Investment function of the economic entities – Risks and opportunities

Article · May 2014

CITATIONS
0

READS
9

2 authors, including:

Vera Karadjova
University "St. Kliment Ohridski" - Bitola
12 PUBLICATIONS **1** CITATION

SEE PROFILE

Investment function of the economic entities –

Risks and opportunities

Vera B. Karadjova

Snežana Gj. Dičevska

Faculty of tourism and hospitality - Ohrid

Abstract

The latest economic crisis that has hit the world economy left more or less repercussions on almost all national economies. Economic policies are now faced with developing strategies to overcome consequences and to intensify economic development. The realization of the economic development has a multidimensional character and multiplicative effects. Investments are the key category in direction of overcoming the stagnation indicators in certain economy areas. They represent an economic category that converts free funds and excess cash (savings of households and firms) into tangible and intangible capital assets, that means investments are conversion of savings into equity funds. The need for investment requires differentiation of the real estate versus financial estate, first of all for understanding investments in financial instruments and effective diversification of the economic entities portfolio. Analysis of investments for its part necessarily requires reviewing of the ratio and correlation between the undertaken risk and the expected return on investments as one of the criteria for assessing the investments efficiency. Regardless of the form of long-term investments, there is a need for their planning and evaluation of the effects.

Having in mind different risk types arising from the economic entities investment function, this paper elaborate two most common subtypes including: the risk of investing in securities, and the risk of investing in real investment projects (corporate risk). This type of risk is the possibility or probability for any economic entity to suffer adverse material - financial effects due to changes in the prices of securities in its portfolio or because of depreciation on real projects that are invested. Various economic entities have different exposure to this risk kind, primarily due to: the type of the economic entity and the scope of its involvement in operations with securities and investments in projects, the role and the position of the entity on the financial markets; the portfolio quality and differentiation (government and municipal securities, securities or projects in more or less risky companies, etc.). Usually risks that make direct connection with portfolio risk are credit risk, liquidity risk and interest rate risk.

Key words: development, investment function, portfolio risk, securities, corporate risk, investment projects, financial markets

Introduction

Investments are economic category that free and excess cash, savings of households and firms turn into tangible and intangible capital goods. That is, investments are *conversion of savings into capital funds*. Instead of savings to be spent on current needs *today*, they are intended for production consumption, for construction of new capital goods of which is expected to get bigger effects in *the future* than it was invested in the past. So, the essence and meaning of investment is engaging the savings and other free resources of households and businesses to create new or to renew and expand existing capacities and objects. The basic principle is that sacrifice which is done today by investing some funds, in the future can not just be return the invested funds, but also to achieve earnings or profit.

So, savings (S) of income (Y), is the part that remains after meeting the personal and public consumption (P) which is converted to investment (I), (I=S). Accordingly, *investments are nothing else but savings which are transformed into working capital or fixed capital goods in a certain time period*.

The relationship between savings and investments, or the portion of income (Y) which turns into savings (Save), and savings (S) into investments (I) can be presented as follows:

Income (Y) - Savings (S)	Savings (S) - Investments (I)
Y=P+S	Y=P+I
P=Y-S	P=Y-I
S=Y-P	I=Y-P
I (Y-P **)=S (**Y-P)	

Y - Income; P - consumption; S - Savings; I - Investments

When analyzing the distribution of the elements of gross domestic product (GDP) will see that of all elements only savings not appear on the market, but are transformed into investments, and investments are converted into new capital funds. The bigger the GDP is, the bigger the savings are, thereby increasing the investments or investments in capital funds, in tangible and intangible goods. If that happens of course depends on the totality of the

economic system and the overall economic relations, of the household's interest to convert savings into investments and so on, which can positively affect the economic development. If there is a lack of domestic accumulation for investments, the solution can be find in borrowing from other countries that have excess of savings.

