



# Analysis of the Main Indicators on Romania's Public Debt in the Period 2015-2020

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## ABSTRACT

This article aims to highlight how important it is to analyze and effectively manage a state's public debt in order to maintain a stable macroeconomic situation. In this sense, we made an analysis of the main indicators of public debt. During the period 2015-2020, the level of indebtedness in relation to economic activity decreased, with the exception of 2020, which, under the impact of the Covid-19 pandemic, shows an increase in public debt. A thorough research of the public debt is needed in the the current context of the Covid-19 pandemic. Among the analyzed indicators we can mention: public debt per capita in lei and in euro, public debt related to GDP and exports of goods and services, government public debt service.

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## 1. Introduction

In this paper, we speak about a topical issue, because it is one of the important issues addressed at the state level by the competent authorities, to establish the objectives, the plan of efficient management of public debt, so that both the level and the growth of public debt growth to be sustainable and public debt service to be able to be provided in various situations, respecting the cost and risk objectives. At the same time, it is necessary to research in depth the public debt against the background of the current context of the Covid-19 pandemic, this pandemic influencing the trend followed by the evolution of the economy and the whole society.

Public debt is also particularly important for managing a country's financial situation, its level of indebtedness, its credit, as well as the link between other elements of external payments. Public debt is important in terms of its effects on the economy. Increasing public debt reduces that part of the national income that is saved and reducing the rate of net national savings leads to an increase in the interest rate and a reduction in investment. Moreover, among the effects of public debt are the inflationary effect that occurs when the authorities try to reduce the value of debt by creating inflation; the increase in public debt also leads to an increase in country risk, which leads to an increase in the costs of state financing and, finally, a high value of this indicator determines the burden on future generations.

## 2. Literature review

In the specialty literature, according to specialists, economists or professors, we find definitions of public debt:

- ✚ In a large sense, the state debt also includes the money obligations of the state towards other natural or legal persons, which do not arise from state loans. The former Romanian regulations defined it as the totality of the internal or external obligations of the state, at a given moment, contracted by the Government, through the Ministry of Public Finance, on behalf of Romania (Belean P., Anghelache G., 2005).
- ✚ the public debt is the total amounts borrowed at a given time or in a period, by the central public administration, administrative-territorial units, other public institutions from individuals or legal entities (Stoica A., 1997) on the domestic market and abroad and remaining to be reimbursed at a certain moment (Văcărel I., 2007).
- ✚ the traditional financial doctrine includes in the concept of public debt all the money obligations of the state, as it results from the direct commitments on the internal and external capital market, as well as from the state guarantee operations of contracted loans by other entities (Susanu M., 2008).

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- ✚ “the public debt includes all the amounts owed by the state (respectively by the central state administration, administrative-territorial units and some public institutions), at some point, to its internal and external creditors, individuals and legal” (Gheorghe M., 1994).
- ✚ public debt is defined as “the totality of the internal and external financial obligations of the state, at a given moment, coming from loans contracted directly or guaranteed by the Government, through the Ministry of Public Finance, or by local public administration authorities from various creditors, natural or legal persons resident or non-resident in Romania” (Moșteanu T., 2004).

Internationally, in terms of public debt, several ideas have been put forward, including the opinion of the American economist Paul A. Samuelson, who states that must be a distinguish between internal debt and external debt. “The internal debt is that which the state owes to its citizens. Many say that it is not a burden because we are indebted to ourselves” (Samuelson, P.; Nordhaus, 2000).

Another economist who approached this field is Musgrave who formulated the golden rule of public finances, this rule is the result of long studies and assumes that deficits can be used only to finance investments that are also for the benefit of future generations (Musgrave, R. A, 1964). Regarding the golden rule, Creel also expressed his opinion, noting that “the golden rule of public finances is a balanced public budget where public investment is financed by debt” (Creel, J, Hubert, P., Saraceno, F., 2012).

