



“Analysis of financial flows in the budget process of Ukraine under the conditions of structural imbalances of the financial system”

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ANALYSIS OF FINANCIAL FLOWS IN THE BUDGET PROCESS OF UKRAINE UNDER THE CONDITIONS OF STRUCTURAL IMBALANCES OF THE FINANCIAL SYSTEM¹

Abstract

Adjusting the balanced movement of financial flows in the budget process is a vital component of ensuring the functioning of the financial system. This study aims to identify and outline possible areas for improving the management of financial flows in the budget process of Ukraine to regulate structural imbalances of the financial system. With the help of ranking and clustering, the analysis and assessment of local budgets based on indicators that characterize the movement of financial flows was carried out. The used methods made it possible to consider the differences in the formation and direction of budget flows of territorial communities and determine the progress of administrative-territorial units. An assessment of the state of financial flows consolidated in the treasury single account of Ukraine was conducted: the dynamics of balance, the volume of loans and repayments to local budgets, and the Pension Fund of Ukraine were considered. The assessment results made it possible to determine the directions of setting a stable and balanced movement of financial flows and levers to regulate the impact of structural imbalances of the financial system related to the management of cash balances of the treasury single account and increase of its liquidity. The volumes of revenues, expenditures, deficit, and borrowings to the State Budget of Ukraine were estimated to determine the conditions that cause imbalances in the financial system. The directions for timely and complete execution of the decisions by state authorities and local self-governments are outlined.

Keywords

budget, revenues, expenditures, financial flows, treasury single account, deficit, imbalance

JEL Classification

G01, H40, H50, H61, I38

INTRODUCTION

The modern financial system of the state is sensitive to social and economic transformations, which required to improved management of financial flows in the budget process. Good management of financial flows is a reasonable formation and direction of financial flows of state and local budgets, enabling the participants in the budget process to eliminate structural imbalances in the social sphere and economy. The onset and deepening of structural imbalances in the financial system complicate the adequate functioning of all economy and social sphere sectors. Budget flows should be managed with the utmost attention to support the social sphere. However, improving the welfare of the population without appropriate economic preconditions will not be able to ensure a consistently high standard of living in the long run.

¹ The results and conclusions that directly relate to Ukraine must be rethought as they should be reviewed against the background of full-scale Russian aggression.

To minimize the impact of structural imbalances on the financial system, public authorities and local governments must respond promptly to developments in the economy and society. In addition, they should increase the efficiency of financial flow management in the budget process. Increasing the effectiveness of financial flow impact on the budget process contributes to creating conditions for sustainable economic growth and improving the standard and quality of life around the world, including Ukraine. The results of decentralization of the country's financial system and transition to the implementation of three-year budget planning focused on the medium-term perspective, have created favorable conditions for effective management of financial flows in the budget process of Ukraine. Adequate financial support needs the maximum efficiency of budget funds in the ratio of budget expenditures and the quality of obtained results. Taking into account the state and local governments' medium-term priorities, in line with strategic priorities, it is possible to consider the level of current and social development in Ukraine, identify growth opportunities, and reveal the budget potential of state and local budgets. The growth of the budget potential of Ukraine and its administrative-territorial units has a positive effect on the ability of the state and local governments to accumulate financial flows within the budget system and perform their functions. The joint generation of financial flows of the state and local budgets of Ukraine makes it possible to balance and optimize the revenue and expenditure side of budgets, as well as to settle and justify budget decisions in case of structural imbalances in the financial system.

1. LITERATURE REVIEW

Financial flow management aims to ensure the growth of budget revenues and expenditures, improve the efficiency of budget expenditures, and quality and availability of budget services as a result of transformational changes due to the modernization of the budget process. These changes include decentralization of the financial system and transition to a medium-term three-year perspective of budget planning that necessitated changes in budget legislation. In particular, it is worth mentioning updating the Budget Code of Ukraine – a normative-legal document that defines the legal basis for the functioning of the budget system of Ukraine, its principles, the basics of the budget process, inter-budgetary relations, and responsibility for violations of budget legislation. In terms of medium-term budget planning, financial flow management in the budget process of Ukraine should ensure the achievement of goals and objectives by its participants and obtain certain results harmonized in the short, medium, and strategic perspectives. According to the Budget Code of Ukraine, budget management is defined as a set of actions of the budget process participants following the powers related to the formation and use of budget funds, monitoring compliance with the budget legislation aimed at achieving goals, objectives, and specific results ensuring efficient, effective and targeted use of budget funds (Verkhovna Rada of Ukraine, 2010). Thus, management of financial flows is the

activity of participants in the budget process associated with the formation and use of budget funds during the budget process, which has a particular duration. At the same time, the formation of financial flows in the budget process of Ukraine is the basis for their further use. Budget flows occur during a certain period. They are formed and directed in the process of preparation, adoption, and implementation of the budget, completed according to budget execution results and reflected in the reporting on budget implementation. The difference between managing budget flows and managing financial flows is that they cannot be managed based on economic parameters alone. Budget flows are budget funds: budget revenues, which are concentrated in a treasury single account (hereinafter – TSA). And budget expenditures are intended for implementing programs and activities, including social-oriented, provided by the budget. The receipt and use of budget flows are reflected in the Budget Declaration (local budget forecast), yearly budgets, and other financial documents in monetary form (Verkhovna Rada of Ukraine, 2020, 2021a, 2021b). Not all financial flows of the state are budgetary because, in addition to the consolidated budget, the public finance system includes public trust funds, public sector finance, public credit, insurance, and reserve funds.

Volohova et al. (2021) investigated the modern tendencies of budgetary funds management. As the budgetary system is not only a set of budgets but

a set of budget processes and relations, the management of financial flows in the budget process of Ukraine is limited to the budget cycle. This cycle aims to ensure proper planning, implementation, and accounting of revenues and expenditures of state and local budgets, as well as reporting, control, and audit of compliance with budget legislation. Usually, this cycle is focused on key phases that take place at different stages of the budget process in Ukraine. They include drafting and reviewing the Budget Declaration (local budget forecast), drafting budgets, drafting and adopting the law on the State Budget of Ukraine (concerning local budgets), budget execution, including amendments to the law on the State Budget of Ukraine (concerning local budgets), preparation and consideration of the report on budget execution (Verkhovna Rada of Ukraine, 2010).

Paientko and Fedosov (2018) considered management of financial flows in the budget process, acting as an object of regulation and as an instrument for regulating the processes of socio-economic growth. The object of regulation characterizes the movement of financial flows in the appropriate direction. At the same time, the instrument provides the accumulation of net financial flows, creating opportunities for the growth of budgetary potential. An important task for solving the structural problems of the financial system is to eliminate imbalances between the budget revenue and expenditure sides. Such imbalances create difficulties in financing the budget deficit and expose the country to risks of inflation and rising exchange rates, contributing to new imbalances.

