Return on investment in REIT real estate funds

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Abstract. The article considers the shaping conditions of the diversified portfolio with abundance of REIT from various sectors of residential property, mortgage and mixed. Special focus will be on the choice of most attractive investment products with the “Return-Risk” Model offered by the authors. This model was tested on independent material, and the investment attractiveness results received were compared with other products such as common shares, exchange goods, money market, etc. The conclusion contains the data about the accumulated return which on average makes up 1.67%, and its dynamics allows to evaluate the optimal investment horizon.

A bunch of articles is devoted to return and risk exchange-traded investment funds (ETF and REIT). Some authors present them as high margin investment products, others oppose them [1]. REIT and ETF, as exchange-traded funds, invest a large part of assets in securities REIT from the market index or the associated derivative financial instruments.

One of the basic problems retarding rental housing market advancement is regulatory environment imperfection as well as lack of motivation and investment attraction facilities. The world practice has experience in finding solutions of this problem through the creation and operation of specialized
collective investment funds in rental housing, for instance REIT invests finance of shareholders in property diversified portfolio, purchases real estate and manages it or develop building; 16% of funds it only invests in residential property. Ready and work-in-progress objects combination as well as loan-based funding possibility provide the shareholders with optimal return [2].

REIT lives and functions as a segment of the world stock market with more than 7700 investment funds [3, P. 98]. According to Finam investment holding of March 2016 the ETF volume of assets accounted for 2.9 USD Trillion with the annual growth of 25% within the last 10 years. For the day the ETF volume of assets exceeded 4.4 USD Trillion. According to the analytical forecast of Goldman Sachs Investment Bank, a further assets growth up to 6 USD Trillion is expected. Today the stock investment funds (ETF) are viewed as high margin investment products by some authors. Brokerage offices are in the first place. Others are precisely the opposite [3, P. 9, 98, 107, 287]. Following the above mentioned, the authors set the task: based on fundamental principles of portfolio analysis [4, 5, 6, 7, 8, 9 10, 11, 12 and many more] to design the most attractive investment products and to develop the “Return-Risk” model [13], to battle-test it on independent material and to compare the findings of investment attractiveness with other products such as common shares, exchange goods, money market, etc.

Stock investment funds or ETF are shares and bonds representing certain fund indexes and market segments. Gerald and Marvin Appel [14, P. 63-65] mark that ETF are created by different companies (share investment fund groups, banks and other financial institutes) which manage them dividing them into shares placed at stock markets. In the present article the authors focused on return of 87 ETF instruments.

From the pattern on the learning sample data: 01.04.2013-31.12.2016 (Fig.1): Dx = 0.22; Rs; R² = 0.65 the following ETF leading instruments group was revealed: Euro Trust (ET); Canadian Dollar Trust (CDT); World Consumer Services Index (WCSI); S&P 500 Index Fund (S&PIF); MSCI Mexico Index Fund (MSCIMEXIF); Americas Consumer Services Index (ACSI); MSCI Malaysia Index Fund (MSCIMALIF).
The presented group falls into two subgroups: **DOWN** – Euro Trust, Canadian Dollar Trust, MSCI Mexico Index Fund and MSCI Malaysia Index Fund and **UP** – World Consumer Services Index, S&P 500 Index Fund and Americas Consumer Services Index. The offered division is explained by the fact that DOWN subgroup initially showed negative expected return on the training sequence (2013 – 2016), and UP subgroup showed positive expected return. The authors ex ante think it expedient to approve effectiveness of short positions sale (SELL) on the instruments from the DOWN subgroup and effectiveness of long positions (BUY) on UP subgroup. Table 1 displays the calculation data for the leading instruments group.

**Table 1.** Expected returns and risk level for the leading group of 01.01.2017.

| INSTRUMENTS   | Dx | Rs  | Dx/Rs |
|--------------|----|-----|-------|
| ET           | 0,5| 2,29| 0,22  |
| CDT          | 0,6| 2,5 | 0,24  |
| WCSI         | 0,7| 3,14| 0,22  |
| S&PIF        | 0,8| 2,93| 0,27  |
| MSCI MEXIF   | 0,9| 4,63| 0,19  |
| ACSI         | 1  | 3,33| 0,30  |
| MSCI MALIF   | 1,2| 6,12| 0,20  |
| MIN          | 0,50| 2,29| 0,19  |
| MAX          | 1,20| 6,12| 0,30  |
In Table 1 the return column \((Dx)\) for the DOWN subgroup instruments shows the modules of the expected returns. The second column displays the expected risk level \((Rs)\). The last two lines of Table 1 demonstrate the peak-to-peak swing of the corresponding criteria. Then via MS EXCEL “Data analysis” customization, “Correlation” menu, a complete correlation analysis of returns for the leading group was undertaken.

The attained results showed the close correlation of the following instruments of stock investment fund [15]: World Consumer Services Index MSCI, S&P 500 Index Fund and Americas Consumer Services Index. The close positive link testifies that it makes most sense to shape three subgroups of instruments with minimal internal linkage prior to construction of investment portfolio based on the listed instruments [16].

In the risk level the leading instruments group can be quite relatively subdivided into three subgroups: high risk aversion: \(\text{ET, CDT, ACSI, S&PIF, WCSI}\); average risk aversion: \(\text{MSCIMEXIF}\); low risk aversion: \(\text{MSCIMALIF}\). All the three indexes - World Consumer Services Index, S&P 500 Index Fund and Americas Consumer Services Index, which we placed into the high risk aversion subgroup, and under independent material evaluation showed the comparable in quality results of return growth.

