

Development of ESG investments in the Russian market

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Abstract. In Russia, ESG investing is just beginning to develop, the state supports and promotes this concept, encourages companies with a high ESG rating and introduces benefits for them - subsidizing coupon income on bonds to cover part of the issuers' expenses. Regulators also create common standards by which to assess whether a company really follows ESG principles. Current research is devoted to the developing the indicators (indexes), which enable to evaluate possible ESG-investment strategies.

The goal of the research is to suggest the benchmark of the balanced investment portfolio, which is less volatile, than the traditional stock indexes. So, the formation of an investment portfolio consisting of sustainable assets and building on its basis an ESG-investment index will enable to develop the principles of individual sustainable investments. The index structure is based on a number of sub indexes, which consist of three asset classes: stocks of sustainable companies, bonds of sustainable companies and ESG ETFs of Russian companies.

Methodologies employed included the investment performance investigation on the basis of created ESG investment index, that, on the one hand, would have moderate volatility, and on the other hand, would include expanded investment opportunities through the integration of ESG assets.

The results and the novelty of the research is to investigate risk/return tradeoff in respect of ESG-investment portfolio structure and to provide the investors additional benchmarks to develop their investment strategies.

Keywords: ESG-investments, ESG-investment index, ESG-investment portfolio.

1 Introduction

The ESG universe has been growing at an impressive pace over the past few years. According to Morningstar, last year the number of ESG funds available to investors from the United States increased to 392, which is 30% more than in 2019. In 10 years, the growth turned out to be almost fourfold. Now every third dollar of assets under management in the United States is invested in one or

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another ESG investment strategy.

In many ways, the pandemic has become a catalyst for the demand for ESG, representatives of the asset management industry agree. To some extent, it made people think about the eternal: environmental issues, health, social equality, security, data privacy, and so on. This trend was clearly caught by large investment houses, all of which issued forecasts and recommendations not to ignore the ESG trend in their investments.

According to the forecasts of the investment company BlackRock in the next 5 years, global investors can double the stable assets in their portfolios and by 2030 the assets of US exchange-traded ESG funds will exceed \$ 1 trillion.

Against the background of the boom in the US, Europe also showed record inflows of investors' funds into ESG funds. In 2020, they rose to 281 billion euros, whereas a year earlier this amount was 223 billion euros, Morningstar estimated. As a result, the assets of European sustainable funds reached 1.1 trillion euros in December 2020.

Responding to investor demand, European asset managers have launched a record number of new ESG funds and converted more than 250 traditional funds into sustainable ones over the past year. And among the bestsellers were funds related to climate change. The global sustainable universe attracted USD 141 billion in net inflows in the third quarter of 2021.

The superiority of sustainable stocks is that their issuers, in theory, are better hedged against serious environmental, social and corporate risks. That is, they are more likely to be able to avoid major financial losses and potential bankruptcies. Investors believe in this and will be the last to sell off such stocks during the fall of the markets.

There are a lot of discussions concerning the effectiveness of investments into the sustainable assets. Scientists' opinions on the attractiveness of ESG investments vary quite significantly.

Thus, some scientists (Vilas, et. 2022) believe, that “sustainability stock indices play an important role in guiding socially responsible funds to their constituents”, however “the use of the “sustainability” label for four of five sustainability indices but also show that further differentiation between sustainability and conventional indices is needed”. (Pastor et., 2021) also support overall positive aspects of sustainable investing: “sustainable investing produces positive social impact by making firms greener and by shifting real investment toward green firms”.

In respect of a particular sustainable assets (green bonds), for instance (Kanamura, 2020) confirms, that “green bond investment performance is superior to conventional bond investment performance but the superiority is decaying over time” and further (Kanamura, 2021) developing the idea, that “high yield bond ETFs that take ESG into account are observed to reduce risk compared to a conventional high yield bond ETF”.

In addition the research of (Cerqueti et., 2021) suggests, that “relative market value loss of the High ESG ranked funds is lower than the loss experienced by the Lowest ranked counterparts in the time span with lower volatility”.

