

# *Exchange-traded funds as a universal tool for digitized asset trading*

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**Abstract** — The subject of this study is the economic relations arising in the process of formation and circulation of exchange-traded funds - universal financial instruments available to most unqualified investors. Purpose of the study: to analyze the evolutionary development of exchange-based funds in the world, the practice of their circulation on the Russian stock market, identify problems and develop proposals for expanding the range of basic assets of funds in the digital economy. The methodological basis of the present research has consisted of methods of comparative and system analysis, methods of deduction and induction, grouping and comparison, specification and generalization, systematization and classification.

**Main results:** 1. The analysis of the evolution of the exchange funds development in the conditions of transformation to a digital economy is presented. 2. The practice of formation and circulation of exchange-traded funds in Russia is generalized. 3. The calculation of the quantitative investment characteristics of exchange-traded funds circulating in Russia has performed. 4. The advantages and disadvantages of investing to exchange-traded funds in comparison with mutual investment funds are determined. The assessment of the competitiveness of the financial researching instrument is substantiated. 5. Proposals are submitted to state authorities both in legislative acts and in the main directions of development of the Russian financial and stock market.

The conditions for the formation and circulation of exchange-traded funds confirm the fairness and openness of information for all groups of investors, from private to institutional. The authors substantiated the conclusion about the prospects of investing in exchange-traded funds in the conditions of maintaining economic growth at the state. **Key findings of the study:** 1. The approaches to formation and circulation of exchange-traded funds have systematized. 2. The investment characteristics of exchange-traded funds circulating in Russia are presented.

**Keywords** — *digital economy, exchange-traded fund, underlying asset, diversification, unqualified investor.*

## I. INTRODUCTION. GOAL SETTING AND UPDATING

Collective investments for several decades have been a global trend, when individual investors' funds are accumulated in various investment funds, which then invest them in financial instruments designed to multiply the investments of depositors, shareholders, and investors. The main advantages of collective investment are: professionalism and competence of financial intermediaries; access to closed for private investors capital markets and a low entry threshold.

The development of highly liquid financial products and the creation of various types of financial funds that are attractive to various types of investors is a relevant and complex task. Therefore, the topic of exchange-traded funds in the last 10-15

years has become interesting to many foreign and national scientific economists.

Exchange Funds allow you to:

- to unify financial instruments, which makes them easy to use;

- organize electronic trading, which contributes to high liquidity and availability of financial instruments for all categories of investors.

According to its parameters, the exchange fund is classified as a collective investment. From the position of a consumer of financial services, an exchange fund is associated with a financial product.

The opportunity for an investor to buy a share of a unified financial product under the management of a professional manager makes this product accessible to most unqualified investors, while maintaining its liquidity on the stock market attracts institutional investors

Collective investment exists in Russia since the mid-90s of the last century. However, in our country, the mutual and joint-stock investment funds (MIF and JIF) deserved more attention and distribution among investors, but such tools as exchange traded funds (ETF) had not developed.

Exchange-traded funds mainly form the assets content of their portfolios only in accordance with the chosen indices that depending on the movements of any financial market or its segment, and subsequently reproduce their dynamics [7].

ETF combines the advantages of both mutual funds and individual investment in stocks, being a more sophisticated and innovative tool in comparison with mutual funds.

The purpose of the article is to study the theoretical foundations and practice of the formation and circulation of exchange-traded funds as financial instruments for digitized asset trading.

## II. RESEARCH METHODOLOGY

The theoretical and methodological basis of the study was the classical and modern approaches in the field of investment analysis and efficient stock markets.

There is a huge variety of exchange-traded funds in the world. They satisfy even the most specific requirements, providing new financial opportunities for both individual and institutional investors. Due to this, in recent years there has been an explosive growth of stock funds and an increased interest in them all over the world. If we compare the assets under the management of active and passive funds, including ETF, the rate of the last ones has increased abruptly in recent years. it was 19% in 2009, and was already 37% in 2017 [1].

Currently, exchange-traded funds are one of the most relevant and fast-growing investment products, their popularity

throughout the world is not falling - and this applies to both professional market players and private investors. Open funds dominate at index investment, but exchange-traded funds approach them with a high speed.

