATION OF RISK OF LOSING FINANCIAL STABILITY
BY LOCAL COMMUNITIES**

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The methodical approach of risk assessment of loss of financial stability of local communities is formalized. The risks are identified and the tree of losing the financial stability of local communities is built. The gradation of losing financial stability of local community depending on the degree of exposure is grounded. To visualize the loss of financial stability of local community, building a risk map is offered. The introduction of author's proposals will identify risks and determine the potential losses in the local community, depending on the likelihood of risk events, and to identify target areas of sustainable development.

Keywords: local community, risk of losing financial stability, risk tree, map of risks, probability of loss.

Statement of problem. Sustainability of any territorial community is largely determined by the effectiveness of the territorial administration system. Financial resources mobilized in the budget system and individual budgets, allow public authorities and local governments perform their functions and powers. Sustainability is the most common condition for recovery of the entire system of local budgets and ensure their financial sustainability of the local community. So, for local authorities it is necessary to change the approach and methods of financial resources on the basis of the principle of independence of the budgets of all levels.

The important indicator of the possibility of the economic crisis on the level of territorial communities is a low ensuring of its financial stability. It cannot testify about the crisis by itself, but it is an occasion for further diagnosis of the level of local authorities management and their predisposition to the crisis.

It is necessary to change approaches and methods of financial resources formation based on the principle of independence of the budgets at all levels.

Currently, local government authorities lack financial independence despite the growing trend dependence of local budgets on financial aid. Ensuring effective socio-economic development of local budgets, improving the quality of services rendered to the population as determined by its financial resources.

However, the existing problems in the sphere of intergovernmental relations require not only updating its fundamental basics in theory, but also solve many methodological and methodical questions. Evaluation of the economic and financial inequalities of local communities, the principles and methods of forming their budgets, the degree of control by the authorities and local budgets from higher level budgets are constantly in the focus of financial science.

Note that local governments should pay attention not only to assess the crisis situation of enterprises and organizations that operate in the area, but also to assess the likelihood of loss of financial stability of local communities.

Analysis of recent papers. In addressing risk issues received considerable attention, as

evidenced by the research of economists such as N. Bakerenko, S. Bulgakov, V. Vitlinskoho, N. Vnukovo, L. Donets Karahozlyu Yu, A. Salenko and others [1–2, 4–7, 9]. However, very few works are devoted to the problem of risk coverage that occurs at the local community and management. Given the scientific interest in this issue, there are a number of tasks that require scientific justification of their decision.

Aim of the paper is the substantiation of methodical approach of estimation the risk of losing financial stability of local communities.

Materials and methods. Of particular relevance in the present conditions of local communities acquire research questions of risk, its causes and consequences. Risk serves an integral part of the processes taking place in the local community.

The variety of interpretations of the concept of «risk» in [1–10], as well as the complexity of the phenomenon, make it difficult to study it. Given the variety of definitions based on the notion of risk analysis, proposed at risk of losing financial stability, territorial community should understand the set of conditions, factors and processes that actually or potentially threaten the financial stability of the local community.

The process of providing financial sustainability of the territorial community takes into consideration the risk factor because management decisions taken on financial stability have the probabilistic nature. Hence the process of implementing a strategy of ensuring the financial stability should include assessment of the risks of decline, and the development of measures to minimize these risks.

Assessment of the risk of losing financial stability of local community is the orderly process of determination of the expected losses and risk level.

The main purpose of the risk assessment of losing financial stability is to reduce the risk of further actions and increase the likelihood of sustainable development of the local community.

The methodical approach to assessing the risk of losing financial stability of local community is based on a systematic approach, shown in Figure 1.

