

COMPARISON OF THE EFFICIENCY OF BALTIC INVESTMENT FUNDS

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Abstract

In order to invest in suitable funds, it is necessary to evaluate and compare the activities of different investment funds whose units are traded on the different stock exchanges. In order to achieve a better result, it is useful to evaluate and compare several similar countries located in a similar geographical, demographic, social and economic space. Therefore, investment funds operating in the Baltic States were selected for the study, selecting funds that prevail on the stock exchanges of the Baltic States (stock funds, bond funds, funds of funds).

The purpose of the study is to analyze the effectiveness and riskiness of the most common investment funds in the Baltic countries, in order to provide a potential investor with the reasonable information about investment opportunities in the Baltic stock exchanges. To achieve the goal, a systematic and comparative analysis of scientific literature, analysis and synthesis of statistical data, summarization, calculation, evaluation, comparison of performance indicators of investment funds are emphasized.

Keywords: investment funds, stock fund, bond fund, fund of fund, real estate fund, Sharpe rate.

INTRODUCTION

Recently, the investment funds (IF) sector has been growing significantly and plays a significant role in the global modern economy, especially in the field of finance. IF allows investors to invest their accumulated funds more safely and professionally than they would do without the help of such funds. [1], [2], [3], [10]

In order to invest in suitable funds, it is necessary to evaluate and compare the performance of different IFs in order to distinguish which of them have better performance and have better prospects in the financial markets. In order to achieve a better result, it is useful to evaluate and compare several similar countries located in a similar geographical, demographic, social and economic space. Therefore, IFs operating in the Baltic States were selected for the study, selecting funds that prevail on the stock exchanges of the Baltic States (stock funds, bond funds, funds of funds). The results of the research are analyzed by

comparing them according to individual Baltic countries and types of funds. For IF evaluation traditional indicators such as profitability (return) of IF units, level of the risk are chosen.

The object of the study: investment funds traded on the stock exchanges of the Baltic countries.

The purpose of the study is to analyze the effectiveness and riskiness of the most common investment funds in the Baltic countries, in order to provide a potential investor with the reasonable information about investment opportunities in the Baltic stock exchanges.

Research methods: systematic and comparative analysis of scientific literature, analysis and synthesis of statistical data, summarization, calculation, evaluation, comparison of performance indicators of investment funds. The profitability index, standard deviation and Sharpe ratio were used to evaluate the efficiency and riskiness of Baltic investment funds.

CONCEPT AND CLASIFICATION OF INVESTMENT FUNDS

Various definitions have been given by researchers to the concept of investment funds and its activities. Most of them describe investment funds rather similar, highlighting the main features like:

Investment funds are collective investment entities that function as a convenient investment instrument that can compete in financial markets and investment activities with alternative investments (for example, real estate investments), securities, or savings deposits in banks. [9], [11]

By Divakaran et al. [2] these are purpose-built investment instruments that aim for financial and economic returns. For this purpose, the fund manager invests in companies, sectors and regions, pooling commercial capital.

It is an investment tool that pools the funds of various investors and invests these funds in stocks, bonds, short-term money market instruments, other securities or assets, or some combination of these investments. [11].

These are collective investment schemes that are professionally managed to collect surplus funds from investors for investment in securities. [10]

It is an integral part of the financial system that forms the middle class of the country's population, ensuring the stability of capital markets and providing dynamism to the development of individual economies. [9]

It is an investment company that attracts funds from individuals and legal entities and invests in financial assets (shares, bonds) and tangible assets (real estate). [7],[8].

It is possible to combine various scientific approaches and present the following description: IFs are entities operating in the investment market, which seek investment returns through their means of activity – investment in securities – and are managed by professional managers.

The main objective of investing in mutual funds is to earn optimal returns by diversifying risk.