According to Lieberman and Hall (Lieberman M. and Hall R.E., 2010), for responsible governance, public debt should not grow faster than nominal GDP. Each time this rule is violated, the percentage of public debt in GDP will increase, as will the ratio between interest and GDP, and the tax burden on citizens will be higher (Lăzărescu I., Ioan V., Fortea C., 2020).

In addition to the definitions given by specialists in the economic field, the public debt is defined in normative acts, as follows: according to the Government Emergency Ordinance no. 64/2007 on public debt, with amendments and completions, the public debt consists of government public debt and local public debt.

### 3. Analysis of the main indicators on public debt and their evolution in the period 2015-2020

#### 3.1. The public debt per capita in lei and euro

The table below (Table 1) summarizes data on the evolution of Romania's public debt in millions of lei and in millions of euros, as well as data on the evolution of public debt per capita.

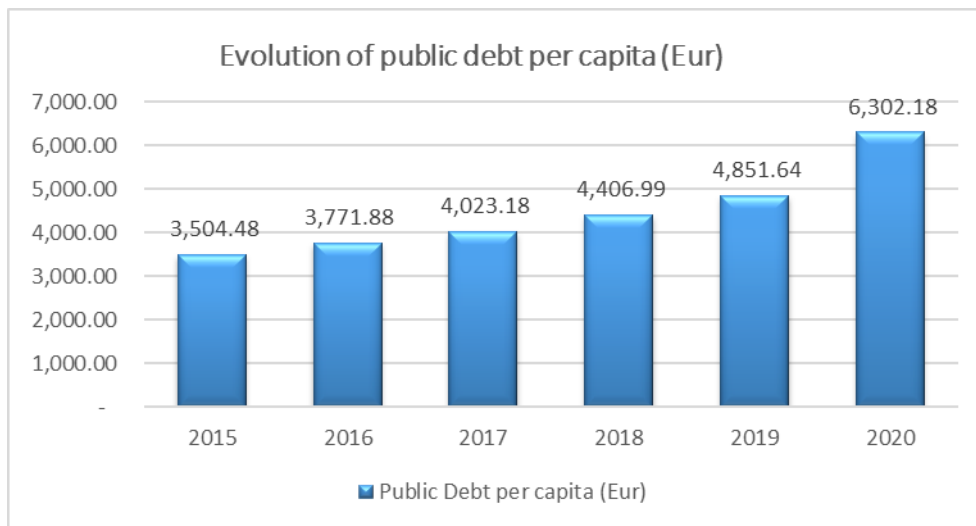
**Table 1. The evolution of Romania's public debt  
in millions of lei / Eur and of the public debt in lei / euro per capita in the period 2015-2020**

Year	Public Debt (Million Lei)	Public Debt (Million Eur)	Romania Population	Public Debt per capita (Lei)	Public Debt per capita (Eur)
<b>2015</b>	315,933.70	69,827.32	19,925,175	15,856.01	3,504.48
<b>2016</b>	339,080.20	74,669.18	19,796,285	17,128.48	3,771.88
<b>2017</b>	368,448.90	79,071.38	19,653,969	18,746.79	4,023.18
<b>2018</b>	400,923.60	85,963.16	19,506,114	20,553.74	4,406.99
<b>2019</b>	449,015.01	93,949.95	19,364,557	23,187.47	4,851.64
<b>2020</b>	590,362.64	121,239.30	19,237,691	30,687.81	6,302.18

Source: Made by the authors based on data from the Ministry of Public Finance (MF) and Worldometers available at  
[https://www.mfinante.gov.ro/static/10/Mfp/buletin/executii/Structuradatorieipublice2000-2020Ro\\_ian2021.pdf](https://www.mfinante.gov.ro/static/10/Mfp/buletin/executii/Structuradatorieipublice2000-2020Ro_ian2021.pdf)  
<https://www.worldometers.info/world-population/romania-population/>

While the population shows a decreasing trend, the public debt of Romania shows an upward trend, this fact determining the accentuated increase of the public debt per capita. The analysis shows that the public debt per capita, which amounted to 30,687.81 lei, was the equivalent of 5.7 average gross earnings per economy, recorded in December 2020 (according to INS), in amount of 5,906 lei / month.