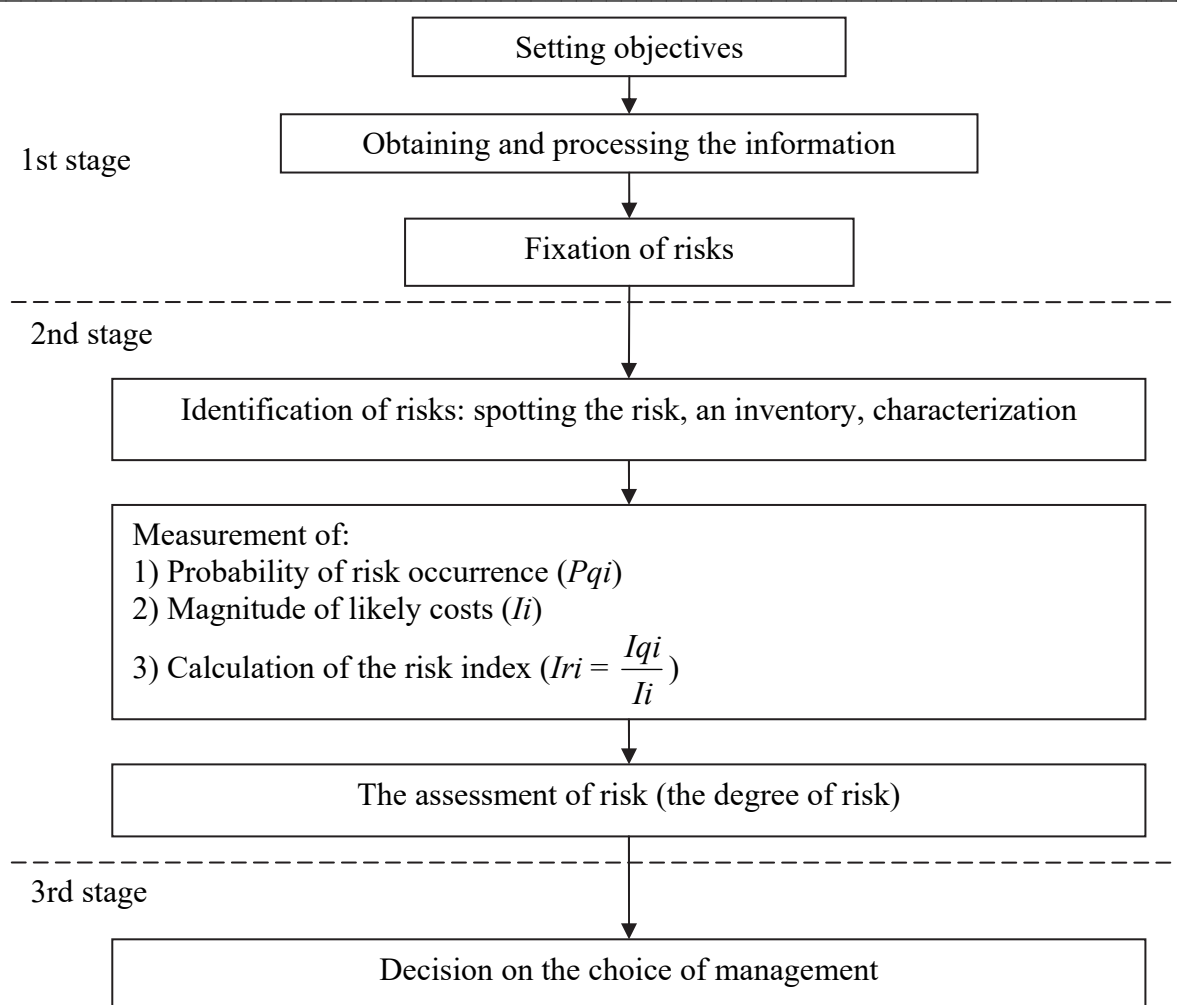


Fig.1 The methodical approach estimates the risk of losing financial stability by the local community

Source: Developed by author

The first stage is risk identification. Acquisition and processing of information is a key aspect in the identification and evaluation of risk because the availability of reliable information allows you to continue to make management decisions under risk.

During risk identification we should understand the process of identifying the risk of losing financial stability of local communities. Identification of losing financial stability of local community should be performed via peer review, led by the head of the risk management.

Using information about the previous risk assessment data and interviews with independent experts it is necessary to identify factors that affect the risk of losing financial stability of local communities. These factors characterized by unpredictability, discrete changes,

availability thresholds. Each character has a unique effect on the level of financial stability of the local community. Then SWOT – analysis is conducted to identify possible threats from the environment.

In assessing the risk of losing financial stability of local community it is necessary to hold the record of the risk to limit the amount of risk exposures, using the principle of «reasonable sufficiency». This principle is based on keeping the most important and most common risks for assessing the risk of losing financial stability of local communities.

Within organize the search process losing financial stability of local community must use their structure (Fig. 2). It is necessary to identify the maximum risks that affect the level of financial sustainability of the local community.

