

# “Assessment of financial sustainability of the local budgets: case of Ukraine”

## AUTHORS

Liubov Lysiak  <https://orcid.org/0000-0003-2948-7089>  
 <https://publons.com/researcher/AAU-9029-2020>

Svitlana Kachula  <https://orcid.org/0000-0003-2540-862X>  
 <https://publons.com/researcher/C-8759-2019>

Oksana Hrabchuk  <https://orcid.org/0000-0001-8711-864X>  
 <https://publons.com/researcher/T-4673-2017>

Milena Filipova  <https://orcid.org/0000-0002-5003-006X>

Anna Kushnir  <https://orcid.org/0000-0003-1471-1113>  
 <https://publons.com/researcher/ABC-8616-2020>

## ARTICLE INFO

Liubov Lysiak, Svitlana Kachula, Oksana Hrabchuk, Milena Filipova and Anna Kushnir (2020). Assessment of financial sustainability of the local budgets: case of Ukraine. *Public and Municipal Finance*, 9(1), 48-59.  
doi:[10.21511/pmf.09\(1\).2020.05](https://dx.doi.org/10.21511/pmf.09(1).2020.05)

### DOI

[http://dx.doi.org/10.21511/pmf.09\(1\).2020.05](https://dx.doi.org/10.21511/pmf.09(1).2020.05)

### RELEASED ON

Wednesday, 25 November 2020

### RECEIVED ON

Sunday, 07 June 2020

### ACCEPTED ON

Thursday, 19 November 2020



LICENSE This work is licensed under a Creative Commons Attribution 4.0 International License

### JOURNAL

"Public and Municipal Finance"

### ISSN PRINT

2222-1867

### ISSN ONLINE

2222-1875

### PUBLISHER

LLC “Consulting Publishing Company “Business Perspectives”

### FOUNDER

LLC “Consulting Publishing Company “Business Perspectives”



NUMBER OF REFERENCES

**40**



NUMBER OF FIGURES

**0**



NUMBER OF TABLES

**5**

© The author(s) 2025. This publication is an open access article.



## BUSINESS PERSPECTIVES



LLC "CPC "Business Perspectives"  
Hryhorii Skovoroda lane, 10,  
Sumy, 40022, Ukraine  
[www.businessperspectives.org](http://www.businessperspectives.org)

Liubov Lysiak (Ukraine), Svitlana Kachula (Ukraine), Oksana Hrabchuk (Ukraine),  
Milena Filipova (Bulgaria), Anna Kushnir (Ukraine)

# ASSESSMENT OF FINANCIAL SUSTAINABILITY OF THE LOCAL BUDGETS: CASE OF UKRAINE

## Abstract

With the deepening of global financial and economic instability, the search for ways to increase fiscal sustainability becomes relevant in the crisis regulation system. This problem is compounded by the emergence of new global challenges, including the COVID pandemic. Timely and complex analysis of the local budget financial sustainability allows one to comprehensively assess financial and economic risks, identify social and other problems, consider planning deficiencies and, on this basis, form a sound and effective regional budget policy. The purpose of the study is to summarize theoretical and practical principles of assessing the financial sustainability of local budgets and to outline the directions for its improvement in Ukraine considering international practices.

The study revealed the lack of a unified system for assessing the financial sustainability of local budgets in Ukraine. On the basis of generalization of theoretical and methodological approaches, a system of indicators for estimating the financial sustainability of local budgets has been identified. The indicators were grouped and calculated. Based on the study of practical experience, measures have been specified that would contribute to a systematic approach to assessing the financial sustainability of local budgets in Ukraine.

It was concluded that a systematic assessment of the financial sustainability of local budgets is a prerequisite for making informed management decisions about necessary adjustments to the budget, improving the quality of budget planning and the effectiveness of budget policy.

## Keywords

local budget, sustainability, assessment, borrowing, decentralization, fiscal policy, planning

## JEL Classification

H70, H72, H74

## INTRODUCTION

Fiscal sustainability is in the focus of attention of the European Commission, European Union member states, as well as the United Kingdom, the United States of America, Canada, other countries and scholars (Umanskyi, 2015; Tverdokhlibova, 2019). The assessment is carried out at the macroeconomic level to determine the sustainability of the general government budget based on calculating the indicators of medium-term (S1) and long-term (S2) fiscal sustainability and considering the impact of age-related expenditures.

At the same time, with the deepening of global financial and economic instability, increasing the sustainability of local budgets becomes important in the crisis regulation system. Local budgets play a key role in the socio-economic development of both individual territories and the state as a whole. Under appropriate conditions, they ensure the financial independence of local authorities and local government agencies; act as a financial basis for their activities and a tool for implementing regional fiscal policy.



This is an Open Access article, distributed under the terms of the [Creative Commons Attribution 4.0 International license](#), which permits unrestricted re-use, distribution, and reproduction in any medium, provided the original work is properly cited.

**Conflict of interest statement:**  
Author(s) reported no conflict of interest

Financial decentralization processes, which are actively taking place in countries with transformational economies and in many other states, result in the gradual strengthening of local budgets, expanding the financial capacity of local authorities to perform their social, economic, regulatory and other functions and tasks, and at the same time – strengthening responsibility for the quality and timeliness of the public service provision. Achieving the positive consequences of budget reform, expanding fiscal space and optimizing budgetary relations at the level of territorial entities in the context of macroeconomic instability and immaturity of the institutional environment, increasing the need for financial resources to solve urgent social projects and programs are difficult tasks. Today, they are further complicated by the emergence of new global challenges, including the COVID pandemic, which have a regional focus and increase the burden on local budgets (restriction of business activity, an increase in the flow of seriously ill patients, treatment costs, the need to expand capacities of medical institutions and their personnel, etc.).