Chugunov (2021) defined the mechanisms of budgetary regulation of socio-economic development, developing the long-term budget strategy in the system of economic cyclicity. The formation and direction of financial flows are characterized as components of the budget process, which makes it possible to solve problems related to the emergence and reduction of existing structural imbalances of the financial system: the state of revenues and expenditures of budgets; the growing public debt of Ukraine, the presence of a persistent budget deficit. The main purpose of budget flow management is to stabilize the revenue and expenditure sides of the State Budget of Ukraine and local budgets of Ukraine during the budget

period (Chugunov, 2021). The reasons for the imbalance of revenue and expenditure flows of the budget may be temporary gaps in the budget due to the discrepancy in revenues and expenditures – inability of the budget on a particular date to repay budgetary financial liabilities on protected costs due to the available and expected cash assets of the general fund (including balances of budget funds). In order to maintain the continuity of financial flows in the budget process of Ukraine, the State Treasury Service of Ukraine, in agreement with the Ministry of Finance of Ukraine, have the right to raise TSA funds to cover temporary cash gaps in local budgets, the Pension Fund of Ukraine. In addition, they can provide short-term loans to cover temporary cash gaps in the general fund of the relevant local budget from TSA within the current budget period (Cabinet of Ministers of Ukraine, 2010). In 2020, the fifth part of Article 43 of the Budget Code of Ukraine was amended. According to this part, the Treasury of Ukraine, in agreement with the Ministry of Finance of Ukraine, has the right to use TSA funds on a repayable basis to cover temporary cash gaps in the general fund of the state budget (Verkhovna Rada of Ukraine, 2010). According to the amendments, the Cabinet of Ministers of Ukraine adopted the Resolution “On Approval of the Procedure for Covering Temporary Cash Gaps in the General Fund of the State Budget.” It defines the mechanism for covering temporary cash gaps in the general fund of the state budget by attracting the Treasury of Ukraine on a repayable basis of TSA funds with their repayment by the end of the current budget period and compliance with the limits of the state budget deficit (Cabinet of Ministers of Ukraine, 2021a).

The State Treasury Service of Ukraine provides organization and coordination of work on covering temporary cash gaps of the general fund of the state budget, local budgets, and the Pension Fund of Ukraine in the process of managing existing financial flows consolidated in TSA funds. According to the Budget Code of Ukraine, the total amount of revenues according to the budget classification of state and local budgets, funds of compulsory state social and pension insurance funds, funds of other clients who are in the treasury service are paid into the treasury single account (Verkhovna Rada of Ukraine, 2010).

A crucial financial lever to regulate the impact of imbalances on economic development and budget execution is the dynamics of funds concentrated in TSA. Kirilenko et al. (2020) considered the economic content, goal, and features of TSA from the point of view of two sides. On the one hand, TSA is characterized by the concentration and centralization of financial flows in the budget process, determined by the amount of approved budget indicators for the current period: revenues, expenditures, budget deficit, and repayment of loans. On the other hand, TSA is an instrument for ensuring the maneuvering of financial flows by accelerating the circulation of these funds and the efficiency and control of their use.

2. METHODOLOGY

Ranking and cluster analysis methods were used to ensure uniform growth of the budget potential of Ukraine's administrative-territorial units. The building of ratings and clusters involves a reasonable choice of indicators that take into account the peculiarities of financial flows in the budget process and characterize the development of the area.

The assessment of the state of financial flow management in the budget process as a result of ranking is carried out based on the following indicators: execution of local budgets by expenditures; the number of managers of local budgets funds; and loans granted to cover temporary cash gaps of local budgets with TSA. The general rating of financial flows management of local budgets of Ukraine is built based on specific administrative-territorial units of Ukraine.

Cluster analysis involves the selection of observations and variables. In this study, observations are administrative-territorial units, and variables are indicators that determine the movement of local budget flows. Clustering was performed using the most common method of k-means, which involves dividing the observation space into a certain number of clusters.

As a result, the paper obtained the distribution of groups of indicators that highlight the results of financial flow management during the execution of budgets of administrative-territorial units by lev-

els determined by the location at the appropriate Euclidean distance of the built dendrogram. Any scale can be used to evaluate the data sample. The study used a scale with a three-level division: low, average, and high.

The division of the country's territories into separate units makes it possible to process data considering the peculiarities of local development of similar administrative-territorial units in terms of financial flows. A reasonable selection and timeliness of assessment of local development indicators will identify a possible weakening of the budget potential of territory groups and prevent cases of structural imbalances in the financial system. Furthermore, it is possible to develop a unique set of instruments for managing financial flows in the budget process of Ukraine for each cluster.

3. RESULTS AND DISCUSSION

Management of financial flows in the budget process of Ukraine during 2017–2021 took place under the conditions of temporary occupation of Donetsk and Luhansk regions, COVID-19 pandemic and elimination of its consequences, and reduction in the number of managers and recipients of budget funds in accordance with the new administrative-territorial system of Ukraine. These events create imbalances in the management of financial flows in the budget process of Ukraine. They are manifested in the growth of budget deficit (from 47.9 billion UAH in 2017 to 197.9 billion UAH in 2021), growing public debt (from 1,834 billion UAH in 2017 to 2,362.7 billion UAH in 2021), and state-guaranteed debt (from 308 billion UAH in 2017 to 309.3 billion UAH in 2021) (Treasury of Ukraine, 2022d).

Regulation of structural imbalances in the financial system is possible by improving the management of financial flows in the budget process of Ukraine, which involves the use of an effective mechanism for managing the liquidity of funds balances concentrated in TSA. Consolidation of TSA funds provides the ability to quickly obtain information on the state of financial flows, namely the indicators of the opening balance. Figure 1 presents the dynamics of TSA funds (as of the beginning of each month) in 2017–2021.