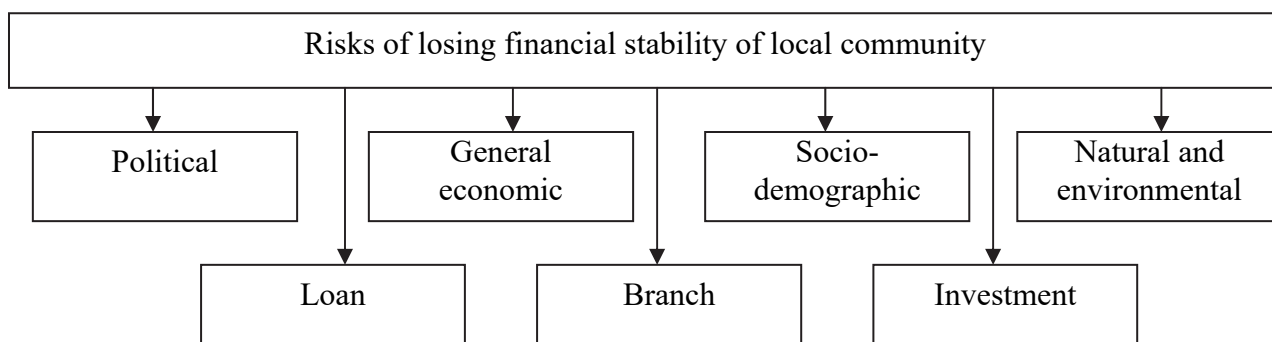


Fig. 2 Structure of losing financial stability of local community
Source: Developed by author

Assessment of the risk of losing financial stability of local community is based on mapping risks. In turn, the formation of risk maps implemented in three phases: construction

wood risks; rankings risks; creating a matrix of risks.

Figure 3 shows a tree losing financial stability of local communities.

Risk of losing financial stability of local community	Credit	Interest rate risk
		The risk of insolvency of economic entities that are located on local community
		Credit risk policy
		Risk of financial losses
	Political	Risk of legislative changes
		Government stability
		Corruption of state structures
		Risk of deterioration of the image of local authorities
	General economic	The stability of the tax legislation
		Inflation risk
		Risk of reduction of the economic development of territorial community
		The reduction in the official rate of the national currency against foreign currencies risk
	Sociodemographic	The risk of migration
		The risk of health deterioration
		The risk of life expectancy decrease
		The risk of increasing unemployment
		The risk of education deterioration
	Natural and ecological	The risk of persistent man-made actions
		The risk of contamination of the environment
		The reduction of natural agricultural potential risk
Branch	Structural risk	
	The risk of sensitivity to the environment	
	System risk	
Investment	Risk of reduction in the financing of the capital investments	
	The risk of loss of profit	
	Risk of reduction of the number of enterprises that implemented innovations	

Fig. 3 The tree of losing financial stability of local community
Source: Developed by author

We use two categories for ranking risks losing financial stability of local community:

- the probability of occurrence the risk events;
- the size of probable losses.

The second stage is risk analysis using qualitative and quantitative methods of evaluation. This stage is to determine the nature of the risks their properties vary in different situations of the local community.

At this stage, experts conduct measurements likelihood of identified risks (P_i) and the value of the probability of losses (I_i) in

case of a dangerous event. One method of qualitative risk assessment is a method of expert evaluations. In order of ranking risks within the Risk Management Division the panel of 10 people is formed.

During the process of probability of loss of financial stability of local community risk the probability of risk events should be understood.

At this stage it is necessary to assess the likelihood of each element of losing financial stability of local community in scores according to Table 1.

Table 1

Gradation of losing the financial stability of local community based on the likelihood of its occurrence

P_{qi} (scores)	Risks	Probability of I_i , %	Characteristic of event
1	Highly unlikely	$0 < P \leq 10$	The exceptional event
2	Not likely	$10 < P \leq 40$	An event will happen with low probability
3	Probable	$40 < P \leq 60$	The event will take place with a sufficient degree of probability
4	Highly probable	$60 < P \leq 80$	The event will take place with high probability
5	Expected	$90 < P \leq 100$	The event must be held

Source: Author’s overview based on expert evaluation

Probability interval ranges from 0 to 100%. The risk with a probability of 100% is fully expected. Determining the likelihood of losing financial stability of local community made based on peer review.

The next step is similarly assesses the magnitude of potential losses in values according to Table 2.

Table 2

Gradation of losing financial stability of local communities in the value of losses

P_{qi} (points)	Losses	The magnitude of losses (I_i), %
1	Minimal	$0 < I \leq 20$
2	Low	$20 < I \leq 40$
3	Middle	$40 < I \leq 60$
4	High	$60 < I \leq 80$
5	Maximum	> 80

Source: Author’s overview based on expert evaluation

Further, the index calculates the risk of losing financial stability of local community, which is the significance of scoring risk as follows:

$$I_{ri} = P_{qi} \times I_{qi} \quad (1)$$

where I_{ri} – index risk, in points;
 R_{qi} – the likelihood of risk, in points;
 I_{qi} – the likely magnitude of losses, in points.