Thus, ETFs are exchange-traded funds that invest in certain assets or their groups. The funds own the underlying assets (stocks, bonds, commodity futures, foreign exchange, etc.) and issue shares to them that act as certificates for these underlying assets. As the value of assets changes, the price of the ETF changes too. ETF securities fairly accurately repeat portfolio changes. Exchange funds are, in fact, open-ended funds, but with their shares it is possible to perform all the same operations that are available for ordinary shares in exchange trading [12, p. 12]. Transactions on ETF shares can be performed during the whole trading day, their price changes depending on the activity of traders.

In Russia, ETFs are represented at Moscow Exchange PJSC. However, the share of trades in them and the number of ETFs themselves are much smaller than in other instruments and even more unbelievable different from the ETF market in the USA and other developed countries.

### III. RESEARCH RESULTS (PRACTICAL ANALYSIS)

Scientists in many countries many times have attempted to develop financial instruments for collective investment, which would provide integrated diversification, high liquidity and low costs of their ownership and sale [8].

Closed-end funds (CEF) in England in the 1860s. became one of the first tools in this direction. These funds invested in the American railway construction. Closed funds exist in various forms, may have different investment objects, strategies and investment portfolios. Following them, open-ended funds (mutual fund, MF) appeared in the 1920s in the United States and demonstrated rapid development over the next decades [10]. The new page in the development of exchange-traded funds is connected with the modern monetary development model of the world economy, which is based on a system of floating exchange rates and asset pricing on this principle.

In 1976 John Bogle, manager of the largest investment company Vanguard, introduced the First Index Investment Trust index fund to the market (later renamed to the Vanguard 500 Index Fund), marking a new story in the development of open-ended funds. This fund copied the S&P 500 index and had assets of \$ 200 billion under management . The main advantages of open-ended index funds are lower management fees and openness, which allow investors, regardless of status, to monitor the composition of assets that repeat certain market indices. Since the beginning of the 2000s. The number of indexed open-ended funds in the United States has doubled and currently accounts for about 20% of all open-ended funds. 80% fall on actively managed open funds [2].

The next evolutionary step of index investment was the exchange-traded funds (ETF) appearing. In 1993, the Standard & Poor's Depository Receipt (SPDR) S&P 500 fund was opened, the SPY ticker, whose content replicates the S&P 500 index and changes in parallel with it, like the Vanguard 500 Index Fund. Initially, the volume of trading in these stocks was small, but in the second half of the 1990s, during a period of significant growth of the S&P 500 index, investor activity regarding this instrument increased significantly [1]. The success of SPDR led to the discovery of several more similar

products, the content of which repeated other popular indices - the Dow Jones Industrial Average, the Nasdaq 100, the S&P MidCap 400, and others. In 1996 Barclays has launched several World Equity Benchmark Shares (WEBS) exchange-traded funds at the market, better known as iShares MSCI Index Fund Shares, which have opened up the access to foreign emerging markets for investors. By the end of 2005, exchange-traded funds , complying with almost any wishes of both a conservative and speculative investor behavior, were presented on the market.

In 2018, the global ETF market celebrated its 25th anniversary. In the Russian stock market, exchange-traded funds began to circulate in 2013.

The ETF line on Moscow Exchange PJSC is represented by 13 funds of the FinEx group, a member of the international financial group FinEx Group (table 1). In addition, all funds were listed on the Irish and London stock exchanges. The custodian of the assets, as well as the issuer and corresponding funds administrator, is the Bank of New York Mellon, and the auditor is Price Waterhouse Coopers. The group manages assets of about \$ 1.2 billion , about 10 billion rubles of which falls on ETFs traded on Moscow Exchange PJSC [3].

In addition to ETF managed by FinEx Investment Management, from April 17, 2018, two exchange-traded ITI funds managed by Fuchs Asset Management S.A. have been admitted to trading on Moscow Exchange PJSC. on shares of a foreign exchange fund (RUSE and RUBS).

The structure of funds circulating on the Russian stock exchange is as follows: 7 of them are ETF stocks. These funds are based on country indices of various markets, including the USA, Germany, Great Britain, China, Japan and Australia, and follow the indices of these countries. Another ETF of this class is the ETF on the US Information Technology Index (FXIT). It is close by content and dynamics to NASDAQ and represents an investment to companies such as Apple, Microsoft, Google, Cisco, IBM, Intel, Visa, Facebook.

