

IMBALANCES BETWEEN REVENUES AND EXPENDITURES OF LOCAL RURAL BUDGETS IN THE PROCESS OF FISCAL DECENTRALIZATION IN UKRAINE: ASSESSMENT AND MODELLING

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Abstract

The result of the study was the proposal to use an integral indicator of financial decentralization, as well as partial integral indicators: the indicator of incomes decentralization and the indicator of expenditures decentralization. The use of such a technique allows obtaining objective results of the study. On the basis of the proposed indicators, an assessment of the level of financial decentralization in Ukraine during the period 2013 – 2018 has been conducted. The study showed an increase in the level of fiscal decentralization of local rural budgets during the period 2013 – 2018. The main impetus for this was the changes in the budget and tax legislation that came into force in 2015 and stimulated local rural authorities to expand their own revenue base. In order to increase the efficiency of decentralization processes in Ukraine, it is proposed to timely identify the risks and complications that may arise. The article demonstrates the role of financial decentralization in the development of rural regions as such, which promotes the establishment of effective local self-government with a real impact on local financial management processes. The main contribution was to improve the methodology for assessing the financial decentralization level in Ukraine.

Key words: local rural budgets, management of decentralization, rural development, integral indicator, evaluation methodology

INTRODUCTION

World experience shows that the greater the share of own and fixed revenues of the local rural budget, the greater the responsibility of local authorities for tax discipline, the effective use of collected income. In addition, there is a significant increase in the interest of local authorities in developing entrepreneurship as the main base for filling local rural budgets. For this reason, budget decentralization becomes of particular importance in the context of reforming economic relations in the country.

When analyzing financial decentralization, it's necessary to determine the quantitative

parameters for its evaluation. Only with the help of concrete numerical data one can make grounded conclusions about the independence of local self-government, the implementation of the decentralization reform in the country or, conversely, strengthening the role of central authorities in allocating financial resources.

Financial decentralization is a complex aspect of the decentralization of public administration. It is a peculiar measure: the level of democracy and the competence of public administration; the adequacy of the political system to public expectations; the level of trust in the local self-government and the level of perception of the needs of the

society as a whole by the state authorities and local self-government bodies in particular; quality control in the public sphere and responsibility; in the end, it's an assessment of the adequacy of the administrative-territorial structure of the state [3; 5].

In the financial science of Ukraine in recent years, the problems of financial decentralization evaluating in the country are paying more attention. The most well-known economists who cover the issues of decentralization in Ukraine are O. Agres [1], O. Apostolyuk [2], N. Bykydarova [4], M. Dziamulych [6-9], V. Kravchenko [11], A. Luchka [15], I. Lunina [16], S. Osypenko [17], A. Popescu [19-28], V. Shcherbakova [30], T. Shmatkovska [31-33, 36], R. Sodoma [35], I. Tofan [37], I. Vakhovych [40], V. Yakubiv [41, 42], Ya. Yanyshyn [43], I. Zhurakovska [44] and others.

Among Ukrainian scholars, the first developed and substantiated the indicators that should be used to determine the level of financial decentralization V. I. Kravchenko. The scholar considered the notion of financial autonomy as self-government in the sphere of local finance, and the level of financial autonomy of local self-government suggested that the following quantitative indicators be determined by the system: the indicator of the share of expenditures for the exercise of its own powers, the indicator of the share of obligatory expenditures, the indicator of the share of financing expenditures the delegated authority, the indicator of the share of own revenues in the revenues of local rural budgets, the indicator of the share of own and fixed income in the local rural budgets, the share index of local rural budget revenues from local taxes and fees, specific gravity unbound subsidies to local government revenues [11].

V. I. Kravchenko's indicators remain the basis for the study of the financial decentralization level in Ukraine and now, despite the obsolete individual of them in connection with the reform of the intergovernmental fiscal relations system. In this case, the scientists allocated indicators, including under other names, in the future were used and continue to be used in various interpretations by domestic scientists to study local finance. In particular, I. O. Lunina in

his research expanded the existing indicators of financial autonomy by V. I. Kravchenko and established the empirical dependence between the indicators of gross domestic product and fiscal independence on incomes (expenditures) [11; 16].

I. M. Vakhovych analyses the concept of region financial capacity, that is, the financial capacity of public authorities to independently ensure the socio-economic development of the region. I. M. Vakhovych considers financial capacity as a system of indices of three groups: financial sufficiency, financial capacity and financial stability, for each of which the corresponding integral index is calculated [40]. We believe that this methodology is one of the most thorough and may be partially used for the analysis of financial decentralization, taking into account that, first, not all indicators are related to financial decentralization, and secondly, some indicators are out of date due to with the reform of inter-budgetary relations.