The next step is to assess the degree of action identified risks, as a result of which the experts can identify risk losing financial stability of local communities.

Thus, if the losing financial stability of local community index exceeds the acceptable level, it is necessary to identify key risk factors and develop their complex relation of activities to optimize its value. However, if the losing financial stability of local community index within eligibility, this does not mean that the risk does not need to be managed. In this case, risk management is in working order with con-

stant revaluation of its level.

Gradation of losing financial stability of

local community depending on the degree of influence is given in Table 3.

Table 3

Gradation of losing the financial stability of local community depending on the degree of influence

Influence degree	Risk index (Iri)	Characteristics
Minimal	$10 < Ir \leq 20$	The impact of risk on the financial stability of the territorial community is missing
Low	$20 < Ir \leq 40$	Low risk of losing financial stability of local community. Easily removed, so are allowable ones.
Middle	$40 < Ir \leq 60$	Leading to increased financial losses. Required interventions to decrease
High	$60 < Ir \leq 80$	High risk of losing financial stability. Required preventive measures
Maximum	$80 < Ir \leq 100$	Invalid degree of influence. There is a high probability of loss of financial stability

Source: Author's overview based on expert evaluation

As a result, on the basis of the assessment of risk based map to visualize risk of losing financial stability of local community (Fig. 3).

The third phase of risk assessment is a deci-

sion on the selection of risk management techniques and report on completed transactions. Evaluation results may numeric data likelihood of risks and their characteristics.

I_i	5	20	40	60	80	100	
	4	16	32	48	64	80	
	3	12	24	36	48	60	
	2	8	16	24	32	40	
	1	4	8	12	16	20	
		1	2	3	4	5	
			P_{qi}				

Zone 1 – acceptable risk level that can be removed independently by the local authorities.

Zone 2 – moderate risk zone. When approaching the critical level necessary to make measures of reducing them to an acceptable level.

Zone 3 – zone of high risk that is always controlled by the experts. High-risk area, which is constantly under the specialists' supervision. Required immediately to take measures to reduce risk to the level of moderate.

Fig. 3 Map of losing financial stability of local community

Source: Developed by author

We can develop a program of measures to manage them due to the risk of losing financial stability of local community assessment.

1) adoption (maintain) the risk of losing financial stability of the local community. In this case, the local government will not carry out any action in order to reduce the influence of risk. This risk may be taken consciously or

the self-insurance (creation of reserves to cover possible losses) can be made.

2) reduction (restrictions or mitigate the effects) the risk of losing financial stability of the local community. In this case, the local government take decisions to implement actions aimed at reducing the probability and consequences of the adverse risks.

3) Disclaimer (avoidance) of the risk of losing financial stability of the local community. In this case, local governments take decisions about cessation of activity that causes risks or the output of this situation.

4) transfer (redistribution) the losing financial stability of the local community. In this case, the local government decides to reallocate the share of risk, thereby reducing the impact

on financial stability.

Expert report must contain recommendations on risk management, data regarding its level of acceptable methods and avoid risky situations.

The matrix formation ranking of losing the financial stability of Kramatorsk is listed in Table 4.

Table 4

A matrix of risk of loss of financial firmness is on an example Kramatorsk

Name of risk	Probability		The magnitude of losses		Risk estimation
	%	points	%	points	
Interest rate risk	30	2	30	2	4
The risk of insolvency of economic entities that are located on local community	55	3	30	2	6
Credit risk policy	20	1	10	1	1
Risk of financial losses	20	1	50	3	3
Risk of legislative changes	25	1	55	4	4
Government stability	20	1	45	3	3
Corruption of state structures	20	1	45	3	3
Risk of deterioration of the image of local authorities	30	2	10	1	2
The stability of the tax legislation	35	2	40	3	6
Inflation risk	60	3	35	3	9
Risk of reduction of the economic development of territorial community	50	3	35	3	9
The reduction in the official rate of the national currency against foreign currencies risk	20	1	15	2	2
The risk of migration	50	3	25	2	6
The risk of health deterioration	10	1	10	1	1
The risk of life expectance decrease	35	2	55	4	8
The risk of increasing unemployment	25	2	25	2	4
The risk of education deterioration	60	3	55	4	12
The risk of persistent man-made actions	75	4	55	4	16
The risk of contamination of the environment	20	1	15	2	2
The risk of sensitivity to the environment	20	1	15	2	2
Risk of reduction in the financing of the capital investments	60	3	50	4	12
Risk of reduction the number of enterprises that implement innovations	55	3	50	4	12

Source: Author's overview based on expert evaluation

Based on the data obtained through expert survey systemized in Table 4, we construct a risk map (Fig. 3), which identifies the location of each type of risk.