Another 2 ETFs are corporate eurobond funds of Russian issuers in rubles and dollars. Also there is a "golden" ETF (ticker FXGD) in the line of funds traded on Moscow Exchange PJSC. According to experts, this is a more transparent tool than the same anonymous metal accounts (AMA): when buying FXGD on the stock exchange, the spread is 10-16 times less than the average spread for the "golden" AMAs in the largest Russian banks. And, as you know, gold allows you to compensate for losses in case of sharp market shocks in the stock and bond markets [6].

Particular attention should be paid to the money market fund (ticker FXMM) - the most reliable fund investing in the portfolio of short-term US Treasury bonds (1-3 month US Treasury bills). The credit rating of these securities from the world's leading rating agencies is AAA. The yield on FXMM is comparable to the yield on the Russian interbank market.

The exchange fund, consisting of the 27 most liquid stocks of the RTS index (ticker FXRL), allowed to circulate on the Russian stock exchange since March 1, 2016, causes particular interest. Trades in this instrument are operated in rubles. The portfolio of this ETF is structured in dollars, however, the recalculation of the value of investments when moving stock prices from the RTS index to Moscow Exchange PJSC will be operated in rubles at the exchange rate of the dollar. That is, investors who will invest in this fund will not lose if the RTS

index collapses due to a sharp rise in the US currency. Thus, the ruble value of FXRL fund investments will follow the MICEX index exactly.

The growth dynamics of ETF assets around the world is shown in Figure 1.

The largest share of total global assets under the management of exchange-traded funds is concentrated in the United States - about 70%, followed by the United Kingdom (8%), Japan (5%) and Germany (4%). In general, EU countries account for 16% of total assets under ETF management [2].

Worldwide, more than 5,600 ETFs are traded.

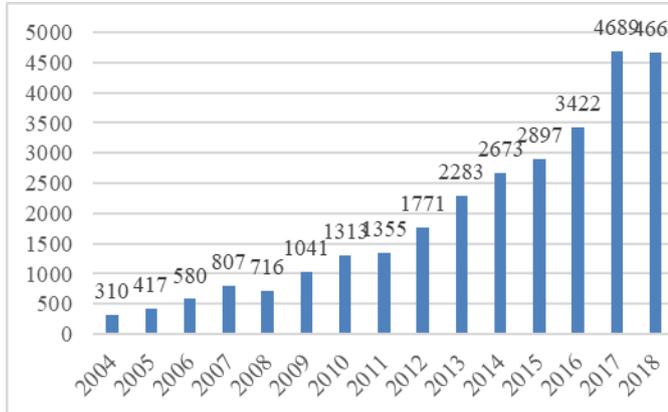


Figure 1 - The dynamics of ETF assets in the world in 2004-2018, billion dollars United States [16]

Most exchange-traded funds are tied to an index and their assets exactly copy the composition of this index. Periodically, the stock fund portfolio is rebalanced following the index. ETF is listed on the stock exchange, and from this point its shares can be bought and sold in the same way as any other securities [4].

The behavior of index ETFs is close to the underlying asset dynamics. One of the most popular indices is the S&P 500. Funds for this index have all the largest providers: iShares Core S & P 500 ETF (BlackRock), Vanguard S & P 500 ETF (Vanguard), SPDR S & P 500 ETF (State Street Global Advisors). The stocks of the last (the SPY ticker) have been among the most actively traded on the US market in terms of trading volume and turnover for several years. This fund also accounts for about 25% of the total trading volume of all ETFs.

Since August 7, 2017, Moscow Exchange PJSC has provided participants with the opportunity to make transactions on currency ETFs with payments in US dollars. The innovation will allow Russian investors who prefer foreign exchange investment tools to trade ETFs at Moscow Exchange without having to convert funds into Russian rubles in advance, which will simplify the investment process and reduce their transaction costs. The possibility of making transactions with payments in dollars (in T + 0 mode) along with payments in rubles (in T + 2 mode) will be provided on eight exchange-traded funds (FXRU, FXGD, FXIT, FXJP, FXAU, FXUS, FXCN, FXRL).

Figure 2 shows the comparative dynamics of the exchange trading volume in mutual investment funds and ETF at Moscow Exchange PJSC.

