KNOWLEDGE IMPACT ON INVESTMENT ACTIVITY RESULTS

Dubinskas Petras Petras, лектор, petras@tiscali.it
Mecejiene Gitana Petras, лектор, g.mecejiene@gmail.com
Вильнюсская коллегия, Литва

Abstract: the article deals with the hypothesis, which states that there is a relationship between financial knowledge and the return on investment. During the research performance correlation, regression and comparative analysis were carried out and the research results were provided.

Keywords: return on investment, financial instruments, share, market value, financial knowledge, logical.

Capital market participants and its theorists are leading active discussions when trying to identify the factors determining the investment success. What determines the investment success? According to the efficient market hypothesis, the investment success is more or less determined by the coincidence factor, since prices of financial instruments (e.g., shares) are subject to random walks [3, p. 49]. However, significant decline of the capital market and price bubbles that emerge at least once per decade raise concern whether the efficient market hypothesis can explain these changes and the reasons of investment results [1, p. 16]. The aforementioned factors led to the emergence of the theory of behavioural finance based on the ideas of Kahneman and Tversky (psychologists) that state that investment results are determined by characteristic traits of an investor and various psychological factors rather than coincidences and rational decisions [4, p. 237]. In fact, the investor's knowledge should have an important impact on the investment results, since decisions are frequently made considering the accumulated knowledge, i.e., choices are made out of several alternatives. This is key statement of our hypothesis.

The research objective is to evaluate the relationship between logical and financial knowledge and investment results. To implement this objective the following tasks were set up: a) to specify the methodology aimed at determining the relationship between the knowledge and investment results; b) to evaluate the relationship between the knowledge and investment results through the application of correlation and regression analysis.

There were interrogated 56 respondents of the Faculty of Economics of Vilniaus kolegija/University of Applied Sciences and the final year students in the Finance Field of Study of the International Business School at Vilnius University.

Each respondent was asked to mention shares of three enterprises, which, according to them, should increase in the upcoming month. Furthermore, they were asked to point out which percentage of their investment budget they would allocate to each enterprise. At the beginning of investment and 30 days later the market value of the investment portfolio was calculated. The return on investment was evaluated as well. Respondents had also to answer 10 logical questions and 10 questions on finance.

After the questionnaire was completed, it was evident that the average of correct answers to logical questions was 4, 23 points out of 10. Therefore, respondents' rational and logical thinking can be assessed as average. However, the average of correct answers to the questions on finance was 1, 73. It's evident that the knowledge related to the investment area is rather poor.

15 respondents out of 56 (the survey participants) did not specify any shares, which according to them should increase in the upcoming month, i.e., in March 2014. The aforementioned respondents were excluded from participation in the survey, since they failed to form an investment portfolio and it was impossible to evaluate the result of their investment activity. The average return on the investment portfolio of the remaining respondents that covered the period from March 1, 2014 to March 31, 2014 was negative, i.e., –2, 31 percent. The best result achieved by a student was + 10.00 percent, the worst – 12.57 percent. The student with the best result gained 13 points out of 23, whereas the average of the total respondents was 6.55 points. However, the holder of the worst result demonstrated the knowledge, which exceeded the average of the total respondents (gained 8 points).

The correlation between the return on investment portfolio and logical knowledge was 0.21, whereas with financial knowledge was lower, that is, 0.15. The correlation between the return on investment and the total number of points (logical reasoning test + financial knowledge) is considered poor (0.23).

To sum up, it should be noted that this correlation didn't prove that the knowledge has an impact on the investment success.

In the second research phase the linear regression model was created. It is as follows:

$$\widehat{R_p} = -0{,}0457 + 0{,}00401x_1 + 0{,}003069x_2 \tag{1}$$

Since the determination coefficient is 0.0569, it's evident that there is no linear relationship between the investment results and logical and financial knowledge of respondents. That is to say, the knowledge has no direct impact on the investment success. Model F– statistics is 1.14 and it doesn't fall into the critical area (critical value is 2.85). This confirms the fact that the chosen independent criteria are statistically insignificant. When evaluating statistical significance of separate independent variables it was found out that p–meanings of independent variables (0.2445 and 0.4853) are far much higher than the significance level (0.05), which enables us to draw conclusion that the chosen independent variables are statistically insignificant.

The aforementioned results could be obtained due to several observations, the errors of which were removed from the common error average, that is, zero; therefore, some attempts were made to transform the model by eliminating three values that are relatively retreated from the average and including pseudo–variables into the model (p_1, p_2, p_3). Therefore, the model would look like this:

$$R_p = -0{,}0394 + 0{,}0028x_1 + 0{,}0037x_2 - 0{,}1118p_1 - 0{,}1015p_2 + 0{,}1091p_3 \tag{2}$$

In that case, the determination coefficient increases by 0.58; while independent variables (logical and financial knowledge) remain statistically insignificant (p– meanings are 0.2658 and 0.2229 accordingly).

Since financial knowledge of respondents was considered poor, we can compare their investment result to the common market result. It's likely that the majority of market participants have more practical experience and theoretical investment knowledge than the interrogated respondents; therefore, their results should be higher than those of the interrogated students of the Finance Field of Study. That is to say, it is not likely that students will overtake the market.

Considering the fact that most respondents have chosen to invest their shares in Lithuanian, American and Japanese companies, their results will be compared to the index return of OMX, Vilnius, S&P 500 and NIKKEI 225. Index return from March 1, 2014 to March 31, 2014 was as follows:
OMX Vilnius: –1.42 percent

S&P: 500+0.69 percent

NASDAQ: –2.53 percent

NIKKEI 225: –0.09 percent

The average return on investment portfolio was – 2.31 percent. This result is relatively low compared to the market average (except for NASDAQ); however, it does not make us consider that students are worse investors than professional participants of the market. Furthermore, around 25 percent of students (10 out of 41) demonstrated higher results compared to the market participants' results, though their financial knowledge was quite poor (on average 2.6 points out of 10).

Conclusions

Although it is supposed that theoretical financial and investment knowledge is key factor determining the investment success, the research results didn't prove that the aforesaid knowledge is directly linked to the achieved investment results. Neither correlation, nor regression analysis confirmed the statement that logical and financial knowledge determine the investment results.

Most respondents demonstrated merely an average logical reasoning and poor understanding of financial and investment concepts. However, the results of their investment portfolios were much lower compared to the market participants' results, while 25 percent of respondents gained far higher results compared to the market participants' results.

Bearing in mind the fact that regressive analysis considered financial knowledge as statistically insignificant variables with regard to the investment results, and the fact that students with poor financial knowledge achieved almost the same or even higher results compared to the market participants, we could state that this hypothesis should be rejected due to the existing positive relationship between logical and financial knowledge and investment results.

These findings reveal the fact that investment results can be determined by coincidence rather than the acquired financial knowledge and professional expertise.

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