



ISSN: 2543-6821 (online)

Journal homepage: <http://ceej.wne.uw.edu.pl>

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## To cite this article

Krivorotko Y.V., Sokol D.V. (2021). Online Openness and Transparency of Local Budgets in Belarus. *Central European Economic Journal*, 8(55), 144-162.

DOI: 10.2478/ceej-2021-0009

 To link to this article: <https://doi.org/10.2478/ceej-2021-0009>



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## Online Openness and Transparency of Local Budgets in Belarus

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### Abstract

World experience shows that public participation in the budget process and openness in the public sector are the necessary conditions for a proper economic strategy of the State. Financial openness contributes to the efficient collection and distribution of public resources. It expands the responsibility of governments, strengthens the trust of citizens and prevents opportunities for corruption. Researchers around the world (Alt, Lassen, Skilling, Bernick, Gandía, Yannacopoulos, Darbyshire, Slukhai and others) and international organisations such as the International Monetary Fund, OECD, the World Bank, the International Budget Partnership (IBP), the Global Initiative for Financial Transparency and the Open Government Partnership have shown growing interest in financial openness issues in recent years. This paper attempts to develop and test a methodology for the operational analysis of online information openness and transparency of the budget process at the local level. The developed methodology used two criteria: (1) the level of transparency of the local budget and (2) an assessment of authority's efforts in ensuring transparency of local budgets. It is based on expert assessments of the informational significance of particular elements of websites of local authorities in issues of local finance and budget. We interpret the resulting assessment of the information content of the site with the local budget and finances data as the online openness and transparency of local budgets Online Local Budget Index of Transparency (OLBIT).

### Keywords

budget openness | budget transparency | fiscal decentralisation | local budget | open budget |

### JEL Codes

H61, H72, H83

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## 1 Introduction

Fiscal transparency is a critical element of effective public financial management, one that helps in building market confidence and underpins economic sustainability. Fiscal transparency also fosters greater government accountability by providing a window into government budgets for citizens, helping them to hold their leadership accountable and facilitating better-informed public debate (Alt, 2019, p. 6). It is no coincidence that international financial organisations consider the borrowing capacity and other financial assistance to countries, depending on the degree of their financial openness and transparency.

For the first time, financial transparency issues were raised by the ancient Athenians, who raised the issues connected between transparency, the prevention of corruption and the democracy development (Alt, 2019). An important impetus for the development of scientific thought in the field of transparency was the study of Bengt Holmström in his article 'Moral danger and observation' (Holmström, 1979). Later, aspects of transparency were addressed in Paolo Mauro's study 'Corruption and Growth' (Mauro, 1995), which came close to the transparency toolkit by applying quantitative indicators of measurement and evaluation in the field of transparency, such as indices of corruption, amounts of bureaucracy, indicators of the effectiveness of the judiciary and the size of categories of political stability.

In January 1998, George Kopits and John Craig published an article entitled 'Transparency in Government Operations' (Kopits and Craig, 1998). They created a turning point in understanding financial transparency. Their argument was direct: the timely publication of a clearly presented budget document (i.e. transparency) allows the market to assess the intentions of the government and provides the key to compliance with market discipline by the government, despite the fact that this argument increased the political risks of functioning politicians in the context of managing an unstable economy.

During the same year, Vito Tanzi published the article 'Corruption around the world: causes, consequences, scope and medicines' (Tanzi, 1998), and a few months later, another article by William Easterly, 'When Financial Regulation is an Illusion' (Easterly, 1999) was published in May 1999, where the author reveals schemes for manipulating governments in estimating their budget deficit. These publications created a new impact for further empirical research in the financial transparency area.

Ferejohn D. suggested that the model under some transparency conditions is a deterrent fiscal factor, while reducing the negative impact of tax increases (Ferejohn, 1999). A similar approach was used by Alt, Lassen and Skilling in their empirical article, 'Financial Transparency, Gubernatorial Popularity, and Government Scale: News from States', related to governors' approval of public opinion polling in the states of the United States (Alt, Lassen and Skilling, 2002). They collected nine indicators from published sources based on reviews of public servants and showed that the highest level of transparency was associated with higher government funding and higher governor approval ratings. Later, Alt, Lassen and Rose took up the causal conditionality of problems, collecting an interview-based retrospective group dataset for 30 years (from 1972 to 2002), which still remains in demand (Alt, Lassen and Rose, 2006). These data showed quite interesting dependencies, namely that political competition was associated with greater transparency, and political radicalism was associated with lower transparency; in turn, financial instability was associated with increased transparency.

Since the beginning of the new century, many economists have begun to search for factors that influence on changes in fiscal transparency. Such attempts were made by Alt et al. (2002; 2006), which noted the importance of institutional and financial factors. In the studies of A. Styles and M. Tennyson,

economic factors such as the size of the municipality, population, per capita income and accounting disclosure, based on the analysis of financial reports of 300 US municipalities, were noted (Styles & Tennyson, 2007).

In the current decade, taking into account Internet and digitalisation development, studies on openness and transparency have largely been based on the websites of communities, districts and regions. Among them, publications devoted to dissemination of budget information through the Internet were presented by Yannacopoulos (2014) and Darbyshire (2010). The authors of these publications conclude that the development of the Internet has improved budget transparency by enabling the rapid and effective dissemination of information. There are studies of Bernick, Birds, Brekken, Gourrier and Kellogg, who noted the importance of socio-political factors: leader's level of education, size of powers, size of staff, level of unemployment, age of the population and political ratios in the population (Bernick et al., 2014). Geographic, demographic, socio-economic and institutional factors have been the subject of new findings in the Ch. Lowatcharin and G. Menifield study (Lowatcharin & Menifield, 2015). We also can find studies made by authors Gandía and Lowatcharin & Menifield (2015); Lowatcharin & Menifield (2015) and Archidona, who suggest approaches based on groupings of multiple factors for transparency index calculating (Gandía & Archidona, 2008; Gandía et al., 2016). There are many studies assessing local budget transparency in CEE countries: Ott et al (2006, 2018), Andonova et al (2017) and Sedmihradská (2015). A contribution to the analysis of local fiscal transparency in Ukraine was presented by Demydenko & Nakonechna (2016), Slukhai (2019).

Summarising the literary review in the fiscal transparency area, it can be noted that the research methodology focused on three consecutive stages: assessing the transparency measure through the index; creating a factor model that presents various institutional, political, economic, financial and social factors; and interpretation of the results achieved. We tried to follow this sequence in our own study of the local budgets' openness and transparency in Belarus.

Budgetary openness and transparency are particularly important for countries with economies in transition, which do not have a long tradition of public administration compatible with the market economies traditions and advanced democracies. Low transparency can lead to a lack of public control over

**Tab. 1.** Belarusian local authorities in administrative territorial units (01.01.2020) Levels of local authorities

	<b>Kind of administrative and territorial units</b>	<b>Number of local councils</b>	<b>Kind of executive body</b>
<b>REGIONAL</b>	Oblast	6	Executive committee
	Minsk	1	Executive committee
	<b>Total</b>	<b>7</b>	<b>Regional councils</b>
<b>BASIC</b>	District	118	Executive committee
	City of oblast submission	10	Executive committee
	<b>Total</b>	<b>128</b>	<b>Basic councils</b>
<b>PRIMARY</b>	City of rayon submission	14	Executive committee
	Settlement	8	Executive committee
	Rural council	1,151	Executive committee
	<b>Total</b>	<b>1,173</b>	<b>Primary Councils</b>
	<b>Total</b>	<b>1,308</b>	<b>Councils</b>

Source: Compiled by the authors on the basis of national statistics.

appointed officials and elected politicians, misuse of public financial resources and inefficient spending. That is why achieving of sufficient level of transparency is one of the most important goals for countries that are reforming their public administration, public and local finance in order to achieve modern governance standards.