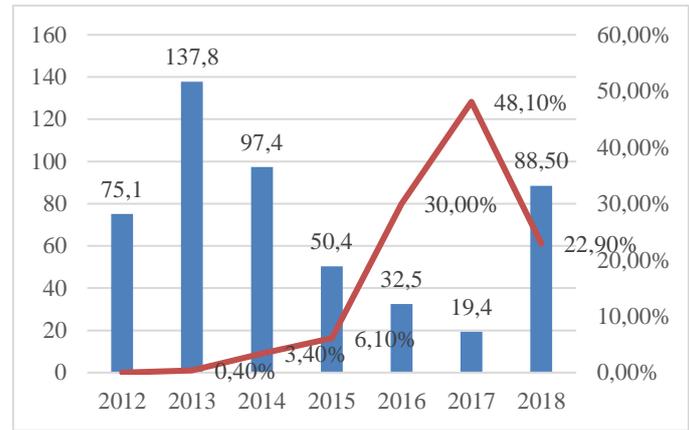


Figure 2 shows the comparative dynamics of the volume of exchange trading in mutual investment funds and ETF at Moscow Exchange PJSC.

The largest volume of transactions with ETF on the Moscow Exchange was recorded in 2018, but the best dynamics of the increase in the share of transactions with ETF in comparison with mutual funds was recorded in 2015-2017 [9]. According to Moscow Exchange, the total number of investors using ETF has doubled over the past year, but their share of the total number of brokerage accounts was only 2.2% [5].

TABLE I. ETFs APPLYING TO MOSCOW EXCHANGE PJSC MANAGED BY FINEX INVESTMENT MANAGEMENT [15]

No.	ETF (Currency)	Ticker	Management fee, %	Yield for 2017, rub., %	Yield for 2018, rub., %	NAV
1	FinEx Cash Equivalents UCITS ETF (RUB)	FXMM	0.49	7.7	6.2	794.2 million rubles.
2	FinEx Gold ETF (USD)	FXGD	0.45	8.5	7.4	\$ 7.5 million
3	FinEx Tradable Russian Corporate Bonds UCITS ETF (RUB)	FXRB	0.95	14.5	12.0	599.0 million rubles.
4	FinEx Tradable Russian Corporate Bonds UCITS ETF (USD)	FXRU	0.5	7.6	1.8	\$ 32.9 million
5	FinEx MSCI USA UCITS ETF (USD)	FXUS	0.9	20.3	22.0	\$ 8.7 million
6	FinEx MSCI Australia UCITS ETF (USD)	FXAU	0.9	16.5	8.9	\$ 2.9 million
7	FinEx MSCI United Kingdom UCITS ETF (GBP)	FXUK	0.9	8.3	7.9	5.7 million pounds
8	FinEx MSCI Germany UCITS ETF (EUR)	FXDE	0.9	12.4	15.8	7.3 million euros
9	FinEx MSCI China UCITS ETF (USD)	FXCN	0.9	49.4	35.0	\$ 5.9 million

10	FinEx FFIN Kazakhstan Equity ETF(RUB)	FXKZ	1.39	-	0.2	32.7 million rubles.
11	FinEx Russian RTS Equity UCITS ETF (USD)	FXRL	0.9	1.3	14.0	\$ 7.4 million
12	FinEx MSCI USA Information Technology UCITS ETF(USD)	FXIT	0.9	38.8	24.0	\$ 22.3 million
13	FinEx MSCI Japan UCITS ETF(USD)	FXJP	0.9	22.2	6.5	\$ 6.9 million

One of the most liquid ETFs represented at Moscow Exchange PJSC are:

- FinEx Tradable Russian Corporate Bonds UCITS ETF, which invests in corporate Eurobonds of Russian issuers;
- FinEx Cash Equivalents UCITS ETF, investing in the index of short-term US government bonds;
- FinEx MSCI China UCITS ETF.

In terms of profitability over the past two years, a fund investing in US information technology stocks looks more preferable - FinEx MSCI USA Information Technology UCITS ETF (an increase of 38.8% and 24% respectively), almost all ETFs investing in foreign stock indexes showed good dynamics.

The ETF set presented at the Moscow Exchange PJSC allows you to invest in the most popular investment areas. However, this list is not limited to gold, bonds, shares of Russian and foreign issuers. The existing line (table 1) cannot cover the whole variety of investment areas that are available, for example, on the US stock market. Many market participants are interested in rather narrow market segments, such as healthcare, alternative energy or shale oil. In this sense, index funds traded in Russia do not give investors free space.

