PARTICULARITIES CONCERNING THE PROFITABILITY AND THE FINANCIAL INSTRUMENTS PORTFOLIO RISK

Valentina MINEA, Doctoral School "Valahia" University of Targoviste in the project PREDEX (POSDRU/CPP107/DMI1.5/S/77497), Romania, vali_minea@yahoo.com
Liliana MANEA (NEAGU), Doctoral School "Valahia" University of Targoviste in the project PREDEX (POSDRU/CPP107/DMI1.5/S/77497), Romania
Maria LUPU (BOTEZATU), Doctoral School "Valahia" University of Targoviste in the project PREDEX (POSDRU/CPP107/DMI1.5/S/77497), Romania

Abstract:

Over time, those who manage the portofolios of financial instruments have dealt with changes from a reglementation, market and technology point of view. The mass capital has increased as a following of the new economy's flows and because of the important additional values from the stock market which have registered record after record. All of these causes helped the portfolio management named also the management of financial assets to enter into a most favorable environment. The research method used for this article includes studies about current legislations, guides, manuals and other specialized domestic or international well known literature. The study combined and compared also the results with the practical day to day situations. The main purpose of our study was to analyze the way how the accounting doctrine made the inclusion for these concepts but also for updating our knowledge of the risks arising in the moment when the financial products are used.

Keywords: Financial instrument, portfolio, risk, investment, derivative, financial risk, transactions, accounting.

JEL Classification: G11

1. Content

It is important to know if the market on which the usage of the financial instruments is new and crude in order to know their evolution, usually in this situation the market influence is negative. In these conditions concepts and models appear with the decisional role of an optimum selection of the investment methods and the objectives and hopes of the investor must match properly.The profitability and risk of a portfolio made from different financial instruments remains an

essential problem in the way of administrating the portfolio. Thus, in the following, we'll try to detail the important aspects regarding profitability and risk which, in out opinion, needs to be known by the investor.

In the explanatory dictionary of the Romanian language, the quality of being lucrative implies a possibility of profit or net income. The risk of a portfolio highlights the possible instability of future profitability of the portfolio.The reason of a company in the market's economy is the profit which represents the skills of a company reflected through profitability. The analysis of profitability shows that at the end of the financial year accounting, in a brief form, the efficiency of the whole economical and financial company's activity. A management instrument which shows the past and the present of a company is the analysis of profitability. This helps the administrators to form, in a competitive environment, the strategic objectives of developing a company. The future cash-flows and the discount rates are the main variables which need to be evaluated in the moment when the profitability of an investment is estimated. Taking the structure of the costs, capital and inflation in consideration, the investment in a portfolio of financial instruments is risky in the moment when the profitability is minimal or negative. The risk being tied to the possibility of the existence of a smaller strategic than the one provided.

In order for the progressive evolution of the company, to have a diversified activity and gain profit, the objectives of analysis which are directed must be taken in consideration, unlike strategic and risk. Following opinions expressed by those who study economy and those who work in this system, we can consider that there is a convergence of these, in other words, the risk in business is normal, an obvious and inevitable element in the world of business. With its volatilization confusion, inefficiency may appear and at the same time leads to an unusual behavior of companies. The studies show that it happened in totalitarian systems, where the risk is very small or even inexistent, because the economy is directed by the administrative sources. The quote of stock and the dividend influence in a direct way the profitability of the financial title. The probability of some incomes of the one who emitted the dividend as well as the politics of its dividend leads to the possibility of estimating the dividend over a year. The quotation of a stock share is evaluated by the events in the stock market as well as the one made by the eminent. The estimation of the action's risk is made regarding the modification of its sources and the estimated profitability.

The objectives regarding the profitability which helps at quantifying the portfolio's performance are: creating income, increasing the capital and the

combination between income and capital increase. Regarding the objectives of the risk, these are by the level of the risk (minimum risk, medium risk, high risk and very high risk).