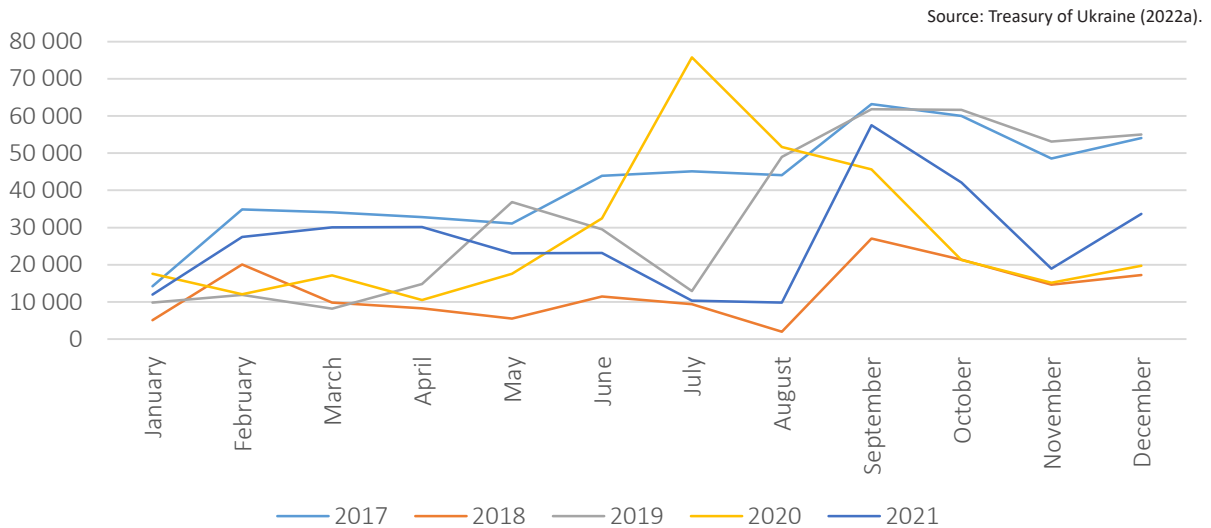


Figure 1. TSA opening balance (as of the beginning of each month) in 2017–2021, UAH million

The amount of TSA balances during the year can vary significantly. For example, in 2017–2021, the availability of budget funds for TSA also ranged from 1.9 billion UAH in August 2018 to 75.7 billion UAH in July 2020. Characteristic of each year of the studied period is the low activity of budget managers in the first half of the year compared to the second half of the year, the uneven use of budget allocations during the year. This makes it necessary to accumulate significant amounts of temporarily free funds during August–November to make significant payments at the end of the budget period.

The assessment of imbalances in the TSA dynamics can be done using indicators of the share of TSA balances in the consolidated budget of

Ukraine, as well as data on the volume and number of loans granted and repaid to local budgets and the Pension Fund of Ukraine. Comparing the amount of TSA fund balances and expenditures of the consolidated budget of Ukraine during 2016–2020, it is possible to observe fluctuations in the share of TSA balances from 0.5% to 1.7% despite the increase in total consolidated budget expenditures of Ukraine from 835.8 billion UAH in 2016 to 1,595.4 billion UAH in 2020 (Figure 2).

It is difficult to forecast the movement of TSA funds. During the study period 2016–2020, with the lowest expenditures of the Consolidated Budget of Ukraine in 2016, the share of TSA balances is the largest at 1.7%. With the highest expenditures of

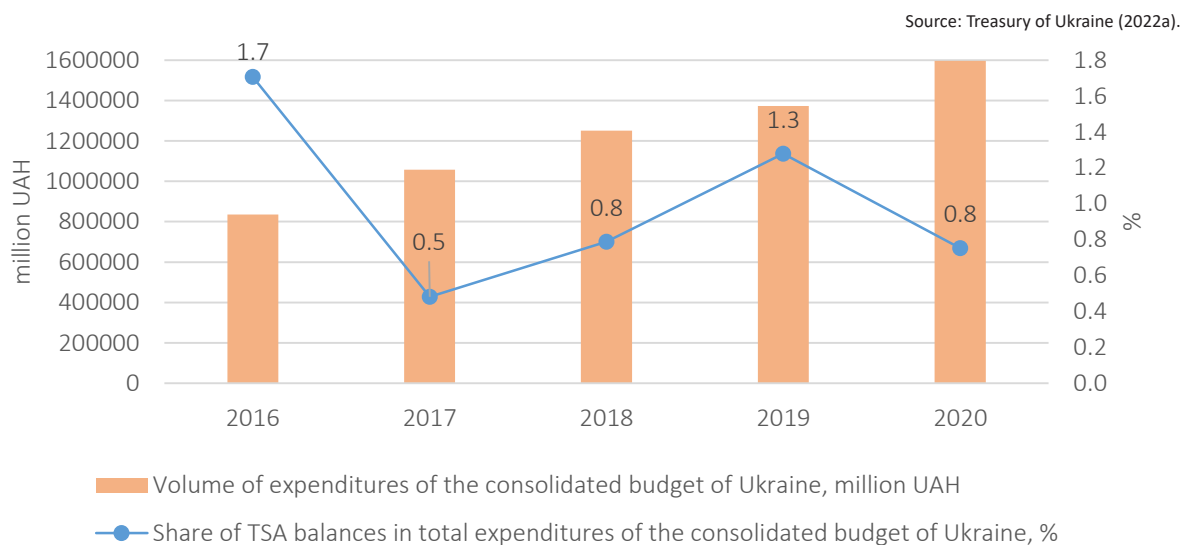


Figure 2. Share of TSA balances in total expenditures of the Consolidated Budget of Ukraine, %

Source: Treasury of Ukraine (2022b).

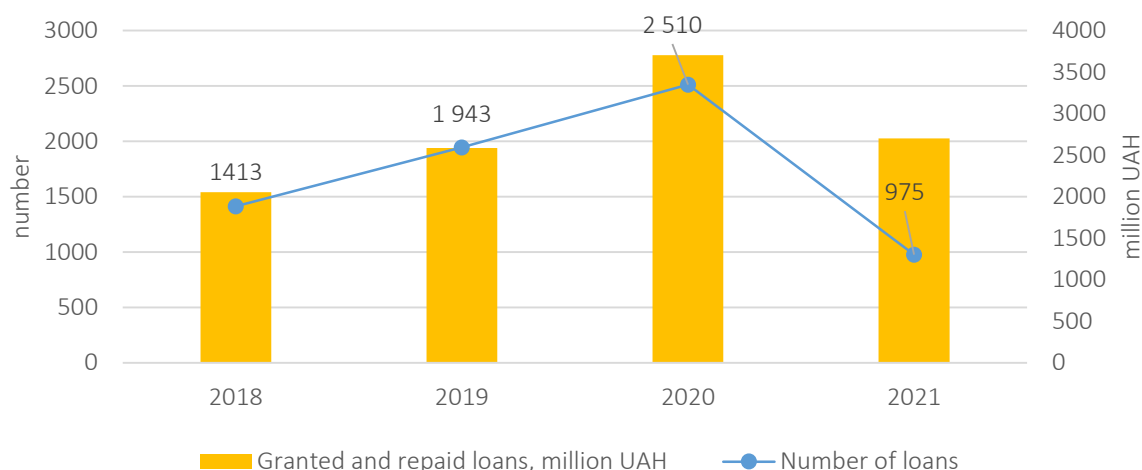


Figure 3. Loans to cover temporary gaps in local budgets of Ukraine from TSA funds, million UAH

the Consolidated Budget of Ukraine in 2020, the share of TSA balances is 0.8%, and the same value was observed in 2018. The primary prerequisite for effective management of TSA balances is the availability of accurate forecasts of cash flows. The lack of quality cash flow forecasts necessitates the retention of larger than necessary TSA balances or leads to a temporary shortage of funds. Improving the accuracy of TSA cash flow forecasts will, firstly, increase its liquidity and eliminate the need to hold more than necessary balances. Secondly, it will ensure uninterrupted financing of the relevant budget expenditures. Thirdly, it will minimize the impact of unforeseen events that create a temporary shortage of funds in the management of financial flows in the budget process of Ukraine and lead to other imbalances: growing budget deficit, public and state-guaranteed debt.

