THE EVALUATION OF THE DOMESTIC PUBLIC DEBT OF RUSSIA IN THE SECURITIES

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**Abstract:** At the present stage of development of the Russian economy one of its main tasks is to transit to an innovative development model (Akhmetshina & Mustafin, n. d). The innovative development model depends on the state budget formation, which is impossible without borrowing. In the world practice, securities are one of the most actively used instruments for attracting the required financial resources to the state budget. The features of debt borrowings and their impact on the economy have been the subject of consideration by the individual researchers. In particular, such authors as Baum A., Checherita-Westphal C., Rother P. studied the specific emission activity of the individual Eurozone countries and the impact of this policy on the economies of these countries (Baum & Checherita, 2013). The subject of scientific research Mario Coccia became the evolution of public debts and of government deficits/surplus across European countries within and outside the monetary unification (Mario, 2017). Vladimir K. Teles, CaioCesar Mussolini proposed a theoretical model of endogenous growth that demonstrates that the level of the public debt-to-gross domestic product (GDP) ratio should negatively impact the effect of fiscal policy on growth (Vladimir & CaioCesar, 2014). Bharath S.T., Sunder J., Sunder S.V. investigated features of the market of private and public loans and found that the cost of public debt is harder than the market of private debt (Bharath, Sunder & Sunder S, 2008). Giovanna Bua, Juan Pradelli, Andrea F. Presbitero characterized the recent trends regarding Low-Income Countries’ domestic public debt and they explored the relevance of different arguments put forward on the benefits and costs of government borrowing in local public debt markets (Giovanna, Pradelli & Andrea, 2014). According to the norms of the Budget Code of the Russian Federation, the loan currency should expressed in roubles for the public debt attribution to the domestic one (*The Budget Code of the Russian Federation, 1998*). As the domestic public debt is linked to roubles, the external factors should not have a significant impact on the government's debt policy in conducting its issuing activity (Federal Law, 1998). In this article, the authors assessed the current state and structure of the domestic public debt, expressed in securities. The research identified the factors that had an impact on the domestic public debt of Russia. The economic-mathematical model constructed in the article showed the direct impact of the state's emission activity on the country's economy on the stock market. Based on the analysis results, the authors offered recommendations for improving the public debt policy.

**Keywords:** domestic public debt, public debt estimation, issuance of securities, state securities, GDP, economic development.

1. INTRODUCTION

One of the most practical borrowing mechanisms are
government securities, which help attract large
amounts of funds through the numerous investments,
as well as contribute to meeting the state’s needs
without referring to emissions.

Formation of the domestic public debt of Russia,
expressed in securities, began in the early 1990s,
when the Government of the Russian Federation was
looking for some tools to replenish the state budget in
the conditions of high inflation and economic crisis.
The initially used short-term financial instruments
were gradually replaced by the long-term ones,
which made it possible to simplify and facilitate loan
servicing for the state.

The specificity of the Russian securities market is
that the main investors are foreign investors, as well
as domestic commercial banks and individual legal
entities on this market. At the same time, the
individual persons are poorly represented on the
Russian stock market.

The Ministry of Finance of the Russian Federation
and the Central Bank of the Russian Federation are
actually issuing, regulating and servicing the
domestic public debt of Russia (Sabitova. Shavaleyeva & Niconova, 2015). The trend of
developing the public debt of Russia, expressed in
securities, is such that the volume of domestic public
debt is growing, and the volume of external debt is
falling.

2. RESEARCH METHODS

As research methods, the article was written by
observation, analysis, deduction, economic and
mathematical modeling. The initial data for the
analysis and calculations were represented by the
official data of the Ministry of Finance of the
Russian Federation, the Central Bank of the Russian

3. RESULTS

The borrowing relations of Russia have been
developed over the past 10 years in such a way that
almost all the domestic debt is formed in the form of
securities at present (Table 1).