In conditions of market economy, the role and the influence of state on the economy is limited. The state *does not interfere directly* in the investments decisions of the managers, but seeks to influence *indirectly* and intermediary through the instruments of other policies. The state creates conditions for discretion decising and action of the economic entities, but by taking measures and instruments of economic policy seeks to indirectly influence the direction of private investments to the goals and objectives or priorities for development for which the state is interested.

In market conditions, when the economic entities themselves make the decision where to invest, they often require a persistent analysis projects with such a rate that the ROI will be higher than the interest rate which can get investing their funds in the bank or over interest rate they pay for if investing in this project need a bank loan. One of the basic analyzes that economists dealing with investment make is exactly the analysis of the *coefficient of investment efficiency*. Broadest understanding of the investments efficiency is based on their *general effects*. Investments encourage economic growth, employment, exports, consumption growth and so on. But efficiency is expressed *specifically* by specific ratios including: marginal ratio of investment efficiency and marginal capital coefficient.

Risks of investing in securities

Formation of a portfolio of securities of the economic entities have realized for different purposes and tasks, among which mostly for liquidity management and management with the excess of free funds, for the realization of interest income or capital gains, etc. To

determine an appropriate strategy for dealing with securities, allocation of funds and proper evaluation of the results of work with securities, the manager must previously quantify the objectives of the policy of the operations with securities.

In almost all developed financial systems and in the financial systems of countries in transition institutional investors (insurance companies, pension funds, mutual funds, investment funds, investment banks, etc.) and other economic entities form portfolio of securities as a form of investment of the temporarily free funds. With this feature though they realize socio - economic goals, they realise individual goals too, in the sense of increasing their profitability. A substantial part of the assets that are temporarily free, can be placed on the financial markets and the marketing of such funds subjects tend to make a profit in at least the amount of the average interest rate earned on the capital market. The placement of funds is directed in three main directions:[1]

- buying real estate or direct approval of mortgage and other loans;
- buying securities; and
- depositing cash in banks and other depository financial institutions.

The placements of the funds can be short-term (up to 12 months) and long term (over one year). The maturity structure of the placements is determined by a number of factors, primarily by the function and purpose of temporarily free funds, by the existing maturity structure of the placements, by the requirement to maintain liquidity in the future and by the need to maintain and increase profitability. The types of securities in which the funds can be invested in short or long term are different and have different risk and return for the investors, and the selection of those which will enter into the portfolio is determined by several elements. Finding the own needs and financial possibilities manager needs to decide for

[1] D-r Jelena Kocovic & D-r Predrag Sulejic, *Insurance*, Belgrade, 2002, pp. 200

securities that will best meet the needs of the economic entity. In this regard, among numerous criteria that can be used can be specified:

- Risk of payment of interest and principal (credit risk);
- Interest rate risk (the risk of changes in market interest rates);
- Risk of maintaining the purchasing power of the investment (inflation risk);
- Liquidity risk, and
- Returns that can be derived from the security.

The risk that the purchaser of the securities took on in the sense that the debtor is unable to pay the interest and principal (*credit risk*) in different securities is different and depends mostly on the fact who is the issuer of the relevant security. Starting from government securities as non-risk or minimum risk and following the gradual classification performed by specialized institutions, investors need to assess the degree of risk of the respective securities and profitability of its purchase.

During the investing in securities other risk that has significant influence is the risk of a possible change in interest rates (*interest rate risk*). Having in mind that interest rates affect both the interest income in securities with variable income and on the market value of the same, the increase in interest rates on the money market and on the capital market at the same time realize a double impact: on the one hand that means growth in interest income from securities with variable yields, and on the other hand means declining of the market value of certain securities and vice versa.

Purchasing power of the investment of funds and its maintenance as a risk for investments is particularly expressed in terms of monetary instability and inflation (*inflation risk*). However, this risk is less in assets whose yields are expected to rise than in funds that bring fixed income.

Liquidity risk in the sense of possessing securities comprises in the unability to transfer them in cash on the financial market in the short term, so for such securities are said to be risky in terms of liquidity, i.e. marketability. Such securities either can not be sold or can be sold at a much lower price, because they have a high liquidity risk.

