



FACTORS AFFECTING THE INTEREST RATE OF SECURITIES

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Article history:	Abstract:
Received: 7 th January 2024 Accepted: 4 th March 2024	The article investigates the factors affecting securities and their interest rates from a scientific and theoretical point of view. The role of state securities in the economy of Uzbekistan, including the volume of state securities placed on the open market, real and nominal interest rates, is analyzed. Also, the relationship between the percentage of the state securities being placed and the dealers expressing demand has been studied. Conclusions and proposals were prepared based on the factors affecting the percentage of state securities.
Keywords: interest rate, securities, factor, banking system, shares, inflation	

1. INTRODUCTION

In economically developed countries, the government bond market plays an important role in the financing of public expenditures, liquidity of the banking system, and the development of the economy. The following main issues are resolved with the help of the government bond market:

1. Financing the current deficit of the state budget;
2. Refinancing of previously placed state bonds;
3. Regulating the amount of money in circulation;
4. Providing commercial banks and other financial institutions with highly liquid and reliable reserve assets.

In the global economy, it is a necessary condition for increasing the efficiency of using instruments of the highly organized stock market. In particular, the active trading of state securities in the secondary market, that is, the fact that not only commercial banks, but also other non-bank financial and credit organizations, investment companies can participate in the sale of state securities, has a positive effect on the activity of monetary policy open market operations.

In 2011, the circulation of state securities in the economy of Uzbekistan was suspended. Since 2017, market rules have been widely applied in our economy. In this way, since December 2018, the circulation of state securities has been restored and is widely carried out to this day. The establishment of the circulation of state securities stimulated the development of the securities market in our country.

If we look at the circulation of government securities in the last five years, we can see two different

features. Initially, when government securities were put into circulation, the yield on the obligation was calculated using the coupon method, but today they are put into circulation using the discount method. It should be noted that in developed countries, income from securities obligations is realized by the discount method. The second feature is that if the duration of government securities was initially short-term, then we can see the circulation of long-term and even 10-year government securities.

Currently, our country has all the opportunities to issue, place and service state securities, and enough experience has been formed in this regard. In international practice, the continuous circulation of state securities is not only an acceptable way of financing the state budget deficit, but also an important instrument for the development of the country's financial market.

2. LITERATURE REVIEW

There are different approaches to the development and valuation of government securities in economic research.

According to the Law of the Republic of Uzbekistan "On the Securities Market"¹, Issuance of state securities is carried out without an issue prospectus and without state registration.

Government securities can be issued for short-term (up to one year), medium-term (from one to five years) and long-term (for five years or more).

According to economist Mollah Aminul Islam ², the inflow of foreign investment causes the stock market to develop, as foreign investment-intensive firms list their shares on the local stock market to attract

¹ Law of the Republic of Uzbekistan No. ORQ-163 of July 22, 2008 "On the Securities Market".

² Mollah Aminul Islam, Haiyun Liu, Muhammad Asif Khan, Md Tariqul Islam, Md Reza Sultanuzzaman. Does foreign direct investment deepen the financial system in Southeast



foreign funds. An increase in the flow of funds and transactions increases the demand for financial intermediation, resulting in the development of the stock market.

Professor M.B.Xamidulin³ in his scientific studies, he states that all conditions are sufficient for attracting investments by issuing and placing securities in Uzbekistan.

A. Karimov's research on the analysis of the practice of mass placement of shares carried out in our country states that it is necessary to set the price of the placement of shares in a comprehensive manner⁴.

Local economists A.U. Burkhanov and Kh.Kh. According to Khudoykulov's approach, the establishment of a single financial regulator in our country, in turn, creates conditions for the protection of shareholders' rights. As a result, it allows to form the development of the securities market and ensure compliance of regulation⁵.

According to the research of Tadashi Endo, the endogenous variables in countries with low economic development are utilities in the initial stage of increasing the trading volume of the public securities market⁶.

Radeef Chundakkadan and Subash Sasidhara study the yield and liquidity of government bonds based on daily data. The authors propose a new liquidity indicator for evaluating government securities and, as a result, prove that the change in this liquidity indicator

has a significant impact on the return on government securities. They also find that this liquidity indicator has a significant impact on the volatility of government securities returns⁷.