According to many scientists the most important advantages of IF activities are: professional management, diversification, convenience, liquidity, choice. The most important disadvantages of IF activity are: fees applied to the fund, dependence on a professional manager, difficulties in choosing the right fund. It can be said that the advantages outweigh the disadvantages, so various investors often choose IF as an optimal and reliable investment vehicle, from which one can expect a sustainable investment return and a relatively low investment risk in the stock market. The reliability of IFs is especially enhanced by the fact that they are managed by professional managers

There is a great variety of investment funds in the financial market, so they are classified according to certain characteristics.

According to the term of operation (operational structure), investment funds are grouped into open and closed type funds. [3]

According to the method of management, investment funds are classified into actively and passively managed funds [8][9].

Mentel, Brozyna & Szetela [6] indicate that investment funds can be differentiated according to selected criteria – one of them is nature of investments. The authors classify such funds as money market funds, debt funds, equity funds and balanced (mixed) funds according to the above criterion.

After summarizing the theoretical research conducted by scientists, the following classification of investment funds can be presented:

According operational structure:

- Open;
- Closed.

According methods of management:

- Actively managed fund;
- Passively managed fund.

Accordinging nature of investment:

- Stock funds;
- Bond funds;
- Money market funds;
- Real estate funds;
- Index funds;
- Fund of fund;
- Mixed funds.

METHODOLOGICAL PART OF THE STUDY

According to Mentel, Brożyna & Szetela [6] the analysis and evaluation of the results of operation of investment funds could be organized using two different criteria groups with the first being selectivity, and the second – market timing.

Selectivity permits one to conduct an analysis of the abilities of the management of the fund assets to skillfully pick companies for the portfolio based on information at hand [6]. In practice, the selection is based on the company's fundamental analysis, but at the same time, the results of this analysis must be combined taking into account the market assessment

Market timing is the ability to foresee phases of stock price rises and falls, and to appropriately react to these market changes by assuring appropriate proportions in the investment portfolio between risky and safe assets, so as to achieve a higher portfolio risk during an upturn, and a lower risk level on declining markets [6]. Market timing is based fully on the historic analysis of results of the broad market index.

Most of the researchers propose to use the following indicators for the analysis of investment funds and the evaluation of efficiency and risk: profitability of investments; the change in profitability over a certain period (traditionally, a year), evaluating the standard deviation of profit as a certain indicator of risk; interdependence of profitability of investments in certain types of assets [1],[4]. Also, scientists Kumar & Mathur [5], Miečinskienė & Uscinovič [7], Upadhyaya & Chhetri [11] propose to use the Sharpe indicator, Treynor indicator, Treynor-Mazuy model, Jensen alpha indicator, etc.

ANALYSIS AND COMPARISON OF INVESTMENT FUNDS OPERATING IN THE BALTIC COUNTRIES

Investment funds operating in the Baltic countries were selected for the study. These are funds listed on the Baltic stock exchanges. Data on these funds are provided by the NASDAQ Baltic exchange. Data on 13 investment funds are presented on the website of the Baltic Investment Fund Center. 11 investment funds were selected for the study because their operating period fell within the limits set for the empirical study (years 2018-2022). 3 stock funds (2 from Lithuania, 1 from Latvia), 5 bond funds (1 from Lithuania, 4 from Latvia), 2 funds of funds (both from Latvia) and 1 real estate fund (from Estonia) were selected for empirical research. Thus, the sample of this research is 11 investment funds whose units are traded on the stock exchanges of the Baltic countries (1 table)

1 table. Characteristics of chose to the research investment funds whose units are traded on the stock exchanges of the Baltic countries