A. Luchka [15], V. Shcherbakova [30], O. Kruk [12] also made a significant contribution to studying the of financial sustainability indicators of local rural budgets. Based on these studies, the formation and implementation of a strategy of social economic development in accordance with the type of financial sustainability of the relevant local rural budget is an important factor in the effective socio-economic development of the administrative-territorial unit. As far as the assessment of financial decentralization itself is concerned, Ukrainian scholars mainly research the dynamics and structure of local rural budgets, indicators on the share local rural budgets revenues (expenditures) in the consolidated budget. The most popular works on the subject of financial decentralization are the works of I. O. Lunina [16] his research focused on the study of local rural budget expenditures, their structure, the possibility of making decisions on the disposal of financial resources by appropriate local self-government bodies, to allocate the coefficient of decentralization of expenditures, the coefficient of decentralization of tax revenues, the coefficient of financial independence of local rural budgets.

T. Salo singles out the general indicator of financial decentralization, which is calculated as

the arithmetic mean of the financial decentralization of revenues (the share of local rural budget revenues excluding intergovernmental transfers in the consolidated budget revenues) and the indicator of financial decentralization of expenditures (the share of local rural budget expenditures excluding intergovernmental transfers in consolidated budget expenditures) [29]. In our opinion, such indicator as the share of local rural budgets expenditures, excluding intergovernmental transfers in the consolidated budget expenditures, is not sufficiently functional as intergovernmental transfers serve as a component of local rural budget revenues (except for those transferred to the state budget). Similar to the T. Salo's approaches to the calculation of the financial decentralization level used by N. O. Bykydarova, but at the same time distinguishes the coefficient of financial decentralization of parts of local rural budgets, which is calculated as the ratio of incomes of a certain level of local rural budgets (region, district, territorial community) with local rural budget revenues [4].

S. O. Osypenko notes that an assessment of the financial resources decentralization is appropriate with the help of indicators of local rural budgets financial sustainability. The algorithm developed by the scientist for the integrated assessment of the financial resources decentralization includes two stages: 1) analysis of the socio-economic development of the administrative-territorial unit and analysis of the implementation of local rural budgets by income and expenditure; 2) calculation of budget coefficients that characterize the financial sustainability of the local rural budget of a certain administrative-territorial unit; comparison of the obtained results with the established thresholds of financial sustainability coefficients and determination of the type of financial sustainability of the local rural budget [17]. We, in turn, believe that financial decentralization is a much broader concept than financial sustainability, since it covers the whole range of local finances and is, first and foremost, a dynamic feature. In turn, financial stability reflects the state of functioning of the subject of public authority at one time or another. The purpose of the study is to

systematize existing methods of assessing the financial decentralization level in domestic and European practice, as well as to identify quantitative parameters of its assessment for implementation in Ukraine. Objectives: to improve methodological approaches to assessing the financial decentralization level; determine the dynamics of local rural budget revenues and expenditures in the context of financial decentralization; to evaluate the effectiveness of the financial decentralization process in Ukraine.

MATERIALS AND METHODS

The research methods used are as follows: the method of analysis and synthesis to substantiate the criteria of compliance with indicators of evaluation of the financial decentralization level; indicator method for identifying typical indicators for assessing the financial decentralization level; an integral method for developing an integral indicator of financial decentralization; theoretical generalization method for determining the role and place of decentralization in the development of the state and regions; a method of logical analysis for the development of proposals for the implementation of assessing methods for the financial decentralization level into practice; tabular and graphical method for visual presentation of research results.

In order to assess the level of fiscal decentralization for incomes, information materials and statistics from the Institute for Budget and Socio-Economic Research, the Ministry of Finance of Ukraine, the State Treasury Service of Ukraine, the Pension Fund of Ukraine for the period 2013-2018 were used.

RESULTS AND DISCUSSIONS

An assessment of the financial decentralization level can be carried out both at the level of Ukraine as a whole and at the level of the single region. At the same time, the implementation of a quantitative assessment of financial decentralization in

Ukraine faces a number of problems, in particular [34; 39]:

- lack of common criteria for assessing the level of financial decentralization;
- settlement difficulties due to insufficient availability of statistical and / or information for the calculation of certain indicators;
- methodological difficulties due, for example, to different approaches in the calculation of transfers during the period of Ukraine's independence, lack of unification in the names of indicators.