On the other hand (Billio, 2022) suggests that “in the asset management industry it is extremely difficult to measure the ability of a fund manager if financial performances are strongly conditioned by the chosen ESG benchmark”. According to the opinion (D'Hondt et., 2022) “the three ESG factors are not homogeneous and should be considered separately” and “lower exposure to ESG factors during the crisis period suggests that ESG investing is a luxury good for most investors”.

(Zeidan, 2022) insists on the fact, that “unlocking the potential positive externalities from ESG investing may require regulators and investors' actions to improve the quality of information disclosure and pressure fund managers into incorporating nonfinancial criteria in their investment models”. Moreover (Ji et., 2021) believe, that “investors willing to opt for environment-friendly investment funds have to pay a premium for their choice, negatively reflecting financial attractiveness”. And (Bofinger et., 2022) confirms that “higher sustainability of the fund also leads to higher overpricing in the fund even relative to its benchmark”. As to (Crespi et, 2020) “financial firms' ESG scores are growing on a linear trend over time, and such tendency is enhanced by their size and profitability, together with the economic and social development of the country within which they operate”.

We expect that the sustainable financing market will continue to grow due to the issues of large issuing companies that have already financed or have future approved green and social projects. An increase in the number of placements will bring the market to a new qualitative level thanks to government support, which will make the issuer of a sustainable issue a beneficiary of financial assistance.

In our study, the balanced ESG-index was developed, consisting of almost equal shares of shares and bonds of "green" Russian companies on the one hand, as well as of Russian ESG-ETFs on the other. In our opinion, the index can be used, in particular, by domestic individual investors, to create the investment strategies that allow, with a moderate level of risk, to outperform inflation in the long run.

2 Materials and Methods

The basis of ESG investment index calculation was the open date from MOEX. The date presented the assets' value (bonds, stocks and ETFs) included in the ESG-index structure.

The calculated index value will allow it to be interpreted as the current value, and on the other hand, as an intermediate (temporary) value of the next current trading day until the close. Subindexes are calculated based on information about transactions made at the Exchange's auctions, every trading day after the end of the auction. When calculating sub-indices, the total return approach are used. In particular, when calculating the Sub-index of both corporate bonds and state bonds, their value is found as the sum of the price and bond's accumulated coupon income and the reinvestment of coupon payments. Recalculation of restrictive coefficients is carried out once a quarter, following the results of the trading session preceding the last revision of the calculation base of any subindex. The new coefficients in the calculation of indices will start to be used from the next trading day.

The ESG investment index is created on the basis of the Moscow Exchange index, adjusted for moderate risk requirements. The index is calculated based on the principle of adding the sub-indices' shares within the overall investment portfolio, assuming restrictions. A sub-index is an indicator reflecting the total value of a certain group of securities. The proposed index includes the sums of three sub-indices: stocks of bonds (corporate, municipal and federal loan bonds), as well as ETFs.

The formula for calculating the index is given below:

$$I_n = \sum_{i=1}^N W_{n-m}^i \times Sub_I_n^i, \quad (1)$$

where

I_n – index value at the n-th moment of calculation

$Sub_I_n^i$ – the value of the subindex i calculated on day n

W_{n-m}^i – the limiting coefficient of subindex i, updated on day n-m - the date preceding the last revision of the calculation base.

The restrictive indicators are given in the table and are taken on the basis of average investment indicators of non-state pension funds in Europe.

Table 1. Assets' share in the structure of the index

Name of sub-index	Target weight in the index on the restriction date
Stock sub-index	30%
Bond sub-index	30%
Sub-index of the ETF	40%

Source: Composed by the authors

For the initial value of the subindexes on the date of the first calculation made, it is equal to 1000. The value is expressed in points exactly up to two digits after the decimal point (by mathematical

rounding during calculation).

It should also indicate the methodology for calculating each subindex.

