

# **Analysis of Public Funds, a Tool for Substantiating the Authorities' Decisions for Sustainable Regional Development**

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## **Abstract**

*The scientific research carried out according to the model of the ministry in charge of regional development public funds attempted to address the main question "Is the analysis of public funds allocated in the annual budgets a tool for substantiating decisions for sustainable regional development?". The epistemological approach was in a constructivist-positivist spirit and assumed the application of the ABC method. In this sense, with the help of the selective analysis of the components of the budgets allocated in the period 2015-2021, their structuring was carried out according to the ABC logic, by reference to the position held in the total budget allocated to regional development.*

**Key words:** *public funds; public budgets; sustainable regional development; budget execution.*

**JEL Classification:** *M41; Q01; H59.*

## **Introduction**

The scientific research on the public funds approved in the annual budgets in the period 2015-2021, complements the research in this field, especially that in the public accounting field, from the perspective of integrating the issue of sustainable development in accounting.

In our opinion, the sustainable development concept has a direct correspondence with the type of capital that is being used and the public funds consumption.

In order to identify the structure of the budgetary expenditures and of the tendency to consume the public funds which are allocated for this purpose, the economic and financial analysis of the public funding for financing programs / projects aiming at a sustainable regional development

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was carried out, following the model of the ministry (MDRAP) that manages, at national level, these financial resources (Radu & Tabirca, 2019).

With the help of the ABC method/Pareto diagram (Niculescu, 2003), the selective analysis of the components of the 2015-2021 budgets was carried out by referring to their position in the total revenue and expenditure budget (BVC) allocated for regional development.

The results obtained by applying the ABC method help, from our point of view, build the dashboard and the control panel, tools that are necessary for the implementation of sustainable regional development programs/projects (Ioniță Predescu et al, 2011).

The dissemination of the results of our research had as its starting point the analysis of the public funds allocated in the budgets for 2015-2021 period and continued with the analysis of the evolution of the main categories of expenses that had significant amounts allocated within the annual budgets, as well as the destination of these categories of expenses.

Finally, by proposing the use of piloting tools, indispensable in the process of implementing programs/projects related to sustainable regional development, the researchers proposed the use of a matrix to improve the information provided by the budget execution.

## Analysis on Public Funds Allocated in the Budgets for the Period 2015 to 2021

The annual budgets allocated in the period 2015-2021 to the field of regional and territorial development had public funds approved for carrying out the following categories of expenses, as presented in Table 1 below.

**Table 1.** Budgets for period 2015 to 2021

No.	Types of expenditure provided in the budgets for period 2015 to 2021	Allocated Public Funds (thousands RON)
1.	Staff expenditure	652,125
2.	Goods and services	123,300
3.	Subsidies	1,209,572
4.	Transfers between public administration units	20,281,629
5.	Other transfers	6,330,252
6.	2007-2013 FEN projects	3,104,491
7.	2014-2020 FEN projects	9,785,845
8.	Others	17,797
9.	FR projects	525,000
10.	Capital expenditure	782,535
11.	Interest	697
12.	Financial operations	76,017
<b>TOTAL</b>		<b>42,889,260</b>

Source: own processing based on BVC\_MDRAP\_2015-2021 data.

In 2015-2021 period, based on the methodology specific to the ABC method, the categories of budgeted expenses were grouped in descending order of allocated public funds, their cumulative value being determined, as well as the three groups of ABC significance, as shown in Table 2 below.

**Table 2.** ABC method. Budgets for period 2015-2021

No.	Types of expenditure provided in the budgets for period 2015 to 2021	Public funds (thousands RON)		ABC Groups
		Descending	Cumulative	
1.	Transfers between public administration units	20,281,629	20,281,629	<b>A</b> <b>70%</b>
2.	2014-2020 FEN projects	9,785,845	30,067,474	

Table 2 (cont.)