Estimating the volume of loans to cover temporary gaps in local budgets from TSA funds in 2021, one sees a decrease in the need for loans to cover temporary gaps in local budgets from TSA funds (Figure 3).

The volume of loans in 2021 decreased by 1.0 billion UAH, or 1.4 times more than in 2020. The number of loans decreased to 975 in 2021, 2.5 times less than in 2020 and 1.4 times less than in 2018. According to the results of 2021, loans from TSA funds to cover temporary gaps were not used by the city of Kyiv, Luhansk, and Kharkiv regions. Dnipropetrovsk (306 thousand UAH), Khmelnytsky (UAH 324.01 thousand UAH), and

Cherkasy (UAH 263.64 thousand UAH) regions used the largest amounts of loans to cover temporary cash gaps in local budgets in 2021.

Volumes of temporary gaps in local budgets related to ensuring protected expenditures of the general fund are covered by the State Treasury Service of Ukraine within the current budget period. And temporary cash gaps of the Pension Fund of Ukraine related to pensions are covered within the current deficit from TSA funds on contractual terms without accrual of interest for using these funds with their mandatory return by the end of the current budget period. One of the biggest problems for TSA is the debt of the Pension Fund of Ukraine on loans to cover temporary cash gaps, which as of January 1, 2022, amounted to 70.3 billion UAH (Figure 4).

During 2018–2021, the Pension Fund of Ukraine had temporary cash gaps related to the payment of pensions, to cover which the TSA provided loans totaling 571.3 billion UAH. The Pension Fund of Ukraine repaid debt on loans totaling UAH 543.3 billion. As of January 1, 2022, the total balance of outstanding loans is 70.3 billion UAH.

An essential area of improving the management of financial flows in the budget process of Ukraine is the need to reduce the balance of outstanding loans from TSA funds to cover temporary cash gaps to the Pension Fund of Ukraine related to the payment of pensions. The issue of eliminating or reducing the deficit of the Pension Fund

Source: Treasury of Ukraine (2022b).

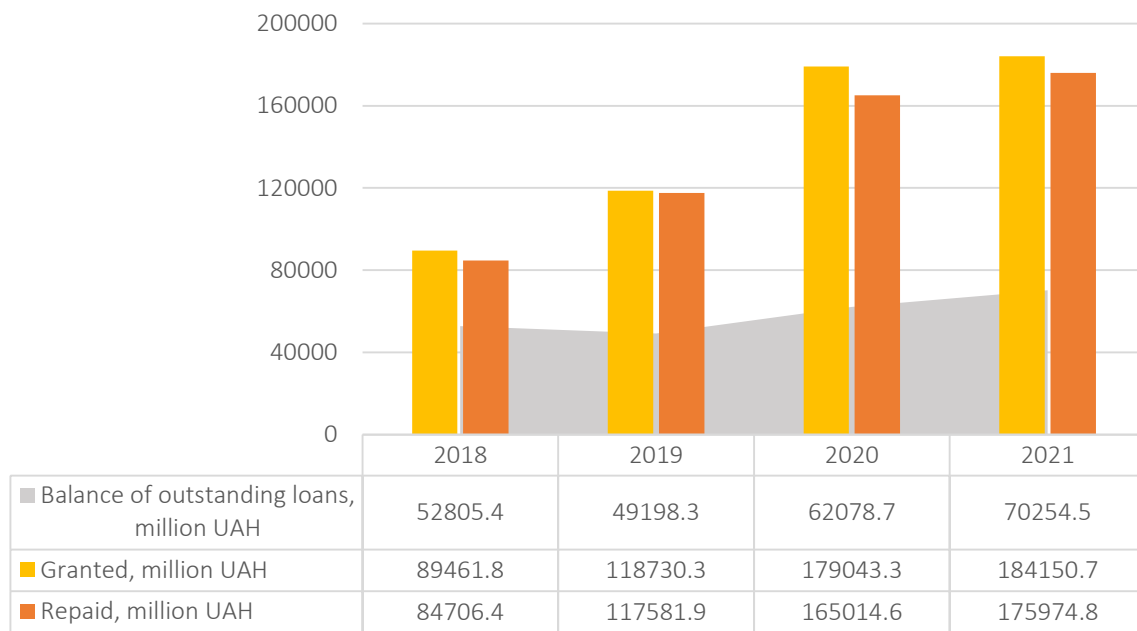


Figure 4. Granting and repayment of loans to cover temporary cash gaps to the Pension Fund of Ukraine related to the payment of pensions from TSA funds, million UAH

of Ukraine needs legislative regulation, which is currently lacking in Ukraine. Better and more efficient management of budget funds requires the constant development of processes and procedures for managing TSA operations, which is regulated by the action plan “Liquidity Management Concept for 2020–2023” approved by the Cabinet of Ministers of Ukraine (2020c).

The transition to medium-term budget planning has led to a change in the emphasis on managing the financial flows of state and local budgets, from financing the costs to financing the results. Thus, it is necessary to ensure regular compliance of the established goals and objectives with effective and high-quality results of budget funds (Verkhovna Rada of Ukraine, 2010, 2021). Financial flows in the budget process are limited to the relevant budget, which approves budget allocations to chief fund managers in terms of responsible executors of budget programs, and defines social norms and standards, and areas of funding for industries in accordance with development goals. The parameters of budget flows are determined by the number of managers and recipients of budget funds, accepted forms of payment, recording of transactions, types of economic relations, and different timing of transactions. In addition,

the movement of financial flows is influenced by various socio-economic conditions: population size and structure, social status, employment, specialization of production system, the level of housing and communal infrastructure, etc. (Verkhovna Rada of Ukraine, 2020, 2021a, 2021b).

Bobrovska (2008) determined that in contrast to financial flows in the productive sphere, financial flows in the non-productive sphere are irreversible. They are exhausted with achieving the ultimate goal – the provision of social processes and functions of social protection and social security at the time of providing consumers with budgetary services. Financial flows of the budget can be different in volume, move at different speeds, be withdrawn from the flow, and change the direction of movement. In order to fulfill the goals and objectives, and obtain specific results in the budget process, its participants need to ensure the sound formation and use of financial flows. The optimization of their movement should be by function and type and be coordinated at certain intervals.

