

FINANCING THROUGH THE USE OF FIXED INCOME SECURITIES¹

Vera Karadjova

Faculty of tourism and hospitality, Ohrid
verakaradzo@yahoo.com

Snezana Dicevska

Faculty of tourism and hospitality, Ohrid
sdicevska@yahoo.com

ABSTRACT

Any financing of planned activities of any kind have a number of investment risks, where the key issue is the structure of the invested capital according to the criterion of ownership. The intent of this paper is to emphasize the financing modalities through the issuance of fixed-income securities (primarily bonds and derivative fixed income securities). By applying the effects of the financial leverage, the paper will explain the basic key arguments for and against financing through the issuance and sale of fixed income securities. The aspect considered in this paper is contrary to corporate risk, that is, the risk of investing in securities. The analysis of the mentioned subject will continue through consideration of the need and possibilities of the units of local self-government (LSGUs) in the Republic of Macedonia to borrow on the financial markets, which is an essential part of the paper. The necessity of finding ways for financing major investment projects is a major challenge for the local self-government units in the Republic of Macedonia. Although there is a legal framework and several initiatives, so far no municipality in Republic of Macedonia has issued municipality bonds. Through a comparative analysis of the region's experiences, on the example of municipality bonds will be analyzed the opportunities for financing infrastructure projects through the use of fixed income securities.

KEY WORDS: fixed income securities, financial leverage, investment risks, municipality bonds

¹Original scientific article

INTRODUCTION

Investments are the key category in direction of overcoming the stagnation indicators in certain economy areas. So, investments are essential for the economic growth and development and they represent the *conversion of savings into capital funds*. 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 cannot just 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*. But these conclusions refer to macroeconomic categories, and when it comes to individual investments, the key aspect that investors face is the sources of investments, i.e. from where to provide sufficient funds to finance the planned projects. This is particularly true for entities that do not have enough savings, that is, sufficient financial resources to invest in the planned activities, but have a good project and expectations for its financial effects, so they are focused on borrowing on the financial markets. One of the ways of borrowing, during which must be assumed also a developed financial structure is through the issuance and sale of fixed income securities (primarily bonds).

As for the investment decision (once the funds are provided), and in particular with regard to the analysis of the return on borrowed capital and the risks arising thereon (in particular the credit and default risk for the lender), the basic criterion is the effectiveness of the investment. In market conditions, when the economic entities make decision to invest, they often require a persistent project analysis with such a rate that the ROI will be higher than the interest rate they have to pay for the borrowed funds. Regarding the difference between the interest rate payable on borrowed funds and the current bank interest rate, the analysis includes the calculation of the financial leverage ratio, after which a decision can be made regarding the ownership structure of the funds invested and the decision for borrowing.

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 etc. But efficiency is expressed *specifically* by specific ratios including: marginal ratio of investment efficiency and marginal capital coefficient. Two most common risk types during the investment function are: the risk of investing in securities, and the risk of investing in real investment projects (corporate risk). We are talking here about the corporate risk and the need of appropriate return of investments, in order to handle with the costs associated with the borrowed funds. The undertaken risk and the expected return on investments is one of the criteria for assessing the investments efficiency.

This paper deals with the financing of the planned activities through the issuance of fixed income securities and all the risks and effects that result from that activity. In this context, the potential possibility of the units of local self-government (LSGUs) to finance their projects through the issuance and sale of municipal bonds is being worked out. Municipal bonds have more advantages over other means of borrowing, primarily due to the concurrent interest rate, the lower risks of investing in bonds and the exemption from paying personal income tax on interest income realized on the basis of having municipal bonds. At the same time, the issuance of municipal bonds increases the participation of the citizens in the LSGUs budgeting process and the selection of priorities for financing, as part of the municipality's investments in a certain period of time. In a situation where most of the municipalities in the Republic of Macedonia are faced with a lack of financial resources to carry out their responsibilities, this alternative way of financing can be a good way for the municipalities' development.

FINANCING THROUGH FIXED INCOME SECURITIES

Securities with fixed income are debt securities which for the issuer are debt (obligation) for repayment of the debt and a certain compensation for the borrowing (usually interest). For the buyer (the creditor) they carry a fixed income. Fixed income is a type of investing or budgeting style for which real return rates or periodic income is received at regular intervals at reasonably predictable levels. Fixed-income budgeters and investors are often one and the

same - typically retired individuals who rely on their investments to provide a regular, stable income stream. This demographic factor (which is not decisive and exceptional) to invest mainly in fixed-income investments occur in general because of the reliable returns they offer. But here we are talking about the issuer - the issuer of those securities, and not for those who invest in them. Thereby it should be borne in mind the differentiation between investments in real estate and investments in financial estate. The aspect considered here is the investment in real assets with all kinds of risks that should be taken into account (corporate risk, operational risk, country risk, inflation risk, credit risk, etc.).

Financing with securities is realized through two basic types of securities:

- Shares (Stocks), and
- Bonds.