The number of ETFs at Moscow Exchange PJSC is significantly lower than other developing countries, and a comparison with developed countries is simply incorrect. In this regard, the vector of development of ETF in Russia should be aimed at increasing the number and diversity of exchange-traded funds on the Russian stock exchange. More than 30 Russian indices can serve as the foundation for the formation of new funds, among which are the major stock indices (MICEX index, RTS index), sectoral, thematic indices, bond indices, regional indices. The most popular of these indices need to be included in the basis of exchange-traded funds that will track them. Cbonds bond indices may also be some interesting (there are more than 20 index families). As another option, you can take as a basis the indices of large foreign investment companies focused on the markets of developing countries. For example, about 600 different funds form their investment portfolio by copying the structure of the MSCI (Morgan Stanley Capital Index) Russia index.

Investing in exchange-traded funds needs to involve both private and institutional investors, such as non-state pension funds (non-state pension funds) and management companies, and they have such an opportunity.

As a result in the authors' opinion, it is necessary to do at the legislative level:

- a) create favorable conditions for the emergence and reliable functioning of exchange-traded funds in Russia;
- b) to ensure the attractiveness of the created Russian ETFs for foreign investors, for example, simultaneously listing securities on Moscow Exchange PJSC and on other foreign exchanges.

These activities will contribute not only to the development of index investment in Russia, but also to attract foreign capital into the Russian economy.

#### IV. CONCLUSIONS

Almost all segments of the investment market are represented in exchange-traded funds - from bonds to specific market instruments - derivatives, from various stock indices to foreign securities and commodities.

The main advantages that make exchange-traded funds attractive include:

- 1) private investors have access to such investments, they open up specific foreign assets - real estate, natural resources, derivatives, and other investment strategies that were previously provided individually by financial intermediaries, which were accompanied by a number of inconveniences and expensive services. Access to exchange-traded funds is very democratic - ETF shares are traded from one piece [13, p. 14];
- 2) low management fees (expense ratio), which can range from 0.03% to 0.67% depending on the exchange-traded fund. For comparison, the average commission of the 20 largest ETFs is 0.19%, while the average commission for open-end funds is about 0.66% [11, p. 28];
- 3) ETF shares are traded on exchanges as well as corporate issuers, with high liquidity;
- 4) in the shell of the exchange fund you can buy various types of assets: stocks, bonds, futures, gold, currency, etc. Thus, ETFs have standardized each class of assets so that they can now be traded as stocks [3]. This is a real breakthrough in the convenience of trading on the stock exchange, which, however, is fraught with certain risks. The investor must understand that the properties of the asset on which the ETF is issued may differ from the properties of the ETF itself;
- 5) due to the diversification of the securities portfolio of exchange-traded funds, even sophisticated investors prefer to buy ETFs in areas where they do not have sufficiently deep knowledge instead of shares of specific companies. Indices are designed in such a way that they are periodically rebalanced by changing the weights of companies and the composition of companies in the index, reflecting the performance of their activities. Due to this, exchange funds are always "in the game", evolving after the indices [11, p. 36];

6) unlike stocks (or other type of assets) from a basket of securities, trades in which can stop at foreign sites due to their closure before the next trading session, weekends and holidays, or for other reasons, exchange-traded funds themselves continue to function, reacting to news background from countries whose shares of issuers are included in the exchange fund. Thus, ETFs oriented towards foreign markets anticipate the movement of shares in these markets, giving traders valuable information for opening trades.

Exchange-traded funds, like many other financial instruments, are not ideal for investment. Being a tool for

passive investment, one should not expect superprofits from them, since following the index will give profitability at the market level. The ability to buy and sell ETF shares when the market changes is extremely attractive, however, real practice shows that if you enter the stock market and leave it at every short-term price fluctuation, the risks do not decrease, and there can only be more losses.

It should also be noted that the structure of the portfolio of some exchange-traded funds, which declare, as their strategy, to copy one or another stock index or market segment, in fact, do not quite correspond to the composition of the index, the dynamics of which it should repeat. For example, certain market segments can be represented by ETFs, whose portfolios actually contain only a relatively small number of highly liquid securities that are part of an index, and not the entire index as a whole. Such a limited choice of securities in a portfolio can contribute to the increase in the volatility of exchange-traded funds, which are actually less diversified than the indices that these funds, as investors assume, are oriented to. To avoid this, it is necessary to study the composition of the fund basket in detail and compare it with the composition of the index which this fund is oriented to [14].