The bond sub - index is calculated using the formula 2.

$$Sub_I_n = Sub_I_{n-1} \cdot \frac{\sum_{i=1}^N (\frac{P_{i,n}}{100} \cdot FV_{i,n} + A_{i,n} + G_{i,n}) \cdot N_{i,n} \cdot W_{i,n}}{\sum_{i=1}^N (\frac{P_{i,n-1}}{100} \cdot FV_{i,n-1} + A_{i,n-1}) \cdot N_{i,n} \cdot W_{i,n}} \quad (2)$$

where

Sub_I_n – the value of the subindex at a time n;

$P_{i,n}$ – weighted average share price at time n, expressed as a percentage of par value;

$FV_{i,n}$ – the nominal value of the bond at time n, expressed in rubles;

$A_{i,n}$ – accumulated coupon yield of the bond at time n, expressed in rubles;

$G_{i,n}$ – the amount of coupon income paid on day n on the bond at time n, expressed in rubles;

$N_{i,n}$ – the volume of the bond issue at time n, expressed in pieces in securities;

$W_{i,n}$ – coefficient limiting the issuer's share.

The stock sub - index is calculated using the following formula 3:

$$Sub_I_n = \frac{MC_n}{D_n} \quad (3)$$

where

Sub_I_n – the value of the stock price subindex at the n-th moment of calculation;

MC_n – the total value (capitalization) of all shares as of the n-th moment of calculation;

D_n – the value of the divisor at the nth moment of calculating the stock price subindex.

The divisor for calculating the stock subindex is calculated using the formula 4.

$$D_1 = \frac{MC_1}{Sub_I_1} \quad (4)$$

where,

MC_1 – the total value (capitalization) of all shares as of the date of the first calculation of the price sub-index of shares;

I_1 – the value of the stock price sub-index as of the date of the first settlement.

The value of the total value of all shares has the following form:

$$MC_n = \sum_{i=1}^N MC_i, \quad (5)$$

Where,

N – total number of shares;

MC_i – capitalization of the i-th share.

And the capitalization value of the i-th share is calculated by the formula 6

$$MC_i = P_i \cdot Q_i \cdot FF_i \cdot W_i, \quad (6)$$

Where,

P_i – the price of the i -th share, expressed in rubles;

Q_i – total number of i -th shares of one category (type) of one issuer;

FF_i – Free-float coefficient of the i-th share;

W_i – coefficient limiting the capitalization share of the i -th share (weighting factor).

The ETF sub - index is calculated using the following formula 7

$$Sub_I_n = \frac{MC_n}{D_n}, \tag{7}$$

Where,

Sub_In – the value of the stock price Subindex at the n-th moment of calculation;

MCn – the total cost (capitalization) of all units as of the n-th moment of calculation;

Dn – the value of the divisor at the n-th moment of calculating the price Subindex of the ETF.

The divisor for calculating the stock subindex is calculated using the formula 8.

$$D_1 = \frac{MC_1}{Sub_I_1}, \tag{8}$$

Where,

MC1 – the total value (capitalization) of all units as of the date of the first calculation of the ETF price subindex;

I1 – the value of the ETF price sub-index as of the date of the first settlement.

The value of the total value of all shares has the following form:

$$MC_n = \sum_{i=1}^N MC_i, \tag{9}$$

Where,

N – total number of shares;

MCi – capitalization of the i-th ETF.

And the capitalization value of the i-th share is calculated by the formula 10.

$$MC_i = P_i \cdot Q_i \cdot W_i, \tag{10}$$

Where,

Pi – the price of the i-th unit, expressed in rubles;

Qi - the total number of i-th shares of one category (type) of one issuer;

Wi – coefficient limiting the capitalization share of the i-th ETF (weighting factor).

If the weighted average price of a security was not calculated on the day of calculation of the subindexes, then the last weighted average price of this security is taken. In case of suspension or termination of trading of the used security included in the calculation base of the corresponding subindex, the last value of the weighted average price of this security is taken for calculation.

As a result, after all calculations, the value of the ESG investment index will be obtained, taking into account the optimization of risk and profitability based on the assessment of issuers of securities.

The choice of the shares and bonds for the portfolio had a certain criterion, given in the table 2.