3.	Other transfers	6,330,252	36,397,726	<b>B</b> <b>25%</b>
4.	2007-2013 FEN projects	3,104,491	39,502,217	
5.	Subsidies	1,209,572	40,711,789	
6.	Capital expenditure	782,535	41,494,324	<b>C</b> <b>5%</b>
7.	Staff expenditure	652,125	42,146,449	
8.	FR projects	525,000	42,671,449	
9.	Goods and services	123,300	42,794,749	
10.	Financial operations	76,017	42,870,766	
11.	Others	17,797	42,888,563	
12.	Interest	697	42,889,260	
<b>TOTAL</b>		<b>42,889,260</b>	<b>42,889,260</b>	

Source: own processing based on Table 1 information.

The analysis of the results obtained by applying the ABC method for the period 2015-2021 highlighted the trend of the budgetary process under study, as follows:

- for two categories of expenses, public funds were budgeted in a proportion of 70% of the total budgets for the period 2015-2021, categories that form significance group A, respectively for the development of projects at administrative-territorial units level and non-reimbursable external financing projects related to the 2014-2020 financial framework (2014-2020 FEN projects);
- for three categories of expenses, public funds were budgeted in a proportion of 25% of the total budgets for the period 2015-2021, categories that form significance group B, respectively for the development programs, financial support for housing construction, rehabilitation, consolidation and expansion of existing housing, as well as for the granting of subsidies;
- public funds were budgeted for seven categories of expenses in the proportion of 3% of the total budgets for the period 2015-2021, categories that form significance group C, respectively for the development of government programs, those with reimbursable financing, as well as for the repayment of contracted loans and related interest rates.
- In conclusion, the diagnostic analysis of public funds allocated in the period 2015-2021 for regional development highlighted the fact that:
- 70% of the budgeted public funds were intended to finance projects carried out by administrative-territorial units and projects with non-reimbursable external financing related to the 2014-2020 financial framework, expenditure categories which represent a percentage of only 17% of the total categories of expenses managed by the relevant ministry;
- 30% of the budgeted public funds were intended to finance a large number of categories of expenses, which represent 83% of the total categories of expenses managed by the ministry, of which the expenses related to government programs, projects with reimbursable financing, the completion of projects with non-refundable external financing related to the 2007-2013 financial framework, as well as for the repayment of contracted loans and related interest rates

As presented and analyzed above, in the period 2015-2021 twelve categories of expenses were budgeted, of which two categories of expenses were allocated significant amounts within the annual budgets, respectively the categories "Transfers between units of the public administration" and "Projects with financing from non-reimbursable external funds related to the 2014-2020 financial framework" (name of indicators according to the budget classification from the revenue and expenditure budgets related to the period 2015-2021 of the Ministry of Regional Development and Public Administration).

We are presenting below the evolution of the first two types of expenditures in the budget, within the period under analysis, which form group A in the total allocated budgets.

### The Evolution of Budgeted Expenditure Categories for Sustainable Regional Development in the Period 2015-2021

The evolution of the budget expenditure categories demonstrates the trend of the budgetary process from 2015-2021. The starting point of the approach was the ranking of these expenditure categories obtained by applying the ABC method.

The expenditure category "Transfers between public administration units" constitutes the category that had the most public funds allocated in the period 2015-2020, in a total amount of 20,281,629 thousand RON distributed annually, as shown in Table 3 below.

**Table 3.** Evolution of expenditures "Transfers between public administration units" within 2015-2021

No.	Budget year	Allocated public funds		
		Amount (thousands RON)	Structure (%)	Index - I <sub>n+1/n</sub> (%)
1.	2015	2,003,831	9.88%	-
2.	2016	3,570,698	17.60%	178.19%
3.	2017	2,807,538	13.84%	78.62%
4.	2018	2,611,090	12.87%	93.00%
5.	2019	2,739,735	13.52%	104.92%
6.	2020	2,504,737	12.35%	91.42%
7.	2021	4,044,000	19.94%	161.45%
<b>TOTAL</b>		<b>20,281,629</b>	<b>100.00%</b>	<b>201.81%</b>

Source: own processing based on BVC\_MDRAP\_2015-2021 data

The analysis of the evolution of this type of expenditures shows that budgeted public funds increased by 101.81% in the budget year 2021 compared to the budget year 2015. This trend results out of the structure of funds that were allocated annually (the largest share is held by the funds allocated in 2021). The analysis of the data in the table above also highlights the fact that, in the budget years 2017, 2018 and 2020, fewer public funds were allocated through the annual budgets compared to the previous period. This was an unfavorable situation, which led to financial bottlenecks in the flow of activities related to the implementation of regional and local development projects (Radu et al, 2016).

