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ASSESSMENT OF VARIOUS FRAMEWORKS FOR FINANCING TERRITORIAL COMMUNITIES

ABSTRACT

Considering limited budgetary resources, the united territorial communities of Ukraine are forced to look for additional sources of financing for reconstruction and development. The implemented decentralization reforms make it possible to attract private funds using a wide range of financial instruments. The purpose of the research is to assess various financing frameworks for the development of territorial communities. It involves an analysis of the best practices for organizing financing frameworks, a comparative analysis of various development financing tools, and a SWOT analysis of the use of green bonds to finance the restoration of UTCs in Ukraine. It was established that the available sources and tools for financing the development of territorial communities are determined by the financial framework of the local budget. Global practice has shown that there are four main systems of organizing local budgets, based on six groups of factors. Depending on the organization of the national budget system, local governments can have significant financial autonomy, which allows for diversification of funding sources (market-based system), or completely depend on the state budget for financing investment projects (direct controls system). Due to decentralization, UTCs in Ukraine can use a wide range of financial instruments to attract funds for reconstruction. It can be owned funds from budget revenues, grants, public-private partnerships, and debt. Municipal bonds are the most versatile tool for attracting debt funds. According to our SWOT analysis of the possibility of using green bonds to finance the restoration of UTC in Ukraine, it was concluded that such bonds are currently a more effective tool, as they allow attracting a wider range of investors who are interested not only in the profitability of the financial instrument, but are also ready to invest in less profitable bonds that are aimed at financing green projects.

Keywords: financing of territorial communities, financing mechanism, financing instruments, municipal bonds, green municipal bonds

JEL Classification: G15, H54, H61, H70

INTRODUCTION

The sustainable development of territorial communities requires stable financing. Under normal conditions, it has access to various sources of financial resources. However, during the crisis, the list of available sources of financing is significantly reduced, and the cost of attracting funds increases. The war in Ukraine led to the massive destruction of infrastructure, housing and production facilities in territorial communities. This caused the need for significant amounts of financial resources, and at the same time led to a decrease in revenues to local budgets, therefore, for reconstruction and further development, territorial communities are forced to attract external resources. The main task facing them is to determine the sources of financing that are available in crisis conditions and to determine the most effective among them. The list of available sources of funds is determined by the financing mechanism that was formed in the territorial community on the basis of national legislative regulation and the financial health of the territorial community. It is important for Ukraine to determine the most effective tools for attracting financial resources in accordance with the existing financing framework for local budgets.

LITERATURE REVIEW

Financing of territorial communities in general is a common topic of research in the modern economic literature. This is due to the significant diversification of available sources of funds for local budgets.

There are several sources that are available to most communities. One of the possible sources is municipal debt. There is a developed international market for municipal bonds that allows to quickly borrow necessary funds. In particular, in the United States, the municipal bond market is an integral part of the financial market. Cestau et al. (2019) believe that the efficiency of the municipal bond market forms the basis for the provision of services by local communities. They emphasize that this market has many problems, but that regulatory changes that have increased its transparency will significantly improve its performance.

Cornaggia, Hund & Nguyen (2022) examined investors' reactions to problems with municipal budgets and concluded that the market is rather slow to respond to the current economic situation in specific communities that are issuers, so it is necessary to strengthen disclosure standards to avoid market shocks.

Greening of the economy led to the appearance of a new segment of the municipal bond markets, that are issued for green projects. At the moment, the market for green municipal bonds is actively developing. Partridge & Medda (2020) examined the US green municipal bond market and concluded that the green municipal bond index shows significantly better dynamics than the conventional municipal bond market and that the yield on these bonds is also higher for investors. The authors conclude that there are all the prerequisites for the active development of this market in the United States.

Higher yield makes green bonds more attractive to investors, but it's more expensive for the communities. That was empirically confirmed by the researchers. Baker, Bergstresser, Serafeim & Wurgler (2022) compared conventional and green municipal bonds from the same issuer and concluded that raising funds through green bonds is more expensive for the municipal budget than conventional debt instruments, but investors are more favourable to them and less inclined to sell them.

Aleksandrova-Zlatanska & Kalcheva (2019) conclude that municipalities are facing the challenge of overcoming the effects of climate change, which requires additional expenditures from the local budgets. The authors suggest using the green bond market and the mechanism of national joint financing to fund them.

Gorelick & Walmsley (2020) examined the problem of infrastructure development in territorial communities and the lack of funds in local budgets to cover the costs of infrastructure projects. The authors concluded that many municipalities are forced to give preference to green projects because they are easier to find investors for.

Flammer (2020) examined the effectiveness of green bonds and concluded that their real impact on the environment requires government regulation that encourages compliance with environmental standards during the implementation of relevant projects.

One of the main prerequisites to unimpeded municipal borrowing at the capital markets is an acceptable credit rating from a reputable rating agency. Credit ratings are often used to assess investor interest and the cost of attracting municipal financing. Cornaggia, Cornaggia & Israelsen (2018) concluded that investors continue to rely heavily on credit ratings when selecting an investment target, regardless of the decline in their information value, although disclosure of additional information reduces the mechanical use of ratings and encourages investors to conduct their own additional analysis.

Adelino, Cunha & Ferreira (2017) examined the relationship between US municipal bond ratings and the availability of funds for local budgets. They concluded that an improvement in municipal bond ratings allows to attract more funds, which leads to an increase in the development rate of territorial communities.

The availability of financial resources for the territorial communities depends on several factors. There are limitations to the ability to attract resources, investment and other forms of financing. The most common cause for those limitations is the crisis as a result of different causes from financial complications to natural disasters. For example, the state of financing of territorial communities is significantly affected by external factors and assistance from the state budget during the crisis. In particular, Nemeč & Špaček (2020) examined the state of local budgets in the Czech Republic and Slovakia under the influence of the Covid-19 pandemic and concluded that local budgets in these countries faced serious problems amid restrictions, which were further complicated by the lack of assistance from central budgets. The authors also emphasized that the way the local budgets responded to crises depended on several factors, namely the level of decentralization, the sensitivity of local budget revenues to economic fluctuations, the resilience of local budgets to shocks, and effective support from the central budget.

