

THE ROLE OF LAND RESOURCES IN THE FINANCIAL PROVISION OF RURAL AREAS OF UKRAINE

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Abstract

The article describes the role of land resources in the financial support of rural areas of Ukraine. To determine the importance of land resources in the financial sustainability of rural areas, a detailed analysis of their financial potential in the budget system was carried out. It is determined that one of the main sources of filling rural budgets of Ukraine is the payment for land, which averages 46.4% of revenues from the total amount of local taxes and fees. In order to identify the spatial uneven distribution of land resources and tax revenues from land payments, have formed three clusters of rural communities depending on the share of land fees in total local tax revenues. The results of the cluster analysis showed the presence of a significant financial potential of land resources in the majority of rural territorial communities of Ukraine. This potential can be realized by implementing the experience of communities where the share of land fees reaches more than 70% of the total amount of local taxes while a high level of total revenues. To analyze the impact of land use efficiency on rural finance, it is proposed to establish a link between land resources and budget indicators. With the help of correlation-regression analysis on the example of rural territorial communities of Cherkasy region of Ukraine, a direct and close relationship between the land area of territorial communities and local taxes and fees was revealed. The results of such an analysis of the impact of land resources on the efficiency of budgetary processes make it possible to respond appropriately to the land management system and land use efficiency

Key words: land, resources, financial, provision, territorial community, rural areas

INTRODUCTION

The administrative reform in Ukraine has led to a number of transformational changes, including in the sphere of decentralization of the state's power and financial powers in favor of local self-government [10].

Territorial community as the main representative of the local community in the political arena is characterized by attachment to specific settlement. The division of settlements into urban and rural in Ukraine determines the main features of territorial communities, the difference in their level of development and capacity, infrastructure provision. The concept of "rural territorial community" is cardinal differs from the

category of "urban community" and is characterized certain distinctive aspects of development that are unique to rural areas [1]. The structure of rural areas is complex multifunctional formation, so the definition the main priorities of its development are, first, to clarify the specific features of these territorial communities as a system of local self-government in agricultural areas [9]. At the same time, the main strategic task of forming effective local self-government is the modernization of the system of territorial organization of power, especially in rural areas. Achieving these goals is impossible without the proper level of financial support for these territories and sufficient sources to fill rural budgets.

The indicators of the implementation of rural budgets reflect the general socio-economic condition of the respective territory and its potential for sustainable development. The presence of sufficient resources in local budgets is a guarantee that the rural territorial community can provide better, more diverse services to its residents, implement social, and infrastructure projects, attract investments and finance other activities for the comprehensive development of the community.

Because credit and investment mechanisms have not yet been widely used in the budgetary system of local self-government, funds from local and state budgets are considered as budgetary resources [8].

Budget sources can be formed both from the internal resources of the united territorial community (UTC) and from the resources attracted from outside. External sources of budget funds are the state budget. In particular, external budget subventions may include targeted subventions from the state budget, including in the framework of state or regional targeted programs, investment projects (programs), or financing of UTC projects from the State Fund for Regional Development.

Examples of budget resources of internal origin are revenues from taxes and fees, sale and lease of communal property [16]. At the same time, the internal financial support of the budgets of territorial communities largely depends on the resource potential of these communities.

Land resources are an important component of the resource potential of rural territorial communities in modern conditions [2]. Their effective use will allow to increase the revenues to the local budget in the form of land fees. Such payment includes land tax and rent for communal land. Land tax is a tax payment levied on a landowner or land user, the amount of which directly depends on the size of the land, the marginal appraisal rate and the purpose of the land. Land rent is a payment made by a lessee to a landlord for the use of a land plot in accordance with a land lease agreement. In recent years, there has been a steady trend of increasing the share of

rent and a decrease in the share of land tax revenues in the structure of land payment, which is explained by the increase in the cost of renting land.

Many scholars argue that the land tax can be considered by local authorities as the most effective in terms of on the possibility of expanding the tax base and the impact on rates, the importance of its role as a regulatory and incentive tax [3, 5, 6, 7].

Therefore, the urgent issue is the transformation of priorities in financial support for the development of territorial communities and the transition to the effective use of their land and resource potential. And it is in this aspect that the recent transfer of a large part of state lands outside settlements to the ownership of communities is a mechanism for strengthening the land resource potential of the community budget.