There are also many other combinations of the previous ones. The types of securities in which the funds can be invested 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. Among numerous criteria that can be used can be specified:

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

Stocks, or shares of stock, represent an ownership interest in a corporation. Stocks pay dividends to the owners, but only if the corporation declares a dividend. Dividends are a distribution of a corporation's profits. Stocks are own capital and are not subject to discussion in this paper. Bonds are a form of long-term debt in which the issuing entity promises to pay the principal amount at a specific date. Bonds also pay interest to the bondholders. Generally, the bond contract requires that a fixed interest payment be made every six months. Every corporation has common stock. Some corporations issue preferred stock in addition to its common stock. Many corporations do not issue bonds. The stocks and bonds issued by the largest corporations are often traded on stock and bond exchanges. Stocks and bonds of smaller corporations are often held by investors and are never traded on an exchange.

There are several definitions of bonds and in all of them the basic characteristic is that they are debt securities:

- [1] A *bond* could be a formal debt instrument issued by a corporation or government and purchased by investors. This is the meaning when we say that a public utility issued or sold bonds to help finance a new power plant. Investors talk about investing in stocks and bonds.
- [2] A bond is a debt investment in which an investor loans money to an entity (typically corporate or governmental) which borrows the funds for a defined period of time at a variable or fixed interest rate. Bonds are used by companies, municipalities, states and sovereign governments to raise money and finance a variety of projects and activities. Owners of bonds are debt holders, or creditors, of the issuer.
- [3] A *bond* is also used to describe a guarantee of another person's obligation.

Bonds are commonly referred to as fixed income securities and are one of the three main generic asset classes, along with stocks (equities) and cash equivalents. Many corporate and government bonds are publicly traded on exchanges, while others are traded only over the counter (OTC). That practically means that when companies, governments, local governments or other entities need to raise money to finance new projects, maintain ongoing operations, or refinance other existing debts, they may issue bonds directly to investors instead of obtaining loans from a bank. The indebted entity (issuer) issues a bond that contractually states the interest rate (coupon) that will be paid and the time at which the loaned funds (bond principal) must be returned (maturity date). The issuance price of a bond is typically set at par, usually \$100 or \$1,000 as face value per individual bond. The actual market price of a bond depends on a number of factors including the credit quality of the issuer, the length of time until expiration, and the coupon rate compared to the general interest rate at the time. Because fixed-rate coupon bonds will pay the same percentage of its face value over time, the market price of the bond will fluctuate as that coupon becomes desirable or undesirable given prevailing interest rates at a given moment in time. For example if a bond is issued when prevailing interest rates are 5% at \$1,000 par value with a 5% annual coupon, it will generate \$50 of cash flows per year to the bondholder. The bondholder would be indifferent to purchasing the bond or saving the same money at the prevailing interest rate. If interest rates drop to 4%, the bond will continue paying out at 5%, making it a

more attractive option. Investors will purchase these bonds, bidding the price up to a premium until the effective rate on the bond equals 4%. On the other hand, if interest rates rise to 6%, the 5% coupon is no longer attractive and the bond price will decrease, selling at a discount until its effective rate is 6%. Because of this mechanism, bond prices move inversely with interest rates. Two basic features of a bond are credit quality and duration, and they are the principal determinants of a bond's interest rate. If the issuer has a poor credit rating, the risk of default is greater and these bonds will tend to trade a discount. Credit ratings are calculated and issued by credit rating agencies. Bond maturities can range from a day or less to more than 30 years. The longer the bond maturity, or duration is, the greater the chances of adverse effects are. Longer-dated bonds also tend to have lower liquidity. Because of these attributes, bonds with a longer time to maturity typically command a higher interest rate.

Having in mind Bonds issuers, there are three main categories of bonds:

- Corporate bonds, which are issued by companies;
- Municipal bonds, issued by states and municipalities. Municipal bonds can offer tax-free coupon income for residents of those municipalities; and
- Treasury bonds (more than 10 years to maturity), notes (1-10 years maturity) and bills (less than one year to maturity), and all those are collectively referred to as simply "Treasuries".

In addition of the paper, special attention will be given to municipal bonds and the possibility of issuing and using them for financing infrastructure projects with them, by the local self-government units in Macedonia.

RISKS OF ISSUING FIXED INCOME SECURITIES (FINANCIAL LEVERAGE)

The issuance and sale of securities to potential investors (buyers) is a complex process involving a number of risks. Here we are talking about the risks from the perspective of the issuer (seller) of the securities, especially securities with fixed income. Having in mind the complexity of the mentioned subject of elaboration and the inability to explain it in summary and in the paper of this type and scope, the basic types of risks with their basic characteristics will be listed.

