Risk, Profitability and Investment on the European Capital Market

Gabriela Munteanu[1+] and Nicoleta Vasilcovschi [2]

[1,2] "Andrei Saguna" University, Constanta Romania

Abstract. The risk and profitability on the capital market represent two mandatory elements that any company must know in the moment of starting a business or extending it on European and global level. The analysis from this article encompasses the presentation of the restrictive hypotheses that determines the existence of an efficient market, the estimation methods of the profitability and risk, the evaluation of the investors' attitude towards risk, as also the evaluation of the stocks and bonds' risk and profitability.

Keywords: Risk, Profitability, Investments, Capital Market.

1. Introduction

The current organization of the elaboration process of an investment strategy on the capital market and deciding the investment is based on the election of an optimal investment method, to correspond in the best way to the investor's objectives and expectations. The investment analysis, whose fundamental aspect is represented by the knowledge of concrete and current information, implies the evaluation of the quantitative and qualitative factors of one portfolio, of the optimal moments to sell and buy the financial assets that build it, as also the efficiency of the capital market flows-function.

In a notionally perfect market, the financial resources would be directed to the most competitive entities, that would attract lucrative low cost capital, and the investors would obtain the best flow, with the lowest risks associated to their investments.

The redeployment of the capitals available in the economy and financing the most profitable investment projects do not depend only on the issuers' performances, but also on the quality of the financial an non-financial information available about them and on the market capacity to deliver relevant information in due course to all participants, according to the principle of transparency and information symmetry.

Therefore the risk and profitability on the European capital market are two elements that the investors will take account of in order to penetrate new market segments. The current situation of the companies listed on the capital market can be observed by the fundamental analysis.

2. Methods of Determining the Risk and Profitability, the Evaluation of the Investors' Attitude Towards Risk

In relation to the financial theories, the European market can be considered efficient if the following restrictive hypotheses are simultaneously met:

1) the rationality of the operators behaviour on the capital market, who intend to (by anticipating) maximise the utility function of their total wealth

2) the investments consistency, that facilitates the negotiations and conclusion of the transactions and grants the market liquidity

3) the markets contingency, that allows an optimal deployment of the resources in the economy, a very good diversification of risks and therefore a very good performance of the economic system

4) the random variations of the stock market flows of the titles, respectively the consecutive modifications of the titles, they are independent between them and present the same probability order;

5) the uniform anticipations of the prices realised by the investors (information symmetry), that determines a dispersion of the stock market flows according to the normal law

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[+] Corresponding author. Tel. + 40 722 680 345.
 E-mail address: Gabrielamunteanu@andreisaguna.ro

6) the existence of the equilibrium interest, that involves the possibility to give and to use loans in any amounts with a no risk interest

7) the absence of the fiscal and transaction costs

It is impossible to realise all these hypotheses in practice, but it can be determined which is the correlation between the perfect market and the financial reality. This correlation determines various efficiency forms of the financial market. Therefore, in a summarised way the market efficiency takes three main shapes: operational, organisational and informational efficiency that is based on the competition between economical agents and on the arbitrage of the possible profits.

The operational efficiency is estimated in relation to the hypotheses of rational behaviour and uniform estimations of the investors, which lead to an over speculation on the behaviour of the other investors. The organisational or functional efficiency applies to respecting the hypotheses regarding the durability, the markets' contingency, the existence of the no risk interest and the absence of the fiscal and transaction costs.

3. The Informational Efficiency at the European Capital Level

The informational efficiency at the European capital level refers to the manner of fast transmitting, using and integration in the stock market flows of the fundamental information concerning the intrinsic value of the titles listed (the historical evolution of the stock market flows, information available publicly regarding the financial situation and the economical perspective of the issuant company), privileged information (available only for the insiders: managers, stockholders). Minding the information categories available and the speed of integrating this information in the flows forecasts, Eugene Fama determined three forms of efficiency: weak, semi-strong and strong-form.

The researchers proved by some empirical studies that the financial markets of the world have at least one weak efficiency, many of these proving even semi-strong efficiency. In the case of the weak efficiency markets, practically there is no correlation between the intrinsic value forecasted by the investors and the stock market price (the market value) of that title, as a consequence of the informational inefficiencies. On the contrary, on the markets with strong efficiency, the intrinsic value of the title is very close to the stock market flow, the differences being simply casual. In a notionally perfect market, the intrinsic value equals the market value, so there is no possibility to gain profits higher than the average ones on the market, and the estimations of the analysts about the value of the companies listed are practically useless as a consequence of the very fast integration in the stock market flow of the titles.

The specialists consider that, in informational terms, the developed capital markets are characterized at the most by a semi-strong efficiency. This way, on these markets, the stocks are being correctly evaluated and their stock-market price reacts very fast to the new information, going up after positive news and going down after negative news. The margins of profit or loss registered by the investors are low comparing to the inefficient markets, still there are enough anomalies that allow making stock-market speculations and obtaining fabulous returns.

There are two ways of estimating the profitability and risk in random conditions of environment:

1) To consider the past a "mirror" of the future. It is made a mean from the multitude of profitabilities previously registered in similar investments. This central trend has the biggest chance to be registered also in the future. Considering that in the future the exploitation conditions stay unchanged (or do change but insignificantly), we can agree without mistake that also the standard deviation of the future profitability towards the central trend will be the same (or in any way very close) of the one previously registered.