The need to concentrate the efforts of local authorities and local self-government bodies on improving the management of local budgets' financial resources, maintaining a balance between financial capabilities and proper implementation of functional powers require considering the results of assessing the local budget financial condition.

The aim of this study is to summarize theoretical and practical principles of assessing financial sustainability of the local budgets and to outline areas for its improvement in Ukraine, considering international experience.

---

## 1. LITERATURE REVIEW

Financial sustainability is defined as the ability of local governments to fulfill their obligations to provide services to the population on an ongoing basis, ensuring a satisfactory financial condition of the local budget, both in the short and long term. According to Gorina (2013), the ability of local governments to ensure the execution of the expenditure side of budgets from their own revenues is a key condition for maintaining the financial sustainability of local budgets. Denek and Dylewski (2006) argue that financial sustainability reflects not only the ability to generate sufficient income, but also the way in which income and expenditure obligations are met. That is, financial sustainability reflects the balance of the budget and the possibility of the risk of its violation.

Chapman (2008) defines financial sustainability as the long-term ability of local governments to consistently meet their financial obligations (cyclical, structural and intergovernmental). Among the listed types of responsibilities, cyclical ones are common to all levels of government. Structural liabilities are determined by demographic changes, general mobility of the population and business, structural changes in the consumption of goods and services,

and the expansion of sources of income for the local budget. The ability of local authorities to influence some of these processes potentially increases the manageability of local budgets. Interstate obligations arise from international technical assistance or loans from international financial institutions and affect local financial capabilities.

Barbera et al. (2017) distinguish between passive and active financial sustainability of local budgets. According to them, passive sustainability is the ability to respond to crises, that is, the ability to return to the original state, while active sustainability is the ability to anticipate threats and cope with them through socio-economic development and the creation of new opportunities.

A certain type of budget policy corresponds to active and passive budget sustainability – active (using tools to stimulate the socio-economic development of territories, creating favorable conditions and incentives for development) and passive (using automatic stabilizers, which, at best, will ensure a return to the pre-crisis financial condition of the local budget) (Lysiak & Kushnir, 2020).

To determine financial sustainability at the local/regional level in a crisis, Lucianelli et al. (2018)

consider the following key elements: quality of public services; cost effectiveness; optimal debt obligations; intergenerational integration, bearing in mind that achieving sustainability should not jeopardize the ability of future generations to meet their needs.

Schick (2006) characterizes financial sustainability of local self-government through the following components: solvency (the governments' ability to pay their financial obligations); growth (implementation of a stimulating fiscal policy for economic growth); stability (the ability of local self-government to fulfill future obligations with the existing tax burden); and equity (the ability to meet current obligations without deferring expenses).

To assess financial sustainability at the local level, as recommended by the International Federation of Accountants, a wide range of data is required, including financial and non-financial information on current economic and demographic conditions, assumptions about national and global trends, such as productivity, the relative competitiveness of the national or local economy, and expected changes in demographic variables such as age, life expectancy, gender, income, education, and morbidity (IPSASB, 2011).

When studying financial sustainability of local budgets, an important task is to identify risks and measure their impact on sustainability. In general, the financial sustainability of local budgets is a complex and multifaceted phenomenon, which is influenced by many various factors, both external and internal.

The reasons for the violation of financial sustainability are external to local authorities if they are outside their influence/control. Internal risks include real unsatisfactory factors of influence on the internal local government and the political environment. As a rule, financial risks are aggravated by a combination of both external and internal factors (Capalbo & Grossi, 2014).

Financial sustainability analysis is complex, open to many methodological approaches, and often provides many estimates and scenarios. That is, the system for assessing financial sustainability is

not unified; different countries use different sets of indicators at the local level.

Hong et al. (2019), in the system of indicators of financial sustainability of municipalities, distinguish the main (mandatory) indicators and additional indicators (the choice of which depends on the purpose and breadth/range of the study). Most of the key indicators are quantitative and relatively easy to calculate using available data. Additional indicators are composed of both quantitative and qualitative ones. Perciu et al. (2014) substantiated a system of indicators of financial sustainability and stability (about 90 in total), reflecting the macroeconomic situation; prices; the level of savings and investment in the economy; financial processes and the state of financial markets; banking activities; foreign exchange market and domestic exchange rate. Barbera et al. (2014), comparing the financial sustainability of local budgets of Austria, Italy and England in the face of severe budget constraints, found that it depends on the specific conditions and characteristics of development. Thus, threats from governance or policy (internal factors) tend to significantly affect the sustainability of local budgets in England, while external shocks (external factors) affect local budgets in Austria and Italy.

Given the large number of indicators by which the sustainability of local budgets can be assessed, it is important to make the right choice. After all, an irrational set of indicators will create an excessive burden on local governments and difficulties in the proper quality of data evaluation. The established system of indicators for assessing the financial sustainability of local budgets must meet the following criteria: complexity, clarity, ease of accessibility, speed, ease of selection of indicators and assessment in accordance with the needs of the municipality, raising the awareness of local authorities and municipalities on the financial situation and risks associated with possible irresponsible management (Szarowská et al., 2018).

In the Czech Republic, local budgets are monitored and assessed financially. The Ministry of Finance of the Czech Republic, in accordance with the Government Act No. 1395/2008 On Monitoring Municipal Finances, monitors using sixteen informational and two monitoring indicators. In

2016, all 6,254 self-governing municipalities of the Czech Republic (including the capital Prague) were included in the monitoring (Szarowská et al., 2018). Assessment and rating of municipalities are carried out with the involvement of third-party expert organizations. For this, local governments of Czech municipalities can apply to the Czech Credit Bureau (CRIF) to determine their rating. The rating assessment includes a comprehensive evaluation of the economic condition of a particular municipality. For the ranking, the state of each municipality is assessed by financial (twenty) and non-financial (seven) indicators over the past three years (CRIF-CCB, 2017). Budget balance and debt are the most important indicators. Non-financial indicators refer, for example, to basic information about the municipality's infrastructure or the age structure of its population. The disadvantage of this form of evaluation is its high cost and inability to assess the impact of internal risks on the financial sustainability of the local budget (Szarowská et al., 2018).