In our opinion, the following three conditions must be taken into account for the selection of indicators for assessing the level of financial decentralization:

(1) financial decentralization is a process. That is, the level of financial decentralization can be measured only in dynamics with the help of indicators that characterize the state of local finance at one time or another. Separate data for a particular period do not provide information on the basis of which it is possible to make correct conclusions about financial decentralization in the country.

(2) financial decentralization should not be an end in itself. The central government is implementing financial decentralization in order to ensure the optimal provision of public goods and accelerate economic development. High indicators of financial decentralization without at least an overall assessment of the status of local finances and the level of regional development in general are not sufficient evidence of the effective implementation of the decentralization reform in the country.

(3) financial decentralization level cannot be estimated only on the basis of quantitative indicators. It is important to choose qualitative indicators (qualitative characteristics) that will enable to determine the powers and rights of local self-government in the field of the formation and use of financial resources. Transferring financial resources to places without giving them the opportunity to make decisions about their use indicates only the formal implementation of decentralization.

For effective research, the indicators used to assess financial decentralization must meet certain requirements. Given the permanent

nature of regional development developments, we see that these or other indicators of financial decentralization can be used only if they meet the following criteria:

- certainty – indicators of financial decentralization should be clearly quantified or qualitative. Indicators that cannot be determined will not be used by us during the calculations;

- availability – the information used to calculate metrics should be publicly available. We exclude indicators that can be determined on the basis of data received by institutions or organizations to which any citizen of Ukraine cannot obtain access, at least on the basis of a request for access to public information. Priority is given to information from open sources, namely, the Institute for Budget and Socio-Economic Research, the Ministry of Finance, the State Statistics Committee, the websites of local authorities and local self-government bodies;

- relevance – indicators should characterize exclusively the studied socio-economic phenomena or their individual aspects.

- comparability – indicators of the current reporting period should be compared with the indicators of previous and future reporting periods;

- full coverage – the indicators should reflect the essential aspects of the socio-economic phenomenon under study (financial decentralization);

- systemic – the selected indicators should form a set of interrelated indicators that comprehensively describe the socio-economic phenomenon that is being analyzed;

- practicality – indicators should be used to make conclusions about the state of financial decentralization in the country and making appropriate decisions;

- cost efficiency - the time spent on collecting relevant information and calculating the indicators of financial decentralization should not exceed the benefits from the findings derived from these indicators. A schematic description of the choice of indicators of financial decentralization is shown in Fig.1.

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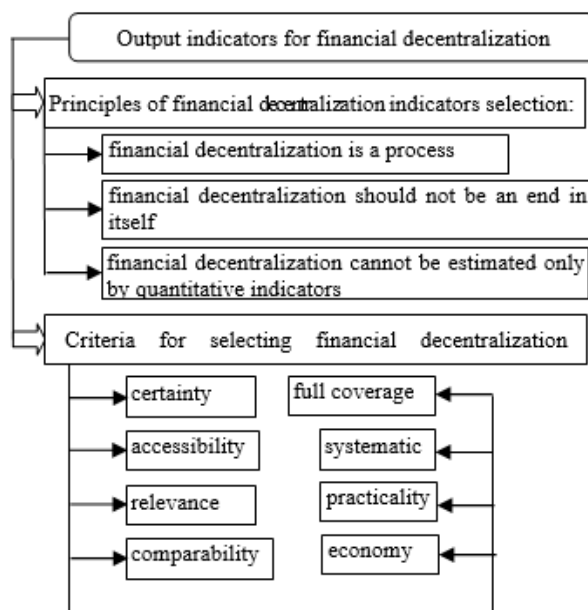


Fig. 1. Schematic description of the financial decentralization indicators selection
Source: Compiled by authors.

It should be noted that in the current legislation of Ukraine there are no indicators of financial decentralization, as well as requirements for their calculation or use. The peculiar approximation is the indicators of financial self-sufficiency, defined in the Methodology for monitoring and evaluating the effectiveness of the implementation of the state regional policy, namely the rate of growth (decrease) in local rural budget revenues (without transfers), local rural budget revenues (without transfers) per capita, rate increase (decrease) of the tax debt on monetary obligations of taxpayers without taking into account the tax debt of taxpayers who are in bankruptcy proceedings or as against their court made a decision (ruling) to suspend the proceedings. However, these indicators do not in any way characterize the phenomenon of financial decentralization, but rather a definite reflection of the state of local finances and the socio-economic situation in the region as a whole. In European financial science, the following indicators are used to assess the level of financial decentralization [18]:

(1)The ratio of expenditures of local self-government (local rural budgets) to public expenditures. This indicator shows the degree of decentralization and deconcentration of

public tasks and functions, testifies to the financial capacity of local self-government for their implementation, and, consequently, the quality of implementation.