Risk - return ratio, effective portfolio

Taking into account the aforementioned risks, during making decision to invest in certain securities financial manager must make decisions that will take into account the amount of risk and the rate of return or profitability of the investmen. This means that the risk assessment does not imply recommendation to invest or not to invest in a particular security, but allows determining the price of securities in terms of risk and profitability that result from it. In fact, the risk assessment indicates the level of risk when investing in certain securities, by which the investor is facilitating understanding the quality of the borrower and making investment decision on the basis of much higher awareness. In addition, the fact that the expected yield must not be realised is indisputable. Accordingly, the risk can be presented as a possibility of deviation of the return on the investment in securities, in relation to expected returns on investment. Mathematical determination would mean that the risk of investing in securities is greater as much as the higher the standard deviation is and the possibility that deviation to happen. A simple graphical presentation of the previous findings can be presented as follows in the following figure. It shows the possibility of investing in two different financial instruments, securities A and securities B.[2]

2 James C. Van Horn, *Financial management*, Mate, Zagreb, 1992, pp.38

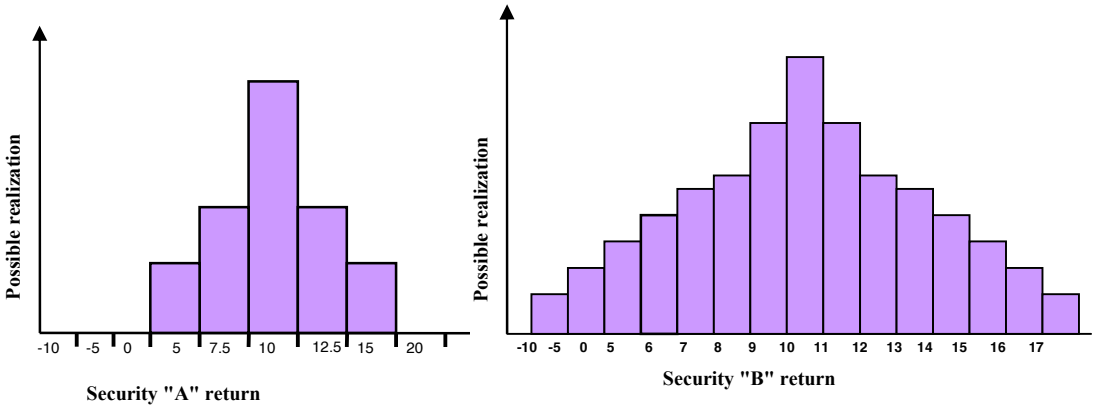

Figure 1. Investing in securities with different standard deviation [3]

What is obvious from the previous review is that the security "A" is more risky than security "B". Although rational investor is mainly guided by the risk and the possibility of a negative return on investment in a particular security, however in order to quantify the risk and to use the obtained result have to be taken into account the total deviation of the actual from the expected return. Through the example that follows possible expected annual returns of investing in certain specific security are assumed, and distribution of probabilities of their occurrence can be calculated by simple parameters, among which the most important are:[4]

- Expected return on investment in certain securities, which is average measure, and
- Standard deviation as a measure of the deviation of the realized return from the expected return.

Probability (P_i)	0,05	0,10	0,20	0,30	0,20	0,10	0,05
Possible outcome (expected return) (R_i)	-0,10	-0,02	0,04	0, 03	0,14	0,20	028

Table 1. Schedule of probabilities of expected annual returns on specific securities (hypothetical example)

Taking into account the aforementioned hypothetical data for a specific security (eg. a common share), the probability *P* and the possible outcome or expected return *R*, as well as