To develop the system of financial flow management in the budget process of Ukraine, the study analyzed the experience of Germany

and France – the developed countries of the European Union with the highest levels of GDP. According to the German Federal Ministry for Economic Cooperation and Development (Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung, 2022), the country's sustainable development policy includes the implementation of the 2030 Plan, which includes 17 development goals. They are: overcoming poverty; food security; health and well-being; quality education; gender equality; clean water; available energy resources; employment and economic growth; industry, innovation, infrastructure; reducing inequality; ensuring sustainable development of territories; socially responsible consumption and production; environmental protection measures; rational use of water resources; protection of terrestrial ecosystems; fair justice; global partnership for sustainable development. The combination of financial and social support is a key instrument for achieving Germany's strategic development goals and meeting its international obligations. Perspective-oriented financial flow management allows the German government to anticipate possible development trends and, if possible, shape this development by choosing alternatives and making sound decisions on budget and financial policies.

The French experience also shows the need for strategic plans, forecasts, and programs. According to the Ministry of Economy, Finance and Reconstruction of France (Ministère de l'Économie, des Finances et de la Relance, 2022a), the country has adopted a Stability Program for 2021–2027, which defines an investment and reform strategy that corresponds to the implementation of the European Recovery Plan. The long-term trajectory presented in the stability program confirms the Government's desire to ensure a stable recovery of economic activity and support long-term growth while restoring public finances. The French government has set itself the goal of a good trajectory based on priority economic recovery, supporting potential growth combined with stabilizing and reducing the budget deficit to 3% of GDP by 2027 from 7% in 2020. Table 1 and Figure 5 present indicators of revenues, expenditures, and state borrowings to cover the budget deficit and GDP of Germany, France, and Ukraine.

Table 1. Indicators of revenues, expenditures, state borrowings, and GDP of Germany, France, and Ukraine

Source: Bundesministerium der Finanzen (2022a, 2022b),
Ministère de l'Économie, des Finances et de la Relance (2022b),
Treasury of Ukraine (2022d).

Indicator	2020
German budget revenues, billion euros	313.00
German budget expenditures, billion euros	443.40
State loans to the German budget, billion euros	130.40
Revenues of the State Budget of France, billion euros	430.40
Expenditures of the State Budget of France, billion euros	589.30
State borrowings to the French budget, billion euros	158.90
Revenues of the State Budget of Ukraine, billion UAH	1,076.03
Expenditures of the State Budget of Ukraine, billion UAH	1,288.12
State borrowings to the budget of Ukraine, billion UAH	212.09
France's GDP, billion euros	2,288.62
Germany's GDP, billion euros	3,346.33
Ukraine's GDP, billion UAH	4,191.86

Table 1 presents volumes of revenues, expenditures, and GDP of Ukraine in billion UAH. If these figures are presented in billion euros (the rate of 32.4 UAH per 1 euro), the amount of revenues will be 33.2 billion euros (9 times less than in Germany and 13 times less than in France), the amount of expenditures – 39.8 billion euros (11 times less than in Germany and 15 times less than in France), state borrowings to the budget of Ukraine – 6.5 billion euros (20 times less than in Germany and 24 times less than in France), and GDP – 129.4 billion euros (26 times less than in Germany and 18 times less than in France).

To conduct a comparative assessment of indicators, their shares in GDP were found with the results shown in Figure 5.

Estimating the share of revenues and expenditures in GDP, it can be noted that Ukraine has the largest share (26% and 31%, respectively), followed by France (19% and 26%) and the smallest share of Germany (9% and 13%). The share of the budget deficit in GDP is the largest in France (7%) and the lowest in Germany (4%). In Ukraine, this share is 5%. In terms of revenues, budget expenditures, and GDP, Ukraine lags far behind the developed

Source: Bundesministerium der Finanzen (2022a, 2022b),
Ministère de l'Économie, des Finances et de la Relance (2022b), Treasury of Ukraine (2022d).

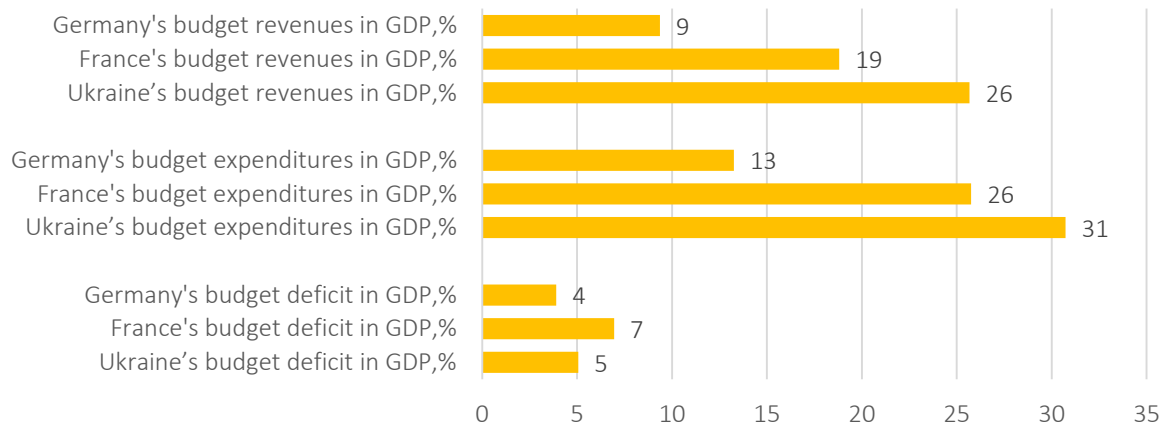


Figure 5. The share of revenues, expenditures, and budget deficits of France, Germany, and Ukraine in GDP in 2020, %

countries of Europe, which, of course, affects its social and economic development. However, the assessment results on the share of revenues, expenditures, and budget deficits in GDP confirm the appropriate policy of the state to manage the flows of revenues and expenditures of the budget.

Based on the experience of Germany and France, the strategic guidelines of the budget process in Ukraine should be determined, taking into account the mandatory support of the social sphere because, as the world experience shows, it is important for the state's modern economic development. The need for adequate funding for the social sphere is because the filling of the budget with revenues does not guarantee the necessary minimum level of well-being of all citizens to which they are entitled. Furthermore, supporting the social sphere reduces the impact of imbalances caused by economic and social unrest, shocks from job loss or loss of income, disability, old age, and illness on the management of financial flows of state and local budgets.