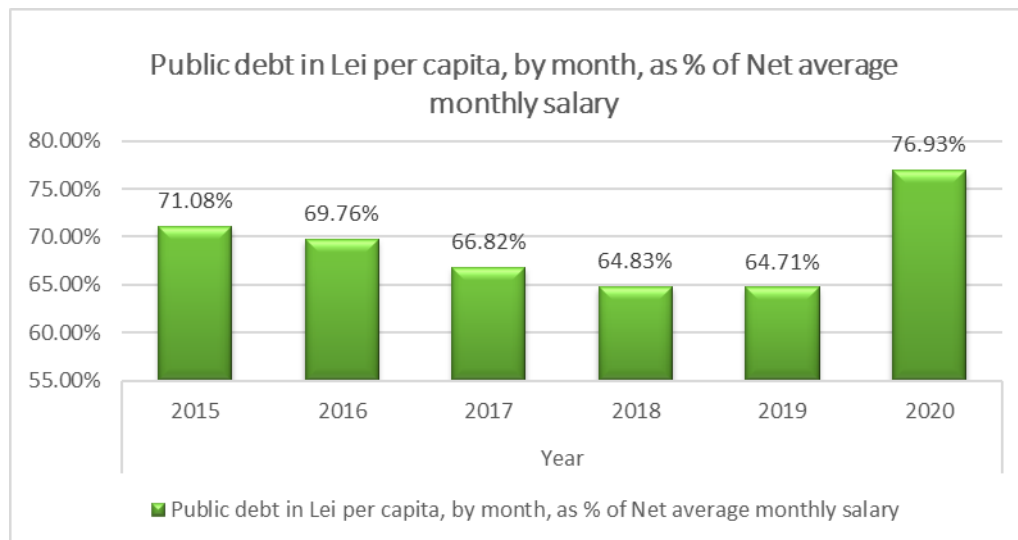
As can be seen from the graph below (Figure 1), during the analyzed period, the public debt in euro per capita increased significantly, registering in 2020 a value 1.79 times higher than in 2015. In 2020, the public debt per capita in euro reached the value of 6,302.18 million euros, 29.90% more than the value registered in 2019, respectively 4,852.79 million euros.



**Figure 1.**

Source: Made by the authors based on data from Table1.

Then, we analyzed the share of public debt in Lei per capita, by month in the period 2015-2020, considering the net average monthly salary. Graphically, the situation is presented in the Figure 2.



**Figure 2.**

Source: Made by the authors based on data from the National Institute of Statistics for 2015-2019 and National Commission for Forecasting and Statistics (2020) available at <https://insse.ro/cms/ro/content/c%C3%A2%C8%99tiguri-salariale-din-1938-serie-anual%C4%83-0> [http://www.cnp.ro/user/repository/prognoze/Prognoza\\_2019\\_2023\\_varianta\\_de\\_toamna\\_2019.pdf](http://www.cnp.ro/user/repository/prognoze/Prognoza_2019_2023_varianta_de_toamna_2019.pdf)

According to the analyzed data, it can be stated that, for a person who in 2015 had a net monthly salary of 1,859 lei, 71.08% of it, respectively 1,321.33 lei represents the payment of public debt. Also, from Figure 2 we observe that in the period 2015-2019 the share of public debt in the net income in lei by month, has a decreasing trend, reaching in 2019 to 64.71% of the monthly net income, respectively 1,932.29 lei.

### 3.2. Public debt related to Gross Domestic Product (GDP) and exports of goods and services

**The Public Debt / GDP indicator** is the most widely used indicator and measures the level of indebtedness in relation to the country's economic activity. This indicator is recognized as the most important in measuring the degree of indebtedness, emphasizing the country's solvency.

Next, we analyzed the public debt related to gross domestic product (GDP) and exports of goods and services in the period 2015-2020. The data obtained are summarized in Table 2.