In recent years, the topic of openness and transparency is starting to attract serious attention not only from civil society representatives, but also from the Belarusian government. The officials have become aware that financial transparency is one of the prerequisites for reliable and successful cooperation with international financial organisations in important socio-economic projects implementation. This has created an impetus for the study of financial openness and transparency among both non-government and government institutions. The first initiative pilot study (not official one) of financial openness and transparency was conducted in 2017 by the non-governmental organisation (NGO) 'SYMPA' with support from the World Bank. The results of this study showed that Belarus positions were quite low. Belarus has developed and published five of the eight key documents assessed by the 'Open Budget Survey'. According to the data obtained, Belarus' rating was in the range of 0–20 points, which means that there is still insufficient public provision of budget information. The interest shown by government agencies in this topic led the Ministry of Finance to apply for its

inclusion in the official rating 'Open Budget Survey', which is going to take place in 2021.

At the same time, the available research concerns only public finances and budgeting on the national level and does not affect the finances of local authorities, which accounts for almost 50% of the total consolidated budget of the Republic of Belarus (Bulletin, 2020). This circumstance makes the transparency of trend analysis in Belarusian local budgets extremely relevant, especially in view of the tight links of local budget spending and real people's needs in communities.

The administrative-territorial structure of Belarus consists of the capital – the city of Minsk – and six areas (Krivorotko, 2008, p. 51). Now in Belarus there are 1,308 administrative territorial units that include six oblasts and the Minsk city, 10 cities of oblast submission, 14 cities of rayon submission, 8 settlement councils and 1,151 village councils, as illustrated in

This study, however, aims to assess the online openness and transparency of local budgets in Belarus at the basic level within the framework of rayon budgets (118 units) and budgets of cities with regional subordination (10 units), recognised as administrative – territorial units (hereinafter – ATU) according to the existing administrative – territorial division. A comprehensive study of the local budget openness and transparency covering 1,173 lowest rural budgets will require some resources, efforts and extensive funding, with the participation of international support. This

study is pioneering; no similar assessments have been conducted before in Belarus.

The research pursues the following objectives:

- a) Conduct the assessment of transparency level of ATU budgets in oblasts (regions) using a simplified methodology (snapshot assessment), covering 16 indicators (plus two qualitative criteria – the depth and relevance of the information provided), all indicators united in the ‘transparency index’ Online Local Budget Index of Transparency (OLBIT);
- b) Find out what factors affect the transparency level measured by OLBIT;
- c) Formulate recommendations for policy decisions, related to increasing the local budget openness and transparency in ATU.

The initiative study provided by the NGO ‘Lev Sapieha Foundation’ is aimed on eliminating the gap in the existing studies of openness and transparency in Belarus. This goal will be achieved by applying a simplified methodology for assessing the transparency of external budget transparency, called ‘snapshot assessment’. This methodology has advantages over others: we do not need to complete questionnaires or directly monitor local authority’s activities; the only thing that is needed is their website and the information uploaded there.

## 2 Methodology Research

We tried to reveal the openness and transparency of the local budget process through the initiative survey of all 128 local authorities’ websites of the basic territorial level of Belarus from 20 November 2019 to 3 February 2020. For this purpose, preparatory work to develop criteria for openness and transparency of local budgets was carried out. The approaches and methods of different countries in their assessments were explored. Our approach to assessing the transparency of budget systems was based on the open budget index (OBI), which is compiled by the International Budget Partnership (IBP) (IBP, 2017. pp. 48–50). We tried to identify the indicators based on the information blocks of official OBI evaluations, namely (1) identification of key budget documents, (2) assessment of the draft budget and related information, (3) evaluation of transparency at all four stages of the

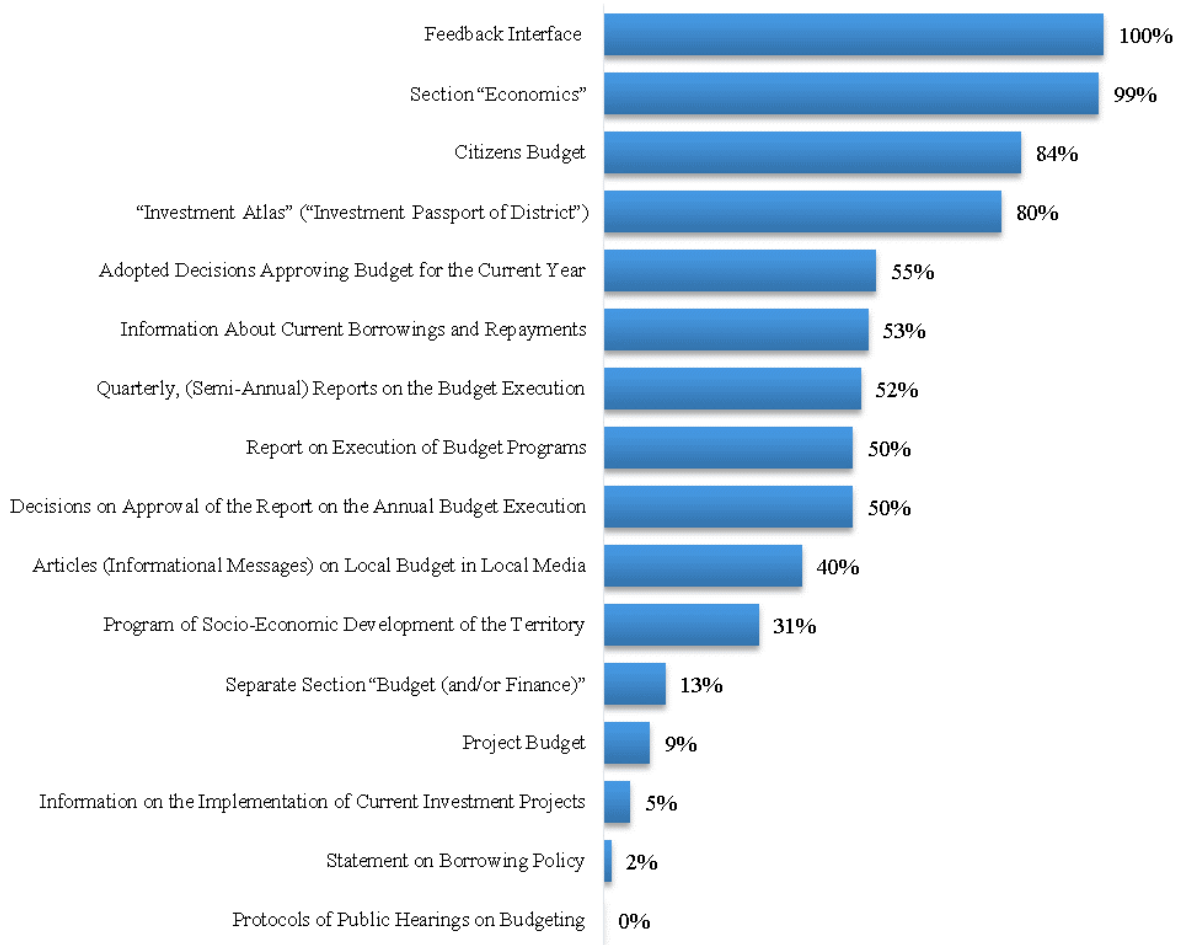
budget process, (4) assessment of influence of the legislative power to the executive during the budget process and (5) assessment of public participation in the budget process.

We assessed not only information directly related to the budget, but also issues related to the development of local territories, such as the availability of programs for socio-economic development of the territory, borrowing policies, implementation of investment projects and others.