Corporate risk can be treated as a subset of the risk of investing in securities, if it is invested in projects of other enterprises or in state projects through financial markets, i.e. through the purchase of their securities. The main points at which attention is paid are the *maturity*, *liquidity* and *risk*. Investors primarily prefer buying attractive securities (marketable securities), which give them flexibility and leave room for reasoning, which is very convenient for their investment performance. In the context of financing with the issuance of fixed-income securities, special emphasis should be placed on the possibility of investing in real investment projects and the risk arising therefrom. Investment projects, without exception, are risky ventures and as such are a "victim" in the present, for the effects that there is a "hope" that will happen in the future. And the future, in turn, is full of uncertainties and insecurities, and before the investor imposes a dilemma to accept or reject projects considered as alternatives. The relation discussed here is the correlation risk - income and the length of the time period in which they are expected, having in mind the generally accepted investment rule that a penny available in the present is worth more than at any point in the future. The need to make the right decision, in terms of investing own available funds or funds provided by external sources in projects with lower risk and lower income or in projects with higher risk and income imposes the need to identify and quantify the risks that can appear. Therefore, it is necessary to evaluate the effectiveness of the investment project, for which the whole methodology has been developed within the *Investment Management*. The methodology includes the economic and financial analysis of the investment project, projecting the flows of the expected incomes, the calculation of the expected liquidity, the calculation of criteria through which the profitability is measured and adjustment of the assessments to the risks that can be expected to occur. The application of the numerous investment criteria required for the adoption of the investment decision, both the investment criteria that are not based on the concept of time preference of money (return period of investments, average rate of return on investments, etc.) and criteria based on the concept of time preference of money (net present value of the project, project profitability index, internal rate of return on the project, etc.) are suitable for investment decision making, but do not take into account the riskiness of projects that are assessed. In their application we usually start from the position that all projects are of equal risk or that they are risk free, which does not correspond to reality. Therefore, methods based on the aforementioned have to be used, but they also have to contain the settings for risk and its incorporation in the

decision-making model. It is about applying mathematical methods and models for business decision-making that belong to the categories of decision models in terms of risk and decision-making under conditions of insecurity. In this case, it cannot be said about the application of the so-called *deterministic models*, i.e. models of decision-making in terms of certainty. Deciding in terms of certainty is characterized by the fact that the decision-maker knows only the probabilities for the individual alternatives. Models for decision-making in terms of risk within themselves must include risk calculation in solving a problem. They are so-called *stochastic models*, i.e. *models of simulation*. Models for decision making under uncertainty are models in which decision-making takes place under conditions of no determination, that is, uncertainty, because the decision-maker do not have the ability to determine the probability of occurrence of a particular event. These models are mainly in the field of *theory of games*.² Projecting the project costs and incomes normally is based on assumptions and predictions that do not have to be effected and which must be considered probable rather than certain. The number of factors that can alter the expected cash flow in the uncertain future contains a wide range of elements and basically deviations from the actual sizes are greater, the longer the projected project duration is, and the greater the amount of the invested funds is. Ultimately, the failure of some major investment projects due to the abstraction of some of the possible risks can lead to not liquidity, insolvency and even bankruptcy of the economic entity. Here, in particular, this refers to the so-called *business risks* that can be considered as: risks from technical and technological progress, market risks and risks of change in the cost structure. The analysis of such risks must also include the factors that cause them, whereof *external factors* reflecting the impact of changes in systemic conditions and economic policy measures and the investor can not influence them, but only needs to diagnose and adjusts to them; and *internal conditions* that reflect the impact of changes in variables in the project. These variables are under the direct control of the investor, but in any case a great deal of skills and knowledge is needed for them to be managed.

The risk of investments in real investment projects can be determined as an opportunity for a project to fail to meet the cost-effectiveness criteria, in the sense that the net present value of the project is not greater than zero ($NSV > 0$), that the internal rate of cash inflows is not greater than the cost of capital ($ISP >$

²Igor Brajdić, *Mathematical models and methods of business decision making*, Faculty for Tourism and Hotel Management in Opatia, 2006, pp.8

k) and as the uncertainty of cash inflows, caused by a certain degree of their variability. In the projects that we are talking about here, i.e. in investment projects in real assets (one must take into account the assumption that the investment funds are fully or partially borrowed), the risk is most often derived from operating inflows, which depend on a number of variables that have implications on the sales volume, the selling prices, operating costs, and more. On the contrary, initial investments are of a high degree of certainty, they are realized in the present and are with a high degree of certainty. Therefore, the concept of dealing with the risk of investing in real investment projects encompasses several approaches for adjusting the projects to the risk. In any case, it starts from the present value of the project, but not from the net present value, but from the current value of the cash flow, because the investments are known and certain. Therefore, the risk analysis refers to the expected net inflows in the future. The inclusion of risk means that the projected net flows are seen as hopes for expected incomes and not as certain sizes. The applying the concept of probability for the occurrence of *expected incomes* means that they are perceived as a product of the projected sizes of net incomes and the estimated probability of their occurring.

The calculation of the value of the expected incomes is not the end of such a procedure, but it also includes determining the standard deviation for the individual projects, in order to determine which project is less risky, especially if it is about projects that exclude each other.