**Table 2. Public debt related to GDP and exports of goods and services in 2015-2020**

Year	2015	2016	2017	2018	2019	2020
Public Debt* (Million Lei)	315,933.7	339,080.2	368,448.9	400,923.6	449,015.01	590,362.64
Public Debt (Million Eur)	69,827.32	74,669.18	79,071.38	85,963.16	93,949.95	121,239.3
GDP (Million Lei)	711,930	763,653	857,896	951,728.5	1,059,803.2	1,053,881
Public Debt (% GDP)	44.38%	44.40%	42.95%	42.13%	42.37%	56.02%
State budget deficit (Million Lei)**	-19,510.30	-28,606.70	-31,396.80	-30,662.10	-48,079.20	-105,906.60
State budget deficit (% GDP)	-2.74%	-3.75%	-3.66%	-3.22%	-4.54%	-10.05%
Exports (Million Eur)***	54,596.10	57,392.20	62,644.10	68,160.00	68,988.10	61,871.00
Public debt as % of exports of goods and services (%)	127.90%	130.10%	126.22%	126.12%	136.18%	195.95%

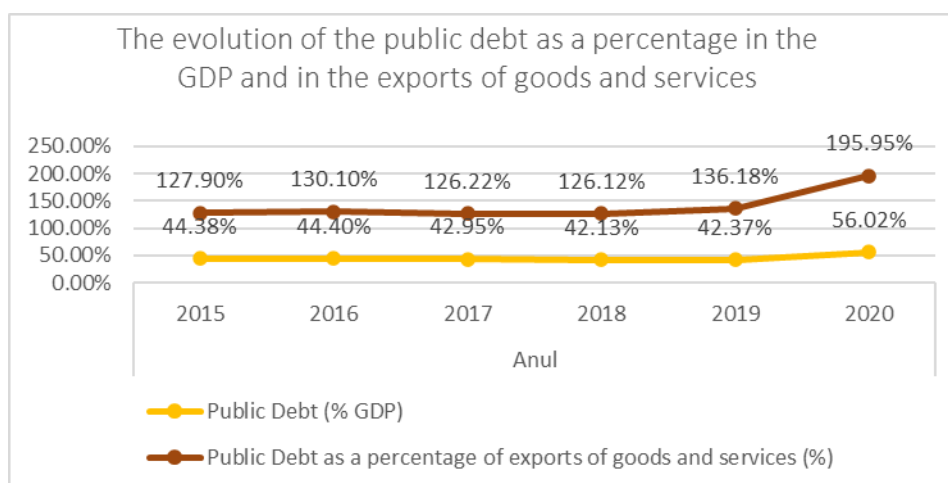
Source: Made by the authors based on data from \*) MF, Public debt structure at January 31, 2021, available at [https://www.mfinante.gov.ro/static/10/Mfp/buletin/executii/Structuradatorieipublice2000-2020Ro\\_ian2021.pdf](https://www.mfinante.gov.ro/static/10/Mfp/buletin/executii/Structuradatorieipublice2000-2020Ro_ian2021.pdf)

\*\*) MF, Consolidated general budget 2015-2020, \*\*\*) National Commission for Forecasting and Statistics (2020)

In the period under review, *the increase in public debt exceeds the need to finance the state budget deficit*. We analyzed the state budget deficit as a percentage of GDP and, according to the data obtained, this indicator shows an upward trend, with slight fluctuations in the period 2015-2019, respectively from -2.74% in 2015 to -4.54% in 2019, and with a significant increase in the period 2019-2020, reaching -10.05% in 2020.

**The Public Debt / Exports indicator** is defined as the ratio between the balance of the government debt remaining to be reimbursed at the end of the year and the exports of goods and services in that financial year. This indicator can be used as a measure of sustainability because an increase in interest rates over time means that the public debt is growing faster than external revenues, indicating that there may be problems with the payment of interest rates maturity of payment obligations.

The analysis indicator represented by the ratio between public debt and the level of exports indicates the proportion of public debt in relation to the size of revenues from the export of goods and services.



**Figure 3.**

Source: Made by the authors based on data from Table2.