In Poland, the concept of financial sustainability is not regulated by law. However, the Law on Public Finance sets out certain requirements or restrictions that allow maintaining the financial sustainability of local government budgets: budget balance; rules for financing the budget deficit; creation of a reserve system; municipal financial management rules; measures to maintain financial sustainability and stability; and debt ratio. In addition, the Polish Ministry of Finance has developed a system of twenty indicators that can be used to assess the financial condition and sustainability of the municipal budget (Filipiak, 2016).

The practice of conducting sociological surveys (interviews) is widespread in European countries. The interviews are designed to identify the main practical problems of ensuring the financial sustainability of local budgets. This approach is used in the Netherlands, England, Italy and Austria (Barbera et al., 2017; Overmans, 2017). The results of the survey allow one to identify the sources of financial shocks for the municipal budget and determine the role of organizational conditions and the possibility of neutralizing risks.

Assessment results should be published on official websites, transparent and publicly available, and

understandable to stakeholders, including the community/citizens. To do this, they must be presented in an intelligible form that is understandable not only to financial analysts and experts, but also to the public, even if this requires simplifying some of the conclusions (Schick, 2006).

Inviting external agencies to assess the financial sustainability of local budgets is appropriate in the absence of the possibility of independent monitoring by local authorities. In addition, when engaging certain audit firms for a comprehensive analysis of sustainability, in any case, there is a need for these organizations to cooperate with local councils. Sustainability reports in Australia, New Zealand and many other countries demonstrate the benefits and opportunities for local governments to assess the financial sustainability of local budgets (Schick, 2006).

Moldova, planning to join the European Union (EU), pays special attention to the standardization of its financial statements in accordance with the EU requirements, as well as compliance with the European principles of state and local government. In the practice of assessing financial stability and creating a financial security system, much attention is paid to the following risk management methods: monitoring and evaluation of financial sustainability indicators, strategic planning, and security management mechanism (Perciun et al., 2014).

In Bulgaria, municipalities vary significantly by size, economic potential, population size and density. The indicators of financial sustainability of Bulgarian municipalities' budgets are regulated by the Law on Public Finance. An assessment of fiscal sustainability factors for rural municipalities' budgets in Bulgaria showed that the majority of small municipalities (up to 10,000 inhabitants) cannot achieve basic financial indicators. There is a close dependence of the financial condition of local governments' budgets that are located in rural areas on internal factors, namely, population, income and unemployment. At the same time, external factors and the macro-environment do not affect the level of fiscal discipline, which is a function of the quality of the municipality's financial and operational financial management (Aleksandrova-Žlatanska, 2019).

Hong et al. (2019), when studying the sustainability of local budgets in South Korea and calculating the financial indicators of local budgets' sustainability, consider the state of socio-economic development of the territories, in particular, indicators assessing social (security, social provision, culture and leisure), economic (population, economy), environmental (construction, environmental protection, transport) and institutional (land use control, administrative capacity, participation of residents) characteristics of certain areas.

In the United Kingdom, local authorities provide a municipality financial sustainability report, which includes: a description of the financial and non-financial problems faced by local governments and how they can be addressed; analysis of the sustainability of the expenditure side of the budget and public services; assessment of the level of financial pressure (debt, tax pressure) and its consequences for financial sustainability. In addition, the level of awareness of local governments about risks and measures to control them is taken into account (Logan City Council, 2019).

Strengthening the financial capacity of local governments does not exclude the provision of subsidies for implementing local infrastructure projects in cooperation with business, which is important to prevent disruption of the local budgets' financial sustainability. For example, in New South Wales, Australia, an independent Commission led by Professor Graham Sansom was established to implement a local infrastructure rehabilitation project. The aim was to assess and develop measures for increasing the financial capacity of local councils. To analyze the financial condition of local councils and assess the financial sustainability of local budgets, four groups were identified among a number of basic indicators (financial flexibility, liquidity, debt service, asset recovery and capital expenditures), as well as their relative importance in terms of ensuring the financial capabilities of local governments. The identified indicators were adjusted depending on the specifics of a particular area and were refined depending on the severity of its development problems (TCorpReport, 2013).

In the USA, municipalities have a high level of decentralization and heterogeneity of economic, financial, and organizational structures, institu-

tional environment, so the general concept of financial sustainability is almost impossible to apply to all local governments. Most American cities have fiscal federalism. According to researchers, this interferes with quick and easy observation of the elements of financial and organizational structures to determine the reasons for the stability and instability of certain municipal budgets. Considering various factors and characteristics of the country, Gorina (2013) proposes to assess the sustainability of local budgets in the United States on the basis of three key aspects: financing of pension obligations, debt burden and budget balance.

Ukrainian scientists consider the financial sustainability of local budgets depending on the purpose of the research in various aspects: as the ability of local governments to pay their financial obligations (solvency) (Kaminska, 2008); as a state of budget balance or budget surplus (Korytko, 2008); as the ability to develop steadily and maintain the level of financial sustainability and security under the influence of external and internal factors (Kostyrko & Velenteichyk, 2016); as the ability to ensure the socio-economic development of the territory at the expense of internal financial resources (Vorobiov & Kohut, 2012). Within a general approach, the sustainability of local budgets generally characterizes their ability to withstand internal and external threats in order to ensure that local governments perform socially significant/necessary functions and responsibilities, including financial, economic, social, etc. (Lysiak & Kushnir, 2020).