(2)Expenditures of local rural budgets to GDP. This indicator allows you to see which part of the public resources is distributed among the subjects of local self-government. In other words – reflects the level of financial decentralization in the state.

(3)Share of own revenues in the structure of revenues of territorial communities. It is important to remember that the right of local governments to set tax rates, as well as to determine the volume of revenues from other sources, are realized exclusively on their own income. That right - the right to own revenues and their regulation - ensures fiscal decentralization.

(4)The volume of intergovernmental transfers, in particular, equalization subsidies in the structure of revenues of local rural budgets. The size of this indicator directly indicates the financial autonomy of the MHI. The higher it is – the lower the level of financial autonomy of local self-government. Hence, decentralization is lower, since local government has no influence on the volume of these resources, and so on.

Note that in Ukraine since 2014, due to military actions in the Donbass, the occupation of the Autonomous Republic of Crimea and the sharp fall of the economy, the inflation rate exceeded 10%. Accordingly, we do not see fit to analyze the absolute indicators of financial decentralization, because such indicators contain a significant inflation component, which does not allow to objectively assess decentralization in the country. The main attention should be paid to relative indicators, which should be divided into indicators of decentralization of incomes and decentralization of expenditures based on the appropriate forms of financial decentralization.

Thus, given the mechanism for choosing indicators of financial decentralization (factors and criteria) and the above-mentioned approaches of Ukrainian scientists, we believe that the most reliable estimate of financial decentralization should be determined using an integrated estimation method based on the

indicators of financial decentralization by income and expenditure. For the completeness of the study of financial decentralization it is necessary to take into account the indicators that characterize the role of transfers in the formation of financial resources of local rural budgets. These include the share of intergovernmental transfers in the revenues of

local rural budgets, the share of transfers transferred to the state budget, in local rural budget revenues, and the proportion of non-targeted intergovernmental transfers in local rural budget expenditures. The proposed system of indicators is summarized in the table (Table 1).

Table 1. Method of financial decentralization of local rural budgets calculation indicators

Indicator	Calculation method	Indicator interpretation	Dynamics the indicator of financial decentralization
Indicators of incomes decentralization			
Share of local rural budget revenues in GDP	Volume of local rural budget revenues / GDP	Characterizes the level of GDP, centralized in local rural budgets	↑
Share of local rural budget revenues in the consolidated budget	Volume of local rural budget revenues / Volume of consolidated budget revenues	Characterizes the formal role of local authorities in allocating financial resources	↑
Share of local taxes and revenues in local rural budgets	Volume of local rural budget revenues from local taxes and fees / Volume of local rural budget revenues	Characterizes a portion of these budgets revenues, which are formed at the expense of taxes and fees set by the MHI.	↑
Share of local rural budget revenues in the consolidated budget	Volume of local rural budget revenues without intergovernmental transfers / Volume of consolidated budget revenues	Characterizes the actual role of local authorities in allocating financial resources	↑
Share of intergovernmental transfers in local rural budget revenues	Volume of intergovernmental transfers from the state budget / Volume of local rural budget revenues	Shows the level of dependence of local rural budgets on the state-provided additional income base	↓
Share of own revenues of local rural budgets in the revenues of local rural budgets	Volume of local rural budget revenues without intergovernmental transfers / Volume of local rural budget revenues	Characterizes the level of autonomy of local rural budgets, taking into account the long-term transfer of additional income base by the state. An inverted indicator of the intergovernmental transfers share in local rural budget revenues	↑
Indicators of expenditures decentralization			
Share of local rural budget expenditures in GDP	Expenditures of local rural budgets / Nominal GDP	Characterizes the redistribution of GDP by local government entities	↑
Share of local rural budget expenditures in the consolidated budget	Expenditures of local rural budgets / Consolidated budget expenditures	Characterizes the formal role of local authorities in the disposal of their available financial resources	↑
Share of expenditures of local self-government bodies in public expenditures	Local rural budgets expenditures / Consolidated budget expenditures + Pension fund expenditures with the exception of revenues from the state budget	Demonstrates the degree of decentralization and deconcentration of public tasks and functions,	↑
Share of non-protected articles in local rural budget expenditures	Local rural budgets expenditures without less protected items of local rural budgets expenditures / Local rural budgets expenditures	Characterizes a part of the local rural budgets expenditures, which local authorities can dispose of at their discretion	↑
Share of transfers transferred to the state budget (reverse subsidy + subvention from the local rural budget to the state budget for implementation of programs of socio-economic and cultural development of regions) in the expenditure of local rural budgets	Volume of transfers transferred from local rural budgets to the state budget / Volume of local rural budgets expenditures	Displays the level of local rural budget revenues centralization	↓

Source: systematized and generalized on the basis of sources [3; 4; 11; 12; 16; 17; 29].