Lu Yang and Shigeyuki Hamori study the structural correlation between CEEC-3 (Poland, Czech Republic, Hungary) and German bond markets. As a result of the study, it was scientifically proven that the structural relationship between the stock markets of CEEC-3 (Poland, Czech Republic, Hungary) and Germany is generally symmetrical⁸.

3. ANALYSIS AND RESULTS

The circulation of state securities in Uzbekistan remains tight. In particular, in the period 2019Q1-2021Q4, quarterly state securities in the amount of 1 trillion soums were put into circulation. In 2022, the volume of state securities in circulation is increasing. In particular, in the period of 2022 Q2, 1,577.51 billion soums worth of state securities were put into circulation, and most of them had a term of more than 1 year, while in the period of 2022 Q3, a large amount of state securities worth 4,801.32 billion soums was put into circulation. Also, looking at maturities, the majority of government securities issued in the second quarter of 2022 were six months old, while the majority of government securities issued in the third quarter were more than one year old.

Table 1
The role of state securities in the economy ⁹

№	Quarters	Amount of Government securities placed on the open	Average annual nominal percentage of Government securities	Average annual real interest rate of	M2 Monetary aggregate (billion soums)	Ratio of Government securities to M2

Asian economies? // Journal of Multinational Financial Management, 12 February 2021. P.13. <https://www.sciencedirect.com>.

³ Khamidulin M.B. Development of the financial mechanism of corporate governance. Abstract of the dissertation. degree Doctor of Economic Sciences. – T., 2008. – 37 p.

⁴ Karimov A. Improving Mechanisms of Attracting Free Money of The Population in the Securities Market Development // International Finance and Accounting. – 2022. –T. 2022. –No. 1. –P. 16.

⁵ Burhanov A.U., Khudoykulov H.Kh. Financial market and investments. Textbook. - T.: "Spirituality", 2021. -270 p.

⁶ Tadashi Endo. Endogenous market development for government securities in lower-income economies // Emerging Markets Review. Volume 50, March 2022, 100844. <https://doi.org/10.1016/j.ememar.2021.100844>.

⁷ Radeef Chundakkadan, Subash Sasidhara. Liquidity pull-back and predictability of government security yield volatility // Economic Modelling, Volume 77, March 2019, Pages 124-132. <https://doi.org/10.1016/j.econmod.2018.07.018>

⁸ Lu Yang, Shigeyuki Hamori. Dependence structure between CEEC-3 and German government securities markets // Journal of International Financial Markets, Institutions and Money. Volume 29, March 2014, Pages 109-125. <https://doi.org/10.1016/j.intfin.2013.12.003>.

⁹ It was calculated by the author based on the information of the official website of the Central Bank of the Republic of Uzbekistan <https://cbu.uz>.



		market (billion soums)		Government securities		
1	2019Q1	845,34	13,99	0,62	79 544,98	1,06
2	2019Q2	644,27	9,58	-4,09	83 256,51	0,77
3	2019Q3	692,70	12,03	-3,30	90 275,01	0,77
5	2020Q1	1 191,97	12,75	-1,05	89 915,19	1,33
6	2020Q2	1 126,90	15,07	0,84	94 832,53	1,19
7	2020Q3	94,50	14,17	1,57	104 243,14	0,09
8	2020Q4	694,71	13,87	2,57	104 424,16	0,67
9	2021Q1	994,99	12,84	1,54	104 566,22	0,95
10	2021Q2	946,81	12,22	1,39	109 688,63	0,86
11	2021Q3	1 116,74	13,95	2,95	118 111,22	0,95
12	2021Q4	1 334,36	13,99	3,69	126 331,84	1,06
13	2022Q1	1 330,28	14,58	4,58	132 930,84	1,00
14	2022Q2	1 577,51	18,03	6,83	145 490,35	1,08
15	2022Q3	4 801,32	17,28	5,01	161 905,85	2,97
Total:		1 159,49	12,96		103 034,43	0,98

If we pay attention to the nature of the circulation of state securities in Uzbekistan, the Central Bank is trying to withdraw liquidity from commercial banks. The ratio of government securities to the money supply is around 1 percent. Only in the third quarter of 2022, this indicator increased by 2%. However, this is definitely a very low level. The low level of circulation of

government securities, in turn, narrows the limits of influence of the Central Bank on the liquidity and crediting capacity of commercial banks. Therefore, M2 is taken as the broad money supply. In developed countries, M3 is taken as money mass in a broad sense. Because the volume of government securities is very large, M3 is of high importance.