3 Siniša Ostojić, *Insurance and Risk Management*, Data Status, Belgrade, 2007, pp.104
4 Siniša Ostojić, *Insurance and Risk Management*, Data Status, Belgrade, 2007, pp.105

the total number of possible outcomes *n*, the expected or average value, i.e. return is calculated as the sum of all multiplications of the probability and the corresponding adequate return:

$$\overline{Ri} = \sum_{i=1}^{n} RixPi$$

or, according to assumed data in the table, expected return would be:

$$\overline{R} = \text{-0,10 x 0,05 – 0,02 x 0,10 + 0,04 x 0,20 + 0,03 x 0,30 +}$$

$$\text{0,14 x 0,20 + 0,20 x 0,10 + 0,28 x 0,05}$$

$$\overline{R} = 0{,}09 \qquad \text{i.e. } 9\%$$

The standard deviation of the expected value is calculated simply by calculating the variance, that is:

$$\sigma^2 = \sum_{i=1}^{n} Pix(Ri - \overline{R}i)^2$$

or, according to our hypothetical example,

$$\sigma^2 = 0{,}05 \text{ x } (-0{,}10 - 0{,}09)^2 + 0{,}10 \text{ x } (-0{,}02 - 0{,}09)^2 + 0{,}20 \text{ x } (0{,}04 - 0{,}09)^2 + 0{,}30 \text{ x } (0{,}03 -$$

$$0{,}09)^2 + 0{,}20 \text{ x } (0{,}14 - 0{,}09)^2 + 0{,}10 \text{ x } (0{,}20 - 0{,}09)^2 + 0{,}5 \text{ x } (0{,}28 - 0{,}09)^2$$

$$\sigma^2 = 0{,}00703$$

$$\sigma = \sqrt{\sigma^2}$$

$$\sigma = 8{,}38\%$$

This means that the extent or magnitude of the probability distribution of possible returns is a degree of uncertainty for the investor. Thereby, the probability distribution with low standard deviation from the expected value shows slight latitude and a high degree of certainty for achieving the specified event. But, the distribution of probalility with a high standard deviation in relation to expected value indicates a high degree of uncertainty regarding the potential return on that investment. But it should be noted that the represented

expected value is simple arithmetic average which is suitable as a measure of central tendency of the distribution of probabilities. In this case the average return is calculated as the product function of the return which is realized every year and its probability, and it should be used geometric average of the annual return, so the previous formula will be rewritten in:

$$\overline{R} = \sqrt[m]{(1+R_1)x(1+R_2)x(1+R_3).....(1+R_n)} \text{ -1}$$

where *m* is the total number of years and marks the m-th root, and *Ri* is the return on investment in a particular year. In this way we get an average compound growth rate of wealth from beginning to end, i.e. from 0-th time point up to *m* time point.[5]

In any case, previously reasoned simplification of investment in a separate security is not found in practice. No single investment can be perceive, that is assess independently of other assets. The investment activity of any economic entity and any particular investment must be observed through the effect of risk-return ratio on the overall portfolio of securities. Hence the need of "building", i.e. making efficient portfolio[6], that means constellation of securities which one part will increase the return on a given risk level and the other part will reduce the risk on a given return level. But in this case also must be found a suitable form for risk measurement, in other words for measurement of the deviation among the actual and the expected return on all securities that comprise the portfolio. Thus the expected (average) return on a portfolio that consists of two or more different securities can simply be calculated as follows:

$$k_p = \sum_{j=1}^{n} w_j x k_j$$

---

5 With regard to risk measurement, following papers can be identified:
Lawrence S. Ritter, William L. Silber, Gregory F. Udell, *Principles of Money, Banking and Financial Marders*, Addison Westley, New York, 1996, pp.219
Gordon J. Alexander, William F. Sharpe, Jeffery V. Bailey, *Fundamentals of Investments*, Prentice Hall, New York, 2000, pp.7-15

6 Lawrence J. Gitman, *Principles of Managerial Finance*, Addison Wesley, New York, 2003, pp.226

where k_j is the expected return on the j-th security, w_j represents the share of the total money amount invested in the purchase of such security, and n is the total number of securities in the portfolio. From the mathematical quantification of the expected return on the portfolio follows that that return is a weighted average of expected returns of the securities that comprise the portfolio.[7] However, the risk of the portfolio is not a simple weighted average of the standard deviations in relation to the expected returns of individual securities. This means that the risk of the portfolio does not depend solely on the riskiness of the securities that comprise the portfolio, but also depend on the mutual ratio of these securities. Rational investor can separate securities into couples which are mutually weakly dependent, and thereby reduce the relative risk. In fact, it is the essence of diversification which is a combination of several types of securities which reduces their relative risk.