To sum up the results of the analysis, we propose to calculate the partial integral indicators of incomes decentralization (PIID) and expenditures (PIED) as the geometric mean of decentralization indicators:

$$PIID = \sqrt[n]{\prod_{i=1}^n P_i} \times D_i \quad (1)$$

$$PIED = \sqrt[n]{\prod_{i=1}^n P_i} \times V_i \quad (2)$$

where: D_i , V_i – indicators of decentralization of incomes and expenditures respectively; n – the number of revenues (expenditures) decentralization indicators taken into account. The consolidated indicator in accordance with the methodology proposed in this paper is the Integral Fiscal Decentralization Index (IFDI), which is calculated as the average geometric partial index of incomes and expenditures decentralization.

$$IFDI = \sqrt{PIID \times PIED} \quad (3)$$

It should be noted that the use of weighting factors to calculate the indicators of financial decentralization in Ukraine is inappropriate in connection with the discretionary nature of such coefficients.

Analyzing the process of decentralization and its management in Ukraine, it can be noted that the active phase of the reform was launched on January 1, 2015, when several laws were passed that changes to the formation of the revenue and expenditure base of local rural budgets, and, therefore, the financial foundations of a certain reform were laid down.

In accordance with the Law on Tax Reform in the composition of local taxes (as part of the property tax) included a payment for land and transport tax; the tax base for real estate, other than land, is expanded; former payers of a fixed agricultural tax are assigned to the fourth group of the single tax [38].

The law on intergovernmental relations aimed at equalizing the financial capacity of territorial communities introduced basic and reverse grants, as well as introduced a new procedure for their calculation. The reallocation of personal income tax revenues

(hereinafter – PIT) and environmental tax was changed. Also, local rural budgets secured 10 % of corporate income tax (except for corporate income tax of state enterprises) and revenues from the excise tax on the retail sale of excisable goods. In addition, all cities of with regional value were given the opportunity to carry out external borrowings. In Ukraine today, the processes of financial decentralization, although irreversible, are not systematic and still do not encourage local authorities to seek sources of activation of their own economic resources. Evidence of this is the dynamics of the structure of revenue distribution between the state and local rural budgets (Fig. 2).

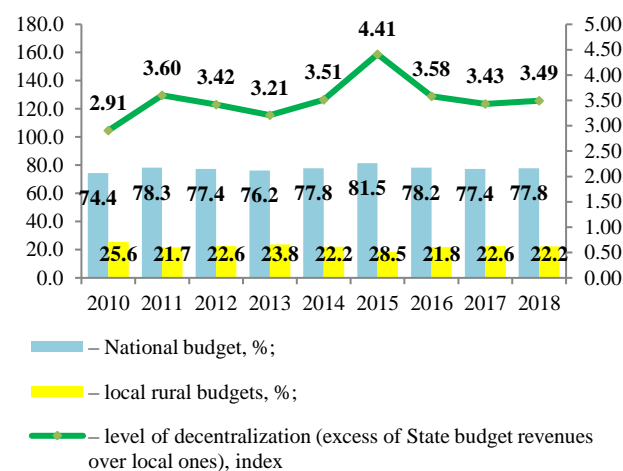


Fig. 2. Inter-budgetary income distribution in Ukraine in 2010-2018

Source: Calculated by the authors according to the State Treasury Service of Ukraine.

The above changes had a direct impact on the process of financial decentralization, which was reflected in terms of indicators of financial decentralization by income and type (Table. 2).

During the investigated period, the share of local rural budget revenues in the consolidated budget of the state had a multi-vector direction, thus falling in 2013 – 2015 from 49.9 % to 45.2 %. Subsequently, it began to grow again, reaching 49.4 % in 2017. The obtained results indicate that the level of redistribution of financial resources through local rural budgets, despite all changes in the area of decentralization,

remains stable. At present, local rural budgets form a little less than half of consolidated budget revenues, which means that a larger share of revenues will continue to be centralized in the state budget.