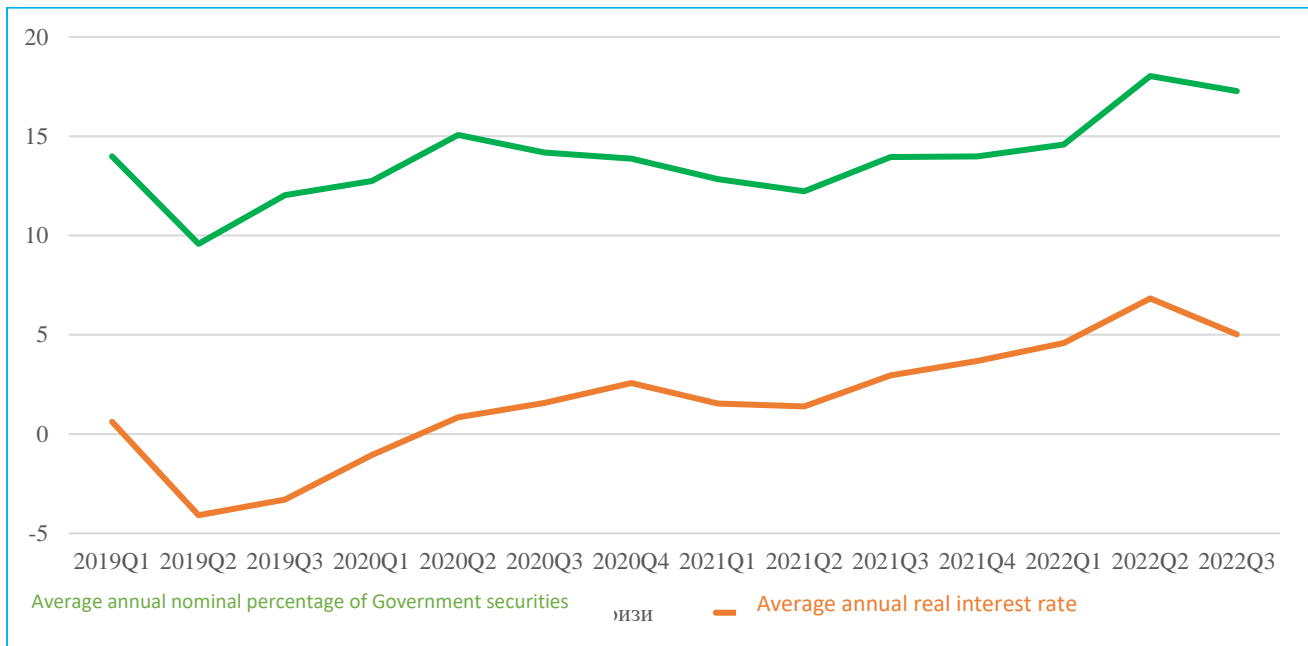


Figure 1. Real and nominal interest rates of placed government securities.¹⁰

During the period under review, the nominal interest rate of government securities fluctuated less frequently. In particular, in the period 2019 Q1-2020 Q2, the nominal interest rate of government securities was around 13 percent. Later, the percentage of these securities increased, but in the 2020Q2-2021Q4 period, the percentage of government securities did not exceed 15%. The interest rate was increased only in order to increase the interest of commercial banks in this type of securities and to develop the secondary market of state securities trade among them. In particular, from 2022, the percentage of government securities increased to 17-18% (Figure 1).