In Ukraine, there is no legally established system of indicators for assessing the sustainability of local budgets, which would be appropriate given the deepening of decentralization processes in the country. Some indicators, in particular those related to the maximum size of local borrowings, are fixed in the Budget Code of Ukraine. Researchers use many indicators to assess the financial sustainability of local budgets (Bondaruk et al., 2019; Korytko, 2008; Kostyrko & Velenteichyk, 2016; Starostenko, 2005).

In the practice of assessing the financial sustainability of local budgets, it is important to form a systematic approach to managing the risks of its violation. For an objective comprehensive assess-

ment of the financial condition of local budgets, a system of indicators should be grouped according to the features characterizing the most important components of sustainability.

It is proposed to study the financial sustainability of local budgets according to the following groups of indicators: indicators of balance, financial independence and budget efficiency, as well as the size of budgetary arrears (Vorobiov & Kohut, 2012; Dolozina, 2017; Kostyrko & Velenteichyk, 2016; Bondaruk et al., 2019). The indicators with the highest significance level are selected from each analysis group. The specification of the indicators is determined by the need for an objective assessment of the financial sustainability of the studied local budget based on factors of the budget's ability to cover planned expenditures through various revenue items, the degree of financial autonomy (independence from the state budget) and financial performance of local governments (Dalievskaya, 2017).

## 2. GENERALIZATION OF MAIN PROVISIONS

Table 1 presents a system of indicators for assessing the financial sustainability of local budgets, grouped into homogeneous groups. To determine the significance of each group, the weights are used, given in the guidelines for calculating the level of economic security of Ukraine (Legislation of Ukraine, 2013).

**Table 1.** System of indicators for assessing financial sustainability of the local budgets

Indicator group	Significance of the group	Key indicators	Calculation algorithm	Recommended value
Local budget balance indicators	0.33	Budget coverage ratio	BR/BE	↑
		Budget sustainability ratio	IT/BR	<0.3
		General tax stability coefficient	TR/BE	≥ 0.2-0.5
		Expenditure coverage ratio between budget transfers	IT/BE	<0.3
Financial independence indicators	0.3	Budget dependence ratio	IT/(BR + IT)	≤ 0.1
		Tax independence coefficient	TR/BR	≥ 0.3
		Income base stability ratio	(TR + NTR)/BR	≥ 0.6
Budget efficiency indicators	0.27	Local budget deficit ratio	(TR - NTR)/BE	≤ 0
		Budget revenue stability indicator	TR/IT	≥ 1
Indicators of budgetary arrears	0.1	Debt load ratio	DA/OI	(≤ 0.5)
		Debt service ratio	DSP/BR	≤ 0.1

Note: BR – budget revenues; BE – budget expenditures; IT – interbudgetary transfers from the state budget; TR – tax revenues; NTR – non-tax revenues; AP – average population per year; DA – debt amount; OI – own income; and DSP – debt service payments.

For systematization and some simplification of the results obtained, the calculation of the integrated indicator has been carried out; it takes into account the total effect of integrated assessments for individual analysis components (groups of indicators).

The integrated indicator for each analysis group is calculated by the formula:

$$I_m = \sum_{i=1}^n d_i y_i, \quad (1)$$

where  $I_m$  is an aggregate indicator of the  $m$ -th group of financial sustainability of local budgets ( $m = 1, 2, 3 \dots n$ );  $d_i$  is a weighting factor that determines the degree of the  $i$ -th indicator's contribution to the integrated index of the component of local budgets' financial sustainability;  $y_i$  is a normalized score of the  $i$ -th indicator.

The integrated indicator of the level of local budgets' financial sustainability is calculated as follows:

$$I = \sum_{m=1}^n d_m \cdot I_m, \quad (2)$$

where  $d_m$  is a weighting factor that determines the degree of influence of the indicator of the  $m$ -th group of local budgets' financial sustainability;  $I_m$  is an aggregate indicator of the  $m$ -th group of financial sustainability of local budgets ( $m = 1, 2, 3 \dots n$ ).

An important condition for a comprehensive analysis of the financial sustainability of local budgets

is the definition of and compliance with the algorithm of its implementation. The first stage is the analysis of basic statistical data on the local budget (local budget composition and structure) and consideration of main socio-economic indicators of the territory development. Taking into account the main socio-economic indicators in the study of the sustainability of a particular territorial entity's local budget allows a comprehensive assessment of the level of its development, financial capabilities and budgetary potential. The next step is to select a system of indicators of local budget financial sustainability and a methodology for their calculation (indicators for assessing the stability of regional budgets will differ from indicators for the budgets of territorial communities of villages, towns, cities due to the main provisions of the Budget Code of Ukraine). An important step is to compare the obtained results with the standard values. At this stage, it is possible to determine the main problems and identify factors that exacerbate the risks of violating budget stability. Based on the results obtained, the type of financial sustainability of local budgets is determined and the results of the study are compared. Budgets are assigned a level of resilience from very strong to crit-

ical (crisis) (Dalevska, 2017; Filipiak, 2016). The final stage is the creation of a rating of local budgets.

The cluster analysis data in the sample formed by the level of budget potential (D. Mishchenko & L. Mishchenko, 2018) were adjusted using the statistical data for 2017–2019. Given the practical homogeneity of the characteristics of local (regional) budgets in each of the clusters, the city of Kyiv, Dnipropetrovsk region, Lviv region and Ivano-Frankivsk region (one region from each of the four clusters) were selected for the analysis of financial sustainability of local budgets. The main indicators of socio-economic development of these regions are shown in Table 2.

Table 3 presents data on the composition and structure of local budgets selected for the study. Tax revenues and transfers from the state budget form the basis of local budget revenues. The bulk of local budget expenditures falls on education, health care, social protection and social security, economic activities and housing and communal services. Regional budgets from the fourth cluster are significantly dependent on transfers from the state budget.

**Table 2.** Main indicators of development of some Ukraine's regions in 2019

Source: State Statistics Service of Ukraine (2020).