Kańduła & Przybylska (2021) examined the impact of the COVID-19 epidemic on the local budgets in Poland, their response to new challenges, and changes in the use of financial instruments to raise resources for the budget. The authors emphasized that the use of anti-crisis financial instruments had helped to balance local budgets, in particular, tax deferrals had been proposed, and the cost of services for the use of infrastructure had been reduced.

Infrastructure development is one of the main tasks of local communities. The issues of priority areas for infrastructure restoration, attracting the necessary resources, and generating revenue from the use of infrastructure facilities remain very important in Ukraine and abroad. O'Brien, O'Neill & Pike (2019) concentrated on the analysis of the financing of urban infrastructures and their governing as they are the major issues for the governments on the national, regional and municipal levels. They argue that the quality of infrastructure depends on the source of funds, their usage and management. The resources needed are often not available to territorial communities. Authors postulate that municipal infrastructure is attractive to potential investors including international entities as it may offer the ownership of material assets, the possibility of long-term returns, and a diversification of risks and maturities. They also noted that those investment options offered are mostly uncorrelated with other widespread opportunities in the market. As a result, attracting international investors for financing municipal infrastructure projects is one of the potential sources of funds for territorial communities.

The crisis affects the conditions and sources of financing for local communities. For example, Jerch, Kahn & Lin (2023) studied changes in local budget revenues, expenditures, and borrowing on the Atlantic coast of the United States after the devastation caused by hurricanes. They found that hurricane damage leads to a decrease in budget revenues, especially tax revenues, as well as government borrowing, as their cost also increases. In addition, the risk of default on existing debt obligations increases significantly. This leads to a reduction in budget expenditures and a slowdown in the pace of reconstruction and development of communities.

Painter (2020) investigated how climate change affects the terms of municipal bonds in financial markets. He concluded that the costs of issuing such bonds for communities and the yields on such bonds for investors are higher, meaning that local budgets will spend more on raising funds if they are affected by climate change. This applies mainly to long-term bonds, and their credit rating is lower.

Gordon, Dadayan & Rueben (2020) argued that shocks of different natures negatively affect central and local budgets. It is especially noticeable for the revenues from the taxes on sales and personal income. Authors noted that in the most extreme cases, it fell to the federal budget to fill the gap but it still was not enough.

Also, support from the central budget plays an important role in the stability of the financial system of territorial communities. Gao, Lee & Murphy (2019) studied the situation with local community budget defaults in the United States in 1999-2010 and the response to them by the state authorities where they are located. They found that state governments practised two approaches: non-intervention, which meant that local authorities were forced to declare default and bankruptcy, and active assistance, which allowed them to avoid default. The authors concluded that without the support of the state government, the costs of debt financing for local communities increased significantly.

In the pre-war period, financial decentralization was actively pursued in Ukraine, designed to stimulate the development of territorial communities by attracting funding from additional sources. One of the possible ways to increase available resources was to introduce local taxes, the revenues of which would remain in the budget of the territorial community.

Britchenko, Bezpartochnyi & Maslii (2019) studied the conditions, issues, advantages and possibilities of the development of financial decentralization in Ukraine. The authors analysed and compared fiscal federalism versus principles of decentralization. They studied the sources of funding for territorial communities in Ukraine. They noted that the possibility of imposing taxes on the community level facilitates the removal of budget imbalances. As such, they consider local budget revenues as a viable source of financing infrastructure and community development.

Pidchosa, Lyutyy & Pidchosa (2019) examined the methods of budget policy used to redistribute cash flows at different levels of government. The authors concluded that an effective budget system is possible only when there is unity of its subjects on all levels. An efficient budget system is the prerequisite for macro-financial stability, efficient allocation of budget resources, democratization of society and sustainable socio-economic development.

Vdovichen et al. (2024) analyse fiscal decentralisation as a trend in the EU countries and Ukraine. They conclude that decentralisation was effective in the allocation and spending of budget revenues. The authors noted that state budget transfers were the dominant source of revenues during 2001-2022. They pointed out that the level of decentralisation was the highest for the countries with three-level budgetary systems. At the moment, Ukraine has a low level of decentralisation.

Crisis phenomena have a significant impact on the availability of financing and the ability to use various funding instruments, so additional analysis is required to determine the most optimal source of resources, taking into account the existing conditions in the country.

AIMS AND OBJECTIVES

The purpose of the article is to assess different frameworks for financing the development of territorial communities. The key objectives of our research are to:

- analyse best practices of organizing financing frameworks of the territorial communities;
- compare different instruments for financing the development of territorial communities;
- conduct a SWOT analysis of the possibility of using green bonds as an instrument of financing the recovery of united territorial communities of Ukraine.

METHODS

The study used a comprehensive approach that includes an analysis of scientific literature, regulatory documents and statistical data. The analysis of legal acts was carried out to understand national and international regulation in the field of using various sources to finance territorial communities. A comparative analysis was used to study the best practices of the EU countries, which allowed to identify successful strategies and initiatives aimed at stimulating the development of territorial communities. This approach allowed to identify best practices that can be adapted for implementation in Ukraine. The GAP analysis was used to identify key areas of the incentive policy that need to be improved. This method allowed to identify gaps between the current state and desired goals of post-war recovery. SWOT analysis was used to formulate specific, achievable, and relevant recommendations aimed at selecting the most effective sources of funding to stimulate the development of Ukrainian communities.

RESULTS

Territorial communities can use various sources of funding to finance their economic development and activities, such as their own revenues, transfers from the state budget, and private funds raised in the capital markets. Private capital is not always available to local budgets due to a number of limitations. To assess the possibility of obtaining private financing, a community must conduct a financial health analysis, obtain a credit rating, and propose certain projects that require financing. Typically, three main criteria are used to analyse the financial health of public institutions (Figure 1).