MATERIALS AND METHODS

For Ukraine, 2020 has become a key year in the formation of the basic level of local self-government. Thus, on June 12, 2020, the Government approved a new administrative-territorial structure of the basic level. In accordance with the orders of the Cabinet of Ministers, 1,469 united territorial communities have been formed in Ukraine. Among them, 1,058 are distinguished, which are characterized as rural, i.e. they have all the characteristics of rural territorial communities, and which are relevant features of development, demographic situation, problems of funding and organization.

Determining the role of land resources in the budget system of rural areas requires a detailed analysis of their financial potential in the context of achieving their financial capacity.

Analysis of the effectiveness of the formation and use of financial potential should be based on the assessment of budget potential as its main component.

This component of financial potential is studied on the basis of the analysis of sufficiency of own financial resources of local budgets, and also financial capacity of a rural

community at the expense of own resources, in particular land.

To analyze the impact of land use efficiency on the financial provision of rural areas, we propose to establish a relationship between land resources and budget indicators by assessing various estimates and statistics. Thus, it is recommended to use economic and mathematical methods of analysis that allow to identify the relationship between factor and result indicators, in particular correlation-regression analysis [11, 12]. This analysis provides identification of the main factors of dependence that reflect the quantitative assessment of the degree of their relationship. The research was conducted on the basis of statistical indicators of rural areas of Cherkasy region and estimated data of personal research. Cherkasy region was chosen as a model region as the central region of Ukraine, which is a typical rural region with developed agricultural production. The list of land use features has a wide range, which is described by a set of indicators. But consider only those that best reflect the role of land in budget financing. Namely, the area of rural territorial communities and volume of local taxes and fees.

Correlation-regression analysis established the relationship between the indicators that characterize the above factors [13]:

$$y = ax + b, \quad (1)$$

y – the area of rural territorial communities;

x – the local taxes and fees;

a, b – constant coefficients of a linear equation.

Analysis of the role of land resources in the financial support of the territorial community also involves a detailed and phased study of the level of provision of the latter with budget funds, and their dependence on the amount of land.

RESULTS AND DISCUSSIONS

Research on the role of land resources in financing the development of rural areas should be carried out by monitoring the

processes of spatial inequality in the distribution of land resources and economic activity in rural communities. Analyzing the impact of decentralization processes on the development of united territorial communities of Ukraine, we note the spatial uneven distribution of rural UTC in terms of area and share of land payment in general local tax revenues (Table 1).

Table 1. Characteristics of rural territorial communities of Ukraine depending on the share of land payment in general local tax revenues, 2021

Indicator	Group of territorial communities, %		
	less than 33	33-67	more than 67
Number of territorial communities	220	757	81
Average area of the territory, sq. km	265	387	327
Average amount of local taxes, thousand UAH	18,456	19,310	23,825
Average amount of payment for land, thousand UAH	4,532	9,301	18,820
The total amount of payment for a land plot, billion UAH	4.0	14.6	1.9

Source: formed by the author according to State Statistics Service of Ukraine.

The results of the cluster analysis allowed to distinguish three groups of rural territorial communities depending on the share of land fees in the total local tax revenues. The analysis of the main indicators in these groups showed that the largest number of rural territorial communities (757) was in the group with the share of land fees in total local tax revenues in the range of 33-67%. This indicates a significant share of revenues from land payments to the local budget. And accordingly, about the role of land resources in filling the rural budgets of communities [4]. At the same time, during our assessment it was found that in most cases UTC, which fell into the group with the share of land fees in total local tax revenues in the range of 33% are not provided with appropriate planning and cartographic materials, relevant land management and urban planning documentation [10, 14, 15].

However, despite the decentralization of budgetary resources, local budget revenues have not yet become the basis for the financial independence of local governments. As intergovernmental transfers continue to play a

dominant role in the structure of local budget revenues [10]. Thus, in the communities of Cherkasy region of Ukraine in 2021, the share of local taxes and fees in the revenues of the general fund varied from 14.6% to 56.7% (Table 2).

Table 2. Indicators characterizing the role of land resources in the formation of the budget of rural territorial communities of Cherkasy region, 2021