Following is a simple calculation of the expected return and standard deviation of the probability distribution of possible returns for two securities. Doing that, the first hypothesis is that the amounts invested in the two securities are equal, which is 50% of the total investment is in the security A and 50% in the security B. Than we have to calculate the expected value (average value) and standard deviation from the expected return for the portfolio which is comprised of securities A and B. In columns (1) and (2) are represented the predicted returns on securities A and B for the next 5 years, based on using some of the methods of market analysis and forecasting. In the column (3) is calculated the return on the whole portfolio as a result of the anticipated return and 50% invested amount of money on both securities. Column (4) is the sum of the amount received. Following the calculation of the expected return of the portfolio of securities using the pattern:

$$\bar{k} = \sum_{j=1}^{n} k_j x P_j$$

[7] Lawrence J. Gitman, *Principles of Managerial Finance*, Addison Wesley, New York, 2003, pp.228

where: k_j is the return of j-th security, P_j is a probability of occurrence of j-th outcome, and n is a number of observed outcomes.

Average return is calculated by using the form:

$$\bar{k}_p = \frac{\sum_{j=1}^{n} k_j}{n},$$

and after that follows the calculation of the standard deviation from the expected returns of the portfolio of securities, based on the following formulas:

$$\sigma_k = \sqrt{\sum_{j=1}^{n} (k_j - \bar{k}_j)^2 x P_j} \qquad \text{or} \qquad \sigma_k = \sqrt{\frac{\sum_{j=1}^{n} (k_j - \bar{k})^2}{n-1}}$$

year	predicted return		Calculating the return on the portfolio	Expected return on portfolio (k_p)
	Security "A"	Security "B"		
	(1)	(2)	(3)	(4)
2013	6%	14%	(0,50x6%)+(0,50x14%)=	10%
2014	8%	12%	(0,50x8%)+(0,50x12%)=	10%
2015	10%	10%	(0,50x10%)+(0,50x10%)=	10%
2016	12%	8%	(0,50x12%)+(0,50x8%)=	10%
2017	14%	6%	(0,50x14%)+(0,50x6%)=	10%

Table 2. Expected return, expected value and standard deviation from the expected return on a portfolioof securities "A" and "B"
(Hypothetical example)

Based on these data, the expected value of the return on the portfolio is:

$$\bar{k}_p = \frac{\sum_{j=1}^{n} k_j}{n} = \frac{10\% + 10\% + 10\% + 10\% + 10\%}{5} = \frac{50}{5} = 10\%$$

A standard deviation from the expected return of the portfolio is:

$$\sigma_k = \sqrt{\frac{\sum_{j=1}^{n}(k_j - \bar{k})^2}{n-1}} =$$

$$\sqrt{\frac{(10\%-10\%)^2 + (10\%-10\%)^2 + (10\%-10\%)^2 + (10\%-10\%)^2 + (10\%-10\%)^2}{5-1}} =$$

$$\sigma_k = \sqrt{\frac{0\%}{4}} = 0\%$$

Zero value of the standard deviation from the expected return of the portfolio should not be surprising because in all the assumed years the anticipated expected return of the portfolio, i.e. its average value is exactly 10%. This means that every year have no deviation among the expected and real return, so it is quite understandable why the final result, that is the standard deviation from the expected return is 0%. The risk of the portfolio of securities is an essential part of the work of portfolio managers, so they must pay special attention on it.