Name and abbreviation of the fund	Country	Currency of the fund	Investment object of the fund
Stock Funds			
CBL European Leaders Equity Fund (PXSBSEFR)	Latvia	Euro	European corporate shares
INVL Baltijos fondas (FINBALFV)	Lithuania	Euro	Shares of companies listed on the stock exchanges markets of the Baltic countries
OMX Baltic Benchmark Fund (OAMOBFFIL)	Lithuania	Euro	
Bonds Funds			
CBL Eastern European Bond Fund R Acc EUR (hedged) (PXSPASFR)	Latvia	Euro	Eastern European corporate debt securities
CBL Eastern European Bond Fund R Acc USD (PXSPAOFER)	Latvia	USA dollars	Fixed income securities of Eastern European issuers
CBL Global Emerging Markets Bond Fund R Acc EUR (hedged) (PXSGEMFR)	Latvia	Euro	Debt securities issued or guaranteed by central banks, credit institutions or commercial enterprises of governments and municipalities of developing countries
CBL Global Emerging Markets Bond Fund R Acc USD (PXSGEUFER)	Latvia	USA dollars	
INVL besivystančios Europos obligacijų subfondas (FINEEBFV)	Lithuania	Euro	According to credit analysis, the most promising emerging European government and corporate debt securities
Funds of funds			
CBL Optimal Opportunities Fund – EUR (PAMBSFER)	Latvia	Euro	Share certificates (units) of open-end investment funds registered in Latvia, other EU member states and OECD countries and their equivalent securities
CBL Prudent Opportunities Fund – EUR (PAMUSFER)	Latvia	Euro	
Real Estate Fund			
Baltic Horizon Fund (NHCBHFFT)	Estonia	Euro	Commercial real estate in Estonia, Latvia and Lithuania

Source: created by authors using NASDAQ Baltic (2023) data and annual reports of investment fund.

All unit values (million Euros) and annual profitability (%) of chosen investment funds traded on the Baltic stock exchanges were calculated for period 2018-2022 using NASDAQ Baltic (2023) data and annual reports of investment fund (2 table).

2 table. Unit value (million Euros) and annual profitability (%) of investment funds traded on the Baltic stock exchanges

Name of the fund	Ratio	2018	2019	2020	2021	2022
Stock Funds						
CBL European Leaders Equity Fund	Unit value	38,72	44,13	51,06	65,35	41,79
	Profitability	-16,32	13,97	15,70	27,99	-36,05
INVL Baltijos fondas	Unit value	34,9258	37,4405	36,8253	49,531	49,5541
	Profitability	-10,19	7,20	-1,64	34,50	0,05
OMX Baltic Benchmark Fund	Unit value	9,677	10,7228	11,4817	15,6711	13,3871
	Profitability	-10,51	10,81	7,08	36,49	-14,57
Bonds Funds						
CBL Eastern European Bond Fund R Acc EUR (hedged)	Unit value	18,01	19,26	19,52	19,52	14,88
	Profitability	-3,79	6,94	1,35	0,00	-23,77
CBL Eastern European Bond Fund R Acc USD	Unit value	24,21	26,68	27,55	27,76	21,85
	Profitability	-1,14	10,20	3,26	0,76	-21,29
CBL Global Emerging Markets Bond Fund R Acc EUR (hedged)	Unit value	10,90	11,51	11,78	11,68	9,66
	Profitability	-4,47	5,60	2,35	-0,85	-17,29
CBL Global Emerging Markets Bond Fund R Acc USD	Unit value	9,83	10,69	11,18	11,20	9,56
	Profitability	0,00	8,75	4,58	0,18	-14,64
INVL besivystančios Europos obligacijų subfondas	Unit value	39,2705	42,077	43,4841	43,1685	37,1962
	Profitability	-4,37	7,15	3,34	-0,73	-13,83
Funds of funds						
CBL Optimal Opportunities Fund – EUR	Unit value	10,06	11,27	12,25	13,03	10,49
	Profitability	-6,07	12,03	8,70	6,37	-19,49
CBL Prudent Opportunities Fund – EUR	Unit value	10,86	11,90	12,80	12,80	10,44
	Profitability	-5,32	9,58	7,56	0,00	-18,44
Real Estate Fund						
Baltic Horizon Fund	Unit value	1,3988	1,3451	1,1395	1,1082	1,1172
	Profitability	1,53	-3,84	-15,29	-2,75	0,81

Source: created by authors using NASDAQ Baltic (2023) data and annual reports of investment fund.