Based on the need to eliminate a number of obstacles to realizing the state's own potential and strengthening positions in the global and regional arena, the Cabinet of Ministers of Ukraine approved the National Economic Strategy for 2030 (Cabinet of Ministers of Ukraine, 2021b). It defines long-term economic vision, principles and values, unacceptable directions of movement, key directions (vectors) of economic development, and for each of the 20 areas – strategic goals, ways to

achieve them, the main objectives of state economic policy, and target indicators for the period up to 2030. The strategy envisages the gradual achievement of improving the welfare of the population. According to the Strategy, the first step is to create competitive conditions for business and investment, as well as to restore confidence in public institutions. This will make it possible to win the competition for capital on the world market and attract investment to modernize sectors of the economy. Transformed and highly productive sectors of the economy will be able to compete effectively on the international market of goods and services with foreign countries, contributing to the growth of tax revenues and household incomes.

Approved by separate resolutions of the Cabinet of Ministers of Ukraine, the National Economic Strategy for the period up to 2030 (Cabinet of Ministers of Ukraine, 2021b); State Program of Economic Stimulation to Overcome the Negative Consequences of Restrictive Measures to Prevent the Occurrence and Spread of Acute Respiratory Disease COVID-19 for 2020–2022 (Cabinet of Ministers of Ukraine, 2020d); Forecast of economic and social development of Ukraine for 2021–2023 (Cabinet of Ministers of Ukraine, 2020a); State Strategy for Regional Development for 2021–2027 (Cabinet of Ministers of Ukraine, 2020b) are taken as a basis for the preparation of draft program and strategic documents, draft laws and other legislative acts, projects, economic action plans and programs of social and economic development of the relevant area.

The main strategic task of modernizing the state's financial system management is establishing efficient local authorities, providing excellent living conditions, and offering citizens sound public services. It is impossible to achieve these tasks without the connection with the financial flows of the State Budget of Ukraine and the country's relevant local budgets. Socio-economic development, financial support, and sufficiency of financial sources will contribute to the growth of the budgetary potential of the relevant territory and its sustainable development. Some territorial communities report good growth levels in their budgets. Financing is one of the most vital issues since territorial communities' success relies significantly on it. One can distinguish economically active businesses, qualified professionals, and adequate industrial and social infrastructure among the components of successful community development and the formation of budget flows.

The search for appropriate conditions for sustainable local development and socio-economic development of the country is due to decentralization, which took place in Ukraine during two stages: 2014–2019 and 2020–2021. Significant changes that affected the management of financial flows of local budgets in the study period include the formation and liquidation of districts, as well as the formation of a new administrative-territorial structure. Based on the need to prevent the impact of such circumstances on the emergence of imbalances in the development of the country's budget performance indicators, the number of budget managers and loans to cover temporary cash gaps with TSA funds, the analysis, and ranking of administrative-territorial units of Ukraine was conducted using the function "RANG" Excel (Table 2, Figure 6).

Due to the liquidation of managers and recipients of budget funds and the closure of their registration cards in the Unified Register of managers

Table 2. Rating of administrative-territorial units of Ukraine in 2021 by individual indicators

Source: Treasury of Ukraine (2022b, 2022c).

No.	Region	Rating of indicators of local budget execution based on expenditures	Rating based on the number of managers of local budget funds	Rating based on loans granted to cover temporary cash gaps of local budgets with TSA funds	Position
1	Vinnitsia	10	3	22	15
2	Volyn	19	18	18	24
3	Dnipropetrovsk	2	2	2	1
4	Donetsk	6	1	5	1
5	Zhytomyr	13	8	12	10
6	Zakarpattia	16	15	13	15
7	Zaporizhzhia	8	5	12	5
8	Ivano-Frankivsk	12	7	8	5
9	Kyiv	7	16	9	7
10	Kirovohrad	23	17	5	12
11	Luhansk	25	11	–	15
12	Lviv	4	4	7	1
13	Mykolayiv	17	21	3	9
14	Odesa	5	6	5	1
15	Poltava	9	10	9	3
16	Rivne	15	9	6	3
17	Sumy	18	19	7	6
18	Ternopil	21	23	5	7
19	Kharkiv	3	12	–	1
20	Kherson	20	14	3	4
21	Khmelnitsky	11	13	1	1
22	Cherkasy	14	20	1	2
23	Chernivtsi	24	25	2	3
24	Chernihiv	22	24	1	2
25	The city of Kyiv	1	22	–	1

Source: Treasury of Ukraine (2022b, 2022c).

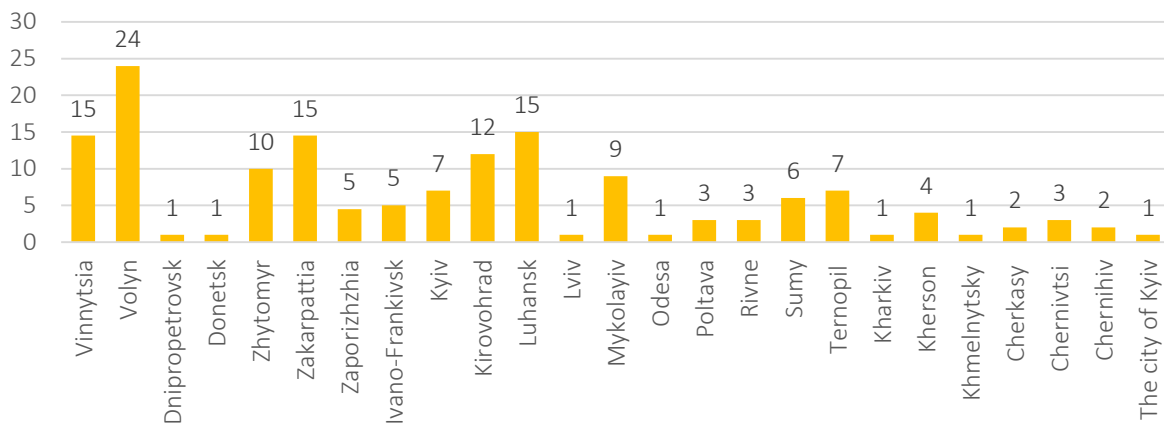


Figure 6. Positions of administrative-territorial units of Ukraine in the ranking of individual indicators in 2021

and recipients of budget funds following the new administrative-territorial structure of Ukraine in 2021, the number of managers of local budget funds decreased by 5,886 and amounted to 20,889 in 2021. The reduction in the network of local budget managers led to changes in the volume of local budgets in Ukraine and a decrease in the volume and number of loans to cover temporary cash gaps in local budgets of Ukraine from TSA funds. Calculated ratings by indicators in Table 2 made it possible to determine the place of the territory in the overall rating (Figure 6).

According to the variables of budget execution indicators, the number of budget managers, and loans to cover temporary cash gaps in TSA funds in 2021, a cluster analysis was conducted using the capabilities of the Statistica program (Figure 7). The analysis identified groups (clusters) of individual indicators that determine the management of financial flows based on the results of budget execution in similar administrative-territorial units.

