FINANCIAL ASSETS AND THEIR EFFICACY
(Activele financiare și eficacitatea lor)

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Abstract

The capital represents one of the development factors of the national economy. Considering its limitation, however, permanent efforts have been made, both in the theory and practice, to find new ways (instruments) to provide the capital needed for achieving the development goals of the corporations, and indirectly, of the national economy. Thus, various types of securities have emerged as a source of capital, on the one hand, and as an investment instrument, on the other, by which the corporations make fructification of their capital by investing in the other corporations, national and international – wide. Taking into account the complex nature of the securities, the capital fructification by investing in the certain security portfolio requires extensive analysis in order to determine optimal relation between return and risk, two major components in the process of analysis and estimation of the efficacy of such investments.

The specific character of such types of assets is not only a result of the existing various kinds of assets that are available to the investors, but also as a result of the fact that the analysis and estimate of the efficacy of such investment performs in portfolio context. So, when we talk for the financial assets (investments) we are considering the certain portfolio (set of certain types and number of securities).

Keywords: ● Financial assets ● Financial investments ● Efficiency at financial investments ● Return and risk ● Securities portfolio

Rezumat

Capitalul reprezintă unul dintre factorii dezvoltării economiei naționale. Luând în considerare faptul că este limitat, s-au facut totusi eforturi permanente , atât în teorie cât și în practică, pentru găsirea de noi modalități de a furniza capitalul necesar pentru îndeplinirea scopurilor de dezvoltare a corporațiilor, și indirect, a economiei naționale. Astfel, au apărut variate tipuri de bunuri de tezaur ca sursă de capital pe de o parte, și ca un instrument de investire pe de altă parte, prin intermediul cărori corporațiile fructifică propriul capital investind în alte corporații naționale sau internaționale.

Luând în considerare natura complexă a acestor titluri, fructificarea capitalului prin investirea în anumite portofoliu de titluri necesită analize extinse pentru a determina relația optimă dintre profit și risc, două componente majore în procesul analizei și estimarea eficienței acestor investiții.

Caracteristica specifică acestor tipuri de investiții nu reprezintă doar un rezultat al existenței varietelor tipuri de bunuri disponibile pentru investitori, dar este de asemenea un rezultat al faptului că analiza și estimarea eficienței acestor investiții se realizează în contextul portofoliului. Așadar, când vorbim de bunuri financiare (investiții) luăm în considerare respectivul portofoliu (set de anumite tipuri si număr de titluri)

Cuvinte cheie: ● Bunuri financiare ● Investiții financiare ● Eficiența investițiilor financiare ● Riscul recuperării ● Portofoliu de titluri.
Introduction

The integration of Republic of Macedonia into European and worldwide international community seeks a lot of changes that is necessary to be done. So, one of such changes presents, the need for greater and permanent development of the capital market. Such need is more stress in regard of the low degree of development of Macedonian economy until now.

In the developed world, along the usage of the capital by the internal sources and commercial credits by the banks for the longer period is established the practice to use another financial instrument as a source of capital: various types of securities (stocks, bonds, etc.), leasing, franchising and etc.

The benefit of the usage of such financial instruments is double. First it provides additional capital and second, it gives opportunity to entrance of the foreign capital into economy through portfolio investments, foreign direct investments, join venture etc., that able a lot of advantages for the economy.

Success of the development process of the capital market is not only determined by its institutional component, but also by the degree of the information of the investors (individual or institutional) for the alternative types of the capital sources from one side, and for the alternative ways of investments of the free cash flow from the other side, in order to realize the additional benefit. Relatively, the short period of existing the Macedonian stock exchange, not existing the investment analysts, domestic investment fund etc. presents other factors that influence the current trends on the capital market. So, Macedonian national economy has created the situation in which the development level of capital market doesn’t satisfy in accord to other countries in the region. This conclusion comes out from the data for the allocation of the free money in the national economy. Namely, according to the unofficial sources from 3 to 5 % from the free money in the national economy is invested in stocks, shares and insurance funds on one side, but on the other side 95 % of it is in the banking sector. For comparison, in the countries of Central and East Europe the tendency of the allocation is contrary to this. In these countries around 75 % of the free money is in deposit, while 25 % is allocated on the capital market in stocks, shares, bonds, investment, pension and insurance funds with tendency to increase to 50 % that is case in western European countries. Even in USA this percentage is greater.

So the subject of research in this article is to improve this situation, considering the securities above all.