Region	Average available population, persons	Disposable income per capita, UAH	Volume of capital investments, UAH mln	Number of business entities	Volume of products sold (goods, services), UAH mln
The city of Kyiv	2,959,090	165,054	213,247.8	294,514	3,686,768.8
Dnipropetrovsk region	3,191,562	87,130	66,951.1	148,502	1,088,868.6
Lviv region	2,517,053	65,691	31,061.5	55,031	406,547.6
Ivano-Frankivsk region	1,370,674	55,537	9,305.5	55,031	120,448.4

**Table 3.** Composition and structure of revenues and expenditures of some Ukraine's local budgets in 2019

Source: Calculated according to the data of the Ministry of Finance of Ukraine (2020).

Indicator	The city of Kyiv		Dnipropetrovsk region		Lviv region		Ivano-Frankivsk region	
	UAH mln	Share, %	UAH mln	Share, %	UAH mln	Share, %	UAH mln	Share, %
Income (excluding transfers), including:								
1. Tax revenues	44,016.1	90.70	29,407.5	92.82	15,567.4	88.18	6,040.3	88.44
2. Non-tax revenues	4,081.5	8.41	2,071.1	6.54	1,456.7	8.25	668.6	9.79
3. Capital income	114.5	0.24	134.1	0.42	627.2	3.55	99.7	1.46
4. Trust funds	319	0.66	70.1	0.22	2.3	0.01	7.2	0.11
Transfers	13,688.5	22.00	18,926.6	37.40	16,841.4	48.82	11,527.9	62.80
Income, total	62,219.6	100	50,609.4	100.00	34,495.0	100	18,357.6	100.00
Expenses, total	61,109.1	100	51,006.8	100.00	34,976.8	100	18,628.3	100.00

**Table 4.** Main indicators of financial sustainability of Ukraine's local budgets

Indicator group	Significance of the group	Recommended value	The city of Kyiv	Dnipropetrovsk region	Lviv region	Ivano-Frankivsk region
Local budget balance indicators	0.33	↑	1.02	0.99	0.99	0.99
		≥ 0.2-0.5	0.72	0.58	0.45	0.32
		<0.3	0.22	0.37	0.48	0.62
Financial independence indicators	0.3	≤ 0.1	0.22	0.37	0.49	0.63
		≥ 0.3	0.91	0.58	0.45	0.33
		≥ 0.6	0.99	0.62	0.49	0.37
Budget efficiency indicators	0.27	≥ 1	0.78	0.61	0.49	0.36
		≥ 1	3.2	1.55	0.92	0.52
Indicators of budgetary arrears	0.1	≤ 0.5	0.01	0.004	0.005	0.008
		≤ 0.1	0.005	0.003	0.002	0.003

Table 4 shows the calculations of the main indicators of financial sustainability. Their comparison with the standard values shows the highest financial sustainability of the budget of Kyiv, and the lowest – the budget of Ivano-Frankivsk region. This is due to the financial condition of these regions and the level of their socio-economic development.

Table 5 shows the results of calculating integrated indicators of local budget's financial sustainability.

Thus, the budget of Kyiv has a high level of financial sustainability, which is explained by the status of the city as the capital of Ukraine and the peculiarities of the formation of its budget. Dnipropetrovsk region (a representative of the second cluster) is characterized by normal stability of local budgets; the budget of the Lviv region (a representative of the third cluster) is characterized by a moderate level of sustainability, at the same time, a deterioration of budget sustainability indices is observed. Ivano-Frankivsk region (a region from the fourth cluster) has financial problems, high dependence on central government assistance and a weak level of sustainability.

The results of calculating the debt indicators of Ukraine's local budgets in the current period show low values (for the studied regions), which do not have a significant impact on financial sustainability in the short term. To prevent the risks associated with local debt management, local governments, in accordance with the legislation of Ukraine, have the right to conduct transactions to place free funds from the local budget on deposits of banking institutions. At the same time, the likelihood of an increase in debt problems is high, since according to the Register of Local Borrowings and Local Guarantees (Ukraine), the total volume of local borrowings of local governments is growing from year to year: in 2018 – EUR 46,440 thousand, UAH 2,957,551 thousand; USD 115,072 thousand; in 2019 – EUR 61,644 thousand, UAH 4,040,761 thousand; and in 2020 – EUR 500 thousand, UAH 4,797,913 thousand. Given that the loans have not yet matured, significant currency risks amid relatively high interest rates, instability of economic dynamics, inflation, etc. have been postponed to the medium and long term. Therefore, monitoring the debt sustainability of local budgets when conducting a comprehensive assessment of financial sustainability is a necessary and important com-

**Table 5.** Integrated indicators of financial sustainability of Ukraine's local budgets

Indicator	The city of Kyiv	Dnipropetrovsk region	Lviv region	Ivano-Frankivsk region
Local budget balance indicator	0.65	0.65	0.64	0.64
Financial independence indicator	0.71	0.52	0.48	0.44
Budget efficiency indicator	1.99	1.08	0.71	0.44
Indicators of budgetary arrears	0.008	0.004	0.004	0.006
Integrated financial sustainability index	0.97	0.66	0.55	0.46

ponent of preventive fiscal policy measures, mainly in the medium term. Setting a time horizon for evaluation and quality are other important points. In these conditions, the reliability of forecasts is important (Chugunov & Makohon, 2020).

Thus, the financial sustainability assessment system can be a powerful information base for the formation of budgetary policy, the development of preventive measures to ensure socio-economic development of territorial entities and communities, since it takes the main indicators of the local budget financial condition into account.