Table 2. Indicators of financial decentralization for incomes in Ukraine during 2013 – 2018

Indicator	2013	2014	2015	2016	2017	2018
Share of local rural budget revenues in GDP	15.1	14.6	14.8	15.3	16.8	15.8
Share of local rural budget revenues in the consolidated budget	49.9	50.8	45.2	46.8	49.4	47.5
Share of local taxes and revenues in local rural budgets	3.3	3.5	9.2	11.6	10.5	10.9
Share of local rural budget revenues in the consolidated budget	23.8	22.2	18.5	21.8	22.6	22.2
Share of own revenues of local rural budgets in the revenues of local rural budgets	47.6	43.6	40.9	46.6	45.7	46.8
Partial index of financial decentralization of incomes	19.5	19.1	21.5	24.3	24.6	24.3

Source: Calculated by the authors according to the State Treasury Service of Ukraine and data of the State Statistics Service of Ukraine

Local taxes and fees since 2015 have increased their significance, ensuring that by 2018, 10.9 % of local rural budget revenues. Such changes were the result of another tax reform and the transformation of the Ukrainian tax system structure. Local rural budget revenues account for less than half of total local rural budget revenues. This situation indicates a significant dependence of local rural budgets on state transfers and a rather insufficient level of their independence. Assessing the financial decentralization of expenditures, it can be noted that the indicators that characterize it are somewhat higher in comparison with the indicators of incomes decentralization (Table 3). In particular, the share of local rural budget expenditures ranged from 14.1 to 16.6 % of GDP, while a similar income figure was higher only in 2017, reaching a level of 16.8 %. In Ukraine, the share of distribution of expenditures of local rural budgets in GDP is higher than in Poland, Hungary, Slovakia and the Baltic States [13; 16].

Table 3. Indicators of fiscal decentralization for expenditures in Ukraine during 2013 – 2018

Indicator	2013	2014	2015	2016	2017	2018
Share of local rural budget expenditures in GDP	15.0	14.2	14.1	14.7	16.6	16.0
Share of local rural budget expenditures in the consolidated budget	43.5	43.1	41.2	41.9	46.9	45.6
Share of expenditures of local self-government bodies in public expenditures	31.2	31.5	31.5	33.8	38.6	37.8
Share of transfers transferred to the state budget in the expenditure of local rural budgets	99.3	99.1	98.9	98.8	98.8	98.7
Share of unprotected items in local rural budget expenditures	17.6	24.3	25.3	27.1	28.3	29.8
Partial index of fiscal decentralization by expenditures	32.4	34.2	34.0	35.4	38.5	40.7

Source: Calculated by the authors according to the State Treasury Service of Ukraine and data of the State Statistics Service of Ukraine

Changing the proportions of redistribution of expenditure powers with their shift to the level of local rural budgets is one of the manifestations of decentralization processes in the state (Fig. 3). At the same time, analyzing the distribution of expenditures in the structure of the consolidated budget, we can note that, as in the case of revenues, the beginning of financial decentralization not only did not strengthen the role of local government but also reduced the share of expenditures through local rural budgets.

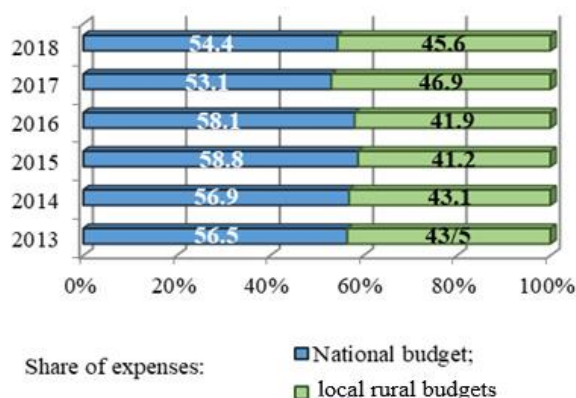


Fig. 3. Distribution of consolidated budget expenditures between budgets of different levels in Ukraine in 2013–2018, %

Source: Calculated by the authors according to the State Treasury Service of Ukraine

The results of calculations of decentralization indicators by local rural budget expenditures confirm that there is no stable tendency to strengthen it. The share of local rural budget expenditures in the consolidated budget remains virtually unchanged in 2013 – 2014 at a slightly higher level of 43%. After the active phase of the decentralization reform implementing and introducing appropriate changes to the Budget Code of Ukraine in contradiction with the expected trend, this indicator dropped by 2 % and only then began to grow, reaching the highest value of 47.3 % in 2017. The given data testify that local authorities have an impact on the redistribution of less than 50 % of consolidated budget revenues.