The further development of the stock market in Russia is connected with the implementation of new financial instruments into circulation that meet the requirements of the digital economy and that have potential demand among investors. The authors associate the development of the market of exchange-traded funds with its subsequent influence on increasing the efficiency of the investment process in the whole country.

Exchange Funds (ETFs) provide an opportunity for a private investor not to perform expensive, time-consuming market research, they are transparent, have high liquidity, including due to the maintenance of quotations by exchange market makers. To trade them, simply open a normal brokerage account.

The weak development of this tool in our country allows us to assess this situation in different ways. On the one hand, we are lagging behind in the development of global trends in collective investment, and on the other hand, we have a high potential for development.

As a result of the study, the authors substantiated the conclusion about the prospects of investing in exchange-traded funds in the conditions of maintaining economic growth in the country.

## References

- [1] Abramov G.F., Sergaziyeva R.R. Comparative analysis of investing in Russian stocks: mutual funds or exchange-traded funds. Science vector of Togliatti State University. Series: Economics and Management. 2016. № 1 (24). Pp. 5-11.
- [2] Amvrosov V.A. The development of the global ETF market and its prospects. The horizons of the economy. 2018. No. 5 (45). PP. 139-144.
- [3] Exchange Fund - Exchange Traded Fund, ETF // MindSpace.ru.URL: <http://mindspace.ru/abcinvest/birzhevoj-fond-exchange-traded-funds-etf/> (appeal date: 2019-03-04).
- [4] Yremenko I.A., Sopolnik E.Yu., Salomatina A.I. Exchange funds and factors affecting their development. Alley of science. 2018. T. 1. № 10 (26). PP. 296-299.
- [5] Nosov S.M. Exchange Investment Funds (ETF), as an analogue of a mutual investment fund (UIF). In the compilation: Education, science, production VIII International Youth Forum. 2016 PP. 2856-2858.
- [6] Sergaziyeva R.R. Alternative investments in gold through exchange-traded funds. In the compilation: SCIENCE TODAY is a collection of

- scientific papers based on materials from an international scientific-practical conference: in 4 parts. Scientific Center "Dispute". 2015 Pp. 65-66.
- [7] Sopoeva I.A. Investments and innovations in promising exchange funds. Modern research and development. 2018. No. 10 (27). Pp. 1122-1124.
- [8] Troshin A.S., Nosov S.M. ETF exchange investment funds - as a tool to enhance the development of the real economy. Bulletin of Belgorod State Technological University. V.G. Shukhov. 2017. № 2. Pp. 255-259.
- [9] Tsvetkov S.V. Evaluation and comparison of the yield of mutual investment funds and exchange-traded investment funds in the Russian market. Questions of economics and management. 2018. No. 2 (13). Pp. 12-15.
- [10] Abner David J. The ETF handbook: how to value and trade exchange-traded funds [Text] / Second edition. / Hoboken, New Jersey: John Wiley & Sons, 2016. – 368 p. – ISBN 978-1119193906.
- [11] Balchunas Eric The institutional ETF toolbox. How institutions can understand and utilize the fast-growing world of ETFs [Text] / Hoboken, New Jersey: John Wiley & Sons, 2016. – 384 p. – ISBN 978-1119093862.
- [12] Madhavan Ananth N. Exchange-traded funds and the new dynamics of investing [Text] / Oxford University Press, 2016. – 288 p. – ISBN 978-0190279394.
- [13] Meziani A. Seddik Exchange-traded funds. Investment practices and tactical approaches [Text] / Palgrave Macmillan, 2016. – 406 p. – ASIN B01IJXFJLE.
- [14] Official site of the Central Bank of the Russian Federation / [Electronic resource]: access mode: <https://www.cbr.ru/> / (request date: 2019-03-05).
- [15] Moscow Exchange / [Electronic resource]: access mode: <https://www.moex.com/> / (request date: 2019-03-05).
- [16] Etfgi.com [Electronic resource] - access mode <https://etfgi.com/> (request date 2019-03-05).