Corporate risk

This risk kind of the economic entities can be treated as a subspecies of the former, i.e. risk of investing in securities if they invest in projects in other subjects or government projects through financial markets i.e. through the purchase of their securities. The basic points to which have be putten attention are *period of maturity*, *liquidity* and *risk*. Investors mostly prefer buying attractive securities (marketable securities) which allows them flexibility and leave space on hesitating which is very convenient on their investment performances.

Having in mind that this risk was already discussed in the previous section, here the emphasis should be placed on the possibility of investing in real investment projects and the risk occurs. Investment projects are invariably risky ventures and are such as a "victim" in the present for the effects for which there is a "hope" that will occur in the future. A future in turn

is full of uncertainties and insecurities and imposes dilemma to the investor on acceptance or rejection of the projects under consideration as alternatives. Thereby introducing abstraction that in this respects it is irrelevant the way that investment is realized (through the financial markets or outside of them). Relationship that is considered here concerns the correlation risk - return and length of time in which they are expected, considering the generally accepted rule that investment denar available at present is worth more than at any point in the future. The need to make the right decision in terms of investment of own funds or available funds provided by external sources in projects with lower risk and lower return or projects with higher risk and return, requires the need for identifycation and quantification of the risks that may arise. Therefore it is necessary to assess the effectiveness of the investment project for which purpose a whole methodology is developed within the investment management. The methodology includes economic - financial analysis of the investment project, projecting of the flows of expected returns, calculation of expected liquidity, and calculation of criteria by which cost-effectiveness is measured, and adjustment of the estimates of risks that can be expected to occur. The use of numerous investment criteria for making the investment decision, investment criteria that are based on the concept of the time value of money (the period of return on investment, average rate of return on investment, etc.) and criteria based on the concept of time preference of money (net present value of the project, profitability index of the project, internal rate of profitability of the project, etc.) are conducive to investment decisions, but do not take account of the riskiness of the projects evaluated. In their application usually starts from the position that all projects are with equal risk or risk free which not fit the reality. Therefore, it is necessary to be used methods based on the above, but which must contain the settings of risk and its incorporation into the decision model. It is about of application of mathematical methods and models for business decisions that belong to the categories of models for decision making under conditions of risk and

decision making under uncertainty. In this case, it can not be discussed about the application of so-called deterministic models of decision making or models of decision making under conditions of certainty. Decision making under conditions of risk is characterized by the fact that the decision maker know only the probabilities for different alternatives. The models on the decision in terms of risk must include also the calculation of risk in solving a problem. They are called *stochastic models* or *simulation models*. Models of decision making under uncertainty are models in which decision making takes place under conditions of uncertainty, because the decision maker has not the opportunity to determine the probability of occurrence of a certain event. These models mainly fall into the area of game theory.[8]

Projecting the costs and revenues of the project normally is based on assumptions and predictions that must not be effected and that must be considered as probable and not certain. The number of factors that can derail the expected cash flow in uncertain future contains a wide range of elements and basicly speaking the deviations of actual sizes are greater as longer is the projected operating period of the project and the bigger is the amount of investment. Ultimately, the failure of some large investment projects due to the abstraction of some of the risks can lead to illiquidity, insolvency or even bankruptcy of the economic subject. In particular we are talking here about so-called *risks of business* that can be considered as: risks of technical-technological progress, market risks and risks of changes in the structure of the cost. The analysis of such risks must include the factors that cause them where external factors reflect the impact of changes in system conditions and measures of economic policy and the investor can not influence them, but just need to diagnose them and adapt to them; and internal conditions that reflect the impact of changes in variables of the

8 Igor Brajdić, *Mathematical models and methods for business decision making*, Faculty for tourism and hotel management, Opatia, 2006, pp.8

project. These variables are under the direct control of the investor, but in any case it is a need for a great skills and knowledge in order to manage them.