### 3. DISCUSSION

In many countries, the analysis of the financial sustainability of local budgets is approached systematically and comprehensively. That is, the assessment of the financial sustainability of local budgets, as a rule, is not limited to evaluating only financial indicators based on budget reporting. Additionally, social, environmental and economic indicators are taken into account, and the quality and effectiveness of local authorities' management functions are assessed. It is considered that the risks caused by organizational and management decisions significantly affect the sustainability of local budgets (especially for small municipalities). In Ukrainian practice, it is also advisable not to be limited to financial indicators of local budgets' sustainability, but to consider other indicators of socio-economic development of territories and the consequences of management decisions affecting the sustainability of local budgets and budget policy efficiency.

The experience of involving rating agencies in the process of assessing the financial sustainability of local budgets, which could conduct a comprehensive study of the financial condition of the territories, is not relevant for Ukraine at this stage of development. The practical implementation of this approach is possible in the future. Today, this is problematic, given the significant potential costs of attracting third-party organizations and very limited budget funds. Conducting a survey (interview) is more realistic in the current conditions. It has many advantages: firstly, a convenient way to conduct, since it can be done online or by phone, which is relevant during a pandemic; secondly, the uniformity of this type of research, since the developed questionnaire is suitable for all local authorities; and thirdly, the relatively low cost of such research and data processing. As a tool for studying the financial sustainability of local budgets, the questionnaires provide an information base for quickly identifying internal problems and risks associated with the management component in local governments.

Ukrainian experience in studying the financial sustainability of local budgets can be useful for foreign practices, since it offers a wide range of indicators for assessing the financial stability of local budgets, and the use of integrated indicators allows one to generalize and consider a large array of data. The task is to determine the optimal system of indicators for assessing the financial sustainability of local budgets, which should be specified depending on the conditions not only of a particular country but also of its territories.

---

### CONCLUSION

Generalization of theoretical and practical approaches to assessing and ensuring the financial sustainability of local budgets suggests that the financial sustainability of local budgets is a complex multi-component concept. It is characterized by the ability of local budgets to resist internal and external threats to ensure proper performance of socially necessary functions by local authorities and local governments, therefore, its assessment should be comprehensive.

There is no single comprehensive system for assessing the financial sustainability of local budgets in the world. The achievements of scientists and the existing practice of both developed countries and those with economies in transition indicate the impact of national conditions and factors on the process and content of the assessment. At the same time, they make it possible to highlight certain elements that

deserve attention and form general principles for assessing the financial sustainability of local budgets: complexity, information content, fairness, transparency, accessibility, clarity, reliability, objectivity and controllability.

In Ukraine, it is worthwhile to form and introduce into legislative practice normative documents that would regulate the calculation of the main indicators of territories' financial sustainability with a given frequency, and their publication for public awareness. To improve the mechanism for assessing the financial sustainability of local budgets, when analyzing and interpreting the results, it is necessary to consider social, economic, structural, institutional and other features of territories, factors and conditions of local governments and territorial communities.

The introduction of a systematic assessment of local budget financial sustainability is a prerequisite for making informed management decisions on the necessary budget adjustments, improving the quality of budget planning and the effectiveness of budget policy.

## AUTHOR CONTRIBUTIONS

Conceptualization: Liubov Lysiak, Svitlana Kachula, Oksana Hrabchuk, Milena Filipova.

Data curation: Svitlana Kachula, Oksana Hrabchuk, Milena Filipova, Anna Kushnir.

Formal analysis: Svitlana Kachula, Anna Kushnir.

Funding acquisition: Liubov Lysiak.

Investigation: Liubov Lysiak, Svitlana Kachula, Oksana Hrabchuk, Milena Filipova, Anna Kushnir.

Methodology: Liubov Lysiak, Milena Filipova, Anna Kushnir.

Project administration: Liubov Lysiak, Oksana Hrabchuk.

Supervision: Liubov Lysiak.

Validation: Liubov Lysiak, Milena Filipova, Anna Kushnir.

Visualization: Oksana Hrabchuk, Anna Kushnir.

Writing – original draft: Liubov Lysiak, Svitlana Kachula.

Writing – review & editing: Liubov Lysiak, Svitlana Kachula.

## REFERENCES

---

1. Aleksandrova-Zlatanska, C. K. (2019). Evaluating the factors for fiscal stability of rural municipalities: the case of Bulgaria. *Problems of Agricultural Economics*, 3(360), 156-170. <https://doi.org/10.30858/zer/112131>
2. Barbera, C., Jones, M., Korac, S., Saliterer, I., & Steccolini, I. (2017). Governmental financial resilience under austerity in Austria, England and Italy: How do local governments cope with financial shocks? *Public Administration*, 95, 670-697. <https://doi.org/10.1111/padm.12350>
3. Barbera, C., Jones, M., Saliterer, I., & Steccolini, I. (2014). European local authorities financial resilience in the face of austerity: A comparison across Austria, Italy and England. *International Conference on Next Steps for Public Administration in Theory and Practice*. China, Guangzhou, Sun Yat-Sen University. Retrieved from <http://irep.ntu.ac.uk/id/eprint/19410>
4. Bondaruk, T., Bondaruk, I., & Dubyna, M. (2019). Methodical set of instruments for estimating financial stability of local budgets in Ukraine. *Svit finansiv – World of Finance*, 2, 60-72. (In Ukrainian). Retrieved from <http://dspace.wunu.edu.ua/handle/316497/36268>
5. Capalbo, E., & Grossi, G. (2014). Assessing the influence of socioeconomic drivers on Italian municipal financial destabilization. *Public Money & Management*, 34(2), 107-114. <https://doi.org/10.1080/09540962.2014.887518>
6. Chapman, J. I. (2008). State and Local Fiscal Sustainability: The Challenges. *Public Administration Review*, 68(S), 15-131. <https://doi.org/10.1111/j.1540-6210.2008.00983.x>
7. Chugunov, I., & Makohon, V. (2020). Budgetary projection in the system of financial and economic regulation of social processes. *Baltic Journal of Economic Studies*, 6(1), 130-135. <https://doi.org/10.30525/2256-0742/2020-6-1-130-135>
8. CRIF-CCB. (2017). *Obce loni hospodařily s přebytkem 27 miliard korun, za rekordním přebytkem stojí výrazný pokles investic* [The total number of households with a surplus of 27 billion crowns, behind the record surplus is a clear range of investments]. (In Czech).