Although the basis of the procedures for adjusting the projects to the risk means determining the present value of the project, and not the net present value, one of the possibilities for assessing the risk of the investment project is: (1) to calculate the ***breaking point*** of the *cash inflows*, i.e. the cash inflows that would meet the criteria $NPV > 0$ and $ISP > k$; and (2) *to estimate the probability* that the entity's cash inflows will be equal or will exceed the amount of the breakpoint. In addition, *the breaking point of cash inflows can be defined as the level of cash flow that is needed to make a project acceptable, i.e.:*

$$NPV = CI_t \times IV_{n,k\%} - I_0 \geq 0 \quad (1)$$

The process of finding the breakpoint covers:

$$CI_t \times IV_{n,k\%} - I_0 \geq 0 \quad (2)$$

$$CI_t \times IV_{n,k\%} \geq I_o$$

$$CI_t \geq \frac{I_o}{IV_{n,k\%}} = BP$$

However, the Breakpoint (BP) shows only the minimum level of cash inflows that needs to be made in order to meet the requirement for eligibility of an investment project. Cash inflows in terms of financing through issuance of securities should be sufficient at least to cover the costs of financing. However, the breaking point does not show the variability of cash inflows. For that purpose, procedures are used to adjust the flow of net inflows to risk, and the need to adjust the discount factor, as the second element on which the size of the project's current value depends, requires the application of the adjustment procedure of the discount rate to risk too. There are several methods available in one and in the other procedure and as commonly used can be stated:

- 1) *methods of adjusting the flow of net inflows to risk;*
- 2) *method of adjusting the discount rate to risk (accustomed rate);*
- 3) *other practical methods for quantification of risk.*

The assessment of the effectiveness of the project and the justification of financing through borrowing involves the elaboration of the so-called *financial risks* and to them associated financial leverage. According to one view –from the aspect of the consequences that they cause, almost all risks can be seen as financial risks, and according to another approach - from the point of view of the reasons that cause them, the field of financial risks is narrowing, while from the aspect of financial management *financial risks* are those that arise from the expenditures (costs) of financing due to the use of capital from external sources. Such a view at financial risks enables optimization of the ratio of own and other sources in the financing of business ventures. This analysis finds application in terms of establishing and changing the structure of the capital of the economic entities. Knowledge about the existence of the lever's influence in financial management is used as a means of managing the finances of the entity.³

If the financial structure changes in a sense of increasing the share of external capital under equal other conditions, appear a possibility to increase the pre-tax

³ Vera Karadjova, *Principles of Risk Management*, CNIR FTU Ohrid, pp. 115

profit to a greater extent than the increase in operating profit. On the other hand, the increase in the share of external capital and the level of leverage means an increase in the financial risk of the business entity, which can cause an increase in the cost of debt, i.e. the price of the external capital, with the opposite effect on the profit before taxation. According to this logic, one of the many important tasks of the financial manager is to seek out and find the most suitable measure of using the mechanism of action of the financial leverage. In doing so, the objective and subjective factors and circumstances that determine the structure of capital must be assessed, such as the differences in the financial knowledge of the financial managers, their work experience, the different perception of risk and the willingness to work under risk conditions as subjective factors, as well as the development stage of the subject, the nature of the means used in a sense of the ratio between the fixed and working capital, the operational characteristics of the activity and the ratio of the capital turnover, the position of the capital market, and similar, as objective factors.⁴

Financial risk by financial managers refers to the realization of a gross financial result, such as the gross return on own capital. The gross financial result as a gross amount also contains the profit tax, or it is the pre-tax profit, but given that such gross financial result is obtained by reducing the operating profit with the amount of financing costs, i.e. for the interest on the external capital, gross profit represents the return on own capital.

1. business (operational) profit –
2. interest on the external capital =
3. **gross profit** –
4. income tax =
5. **net profit** (profit after tax)

From this established relation, stems that the gross profit depends on the size of the operational profit and from the amount of the costs for interest on the external capital. Interest and other financing expenditures are, as a rule, a fixed size that depends on the size of the engaged external capital, and it does not depend on the return that is realized with its use. If the share of capital from foreign sources in the total sources of capital is higher, and this causes higher

⁴Vera Karadjova, *Principles of Risk Management*, CNIR FTU Ohrid, pp. 115-116

financing costs, the financial risk will be higher too. This means that a proportionally higher share of external capital in the total capital structure will contribute to higher gross profit (the category under no. 2 which is deducted from business (operational) profit is higher). Due to the fixed nature of the interest, the change in business (operational) profit will have a greater impact on the change in the gross and net profits. Starting from that the gross financial result depends on the business (operational) profit as a difference in total revenues and expenditures and financing expenditures, special emphasis is placed on the factors that determine the financing costs such as: the size of the total capital; the structure of the sources of capital, primarily the share of the external capital in the total sources of capital; and the cost of capital or interest rates. If in the capital structure there is a part of capital from external sources, it will cause funding costs regardless of the manner of its use and the effectiveness of its use. Under such conditions, any increase in business (operational) profit causes an increase in both gross and net profits. But with a different share of external capital and a different amount of financing expenditures, the effect of the change in business (operational) profit on net and gross profits, as well as on profit (earnings) per unit equity, will be different. It is about *the effect that have the use of external capital on the financing costs, and through that, on the change in the gross and net profit, as well as on the profit per share (one unit of own capital), which is determined by the term financial leverage, and must be taken into account in the risk analysis.*