As a result, we have identified 16 most important blocks of information (estimated indicators), which are sufficient to ensure an appropriate level of transparency of the local budget on official websites of local authorities: (1)  $x_1$  is the Section ‘Economics’; (2)  $x_2$  is the Separate Section ‘Budget (and/or Finance)’; (3)  $x_3$  is the Program of Socio-Economic Development of the Territory; (4)  $x_4$  is the Project Budget; (5)  $x_5$  is the Citizens Budget; (6)  $x_6$  is the Protocols of Public Hearings on Budgeting; (7)  $x_7$  is the Adopted Decisions Approving Budget for the Current Year; (8)  $x_8$  is the Decisions on Approval of the Report on the Annual Budget Execution; (9)  $x_9$  is the Quarterly, (Semi-Annual) Reports on the Budget Execution; (10)  $x_{10}$  is the Statement on Borrowing Policy; (11)  $x_{11}$  is the Information About Current Borrowings and Repayments; (12)  $x_{12}$  is the Information ‘Investment Atlas’ (‘Investment Passport of District’); (13)  $x_{13}$  is the Information on the Implementation of Current Investment Projects; (14)  $x_{14}$  is the Report on Execution of Budget Programs; (15)  $x_{15}$  is the Feedback Interface (ability to write a query or appeal); (16)  $x_{16}$  is the Articles (Informational Messages) on Local Budget in Local Media.

We evaluated the fact that this section is included in the structure of the site and any information relevant to this topic, in particular. The availability of relevant information on the website of local government was rated at 1, and its absence – 0. Thus, the criterion of compliance of OLBIT indicators for any ATU can be in the range of 0–16. As a result of collecting the above-mentioned information, we have obtained a general picture of the situation with the availability of information on the local self-government sites in all 128 ATU (local budgets at the basic level) covered by our research, as illustrated in Figure 1.

As we see, absolutely all sites have a feedback interface, which means that users can communicate and get the necessary information. This is corresponding to the current legislation on the appeal of citizens.



**Fig. 1.** Structure of Information Content of Official Websites of ATU of the Republic of Belarus (%)  
Source: Compiled by the authors

The vast majority of sites have an 'Economics' section (or similar in name and content). The innovation of recent years – 'Citizens Budget' also spread widely. However, the placement of this information is not always obvious. For example, information about the budget or local finance can most often be placed in the section 'Economics' or 'Official documents', while sometimes this information landed in the section 'Structural divisions' → 'Finance Department'. In rare cases, this information could be found in the section 'About rayon (city)'. Among original places where information about the citizens budget you can find is section 'Business' (Nesvizh), 'Social sphere' (Tolochin).

Information about investment opportunities is also very well presented on the web. Almost 80% of websites have section called 'Investment Atlas' or 'Investment passport'. On the other hand, information about the current investment projects' implementation can be found only in 5% of cases. There is no information at all about budget hearings (minutes of

such meetings), if they happen at all. The following picture shows data on evaluating the significance information available on the site. This assessment based on experts' surveys and ranking of their ratings presented in more details in Tables 2–4.

The indicators that are best represented on the websites of ATU administrations are highlighted. According to experts the most important thing for the budget process' transparency is the 'Citizens Budget'. Behind them in terms of significance, experts identified the approved annual budget and its implementation report, which in practice are presented on the sites only in half of cases. Experts also consider the presence of feedback interfaces as significant. But the following significant indicators: information about the investment projects implementation, section 'Budget and Finance', and the draft budget are very poorly represented on the sites by 5%, 9% and 13%, respectively.

**Tab. 2.** Expert assessment of budget information indicators

Estimated indicators	Average score	Experts*										
		1	2	3	4	5	6	7	8	9	10	11
$x_1$	6.2	8	5	6	7	2	1	9	4	8	9	4
$x_2$	8.0	8	10	9	9	5	7	8	3	10	9	10
$x_3$	7.5	10	8	8	8	5	8	10	3	10	7	5
$x_4$	7.7	9	10	9	4	7	8	10	3	8	9	8
$x_5$	8.8	10	10	10	10	10	8	10	3	8	8	10
$x_6$	7.5	8	9	8	6	8	8	7	1	9	10	9
$x_7$	8.5	10	10	10	9	9	1	10	4	9	7	7
$x_8$	8.2	10	9	9	8	9	6	10	4	8	9	8
$x_9$	6.3	9	9	8	1	6	7	10	3	5	5	6
$x_{10}$	5.9	8	7	7	6	5	5	7	3	5	7	5
$x_{11}$	6.1	8	5	6	7	7	6	7	3	5	7	6
$x_{12}$	7.2	10	5	8	9	5	8	7	5	9	8	8
$x_{13}$	7.9	10	6	9	8	6	8	8	6	9	8	9
$x_{14}$	7.3	10	8	9	8	5	8	9	3	8	7	5
$x_{15}$	7.6	10	10	10	5	3	9	10	3	10	9	5
$x_{16}$	5.9	8	8	8	2	4	6	8	3	7	8	3

Source: Compiled by the authors.

\*The assessment was made by the 10-point scale (1 – not significant to 10 – the most significant criterion).

**Tab. 3.** Matrix of the transformed ranks of the expert assessment

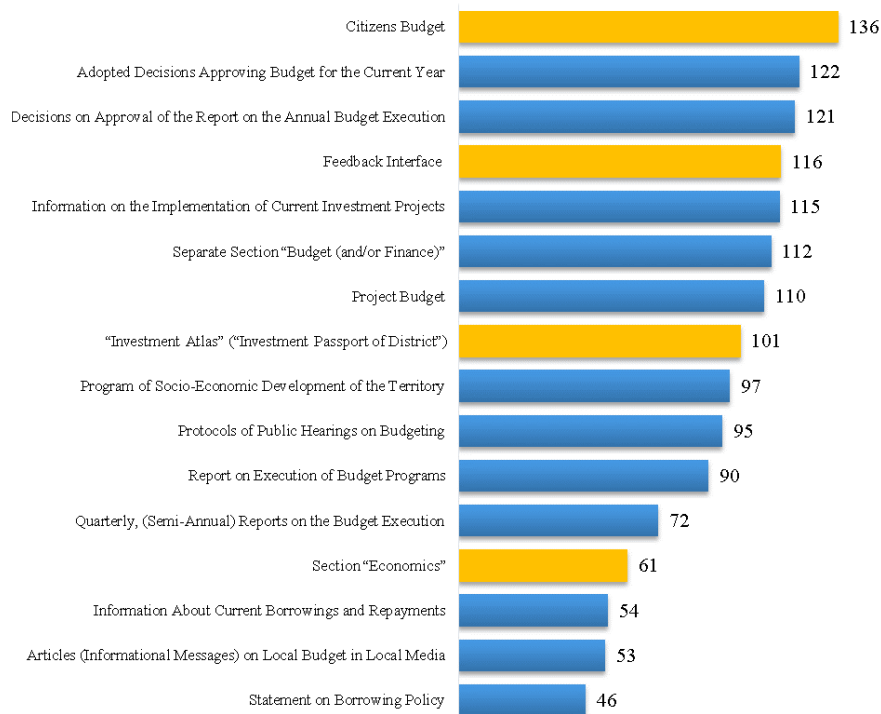
Indicators/ experts	1	2	3	4	5	6	7	8	9	10	11	Sum of ranks	d	d <sup>2</sup>	Indicators weighting
$x_1$	3.5	2	1.5	7.5	1	1.5	8.5	13	7	13	2	<b>60.5</b>	-33	1,089	<b>4.0%</b>
$x_2$	3.5	14	11	14	6	7.5	6	6.5	15	13	15.5	<b>112</b>	18.5	342.25	<b>7.5%</b>
$x_3$	12.5	7	6	10.5	6	12	13	6.5	15	4	4.5	<b>97</b>	3.5	12.25	<b>6.5%</b>
$x_4$	7.5	14	11	3	11.5	12	13	6.5	7	13	11	<b>109.5</b>	16	256	<b>7.3%</b>
$x_5$	12.5	14	15	16	16	12	13	6.5	7	8.5	15.5	<b>136</b>	42.5	1,806.25	<b>9.1%</b>
$x_6$	3.5	10	6	5.5	13	12	2.5	1	11.5	16	13.5	<b>94.5</b>	1	1	<b>6.3%</b>
$x_7$	12.5	14	15	14	14.5	1.5	13	13	11.5	4	9	<b>122</b>	28.5	812.25	<b>8.2%</b>
$x_8$	12.5	10	11	10.5	14.5	5	13	13	7	13	11	<b>120.5</b>	27	729	<b>8.1%</b>
$x_9$	7.5	10	6	1	9.5	7.5	13	6.5	2	1	7.5	<b>71.5</b>	-22	484	<b>4.8%</b>
$x_{10}$	3.5	5	3	5.5	6	3	2.5	6.5	2	4	4.5	<b>45.5</b>	-48	2,304	<b>3.0%</b>
$x_{11}$	3.5	2	1.5	7.5	11.5	5	2.5	6.5	2	4	7.5	<b>53.5</b>	-40	1,600	<b>3.6%</b>
$x_{12}$	12.5	2	6	14	6	12	2.5	15	11.5	8.5	11	<b>101</b>	7.5	56.25	<b>6.8%</b>
$x_{13}$	12.5	4	11	10.5	9.5	12	6	16	11.5	8.5	13.5	<b>115</b>	21.5	462.25	<b>7.7%</b>
$x_{14}$	12.5	7	11	10.5	6	12	8.5	6.5	7	4	4.5	<b>89.5</b>	-4	16	<b>6.0%</b>
$x_{15}$	12.5	14	15	4	2	16	13	6.5	15	13	4.5	<b>115.5</b>	22	484	<b>7.7%</b>
$x_{16}$	3.5	7	6	2	3	5	6	6.5	4	8.5	1	<b>52.5</b>	-41	1,681	<b>3.4%</b>
$\Sigma$	136	136	136	136	136	136	136	136	136	136	136	1,496		12,135.5	