Commercial banks are more interested in the real percentage of government securities placed on the open market. Statistical data show that the interest rate did not correspond to market norms from 2019 to the second quarter of 2020. In particular, during that period, the real percentage of government securities was even negative, that is, this indicator was lower than the inflation rate. Of course, we can come to the conclusion that the buyers of these state securities have lost their desire and their trading is not actually conducted on the basis of market principles. In the following periods, the real interest rate of government securities did not go negative, but it was at a low level. In particular, from the second quarter of 2020 to the end of 2021, the real interest rate was around 1-3

percent. At a time when the marginal profitability of commercial banks was around 10-15 percent, this indicator was very low and unattractive. As we noted above, the nominal and real percentage of government securities was high in 2022. It should be noted that our commercial banks buy government securities in comparison with the percentage of their loans. But this view, in our opinion, is wrong. The reason for this is, first of all, loans for banks are of high risk, regardless of their type, while government securities have a risk level of zero percent. Secondly, if the liquidity of loans is low, the liquidity of government securities is high. Thirdly, in order to be able to fulfill their obligations on time, commercial banks should keep their liquid assets, keep them in a representative account opened at the Central Bank. However, this resource does not bring income to the bank. Therefore, storing the resources of commercial banks in state securities brings both liquid and income.

There should be an inverse relationship between the amount of government securities being placed and its percentage. That is, the more securities the Ministry of Finance issues, the higher its percentage should be. Because these securities are mainly purchased by commercial banks, which are one of the largest segments of the financial market. However, commercial banks also have limited resources and cannot invest their resources in an unlimited amount of securities.

¹⁰ It was calculated by the authors based on the information of the official website of the Central Bank of the Republic of Uzbekistan <https://cbu.uz>.



Therefore, the increase in the volume of state securities should reduce their percentage. According to the results of the analysis, the relationship between the placed state securities and its percentage was insignificant in the period under consideration. More precisely, during the period of analysis, a correct proportionality was observed between them, and the correlation relationship gives 0.58 in nominal indicators and 0.47 in real indicators. We can conclude from this that, first of all, the market law does not work between government

securities and its percentage. Secondly, the financial market is not saturated with government and corporate securities. Thirdly, commercial banks have a lot of excess resources, and they are mainly stored in non-profitable assets. Therefore, commercial banks are firstly increasing their income-generating assets by purchasing government securities, and secondly, investing resources in government securities has not worsened its regulatory indicators.