Table 1. The effect of financial leverage in conditions of different capital ownership structure (hypothetical example)

	Variants of funding	
	Option 1	Option 2
Borrowed capital	200.000	100.000
Own capital	100.000	200.000
Total capital	300.000	300.000
Number of shares	2.000	4.000
Nominal value of one share	50	50
ISituation: business profit 5%; interest rate 5%		
Business profit	15.000	15.000
Interest on borrowed capital	10.000	5.000
Gross profit	5.000	10.000

Income tax 10%	500	1.000
Net profit	4.500	9.000
Profit per share	2,25	2,25
II Situation: business profit 5%; interest rate 6%		
Business profit	15.000	15.000
Interest on borrowed capital	12.000	6.000
Gross profit	3.000	9.000
Income tax 10%	300	900
Net profit	2.700	8.100
Profit per share	1,35	2,025
III Situation: business profit 5%; interest rate 3%		
Business profit	15.000	15.000
Interest on borrowed capital	6.000	3.000
Gross profit	9.000	12.000
Income tax 10%	900	1.200
Net profit	8.100	10.800
Profit per share	4,05	2,7

Source: own calculations

In the previous table No.1 there is a hypothetical example of two variants of financing a certain investment activity, whereby in both assumed cases (option 1 and option 2) part of the capital is borrowed. The assumption here is that it is a borrowing through the issuance of fixed income securities, which besides the base will have to pay interest. Interest rate as a financing cost is different in the three assumed situations, and depending on the circumstances of the ratio of the rate of business profit expected and the interest rate on which it is borrowed, an appropriate decision on the capital structure according to the source from which it originates can be made. In the first situation financial leverage has a neutral effect. This means that the rate of return on own (equity capital) is indifferent to the change in the capital structure, with *the point of indifference* to which the equalization of the rate of business profit with the average interest rate of the foreign capital is achieved. But in the other two situations, the differences in gross profit, net profit and profits per unit of equity are evident, which makes it possible to make a quality borrowing or (none) borrowing decision through the

financial markets. The general conclusion drawn from the analysis of the financial leverage is that the return on equity depends on:

- (1) the capital structure, and
- (2) the difference between the rate of business profit and the interest rate on the borrowed capital.

If the financial analysis shows that the operating profit rate that is realized is higher than the average cost of borrowed capital (average interest rate), the financial lever acts in the direction of increasing the return on equity, and this encourages financial managers to take a higher risk of borrowing external capital. However, it should be borne in mind that greater share of external capital causes at the same time higher funding costs and increases the risk of drastically decreasing the gross profit or even the risk of loss in conditions of deteriorating economic conjuncture. Such an increase in indebtedness and annuities in the repayment of borrowed funds has a negative effect on the liquidity of the entity, especially in circumstances where net cash flows are insufficient to cover the due repayments of borrowing.⁵

Considering the fact that it is a question of debt securities financing, there are two essential risks that exist as credit and interest rate risk. Credit risk appears as a *probability, that is, the possibility that the placed funds will not be returned within the deadline and under the conditions determined in the previously concluded contract. It is the lender's inability to permanently (due to bankruptcy and liquidation) or temporarily (due to not liquidity or insolvency) to repay the principal and interest on the borrowed funds.*⁶ The graphical presentation below (Figure 1 illustrates the probability of distributions of cash returns from economic entities investments in risk requirements (loans / bonds).

⁵Vera Karadjova, *Principles of Risk Management*, CNIR FTU Ohrid, pp. 121

⁶Vera Karadjova, *Principles of Risk Management*, CNIR FTU Ohrid, pp. 129

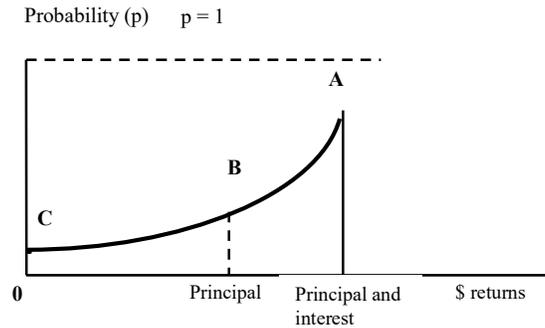


Figure 1. Distribution of the probability of cash returns from investment in risky requirements (loans, bonds)⁷

The distribution shows a high probability (but less than 1) for a full return on the principle and interest (point A). Problems with the borrower's cash flows may result in different degrees of credit risk (default risk), from partial to full non-payment of interest (the range between points A and B), and partial or total non-payment of the debt principle (the range between points B and C). Although the probability of fully fulfilling this risk, i.e. complete non-repayment of principal and interest is very small, it is above zero and the borrowing entities must predict that probability and develop a strategy for appropriate compensation. On the other hand, those who borrow also should consider the risk of a possible inability to repay debt and interest and anticipate alternative opportunities for deleveraging. During using Debt securities should be taken into account the so-called *risk premium*, i.e. *the difference between the interest rate of the bonds with the risk of non-payment and the risk-free bonds*. Thereby, risky bonds, that is, those with a higher risk of default, always have a positive risk premium that determines how many percentage additional interest buyers need to earn in order to be willing to keep in their portfolio risky bonds. The close connection of this risk with the interest risk arises from the basic economic law of supply of demand and the impact of these two categories on the price.