Source: Compiled by the authors.

**Tab. 4.** Ranked expert assessments of significance and weight of indicators for assessing the openness and transparency of local budgets

#	Indicators ( $K_i$ )	Average ranked score ( $B_i$ )	Weight indicators ( $Y_i$ )
	Section 'Economics'	5.50	4.0%
	Separate section 'Budget (and/or Finance)'	10.18	7.5%
	Program of Socio-Economic Development of the Territory	8.82	6.5%
	Project budget	9.95	7.3%
	Citizens budget	12.36	9.1%
	Protocols of public hearings on budgeting	8.59	6.3%
	Adopted decisions approving budget for the current year	11.09	8.2%
	Decisions on approval of the report on the annual budget execution	10.95	8.1%
	Quarterly (Semi-Annual) reports on the budget execution	6.50	4.8%
	Statement on borrowing policy	4.14	3.0%
	Information about current borrowings and repayments	4.86	3.6%
	"Investment atlas" ('Investment Passport of District')	9.18	6.8%
	Information on the implementation of current investment projects	10.45	7.7%
	Report on execution of budget programmes	8.14	6.0%
	Feedback interface	10.50	7.7%
	Articles (informational messages) on local budget in local media	4.77	3.5%

Source: Compiled by the authors.

**Fig. 2.** Budget transparency indicators ranked by the Sum of Expert Assessment Points  
Source: Compiled by the authors.



In addition to this part of the assessment we added information blocks related to the depth and relevance of budget information on the sites. There is budget data depth submitted on the site in time ranges: 1 year, 1–2 years, 1–3 years, 1–4 years and more; the relevance of information on the rayon’s budget (latest publication): up to 1 month, for periods of 2–3 months, 3–6 months and more than 6 months.

The pull of experts counts 11 personalities who represent public servants, academicians and NGOs. They have assessed all 16 information indicators according to the importance degree of budget information for the population by a 10-point system as follows (see Table 2).

The experts assessed the significance of the parameters by assigning them  $\chi$  points. The factor that the expert gives the highest rating is awarded 10 points. If the expert recognises several factors as equal, they are assigned the same score. Since the questionnaire table contains related ranks (identical scores) in the ratings of all experts, we performed their reformulation. Ranks are re-formed without changing the expert’s opinion, meaning that the corresponding ratios (greater, less, or equal) must remain between the rank numbers. New ranking matrix based on reformulation of the questionnaire data was constructed, where

$$d = \sum x_{ij} - \frac{\sum \sum x_{ij}}{n} = \sum x_{ij} - 93.5 \tag{1}$$

Let us check the correctness of the matrix based on calculating the checksum:

$$\sum x_{ij} = \frac{(1+n) \times n}{2} = \frac{(1+16) \times 16}{2} = 136 \tag{2}$$

The sum of the columns in the matrix is equal to the checksum, which means that the matrix is correctly composed. To estimate the average degree of consistency of opinions of all experts, we will use the concordance coefficient for the case with related ranks (the same values of ranks in the estimates of one expert):

$$W = \frac{S}{\frac{1}{12} \times m^2 \times (n^3 - n) - m \times \sum T_i} \tag{3}$$

where  $S = 12,135.5$ ,  $n = 16$ ,  $m = 11$

$$T_i = \frac{1}{12} \times \sum (t_i^3 - t_i) \tag{4}$$

$T_i$  is the number of bundles (types of repetitive elements) in the estimates of the  $i$ -th expert  $t_l$  is the number of elements in  $l$ -th unit for  $i$ -th expert (a number of repeating units).

$$T_1 [(63-6) + (83-8) + (23-2)]/12 = 60$$

$$\sum T_i 60 + 16 + 22.5 + 8 + 11.5 + 31 + 35.5 + 84.5 + 19 + 25 + 8.5 = 321.5$$

$$W = \frac{12135.5}{\frac{1}{12} \times 11^2 \times (16^3 - 16) - 11 \times 321.5} = 0.32 \tag{5}$$

$W = 0.32$  indicates that there is a weak degree of consistency in the opinions of experts. However, we still need to evaluate the significance of the concordance coefficient. For this purpose, we calculate the Pearson’s matching criterion:

$$\chi^2 = \frac{S}{\frac{1}{12} \times m \times n \times (n+1) + \frac{1}{n-1} \times \sum T_i} \tag{6}$$

$$\chi^2 = \frac{12135.5}{\frac{1}{12} \times 11 \times 16 \times (16+1) + \frac{1}{16-1} \times 321.5} = 53.25 \tag{7}$$

The calculated  $\chi^2$  have to be compared to the table value for the number of degrees of freedom  $K = n-1 = 16-1 = 15$  and for given significance level  $a = 0.05$

Since  $\chi^2$  is the calculated  $53.25 \geq \text{tabular } (24.99579)$ , then  $W = 0.32$  is not a random value, and therefore the results obtained are meaningful and can be used in further studies.

We modelled two indicators to assess the openness and transparency of local budgets:

- 1) The level of transparency of local budgets (OLBIT);
- 2) Authorities’ efforts to ensure transparency of local budgets.

The model for assessing local budgets transparency’s level is based on the use of criteria for compliance information support ( $K_i$ ) and the average

value of the ranked scores of expert evaluations ( $B_i$ ), as follows:

$$B_{main} = \sum_{i=1}^{16} B_i \times K_i \quad (8)$$

where  $B_{main}$  is the sum of points of the main rating of openness and transparency of local budgets;  $B_i$  is the scores of the openness and transparency rating of local budgets of factor  $i$ ;  $K_i$  is the existence of corresponding blocks of information (0 – absence, 1 – presence).

In addition to the main assessment of the availability of information, we also assessed indirect parameters of the informative content and relevance of budget information on the ATE sites. The data without the participation of experts was evaluated. Here, we evaluated the significance of the criteria on a 10-point scale (to ensure the proportionality of the assessment ranks) based on the obvious usefulness of the depth of presented information (the deeper reported data is better) where the time range is for 4 years or more get 10 points, for 3 years – 7.5 points, for 2 years – 5 points and for 1 year – 2.5 points. The degree of relevance of budget information (more up-to-date and frequent publications are better) is evaluated according to the periodicity and the latest publication was less than 1 month – get 10 points, 2–3 months – 7.5 points, 3–6 months – 5 points and more than 6 months – 2.5 points.