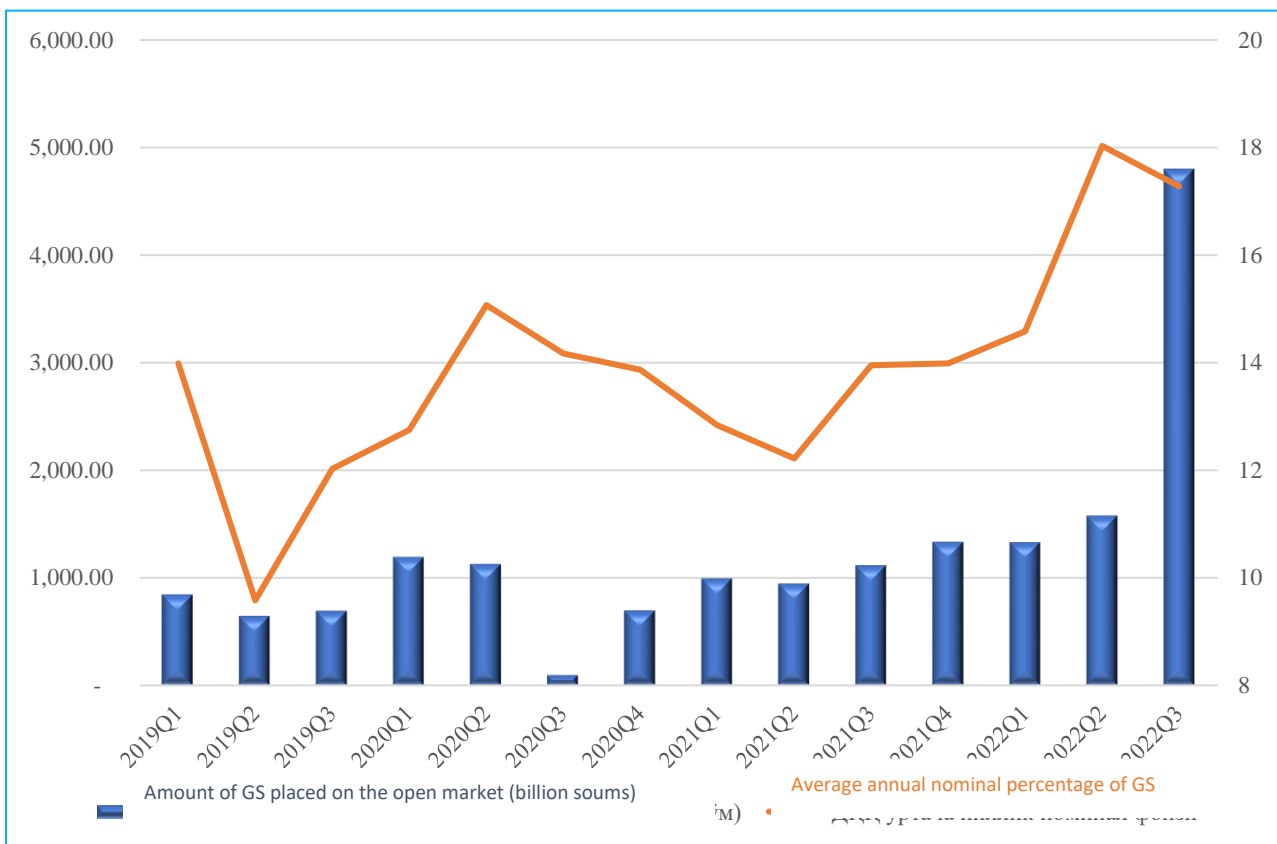


Figure 2. The volume of government securities placed on the open market in Uzbekistan and its interest rate.¹¹

The inflation rate (CPI) and the devaluation of the exchange rate of the national currency against foreign currency (DEV) can be selected as further factors affecting the percentage of government securities. First, it is desirable that the percentage of securities in the financial market is higher than the inflation rate, and if the government securities are quoted in the national currency, it should be higher than the national currency devaluation rate. In short, the real percentage of securities should be positive. At the same time, an increase in the level of inflation should also lead to an

increase in the percentage of government securities. That is, it is desirable to observe a state of correct proportionality between them.

The next factor that affects the percentage of government securities is the number of dealers participating in the auction sale of government securities. The greater the number of dealers participating in the auction sale of government securities, the lower the percentage of government securities should be. Because, the more buyers of

¹¹ It was calculated by the authors based on the information of the official website of the Central Bank of the Republic of Uzbekistan <https://cbu.uz>.

government securities, the less the need to offer a higher interest rate to the issuer issuing them.