<table>
<thead>
<tr>
<th>Reporting date</th>
<th>Domestic debt, billion roubles</th>
<th>Including in securities, billion roubles</th>
<th>The share of securities in the debt structure, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>01.01. 2000</td>
<td>88.06</td>
<td>10.70</td>
<td>12.15</td>
</tr>
<tr>
<td>01.01. 2001</td>
<td>187.74</td>
<td>76.85</td>
<td>40.93</td>
</tr>
<tr>
<td>01.01. 2002</td>
<td>364.46</td>
<td>249.06</td>
<td>68.34</td>
</tr>
<tr>
<td>01.01. 2003</td>
<td>490.92</td>
<td>451.05</td>
<td>91.88</td>
</tr>
<tr>
<td>01.01. 2004</td>
<td>529.94</td>
<td>493.82</td>
<td>931.8</td>
</tr>
<tr>
<td>01.01. 2005</td>
<td>578.23</td>
<td>529.90</td>
<td>91.64</td>
</tr>
<tr>
<td>01.01. 2006</td>
<td>557.42</td>
<td>531.83</td>
<td>95.41</td>
</tr>
<tr>
<td>01.01. 2007</td>
<td>533.51</td>
<td>511.05</td>
<td>95.79</td>
</tr>
<tr>
<td>01.01. 2008</td>
<td>679.91</td>
<td>654.71</td>
<td>96.29</td>
</tr>
<tr>
<td>01.01. 2009</td>
<td>682.02</td>
<td>663.67</td>
<td>97.31</td>
</tr>
<tr>
<td>01.01. 2010</td>
<td>778.47</td>
<td>756.82</td>
<td>97.22</td>
</tr>
<tr>
<td>01.01. 2011</td>
<td>875.43</td>
<td>851.15</td>
<td>97.23</td>
</tr>
<tr>
<td>01.01. 2012</td>
<td>1,064.88</td>
<td>1,028.06</td>
<td>96.54</td>
</tr>
<tr>
<td>01.01. 2013</td>
<td>1,301.15</td>
<td>1,248.89</td>
<td>95.98</td>
</tr>
<tr>
<td>01.01. 2014</td>
<td>1,499.82</td>
<td>1,421.47</td>
<td>94.78</td>
</tr>
<tr>
<td>01.01. 2015</td>
<td>2,094.73</td>
<td>1,837.17</td>
<td>87.70</td>
</tr>
<tr>
<td></td>
<td>2,940.39</td>
<td>2,461.59</td>
<td>83.71</td>
</tr>
</tbody>
</table>
According to Table 1, it can be concluded that since the new state formation - the Russian Federation - there has been a huge increase in the amount of domestic debt. Since 2005, the external debt has been replaced by a domestic one, which has led to its active growth.

According to the table, we can say about coincidence of the indicator dynamics, but the period of 2014-2015 is characterized by a lag in the debt growth in the form of securities from the total debt amount. Opportunities of public authorities in the crisis conditions to attract loans in the form of securities were limited, where the withdrawal of foreign capital from the Russian securities market played an important role. As a result, the share of securities in the debt structure decreased to 87.70% in 2014 (by 7.08 percentage points), and to 83.71% in 2015 (by 3.99 percentage points).

More than half of all securities represent the federal loan bonds (FLB) with constant coupon yield (CCY), issued, as a rule, for a period of 15 or 30 years. Then it comes the mid-term paper - FLB with debt amortization (DA) - 38.1%. As for the last tool, there were some changes in the structure during the crisis time of 2013-2014. The debt amount of Russia, issued in the form of FLB-CY, grew 2.5 times in the last two years (Table 2).
It is also possible to note the decrease in FLB-DA debt, which was the stock market leader. The reason for this dynamic is that, under the crisis conditions, the investors' expectations have significantly worsened vis-à-vis the borrower. It is evidenced by lowering a sovereign credit rating of Russia for obligations in the national currency. It was impossible to make long-term forecasts for the country, as the domestic investors switched from the long-term instruments to the medium-term ones.

A significant role was played by changing the state's priorities for borrowing, when it was necessary to attract credit sources to cover the federal budget deficit (Kudrin & Gurvich, 2015). But the anti-crisis measures of the Government of the Russian Federation were the way out of this situation, where the executive authorities reoriented the debt policy for the medium-term financing.

As a result, all the newly adopted debt obligations were issued in the form of FLB-CY in 2014. This trend has remained inherent in 2015.

There were some changes in the FLB debt repayment structure with fixed coupon yield. There was no debt on this instrument as of January 1, 2015, and this instrument will cease to be used in the future, as well as the SSTB (state short-term bonds) in 2010.

According to Table 2, we can say about the new tool appearance in Russia - state savings bonds (SSB) - in 2011. The conditions of their issue were formed back in 2007, but in fact the first issue was only on July 28, 2011. The SSB were issued with a fixed interest rate (SSB-FIR) with maturity in 2011 and an interest rate of 6.44% per annum. In 2011, 52 billion roubles were raised through the issue of SSB-FIR, and only 412 million roubles - by issuing the SSB with a constant interest rate (SSB-CIR).

At the same time, we can see in the structure a small percentage of domestic public currency loan (DPCL), the last issue of which was held in 2004, and the latest maturities - in 2011. Despite the Russian policy is focused on the long-term instruments, most of payments fall on 2013-2015 (Fig. 1).

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of auctions</td>
<td>33</td>
<td>25</td>
<td>41</td>
<td>42</td>
<td>55</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLB-CY</td>
<td>17</td>
<td>10</td>
<td>16</td>
<td>42</td>
<td>55</td>
</tr>
<tr>
<td>FLB-DA</td>
<td>16</td>
<td>15</td>
<td>25</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Revenue, million roubles</td>
<td>185, 1</td>
<td>244, 4</td>
<td>668, 1</td>
<td>181, 0</td>
<td>305, 3</td>
</tr>
</tbody>
</table>

It is understandable that the policy of the Government of the Russian Federation will be aimed at refinancing the debt, since the new loans are needed not only to cover the debt obligations, but also to finance the federal budget deficit. It is supposed to carry out refinancing due to domestic borrowings and due to an increase in the issue of Eurobonds on the foreign market.