The expenditure category "Projects financed from non-refundable external funds for financial framework 2014-2020" is the second type to which, within 2015-2020, substantial public funds were allocated, in total amount of 9,785,845 thousands RON distributed annually as shown in Table 4 below.

**Table 4.** Evolution of expenditures "Projects financed from non-refundable external funds for 2014-2020 financial framework"

No.	Budget year	Allocated public funds		
		Amount (thousands RON)	Structure (%)	Index - I <sub>n+1/n</sub> (%)
1.	2015	0	0.00%	-
2.	2016	376,639	3.85%	-
3.	2017	2,366,381	24.18%	628.28%
4.	2018	2,382,188	24.34%	100.67%
5.	2019	1,375,235	14.05%	57.73%
6.	2020	1,477,204	15.10%	107.42%
7.	2021	1,808,198	18.48%	122.40%
<b>TOTAL</b>		<b>9,785,845</b>	<b>100.00%</b>	<b>480.08%</b>

Source: own processing based on BVC\_MDRAP\_2015-2021 data.

From the analysis of the evolution of this expenditure category, it resulted that the budgeted public funds registered an increase of 4.8 times in the 2021 budget year compared to the 2016 budget year, a trend also validated by the structure of the annually allocated funds (from 3.85% to 18.48% in the total budgets related to the analyzed period).

The analysis of the data in the above table also highlighted the fact that, in the 2019 budget year, fewer public funds were allocated compared to the previous period, which also means financial blockages in the activity flow related to the implementation of regional and territorial development projects.

The public funds intended for non-reimbursable external financing projects related to the 2014-2020 financial framework reached a "peak" of financing during the years 2017-2018, an aspect that demonstrates concern on the part of those responsible for their implementation.

## The Destination of Budgeted Expenditure Categories for Sustainable Regional Development in the Period 2015-2021

The expenditure category with an increasing trend had different destinations, according to the nature of the expenses made by the authorities receiving public funds.

In the case of the *"Transfers between public administration units"* category, the budgeted public funds were intended for the implementation of the National Local Development Program, the Heating Program, the National Cadaster and Land Registry Program, the Program for housing and sports halls construction, the program regarding the re-engineering of thermal and electric heating plants and the Program for the thermal rehabilitation of residential buildings, as shown in Figure.1.



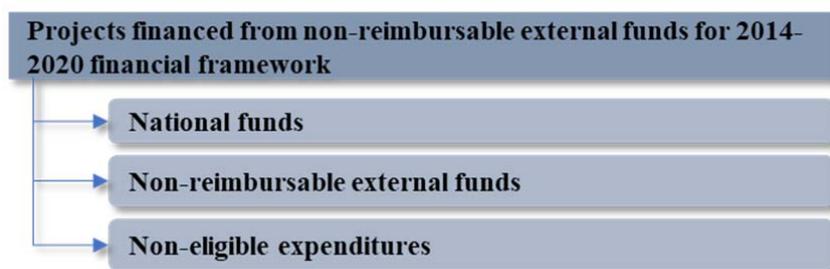
**Fig. 1.** Transfers between public administration units

Source: own processing based on 2016-2021 budget execution reports, COFOG3 .

In the case of the *"Projects with financing from external non-reimbursable funds related to the 2014-2020 financial framework"* category, the budgeted public funds were intended for the implementation of projects at the level of executive authorities and of the Regional and Social Development Programs that were classified, from an economic perspective, by types of funding, namely national funding, non-reimbursable external funding and ineligible expenditure.

Also, the transfers of public funds from this source of financing to the local budgets to support the development of these projects, to public institutions partially/fully financed from own revenues and to other public/private beneficiaries that run such projects, as well as other expenditures caused by the implementation of programs funded by non-reimbursable external funds, were highlighted in the budget classification structure.