Table 2. Requirements to stock characteristics, included in the investment portfolio

Criteria	Requirement
Common criteria	
Market Capitalization	> 25000000
Country of listing	Russia
Belonging to the index	Must be included in MOEX and RTS
Assessment of fundamental indicators to determine the stability and reliability of the company	
Quick liquidity	>1
Current liquidity	>2
LT Debt to Equity	[0,5;0,7]

Liabilities to Equity	<0.7
Liabilities to Assets	[0.4;0.6]
Altman Z-score	> 2.9
Volatility indicators	
Beta- coefficient	[-1;2]
Estimation of risk-return coefficients taking into account inflation	
Trainor Coefficients	>0
Sharpe Ratio	>1

Source: Composed by the authors

In the case of bond analysis, which should be appropriate for our portfolio it should be taken into account:

1. Maturity of the bond
2. Duration of the bond
3. Ratings of the issue and issuer

It should be borne in mind that when analyzing corporate bonds, the company should also be evaluated according to the above indicators (Quick liquidity, Current liquidity, LT Debt to Equity, Liabilities to Equity, Liabilities to Assets, Altman Z-score)

Ratings of the issue and issuer – non lower than BBB (from leading domestic rating agencies) corresponding to the investment grades.

There also have been taken four ESG ETF available in the Russian financial market: SBRI ETF, TSST, VTBF ETF, ESGR for calculation of ETF-sub index.

SBRI ETF is an exchange-traded fund investing in securities included in the "MOEX Index – RSPP Vector of Sustainable development of Russian issuers, full profitability", with a high degree of compliance with the composition and structure¹ of the index. The index is calculated by PJSC Moscow Exchange and includes shares of companies that have shown the best dynamics in the field of sustainable development and corporate social responsibility. The largest share of the fund (27%) is invested in the natural resources sector, the second place is occupied by the energy sector (26%), the third – electric power supply (18%).

TSST is an exchange-traded equity fund, which is focusing on issuers' sustainable development. The fund consists of 50 companies with the highest rating. The fund provides an opportunity to invest in stocks, adhering to the highest standards of social responsibility, corporate governance and environmental care.

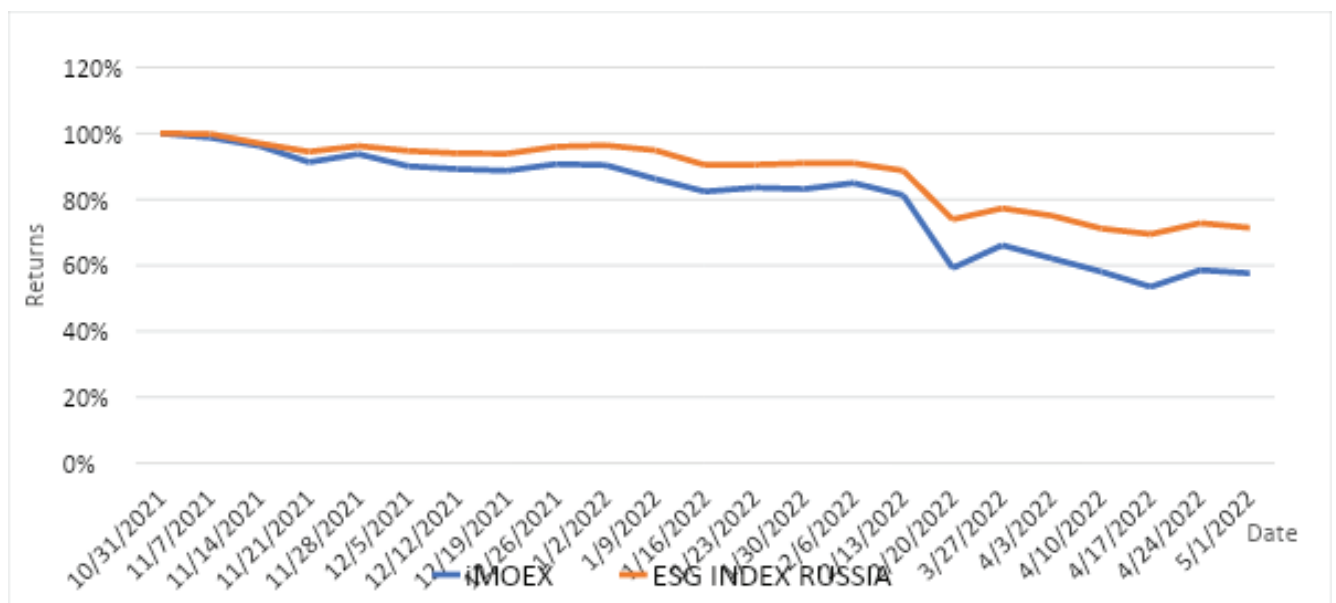
VTBF ETF fund invests in shares included in the MOEX - RSPP Index "Vector of Sustainable development of Russian issuers of full gross yield". These are shares of the largest and most liquid Russian companies from various sectors of the economy that have implemented the best dynamics of indicators in the field of sustainable development and corporate social responsibility. All dividends received in these companies are reinvested.