The model for estimating the depth of data representation has the following format:

$$B_{depth} = k_{4years} \times 10 + k_{3years} \times 7.5 + k_{2years} \times 5 + k_{1year} \times 2.5 \quad (9)$$

where  $B_{depth}$  is the sum of points based on the depth of the time range of information provided,  $k_{*years}$  is the factor of availability of information blocks (0 – absence, 1 – presence).

The model of relevance of information looks similar to the previous one:

$$B_{relev} = z_{1month} \times 10 + z_{3months} \times 7.5 + z_{6months} \times 5 + z_{>6months} \times 2.5 \quad (10)$$

where  $B_{relev}$  is the sum of points based on the relevance of the information provided,  $z_{*month}$  is the factor for the presence of information blocks (0 – absence, 1 – presence).

The final score of the transparency rating consists of all three elements:

$$B_{total} = B_{main} + B_{depth} + B_{relev} \quad (11)$$

The model for assessing the authorities' efforts to ensure the transparency of the local budget is based on the use of the same criteria for compliance information provision ( $K_i$ ) and indicator of the weight of these criteria ( $Y_i$ ):

$$Y_{main} = \sum_{i=1}^{16} Y_i \times K_i \quad (12)$$

where  $Y_{main}$  is the assessment of authorities' efforts to ensure transparency of local budgets;  $Y_i$  is the indicator of the weight of openness and transparency of local budgets of factor  $i$ .

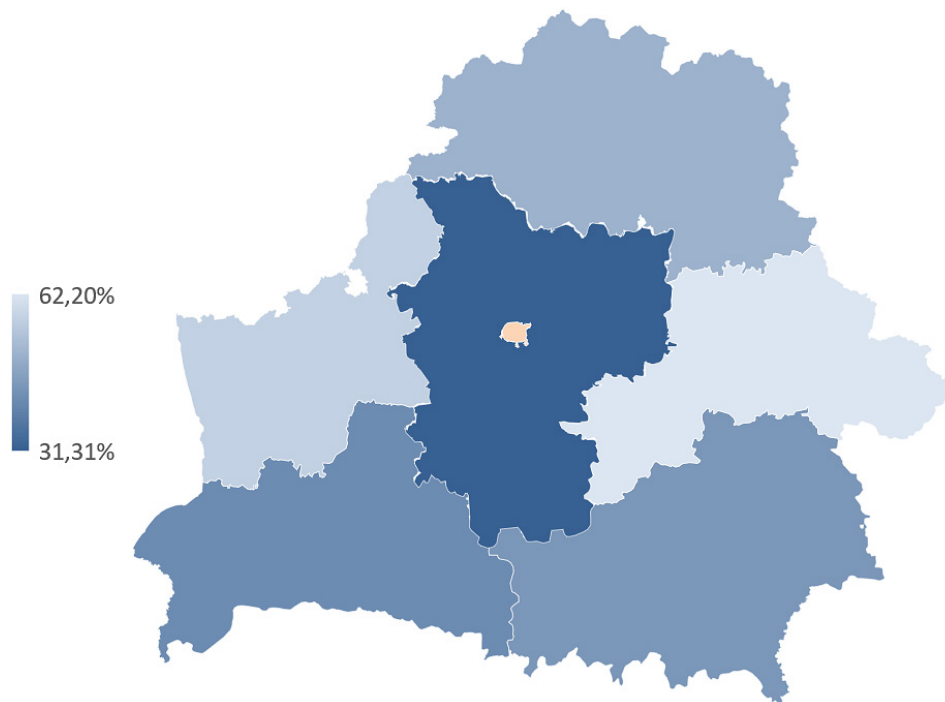
We assessed the indirect parameters of informative content and relevance of budget information on the ATU sites by analogy with the score-based assessment of local budget transparency. However instead of a 10-point scale, weighted values in percentages were used, i.e. the time range for 4 years or more gets 10%, for 3 years – 7.5%, for 2 years – 5% and for 1 year – 2.5%. The assessment of budget information relevance was as follows: less than 1 month – 10%, 2–3 months – 7.5%, 3–6 months – 5%, and more than 6 months – 2.5%. The final value of the authorities' efforts to ensure the local budget transparency consists of all three elements:

$$Y_{total} = Y_{main} + Y_{depth} + Y_{relev} \quad (13)$$

### 3 Results

#### 3.1 Assessment of the openness and transparency of the local budget process (OLBIT index)

What has the openness and transparency about the budget and local finance for the local community shown? Before proceeding to aggregate and regional evaluation, the general information presented in picture 3 should be considered. It demonstrates still insufficient level of fiscal transparency in all of



**Fig. 3.** Heat map of openness and transparency of oblast (regional-level) budgets of the Republic of Belarus  
Source: Compiled by the authors.

Belarus's ATU. According to a number of criteria, the actual level of disclosure budget information provided by local governments was quite low.

There are some areas where budget information posted on ATU sites was absolutely inadequate. Information on local authorities' statements on borrowing policies, implementation of current investment projects, budget drafts for discussion, and budget hearings with the participation of citizen representatives, discussions regarding the annual budget were especially scarce. The scarcity of information on the forthcoming loans on the local authority's websites could be partly explained by the lack of acting in this sphere, but the Ministry of Finance's bulletin about local budgets execution (Bulletin, 2020) evidenced the opposite situation is an active borrowing policy of almost all local authorities, where each local government had the debt on different budgetary credits, loans and bonds. Moreover, its size in some ATU tends to grow.

We can also observe some (even small) investment projects initiated by the population and local authorities, and financed by the local budget (for example, the construction of local roads and building repairs), for which the local Council should be accountable. At the same time, information about

its expenditures should be made public. The Ministry of Finance and regional executive committees also provide information on current investment projects, but most often it remains undisclosed for the citizens at the ATU sites where these projects are implemented. It appears that local authorities are not willing to provide information on budget drafts and discussions regarding the ATU annual budget. All ATU have a feedback interface and citizens can appeal in the form of electronic request. The approved annual budget, the report on the annual budget execution, quarterly and semi-annual reports in all ATUs are presented slightly better, however, they are around middle score of openness and transparency. The assessment of the local budgets openness and transparency at the basic territorial level (ATU) by the oblasts is presented in Table 5.