- Retrieved from <https://www.informaceoobcich.cz/2017/05/obce-loni-hospodaricky-prebytkem-27-miliard-korun-za-rekordnim-prebytkem-stoji-vyrazny-pokles-investic/>
9. Dalievská, T. (2017). Matrix method of cluster assessment of financial sustainability of local government budgets. *Ekonomicznyj visnyk universytetu – Economic Bulletin of the University*, 32(1), 214-222. (In Ukrainian). Retrieved from [http://nbuv.gov.ua/UJRN/ecvu\\_2017\\_32\(1\)\\_31](http://nbuv.gov.ua/UJRN/ecvu_2017_32(1)_31)
  10. Denek, E., & Dylewski, M. (2013). *Szacowanie poziomu zadłużenia jednostek samorządu terytorialnego w warunkach zwiększonego ryzyka utraty płynności finansowej* (332 p.). Difin, Warszawa. (In Polish). Retrieved from <https://ksiegarnia.difin.pl/szacowanie-poziomu-zadluzenia-jednostek-samorzadu-terytorialnego-w-warunkach-zwiekszonego-ryzyka-utraty-plynosci-finansowej1>
  11. Dollery, B., & Crase, L. (2006). *A Comparative Perspective on Financial Sustainability in Australian Local Government* (Working Paper Series, 01-2006). Centre for Local Government. Retrieved from [https://www.researchgate.net/publication/254456196\\_A\\_Comparative\\_Perspective\\_on\\_Financial\\_Sustainability\\_in\\_Australian\\_Local\\_Government](https://www.researchgate.net/publication/254456196_A_Comparative_Perspective_on_Financial_Sustainability_in_Australian_Local_Government)
  12. Dolozina, I. (2017). Approaches to quantitative assessment of fiscal imbalances. *Naukovyi visnyk Hersonskoho derzhavnoho universytetu – Scientific Bulletin of Kherson State University*, 27(3), 33-37. (In Ukrainian). Retrieved from [http://www.ej.kherson.ua/journal/economic\\_27/3/9.pdf](http://www.ej.kherson.ua/journal/economic_27/3/9.pdf)
  13. Filipiak, B. (2016). Wykorzystanie statystyki publicznej do oceny stabilności finansowej jednostek samorządu terytorialnego. *Wiadomości Statystyczne*, 11(666), 13-33. (In Polish).
  14. Gorina, E. (2013). *Financial Sustainability of Local Governments: Effects of Government Structure, Revenue Diversity, and Local Economic Base* (Doctoral dissertation). Tempe: Arizona State University.
  15. Hong, S., Kweon, I., Lee, D., & Kim, H. (2019). Indicators and Assessment System for Sustainability of Municipalities: A Case Study of South Korea's Assessment of Sustainability of Cities (ASC). *Sustainability*, 11, 1-21. <https://doi.org/10.3390/su11236611>
  16. IPSASB. (2011). *Exposure Draft 46. Recommended Practice Guideline, Reporting on the Long-Term Sustainability of a Public Sector Entity's Finances*. International Federation of Accountants. Retrieved from [http://www.ifac.org/sites/default/files/publications/files/IP-SASB\\_At\\_A\\_Glance\\_ReportLong-Term\\_Sustainability\\_of\\_Public\\_Finances.pdf](http://www.ifac.org/sites/default/files/publications/files/IP-SASB_At_A_Glance_ReportLong-Term_Sustainability_of_Public_Finances.pdf)
  17. IPSASB. (2013). *Reporting on the Long-term Sustainability of an Entity's Finances*. International Public Sector Accounting Standards Board, New York. Retrieved from <https://www.ipsasb.org/publications/recommended-practice-guideline-1>
  18. Kaminska, I. (2008). Diagnosis of financial stability of the regions of Ukraine. *Ekonomiczni nauky: zbirnyk naukowych prats – Economic sciences: a collection of scientific works*, 5(20), 168-182. (In Ukrainian).
  19. Korytko, T. (2008). Methods of assessing the financial stability of local budgets. *Ekonomicznyj prostir – Economic space*, 12(1), 140-145. (In Ukrainian)
  20. Kostyrko, L., & Velenteichyk, N. (2016). Methodical bases of the complex analysis of financial stability of local budgets. *Fianansowyj prostir – Financial space*, 1, 83-90. (In Ukrainian). Retrieved from <https://ofp.cibs.ubs.edu.ua/files/1601/ref/16klasmb.pdf>
  21. Legislation of Ukraine. (2013). *Pro zatverdzennia Metodychnykh rekomendatsii shchodo rozrakhunku rivnia ekonomichnoi bezpeky Ukrayny: Nakaz Ministerstva ekonomichnogo rozvitu i torhivli Ukrayny vid 29.10.2013 [On approval of methodological recommendations for calculating the level of economic security of Ukraine: Order of the Ministry of Economic Development and Trade of Ukraine]*. Retrieved from <https://zakon.rada.gov.ua/rada/show/v1277731-13#Text>
  22. Logan City Council. (2019). *Financial Sustainability Strategy 2019–2028*. Retrieved from <https://www.logan.qld.gov.au/downloads/file/508/2019-2028-financial-sustainability-strategy>
  23. Lucianelli, G., Citro, F., Santis, S., Tranfaglia, A., & Mazzillo, A. (2018). How to improve the financial conditions of local governments in a period of crisis: an explanatory case study. *International Journal of Business and Management*, 13(1), 53-69. <https://doi.org/10.5539/ijbm.v13n1p53>
  24. Lysiak, L., & Kushnir, A. (2020). Budgetary policy for the development of Ukrainian territories and providing sustainability of local budgets. *Naukovyi pohliad: ekonomika ta upravlinnia – Scientific view: economics and management*, 1(67), 154-162. (In Ukrainian). <https://doi.org/10.32836/2521-666X/2020-67-25>
  25. Ministry of Finance of Ukraine. (2020). *Statistical publication “Budget of Ukraine 2019”*. Retrieved from [https://mof.gov.ua/storage/files/2\\_Budget\\_of\\_Ukraine\\_2019\\_\(for\\_website\)%20\(1\).pdf](https://mof.gov.ua/storage/files/2_Budget_of_Ukraine_2019_(for_website)%20(1).pdf)
  26. Mishchenko, D. A., & Mishchenko, L. O. (2018). Application of cluster analysis to determine the level of the budget potential of the Ukrainian regions. *Naukovyi visnyk Polissia – Scientific bulletin of Polissia*, 2(14), 179-185. [https://doi.org/10.25140/2410-9576-2018-1-2\(14\)-179-185](https://doi.org/10.25140/2410-9576-2018-1-2(14)-179-185)
  27. Municipal Infrastructure Investment & Financial Sustainability. (2018). *AMO-York Region Joint Research Report Spring 2018*. Retrieved from <https://www.gastaxatwork.ca/sites/default/files/assets/Documents/Research/Municipal%20Infrastructure%20Investment%20and%20Financial%20Sustainability.pdf>
  28. Mykhailiv, G. (2010). Financial capacity of socio-economic devel-