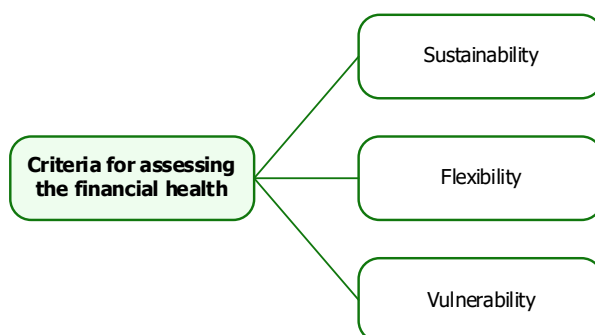


Figure 1. Criteria for assessing the financial health of a territorial community. (Source: created by the author based on Cabaleiro, Buch & Vaamonde (2013))

The sustainability assessment takes into account such indicators as the long-term debt of the territorial community, net budget revenues of the community, budget revenues of the community by type of activity, budget expenditures, and these indicators per capita.

The flexibility of the financial situation is determined by means of budget revenues and expenditures by type, the ratio between them, debt service costs, and these indicators per capita.

To assess vulnerability, it is necessary to take into account various types of budget revenues, grants received, tax revenues, capital transfers, the ratio between these indicators, and their per capita value (Cabaleiro, Buch & Vaamonde, 2013).

The ability and effectiveness of territorial communities to attract private financing are determined by the overall financial health of the institution, its credit rating in the capital market (if any), and other circumstances. In a difficult financial situation, attracting private financing may require an additional guarantee of repayment from central authorities or the use of non-credit financing, i.e., grants and financial assistance.

Public investments of the territorial communities in the EU are primarily funded from four main sources. They are not exclusive but the rest are additional and are used for individual projects. They are as follows:

1. Self-financing: meaning that municipalities use their own revenues, or create reserves from past budget revenues.
2. Capital transfers: meaning that they use funds from higher level budgets, state budgets or from the EU institutions.
3. Private funds: meaning that they attract private funds using several mechanisms, including project financing, public-private partnerships, grants.
4. Debt: meaning borrowing funds through capital markets, bank loans, and other institutions.

The shares of these sources are different for each country and depend on the time period analysed, but for territorial communities in the EU, debt funding was not a principal source of local public investments.

The availability of funding for public investments in territorial communities is usually determined by the six most common groups of factors (Figure 2).

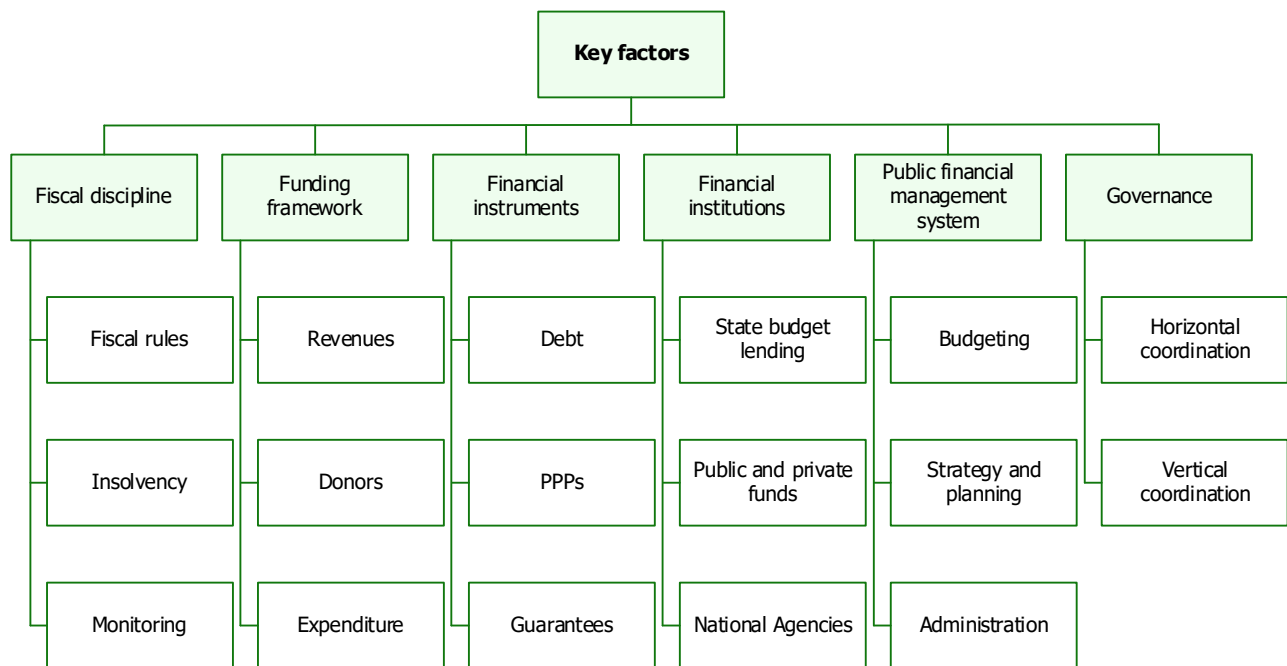


Figure 2. Factors determining the availability of funds to finance public investments of territorial communities. (Source: created by the author based on Vammalle & Bambalaite (2021))

Fiscal discipline shows investors the level of reliability of the local government. Mechanisms of fiscal discipline include fiscal rules, insolvency framework, direct control and monitoring mechanisms. The fiscal discipline framework impacts the capacity of local communities to attract debt resources to fund public investments. It should be noted that strict fiscal rules have several consequences. On the one hand, they impose limits on the amount of debt of the territorial communities, but on the other hand, they show investors that they are credible, thus access to credit becomes easier and its cost becomes lower.

The funding framework shows the source of funding for investments. It includes several possibilities. For example, municipalities can use a share of their own revenues from taxes and fees for administrative services or transfers in the form of general-purpose grants or earmarked grants. It determines the capability of the territorial community to increase revenues from different sources, one of the possibilities is imposing new or raising existing taxes. Revenue autonomy is usually

determined by national or supra-national regulations. If a municipality has expenditure autonomy, it may reallocate available funds to other areas, including public investments. It gives the local government the freedom to choose the most efficient investment projects. The territorial communities may receive donor funding in the form of grants from national or international institutions.