As a scheme, this type of expenditure is shown in Figure 2.



**Fig. 2.** Projects financed from non- refundable external funds for 2014 - 2020 financial framework

Source: own processing based on 2016-2021 budget execution reports, COFOG3 .

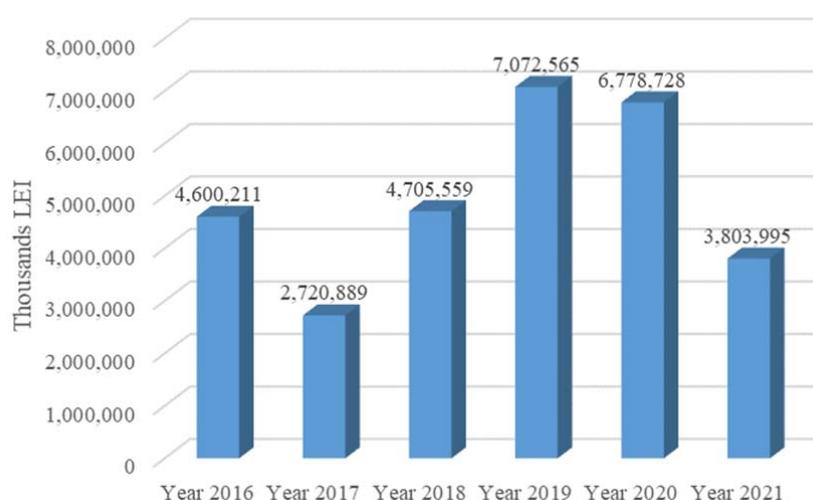
The result of the scientific approach shows that, in the annual budgets of public authority, the projects/programs related to the development are not budgeted, they are found in the form of annexes in the Program Sheets in which the commitment credits and budget credits are provided. The case study carried out highlighted the need to improve the "visibility" of development programs/projects with the help of budget accounting, the only one that can quantify the consumption of public funds in the process of their implementation.

## **Analysis of the Budget Execution of Public Funds Intended for Sustainable Development**

The analysis of the budget execution in the period 2016-2021 of the two large categories of expenses that had public funds allocated for development assumed the quantification of the indicator budget execution rate ( $R_{\text{budget execution}}$ ) as a ratio between the value of payments made at the level of a budget year and the value of budget credits.

The expenditure category "*Transfers between public administration units*" had the most public funds budgeted in the analyzed period, which were consumed in proportion of 98%, which shows that the development programs/projects were carried out within the limits of the secured funding sources.

The analysis of the budget execution resulted in the "uneven" variation in the consumption of public funds, variation given by the value of public funds allocated in the annual budgets, as shown in the Figure 3 below:



**Fig. 3.** Evolution of the budget execution "*Transfers between public administration units*"

Source: own processing based on 2016-2021 budget execution reports, COFOG3 .

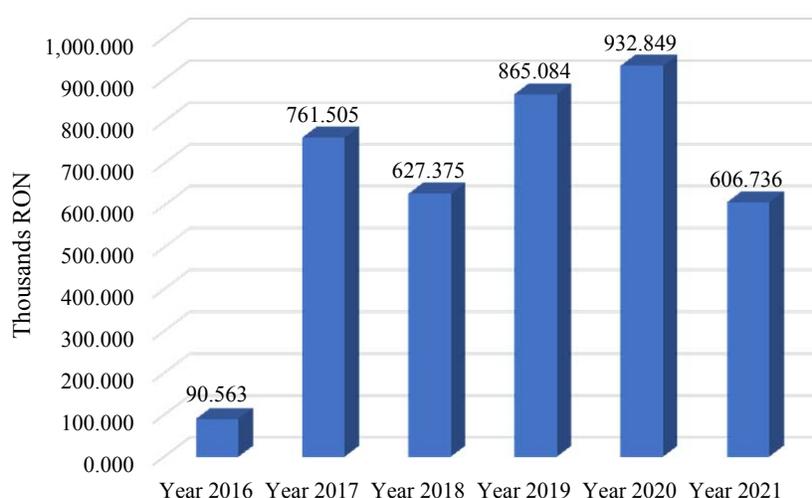
The evolution of the budget execution of the expenditure category "*Transfers between public administration units*" demonstrates the concern of the authorities for the implementation of programs/projects intended for sustainable regional development. In the budget years 2019 and 2020 a "peak" of payments quantified in the budget accounting was reached.