The risk of investment in real investment projects can be determined as a possibility the project not be able to meet the criteria on profitability, in a sence of for example that the net present value of the project is not greater than zero (NPV > 0), the internal rate of cash flows is not greater than the cost of capital (ISP > k) and as uncertainty of cash flows caused by some degree of their variability. About the projects for which we are speaking here, i.e. in projects where the investment is in real goods the risk most often comes from operating flows, which in turn depend on a number of variables that make implications for sales volume, sales prices, operating costs and similar to them. Despite this, initial investments have a great degree of certainty; they are made in the present and are with a degree of reliability. Therefore the concept of facing the risk of investing in real investment projects spanning multiple approaches on adaptation of the projects to the risk. Anyway, the starting point is the present value of the project, but not the net present value, but the present value of cash flow because investments are undisputable and certain. Because of that, the risk analysis refers to the expected net inflows in the future. Thus the inclusion of risk means to the projected net returns to be seen as the hope on expected returns, rather than as a certain amount. The application of the concept of probability of occurrence of the *expected returns* means they have to be seen as a product of the projected volumes of the net – returns and estimated probability to occur. The calculation of the value of expected returns is not the end of this procedure, but it involves determining the standard deviation on individual projects in order to conclude which project is less risky, particularly if there are projects that exclude each other.

Although the basis of the procedures on adjustment of the projects to the risk means determining the present value of the project, and not the net present value, one of the options

for assessing the risk of the investment project is: (1) to calculate *breaking point of cash flows*, i.e. cash flows that will meet the criteria NPV > 0 and ISP > k; and (2) to assess the probability that the cash flows of the economic subject shall be equal or exceed the amount of the breaking point. In this, *the breaking point of the cash inflows can be defined as a level of cash flow that is required on a project to be considered as acceptable*, i.e.:

$$NPV = CF_t \text{ x } IV_{n,k\%} - I_o \geq 0.$$

or,

$$CF_t \geq \frac{Io}{IVn,k\%} = BP.$$

where: *CF- Cash Flows, BP- Breaking Point, I- Investment*

However, breaking point (BP) shows only the minimum level of cash flows that have to be achieved to meet the eligibility requirement of the investment project, but does not show the variability of cash flows. For this purpose can be used procedures for adaptation of the net revenues flows to the risk, and the need for adjustment of the discount factor, as the second element of which depends the volume of the present value of the project requires the need for application special procedures for adjusting the discount rate to the risk. In the two mentioned procedures can be used more available methods, and as often applied can be specified:

1) *Methods of adjustment of the net revenues flows to the risk*;

The determination of net inflows as the difference between the sales incomes and the outflows for the engaged factors mean projection of the individual elements of the cash flow and coverage of the certain levels of the key variables that determine their amounts. Therefore, adjustment of cash flows to the risk can be done by including of the possible changes in key variables that determine the amount of the variability of cash flows. Among

the multitude of theoretical methods that provide such an opportunity, as a practical most applicable, with solid analytical results in the investment decision can be stated:

- Method of sensitivity analysis;
- Method of scenario analysis, and
- Method of simulation analysis.

2) Method of adjusting the discount rate to the risk (adjusted rate);

Much practical approach to include risk into investment projects is adjusting the discount rate to the risk, because risk is involved by the volume of the discount rate and the discount factor is a function of the discount rate and discount period. Therefore, the basic setting of this method is that the risk is increasing function of time, a theorem which theoretically can not be fully defend in all cases of investment, but this method is widely used in practice, mainly because of its simplicity in implementation. The essence of this approach is that the discount rate is added by risk premium.

3) Other practical methods for quantification of the risk;

Risk as a phenomenon that follows the investment for a long time has been the subject of theoretical elaborations in the scope of business finance, financial management and investment management. In the frames of the mendioned disciplines, besides the mentioned basic methods, and in order to proper risk management, some other methods are developed. Among them can be distinguished:

- Method of decision tree analysis;
- Method of Monte Carlo simulation;
- Method of matrix game theory;
- Method of threshold ROI;
- Method of evaluation of the time-out of the project etc.

