

# FISCAL TRANSPARENCY OF THE LOCAL BUDGETS IN BELARUS



*A public meeting presentation prepared to the*

**LPSA ECA Working Group**

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# The research questions posed :

- RQ1) to show an assessment of transparency level of the base municipalities in Belarus by use of a simplified methodology ( 'snapshot assessment' encompassing 16 indicators merged into Online Local Budget Index transparency (OLBIT index)
- RQ2) to find out which factors seem to affect the transparency level measured by OLBIT;
- RQ3) to outline some policy proposals concerning raising budget transparency in municipalities
- RQ4) To define approaches for digitalizing measurement of transparency level

## Methodology research:

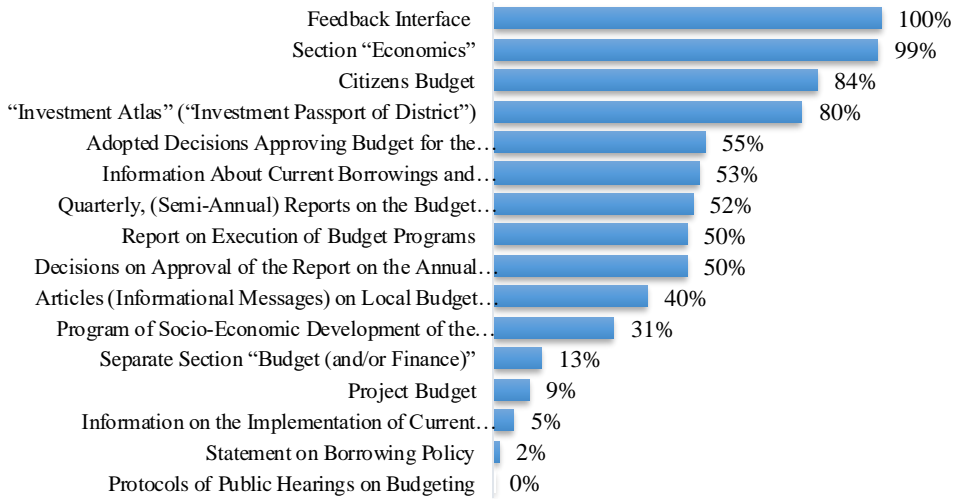
- 1. Our methodology approach is compiled by the International Budget Partnership (IBP) methodology;
- 2. The variable indicators based on the 5 information blocks of the OBI methodology's, namely: (I) key budget documents identification, (II) assessment of the draft budget and related information, (III) of transparency assessment at all four stages of the budget process, (IV) assessment of the legislature influence on the executive during the budget process, (V) assessment of public participation in the budget process.
- 3. The study comprised 128 local budgets in Belarus at the basic level, including rayon budgets (118 units) and city budgets (10 units). They are recognized as administrative-territorial units (hereinafter - ATU). *(In local definition as the municipalities)*