The two dimensions of the previous performance, the average and standard deviation, will form pertinent estimates for assessing the profitability and risk of the future investments (risks).

2) The second way is researched for investments not similar to the previous ones (new products, new markets) or for exploitation conditions modified substantially (new technologies, variations of the economic growth, of inflation, etc).

Buying a new transferable security (stock, bond, deposit certificate etc) represents an act of capital investment in a company from which profitability conformable to the risk taken by such investment it is expected.

The financial theory has formalised a complex objective of the transferable securities management, which is optimising the correlation between profitability and risk in investing the financial capitals. This new concern is more and more necessary in the conditions of an enhanced validity of the transferable securities, in relation to the economical and financial phenomena, which determines a straight relation between profitability and risk. In other words, a big profitability comes along with a high risk and vice versa.

For example the capital development by buying some bonds in 4% interest, in real terms, realizes a mediocre profitability, but in the same time has a low risk. On the contrary, investing the same capital in buying some stocks in fluctuant dividend, which previously has registered bigger values than the 4% ones, comes together with a much higher risk:

1) to make a return lower than 4% in future
2) insolvency
3) to lose 100% from the invested capital

The profitability for one stock is determined by two components of the return.

In such investment: the dividend and the market value growth (capital profit). The investor motivation to buy a stock, right after its issue, is the net dividend that this stock will bring. But any stock arouses the investor's interests also for another component of the profitability which is the market value growth, in relation to its acquisition price.

This last motivation is the one that determines a stock-market flow much less active of the stocks depending on the return deliverable by the stock-market speculation.

Therefore the profitability of one stock includes the net dividend at the end of the issuing period R_1 and the difference of flow between the future market price P_1 and acquisition price P_0 of such stock.

Hence, the profitability X and the profitability rate R can be determined as follows:

$$X = D_1 + P_1 - P_0$$

$$R = \frac{X}{P_0} = \frac{D_1 + P_1 - P_0}{P_0} \cdot 100\%$$

In the situations when the transferable securities' profitabilities for the previous periods P_1, P_2, P_T are known, the deliverable profitability is calculated as arithmetic mean of the previous profitability rates:

$$E(R) = \frac{R_1 + R_2 + \cdots + R_T}{T} = \frac{1}{T}\sum_{t=1}^{T} R_t$$

where

$R_1, R_2, ..., R_T$ are the annual rates of the effective profitability initiated previously

$t = 1, 2, ..., T$ is the year when the annual profitability rate was registered.

For measuring the risk as per its distribution towards the average, it is being resorted to the hypothesis of normality that proves to be furthest realistic. The distribution of the effective profitability deviations towards their average (observed on an adequate sample of rates) is symmetric and follows the normal distribution law. Under this hypothesis of normality, the most adequate risk measure is represented by the dispersion and the mean square deviation.

Dispersion (c^2) is the mean of the effective profitability deviations squares media made in the past towards the average profitability:

$$\sigma^2 = \frac{(R_1 - E(R_1))^2 + (R_2 - E(R_2))^2 + ... + (R_T - E(R_T))^2}{T - 1}$$

If we have at our disposal scenarios of the economical status with the associated probability distribution, then the dispersion is calculated with the formula:

$$\sigma^2 = \sum p(s)[r(s) - E(r)]^2$$

where

r (s) = the profitability rate for each scenario

p (s) = the probability of occurrence for each scenario.

The investor's attitude towards risk can be:

1) Neutral: when he accepts the implicit risk of the transferable securities with the condition of collecting a due risk premium;

2) Adverse: when he accepts only efficient transferable securities that have:
   - the highest profitability on the risk unit
   - the lowest risk on the deliverable profitability unit

3) Preferable: he accepts the transferable securities with a dispersion as big as possible (as high as possible volatility) being confident of the fact that he will have a higher profitability than average.

4. Conclusions

The profitability and risk concepts are complementary and, in terms of investment, involve both an asset, and a portfolio or the overall capital market. Therefore, the modern economical theory has formalised a complex objective of the investments management that is optimising the risk – profitability correlation, by using a system of indicators, indexes and methods of statistical analysis.

The risk of an investment represents the possibility of occurrence of the profitability deviations towards the average one expected as a consequence of the unauthorised variation of the economical and financial phenomena that determines it. In relation to the frequency of these deviations and to their more or less simultaneous distribution on one side, and on the other side to the average, the risk size can be anticipated.

The knowledge of these elements helps us to evaluate the advantages of an investment on the European capital market.

5. References

[1]   Bottazzi, L, Hellmann, T, *The changing face of the European Venture Capital Industry: Facts and analysis,* European Journal of Private Equity, 2004.

[2]   Cooper, Ian, *Arithmetic versus Geometric Mean Estimators: Setting Discount Rates for Capital Budgeting,* in *European Financial Management* 2, 1996, pp. 157-167.

[3]   Munteanu, G, *Piaţa de capital din România: evoluţie, riscuri, perspective ("The Romanian capital market: evolution, risks, perspectives"),* Constanţa: *Andrei Şaguna Foundation Publisher,* 2008.

[4]   Suárez, José, Luis, *European Real Estate Markets,* New York: Palgrave Macmillan, 2009.

[5]   European Investment Bank, *Capital markets in PPP financing. Where we were and where are we going?* March 2010 Available at http://www.eib.org/epec/resources/epec-capital-markets.pdf.