**Table 3. Evolution of the rate of increase (or decrease) of public debt, exports of goods and services and GDP in the period 2015-2020**

Year	Rate of increase (decrease) of public debt (%)	Rate of increase (decrease) of exports (%)	GDP growth rate (%)
2015-2016	6.93%	5.12%	7.27%
2016-2017	5.90%	9.15%	12.34%

Year	Rate of increase (decrease) of public debt (%)	Rate of increase (decrease) of exports (%)	GDP growth rate (%)
2017-2018	8.72%	8.81%	10.94%
2018-2019	9.29%	1.21%	11.36%
2019-2020	29.05%	-10.32%	-0.56%

Source: Made by the authors based on data from MF

Analyzing *table 3* and *figure 3*, we observe that between 2015-2016 the share of public debt in exports of goods and services had a slightly upward trend due to the increase in the volume of exports by about 5.12% and the increase in public debt by 6.93 %.

In 2017, compared to 2016, the ratio between public debt and exports showed a declining trend due to the slowdown in the growth rate of public debt, while the growth rate of exports increased. Similarly, in the period 2017-2018, there is a slight decrease.

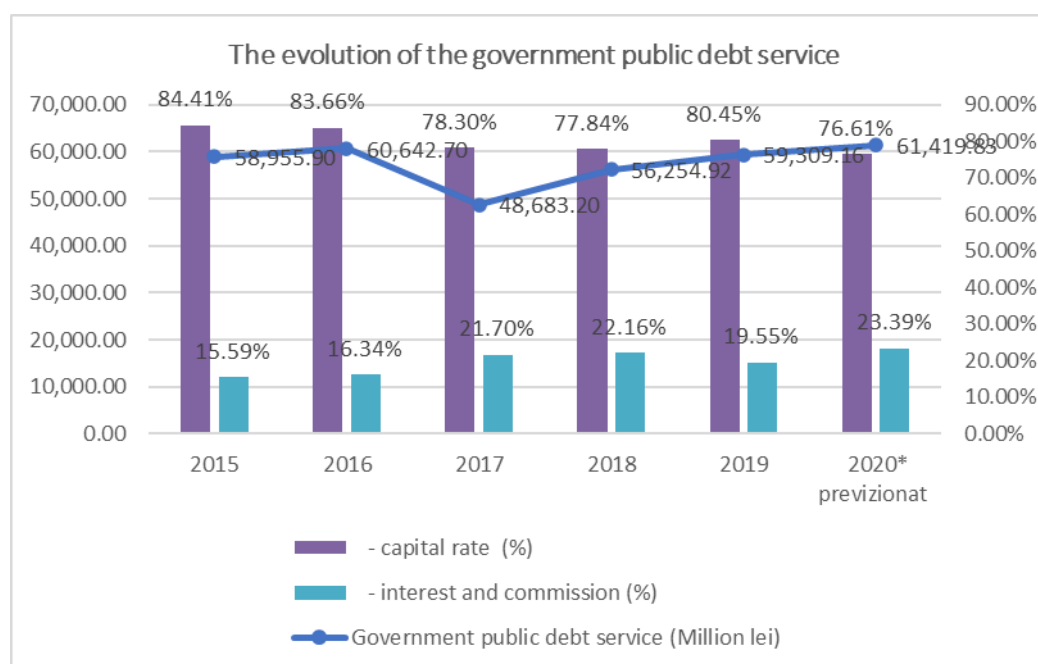
In the period 2018-2019, there is a significant increase; also, in the period 2019-2020 the share of public debt in exports of goods and services continued to increase, reaching 195.95% in 2020, due to the reduction of the growth rate of exports by 10.32%.

In general, the growth rate of GDP has outpaced the growth rate of public debt, in other words,, except for 2020, when public debt increased by 29.05%, as opposed to GDP (-0.56%). Moreover, if there is a growth rate of the economy that outpaces the growth rate of public debt, the solvency risk decreases, and the reverse situation implies an increase in solvency risk and involves special attention from MF.