## Methods:

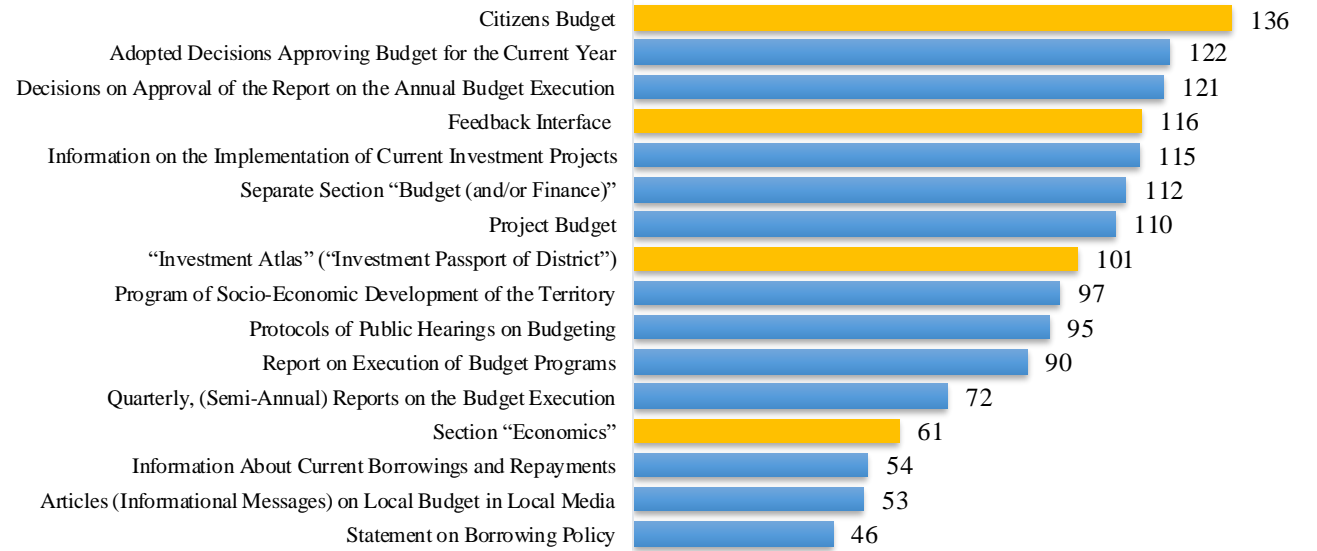


- 1. The emphasis on the availability of documents online (municipality web sites) was precisely made;
- 2. Method "Snapshot assessment" were used (*Method used by James Alt studies as most simple method*);
- 3. 16 most important blocks of information matching OBI methodology were selected;
- 4. The availability of relevant information on the local government website was rated 1 point, while its absence - 0 points. Thus, the OLBIT criterion for any municipality could be ranged from 0 to 16;
- 5. Mathematics and statistics methods, PyCharm programming were used.

# Information site occupancy of all local authorities in Belarus (128 municipalities) in percent



# Location of evaluated indicators/transparency criteria by expert rating rank values



criteria/factors	point	1	2	3	4	5	6	7	8	9	10	11
x <sub>1</sub>	5,7	8	5	6	7	2	1	9	4	8	9	4
x <sub>2</sub>	8,0	8	10	9	9	5	7	8	3	10	9	10
x <sub>3</sub>	7,5	10	8	8	8	5	8	10	3	10	7	5
x <sub>4</sub>	7,7	9	10	9	4	7	8	10	3	8	9	8
x <sub>5</sub>	8,8	10	10	10	10	10	8	10	3	8	8	10
x <sub>6</sub>	7,5	8	9	8	6	8	8	7	1	9	10	9
x <sub>7</sub>	7,8	10	10	10	9	9	1	10	4	9	7	7
x <sub>8</sub>	8,2	10	9	9	8	9	6	10	4	8	9	8
x <sub>9</sub>	6,3	9	9	8	1	6	7	10	3	5	5	6
x <sub>10</sub>	5,9	8	7	7	6	5	5	7	3	5	7	5
x <sub>11</sub>	6,1	8	5	6	7	7	6	7	3	5	7	6
x <sub>12</sub>	7,5	10	5	8	9	5	8	7	5	9	8	8
x <sub>13</sub>	7,9	10	6	9	8	6	8	8	6	9	8	9
x <sub>14</sub>	7,3	10	8	9	8	5	8	9	3	8	7	5
x <sub>15</sub>	7,6	10	10	10	5	3	9	10	3	10	9	5
x <sub>16</sub>	5,9	8	8	8	2	4	6	8	3	7	8	3

1-st step: Explore Structure of Information Content of municipality's Websites

2-nd step: Average point evaluation by 11-the experts

3-rd step: Recalculation criteria/factors into points through the expert evaluation

# Models evaluated

For evaluating of openness and transparency two models were simulated

## 1. Level of transparency of local budgets (OLBIT index)

The model for assessing the level of transparency of local budgets is based on the use of criteria for compliance of information support ( $K_i$ ) and the average value of the ranked scores of expert evaluations ( $B_i$ ), as follows:

$$B_{main} = \sum_{i=1}^{16} B_i \times K_i$$

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

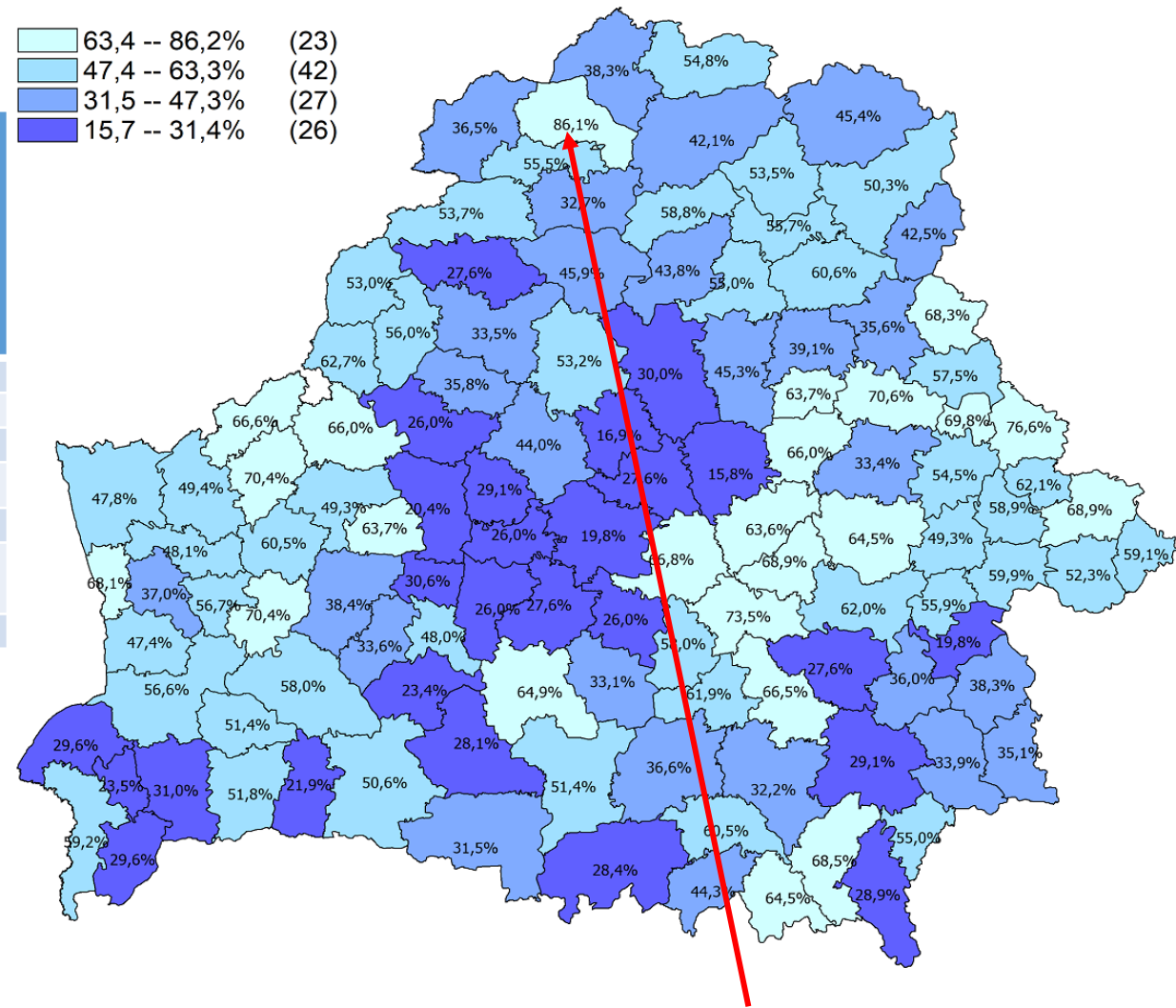
## 2. Authorities' efforts to ensure transparency of local budgets

$$Y_{main} = \sum_{i=1}^{16} Y_i \times K_i$$

- The model for assessing the authority efforts to ensure transparency of local budgets is based on the use of the same criteria for compliance of information provision ( $K_i$ ) and weight indicator of these criteria ( $Y_i$ ):
- where,  $Y_{main}$  - assessment of authorities' efforts to ensure transparency of local budgets;
- $Y_i$  - indicator of the weight of openness and transparency of local budgets of factor  $i$ ;
- $K_i$  - existence of corresponding blocks of information (0- absence, 1-presence).