1. Securities, their need and significance

The basic purpose of the individual and the corporation is their own growth and development that leads consequently to development of the national economy as well as of the whole society. The growth and development of the subjects are determined by numerous factors, but they can only realize throughout investments. But investments of oneself present complex category that need to be defined clearly and precisely. In the theory in the first time, the investments were defined only from the aspect of the process of creating the material goods. But, later this definition is widening, with the long financial investments that contain long-term credits and long–term securities issued by other subjects.

In the financial theory the securities have double character. From
one side they present sources to finance the investment activity, but for the other side appear as investment instrument or alternative to increase the capital regardless the type of the subject (physical or legal).

Talking for Macedonia, the need and significant of the securities is more stress considering the economic changes occurred in the last decade of the 20-th century in the countries of Southeast Europe. Also, such changes mean function of the capital market, that have required, require and will require permanent conceptualization of the capital market in each aspects: conceptualization of the legal regulative in this area, establishing investment (financial) instruments approved with their efficiency on the international capital market as well as implementation of the net of institutional subjects needed for the proper function of the capital market.

Also, in this direction the Macedonian Stock Exchange was in 1995 as an institution. At the beginning it worked as stock company on nonprofit base, but with the changes in the Law of securities in 2001 it has started to work as a profit company. As stock holders could be foreign and domestic legal and physical subjects, but the share of the single stock holder is limited to 10 % of the initial share capital of the Stock (the initial capital is 500.000 euros (1).

The investments present very complex category regardless of the type of investments-real or financial investments. Such complex character of the financial investments or investments in securities that are subject of a trade, first of all is result of existing the various kind and semi kind securities that distinguish among them about their profitability and riskness. Also it is necessary to mention that such type of investments above all present investment in portfolio context with one and only reason to decrease volatility and riskness of the investment. Namely, with combining the different types of securities in accord with relation between return and risk, attempts to maximize the return to the certain level of risk or to minimize the risk to the certain level of return.

2. The return and risk of the securities

With the appearance of the article “Portfolio Selection” by Harry Markowitz (2) in 1952 in the financial theory and practice and in these frames also in the area of investment theory has originated new era.

Before the appearance of the new concept, the decision for including certain type of security in the portfolio is brought on the base of its performances (return-risk) that were realized through the analysis of the financial working of the company that issued the certain security, analysis of its financial reports and dividend policy. But, contrary to such concept, with the appearance of the modern portfolio theory, the construction of the portfolio is based on the fact that including the certain security the portfolio it would be in accordance with the expected rate of return and the standard deviation of the whole portfolio. Namely, from the portfolio point of view, for the investors are not important movements of the separated securities, but the rate of return and risk in portfolio context. "Logically to this, the risk and return of the individual security should be analyzed in accordance with its certain influence to the risk and return of the portfolio in which it is contended". (3)

The portfolio return is calculated as the mean value in absolute or relative value. At the same time, the
mean value of return of the investment is calculated as arithmetic and geometric mean value. But in the practice and theory is often used the relative value of return (required rate of return) calculated as arithmetic mean value.

The expected portfolio rate of return \( E(R_{port}) \) presents weighted arithmetic mean of the expected rate of return of the separated assets in the portfolio (4), where as a weight appears the share of the separated assets in the total portfolio invested value. Mathematically it would be presented in this way:

\[
E(R_{port}) = \sum_{i=1}^{n} W_i E(R_i) \quad (1)
\]

- \( E(R_{port}) \) - expected portfolio rate of return;
- \( E(R_i) \) – expected rate of return of the separated securities;
- \( W_i \) - weigh of the separated securities in the portfolio;
- \( n \) - total number of assets (securities) in the portfolio.

So, it should be noticed that shares of separated assets present ratio from invested value in certain asset (security) and total value of portfolio, so that their total should be 1.

Considering the risk there are few alternative measures. The most popular measure for risk in the theory and practice presents the standard deviation (or variance) (5) as a statistical measure for dispersion of the rate of return around the expected value. In addition, how much its value is higher, the dispersion of the expected rates will be higher, too, that in same time it would be a higher volatility to realize the future returns.

Generally, diversification of portfolio bears lower risk for realization of the planed (expected) return. That resulting from the fact that the separated securities in certain portfolio are in internal correlation. So it would be possible to conclude that the portfolio riskness appears also as a function of the degree of correlation that exists among separated securities, that is measured with the correlation coefficient. The correlation coefficient \( r \) moves in rang from \(-1\) to \(+1\). (6) But, exciting of extreme cases \(+1\) or \(-1\) first of all are possible only in theoretical sense. Contrary, in the practice such coefficient has positive value, but less then \(+1\). For instance, for stocks, it moves in the range from \(+0.5\) to \(0.7\).