Profitability objectives:

1. Creating the income – the standard indicator for creating the incomes is P.E.R (which is the relationship between the action's price and the dividend per action) which helps realizing a constant course of dividend acquittal;
2. Increasing the capital – represents the moment when the investor wishes to increase the invested sum initially by increasing the price variation which is detected in some moments of the market;
3. Income – capital increase – This objective is the most used by the investors and represents a combination between creating income and increasing the capital by purchasing dividends and estimating the title's values held in the portfolio.

Risk objectives:

1. Low risk - is the objective of the investors who use the principle of initial capital conservation, meaning that they wish to have a stabile investment and accordingly a low efficiency by assuming a low risk (i.e. treasury bonds or pensions funds);
2. Medium risk **-** equilibrates the risk and the efficiency for the most part of the investors aiming to obtain more efficiency than the investment with low risk;
3. High risk **-** caracterises the investors with risk capital funds aiming to obtain the best efficeincy , as good as it gets, no matters the risks.This is the case of well prepared investors, with a fool inclination for risk , with long experience in the emerging markets, using them as alternative invetsments being also aware of the prices instability influences or the very start investments growing-up probability;
4. The highest risk - that situation wher the investor wants the highest efficency and accordingly assumes the highest risk. This is a charactherisitc for sofisticated investors who manage speculative portfolio containing derivates financial instruments or complex financial instruments.

A probability of remediating the financial indicators of profitability and risk is financing based by issues of shares. This carries a double purpose, on one side the insurance of the necessities of financing the firm and on the other side satisfying the profit of the shareholders who incest in new actions.

2. Measuring the profitability in distinct moments

If we refer to the profitability of an investment (especially actions), this can be defined by the objective of the investor, this object being the one of getting rich. Measuring the rentability of an investment in distinct moments, it is discontinuous and represents the rate of growth set by the investor between the initial moment and the final one of every elementary period of time. In our opinion, measuring distinct moments implies that that period of essential time is chosen so that no monetary flow can be emitted during the time period which is taken in consideration. From an empirical standpoint, we'll choose a period of months, calculated online for an intervalof reference. Regarding the monetary flows, these show at moment (t-1), or at moment t. If we have a dividend, this can be paid in the interval given by the journal. First of all, we can use the following formula:

$$R_t = \frac{C_t + Div_t}{C_{t-1}} - 1$$ where:

R_t= is the profitability at moment t;

Divt= is the dividend paid in the course of a reference period;

C_t= is the course at moment t.

It can be notices that if the dividend is paid at moment t, then this possibility of action is broken and cannot be taken into consideration in this case. Going further, we can give an example of an investor interested only in his business which he won't leave unproductive a few days or even months if he gives an annual yield. Measuring the profitability reflects the behavior of an active investor, so he will take into consideration a reinvestment of numeral fluxes. We can assume that adopting this reinvestment does not generate costs or taxes as the income does.

For the above the used formula is the following:

$$R_t = \frac{C_{xd} + D_t}{C_{t-1}} x \left[\frac{C_t}{C_{xd}} - 1 \right]$$

C_{xd}= is the first course of evaluation of dividends.

There are two ways to emit actions:

– actions emitted for selling, old shareholders or for agents who wish to buy rights of subscription with the purpose of raising the value of the social capital and the equity;

– actions emitted through the incorporation of reserves and then their qual splitting to the old shareholders with the old actions detained with the purpose of raising only the value of the social capital.

The effect which results from these operations is that of dilution (which is the diminuation of the action's value). Thus, the old shareholders can benefit from more actions which lead to the improvement of the financial situation of the firm as well as its image. The course variation during holding the shares is given by the profitability of an action. From this process, the shareholders will show interest during the course of actions and for the distribution of the profit based on dividends. This follows a balance between the own resources which help at developing the resources used for the wage money. A mistake in the approach is presenting the risk as being a normal thing, thus since forever the concept of risk has been an essential preoccupation for the investors.