Both the profitability and the standard deviation represent only one aspect of the evaluation of the efficiency of the investment. For this reason, the Sharpe ratio must be determined in order to properly evaluate the investment. It reflects how effectively the investment fund's return

compensates for the risk assumed. Also, the Sharpe ratio allows us to judge whether the profitability of an investment exceeds the profitability of risk-free investments or is inferior to it. The Sharpe coefficients of investment funds traded on the Baltic stock exchanges are presented in Table 3.

3 table. Sharpe coefficients of investment funds traded on the Baltic stock exchanges

Name of the Fund	Average annual return for 2018-2022 period, %	Mean standard deviation (average variation), 2018-2022, %	Average Sharpe coefficient, 2018-2022
Stock Funds			
CBL European Leaders Equity Fund	1,06	19,33	-0,1604
INVL Baltijos fondas	5,98	11,35	0,1611
OMX Baltic Benchmark Fund	5,86	4,36	0,3922
Bonds Funds			
CBL Eastern European Bond Fund R Acc EUR (hedged)	-3,85	5,05	-1,5861
CBL Eastern European Bond Fund R Acc USD	-1,64	4,71	-1,2314
CBL Global Emerging Markets Bond Fund R Acc EUR (hedged)	-2,93	5,18	-1,3687
CBL Global Emerging Markets Bond Fund R Acc USD	-0,23	5,14	-0,8541
INVL besivystančios Europos obligacijų subfondas	-1,69	2,91	-2,0069
Funds of funds			
CBL Optimal Opportunities Fund – EUR	0,31	7,45	-0,5169
CBL Prudent Opportunities Fund – EUR	-1,32	5,59	-0,9803
Real Estate Fund			
Baltic Horizon Fund	-3,91	7,45	-0,8322

Source: created by authors using NASDAQ Baltic (2023) data and annual reports of investment fund and internet site market.ft.com (2023) data

When calculating the Sharpe ratio, the securities of the Governments of Lithuania, Latvia and Estonia are considered like risk-free investments, whose annual profitability during the analyzed period reached in Lithuania 4.15%¹, in Latvia – 4.16%² and in Estonia – 2.29%³. At the same time values of the Sharpe coefficients of analysed investment funds traded on the stock exchanges of the Baltic countries were negative during 2018-2022. This shows that a more reliable alternative for the investors, in the case of volatile financial market conditions, are the securities issued by the Government, which allow investors to get a higher investment return without risk. Such results were greatly influenced by the activity of investment funds during the pandemic period and the war in Ukraine. Also quit high energy prices, and high inflation (in

2022) significantly contributed to the level of riskiness of the funds and determined the negative values the Sharpe coefficients.

Only two investment funds have positive Sharpe ratio values. Both of them are from Lithuania – INVL Baltic Fund and OMX Baltic Benchmark Fund. OMX Baltic Benchmark Fund's Sharpe ratio value (0.3922) was the highest among all funds in 2018-2022. This shows that then investing in this stock fund, its level of risk is adequate for the potential profitability, which significantly exceeds the profitability of risk-free investments. The same can be said about the INVL Baltic Fund, whose value of the Sharpe ratio during 2018-2022 was positive (0.1611). Therefore, it was most convenient for investors to invest in Lithuanian stock funds during the years 2018-2022.

In summary, it can be said that the profitability of investment funds traded on the stock exchanges of the Baltic countries fell the most in 2018 and 2022, while in 2019-2021, many of them increased their profitability. Stock funds with a positive

¹ <http://www.worldgovernmentbonds.com/bond-historical-data/lithuania/5-years/>

² <http://www.worldgovernmentbonds.com/bond-historical-data/latvia/5-years/>

³ <https://www.ceicdata.com/en/estonia/long-term-interest-rates-oecd-member-annual/ee-yield-10-year-government-bonds>

average annual return during 2018-2022 performed the most profitably.