Although the public funds necessary to finance the investment objectives are provided from the state budget, this source of financing is not enough to achieve the investment objectives (included in programs/projects intended for sustainable development and found in the accounting in asset-in-progress accounts).

As a result, the state budget source of financing is supplemented by the European Union budget source of financing, a source that constitutes an opportunity for the public administration to obtain this type of financing that is granted with the non-refundable title.

In this context, the analysis approached the expenditure category "*Projects financed from non-refundable external funds in 2014-2020 financial framework*" which recorded a budget execution rate of 40% in the 2016-2021 period.

The dynamics of budget execution for this category of expenses shows that public funds were consumed "unevenly" during this period, as shown in Figure 4:



**Fig. 4.** Evolution of the budget execution "Projects financed from non-refundable external funds in 2014-2020 financial framework"

Source: own processing based on 2016-2021 budget execution reports, COFOG3 .

The analysis highlighted a 22.5% increase in the consumption of non-refundable public funds in the period 2017-2020, which demonstrates the concern of the public authorities to access this type of financing in order to achieve the development objectives at the regional level.

The value of the budget execution rate -  $R_{\text{budget execution}} = 40\%$  shows the fact that the public authorities failed to spend these non-refundable funds in accordance with the allocated annual budgets, which led to a delay in achieving the investment objectives within the regional development programs/projects.

The comparative analysis of the expenditure category "Transfers between units of the public administration" and the category "Projects financed from non-refundable external funds in 2014-2020 financial framework" resulted in the fact that the financial resources allocated from the state budget were consumed in a higher proportion than those allocated with the non-refundable title from the European Union budget.

The budget execution accounts related to the period 2016-2021 for the two major expenditure categories provided relevant information regarding the consumption of public funds intended for sustainable development programs/projects approved in the annual budgets.

Scientific research demonstrated the need to improve budget accounting with the help of annual budgets and their execution in correspondence with the development programs/projects of the public authority within the institutional strategic plans.

Only in this approach, the degree of implementation of the strategic objectives of a public authority can be determined in real time based on relevant data.

Therefore, in order to increase the visibility of the effort regarding their implementation, the modeling of financial accounting information provided by budget accounting is suggested.

## Improving the Information Provided by the Budget Accounting

The dashboard and the pilot dashboard, as tools for substantiating decisions on the allocation of public funds in the annual budgets, were proposed to improve the information provided by

accounting and the analysis of expenses related to the implementation of programs/projects intended for regional development.

The results of the scientific research highlighted both the need to apply, in practice, the Dashboard built on the proposed objectives and the results obtained, as well as the need to use the Dashboard with "alert indicators" with the role of eliminating constraints so that the strategic objectives to be reached.

The modeling of summary information from the budget execution for sustainable regional development programs/projects can be done based on the following matrix (Table 5):

**Table 5.** Matrix for improving the information which the budget execution provides

Indicators	Programme/ project	Budgeted Public Funds	Payments	Deviation (+/-)	Significance of indicators
National Local Development Programme					
Staff expenditure					
Goods and services					
Capital expenditure					
City Heating Programme					
Staff expenditure					
Goods and services					
Capital expenditure					
National Cadastre and Land Book Programme					
Staff expenditure					
Goods and services					
Capital expenditure					
Programme for housing and sport halls construction					
Staff expenditure					
Goods and services					
Capital expenditure					
Programme regarding the refurbishment of the thermal and electric heating plants					
Staff expenditure					
Goods and services					
Capital expenditure					
Programme of thermal rehabilitation of residential buildings					
Staff expenditure					
Goods and services					
Capital expenditure					
.....					
Projects financed from non-refundable external funds for 2014-2020 financial framework					
Projects concerning the economic dimension					
Projects concerning the social dimension					
Projects concerning the environment dimension					
Projects concerning the cultural dimension					

*Source:* authors' proposal to improve the information provided by the budget execution

We can notice that the proposal to use the improvement matrix for the information provided by the budget execution leads to the pertinent substantiation of the decisions on public funds that are needed for the implementation/completion of programmes/projects for sustainable regional development.