### 3.3. The evolution of the government public debt service in the period 2015-2020

In the period 2015-2020, Romania paid a government public debt service in the total amount of 345,265.71 million lei, on average 57,544.29 million lei annually.

The evolution of the government public debt service is presented in the figure 4.



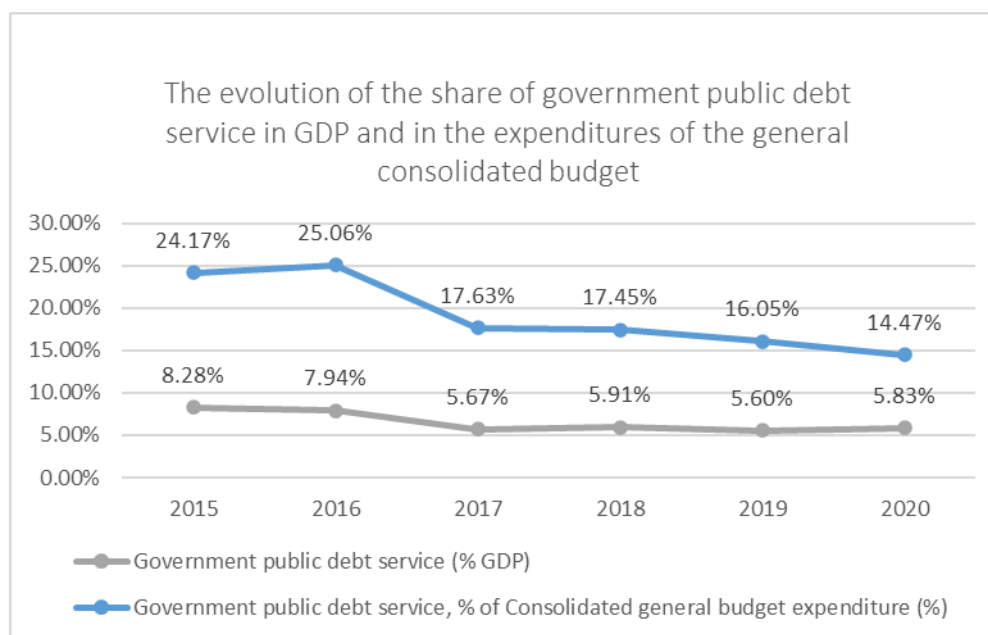
**Figure 4.**

Source: Made by the authors based on data from MF

During the analyzed period (2015-2020), the government public debt service experienced a fluctuating evolution. The lowest level recorded was in 2017, due to the significant decrease in repayments of capital rates, and the highest level of the government public debt service was registered in 2020, when it reached the value of 61,419.83 million lei. In the total expenditures with the government public debt service, a significant value is represented by the repayment of the due capital installments, and the highest share registered was in 2015, respectively 84.41% of the total government public debt service.

Because the sources of financing the capital rates were mainly provided by contracting other public debt instruments and, to a small extent, from the funds allocated from the state budget, the financial effort to pay for the public debt service borne by the expenses the consolidated general budget is smaller.

Graphically, the evolution of the share of government public debt service in GDP and total consolidated general budget expenditures in the period 2015-2020 can be summarized in Figure 5.



**Figure5.**

Source: Made by the authors based on data from MF, The consolidated general budget, 2015-2020

Analyzing Figure 5, the share of government public debt service in the gross domestic product showed fluctuations, but overall, it shows a decreasing trend. The highest level of this indicator was reached in 2015, when it reached a share of 8.28% of GDP. Regarding the share of the government public debt service in the total expenditures of the general consolidated budget, it shows a decreasing trend starting from 2016, when it registers 25.06%, reaching in 2020 to 14.47%.

#### 4.Conclusions

The growth rate of public debt was higher than the growth rate of exports of goods and services in the periods 2015-2016 and 2018-2020, this being negatively reflected on the ratio between public debt and the level of exports.