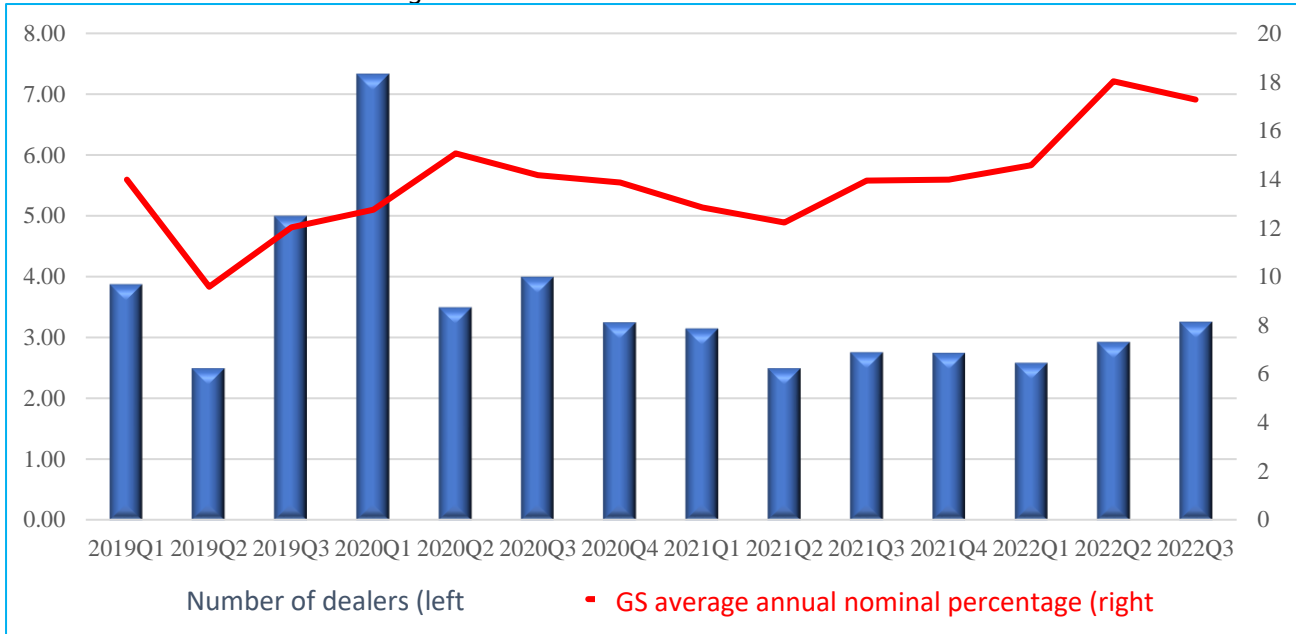


Figure 3. Correlation between the percentage of government securities placed and the dealers expressing demand.¹²

The number of dealers participating in the auction sale of state securities should be a natural number. However, since we are looking at a quarterly segment in our analysis and 10-15 auctions are held in a quarter, we have found the arithmetic average number of participating dealers.

According to the results of the analysis, an average of 3-4 dealers participated in the auctions held between 2019 Q1-2020 Q3. Only in the second and third quarters of 2019, the number of dealers who participated in the auction was 5-7. Of course, the small number of dealers participating in the auction sale of state securities raises doubts about whether this sale is considered real (Figure 3).

If we pay attention to the relationship between the number of dealers participating in the auction sale of government securities and the percentage of government securities, then there is a weak relationship between them. In particular, the correlation between the number of dealers and the percentage of government securities was -0.13, which is logically constructed.

From the results of the analysis, we can conclude that the percentage of government securities has been adjusted only to the money market interest rate in recent years. The occurrence of this situation depends primarily on the large number of participants in the

auction. However, according to the results of the analysis, the fact that the number of dealers participating in the trade is small and that the interest rate of government securities is sensitive to the interest rate in the money market is artificial.

4. CONCLUSIONS AND SUGGESTIONS

We can make the following conclusions based on the factors affecting the percentage of government securities:

First, an increase in the money supply in circulation increases the opportunities of buyers of government securities, and this leads to a decrease in the percentage of government securities. must

Secondly, commercial banks represent a large part of buyers of state securities, so the increase in resources in their representative account at the Central Bank should decrease the percentage of state securities.

Thirdly, there should be an inverse relationship between the volume of government securities being placed and its percentage.

Fourth, as a factor that promotes the sale of government securities, the percentage of securities in the financial market is higher than the inflation rate and, if the government securities are quoted in the national currency, the rate of national currency devaluation is also higher. is appropriate. According to the results of

¹² The authors created the official site of the Central Bank of the Republic of Uzbekistan on the basis of <https://cbu.uz>.



the analysis, this trend has been observed since the third quarter of 2020.

Fifth, an increase in the rate of inflation and the rate of devaluation of the national currency should lead to an increase in the percentage of government securities.

Sixth, the movement of the main indicative interest rates in the financial market should have a one-way direction vector. That is, an increase in the central bank's main interest rate (INR) and an increase in the money market interest rate (MMR) should also increase the percentage of government securities. The results of the analysis indicate that the main interest rate of the Central Bank has no effect on the percentage of government securities. However, the influence of the interest rate in the money market on the interest rate of government securities is still weak.

Seventh, the greater the number of dealers participating in the auction of state securities, the lower the percentage of state securities should be.

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