Nº	Territorial communities	Average area of the territory, sq. km	Share of local taxes and fees in general fund revenues, %	Total revenues to the general fund, thousand UAH	Local taxes and fees, thousand UAH	Payment for land, thousand UAH	Share of land payment in general local tax revenues, %
1	Irkliivska	926	36.4	104,000.0	37,864.9	17,379.7	45.9
2	Chornobaivska	616	40.3	148,000.0	59,618.6	28,585.0	48.0
3	Palanska	488	30.8	112,000.0	34,455.0	11,396.6	33.1
4	Drabivska	481	40.9	93,980.0	38,430.2	17,192.2	44.7
5	Mankivska	474	37.3	121,000.0	45,103.5	19,131.8	42.4
6	Moshnivska	457	35.3	53,850.8	18,992.3	7,350.3	38.7
7	Katerynopilska	442	40.7	81,672.7	33,256.9	19,404.8	58.4
8	Shramkivska	425	47.1	65,758.2	30,962.1	16,544.2	53.4
9	Bobrytska	386	47.7	34,790.5	16,609.1	10,488.2	63.2
10	Lysianska	381	35.4	72,355.8	25,608.9	10,864.3	42.4
11	Novodmytrivska	359	33.6	79,959.7	26,835.1	15,684.4	58.5
12	Stepanetska	359	14.6	121,000.0	17,712.6	9,432.6	53.3
13	Vodianytska	326	44.6	35,942.7	16,012.6	7,865.0	49.1
14	Ladyzhynska	323	27.2	67,414.4	18,351.3	9,230.0	50.3
15	Dmytrushkivska	309	32.0	52,683.7	16,872.0	6,711.3	39.8
16	Helmazivska	307	43.4	55,070.3	23,926.5	13,472.3	56.3
17	Rotmistrivska	307	35.1	40,726.7	14,295.8	5,670.8	39.7
18	Lipliavksa	300	38.9	24,888.4	9,680.5	4,516.0	46.7
19	Vilshanska	281	45.3	36,168.4	16,386.8	7,894.8	48.2
20	Babanska	277	40.5	42,058.8	17,053.9	8,924.6	52.3
21	Selyshchenska	275	38.2	35,801.8	13,686.4	7,770.8	56.8
22	Steblivska	260	33.3	45,792.5	15,263.7	8,142.9	53.4
23	Ruskopolianska	245	28.1	80,050.5	22,514.9	5,768.9	25.6
24	Pishchanska	244	38.5	39,334.6	15,129.6	8,964.6	59.3
25	Mykhailivska	229	31.1	37,642.6	11,709.1	6,029.5	51.5
26	Lypianska	223	56.7	23,652.7	13,418.0	8,897.4	66.3
27	Nabutivska	217	45.9	27,664.2	12,700.5	7,926.1	62.4
28	Medvedivska	209	52.2	16,368.9	8,548.4	5,836.8	68.3
29	Berezniakivska	208	43.1	18,079.0	7,791.9	3,718.6	47.7
30	Mliivska	206	46.8	26,057.3	12,205.3	5,738.3	47.0
31	Sahunivska	205	38.0	22,723.0	8,643.1	4,326.8	50.1
32	Leskivska	204	32.4	34,131.3	11,044.4	3,626.3	32.8
33	Vynohradivska	198	47.3	27,251.6	12,881.2	6,503.5	50.5
34	Balakleivska	196	19.3	52,496.9	10,127.7	3,348.8	33.1
35	Bilozirska	192	31.2	36,963.0	11,546.2	4,999.7	43.3
36	Butska	189	44.1	31,418.9	13,865.2	7,162.1	51.7
37	Bashtechkivska	186	52.0	29,829.8	15,519.6	8,336.7	53.7
38	Budyshchenska	184	35.7	38,050.5	13,580.7	6,459.8	47.6
39	Mokrokalyhirkska	180	47.0	29,557.2	13,896.1	8,805.9	63.4
40	Zorivska	176	45.4	28,453.5	12,905.4	7,557.2	58.6
41	Chervonoslobids ka	169	35.3	92,085.7	32,460.9	14,195.2	43.7
42	Ternivska	161	36.9	21,545.6	7,953.0	2,992.2	37.6
43	Ivankivska	157	51.6	25,669.9	13,238.4	7,071.4	53.4
44	Stepankivska	146	28.3	40,549.2	11,481.7	5,219.5	45.5
45	Shevchenkivska	140	40.0	20,139.2	8,056.8	3,256.6	40.4
46	Velykokutirska	136	53.4	23,278.0	12,423.9	7,765.8	62.5
47	Buzhanska	130	42.9	21,274.5	9,117.7	5,340.6	58.6
48	Voznesenska	110	40.3	27,465.6	11,070.2	5,448.5	49.2
49	Matusivska	99	41.5	18,479.7	7,677.9	2,614.9	34.1
50	Yerkivska	51	19.8	36,461.9	7,224.6	2,349.6	32.5

Source: author's elaboration.

It should be noted that in almost half of the rural territorial communities of Cherkasy region (24 out of 50) in the structure of revenues from local taxes and fees payment for land is more than 50%.