Closely related to credit risk is interest rate risk. It arises from the possession or issue of securities that bear interest, and especially in the case of securities

⁷Antony Saunders, Marcia Millon Cornett, *Financial Institutions Management – A Risk Management Approach*, McGraw – Hill International Edition, 5th edition, 2006, pp. 163

bearing a fixed income. *The main source of this risk arises from the fluctuation of market interest rates, in conditions when the obligation for paying interest is fixed, and this risk is positively correlated with the length of the time period for the existence of the obligation for paying interest.*

In addition to the aforementioned risks, a large number of others may appear in the issuance and sale of fixed-income securities (inflation risk, currency risk, liquidity risk, solvency risk, portfolio risk, etc.) and all they should be taken into account by decision makers in the process of financing in this way. However, their individual elaboration exceeds the space of paper of this kind.

LIABILITY MANAGEMENT AS PART OF ALM

Funding through the use of securities imposes the need to manage the liabilities. Liability management is part of the broader concept of assets and liabilities management. ALM as an *Asset and Liability Management concept* emerges in contemporary conditions in developed market economies, and its essence is an activist approach to the short-term management of the overall business entities assets and liabilities structure, such as one of the possible strategies for managing existing and emerging risks. This method was primarily developed in banking, in order to control the interest rate risk, which was particularly relevant in the 1970s when happened a dramatic increase in interest rates and their high volatility in relation to previous stability. The problem with interest risk, as well as the various risks in the financial sphere, could be solved with an appropriate model for management with the assets and their sources. It practically started to be realized with the ALM method, which helps the economic entities to make the right decisions to control the different risks in the various types of financial transfers that they realize and properly manage the risks of the entity in general, and not only with interest risk. This method can be determined as an ongoing method of formulating, implementing, monitoring and reviewing strategies related to assets and their sources in order to achieve the financial results that are provided in conditions of existence of a certain degree of risk and limitations. Therefore, the use of this method is of particular importance for the financial management of all entities that take care of their obligations. In this regard, the concept of ALM is inextricably linked to the financing through borrowing, especially the part relating to debt management.

The very emergence of the ALM concept follows a line of changing the conception of management of individual parts of the balance structure that starts with asset management within the traditional concept, through passive management as an intermediate stage between the traditional concept and the modern concept of asset and liabilities management. Within this concept of liabilities management that developed in the first phase of linking the economic entities to the financial markets, the economic entities create the possibility for rapid withdrawal of the funds from the financial markets, thus providing not only maintenance and defense the liquidity, but also the provision of additional sources for financing profitable projects. The deepening of the so-called process of *marketization* of economic entities of any kind supports more complex balance and off-balance structures. The deregulation of the financial markets creates new risks, primarily in the financial sphere, in general market risks that are expressed through the risks of interest rates and the risks of foreign exchange rates. The issuance of own securities (especially debt securities and especially those that have a fixed income in a turbulent environment) must be accomplished through simultaneous assessment of the benefits and risks, in the context of the total assets and the total liabilities. This creates an integrated approach to managing the overall balance and off-balance structure of the entity, thus allowing linking of projected profit rates to cover the increased risks. In this way, the accepted integrated approach to asset and liability management emphasizes that the achievement of the programmed objectives of the profit and risk ratio can be achieved through a constant change in the configuration of the balance and off-balance sheet structures of the economic entities. This creates an integrated approach to managing the overall balance and off-balance structure of the entity, thus allowing linking of projected profit rates with the increased risks. In this way, the accepted integrated approach of asset and liability management emphasizes that the achievement of the programmed objectives of the profit and risk ratio can be achieved through a constant change in the configuration of the balance and off-balance sheet structures of the economic entities.⁸

Liability management briefly is a procedure for providing funds for repayment of principal and interest on the existing debt, as well as planning for borrowing a new debt to a level that will not endanger the financial stability of the economic

⁸Vera Karadjova, *Principles of Risk Management*, CNIR FTU Ohrid, pp. 250

entity. Estimating the impact of current and future debts on the budget is also part of the liability management process. Liability management is primarily debt planning, which includes:

- determining the method of borrowing;
- determining the size of the debt;
- determining the maturity of the debt;
- determining the price of the debt;
- predicting the movements on the financial markets;
- projection of the financial inflows for the duration of the debt.

ARGUMENTS FOR AND CONTRAFINANCING THROUGH THE USE OF FIXED INCOME SECURITIES

For financing through the use of fix income securities there are arguments for and contra. Every case is special and individual. Considering the wide range of such securities, here the arguments are examined on the example of municipal bonds, despite certain specificities they possess. The issuance and sale of municipal bonds has positive effects for both the issuer and the investor. Although there are certain differences between them (they may have fixed or variable interest or be without interest, they can or cannot be convertible, etc.), basically here the arguments are generally stated, with particular emphasis on the fact that in the Republic of Macedonia such still do not exist. In the context of this, their possible introduction would mean innovation for our financial market and enrichment of its supply and competitiveness, as still insufficiently developed market.