Financial instruments include debt in the form of loans or bonds, PPPs, and other financing. Loans can be obtained from private banks, international financial institutions, financing agencies or state budgets. Loans are a bilateral contract between two parties: a borrower and a lender. To receive funds from bonds, they need to be issued on financial markets and sold to multiple investors. Bonds usually allow to obtain funds for longer terms, but they have other limitations. Firstly, they require a rather large minimum sum and liquidity. For the territorial community, this sum is too large in most cases. To facilitate the attraction of resources local government can obtain guarantees from the central government or a special guarantee fund.

Financial institutions include the intermediaries that offer funds to finance municipal public investments. They establish the criteria for access to the funds, and the conditions for access. Among those institutions, the most prominent are public investment funds or local government financing agencies (LGFAs).

The public financial management system includes budgeting, strategy, planning, and administration. It allows to design efficient investment projects, encourages lenders to fund investment projects, and facilitates public-private partnerships.

Governance offers the framework for horizontal and vertical coordination. Vertical coordination helps to align policies of different levels of government, to monitor local budgets, and to offer technical support. Horizontal coordination increases efficiency through aligning projects and gathering resources.

Fiscal and financial components differ greatly depending on the country, territorial communities may have large autonomy for revenue adjustment, expenditure reallocation or borrowing rules. Other communities have limited autonomy and are restricted in decision-making. All those factors together create a particular financing system. The system does not ensure the limitations on borrowing to present a threat to fiscal sustainability. Generally, there are four main types of systems for sustainable municipal financing.

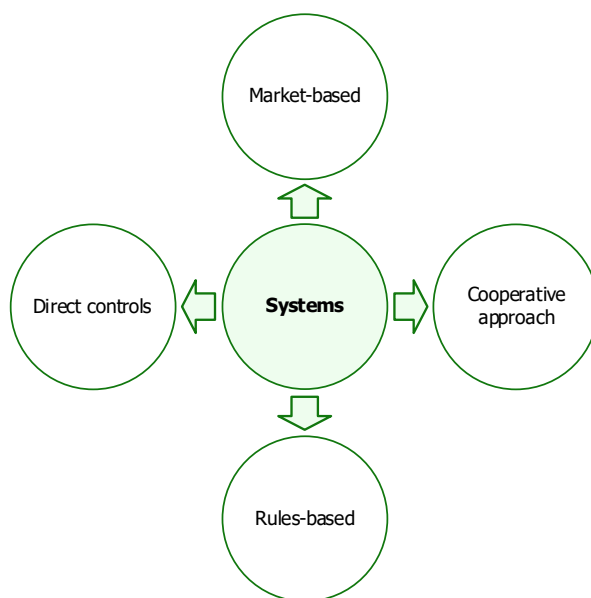


Figure 3. Main systems for sustainable municipal financing. (Source: created by the author based on (Source: created by the author based on Vammalle & Bambaite (2021))

The market-based system implies that lenders monitor local debts to ensure the quality of investment projects implemented and the fiscal sustainability of the community. Local budgets must have a high level of autonomy to efficiently borrow on financial markets. Such a system has a number of requirements. For example, municipalities need to have autonomy to adjust their revenues to relocate them for repayment of their debt. Lenders must be able to receive high-quality financial information on the territorial community, so financial markets have to be diversified and well-functioning (Figure 4).

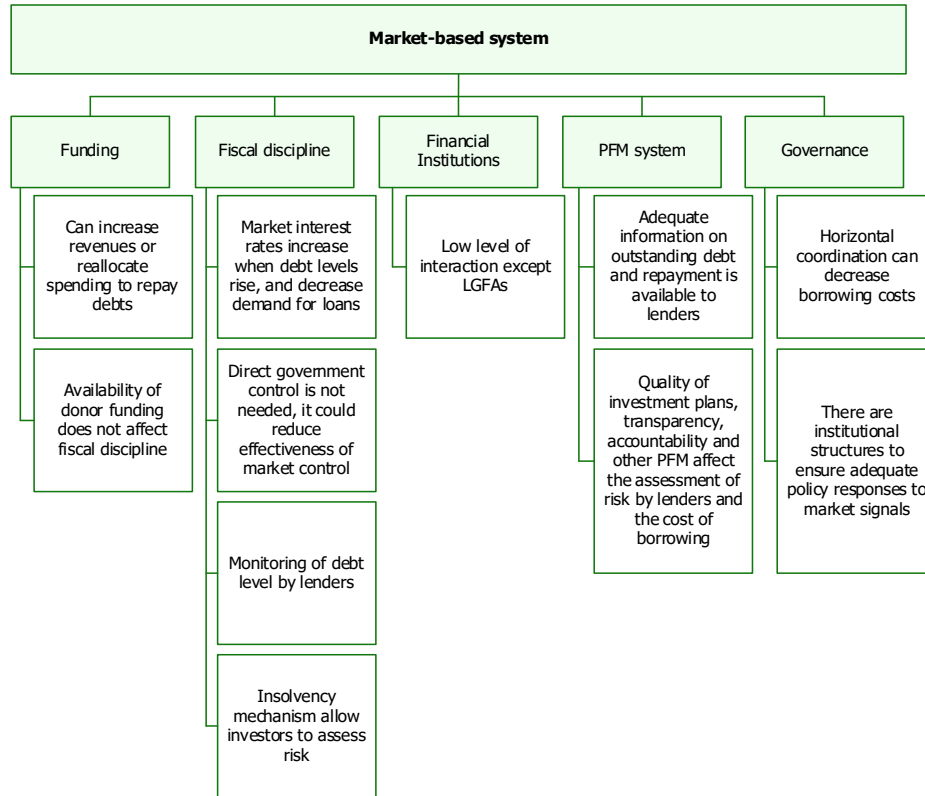


Figure 4. Market-based system's factors. (Source: created by the author based on (Source: created by the author based on Vammalle & Bambalaite (2021))

The cooperative approach system implies that debt limits for the territorial community are negotiated between the different levels of government. This approach ensures active participation of local communities in the macroeconomic objectives' development and the definition of deficit and debt target values (Figure 5).