The share of expenditures of local self-government bodies in public expenditures increased to 39.3 % in 2017. One of the main reasons for the local rural budget expenditures share increase in the consolidated budget and public expenditures is increasing the interest of local self-government bodies in expanding their own revenues base and focusing on social-economic problems of the respective territories. This is explained by the fact that according to the Art. 99 Budget Code of Ukraine from 2015, if the value of the relative tax capacity index of the corresponding budget exceeds 1.1, then the local rural budget transfers 50 % of the amount that exceeds the value of such index to the state budget. Until 2015, all sources of local rural budget revenues that participated in the calculation of intergovernmental transfers were subject to the state budget if the corresponding revenues exceeded the estimated amount of the corresponding budget expenditures, calculated using the financial standards of budget provision and corrective coefficients.

It should be noted that the increase in expenditures of local self-government was accompanied by the expansion of their powers. In particular, responsibility for funding secondary, vocational, and health education institutions was transferred to regional budgets and/or budgets of cities with

regional value. The share of transfers transferred to the state budget in the revenues of local rural budgets increased from 0.7 % in 2013 to 1.3 % in 2017. That is, the withdrawal of funds from local rural budgets to the state increases. This indicates the positive impact of innovations in the Budget Code of Ukraine regarding the transfer to the state budget of 50 % of the amount exceeding the value of the index of relative tax capacity of the relevant budget. The share of local rural budget revenues in the local rural budget revenues did not exceed 50 % for the entire period of the survey, which is evidence of a centralized balancing of revenues and expenditures of local rural budgets.

To complete the study of financial decentralization, it is necessary to consider indicators that characterize the role of transfers in the formation of financial resources of local rural budgets. Financial decentralization is carried out using the principle of subsidiarity, which involves the equalization of financial imbalances of local rural budgets through a system of intergovernmental transfers. This process, in our opinion, is somewhat contradictory, as the coverage of local rural budget expenditures by grants and subsidies from the State budget makes them dependent on the center and weakens the stimulating effect of centrifugal processes on the interest of local communities in improving efficiency and productivity (Table 4).

Table 4. Dynamics of intergovernmental transfers in local rural budget revenues

Indicator	Year					
	2013	2014	2015	2016	2017	2018
The share of inter-budget transfers in local rural budget revenues, %	59.1	50.0	59.1	53.4	54.3	53.2
The share of non-target inter-budget transfers (grants) in local rural budget revenues, %	29.2	26.4	2.5	1.9	4.4	4.5
Share of transfers transferred to the National budget (reverse subsidy) in local rural budget revenues, %	0.7	0.8	0.9	0.8	0.8	1.0

Source: Calculated by the authors according to the State Treasury Service of Ukraine.

The share of intergovernmental transfers in local rural budget revenues in Ukraine is over 50%. This indicates a high level of centralized balancing of revenues and expenditures of local rural budgets.

Since the share of intergovernmental transfers in income is an inverse indicator to the share of local rural budget revenues in local rural budget revenues, only one of them should be taken into account when calculating the partial income decentralization index. Since the change in the share of domestic revenues of local rural budgets is directly related to the partial index, that is, its growth has a positive effect on the dynamics of the level of financial decentralization, for this calculation it was precisely this indicator.

The dynamics of the integral indices characterizing the decentralization process in Ukraine is shown on Figure 4.

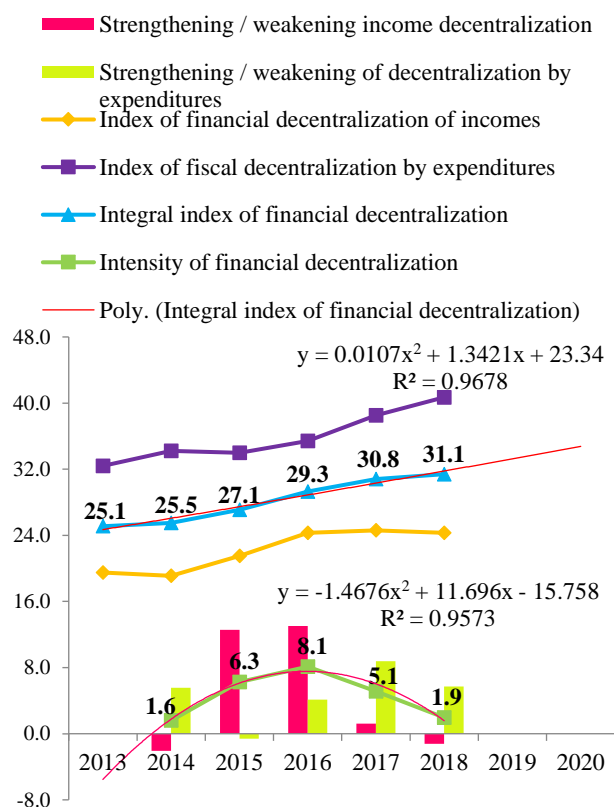


Fig. 4. Dynamics of financial decentralization integral indicators in Ukraine during the period 2013 – 2018
 Source: Completed by the authors

As can be seen on the calculations results, in recent years there has been an increase in decentralization changes, indicating an

increase in the financial decentralization integral indicator. However, the backlog of the decentralization of incomes shows that for the central government is more difficult to decentralize responsibility for the source of taxation than for local rural budget expenditures.