In general, the advantages for the municipalities and for the investors can be integrated into the following conclusions:⁹

- * Benefits for municipalities from issuing bonds
 - Mobilizing funds;
 - Realization of the planned development projects;
 - Accelerating local and regional economic growth;
 - Improving the local economic situation through bigger investments, employment, production and increasing the quality of citizens life;
 - Gaining greater financial independence from the central government.

⁹Ministry of Finance of the Republic of Macedonia, Guide for Municipal Bonds Issuance, Skopje, February 2011, pp. 6

- * Benefits for investors from buying bonds
 - Obtaining a return that depends on the quality of the issuer and maturity;
 - Development of the capital market and opportunities for better diversification of the portfolios;
 - The income from these bonds is exempt from personal income tax;
 - Investing in the development of the environment in which they live (visibility of the effects).

In modern financial markets, municipal bonds are the cheapest and most effective tool for fundraising of communal projects. They enable the acceleration of local and regional economic development through bigger investments, production and new employments. By using them, municipalities gain greater independence from the central government. Issuing municipal bonds represents the easiest way to tap a pool of investors outside of the banking sector. By issuing bonds, local government units get immediate access to the private capital market. Alongside banks, investment and pension funds, and insurance companies, the practice has shown that citizens are most numerous among investors in municipal bonds. Individual investors like these securities because that brings them income in the form of interest, which is generally higher than the yield on term deposits from banks, and it is also tax-free. Municipal bonds as an alternative source for funding municipal's activities are justified, especially if the funds are associated with a specific revenue-generating project. Advantage of bonds for the bonds issuer is also that the conditions for borrowing (deadlines, interest, amount) are determined by the security issuer according to his needs and possibilities, and not the lender as it is in a classic credit relationship, and for the lender is that it does not to wait for the maturity, i.e. securities are usually marketable and they can be traded on the secondary market (most often at the OTC market).

In the world practice, municipal bonds are a good alternative for investing and directing savings, due to lower risk for investors and tax exemptions. Namely, in order to encourage investors to participate in financing the construction of public utility facilities and facilities of social infrastructure, the state exempts investors from paying tax on bonds interest income. In that sense, municipal bonds at the same time provide positive externalities for the local self-government, and its lower financial dependence on the central government. Thus, local government would be able to borrow from a wider variety of sources for less, using economy

of scope and municipal bonds can be a less expensive source of funds for the municipal's projects, rather than different forms of domestic or foreign borrowings. This briefly would mean that the municipality sells its debt at lower costs than the usual and collected funds from the sale of bonds used to finance communal and infrastructure facilities that are vital for meeting the needs of the population and for raising the quality of the urban live.

An additional benefit for municipalities is that successful bonds issue increases the value of the municipality in the eyes of its residents and investors and creates its good credit history.

There are numerous benefits for the investors, and apart from the already mentioned, the following can be mentioned: The state exempts municipal bonds buyers from paying personal income tax on interest income. In addition to tax incentives, municipal bonds are among the most secure and least risky investments in securities, especially if they are guaranteed by the state. Investors receive a return, which is usually higher than the income from risk-free government securities or from the interest on bank deposits. They also get the opportunity to diversify their portfolios.

With regard to the arguments against the use of fixed-income securities, all arguments against the use of borrowed capital for any purpose can be stated. It is a debt, with all the risks that arise from the debt. In the section on financial leverage, the idea of debt as a way of financing and the circumstances to be taken into account was elaborated in more detail before such a decision was made. In this regard, it can be stated that the use of debt securities for financing is a risky activity, and in that direction, municipal bonds have the same risks (credit risk, interest risk, currency risk, maturity risk and similar risks). There is almost always a legal obligation to provide some collateral for the loan. It is necessary to fulfill a number of legal obligations and to respect a strict legal procedure regarding the issuance and sale of securities, which requires extensive administration. Permits and approvals from several state institutions and bodies are needed, such as the Ministry of Finance, Securities and Exchange Commission, and so on. However, despite numerous approvals in terms of process control, the use of this borrowing mechanism makes it harder for the central government to monitor and control loan supply for local government

units.¹⁰When issuing debt securities, special attention must be paid to the expediency and profitability of the project that would be financed with them because of the risk of interruption or only partial realization that would lead to inability to bear income, and therefore inability to return debt. Such a situation may also lead to the need to pay fines (default interest) for untimely debt repayment as an additional risk, and/or loss of pledge (guarantee, collateral).Also, such a situation can lead to inability to realize other potential projects, put the municipality on a “black list”in financial institutions, inability to apply for other grants or loans, inability to repay other loans and ultimately to financial instability of the municipality.