Finally, we believe that there is no point in attempting to group these instruments in portfolios in the ordinary way, as initially their shaping principle itself supposes involving many multiple-use instruments, which enforces their diversification level sufficient for practice [17]. This is also proved by the results of the undertaken correlation analysis. The paired correlation coefficients between UP subgroup instruments, calculated for 2013 – 2016 data \((Q_1)\), take on a value at least 0.870.

The “Return-Risk” Model practical approval for ETF. UP and DOWN subgroups were analyzed. In DOWN subgroup: within the timespan in focus, it is understood that the investor in order to make profit will only open the short positions. The primarily shaped portfolio with equal scales of four leaders was approved on the verification part \((Q_2)\) of the historical selection from 01.01.2017 till 31.03.2018, i.e. the operative quality of the synthesized model was tested on the “fresh” data. The composition of the leading group was not revised within the whole investment horizon, which means fresh information, the results of technical and fundamental analyses were not included, and moreover, all further estimations were performed exclusively of commission. It means that verification and validation of the leading subgroup were conducted in the toughest environment. The procedure itself included consecutive estimation of return for one month (January 2017), for two months (January-February 2017), for three months,… for
twenty-two months (January 2017-March 2018). Therefore, they were auto-incremental estimations.

In the DOWN subgroup the validation results of the synthesized model show that the initial guess about potential opportunity of effective investment operations with assets which showed negative return, was not proved. In future a newly shaped investment portfolio has to include only those assets which in the past demonstrated positive average return on the learning selection (similar to the winner portfolio [12, P. 168-169, 18, 19]).

In the UP subgroup with the following instruments: World Consumer Services Index, S&P 500 Index Fund and Americas Consumer Services Index, the following results were obtained (Table 2, Fig.2). The model was tested within 15 months, and only in three of them it showed losses. All the three instruments under consideration showed on independent material practically equal accumulated returns (from 24.04% to 26.12%). The average monthly return amounted to 1.67%. The curve dynamics of the accumulated return permits the value of optimal investment horizon – 13 months.

**Table 2.** The model verification results on independent material (%).

| DATE         | WCSI | S&PIF | ACSI | Average accumul. Dx | Average Dx |
|--------------|------|-------|------|---------------------|------------|
| January 2017 | 2.76 | 1.10  | 3.11 | 2.32                | 2.32       |
| February 2017| 4.61 | 5.12  | 5.33 | 5.02                | 2.70       |
| March 2017   | 6.42 | 4.75  | 6.81 | 5.99                | 0.97       |
| April 2017   | 9.62 | 5.83  | 9.63 | 8.36                | 2.37       |
| May 2017     | 11.84| 7.31  | 10.87| 10.01               | 1.65       |
| June 2017    | 9.95 | 7.50  | 9.02 | 8.82                | -1.19      |
| July 2017    | 12.10| 9.74  | 10.96| 10.93               | 2.11       |
| August 2017  | 10.29| 9.98  | 8.85 | 9.71                | -1.23      |
| September 2017| 11.10| 11.69| 9.72 | 10.84               | 1.13       |
| October 2017 | 11.86| 14.30| 10.10| 12.09               | 1.25       |
| November 2017| 16.75| 17.87| 16.13| 16.92               | 4.83       |
| December 2017| 19.78| 18.74| 19.05| 19.19               | 2.27       |
| January 2018 | 28.26| 25.48| 29.20| 27.65               | 8.46       |
| February 2018| 23.27| 20.72| 23.47| 22.48               | -5.17      |
| March 2018   | 24.97| 24.04| 26.12| 25.04               | 2.56       |

The model was tested within 15 months, and only in three of them it showed losses. Thus, if the financial results for each month for all the three instruments are considered as transaction results, the ratio of the profitable
deals to the losing deals constitutes 15:1. All the three considered instruments showed on independent material practically equal accumulated returns (from 24.04% to 26.12%). The average return made up 1.67% per month. The curve dynamics of the accumulated return allows the value of optimal investment horizon – 13 months.

The undertaken comparative study from the “Return-Risk” model by the return-risk ratio (in decreasing order) permitted ranging of the considered investment trends in the following order: US Stock Market $Dx/Rs = 0.39$; Russia’s Stock Market: $Dx/Rs = 0.33$. The other trends showed lower values in the return-risk ratio.

![Figure 2. Accumulations and average return dynamics.](image)

**Resume**

The DOWN subgroup analysis showed that the initial guess about potential opportunity of effective investment operations with assets with negative return, is not effective and a newly shaped investment portfolio has to include only those assets which in the past demonstrated positive average return. The research was conducted under adversity, as the leading group composition was not revised during the entire investment period, the new data as well as the results of the technical and fundamental research were ignored, and, be-
sides that, all the estimations were done without regard to commission, the calculations were auto-incremental.

In the UP subgroup the model was testified during 15 months, and only in three of them it showed losses. All the three instruments in focus showed on independent material practically equal accumulated returns (from 24.04% to 26.12%). The accumulated return curve dynamics allows the value of optimal investment horizon – 13 months.

From the obtained results appears the close correlation between such instruments of the stock investment fund as World Consumer Services Index MSCI, S&P 500 Index Fund and Americas Consumer Services Index. The close positive connection proves that the investment portfolio has to conclude the financial instruments from the leading group, taking into account the three subgroups of instruments with minimal internal linkage. As in Russia REIT is not represented in their pure form, the problem of their functioning, creating of the mechanisms of their attractiveness for private and professional investors, as well as shaping of the funds’ incomes and the return-risk ratio are subject to further studies.

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