The partial indicator of fiscal decentralization for incomes has increased from 19.5 % in 2013 to 24.3 % in 2018, while the corresponding expense expanded at a faster pace, from 32.4 % in 2013 to 40.7 % in 2018. In general, the level of financial decentralization by the integral indicator has steadily increased – from 25.1 % in 2013 to 31.4 % in 2018.

In recent years, important steps have been taken in establishing the foundations of local self-government. A transformation of the structure of local government took place, views on the place and role of local self-government in the approval of Ukraine as a European democratic country have changed. At the same time, while continuing to implement the process of decentralization, it is necessary to take into account the complications that may arise. First, this is a complication of the process of redistribution of funds through the budget and management of the budget process in general, since the central government is more difficult to decentralize responsibility for the source of taxation than for expenditures of local rural budgets. Secondly, in conditions of decentralization, it's more difficult to reconcile the local needs of separate territorial communities with the macroeconomic objectives of the entire state [10; 14].

Using the method of regression analysis, it can be established that the processes of financial decentralization in Ukraine have acquired clearly defined trends, as evidenced by high coefficients of determination in the calculated regression equations (Tab. 5).

The conducted regression analysis confirms the imbalance in the decentralization of revenues and expenditures, which were transferred to the local level in the process of financial reform. This situation creates an additional financial burden on local

governments and deepens the internal imbalances of the fiscal space of the regions. Based on the results of the calculation of decentralization indices by income and expenditure, a regression model of financial decentralization in Ukraine is built:

Table 5. Results of regression analysis of financial decentralization indicators in Ukraine

Index	Regression equation	Assessing the tightness of the connection
Partial index of financial decentralization of incomes (P_IID)	$y = 1.237x + 17.88$	$R^2 = 0.837$
Partial index of fiscal decentralization by expenditures (P_IED)	$y = 1.594x + 30.28$	$R^2 = 0.911$
Integral index of financial decentralization (I_FID)	$y = 0.010x^2 + 1.342x + 23.34$	$R^2 = 0.967$
Intensity of financial decentralization (IFD)	$y = -1.467x^2 + 11.69x - 15.75$	$R^2 = 0.957$

Source: Completed by the authors

$$I_FID = -0.018 + 0.648 P_IID + 0.386 P_IED$$

The parameters of the model show that the greatest impact on the level of fiscal decentralization has the intensity of centrifugal changes in the intergovernmental distribution of revenues. According to the interpretation of the calculated model, the growth of the partial income decentralization index (P_IID) by 1% leads to an increase in the integrated indicator of financial decentralization (I_FID) by an average of 0.648%. At the same time, an increase in the partial index of decentralization by expenditure (P_IED) by 1% leads to an increase in the integrated indicator by 0.386%. Thus, the ability of local self-government to generate their own income is the most effective organizational and economic means of regulating regional development.

However, the analyzed indicators and the structure of intergovernmental transfers show that the actual level of financial decentralization remains low, despite changes in the budget and tax legislation. The revealed

fluctuations of the indicators of decentralization indicate the lack of a systematic and effective process of transferring financial powers to the places and allow concluding that local self-government bodies have a limited influence on the formation of their own financial resources. In fact, the centralized balance of incomes and expenditures of local rural budgets continues to be realized in Ukraine.

CONCLUSIONS

Thus, fiscal decentralization has become a feature of practical implementation in the regions of the country. Creation of self-sufficient territorial communities, their effective functioning will contribute to the establishment of effective local self-government with a real impact on local processes.

The conducted research shows that during 2013 – 2018, the level of financial decentralization of local rural budgets has increased. The main impetus for this was the changes in the budget and tax legislation that came into force in 2015 and stimulated local authorities to expand their own revenue base. At the same time, were identified disproportions in the level of financial decentralization in terms of income and expenditure, The amount of income should be sufficient to provide the functions and responsibilities that are set at this or that level of authority. However, the functions transmitted at the level of local authorities do not obey the corresponding changes in the revenue part of local rural budgets. We believe that in order to increase the efficiency of systemic local finance in Ukraine, the issue of compliance with local rural budgets and expenditures, which are financed by their cost, is strategically solved in Ukraine. The need for further improvement of the system of intergovernmental fiscal relations in Ukraine.

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