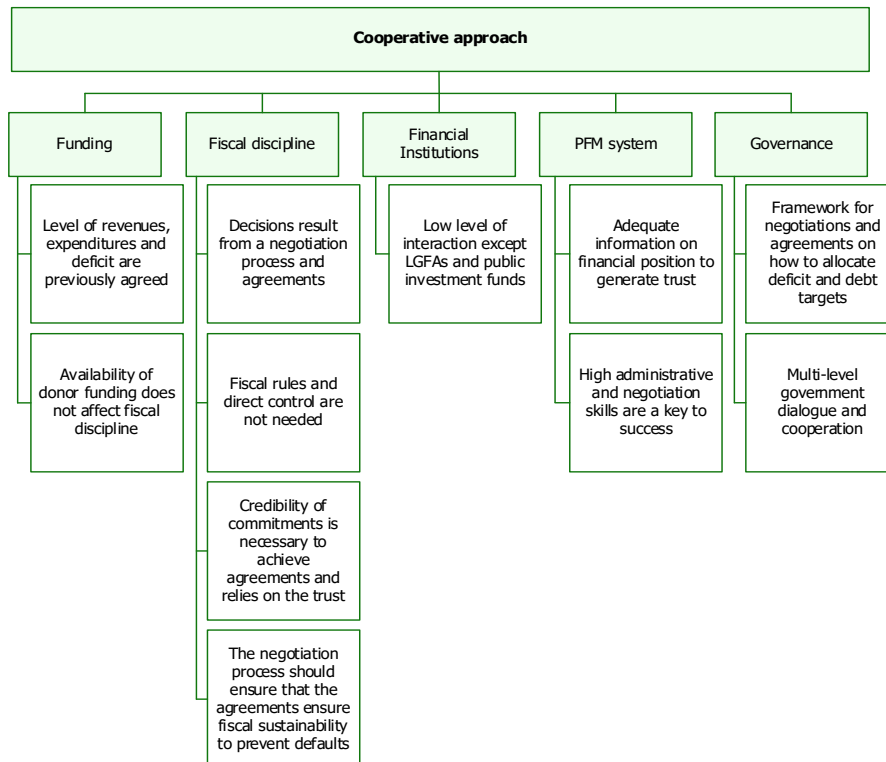


Figure 5. Cooperative approach's factors. (Source: created by the author based on (Source: created by the author based on Vammalle & Bambalaite (2021))

For the rules-based system, decisions to borrow are made by local communities, but observing the fiscal rules set by the central government. Fiscal rules include limits for the absolute level of debt and the ratio of debt service/revenue, restrictions on borrowing only for specific purposes, and requirements for liquidity. The central government is tasked with control of compliance with the rules. Coordination between different levels of government is important for this system. It is also based on a quality PFM system. Such systems are supposed to be transparent to allow investors and borrowers to evaluate the risk of the potential transaction. However, these systems are not very flexible (Figure 6).

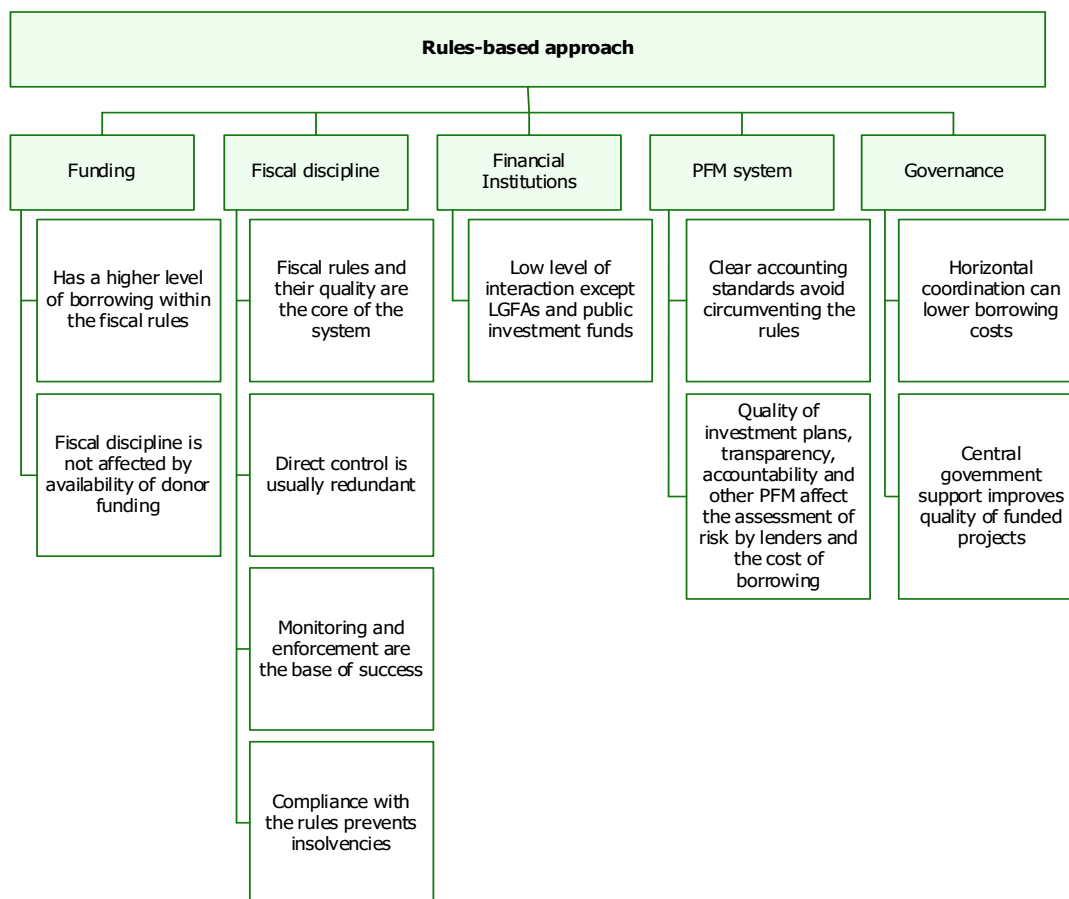


Figure 6. Rules-based approach factors. (Source: created by the author based on (Source: created by the author based on Vammalle & Bambalaite (2021))