In relative terms, the learning of a financial instrument, during the previous or future period is given by profitability. Thus in the calculation of the profitability we can identify two categories of rates, as are:

1. The retrospective rate of profitability (it represents the rate calculated based on a few datas registered regarding the collected interest, dividends and the courses of the financial titles, which are registered in statistical documents of the values stock): $\mathbf{R=\frac{P_1+D_1-P_0}{P_0}}$ where:

R= the rate of profitability;

P1= the course in which the title can be sold at moment t1;

P0= the course in which the title can be bought in moment t0 (the date of acquisition);

D1= the dividends or interests gained during the period of holding a title (primary financial instruments).

The calculus relation presented shows the following:

1. it doesn't matter the impact of the transaction costs and the increases of the stock;

2. another case (rarely met) is the cash in of the dividends exactly at the moment of selling an action;

3. last but not least the administration of the portfolio also needs to take into consideration the recovery of the spending resulted from the supply and process of the informations.

The course in which the title can be bough in moment t0 have the following relation: P0= $\frac{P_1+D_1}{1+R}$ from which results that P1+D1=P0(1+R)

The disadvantage of this kind of rate is the fact that it presents the behavior of the financial instruments from the past and the investor wishes these elements for the achievement of future investments. This disadvantage can be replaced by the date of the a priori profitability, which we shall further present in our research.

2. The rate of a priori profitability (it represents the calculated rate based on a few distributions of conditioned probability or conjunctural, in conditions of uncertainty specific of the financial instruments' market, associated to the dividends or savings and future courses of financial titles which thus become uncertain).

The formula for this rate is: **Rm=** $\sum_{i=1}^{n} ri \times \rho i$ where:

Rm= the medium profitability;

ri= the rate of profitability for every scenario;

ρi= the probabilities of scenarios taken into consideration;

i= the scenarios taken into consideration in estimating the profitability evolution;

n= the number of scenarios.

We shall continue our research with presenting the calculus relation, of the total lucrativeness of an action: **R=** $\frac{D}{P_0} + \frac{P_1-P_0}{P_0}$ where:

$\frac{D}{P_0}$ = the rate of renumeration through dividends;

$\frac{P_1-P_0}{P_0}$ = the relative rentability given by the increase of the stock flow.

In certain conditions there is the possibility that the relation previously presented cannot be applied for analysis and evaluation because the inflation factor appears. Thus the relation must be transformed in real rentability, made possible through the elimination of the inflation influence or through the deflation of the relation elements.

Fisher's relation is the one which the deflation is made as such:

(1 + R nominală) = (1 + R reală) x (1 + R inflației) where:

R nominală= rentability in nomal periods;

R reală= rentability in real periods;

R inflației = the rate of inflation.

From which also results the relation of rentability in real periods:

$$\mathbf{R = \frac{1+R_{nominali}}{1+R_{inflației}} - 1}$$

From those presented we can gather that in the portfolio's administration it's important for us to be prepared with **performance indicators** and not the performance instruments calculus. In order to obtain indicators with real results it needs to be known very well the field of financial instruments and a very precise analysis of the market's evolution needs to be made. The investors who wish to obtain a profit as big as possible from administrating their portfolios call for projects which meet these requirements although they are far from being easy approaches. The classic theory's hypotheses are (Stoica Victor, Negru Titel, Ionescu Eduard, 2006, p. 100):

1. Making the portfolio by the lucrativeness – risk criteria;
2. Reporting the market's portfolio, made reference point for all agents on the market represented by the passive administration of the portfolios which focus on making a portfolio that reflects the structure of the market's portfolio;
3. The structure of the portfolio is modified thanks to the appearance of new, relevant informations which are perceived identical by the investors.

3. The risks which the financial instruments portfolio is exposed to

Continuing our research, we shall present the dangers which the portfolios are exposed to and that is assuming some risks such as the investment risk. In a simple presentation, the risk "represents the level of uncertainty which accompanies the profit" (Nica Panaite, Iftimescu Aurelian, 2004, p. 171-172). Thusly, the investment in financial instruments is part of the resolution group in uncertainty conditions from which the following considerations arise (Micu Ghilic Bogdan, 2002, p. 139):

- dispersion and deviation are parameters with which the risks can be reduced;
- choosing the management and, respectively, assuming the risks depends only on the investor;

- instead of parameterization the uncertainty may be granted preferences consequences for events, defining fundamental objects election.