# Results 1 (OLBIT index)

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	1310.55	3106.5	42.19%
Vitebskaya oblast	174	1919.27	3760.5	51.04%
Gomelskaya oblast	143	1585.95	3597.0	44.09%
Grodnenskaya oblast	161	1692.86	2943.0	57.52%
Minskaya oblast	114	1214.95	3760.5	32.31%
Mogilevskaya oblast	223	2366.23	3760.5	62.92%
<b>all ATU</b>	<b>924</b>	<b>9147</b>	<b>20928</b>	<b>43.7%</b>



The aggregate OLBIT 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 were received by 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 by the Graph 4.

The most open and transparent local budgets were identified in the study process. Among the leaders were: The Miorsky municipality of the Vitebsk region - **86.1%** out of 100% (**140.82 points**), the Mstislavsky municipality got 76.6% (125.18 points), the Bobruisk city and Mogilev one 75% (122.64) and 74.2% (121.32), respectively, Bobruisk rayon municipality and the of Baranovichi city got the same 73.5% (120.20), Shklovsky rayon municipality 70,6% (115,36), Lida and Slonim rayon municipalities got 70,4% (115,18). At the end of list with transparency indicators less than 20% are Chechersky, Pukhovichsky, Smolevichsky, and Berezinsky rayon municipalities. Grouping local budgets by transparency ranges showed that out of 128 local budgets, 23 got 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 got the minimal transparency range from 15.7% to 31.4%. Especially should be mentioned 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%.

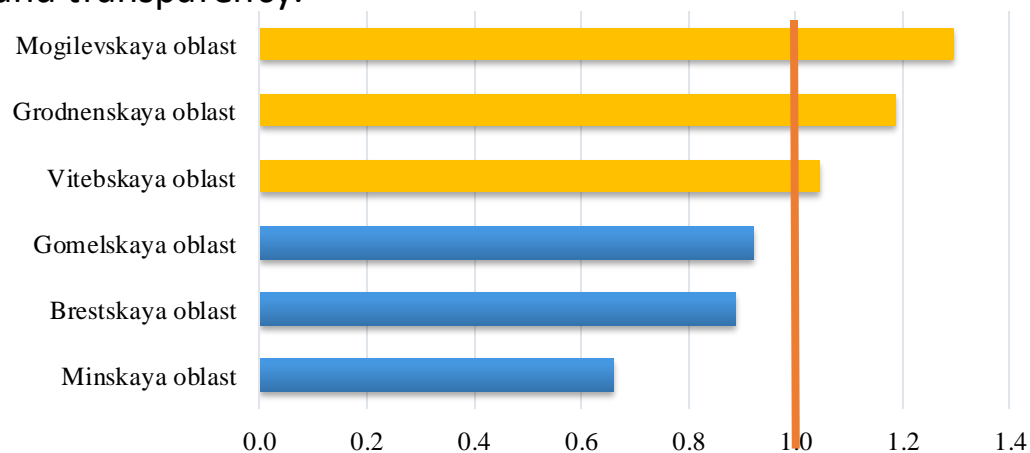


## Results 2 : authority efforts in ensuring budgetary transparency:

- For assessment of **authority's efforts in budgetary openness and transparency**, the coefficient of openness and transparency was introduced.
- The essence of authorities' effort coefficient that there is a constant of 1. The value below constant shows the insufficient authority's efforts and the value above shows the sufficiency .
- Rule!!!** *If the share of variables positive values for any municipality more than share of average variable positive values for all municipalities, then the authority's efforts can be considered as sufficient, i.e. > 1. If the opposite < 1, then as insufficient.*

$$C_{ae} = \frac{\text{share of positive variables ATU/municipality}}{\text{share of average positive variables all ATUs/municipalities}}$$

Authority's effort measured by the coefficient of openness and transparency:



The authority's efforts indicator may be expressed in points and it do not everywhere correspond to OLBIT coefficient. For example, the gap between the Mogilevskaya oblast and Minskaya one by the authority's efforts is 1.96 times, and according to OLBIT - 3.44 times.