From the point of view of the financial and economic crisis impact on the state securities market, it is interesting to estimate the auction results for the state bonds placement, in particular federal loan bonds (Table 3).
Table 3. Operation results of the Ministry of Finance on placement of the federal loan bonds

These tables indicate that there is an increase in the number of auctions held, but this does not correspond to the number of issues, as the operations for additional placement and placement of additional bonds have been carried out during this period.

In general, the market development was greatly affected by the crisis consequences concerning the liquidity of the interest rate growth on the bank lending market (Aganbegyan, 2009). The market outlook will depend on how Russia will get out of the crisis: whether the inflation will decrease, and whether the foreign investors will return to the domestic stock market.

Using the data specified in Table 2, as well as the information of Rosstat (Federal State Statistics Service), we estimate the impact of the domestic public debt volume of Russia in the securities on the GDP level of the Russian Federation. The initial data are presented in Table 4.

Table 4. Initial Data For Analysis

<table>
<thead>
<tr>
<th>Year</th>
<th>Volume of the domestic public debt of Russia in the securities, billion roubles</th>
<th>GDP volume of Russia, billion roubles</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>1,837.17</td>
<td>77,945.1</td>
</tr>
<tr>
<td>2015</td>
<td>2,461.59</td>
<td>80,804.3</td>
</tr>
</tbody>
</table>

The analysis was performed using the MS Excel program, the analysis results are presented in Tables 5-6.

Table 5. Regression Statistics, In Shares

The correlation ratio, equal to 0.8931, indicates a strong relationship between the amount of domestic public debt of Russia in the securities and the GDP amount of Russia.

The determination ratio, equal to 0.7976, shows that 79.76% of the GDP dispersion is formed as a result of influence of the factor considered in the model, and the remaining 20.24% - due to the factors not considered in the model. The adjusted ratio amounts to 0.7471. The adjusted determination ratio is a value sufficiently close in value to the determination ratio, which indicates a good specification of the regression equation.

The regression ratios found using the "Regression" function of the MS Excel spreadsheet are shown in Table 6.
Table 6. The regression ratios found using the “Regression” function of the MS Excel spreadsheet, in shares

Table 7. Variance analysis results

Table 6. The regression ratios found using the “Regression” function of the MS Excel spreadsheet, in shares

Table 7. Variance analysis results

According to the regression ratios obtained in Table 6, the following conclusions can be drawn:

Thus, the regression equation we obtained is statistically significant, and the development of the state securities market contributes to the national economy growth.

5. DISCUSSION

According to the official data, the Ministry of Finance of the Russian Federation has begun to sell part of the federal loan bonds among the population (FLB-p) since 2017. Population engagement will reduce the state securities market dependence on the mood of foreign investors, whose share is significant - with an increase of $X_1$ indicator by 1%, the GDP will increase by 19.2 percent.

We derived the following linear multiple regression equation according to the ratios in Table 6:

$$y = 38.797.28848 + 19.2 \times x_1, (1)$$

Thus, an increase in the GDP is affected by an increase in the amount of the domestic public debt of the Russian Federation in the securities.

Table 7 shows the results of the variance analysis. Let us make an explanation to Table 7. The df column - the number of freedom degrees, SS column - the sum of deviation squares, MS column - the variance by one freedom degree. F – F column - Fisher’s criterion. F value column - the value of the significance level corresponding to the calculated value of F criterion and equal to the probability. If the probability is less than the significance level (usually $\alpha = 0.05$), then the constructed regression is significant, in our case the regression is significant ($0.016526658 < 0.05$).

in this market. Within the increased volatility and against expectations of the key rate and inflation decrease, the activity of individual persons may also increase in the FLB market. However, there are negative aspects of this tool:

- based on various information this tool is designed for large private investors with the accounts starting from several million roubles; or a minimum amount for investment - 30 thousand roubles, which does not allow making an investment for most young Russian citizens;

- the investments of citizens in the FLB-n are not fully exempted from taxation;

- standard terms - 3 years and a minimum yield of about 8.25% per annum.

Unfortunately, the regional and municipal authorities in Russia do not actively use the securities market instruments to form the budget revenue side, which leads to a slowdown in the development of the domestic public debt market expressed in the securities (Sharafutdinova, Kulakova & Nikonova, 2014). Therefore, we believe that the Russian economy as a whole and it’s regions in particular need to search for new management, organizational solutions, which are based on a
systematic approach to innovative modernization and new management mechanisms, naturally built into all types of innovative processes of economic life in the center and in places (Mustafin & Gira, 2016)

ACKNOWLEDGMENTS

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REFERENCES