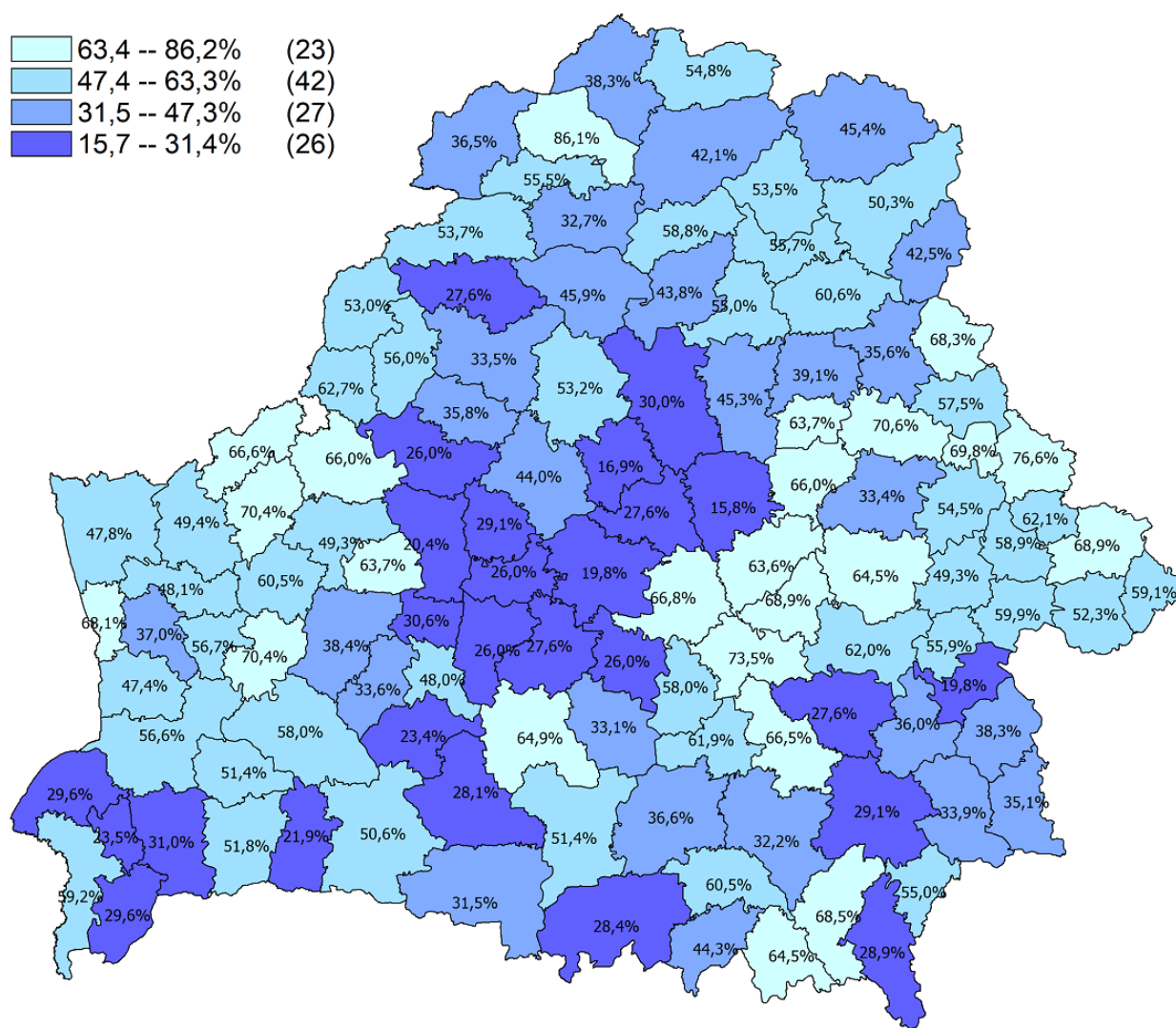
The aggregate index that measures the disclosure of information about local budgets shows that we get on average 43.7% of the expected information on local budgets within the 100% possible. In our opinion, it demonstrates insufficient level of budgetary transparency of local budgets in all ATUs of Belarus. The highest OLBIT index was reached by the budgets of the Mogilev region – 62.92%, the Grodno region 57.52% and the Vitebsk region – 51.04%. The lowest value in openness and transparency was received by

**Tab. 5.** The level of transparency of the local budgets of ATU by the regions

Oblasts/regions	Number of matches in monitoring indicators, ( $K_i$ )	Local budget transparency score, ( $B_i$ )	Potential local budget transparency score, ( $B_{max}$ )	Transparency level of local budgets, $B_i/B_{max}$
Brestskaya oblast	109	1,310.55	3,106.5	42.19%
Vitebskaya oblast	174	1,919.27	3,760.5	51.04%
Gomelskaya oblast	143	1,585.95	3,597.0	44.09%
Grodnenskaya oblast	161	1,692.86	2,943.0	57.52%
Minskaya oblast	114	1,214.95	3,760.5	32.31%
Mogilevskaya oblast	223	2,366.23	3,760.5	62.92%
<b>All ATU</b>	<b>924</b>	<b>9,147</b>	<b>20,928</b>	<b>43.7%</b>

Source: Data calculated by the authors on the base of research results

Source: Compiled by the authors

**Fig. 4.** OLBIT Heat map on the basic territorial level of Belarus

Source: Compiled by the authors. OLBIT, Online Local Budget Index of Transparency

**Tab. 6.** The level of authority's efforts to ensure openness and transparency of ATU local budgets by the regions

Oblasts/regions	Authorities' efforts to ensure transparency of local budgets, ( $Y_i$ )	The ratio of authority efforts to ensure transparency of local budgets, ( $Y_i$ )/( $Y_{average}$ )	Local budget transparency rating points of authorities' efforts, ( $B_i^{auth}$ )	Local budgets transparency level ensured by authorities' efforts, $B_i^{auth}/B_{max}$
Brestskaya oblast	55.38%	0.89	817.1	26.3%
Vitebskaya oblast	65.26%	1.05	1,319.6	35.1%
Gomelskaya oblast	57.37%	0.92	1,014.8	28.2%
Grodnenskaya oblast	73.93%	1.19	1,285.1	43.7%
Minskaya oblast	41.23%	0.66	567.4	15.1%
Mogilevskaya oblast	80.74%	1.30	1,956.5	52.0%
<b>All ATU</b>	<b>62%</b>			<b>33.4%</b>

Source: Data calculated by the authors on the base of research results

Source: Compiled by the authors

the budgets of Gomel region – 44.09%, Brest region 42.19% and Minsk region – 32.31%. Overall, the transparency and openness of all base-level ATU budgets are illustrated in Figure 4.

The most open and transparent local budgets in the study process were identified. Among the leaders were Miorsky rayon (Vitebsk oblast) – 86.1% out of 100% (140.82 points), the Mstislavsky rayon 76.6% (125.18 points), the Bobruisk city and Mogilev one (Mogilevskaya oblast) 75% (122.64) and 74.2% (121.32). At the end of list with transparency indicators less than 20% are Chechersky rayon (Gomelskaya oblast), Pukhovichsky rayon, Smolevichsky, Berezinsky rayons (Minskaya oblast). Grouping local budgets by transparency ranges showed that out of 128 local budgets, 23 get the maximum transparency range from 63.4% to 86.2%; 42 rayons in the range from 47.4% to 63.3%; 27 rayons in the range from 31.5% to 47.3%; and finally, 26 rayons get the minimal transparency range from 15.7% to 31.4%. Especially, it should be mentioned that the specific results of assessments that the level of local budget transparency in urban ATU was 10.6 percentage points higher than in rural ones. Thus, the average value of the local budget transparency index in cities was 57.6%, and in rural areas 47.0%.

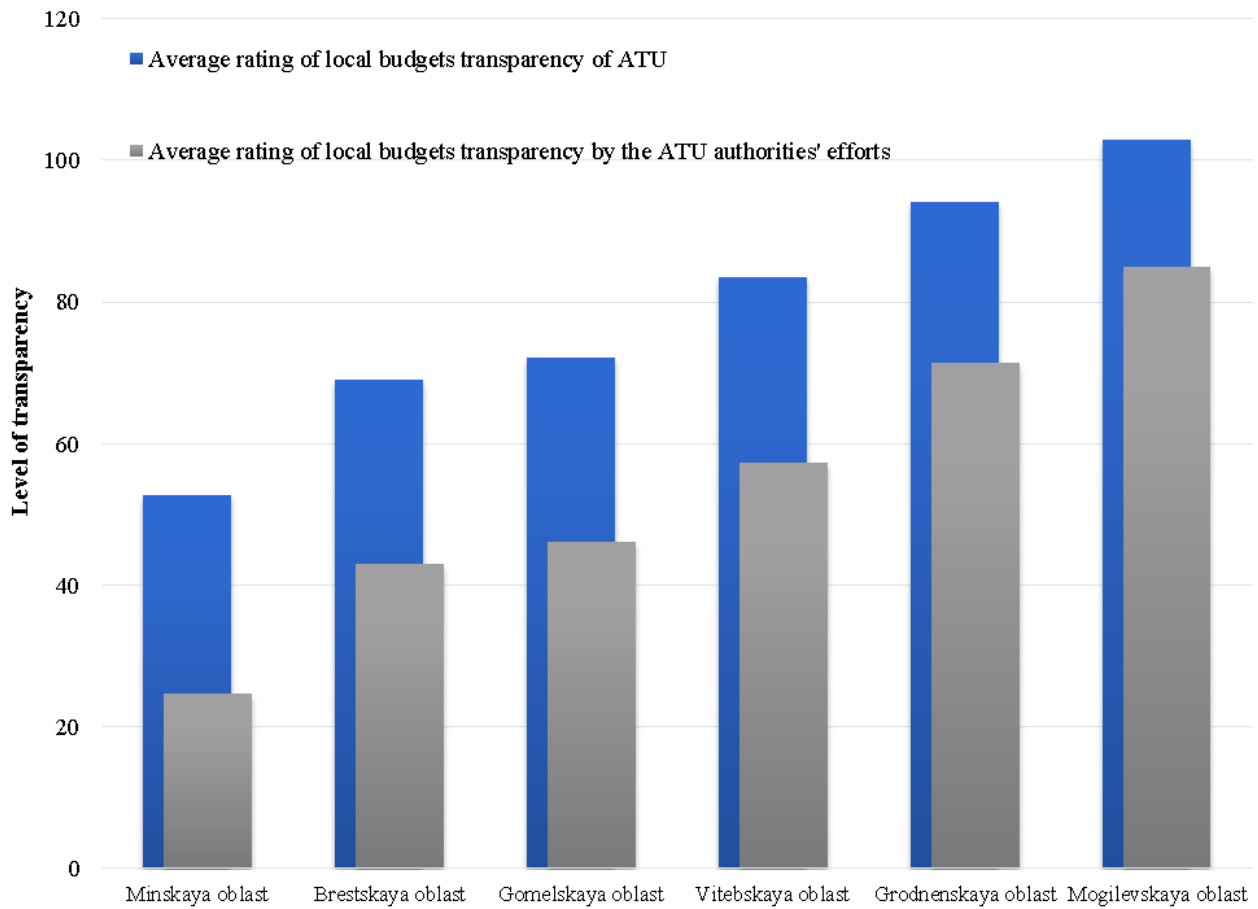
### 3.2 Assessment of the authority efforts to achieve openness and transparency