- opment of regional social systems. *Ekonomicznyi analiz – Economic analysis*, 7, 97-99. (In Ukrainian).
29. Overmans, T. (2017). Financial Resilience: How Dutch Cities Have Buffered and Adapted to the Financial Crisis. *Public Policy and Governance*, 27, 173-186. <https://doi.org/10.1108/S2053-769720170000027010>
  30. Perciun, R., Stratan, A., & Timush A. (2014). The methodology of financial stability assessment of Republic of Moldova through macroeconomic indicators. *Procedia Economics and Finance*, 15, 383-392. [https://doi.org/10.1016/S2212-5671\(14\)00461-4](https://doi.org/10.1016/S2212-5671(14)00461-4)
  31. Schick, A. (2006). Sustainable Budget Policy: Concepts and Approaches. *OECD Journal on Budgeting*. *OECD Publishing*, 5(1), 107-126. <https://doi.org/10.1787/budget-v5-art5-en>
  32. Starostenko, N. (2005). Methodical approaches to assessing the financial stability of the city budget. *Ekonomika Ukrayny – Economy of Ukraine*, 9, 39-47. (In Ukrainian)
  33. State Statistics Service of Ukraine. (2020). *Regionalna statystyka [Regional statistics]*. Retrieved from [http://www.ukrstat.gov.ua/operativ/menu/menu\\_u/sestr.htm](http://www.ukrstat.gov.ua/operativ/menu/menu_u/sestr.htm)
  34. Steccolini, I., Barbera, C., & Jones, M. (2015). Governmental financial resilience under austerity: The case of English local authorities. *CIMA Executive Summary Report*, 11(3), 1-13. Retrieved from <https://archives.cityofsydney.nsw.gov.au/nodes/view/1753525>
  35. Szarowská, I., Majerová, I., & Šebestová, J. (2018). Indikátory finanční stability pro potřebování. Českýfinanční účetníčasopis, 13(1), 25-45. (In Czech). <https://doi.org/10.18267/j.cfuc.508>
  36. TC Corp Report. (2013). *Financial Sustainability of the New South Wales Local Government Sector: Findings, recommendations and analysis*. Retrieved from <https://www.olg.nsw.gov.au/content/tcorp-report-financial-sustainability-new-south-wales-local-government-sectorapril-2013>
  37. Tukhbatullin, R. M. (2016). Kompleksnaya otsenka finansovoi ustoichivosti biudzhetov munitsipalnykh obrazovaniy s primeneniem korreliatsionnogo analiza [Integrated Assessment of Financial Stability of Municipal Budgets with Application of Correlation Analysis]. *Vestnik ekonomiki, prava i sotsiologii – Bulletin of Economics, Law and Sociology*, 2, 121-125. (in Russian). Retrieved from [https://cyberleninka.ru/article/n/kompleksnaya-otsenka-finansovoy-ustoychivosti-byudzhetov-munitsipalnyh-obrazovaniy-s-primeneniem-korrelyatsionnogo-analiza](https://cyberleninka.ru/article/n/kompleksnaya-otsenka-finansovoy-ustoychivosti-byudzhetov-munitsipalnyh-obrazovaniy-s-primenением-korrelyatsionnogo-analiza)
  38. Tverdokhlibova, D. V. (2018). Theory and practice of the use of fiscal sustainability indicators. *Ekonomika i prohnozuvannya – Economics and forecasting*, 3, 7-47. (In Ukrainian). <https://doi.org/10.15407/eip2018.03.007>
  39. Umanskyi, I. (2015). Stiikist derzhavnykh finansiv v umovakh yevrointehratsiinykh protsesiv [Public finance sustainability in the context of European integration processes]. *FinansyUkrainy – Finance of Ukraine*, 1, 9-28. (In Ukrainian).
  40. Vorobiov, Yu., & Kohut, I. (2012). *Formuvannia finansової stiikkosti mistsevykh biudzhetiv v umovakh pidvyshchennia samostiinosti regioniv* [Formation of financial stability of local budgets in the conditions of increase of independence of regions] (249 p.). Melitopol: MMD Publishing House. (In Ukrainian). Retrieved from <https://www.twirpx.com/file/1413090/>