Koptubenko A.S.
Analysis of financial market of Russia

*Financial University under the Government of Russian Federation
(Russia, Moscow)*

doi: 10.18411/lj-06-2020-146

idsp: ljjournal-06-2020-146

Abstract

Финансовый рынок в России - это динамичный рынок с быстро растущими объемами операций, с различными финансовыми инструментами и диверсифицированной нормативно-правовой и информационной инфраструктурой. Целью статьи является изучение ситуации на российском финансовом рынке через фондовый рынок и рынок государственных облигаций.

Keywords: финансовый рынок России, государственные облигации, фондовый рынок, инвестиционный портфель.

Abstract

The financial market in Russia is a dynamic market with rapidly growing volumes of operations, with various financial instruments and a diversified regulatory and information infrastructure. The aim of the article is to study the situation on the Russian financial market via stock market and government bond market.

Keywords: financial market of Russia, governmental bonds, stock market, investment portfolio.

In any country, the financial market is a mechanism for the distribution and redistribution of capital between lenders and borrowers through intermediaries, including banks. The means by which one can influence the distribution and redistribution of capital among agents of the economy, taking into account supply and demand, are financial instruments. Thus, financial instruments are various types of market product that are financial in nature, that is, securities, liabilities, and foreign currency.

In the Russian financial market in 2019, there was a decrease in the overall level of volatility, according to the sixth issue of the Financial Markets Risk Review of the Central Bank of the Russian Federation. Since the beginning of 2020, the market has stabilized under the influence of improved sentiment in emerging markets, rising oil prices and decisions made by the Bank of Russia to raise the key rate and suspend purchases of foreign currency in the domestic market. Stabilization of the situation on the Russian market was also facilitated by the decision of the Bank of Russia to raise the key interest rate to 7.5% and to temporarily suspend the purchase of foreign currency in the market within the framework of the budget rule. The improvement in the markets was manifested primarily in the OFZ exchange trades: sales by non-residents and subsidiaries of foreign banks declined significantly [4].

As for the Russian stock market, it experienced recently a crash due to the sanctions that US Treasury department has published. Overall, Russian stocks are considered to be extremely cheap. Most of the companies that are included in RTSI index are connected with resources and highly binded to government. So clearly any political or economic decisions against Russia has great impact on its stock market.

In order to restore sustainable economic growth, private investments and an improvement in consumption mood are required. Structural reforms aimed at strengthening investor confidence could significantly improve the prospects for long-term economic growth.

Governmental bonds

Generally, a government bond is issued by a national government and is denominated in the country's own currency. Bonds issued by national governments in foreign currencies

are normally referred to as sovereign bonds. The yield required by investors to loan funds to governments reflects inflation expectations and the likelihood that the debt will be repaid.

We consider the financial market of Russia. All the data on necessary bonds was taken from the website Rusbonds [1]. The Internet project of the Information Agency Finmarket - RusBonds is dedicated to Russian bonds and is the leader in completeness, reliability and timeliness of the information provided. The resource is intended for investors and analysts, as well as for all those interested in Russian issuers' bonds. There I was to find governmental bonds with constant coupon, which are of current circulation to calculate return flows of Russian Government bonds (OFZ) for the period 2020-2026.

The nominal of all bonds is 1000 rub. The interest of each bond is paid once per year. Initial price was taken based on the 25.12.19 from the website of Moscow Exchange [2]. From all bonds available I have chosen exactly seven. Five of them are federal loan bonds with fixed coupon yield (OFZ-PD). One is a security issued by the Ministry of Finance of the Russian Federation specifically for distribution among ordinary citizens (OFZ-N). The last bond with remark "AD" is with debt depreciation, it's coupon is not fixed, but it does not change for a period 2019 – 2025. All the information above is presented in Table 1.

Table 1.

Future value from 2020 to 2026

Bonds	Price	Return Flow						
	2019	2020	2021	2022	2023	2024	2025	2026
ОФЗ-26210-ПД	999,9	1068	0	0	0	0	0	0
ОФЗ-53002-Н	1015	80	1092,5	0	0	0	0	0
ОФЗ-25083-ПД	983	70	70	1070	0	0	0	0
ОФЗ-26225-ПД	1000,02	74	74	74	1074	0	0	0
ОФЗ-26216-ПД	998,66	70	70	70	70	1070	0	0
ОФЗ-26222-ПД	996,5	71	71	71	71	71	1071	0
ОФЗ-46020-АД	931,95	69	69	69	69	69	69	1069

After constructing a return flow table, I have found spot rates that are calculated by finding the discount rate that makes the present value of a zero-coupon bond equal to its price. These are based on future interest rate assumptions, so spot rates can use different interest rates for different years until maturity. From the Table 2 we can make a conclusion that the average spot rate is equal to 7,5%. Arrow-Debreu model tells us, if Arrow-Debreu price is more than one or negative, then an arbitrage is possible. Therefore, in our case, there is no arbitrage on our market as the Arrow-Debreu prices are more than zero and less than one and all the spot rates are positive.