Direct controls system implies that central government directly controls municipal borrowing in the form of annual limits on the amount of municipal debt, the need for review and previous approval of municipal debt transactions, possible centralisation of all borrowing at the level of the state budget, etc. Such systems are based on central government control to ensure municipal sustainability and quality of investments. As the central government practically control and guarantee municipal debt, fiscal rules become redundant. As a result, the state budget is responsible for covering municipal debt so revenue autonomy does not apply and insolvency is not a problem. Such a system gives local governments very limited investment resources that are allocated at the central level. A common drawback of this system is that the criteria for authorising municipal borrowing are usually variable or unclear (Figure 7).

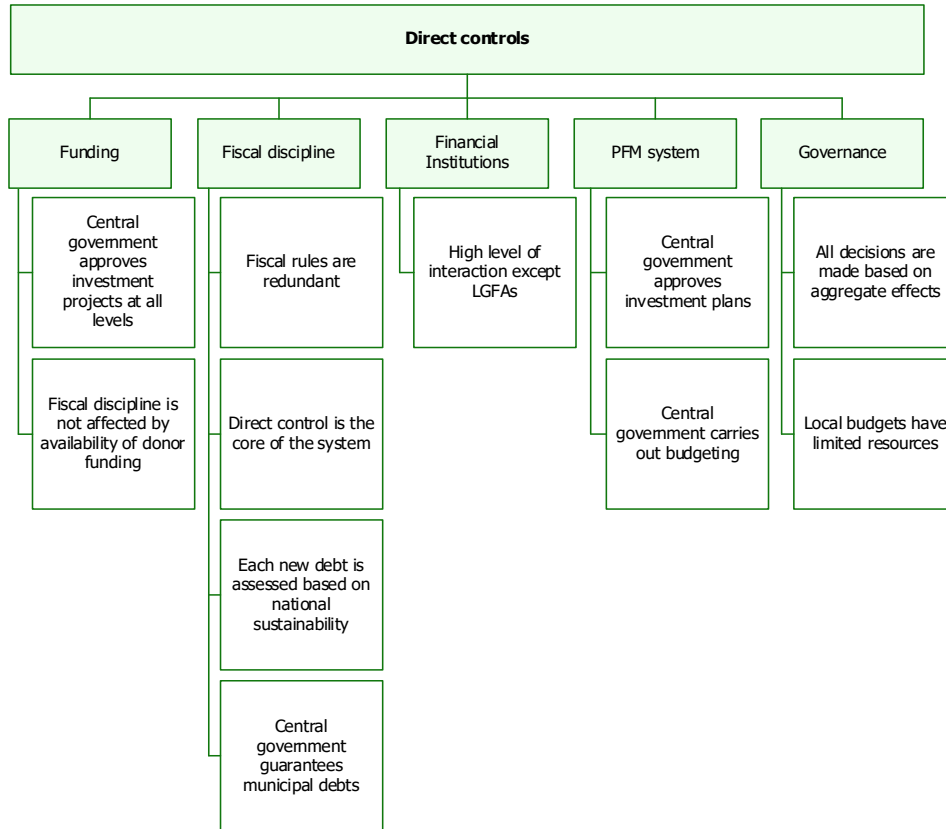


Figure 7. Direct controls approach's factors. (Source: created by the author based on (Source: created by the author based on Vammalle & Bambaite (2021))

Generally, national frameworks are a mix of the features of four different systems, although some features are more prominent. The most important aspect is the alignment of the components used to achieve efficiency and sustainability of territorial communities. One system can't be determined as the optimal system that is the most effective. Each country combines different elements to achieve the desired outcomes. In most cases, such a combination is formed by exogenous factors, that are constrained by institutional framework, existing fiscal rules, the level of municipal revenue autonomy, local culture and preferences.

Successful functioning of territorial communities depends on the intensification of their economic development and ways to use existing resources, as well as ways to find new sources of revenue, innovative solutions, and the application of best practices in management and organizational processes. Increased efficiency in the use of all types of local resources, growth of entrepreneurship, and developed infrastructure can provide funding for the development of a territorial community. This is in line with the principles of the State Strategy for Regional Development for 2021-2027 adopted by the Government of Ukraine, which states that the implementation of the state regional policy for the period up to 2027 should be based on an integrated territorial approach.

Also, the councils of the United Territorial Communities are allowed to make local borrowings to the budgets of the United Territorial Communities, both local and external, including by obtaining loans from international financial organizations. The borrowings are made to the development budget and the funds are used to implement investment programs (projects) aimed at developing communal infrastructure, introducing resource-saving technologies, creating, increasing or updating strategic long-term facilities or facilities that ensure the fulfilment of the tasks of the city councils aimed at meeting the interests of the population of their communities.

In the post-war period, UTCs will inevitably face the issue of infrastructure restoration and transition to new technologies and requirements for critical infrastructure facilities in accordance with EU standards. That is why the search for effective and relatively inexpensive financial instruments for local authorities to implement infrastructure projects remains a serious problem for UTCs. The most promising in this case is the use of innovative financial instruments, which the EU defines as instruments that provide equity/risk capital or debt instruments (loans, guarantees from intermediaries that provide financing to a large number of end borrowers for whom it is difficult to find financing) or risk sharing between financial institutions to increase the amount of funds received. To create innovative financial instruments, financial engineering is

used, which allows to effectively raise funds not only through securities but also through project financing and public-private partnerships (Ilieva, 2019). In addition, grant funding is one of the opportunities in Ukraine, but it has certain limitations (Figure 8).