The increase of the level of public debt covers the need to finance the state budget deficit. The increase of up to -10% of GDP in the deficit in 2020 is perfectly justified by the emergence of the Covid-19 pandemic, this increase being characterized by a period in which the economy is facing a temporary decline, 2020 being for Romania a year with a contraction of GDP of 0.56%.

In the period 2015-2020, the indicator the government public debt service registered a fluctuating evolution. The highest level of public debt service was reached in 2020, under the impact of the Covid-19 pandemic. The share of government public debt service in total consolidated general budget expenditures (from 24.17% in 2015 to 14.47% in 2020) has a downward trajectory. It should also be noted that the growth rate of the public debt service was lower than the growth rate of the consolidated general budget expenditures in the period 2016-2020, and higher than the growth rate of the gross domestic product in the periods 2017-2018 and 2019-2020 - which can lead to excessive indebtedness of future generations.

The growth rate of the economy has outpaced the growth rate of public debt, in other words, the level of indebtedness in relation to economic activity has decreased, except for the year 2020 which, under the impact of the Covid-19 pandemic, shows an increase in public debt by 29.05% compared to the level of gross domestic product, decreasing by 0.56%. The latter situation is reflected in the increasing solvency risk, which requires special attention from the Ministry of Public Finance.

#### References

1. Belean, P., Anghelache, G., (2005), *Finanțele publice ale României*, ed. a 2-a, Editura Economică, București
2. Creel, J., Hubert, P., Saraceno, F.,(2012), *The European Fiscal Compact: A Counterfactual Assessment*, *Journal of Economic Integration*, Vol. 27
3. Gheorghe, M.,(1994), *Finanțe generale*, Editura MONDO – EC., Craiova

4. Lăzărescu, I, Ioan, V., Fortea, C., (2020), *Romania's Public Debt - An Overview in European context*, International Conference "Risk in Contemporary Economy", XXI<sup>th</sup> Edition, 2020, Galați, România, available at [http://www.rce.feaa.ugal.ro/images/stories/RCE2020/Lazarescu\\_Ioan\\_Fortea.pdf](http://www.rce.feaa.ugal.ro/images/stories/RCE2020/Lazarescu_Ioan_Fortea.pdf)
5. Lieberman, M. și Hall, R.E.,(2010), *Principles & Applications of Economics*, ediția a 5-a, South-Western: Cengage Learning
6. Ministry of Public Finance, *Consolidated general budget for 2015-2020* – available at <https://mfinante.gov.ro/domenii/bugetul-de-stat/informatii-executie-bugetara>
7. Ministry of Public Finance, *Public debt structures*, available at [https://www.mfinante.gov.ro/static/10/Mfp/buletin/executii/Structuradatorieiipublice2000-2020Ro\\_ian2021.pdf](https://www.mfinante.gov.ro/static/10/Mfp/buletin/executii/Structuradatorieiipublice2000-2020Ro_ian2021.pdf)
8. Moșteanu, T.,coord. (2004), *Buget și trezorerie publică*, Editura Universitară, București
9. Musgrave, R. A., (1964), *Internal debt in the classical system*, Ferguson. J. M.(ed), *Public debt and future generations*, Chapel Hill
10. National Commission for Strategy and Forecast - *Macroeconomic indicators*, available at <http://cnp.ro/ro/prognoze>
11. National Institute of Statistics, *Press communications*, available at [https://insse.ro/cms/sites/default/files/com\\_presa/com\\_pdf/cs12r20.pdf](https://insse.ro/cms/sites/default/files/com_presa/com_pdf/cs12r20.pdf)
12. Samuelson, P.; Nordhaus, W., (2000), *Economie politică*, Editura Teora, București
13. Stoica, A., (1997), *Finanțe publice*, Universitatea „Dunărea de Jos”, Galați
14. Susanu, M., (2008), *Finanțe publice: Concepte, principii, politici*, Editura Europlus, Galați
15. Văcărel, I., coord.(2007), *Finanțe publice*, ed. a 6-a, Editura Didactică și Pedagogică, București
16. Worldometers, *The population of Romania*, available at <https://www.worldometers.info/world-population/romania-population/>