Oblasts/Regions	Authorities' efforts to ensure transparency of local budgets, (Y <sub>i</sub> )	Coefficient of authority efforts to ensure transparency of local budgets, (Y <sub>i</sub> ) / (Y <sub>average</sub> )	Local budget transparency rating points of authorities' efforts, (B <sub>i</sub> <sup>auth</sup> )	Local budgets transparency level, B <sub>i</sub> <sup>auth</sup> / B <sub>max</sub>
Brestskaya oblast	55.38%	0.89	817.1	26.3%
Vitebskaya oblast	65.26%	1.05	1319.6	35.1%
Gomelskaya oblast	57.37%	0.92	1014.8	28.2%
Grodnenskaya oblast	73.93%	1.19	1285.1	43.7%
Minskaya oblast	41.23%	0.66	567.4	15.1%
Mogilevskaya oblast	80.74%	1.30	1956.5	52.0%

## Identification of factors affecting openness and transparency of local budgets in Belarus

- The hypothesis regarding the influence of financial factors on openness and transparency degree of local budgets was tested, namely, the **share of own revenues in the total revenues of local budgets; all local budget revenues, total per capita revenues, and own per capita revenues** by paired correlation (Pearson coefficient).

	Coefficient of correlation by financial factors			
	The share of own budget revenues	Total budget revenues	Own budget revenues per capita	Total budget revenues per capita
<b>Municipalities</b>				
All	-0,1766	0,0218	-0,2165	-0,0060
Urban	-0.2700	0.0050	-0.2546	0.1012
Rayon	-0.2431	-0,1849	-0.2217	0.0015
Brestskaya oblast's mun.	0.4165	0.5037	0.1724	-0.5148
Vitebskaya oblast mun.	0.0113	-0.1695	-0.0338	-0.0319
Gomelskaya oblast mun.	0.0963	-0.1622	-0.0391	-0.0140
Grodnenskaya oblast mun.	0.0881	0.0965	-0.1922	-0.1645
Minskaya oblast mun.	0.2626	0,3696	0.0884	-0.0254
Mogilevskaya oblast mun.	-0,1263	-0,18736	-0,3859	-0,2575

- The hypothesis dependences transparency and openness degree and territorial-demographic factors, such as population size, area, population density in ATU on the level of disclosure of budget information, was tested.

ATUs	Correlation coefficient by geographical and demographic factors		
	Area (sq.km)	Population	Population Density (per sq.km)
All ATU	-0.2671	0.0579	0.1422
Urban ATU	0.1755	-0.0867	-0.5997
Rayon ATU	-0.2122	-0.1676	-0.1155
Brestskaya oblast	-0.1556	0.4889	0.4701
Vitebskaya oblast	-0.3236	-0.0606	0.1909
Gomelskaya oblast	-0,1588	-0,1599	-0,1510
Grodnenskaya oblast	-0,2434	0,1254	0,1087
Minskaya oblast	0,1602	0,3442	0,0986
Mogilevskaya oblast	-0.3461	0.3389	0.3702

- As an exception to the general trend, we can note the Brest region, where there was a noticeable tightness of communication between the population (0.4889) and the population density per 1 resident (0.4701).

Only one result that can push us to further search for factors that motivate the openness and transparency of budgets it was differences in the level of disclosure of budget information *in cities and rural areas*. A characteristic feature was that the level of transparency in urban ATU was 10.6 percentage points higher than in rural areas. Thus, the average value of the transparency index of local budgets was 47.0%, and in cities - 57.6%.



# Study findings:

- The level of openness and transparency in cities higher than rural municipalities on 10 per cent
- The municipalities who neighboring with the EU countries showed the best results in LG's transparency. Municipalities in Eastern Belarus showed the worst results
- The correlation did not confirm any dependence between the level of openness and transparency and the level of wealth and poverty, territories, size of budgets, total budget revenues, and per capita revenues
- There are opportunities for digitalization fiscal openness and transparency's information

# Main study finding: opportunities for digitalization exist

## Key success factors for digitalization of local budget openness and transparency

### Why digitalization?

1. Digital transformation allows residents to quickly and constantly observe changes in local budget's transparency and see their rating status among municipalities.
2. Digital Citizenship is an integral part of the whole paradigm of citizenship nowadays, with all the rights and responsibilities which gives us.
3. In general, digitalization in public finance is developing in three main directions: budgets for citizens (budget openness); Tax payment; participatory budgets;
4. Digitalization of the fiscal transparency process can act as an important asset in open government, smart city or smart municipality platforms