After comparing the return with the comparative index, it was found that Lithuanian investment fund managers had enough experience and abilities to follow the example of the index and make reliable investment decisions. Therefore, it was most beneficial for investors to invest in Lithuanian stock funds during 2018-2022. Although investing in stock funds is always more risky than other funds, the expected return can also be significantly higher. What was shown by the results of INVL Baltic Fund and OMX Baltic Benchmark Fund activities during the period 2018-2022.

CONCLUSION

During the last decade investment funds became much more popular and common tool for investment in all Baltic countries. As there are more advantages, like professional management, diversification, convenience, liquidity then disadvantages, like fees applied to the fund, dependence on a professional manager, difficulties in choosing the right fund many investors are investing to the funds.

After analysis and comparison of all eleven different investment funds traded during 2018-2022 years on the Baltic stock exchanges the most beneficial for investors are Lithuanian stock funds. Although investing in stock funds is always more risky than other funds, but the expected return can also be significantly higher. What was shown by the results of INVL Baltic Fund and OMX Baltic Benchmark Fund activities during the period 2018-2022.

REFERENCE

[1] Bangash, R., Hussain, A., & Azhar, M. H. (2018). Performance Evaluation of Mutual Funds: A Data Envelopment Analysis. *Global Social Sciences Review*, III(II), 212–236. [https://doi.org/10.31703/gssr.2018\(iii-ii\).14](https://doi.org/10.31703/gssr.2018(iii-ii).14)

[2] Divakaran, S., Halland, H., Lorenzato, G., Rose, P., & Sarmiento-Saher, S. (2022). Strategic Investment Funds: Establishment and Operations. In *Strategic Investment*

Funds: Establishment and Operations. The World Bank. <https://doi.org/10.1596/978-1-4648-1870-7>

[3] Jurevičienė, D., & Bapkauskaitė, G. (2014). Comprehensive evaluation of investment funds (in Lithuanian). *Business Systems & Economics*, 4(1), 64–77. <https://doi.org/10.13165/vse-14-4-1-06>

[4] Kuoatova, S. B. (2020). Problems in the Development of Investment Funds. *Journal of Ethics and Diversity in International Communication*, 1(6), 50–53. <http://openaccessjournals.eu/index.php/jedic/article/view/111/108>

[5] Kumar, S., & Mathur, M. (2020). Performance Evaluation of mutual fund: A Comparative Analysis of Diversified Top Ranked Equity Fund in India. *Psychology and Education*, 57(9), 3476–3479.

[6] Mentel, G., Brożyna, J., & Szetela, B. (2017). Evaluation of the effectiveness of investment fund deposits in Poland in a time of crisis. *Journal of International Studies*, 10(2), 46–60. <https://doi.org/10.14254/2071-8330.2017/10-2/3>

[7] Miečinskienė, A., & Uscinovič, V. (2020). Evaluation of investment funds according to their level of sustainability (in Lithuanian). Thematic Conference "Economy and Management" of the 23rd Lithuanian Young Scientists Conference "Science - The Future of Lithuania" (12th February 2020) Proceedings, 1–7 p. <https://doi.org/https://doi.org/10.3846/vvf.2020.038>

[8] Matanda, E. (2020). *Modern Financial Investment Management*. Cambridge Scholars Publishing.

[9] Plakys, M. (2011). Effectiveness of Investment funds market: Dissertation [Vilnius Gediminas Technical University]. <http://leidykla.vgtu.lt>

[10] Vyšniauskas, P., & Stasytytė, V. (2017). The analysis of mutual funds' performance in Lithuanian financial market. 5th International Scientific Conference Contemporary Issues in Business, Management and Education' 2017, May, 1–8. <https://doi.org/10.3846/cbme.2017.063>

[11] Upadhyaya, T. P., & Chhetri, S. (2019). Performance Base Empirical Analysis of Mutual Fund of Nepal. *Journal of Financial Risk Management*, 8(2), 43–54. <https://doi.org/10.4236/jfrm.2019.82004>

[12] Nasdaq Baltic. (2023). Baltijos fondu centras. https://nasdaqbaltic.com/statistics/lt/fund_center