Here appears the notion of uncertainty which "consists in the partial or total admittance of the probability of realization of the possible results of an action" (Puiu Alexandru, 2007, p. 166). Factors with influence for the strategies adopted in the management of the portfolio (Stoica Victor, Negru Titel, Ionescu Eduard 2006, p. 105) are:

- *specific costs* – must be taken into consideration the costs of transaction, costs of information, costs of processing the information;
- *the specific level of informing* – every agent presents degree of informing, but there are investors who are considered disruptors, evaluating the titles in their own specific way;
- *the divisibility of the titles* – the opportunities of investing are not infinitely divisible which represents the opposite of the classic assumptions, the rated mobile values have the possibility of lowered divisibility due to a restriction in transaction– the operations of transacting are executed through packages of titles with a relatively high value. Those who enjoy the negligence of this problem are the agents who trade large quantities of titles;
- *the heterogeneity of rational behavior* – the differences between the available information, the investment horizons, the frequency of the interventions on the market of the different agents must be taken into consideration;
- *irrational behavior*, even if from the traditional point of view over the financial theory, this idea is a lie, a few aspects must be taken into consideration which cannot be named hypothesis of the profitability – risk relation, but are important as are the investment in the stock of a firm because the investor agrees with the finite merchandise. In statistical terms deviation (Vâlcu Vasilica, 2008, p. 211), the risk is evaluated through the method of the smallest squares which presents the following formula: $\sigma = \sqrt{\sigma^2}$ from which: $\sqrt{\sigma^2} = \sum_{i=1}^{n}(ri - \bar{I})^2 \, x \, \rho i$

σ = the deviation;

σ^2 = the dispertion of the rentability than average;

ri = profitability rates for every scenario;

$\bar{I}$ = average profitability;

ρ i = the probabilities for the appearance of scenarios taken into consideration;

i = the scenario taken into consideration in the estimation of the probability of the profitability evolution;

n = number of scenarios.

For the regression line we have formula no. 1: $r^t{}_i = \alpha_i + \beta_i r^t{}_p + \varepsilon_i^t$

where:

t – the term of which the variables ri and rp are measured;

d – the regression line;

$r^t{}_i$ – the efficency of the title i at the moment t;

α_i – the efficency of the title I for a nul rentability of the market. It overlaps with the section OA and constitutes the intersection of line C with the axis Oy;

$\varepsilon^t{}_i$ – perturbation variable which quantifies the influence of some specific factors of titles i, over its efficiency.

Point B represents the efficiency of the titles combines with the efficiency of the market at the moment t and ε_i^t evaluates the vertical deviation of line d (the moment in which the perturbation exists).

bi – the volatility coefficient of instrument i.

β este panta dreptei de regresie unde se formează un unghi cu axa ox şi are următoarea formulă cu nr. 2: $\beta_i = tg\ \hat{u} = \dfrac{r_i - \bar{r}_i}{r_p - \bar{r}_p}$

If we amplify the denominator and the summation of all the angles which form is effectuated, outlining the parallel lines with Ox, using values of the instrument, different from the efficiency (ri), we have formula no. 3, (Prisăcariu Maria, 1999, p. 128): $\beta_i = \dfrac{\sum (r_i - \bar{r}_i)(r_p - \bar{r}_p)}{\sum (r_p - \bar{r}_p)^2} = \dfrac{\mathrm{cov}(r_i, r_p)}{\sigma^2(r_p)}$

From the presented account relation results other formulas which we will present as such:

Formula no. 3 can be written on average and relation 4 results as such:

$$\bar{r}_i = \alpha_i + \beta_i \bar{r}_p + \bar{\varepsilon}_i$$

Further on we shall perform the decrease operation between formulas 3 and 4 and we shall square it, resulting in:

$$r_i - \bar{r}_i = \beta_i (r_p - \bar{r}_p) + (\varepsilon_i - \bar{\varepsilon}_i)$$

$$(r_i - \bar{r}_i)^2 = \beta^2 (r_p - \bar{r}_p)^2 + (\varepsilon_i - \bar{\varepsilon}_i)^2 + 2\beta_i (r_p - \bar{r}_p)(\varepsilon_i - \bar{\varepsilon}_i)$$

Therefore we get to:

$$\sigma_i^2 = \beta_i^2 \sigma_p^2 + \sigma_{\varepsilon_i}^2 + 2\beta_i cov(r_p, \varepsilon_i)$$

Because the relation between the specific perturbations of the instrument and the market are 0, then the last term is without value:

$$\sigma_i^2 = \beta_i^2 \sigma_p^2 + \sigma_{\varepsilon_i}^2$$

The last formula presents the unraveling of the total risk of the instrument (σ^2_i), in a systematic risk and the diversified risk ($\sigma^2_{\varepsilon i}$). The first risk, the systematic one which cannot be removed from the investor through variation, appears as the result between the volatility coefficient of the instrument and the modification of the stock index.

If we have a portfolio which constitutes through two actions, the total risk is calculated from Markowitz (Cristiana Doina Tudor, 2012, p. 23), as such:

$$\sigma_p = \sqrt{\sigma_p^2} = \sqrt{w_a^2 X \sigma_a^2 + w_b^2 X \sigma_a^2 + 2X w_a X w_b X Cov_{ab}} =$$

$$\sqrt{w_a^2 X \sigma_a^2 + (1 - w_a)^2 X \sigma_b^2 + 2X w_a X (1 - w_a) X Cov_{ab}} \text{ or}$$

$$\sigma_p = \sqrt{\sigma_p^2} = \sqrt{w_a^2 X \sigma_a^2 + (1 - w_a)^2 X \sigma_b^2 + 2X w_a X (1 - w_a) X \sigma_a X \sigma_b X \rho_{ab}}$$

The risk of the dangerous actions, which make the M portfolio is represented in CAPM through their covariance with the M portfolio. Thus the equation of risk – profitability for any risky action can be:

$$E(R_i) = R_f + \frac{R_M - R_i}{\sigma_M^2} \text{ x } Cov(i,M) = R_f + \frac{Cov(i,M)}{\sigma_M^2} \text{ x } (R_M - R_f)$$

The economical process runs in constant conditions and the average and the square average deviation represent famous statistical indicators. The theory of utility and the multi-objective decisions represent decisive instruments characteristic of incertitude, the random medium becoming problematic if the market on which the evolving financial instrument is young, the economical increases and decreases being important. In our opinion, an investor must take into consideration not only the notion of risk, but its structure as well, such as the systematic risk and the unsystematic risk.

The systematic risk is a market risk, it calculates through the beta coefficient and evaluates the way that the financial instruments act on the market, unable to be canceled through diversification, in economy it can be met as an aggregated risk and must not be confused with the systemic risk. Although this

risk can be canceled through diversification, we can say that an intervention in its composition can be made through increasing or decreasing the medium of the systematic risk.

The unsystematic risk can be canceled through diversification, practically being the opposite of the systematic risk and is specific for every financial instrument, thus this risk includes: the risk specific for every titles and the risk specific for the industrial branch (Vâlcu Vasilica, 2008, p. 215). Some investors anticipate an accentuated decrease of the market and wish to protect themselves against an important capital loss. They will turn to the portfolio insurance techniques. These are too part of the category of passive techniques of administration, because the investor, having defined at the beginning the rules of investment, doesn't modify them during the ownership of the portfolio, regardless of the later evolution of the market. The final performance of the portfolio can be known in advance for every final configuration of the market.