BPIF ESGR invests in the shares of Russian companies with the best dynamics of indicators in the field of sustainable development and corporate social responsibility included in the calculation of the MOEXI — RSPP index "Vector of sustainable development", which reflects the quotes of the most progressive Russian companies that comply with environmental, social and best management practices. The ESGR BPIF complies with international ESG standards.

3 Results

In the result, it was created ESG Index for assets of Russian companies – ESG Index Russia. In order to evaluate the performance of this index, we compared its returns with a well-known benchmark: the Russian iMOEX index.

First of all, the correlation between the two indices is 0.96, which reflects a fairly strong similarity of the movement (this is also seen on the cumulative yield chart of the two indices – see pic.1).



Pic. 1. Cumulative returns of ESG INDEX RUSSIA and iMOEX, %

Source: Composed by the authors

Second, the ENG index Russia compiled by us is more attractive for investors, since throughout the entire period its yield exceeded the iMOEX index's yield. The average yield of the iMOEX was 0,01% less than the one we compiled, which also confirms the superiority of the ESG index Russia. It is also important to compare the risks of the compiled index.

Third, the overall volatility of the ENG index Russia was 4,2% and this is 3,1% less than the iMOEX index volatility for the same time period. The Beta coefficient of the compiled index is 0,55, which reflects a low then average level of systematic risk.

Thus, ESG index Russia can be used as a special benchmark for those investors, who is aimed at investing directly in ESG assets in the Russian market.

4 Discussion

While making any ESG investment decisions it is important to assume the regulatory risks. Amid the growing interest in ESG, regulators have already announced that they will tighten the requirements for disclosure of ESG information. Increased reporting requirements mean that, for example, impact funds that set environmental and social goals on a par with financial profit will have to back up their statements with clear evidence of concrete efforts to ensure this very sustainability. In this case, the investor is not immune from the fact that the fund in which he invested may at some point simply fail to pass the ESG criteria check.

Several exchange-traded funds with an application for ESG are traded on the Moscow Exchange. For example, the Sber-Responsible Investment Fund invests in the "MOEX -RSPP Index Vector of Sustainable development". The basis of its calculation includes shares of companies that have demonstrated the best dynamics of indicators in the field of sustainable development and corporate social responsibility, according to the Moscow Exchange website. Over the past year, this index, by the way, brought a yield of almost 29% per annum. Among the latest issues are MTS social bonds and Moscow city green bonds. Telecom securities maturing in 2024 are now trading at a yield of about 6,5% per annum. Approximately the same level of return can be received on three-year bonds.

The growth rate ESG assets value is generally higher than traditional assets' investments. However, it is necessary to consider the risk-return tradeoffs. The overall trend is in reducing the volatility of ESG assets in recent years. We believe that the average risk reduction is due to both factors: the

development of external ESG regulation and the strengthening of internal control in ESG areas by the companies themselves.

Conclusions

In the result, we can come to the conclusion that portfolio consisted of ESG assets was less volatile and demonstrated greater performance during the last year. This is due to the portfolio diversification in respect of assets focused on the sustainable development companies. In the period of high volatility in the financial markets “green” stocks, bonds and ETFs also showed better results than traditional assets. As investors’ interest is transforming to sustainable business’ investments, we believe that created ESG investments index and all portfolios based on ESG-backed assets will continue showing better results than the market, other indices, and portfolios.