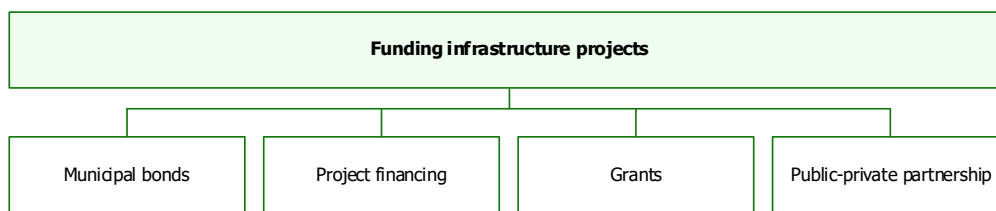


Figure 8. Main methods of financing infrastructure projects by territorial communities. (Source: compiled by the author based on Medda F. R., Cocconcelli L. (2018))

International practice shows that public-private partnerships are a leading tool for securing investments in the construction of public infrastructure and the provision of services related to them when state and municipal budgets do not have the necessary resources. They represent a promising basis for achieving a balance between public interests and the private sector, and the implementation of successful public-private projects can be attributed to project financing, given some of its features, such as the possibility of combining various financial instruments and forms of investment financing; repayment of borrowed capital depending on the cash flows received from the project, which combines various financial, material and human resources in project implementation. In the context of European integration and the use of innovative financial instruments in Ukraine, it is necessary to compare the main characteristics of grant and project financing within the framework of operational programs. Grant financing consists of an operational program, free assistance, coverage of 15 to 100% of the project resource, the need to participate with one's own capital in the development of the grant, and financing on a schedule/at a certain stage of work performed or at confirmed costs. Project financing involves participation in the project as an investor/creditor/co-participant, and only up to 30% of the project cost can be financed by an external participant. The loan is repaid from the profits from the project. The project assets and profits are pledged as collateral.

One of the most common forms of financing investment projects by municipalities is direct financing through the capital market by issuing debt instruments, such as bonds. Bonds have become a necessity for financing infrastructure projects for territorial communities, as the 2008 crisis saw a rapid reduction in public funding in this area. It should be noted that, unlike the United States, municipal bonds have not yet become widespread in European countries, and bonds issued by the central government are more popular, so they have significant potential for development. Although investor confidence in municipal bonds has declined somewhat since the crisis due to some defaults, they remain a desirable instrument for diversifying investment portfolios. General obligation bonds remain the least risky in terms of the probability of default, as they are backed by all tax revenues of the territorial community, while future revenue bonds, which are more profitable for UTCs in terms of servicing to finance infrastructure projects, have a higher risk of default and will require higher interest rates to encourage investors (Medda F. R., Cocconcelli L., 2018).

Investors also assess the risks of municipal bonds based on the type of infrastructure project they will finance. In particular, critical infrastructure, including major roads, subway or other electric transport systems, sewerage, water supply, and electricity, is likely to be profitable and therefore attractive to investors regardless of the type of bond chosen. On the other hand, ancillary infrastructure is not a priority for investors, so it will require more careful planning and forecasting when issuing bonds. To increase the attractiveness of municipal bonds for financing certain infrastructure projects, special insurance companies have been created that specialize in providing guarantees for local governments, i.e., they insure these bonds against default (Cornaggia, Hund & Nguyen, 2022).

Another instrument that emerged and operates against the backdrop of investor distrust of individual territorial communities is national agencies for financing local governments, which operate in countries such as France, the Netherlands, Japan, New Zealand, Canada, etc. These agencies issue bonds to finance infrastructure projects of local communities. An example of successful experience is the international agency NLFGA, which ensures cooperation between national agencies of four countries, namely Kommunalbanken (Norway), KommuneKredit (Denmark), Kommuninvest (Sweden) (includes 275 municipalities and 11 local councils) and Municipality Finance (Finland) (328 municipalities), which annually issue a total of USD 35-40 billion. These agencies are responsible for providing the municipalities with the necessary financial support. The purpose of these agencies is to provide cost-effective financing to local governments or state-owned companies for infrastructure projects such as housing, electricity, transportation, and communications. This is possible because these countries have a high degree of decentralization, so local governments have the right and ability to collect local taxes and fees to fund healthcare, education, and transportation. In the UK, there is a similar agency, the Municipal Bond

Agency (MBA), which was established in 2016 and handles almost 75% of local government debt. In this case, the main problem remains the formation of the agency's credit rating in the international capital markets (Fritsch, Bagley J., Nee, 2021).

DISCUSSION

The effective functioning of territorial communities in today's environment requires achieving and maintaining sustainable development. One of the tools for raising the necessary financial resources to build sustainable development infrastructure is green bonds, which are the latest innovation in the sustainable finance market. Green bonds are debt financial instruments whose proceeds are used to finance low-carbon projects that do not harm the environment.

The first green bonds were issued in 2007 by the European Investment Bank to finance renewable energy and energy efficiency projects. After that, such bonds began to gain popularity and in 2018 their market amounted to USD 143 billion. Local governments are gradually joining the trend of using green bonds, but this process is rather slow. In particular, in 2014, the amount of issuance was USD 1.9 billion (260 issues), and in 2017 it was USD 11.2 billion (1334 issues). However, it should be noted that the share of green bonds in all municipal bonds remains rather low (no more than 2.5% by amount and 1% by number of issues) (Flammer, 2020).

We used the SWOT analysis to determine the suitability of using green bonds to finance municipal development (Table 1).

| Strengths | Weaknesses |
|--|---|
| <ul style="list-style-type: none"> ▪ Stimulates the development of high-efficiency investment projects ▪ Makes it possible to attract funds under better conditions ▪ Protection against climate changes ▪ Compliance with environmental standards ▪ More attractive to investors | <ul style="list-style-type: none"> ▪ Costs of borrowing are slightly higher ▪ Projects need to comply with local regulations ▪ Country risk ▪ Lack of information |
| Opportunities | Threats |
| <ul style="list-style-type: none"> ▪ Encouraging the development of entrepreneurship and innovations ▪ Regional economic development | <ul style="list-style-type: none"> ▪ Risk of default ▪ Lack of deep capital market ▪ Legal restrictions |

The advantage of green bonds for issuers is an additional source of financing for green projects, they allow expanding the list of investors at the expense of pension funds, insurance companies and public investment funds. In addition, it is possible to issue long-term bonds, the maturity of which will coincide with the term of implementation of the green project (more than 20 years).