Cluster analysis made it possible to distribute groups of indicators that highlight the results of fi-

Source: Treasury of Ukraine (2022b, 2022c).

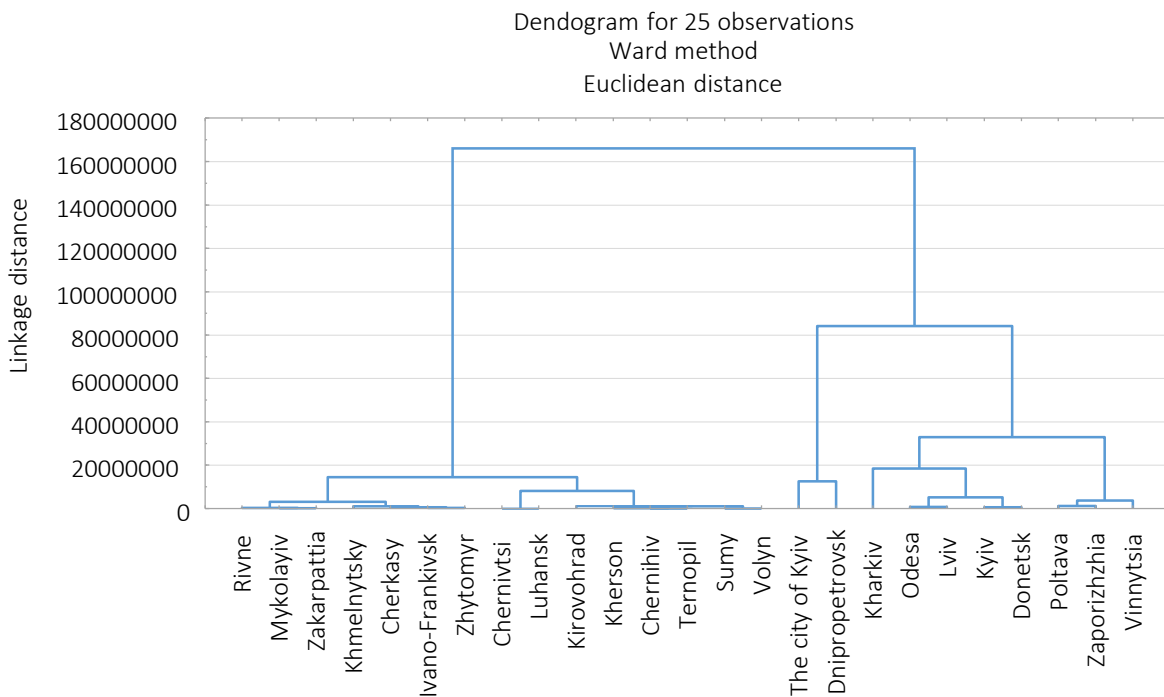


Figure 7. Results of the cluster analysis of administrative-territorial units of Ukraine in 2021

nancial flow management in the process of budget execution of administrative-territorial units according to the following levels based on their location at the appropriate Euclidean distance on the built dendrogram on the following scale: cluster 1 – low; cluster 2 – average; cluster 3 – high. The data sample showed similar results for financial flow management in Rivne, Sumy, and Volyn regions – 1st cluster; Mykolaiv, Zakarpattia, Khmelnytsky, Cherkasy, Ivano-Frankivsk, Zhytomyr, Chernivtsi, Luhansk, Kirovohrad, Kherson, Chernihiv and Ternopil regions – 2nd cluster; Kyiv, Dnipropetrovsk, Kharkiv, Odessa, Lviv, Kyiv, Donetsk, Poltava, Zaporizhia, Vinnytsia regions – 3rd cluster.

Ranking and cluster analysis make it possible to focus on the share of administrative-territorial units with low and medium levels of results and prevent cases of their weakening under the influence of possible structural imbalances of the financial system. Ensuring the growth of the budget potential of administrative-territorial units in Ukraine will positively affect the growth of the country's budget potential in general. Sufficient local budgets guarantee that this community can offer better services to their citizens, conduct social projects, provide businesses with appropriate development conditions, become attractive to investors, launch different development programs, and finance other activities that enhance living standards. Differences in the development of territorial communities determine the importance of constant monitoring, analysis, and ranking of local budgets by indicators that characterize the movement of financial flows. These evaluation results determine the further definition, development, and application of a set of appropriate instruments for effective management of local budgets' financial flows.

Optimization of budget flows is vital for improving the relationship between the State budget and local budgets and between local budgets of Ukraine. The budgetary system limits internal budget flows. They are related to the movement of tax revenues, transfers, and budget loans within the budgetary system both from the State budget to local budgets and the withdrawal of funds from local budgets to the State Budget of Ukraine. External budget flows are related to paying taxes to the budget and financing enterprises, organizations, institutions, and citizens.

The budget unites the interests of all subjects of the national economy – a single system of interconnected industries and spheres of human activity, which is characterized by the appropriate placement of enterprises, organizations, institutions, and households on the country's territory. Each entity of the national economy has its inflows and outflows, and these sectors are connected by cash flows that pass through the market of resources, products, money, and world markets. Therefore, improving the management of financial flows in the budget process, focused on the quality and efficiency of the results, makes it possible to balance the country's financial system and the global financial system, ensuring the circulation of financial resources.

Financial flows in the budget process are influenced by macroeconomic balance and the state of the social and economic spheres of the state. There are a number of obstacles to the effective management of financial flows. For example, the world is changing rapidly, which requires an appropriate response from the state authorities and local governments of Ukraine. Population growth, global climate change, rapid development of the digital economy, and regionalization of international production create both challenges and new opportunities for the country's sustainable development. In addition, the management of financial flows at the state and local levels may differ due to the difference in priority areas of development of the state and territories and requires coordination. The problem of inconsistency is especially acute at the stages of decentralization of the financial system of Ukraine, in the process of which the newly created territorial communities gain budgetary independence and become more able to address all issues of local importance. This ability opens the way for the community to direct inter-budgetary relations, which ensures their full budgetary independence. Of course, the capacity of a community is measured by many factors and parameters, but the fundamental component of its livelihood is financial resources.

Local councils approve the decision on the relevant local budget for socio-economic and cultural development programs for the planned year and the main indicators of economic and social development for the two forecast years follow-

ing the planned year. Such programs are based on the analysis of key indicators and trends and determine the goal, objectives, and measures of economic and social development of the area. The implementation of budget programs involves joint actions of local executive bodies, local governments and territorial ministries, and other central executive bodies in cooperation with representatives of business, science, and NGOs to coordinate state and local policies. Achieving harmonization of strategic goals of the state and its territories makes it possible to ensure sustainable long-term economic growth by attracting and stimulating investment; increasing the efficiency of investments; increasing the efficiency of public finances; stimulating the export of goods and services; improving the purchasing power of the population by stimulating economic development and improving welfare.