Table 2.

Spot interest rates and Arrow-Debreu prices

t	Arrow-Debreu price	Spot rate	Coupon
2019	0,93	6,8%	6,80%
2020	0,86	7,8%	9,25%
2021	0,80	7,7%	7,00%
2022	0,75	7,4%	8,95%
2023	0,71	7,0%	2,50%
2024	0,66	7,1%	7,10%
2025	0,56	8,4%	6,90%

The term structure is normal because it is increasing with increasing of time (Figure 1). However, there is a slight fall from the 3th to 6th period, which are associated with years

2021-2023. As there is a fall in the rate, investors demand additional compensation for the added risk of investing their assets over a longer period. To smooth the risk it is necessary to find the liquidity premium for the period between 2021 and 2023 which is equal to 7,26%.

Figure 1. Spot interest rate from 2019 to 2025

Stock market

Now we are interested in constructing investment portfolio based on the Russian stock market. Russian economic market is very dependable and vulnerable to external factors and events, so to be sure that one would not lose all the money investing them only in one economic sector, it would be a wise decision to diversify investment portfolio [3]. That is why for this analysis we have taken five stocks from five different economic spheres. They are oil and gas, food industry, communications, ferrous metallurgy and transport. There are corresponding companies whose stocks were taken: Gazprom – Neft', Group Cherkizovo, MGTS, MMK (Magnitogorsk Iron and Steel Works), Avtovaz. From Moscow Exchange, monthly closed price for the two-year period 05.01.2016-05.01.2019 for every stock were taken into account. Next, the profitability for each stock and average monthly profitability for 24 months for the stocks of each company were calculated. Then the risk was calculated using Markowitz portfolio theory, determining sample standard deviation of price log returns.

If one decides to divide the shares in portfolio equally, the risk of the portfolio is approximately 5,15% with the profitability of 2,68% per month and 32,18% for two years. However, it is interesting for investors to find the optimal portfolios for different purposes. The first scenario is related to minimal risk with income no less than 1%. The analysis shows that in this scenario it is possible to minimize the risks by investing in four companies – Gazprom – Neft', Group Cherkizovo, MGTS, MMK, but with different estimated shares. Half of the money it is suggested to invest in Gazprom – Neft'. This portfolio results in 3,91% risk, and 30,92% profitability in two years. The second scenario is for the maximum profitability with the risk no more than 10%. In this case we have 42,59% income for two years with 10% risk. To maximize the yield it is suggested to invest in two companies, MGTS and Gazprom – Neft', with the corresponding shares of 76% and 24%. So, if the aim is to minimize the risks, it is only 2,58% risk, but the annual portfolio return is approximately 30,92%. In the second scenario, when the aim is to maximize the yield, the riskiness of the portfolio is 10%, but the annual portfolio return is higher than in the first scenario by 11,67%. Therefore, we have a high return of the portfolio regardless of its type and decision depends on the behavioral biases of the investor.

Conclusion

To conclude, in this work we have proceeded with analysis of Russian economy by comparing different investment tools. Overall, bond market is more suitable for those who wants stable but low growth. It is also more trustworthy as we do not expect Russian default in near future. In addition, some political and economic instability drives yields, which is good for the investor, and overall spot rate trend is ascending. Stock market is more risky but

drives higher profits. All in all, Russian government bonds could be considered as a good investments by looking at the trend. Although it should be noted that investors must be aware of negative occasions, mostly external, as it would shake the whole market and diversify portfolio as much as possible to be less vulnerable. So bonds would be suitable mostly for long-term investment whereas stocks for short- or mid-terms.

1. Московская Биржа [online] // Московская Биржа. 2019. URL: <https://www.moex.com/> (accessed: 19. 04. 2020).
2. Finam [online] // Finam.ru. 2019. URL: <https://www.finam.ru/> (accessed: 19. 04. 2020).
3. Трегуб А.В., Трегуб И.В. Методика прогнозирования основных показателей развития отраслей российской экономики // Вестник Московского государственного университета леса - Лесной вестник. 2014. Т. 18. № 4. С. 231-236
4. Статистика | Финансовые рынки | Банк России [online] // Cbr.ru. 2019. URL: <http://www.cbr.ru/statistics/?PrId=finr> (accessed: 19. 04. 2020).