The results of correlation-regression analysis of the impact of the rural territorial community area on the amount of the local taxes and fees showed a close relationship between factor and performance characteristics (multiple correlation coefficient $R = 0.78$).

Figure 1 shows a scatter plot and a linear trend of such dependence. The coefficient of determination (0.61) shows that 61% of all changes in local taxes are due to changes in the area of communities, i.e. the accuracy of selection in the regression equation is sufficient.

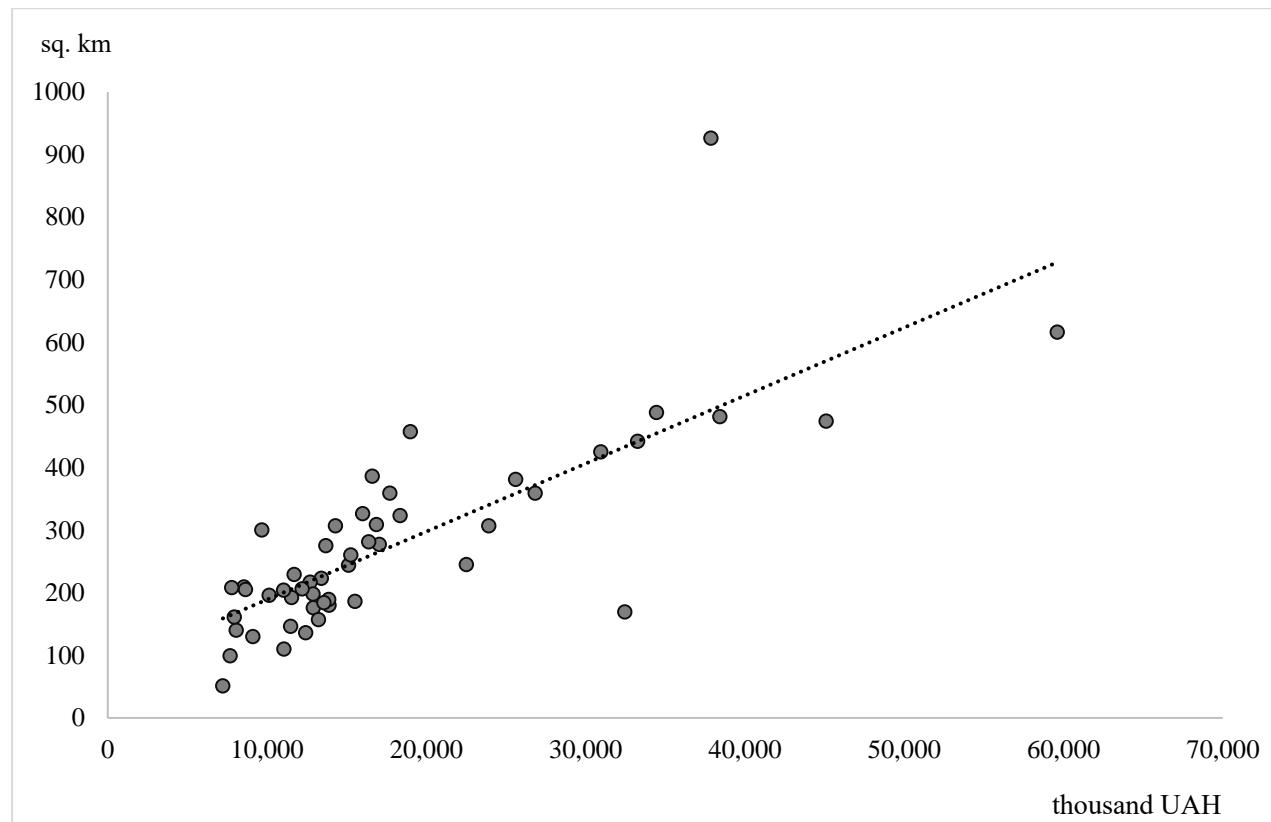


Fig. 1. Correlation dependence of the area of rural territorial communities and volume of local taxes and fees
Source: author's elaboration.

In general, determining the impact of land resources on the efficiency of budget processes and, accordingly, the financial capacity of rural communities makes it possible to respond accordingly to the system of land management and efficiency of their use. Thus, using the equation of dependence of land resources and budget indicators, it is possible to purposefully control the financial support of the budget in the process of its organization and planning.

CONCLUSIONS

Based on the analysis and data on the impact of the area of rural territorial communities to volume of local taxes and fees, it is

determined that the planning of the budget process and the development of financial support for rural communities should take into account the land and resource potential of these communities.