The simplest method of insuring the portfolio is known in the Anglo-American literature as the Tactical Asset Allocation. It consists in the automated readjusting of the portfolio's repartition between the monetary actions and the risky ones, by the market's evolution, without lowering under a certain level of profitability. The observation of the economical and stock cycles are constituted in signals regarding the comparative attractiveness and the riskiness of monetary actions and. This is a strategy of 'following' the market and is known under the name of trend follower. The insurance of the portfolio can be made a reality with the help of options. They are used by the funds with a guaranteed capital and allow the safe return of a part of the invested sum. Their use is attractive on a market with an accentuated volatile character, but it blocks the purchase of some significant gains when the market is in an increasing trend. The strategy for limiting risks, through allocating the funds between different types of investments (diversified on active classes) and the purchase of value titles released by different companies which activate in different sectors (the sector of diversification), or in other places. Framing all the actions in the same type of investment is a risky practice, diversification is considered a fundamental principle of healthy investment administration practices.

4. Conclusions

In order for the evolution of the company to be a productive one, to have a diversified activity and, last but not least, to get profit we must take into

consideration the objectives of analysis which are conducted towards differentiating the efficiency and the risks. Judging by the opinions stated by those who study economics and those who work in this branch, we can consider that there is a convergence between them and that is the fact making the risk in business as a normality, and after all an unavoidable element in the world of business.

The risks which must be accept when the value titles are traded are: the sacrifice of an immediate advantage or the absence of an immediate usage, in the exchange of some future advantages; the loss of an absolute and immediate advantage from the acquisition and the mastery of real goods or from the usage of a service against a future and uncertain advantage from the investment of value titles and the uncertainty over the value of a financial good which will be registered on a later date.With risks volatility, disorientation and inefficiency can be created and, at the same time, the risk can lead sometime to an unnatural behavior of the enterprises, as for example the studies shown that it has happened in a totalitarian economy, where the risk has been very low, even inexistent, because the economy is managed by the administrative resources. The quote of a stock action is evaluated based by the events on the stock market as well as the one created for the issuer. The risk's estimation of an action is made after the modification of its resources and the estimated profitability. The probability of some incomes of the one who has released the dividend, as well as the politics of dividends leads to the possibility of estimating the dividend after one year. A probability of remediation of the financial indicators: efficiency and risk, is financed on the basis of issuing an action, which has a double purpose, on being the insurance of the financing necessities of the firm's and, on the other hand, satisfying the need of profit of the shareholders who invest in new actions.

The derived financial instruments or the derivatives as they are also named have been created in order to protect against the inherent risks those who trade and to help them gain profit, but because they are complex instruments, there have been cases in which using them had negative consequences over the market and has lead to the apparition of a difficult problem such as the actual global financial crisis. It is important that these derived financial instruments are complex and don’t need to be used in excess because they assume some risks which we need to know very well before trading with them. Therefore, even though the economical crisis has caused numerous negative effects, it highlighted the existence of risks

helping the economical agents at improving the coverage and evading methods of risks including the market risk, the credit risk, the liquidity risk and the value risk.

References

1. Micu, G. B., (2002), Capital market strategies, Economical Publishing, Bucharest.
2. Prisacaru, M., (1999), Transactions in the stock markets and portfolio management, Corson Publishing, Iasi.
3. Nica, P., Iftimescu, A., (2004), Management. Concepts and Applications, Sedcom Libris Publishing, Iasi.
4. Puiu, A., (2007), Management. Analysis and comparative studies, Third Edition, Economic Independence Publishing, Pitesti.
5. Stoica, V., Negru, T., Ionescu, E., (2006), Financial markets, capital markets, portfolio management and insurance market, Romania of Tomorrow Foundation Publishing, Bucharest.
6. Tudor, C., Doina, T., (2012), Gestion de portefeuille et modélisation des séries temporelles: Théories et applications empiriques, Editions Publibook.
7. Valcu, V., (2008), Management accounting and financial instruments, Istros a Muzeului Brailei Publishing.