References

1. Billio, M., Costola, M., Hristova, I., Latino, C., & Pelizzon, L. (2021). Inside the ESG ratings: (Dis)agreement and performance. *Corporate Social Responsibility and Environmental Management*. 28 (5), 1426– 1445. <https://doi.org/10.1002/csr.2177>
2. BlackRock, *Sustainable investing*. — URL: <https://www.blackrock.com/us/individual/investment-ideas/sustainable-investing>
3. Catherine D’Hondt, Maxime Merli, Tristan Roger. (2022). What drives retail portfolio exposure to ESG factors?, *Finance Research Letters*. Volume 46, Part B, 02470, ISSN 1544-6123, <https://doi.org/10.1016/j.frl.2021.102470>.
4. Company ESG Risk Ratings. *Sustainalytics/Morningstar*. — URL: <https://www.sustainalytics.com/esg-ratings/>
5. Crespi, F., Migliavacca, M. (2020). The Determinants of ESG Rating in the Financial Industry: The Same Old Story or a Different Tale? *Sustainability* 2020. Volume 12, p.63-98. <https://doi.org/10.3390/su12166398>
6. Global Sustainable Fund Flows - Q3 2021, November 2021 — URL: <https://assets.contentstack.io/v3/assets/blt4eb669caa7dc65b2/bltaa4b1ab907fb3645/619f8bf2149d2e0e57644423/Global-ESG-Q3-2021-Flows.pdf>
7. Luboš Pástor, Robert F. Stambaugh, Lucian A. Taylor, Sustainable investing in equilibrium. *Journal of Financial Economics*. Volume 142, Issue 2, 2021, Pages 550-571, ISSN 0304-405X, <https://doi.org/10.1016/j.jfineco.2020.12.011>.
8. Pablo Vilas, Laura Andreu, José Luis Sarto (2022). Cluster analysis to validate the sustainability label of stock indices: An analysis of the inclusion and exclusion processes in terms of size and ESG ratings. *Journal of Cleaner Production*. Volume 330, 129862, ISSN 0959-6526, <https://doi.org/10.1016/j.jclepro.2021.129862>.
9. Roy Cerqueti, Rocco Ciciretti, Ambrogio Dalò, Marco Nicolosi (2021). ESG investing: A chance to reduce systemic risk, *Journal of Financial Stability*, Volume 54, 100887, ISSN 1572-3089, <https://doi.org/10.1016/j.jfs.2021.100887>.
10. Sustainable Funds U.S. Landscape Report, 10 February 2021 — URL: https://assets.contentstack.io/v3/assets/blt4eb669caa7dc65b2/blt2ed07cbffb2ab7d7/619f9dad36904a6c534380aa/Sustainable_Funds_Landscape_2021.pdf
11. Takashi Kanamura (2020). Are green bonds environmentally friendly and good performing assets?. *Energy Economics*. Volume 88, 104767, ISSN 0140-9883, <https://doi.org/10.1016/j.eneco.2020.104767>.
12. Takashi Kanamura (2021). Risk Mitigation and Return Resilience for High Yield Bond ETFs with ESG Components. *Finance Research Letters*. Volume 41, 01866, ISSN 1544-6123, <https://doi.org/10.1016/j.frl.2020.101866>.
13. Xiangfeng Ji, Xueqi Chen, Nawazish Mirza, Muhammad Umar (2021). Sustainable energy goals and investment premium: Evidence from renewable and conventional equity mutual funds in the

- Euro zone. *Resources Policy*. Volume 74, 102387, ISSN 0301-4207, <https://doi.org/10.1016/j.resourpol.2021.102387>
14. Yannik Bofinger, Kim J. Heyden, Björn Rock, Christina E. Bannier (2022). The sustainability trap: Active fund managers between ESG investing and fund overpricing. *Finance Research Letters*. Volume 45, 102160, ISSN 1544-6123, <https://doi.org/10.1016/j.frl.2021.102160>.
 15. Zeidan, R. (2022). Why don't asset managers accelerate ESG investing? A sentiment analysis based on 13,000 messages from finance professionals. *Business Strategy and the Environment*. 1–12. <https://doi.org/10.1002/bse.3062>