It is established that the payment for land is an important source of revenue for local budgets with significant unused reserves. Analysis of the dynamics of revenues from land fees to local budgets during the reform period shows a tendency to increase. At the same time, a broad-based assessment of the impact of fiscal decentralization processes on the full use of the potential of land payments to generate local budget revenues requires additional analysis of all factors that determine the size of their revenues.

It is important to increase the efficiency of land use administration from the point of view of financial filling of the budget of rural territorial communities. In particular, to increase tax revenues from land payments, it is necessary to take into account changes in factors affecting its value: data of the state land cadastre, registration of ownership, land use rights and land lease agreements, accounting for quantity and quality of land, zoning of settlements, regulatory and monetary valuation of land. Identifying such reserves will allow adjusting local land management policies and calculating promising revenues.

REFERENCES

- [1] Dema, D., Abramova, I., Nedilska, L., 2019, Financial and economic conditions of rural development in Ukraine. *Eastern Journal of European Studies*, 10(1):199–220.
- [2] Dissart, J., Vollet, D., 2011, Landscapes and territory-specific economic bases. *Land Use Policy*, 28:563–573.
- [3] Karlin, M.I., Tsymbaliuk, I.O., Prots, N.V., 2018, Features tax reform and mechanism of hiding taxes in Ukraine. *Financial and Credit Activity: Problems of Theory and Practice*, 1(24):123–130.
- [4] Khrivskyi, R., Yatsiv, I., Petryshyn, L., Pasichnyk, T., Kucher, L., Irtyshcheva, I., 2022, Assessment of the efficiency of employment of the communities' resource potential using different approaches. *TEM Journal*, 11(1):367–373.
- [5] Kolosov, A., Chebotarov, V., Chebotarov, I., Havriushenko, H., Duhin, A., 2022, Justification of points and scenarios for the development of rural and settlement communities in Ukraine (on the example of Luhansk region). *Agricultural and Resource Economics: International Scientific E-Journal*, 8(1):52–69.
- [6] Kononenko, O., 2019, Transformation of land relations regulation mechanism throughout the rural sustainable development context. *Agricultural and Resource Economics*, 5(1):19–36.
- [7] Leśniewska-Napierała, K., Napierała, T., 2020, Participatory budgeting: creator or creation of a better place? Evidence from rural Poland. *Bulletin of Geography. Socio-economic Series*, 48:65–81.
- [8] Lunina, I.O., 2016, Budget decentralization in Ukraine in context European trends. Collection of scientific works of the State University fiscal service of Ukraine, 2:155–171.
- [9] Markuszevska, I., 2015, Rural area marginalisation: searching for tendencies. Case study: the Western fringes of Poland. *Bulletin of Geography. Socio-economic Series*, 29:75–91.
- [10] Patytska, K., Panukhnyk, O., Popadynets, N., Kramarenko, I., 2021, Forming the territorial communities local budgets in Ukraine under decentralization: Current condition and management tasks. *Journal of Optimization in Industrial Engineering*, 14(2):23–30.
- [11] Roberts, M.J., Nigel, K., 2008, Agricultural Payments and Land Concentration: A Semiparametric Spatial Regression Analysis. *American Journal of Agricultural Economics*, 90(3):627–643.
- [12] Shkuratov, O., Chudovska, V., 2019, Methodical approach to assessment of risk of environmental safety in the agricultural economy sector. *AgroLife Scientific Journal*, 8 (1):142–149.
- [13] Shkuratov, O., Dorosh, O., Gorodyska, O., Patiyuk, O., 2020, Assessment of influence of spatial organization of territory on economic efficiency of agricultural enterprises. *Scientific Papers: Series Management, Economic Engineering in Agriculture and Rural Development*, 20 (2):303–310.
- [14] Shkuratov, O., Nykytiuk, O., Tsyrkun, T., 2019, Threats and risks of environmental safety in agricultural land use of Ukraine. *Scientific Papers: Series Management, Economic Engineering in Agriculture and Rural Development*, 19(3):523–528.
- [15] Skydan, O., Budnik, O., Sus, L., 2021, The role of agroholdings in the creation of cooperatives by rural communities. *Agricultural and Resource Economics*, 7(3):107–122.
- [16] Vasyltsiv, T., Biletska, I., Muliska, O., 2021, Organizational and financial instruments of decentralization and development of united territorial communities in Ukraine: Poland's experience. *Management Theory and Studies for Rural Business and Infrastructure Development*, 43(2):276–287.