Factors/Category	Contributing success factors
Digitising technologies (“snapshot” assessment; staggered approach technologies)	<ul style="list-style-type: none"> <li>• a well-designed technology;</li> <li>• a simplified digital formation;</li> <li>• a well-designed criteria/factors</li> </ul>
Techniques for capturing financial information from municipal websites	<ul style="list-style-type: none"> <li>• maintaining harmony in the placement of fiscal information online</li> <li>• uniformity of all blocks of information (criteria/indicators) of financial transparency on web-sites of municipalities</li> <li>• visibility and readability of budget information on local government websites</li> <li>• culture of posting budget information on the websites of municipalities</li> </ul>
Digital Matrix	<ul style="list-style-type: none"> <li>• matching digital matrix of the budget information evaluation's model</li> <li>• a well-developed mathematical and statistical apparatus</li> </ul>
Data processing	<ul style="list-style-type: none"> <li>• Matching the needs of the population, local government, auditors, local businesses, researchers, experts</li> </ul>

# Budgetary transparency program in PyCharm: How does it work?

The screenshot shows the PyCharm IDE with a Python script in the editor and its execution results in the console. The script contains the following code:

```
1 print("Hello, world!")
2 print ("Indicators selected for transparency assesment:")
```

The console output shows the following results:

```
Result      Debugger
Slutski rayon municipality
1
Smolevichski rayon municipality
1
Soligorski rayon municipality
1
Starodorozhski rayon municipality
1
Stolbtsovski rayon municipality
1
Uzdenski rayon municipality
1
Chervenski rayon municipality
1
Total administrative - territory units (ATU) of Minskaya oblast 23
23
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 1 0 0 0
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0 0 1 0 0 0 1 0 0 1 0 0 1 0 0 0 0 0 0 1 0 0 0
1 0 0 0 1 0 0 0 1 1 1 1 0 0 0 0 0 0 0 0 0 0 0
```

Final transparency result (%)

```
total actual number of positive matches for all 128 ATUs
923
potential number of positive matches across all 128b ATUs
2048
Share of transparency for all 128 ATUs
45.068359375
```

# Policy recommendations and conclusions:

- Openness and transparency of the local budget - trust in the local government and its policies. The more transparency, the more trust and policies;
- Transparency research methodology should be based on the requirements and recommendations of the International Budget Partnership (IBP);
- local budget transparency e should be measured continuously. This creates obstacles for corruption;
- We shouldn't forget that in Belarus, as in other centralized countries, there are objective constraints in this area: limited opportunities for citizen participation, lack of real local self-governance, rigid system of vertical power, which is noted in the studies of NGOs and civil society institutions ;
- It is necessary to introduce digital technologies and use digital transformation methods. Digitalization makes it possible to maintain budget transparency constantly and permanently;
- The key success factors of digitalization of budget transparency are: well-designed digitization technologies; methods of collecting financial information from municipal websites; developed digital matrix and data processing;
- In general, digitalization in public finance should develop along three main lines: a. Budgets for citizens (budget openness and transparency); b. Tax payment; c. Participatory budgets

# Thanks for attention!

- For more details :
- Krivorotko, Y., & Sokol, D. (2021) Online openness and transparency of local budgets in Belarus. Central European Economic Journal (CEEJ) № 1, 2021. published by Sciendo, 2021, pp. 144-162 <https://www.sciendo.com/article/10.2478/ceej-2021-0009> DOI: <https://doi.org/10.2478/ceej-2021-0009>
- Krivorotko, Y., & Sokol, D. (2021). An Assessment of the Openness and Transparency of Local Budgets in Belarus. [Vietos biudžetų atvirumo ir skaidrumo Baltarusijoje vertinimas] “Regional formation and development studies «Journal of Social Sciences”. No. 1 (33), 2021, pp.41-61. Klaipėda, 2021
- Krivorotko, Y., & Sokol, D. (2022) Online fiscal openness and transparency in the Belarusian local finance. Rocznik 2022, numer 1(10), pp.46-65. ZESZYTY NAUKOWE WSE ISSN 2545-1995 <http://www.wse.edu.pl/pl/dla-studenta/biblioteka/publikacje/equilibrium>
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