The data provided on the overall state of local budgets openness and transparency and the leaders and

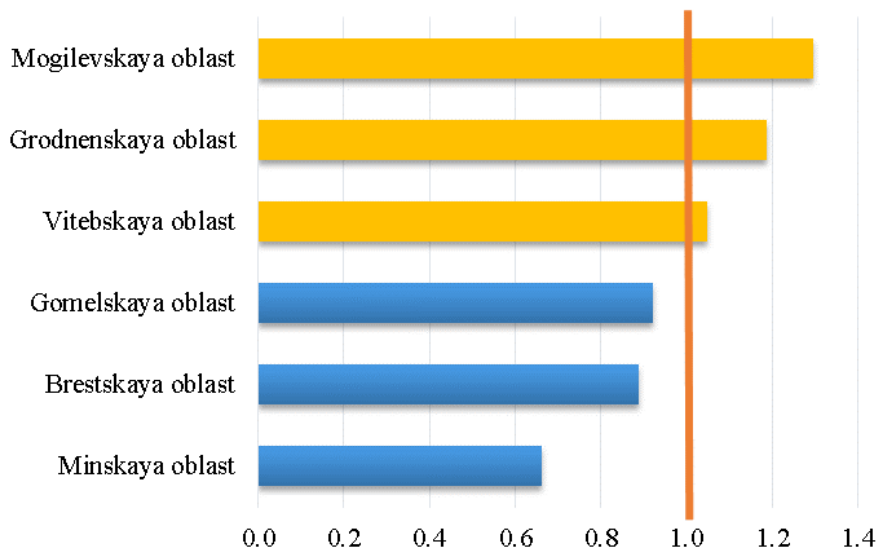
laggards in this area do not yet answer the question about the extent of local authorities' efforts to achieve openness and transparency.

For this purpose, we assessed the degree of openness and transparency of online information about the local budget, taking into account the weighting indicators ( $Y$ ) for all information blocks (evaluation criteria). Thus, in contrast to the score-rating assessment of experts, this indicator initially has a relative value and shows the information saturation's degree of the ATU sites on the local budget topic. Therefore, we interpret this assessment as the authority's efforts to ensure openness and transparency of local budgets, since it takes into account only the presence/absence of the relevant information factor, as well as its weight value, and does not take into account the sum of experts estimated points.

The results of the authority's assessment in their efforts to ensure the disclosure of budget information are characterised in Figure 5. According to the data received, the authority's efforts in disclosing budget information, expressed in points, do not always correspond to openness and transparency degree by the OLBIT index. The gap between the authorities' efforts and the level of openness achieved is greater in lagging regions. So, the gap in the leader of the OLBIT index Mogilev region is 10%, while the Minsk region exceeds 17%. It turns out that compliance with formal approaches in filling up websites with budget information is cheaper or easier for local authorities, while efforts to increase awareness do not bring the same increase in openness and transparency indicators



**Fig. 5.** The ratio of authorities' efforts in disclosure of budget information OLBIT by regions  
 Source: Data calculated by the authors on the base of research results. OLBIT, Online Local Budget Index of Transparency



**Fig. 6.** Authorities' efforts coefficient to ensure transparency of local budgets  
 Source: Data calculated by the authors on the base of research results.

of local budgets. This situation certainly does not motivate the local government to be more open.

The distribution of efforts for disclose budget information to ensure the openness and transparency of local budgets for each of the regions is made relative to the average republican value, which allowed ranking the coefficient of authorities' efforts. It essentially shows the relative transparent productivity of all ATU in each region, as illustrated in Figure 6.

If we take an average coefficient of the authorities' efforts as 1, then the leader became Mogilev region – 1.3, slightly less is the coefficient of Grodno region – 1.19, Vitebsk region – 1.05. The efforts of the authorities in Gomel, Brest and Minsk to ensure openness and transparency of local budgets were less than average (1) – 0.92; 0.89; 0.66 accordingly, which can be considered as insufficient.

### 3.3 Identification of factors for openness and transparency of local budgets in Belarus

The identification of factors affecting the transparency of budgetary information is an important step in the research of many authors who devoted to the motivation for financial information transparency (Guillamón, 2011; Stanic, 2018; Ribeiro, 2017; Tavares, 2014). Empirical studies show that there is a direct link between the level of economic development, the profitability of countries and the degree of openness and transparency of their financial information, although exceptions of it happened. A good example is the OECD countries, where the level of transparency of financial information recorded by official surveys was high compared to underdeveloped and developing countries. Taking into account this pattern, we tested the hypothesis regarding the influence of financial and demographic factors on the degree of openness and transparency of local budgets, namely the share of own revenues in the total local budget revenues; total local budget revenues, per capita revenues, per capita own revenues, population size, area and population density.

The results of correlation analysis showed the absence of any strong significant links and dependencies with financial and demographic factors. Whole calculation presented in Table 7.

First, the link between the level of transparency itself and the level of the authorities' efforts should be

excluded from consideration. Based on the calculation method used, they are obviously dependent values. Therefore, this relationship is out of interest. The main hypothesis under the study of correlation links is to assess the links between the level of transparency and the share of own revenues in local budget. Here, we find a weak but significant (level 0.05) inverse link – 0.185. So, in the case of Belarus, we get that the more self-sufficient regions do not tend to be more open. Of course, the correlation is very weak and cannot be the basis for justifying this trend. It may be of interest in future in-depth analysis.

It is noteworthy that all the correlations of level of budgetary openness with the exception of the efforts of the authorities and the total budget revenues per capita are inverse. We have significant correlations at the 0.01 level for the area (–0.273) and for the budget's own revenues per capita (–0.253). For the total local budget revenues the links is weak (–0.201) at the significance level of 0.05. The other links are insignificant. The share of the budget's own revenues also has a weak inverse link (–0.179) with the level of budget openness at the significance level of 0.05. The final results of our study appeared somewhat paradoxical in relation to the prevailing hypothesis in theory about the positive impact of transparency of local budgets on the local finances and economy. The discovered dependencies can be explained as the imperfection of the local finance itself, due to the fact that many processes are formal in nature and do not present the true situation. The used methodology also suffers from subjectivity in the evaluation of separate criteria. This weakness is not critical for the whole methodology, but it brings the 'optimistic' and 'pessimistic' assessments. In the future, for improvement of the methodology, it is proposed to use a scenario approach. We are going to test the image of a 'naive' user who does not know exactly what he is looking for, but wants to learn more about local finances and budget. This approach will obviously lead to lower estimates of transparency, since, as noted above, much of the information on local sites is placed illogically and in an inappropriate format. This approach will allow us to build the transparency rating into two scenario one for 'expert' and other for 'philistine'. Further research in this direction will help us to improve the proposed methodology.