Reviewing the regulatory framework and studying the sources that reveal the need to ensure a balanced movement of financial flows in the budget process of Ukraine makes it possible to outline the conditions for minimizing the impact of structural imbalances on the financial system.

Elimination of factors that complicate the liquidity management of TSA funds to improve the management of financial flows. Balancing the inflow and outflow of TSA funds should be regulated at the legislative level. Participants in the budget process should improve the liquidity management process, including short-term borrowing and/or use of temporarily free funds through active public debt operations. The main prerequisites for effective liquidity management are accurate forecasts of cash flows and reduction of outstanding balances through TSA funds (Cabinet of Ministers of Ukraine, 2020c, 2021a; Kirilenko et al., 2020).

Building a financial flow management system in the budget process of Ukraine. It ensures the distribution of budget funds for agreed strategic objectives. These objectives are defined in the National Economic Strategy until 2030 (Cabinet of Ministers of Ukraine, 2021b). For the successful implementation of the National Economic Strategy in the medium and short-term, it is necessary to develop sectoral and local development programs. These programs should ensure the

achievement of goals, objectives, and measures focused on the quality and effectiveness of results. In addition, it is vital to consider the components of socially oriented development (Cabinet of Ministers of Ukraine, 2020a, 2020b).

Ensuring the quality and efficiency of financial flow management in the budget process. This condition is met due to the compliance of financial flows with the principles of the budget system: completeness, validity, efficiency and effectiveness, subsidiarity, targeted use of budget funds, fairness and impartiality, publicity, and transparency (Verkhovna Rada of Ukraine, 2010). The focus of financial flow management in the budget process on financing results makes it possible to fully and timely ensure the implementation of the powers of public authorities and local governments as well as social development processes.

Proper measurement of the obtained results of financial flows' assessment (in absolute, relative units). The results of the assessment should be comparable with the used calculation methods, be informative and understandable in content and purpose for participants in the budget process of Ukraine – specialists of state authorities, local governments, and the public (Verkhovna Rada of Ukraine, 2021). Making sound decisions on the management of incoming and outgoing budget flows contributes to the effective formation and use of budget funds, ensuring their desired growth, distribution in time, space, and areas of use (Bobrovska, 2008).

Growth of financial and budgetary potential. Assessment of the budgetary capacity of territorial communities makes it possible to ensure the implementation of their tasks and functions by using budgetary funds. The presence of differences in the financial security of territorial communities is a normal phenomenon caused by differences in natural resources, and economic and social conditions for the development of the respective administrative-territorial unit. For small communities, it is advisable to consider their territorial expansion and the corresponding increase in the population of such communities. This makes it possible to extrapolate the financial potential of the community to a larger area and population. However, if the differences in territorial development are explained

not only by indicators – the criteria that affect the financial aspects of united territorial communities and can be explained and substantiated but also by shortcomings in managing financial flows of relevant local budgets – this phenomenon is undesirable and should be eliminated (Cabinet of Ministers of Ukraine, 2020a, 2020b).

The results of the study can be used in the process of:

- assessment of the state of budget flows using analytical and information methods and technologies;
 - definition of tasks, measures, and results of the use of financial resources to justify decisions on budget issues;
 - formation of a more reasonable structure of budget expenditures;
 - analysis and evaluation of effectiveness in using budget funds; ensuring control over the
- movement of financial flows to prevent their irrational use.
- Areas of further research on the proper management of financial flows may be related to improving fiscal regulation. The use of such instruments in the budget process of Ukraine helps to increase budget capacity and potential. Moreover, it increases the interest of state authorities and local governments in increasing revenues to relevant budgets, finding reserves to fill them, and improving the efficiency of tax administration and fees. Budget and tax regulation can be considered as:
- activities related to the formation, distribution, and redistribution of budget resources;
 - a means of managing the processes of socio-economic growth, which significantly simplifies the elimination of undesirable development trends and prevents imbalances in the financial system.

CONCLUSION

Identifying and outlining possible approaches and directions for improving the management of financial flows contribute to the achievement of positive changes in the budget process of Ukraine, being the driving force for the modern financial system, in particular, for the elimination of its imbalances. The areas identified in the study to improve the management of financial flows in the budget process of Ukraine are related to the management of balances on TSA funds and increasing their liquidity. Adjusting a stable and balanced movement of financial flows is caused by the need to adapt the formation and direction of financial flows in the budget process to the changes that occurred in the study period 2016–2021 – decentralization of the financial system and transition to medium-term budget planning.

The results of assessing the balances of TSA funds show fluctuations in TSA balances over the past five years with a large gap: fluctuations are from 1.9 billion UAH up to 75.7 billion UAH. The instability of TSA balances, the reduction of the volume and number of loans to cover temporary cash gaps in local budgets of Ukraine, arrears on outstanding loans of the Pension Fund of Ukraine, and the lack of legislative regulation cause imbalances in the management of the budget process in Ukraine. Based on the study of practical experience, the conditions for improving the accuracy and quality of forecasting TSA balances are revealed. The compliance will ensure the uniform use of budget allocations during the year by budget managers, reduce loans and increase the number of repaid loans from TSA funds.

The management of financial flows in the budget process during 2017–2021 takes place in conditions of imbalances of revenue and expenditure sides of state and local budgets. Imbalances in the management of financial flows in the budget process of Ukraine are manifested in the deficit of the State Budget of Ukraine, the growth of public debt, and state-guaranteed debt. Limited financial flows in the budget process of Ukraine make it challenging to ensure the achievement of quantitative and qualitative results

of budget flows, which is an essential condition for medium-term budget planning. A review of experience of developed countries such as Germany and France showed the importance of social support, which affects the achievement of goals in sustainable development. Areas of timely and full implementation of the powers of state authorities and local governments aimed at financial and social support include: ensuring the compliance of the obtained results with the principles of the budgetary system of Ukraine; the possibility of sound measurement of financial flows with further assessment of the quality and effectiveness of results of the budget funds' use. Addressing the gaps in the social sphere reduces vulnerability. It also strengthens the resilience of this branch to the effects of various imbalances on the state's financial system and its territorial communities.

A necessary condition for minimizing the impact of structural imbalances of the financial system on the budget process of Ukraine is to ensure the growth of budgetary potential of administrative-territorial units in Ukraine, which in general has a positive effect on the growth of budgetary potential of the country. The use of ranking and clustering methods made it possible to consider the differences in the formation and use of budget flows of territorial communities and to determine the progress of administrative-territorial units. The results of such monitoring, analysis, and evaluation of local budgets are the basis for sound management decisions on budgetary issues, and their practical application contributes to the development of a unique set of instruments for effective management of financial flows in the budget process of Ukraine.

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