Conclusion

Investments directly affect economic growth, i.e. the growth of gross domestic product, so it is important in the investment policy to be taken care primarily for performance, despite attempts to provide the necessary scope and structure of investment required when there is so much sacrifice of current consumption. Investments are directly related to the development of the financial system, i.e. financial institutions, financial markets and financial instruments. The determination of the position and role of the financial system in the economy imposes the need for division of the financial versus real estate, as a parallel of the real and monetary categories. Despite repeated confrontations in modern macroeconomics in direction of the underlying sources for instability and its recommendations for balancing, it is clear that real factors are those that make "real" wealth, and monetary i.e. financial factors are their faithful companion and a form of aggregate expression. The material wellbeing determined by material capacities i.e. by the amount of products and services that can be produced depends primarily of *real estate* of the national economy, i.e. of: land, objects, machinery, equipment and knowledge that can be used to produce products and services. Despite such real property, there is *financial assets* i.e. securities in the broadest sense of the word. In fact it is a sheet of paper on which certain values are written, or even for electronic value records which conventional are valued due to certain reasons, but that does not directly determine the production capacity of the economy. The most essential form for determination of this property form is that it is a demand for the part of the income generated by real estate. The essential distinction between the real and financial assets is actually another phenomenal form of the difference between real and monetary categories, and is about that the ownership of financial assets is the criterion for allocation of revenues or income realized by the real estate. Another dimension of financial assets represents the delay of current consumption through the purchase of various securities.

This form of financial assets for its buyers, on the other hand, i.e. on the side of the sellers is an obligation (for interest, principal, dividends, etc.), so by netting of the two sides remains only the real estate as net wealth of the economy. Land, buildings, equipment, machinery and other manufacturing real goods are financed from the financial assets of the surplus entities in the economy.

The need for emphasis of the financial assets in the analysis is justified by a range of good reasons for that purpose, while must not lose sight of the fact that the success or failure of financial assets that are invested exclusively depends on the performance of the underlying real estate. In any case, the financial assets are inevitable element for the functioning of developed economies. This distinction actually makes the essence of portfolio creating by the individual or institutional investors. This is the initial step in the evaluation of individual securities and risk management on specific markets. Knowing the forms of financial assets, the mutual relation risk-return and successful valuation of financial assets is the initial step of decision-making in the process of investing. Investments in financial assets opens the opportunity for achieving real estate, and financial assets by its side and the markets on which it is traded exercise more important roles in the economy including: planning of consumption; risk allocation; separation of ownership from management. Planning of the cnsumption provides an opportunity for time "moving" of the consumption from periods in which entities spend less than they earn towards the periods when these trends are opposite set. The distribution of risk relates to its measurement at different investment options and choice of a combination that fits the propensity or aversion to risk. Separation of ownership from management of large companies as an opportunity arising from ownership of financial assets provides a stability to the companies that could not be achieved by one owner and dispersion of risk among numerous owners or creditors.

References:

Brajdić, I. (2006): *Mathematical models and methods for business decision making*, Opatia: Faculty for tourism and hotel management

Gordon, J. A., William, F. S., Jeffery, V. B. (2000): *Fundamentals of Investments*, New York: Prentice Hall

Karadjova, V. (2006): *Risk Management in Insurance*, Ohrid: Faculty of tourism and hospitality

Karadjova, V. (2012): *Principles of Risk Management*, Ohrid: Faculty of tourism and hospitality

Kocovic, J. & Sulejic, P. (2002): *Insurance*, Belgrade: Economic Faculty

Lawrence, J. G. (2003): *Principles of Managerial Finance*, New York: Addison Wesley

Lawrence, S. R., William, L. S., Gregory, F. U. (1996): *Principles of Money, Banking and Financial Marders*, New York: Addison Westley

Mishkin, S. F. (2006): *Monetary economy, banking and financial markets*, translation, Belgrade: Data Status

Mojsoski, V., Karadjova, V. (2002): *Applied economy, economic system and economic policy*, Ohrid: Faculty of tourism and hospitality

Ostojić, S. (2007): *Insurance and Risk Management*, Belgrade: Data Status

Van Horn, J. C. (1992): *Financial management*, Zagreb: Mate