Along with the proposal to improve the information provided by budget execution, modeling the interdependence between institutional strategic plans, own budgets for sustainable development programmes/projects and their budget execution completes the “picture” of a public authority's effort towards development.

The paradigm shift in the budgeting of programmes/projects related to the proposed sustainable development can be highlighted in the form of a scheme, as follows:



**Fig. 5.** The paradigm of sustainable development program/project budgeting

*Source:* authors' own processing.

The proposal to use budgets allocated to sustainable development programs/projects contributes to a relevant record of information regarding the development program/project stage of implementation directly related to the strategic objectives of the public authority. This way, the fulfillment of the strategic objectives is achieved with the help of the „correct” monitoring of development program/project based on the data provided by accounting.

Moreover, this monitoring can only be carried out through a paradigm shift in budgeting, namely through own budgets for each development program/project and the establishment of SMART indicators (specific, measurable, achievable, relevant and time-bound).

Starting from the budgeting of each development program/project by expenditure category, the budget execution is also improved, that is, the quantification of the consumption of public funds intended for the implementation of the program/project.

Improving the information provided by budget accounting involves highlighting the interdependence between strategic planning, budgeting on development programs/projects and budget execution.

## Conclusions

The accomplished scientific approach combined the operational approach with the strategic approach in order to highlight the role of the public funds analysis in making sustainable development decisions.

With the help of the analysis of public funds through the ABC method, the obtained results were better understood and provided a pertinent "image" on the activity carried out by the public authority that manages public funds intended for regional development.

The scientific research highlighted that the public funds allocated to national programs in the "Transfers between public administration units" category were consumed in a high proportion (98%), but the public funds from non-refundable sources budgeted in the category "Projects financed from non-refundable external funds in 2014-2020 financial framework" recorded a low budget execution rate (40%).

The analysis of public funds showed that the development programs/projects did not have their own detailed budgets planned by expenditure categories depending on their nature, but secured funding from the state budget and other funds included in general expenditure categories. Thus, the monitoring of sustainable development programs/projects is difficult to achieve without changing the paradigm of program/project budgeting and the consumption of public funds allocated to development.

In our opinion, only by monitoring the annual budgets allocated to development programs/projects with the help of budget execution accounts can the stage of their implementation be quantified and, implicitly, the stage of the institutional strategic plans fulfillment, respectively the strategic objectives of a public authority.

Moreover, the empirical demonstration of the "coherence" of the public funds that are allocated in the annual budgets and the regional development leads to the need to improve the information provided by the budget execution with the help of the above matrix, and by highlighting the programs/projects that aim at regional development, depending on the type of expenditure incurred throughout a budget year.

Thus, the consumption of public funds intended for sustainable development can be highlighted in direct relation to the objectives of the institutional strategic plans through a more pertinent and easy-to-monitor measurement of the efforts of public authorities in the direction of sustainable development.

The argument behind this statement is that there is an interdependence connection between strategic planning, revenue and expenditure budgets and budget execution accounts. The interdependence nexus results from the need to quantify the degree of implementation of institutional strategic plans in a transparent, accountable and relevant approach that can only be achieved through "direct" budget planning of development programs/projects and budget execution monitoring that provides data and relevant information for making decisions related to sustainable development.

The analysis of the public funds structure in the period 2015-2021 highlighted the fact that the integration of the sustainable development issue in the accounting of public authorities constitutes a continuous challenge not only for researchers in the economic field, but also for practitioners from the budgetary and financial accounting field. In the context of globalization, the information provided by public accounting on sustainable development programs/projects must be comparable and transparent. The scientific research can be a starting point in the strategic analysis from the perspective of public funds consumed for the implementation of sustainable development programs/projects.

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