They can have a more attractive value than conventional bonds. This market attracts investors who are interested in protecting the environment, so they can agree to terms that are less favourable for them. In addition, the issuance of green bonds allows to diversify the portfolios of both investors and issuers.

Different forms of green bonds are used to implement different types of green investment projects (Table 2).

| Type of bond | Purpose of funding | Collateral | Example |
|--------------------------|--|--|---|
| General obligation bonds | Created for green projects | All proceeds of the issuer act as security, and a standard credit rating is used | The City of Johannesburg issued 143 million bonds in June 2014 with a term of 10 years with a credit rating of BBB |
| Bonds for future income | Created for green projects | Certain revenues of the issuer (from taxes or fees) are used to cover the costs of the issue | Arizona State University conducted an issue in the amount of USD 182.6 million guaranteed by the income of the institution |
| Project bonds | Issued under certain green projects | Security is the asset created as a result of the project and the income from this project | N/A |
| Securitized bonds | Created for green projects or are part of green projects | Collateral is a group of financial assets | The government of Hawaii issued bonds for USD 150 million in November 2014 guaranteed by revenues from green infrastructure |

Increasing capital flows to infrastructure projects that prevent climate change can have huge economic, social and environmental benefits not only for the local communities themselves but also for investors. However, there are several significant obstacles to the development of the green municipal bond market. First, it is necessary to prepare an effective green project, which will not only be useful for the environment but also allow to receive income in the future to ensure the emission. This requires the involvement of special experts, whose services are quite expensive. Now a network of specialized intermediary agencies is beginning to develop, the purpose of which is to provide consulting services to territorial communities in the field of green investment projects and their financing mechanisms.

CONCLUSIONS

In the conditions of the crisis in the economy of Ukraine caused by armed aggression and the significant destruction of the infrastructure of the UTC, there is a need to rebuild it after the end of the war. Based on the analysis, it was established that the available sources and tools for financing the development of territorial communities are determined by the financing framework formed in the local budget. Global best practices have shown that there are four main systems of organizing local budgets, which are formed on the basis of six groups of factors. Depending on the organization of the national budget system, local governments can have significant financial autonomy, which allows for diversification of funding sources (market-based system), or completely depend on the state budget for financing investment projects (direct controls system).

In the conditions of decentralization, OTG in Ukraine can use a wide range of financial instruments to attract funds for reconstruction. In particular, these can be own funds from budget revenues, grant funds, public-private partnerships, and debt funds. Municipal bonds are the most versatile tool for attracting debt funds.

Taking into account the fact that military actions have already caused enormous damage to the environment, it is desirable to carry out restoration taking into account climate changes, that is, through the implementation of green projects. According to our SWOT analysis of the possibility of using green bonds to finance the restoration of OTG in Ukraine, it was concluded that such bonds are currently a more effective tool, as they allow attracting a wider range of investors who are interested not only in the profitability of the financial instrument, since in Ukraine there is a limited opportunity to offer high yields, but they are also willing to invest in less profitable bonds that are aimed at financing green projects.

There is the expediency of issuing UTC green bonds, as they will have the opportunity to attract investors on the international market who support Ukraine and environmental protection. It is to these aspects that scientific publications of future periods should be devoted.

ADDITIONAL INFORMATION

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CONFLICT OF INTEREST

The Authors declare that there is no conflict of interest.

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ОЦІНКА РІЗНИХ МЕХАНІЗМІВ ФІНАНСУВАННЯ ТЕРИТОРІАЛЬНИХ ГРОМАД

В умовах обмеженості бюджетних ресурсів об'єднані територіальні громади України змушені шукати додаткові джерела фінансування відновлення та розвитку. Проведені реформи децентралізації дозволяють залучати для фінансування приватні кошти з використанням широкого діапазону фінансових інструментів. Метою дослідження є оцінка різних механізмів фінансування розвитку територіальних громад, що передбачає аналіз світового досвіду організації механізму фінансування, порівняльний аналіз різних інструментів фінансування розвитку й SWOT-аналіз використання зелених облігацій для фінансування відновлення ОТГ в Україні. На основі проведеного аналізу було встановлено, що доступні джерела та інструменти фінансування розвитку територіальних громад визначає фінансовий механізм, який сформувався в місцевому бюджеті. Світовий досвід показав, що існує чотири основні системи організації місцевих бюджетів, які формуються на основі шести груп чинників. Залежно від організації національної бюджетної системи місцеві уряди можуть мати значну фінансову автономію, яка дозволяє диверсифікувати джерела фінансування (ринково орієнтована система), або повністю залежати від державного бюджету при фінансуванні інвестиційних проєктів (система прямого контролю). В умовах децентралізації ОТГ в Україні можуть використовувати широкий спектр фінансових інструментів для залучення коштів на відновлення. Зокрема, це можуть бути власні кошти від бюджетних надходжень, грантові кошти, державно-приватні партнерства та боргові кошти. Муніципальні облігації є найбільш універсальним інструментом залучення боргових коштів. Відповідно до проведеного нами SWOT-аналізу можливості використання зелених облігацій для фінансування відновлення ОТГ в Україні, було отримано висновок, що такі облігації наразі є більш ефективним інструментом, оскільки дозволяють залучити ширше коло інвесторів, які зацікавлені не лише в доходності фінансового інструменту, але й готові інвестувати в менш прибуткові облігації, які спрямовані на фінансування зелених проєктів.

Ключові слова: фінансування територіальних громад, механізм фінансування, інструменти фінансування, муніципальні облігації, зелені муніципальні облігації

JEL Класифікація: G15, H54, H61, H70