The standard deviation of portfolio is calculated according to this formula:

\[
\sigma_{port} = \sqrt{\sum_{i=1}^{n} w_i^2 \sigma_i^2 + \sum_{i=1}^{n} \sum_{j=1}^{n} w_i w_j Cov_{ij}} \quad (2)
\]

where:
- \( \sigma_{port} \) - standard deviation of portfolio;
- \( \sigma_i \) -standard deviation of security \( i \);
- \( Cov_{ij} \) - covariance of portfolio.

So, from the formula for the standard deviation of the portfolio it would be possible to come out the same conclusion, that for the calculation of the standard deviation of the portfolio is not enough to know only the standard deviations of the separated securities contended in the portfolio, but also the degree of their mutual connection, exactly the correlation coefficient \( r \). The influence of the correlation coefficient to portfolio riskness is contended thorough the covariance that calculates mathematically with the formula:

\[
Cov = r_{ij} \sigma_i \sigma_j \quad (3)
\]

where \( r_{ij} \) is a correlation coefficient between securities \( i \) and \( j \).
As it is possible to see from the equation, the covariance is determined by the value of the standard deviation of the separated securities contended in the portfolio and by the correlation coefficient that indicates the movement direction of the rates of return of the separated securities and the degree of the mutual determination or independence of the rates of return. Such determination available in the cases of height values of the standard deviation for the securities contended in the portfolio, because of the low value of the correlation coefficient, the portfolio riskness to be low, relatively.

In the financial theory there is a rule that the diversification, or increase the number of the securities in portfolio reduces the portfolio risk. But, from the point of investor’s economic logic comes out as a conclusion that every diversification is not the efficiency maximally, considering the degree of the mutual determination of the separated assets. The diversification with the positive value of the correlation degree, but which in the same time available as much as possible its lower value from +1 would be more economically efficiency. Consequently, comes out when investor planning the financial investments, should be taken in consideration own free money to allocate in different industries in the national economy, as well as outside of it, in order to achieve as much as possible lower value of the correlation coefficient.

Conclusion

From the individual point of view, the purpose of the financial investments (considering first of all securities) is to achieve profit, but from the aspect of the economy, the purpose is to permit greater mobilization of the free money either in national or world-wide. Namely, such instruments allow reallocation of the free money from the civil to real sector, sector which is a mover of the economy development. Considering that Republic of Macedonia is faced the problem of insufficient capital, it appears as a necessity for greater actualization and implementation of such instruments of the capital market. From one side it requires to structure the capital market, to implement the required legal regulation for its right function, but from other side it also needs greater information of the physical and legal subjects about the performance for such type of investment.

First of all, the entrance of the foreign capital in our economy has happened throughout the privatization process of the social and public enterprises (power supply, telecommunication, etc.) with buying greater or lower part of the capital of the existed enterprises. Unfortunately, in a very low part it’s happened as a result of form the new capacities so called greenfield investments for which the capital would be provided throughout issuing the certain type of security or share. From there also comes out the need to make greater efforts to attract the foreign portfolio investments, but in new capacities in the next period. Also, considering the capital provided for the corporations throughout issuing and selling the securities in our country in accordance to former practice and development level of the Macedonian capital market it would be possible to notice one and only type of securities – stocks. From here comes out the need for further development of capital market throughout the development and implementation of other financial instruments (corporative bonds, financial derivatives, etc.) that would be put in function of the corporations and social and economic community.
Endnotes

(1) The Stock Exchange consists by 20 stock holders: 8 brokerage houses, 8 banks, 1 insurance company and 3 private subjects.

(2) Harry Markowitz has established (has defined) the model of deciding in portfolio context for the first time in the financial theory. Widely for the basic assumptions of this model see Really K.F., Brown C.K.: “Investment analysis and portfolio management”, seventh edition, Harcourt College Publisher, 2002, p. 211.


(5) The rate of return of the separated assets is calculated as total of possible expected rate of return for certain asset and possibility for their realization:

\[ E(R_i) = \sum_{j=1}^{m} P_j R_j \]

\[-R_j \] - expected rate of return for j possible output;
\[-P_j \] - possibility for j output.

(6) The standard deviation and variance present as one measure of risk in accordance with that variance presents root of the standard deviation.

(7) When its value is –1, in that case come in consideration the securities that are in total negative correlation that would be mean that their rates of return move in the contrary directions in the certain economic terms. From here, forming of a portfolio with such correlation coefficient would be mean to form riskless portfolio, or portfolio with standard deviation \( \sigma_p = 0 \). But when it is +1 when exists total or perfect positive correlation, diversification of the portfolio would not be has any effect to the degree of the portfolio riskness, exactly the portfolio riskness will not be different from the riskness of the separated assets contend in it.

References