Qualitative assessment of the risk of losing financial stability on the example of Kramatorsk indicates that most of them are low. Risks

that are above the tolerance line require constant management.

The risk map provides a qualitative assessment of risk, so it is necessary to conduct a quantitative assessment of the risk of losing financial stability.

Conclusion. The methodical approach to

assessing the risk of losing financial stability of local community will identify risks and determine the potential losses in the local community, depending on the likelihood of risk events, and to identify target areas of sustainable development.

Literature

1. Бакеренко Н. Підходи до визначення ризику місцевих бюджетів та його складові / Н. Бакеренко, Ю. Карагозлю // Вісник Одеського національного університету. Економіка. – 2013. – Т. 18, Вип. 1. – С. 8–13.
2. Булгакова С. Бюджетний ризик: сутність класифікація, фактори ризику / С. Булгакова, І. Микитюк // Вісник КНТЕУ, 2010. – №1. – С. 59–68.
3. Бондарук Т. Г. Місцеве самоврядування та його фінансове забезпечення в Україні : монографія / Т. Г. Бондарук. – К. : НДФІ, 2009. – 608 с.
4. Вітлінський В. В. Ризикологія в економіці та підприємстві: монографія / В. В. Вітлінський, Г. І. Великоіваненко. – К. : КНЕУ, 2004. – 480 с.
5. Внукова Н. М. Економічна оцінка ризику діяльності підприємств: проблеми теорії та практики : монографія / Н. М. Внукова, В. А. Смоляк. – Х. : ІНЖЕК, 2006. – 182 с.
6. Донець Л. І. Економічні ризики та методи їх вимірювання: навч. пос. / Л. І. Донець. – К. : Центр навч. літ., 2006. – 312 с.
7. Карагозлю Ю. Кількісна оцінка ризику бюджетів міст з врахуванням рівня їх депресивності / Ю. Карагозлю // Економічний простір. – 2013. – № 75. – С. 163–171.
8. Каламбет С. В. Бюджетні ризики і особливості їх оптимізації на рівні регіонів України / С. В. Каламбет // Бизнес Информ. – 2013. – №4. – С. 90–96.
9. Саленко О. Ф. Ризики формування доходів місцевих бюджетів та шляхи їх мінімізації / О. Ф. Саленко, В. І. Глухова, А. А. Пономаренко // Сталій розвиток економіки. – 2014. – № 1. – С. 220–227.
10. Янов В. В. Бюджетные риски муниципальных образований: содержание методов оценки / В. В. Янов // Экономика и управление: новые вызовы и перспективы. – 2011. – Т. 1. № 2. – С. 324–327.

ОЦІНКА РИЗИКУ ВТРАТИ ФІНАНСОВОЇ СТІЙКОСТІ ТЕРИТОРІАЛЬНОЮ ГРОМАДОЮ

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У статті формалізовано методичний підхід до оцінки ризику втрати фінансової стійкості територіальною громадою. Виявлено ризики та побудовано дерево ризику втрати її фінансової стійкості. Обґрунтовано градацію ризику втрати фінансової стійкості територіальною громадою в залежності від ступеня впливу. Для візуалізації ризику втрати фінансової стійкості територіальною громадою запропоновано будувати карту ризику, що дозволить ідентифікувати ризик та визначити величину можливих втрат територіальною громадою в залежності від ймовірності настання ризикової події, а також визначити цільові напрямки стійкого розвитку.

Ключові слова: територіальна громада, ризик втрати фінансової стійкості, дерево ризиків, карта ризиків, ймовірність втрат.

ОЦЕНКА РИСКА ПОТЕРИ ФИНАНСОВОЙ УСТОЙЧИВОСТИ ТЕРРИТОРИАЛЬНОЙ ОБЩИНОЙ

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В статье формализован методический подход к оценке риска потери финансовой устойчивости территориальной общины. Определены риски и построено дерево риска потери ее финансовой устойчивости. Обоснована градация риска потери финансовой устойчивости территориальной общиной в зависимости от степени влияния. Для визуализации риска потери финансовой устойчивости территориальным объединением предложено строить карту риска, что позволит идентифицировать риск и определить величину возможных потерь территориальной общины в зависимости от вероятности наступления рискового события, а также определить целевые направления устойчивого развития.

Ключевые слова: территориальная община, риск потери финансовой устойчивости, дерево рисков, карта рисков, вероятность потерь.

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