Tab. 7. Spearman's correlation coefficient matrix

		Level of budgetary openness and transparency (%)	Share of own revenues in total local budget revenues (%)	The level of local budgets transparency by the authorities' efforts (%)	Square (area) (km <sup>2</sup> )	Population	Density of population	Own budget revenues per capita (BLN)	Total local budget revenues (in thousand BLN)	Total budget revenues per capita (in thousand BLN)
Level of budgetary openness and transparency (%)	Correlation Coefficient	1.000	-0.185*	0.997**	-0.273**	-0.165	-0.092	-0.253**	-0.201*	0.033
	Sig. (2-tailed)		0.037	0.000	0.002	0.063	0.300	0.004	0.023	0.710
Share of own revenues in total local budget revenues (%)	Correlation Coefficient	-0.185*	1.000	-0.179*	0.063	0.728**	0.696**	0.821**	0.685**	-0.664**
	Sig. (2-tailed)	0.037		0.044	0.479	0.000	0.000	0.000	0.000	0.000
The level of local budgets transparency by the authorities' efforts (%)	Correlation Coefficient	0.997**	-0.179*	1.000	-0.279**	-0.156	-0.083	-0.253**	-0.191*	0.027
	Sig. (2-tailed)	0.000	0.044		0.001	0.079	0.350	0.004	0.031	0.762
Square (area) (km <sup>2</sup> )	Correlation Coefficient	-0.273**	0.063	-0.279**	1.000	0.161	-0.245**	0.166	0.159	-0.088
	Sig. (2-tailed)	0.002	0.479	0.001		0.069	0.005	0.060	0.073	0.324
Population	Correlation Coefficient	-0.165	0.728**	-0.156	0.161	1.000	0.876**	0.390**	0.950**	-0.819**
	Sig. (2-tailed)	0.063	0.000	0.079	0.069		0.000	0.000	0.000	0.000
Density of population	Correlation Coefficient	-0.092	0.696**	-0.083	-0.245**	0.876**	1.000	0.388**	0.824**	-0.725**
	Sig. (2-tailed)	0.300	0.000	0.350	0.005	0.000		0.000	0.000	0.000
Own budget revenues per capita (BLN)	Correlation Coefficient	-0.253**	0.821**	-0.253**	0.166	0.390**	0.388**	1.000	0.423**	-0.228**
	Sig. (2-tailed)	0.004	0.000	0.004	0.060	0.000	0.000		0.000	0.010
Total local budget revenues (in thousand BLN)	Correlation Coefficient	-0.201*	0.685**	-0.191*	0.159	0.950**	0.824**	0.423**	1.000	-0.629**
	Sig. (2-tailed)	0.023	0.000	0.031	0.073	0.000	0.000	0.000		0.000
Total budget revenues per capita (in thousand BLN)	Correlation Coefficient	0.033	-0.664**	0.027	-0.088	-0.819**	-0.725**	-0.228**	-0.629**	1.000
	Sig. (2-tailed)	0.710	0.000	0.762	0.324	0.000	0.000	0.010	0.000	
	N	128	128	128	128	128	128	128	128	128

Source: Data calculated by the authors on the base of research results

\*Correlation is significant at the 0.05 level (2-tailed)

\*\*Correlation is significant at the 0.01 level (2-tailed).



## 4 Discussion Issues Concerning Local Budget Openness and Transparency in Belarus

The study proves once again that the local budgets system in Belarus has not changed significantly since the collapse of the former Soviet Union. Philosophy and the classical understanding of the role and significance of local budgets remained the same for citizens. In people's minds, they appear as budgets subordinate to the higher state budget, and despite the fact that they are called local, they act as branches of the state budget in localities.

An importance of the local budget is significantly undermined by its lack of visibility and legibility on the local government websites. The budget heading, as an important document for citizens, has never received an independent section due to the importance of other sections of information. Budget information was often landed in economic or social block, in the structure of the Financial Department of Executive Committee, and appeared in other non-core budget information blocks or even dropped out of view. This caused extra effort to search using special search options. On some of the ATU websites, the links on official budget approval documents and performance reports were forwarded to legal portal sites instead of being available on their own sites that makes it sometimes difficult to access. As a result, the current haphazard, scattered and disordered budget information creates the secondary importance's impression on budget topics for the local community and negates the significance of this document.

The study showed that the level of centralisation in local financial management remains quite high, and the degree of local government autonomy in local budget process is extremely low. These conclusions are not a result of the authors' hypothetical arguments but proceed from the budgetary information presented on the local authority websites. It is enough to mention the phrase often found on the websites of many regional and local executive committees, which notes that 'local budget planning is based on the basic scenario of forecasting the parameters of socio-economic development and monetary policy of the Republic of Belarus and the indicators of socio-economic plan', but do not on the specific spending needs of local government. With this understanding of the local budget, it becomes clear that local budget planning is an administrative procedure in the budget

hierarchy of the Ministry of Finance, which has been handed over to the local authorities for execution. In these circumstances, it is difficult to imagine that the local budget can be 'our' – really own and independent budget for the local communities and their citizens.

Regarding the openness budget' issues, we found that there were no budget hearings and discussions of draft budgets involving active citizen groups, despite their participation in discussions on the environment, industrial and agricultural facilities, urban planning and other issues of public concern. Thus, two-pronged opinion has been formed: either it is people's indifference to the local budget, or it is institutional and legal obstacles for the public control. Meanwhile, according to the Belarusian Law on Local Government and Self-Government (article 15, point 3.8) the citizens' participation in the session is mandatory (when introducing a draft decision of the Council) or may be considered necessary in other cases by decision of the Presidium of the Council (Law of the Republic of Belarus, 2010). The persistence of this issue in localities can create serious problems with the openness and transparency of local budgets.

Finally, regarding the quality of budget information, we have found great contrasts in the completeness and depth of information provided about the local budget. In many ATUs, budget information (including the budget for citizens) was limited to line-by-line data on income and expenditures only. Disclosure of information about borrowings and their purposes is extremely limited. The same can be noted with regard to how and to what extent budget programmes and subprogrammes were implemented, because a limited number of ATUs have reported data only. The fragmentation is the main characteristic feature of budget information presented on the websites. You could find examples where information about the local budget was offered on the websites of the regional Executive Committee or the Ministry of Finance. At the same time, we may find good examples of the depth and quality of the budget information provided. Moreover, these examples out of the primary-level ATUs, where the quality and completeness of providing budget information was much higher and more than on the upper level of local rayon authorities.

To summarise, we may conclude that the Belarusian system of local finance and budgeting is in the developing stage and in the phase of becoming their own independence in the field of Public Finance. The first steps it takes on this path are related to the

representation of this sphere in the information space. And if earlier the prevalence of traditional channels of information allowed shadowing it in local small mass media or being generally limited to the tools of citizens' appeals, the modern information society does not allow this to be done. The level of budget information transparency (the quality and volume of information about local budgets and finances) becomes an important criterion for assessing the appropriate level of public management and good governance.

As our research has shown, there is no positive link between the level of online openness of local budgets and key financial and socio-demographic factors. We tend to attribute these results to the initial stage in the study of local finance transparency. Following the line of this process of developing, we guess we will manage to trace the evolution of local finance publicity in Belarus. Such studies also will allow finding out the weaknesses and objectively assess the quality and volume of the local budget and finance information presented online, which is an important factor in public relations and the local community development.

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