BORROWING ON THE FINANCIAL MARKETS – MUNICIPALITY BONDS (CONDITIONS AND PERSPECTIVES IN MACEDONIA)

Having in mind the process of fiscal decentralization, the municipalities have a broad structure of revenues sources that are prescribed by the *Law for Local Self-Government Units Financing* (Official Gazette of the Republic of Macedonia, No. 61/2004, 96/2004, 67/2007, 156/2009, 47/2011 and 192/2015):

[1] own income sources;

[2] grants from the budget of the Republic of Macedonia and from the funds budgets;

[3] borrowing.

Reliance solely on own revenues and grants from the state budget is usually not enough to settle all the needs of the municipality. Municipalities in the Republic of Macedonia collide with the need for additional financial resources for carrying out activities and projects. The need to find ways to finance major investment projects imposes the need for using the third way of financing, i.e. through borrowing. In a situation in which municipal financing is largely dependent on the central government, the issuance of municipal bonds is one of the ways to improve the models in which funds will be provided to meet the needs of the municipality. In countries with a developed capital market, municipal bonds have long been used, but in underdeveloped countries and in transition economies they are either very little or not at all used. In the

¹⁰ Petersen, J., and Crihfield, J.B., *Linkages Between Local Governments and Financial Markets: A Tool Kit to Developing Sub-Sovereign Credit Markets in Emerging Economies*. Washington, D.C., TheWorldBank, 2000

surrounding countries, examples of the use of municipal bonds are present in Croatia and Serbia. Based on the experience of these countries, it can be concluded that municipal bonds can contribute to a larger development of decentralization and greater local government independence from the central government. There are many positive experiences in the region in the application of municipal bonds for financing, primarily for infrastructure projects. Municipalities in the Republic of Macedonia can use these positive experiences as an example for financing their needs by borrowing on the financial markets. On bonds, the municipality will pay interest, which is, as a rule, lower than the interest that would pay if it borrowed funds from a bank, or raised a loan. On the other hand, this interest is higher compared to the interest that would have been received if investors put their funds in a bank, which makes bonds attractive to investors. Besides meeting the needs of citizens, LSGUs must be careful to finance investments that have a reliable return, a high level of profitability, cost-effectiveness and efficiency. In addition, the issuance of municipal bonds can affect the increase in the participation of citizens in making important decisions for their municipalities. In the procedure of preparation for issuing bonds, citizens participate in the selection of a project that they need and later participate in financing of its construction.

The procedure for issuing securities in the Republic of Macedonia is regulated by the Law on Securities and the Rulebooks adopted by the Securities and Exchange Commission. In accordance to the Law on Securities, the issuance of securities on the primary market is performed upon prior approval from the Securities and Exchange Commission. According to the Law, securities may be issued through a private and public offer. In any case, this means lending from potential investors through the financial market. Municipal bonds can serve as an alternative way to fund municipalities. The correct funds management could contribute to the realization of public capital investment and to improve not only the welfare of investors who invested in this kind of securities but also to others who will enjoy the benefits from the positive projects outcome.

Municipal bonds are an alternative way of financing the municipality's activities, but they are not commonly practiced in transition economies. No municipality in the Republic of Macedonia has issued a municipal bond, although for this there is a legal basis and several attempts for issuing by the local self-government units. The financing of the local self-government units

(LSGUs) is regulated by several laws, and the basic one is the Law on Financing of the Local Self-Government Units ("Official Gazette of RM", No. 61/04, 96/04, 67/07, 156/09, 47/11 and 192/15). Chapter IV of this Law regulates the indebtedness of the LSGUs. In addition, in accordance to Article 18 of this Law, the municipality may also borrow by issuing securities. The Law on Public Debt ("Official Gazette of the Republic of Macedonia" No. 165/14) regulates the manner of borrowing of the municipalities, among other ways, and also through the issuance of securities. The possibility of financing by issuing securities is explained also by the Law on Securities ("Official Gazette of the Republic of Macedonia" No. 95/05, 25/07, 7/08, 57/10, 135/11, 13/13, 188/13, 43/14, 15/15, 154/15, 192/15, 23/16). In accordance to Article 6, item 19), of the Law on Personal Income Tax ("Official Gazette of the Republic of Macedonia" No. 80/93, 71/96, 28/97, 8/01, 50/01, 52/01 and correction, 2/02, 44/02, 96/04, 120/05, 52/06, 139/06, 6/07- correction, 160/07, 159/08, 20/09, 139/09, 171/2010, 135/2011, 166/2012, 187/2013, 13/2014, 116/2015, 129/2015, 199/2015, 23/16 and 190/17), income tax is not paid on interest income by bonds issued by the Republic of Macedonia and the units of the local self-government. This is an additional incentive for the citizens as investors to invest the available funds in municipal bonds.

Municipal bonds represent an alternative way of providing capital. By their way of functioning, they are very similar to bank loans, but by issuing bonds, as a rule, they provide a higher amount of funds compared to those that would be received if a loan is requested. In this way, more creditors (investors, bond buyers) can be found, that purchase a smaller amount, depending on the number of bonds they procure. Bonds are a good investment for investors who want to avoid taxes. What municipal bonds will be issued by municipalities depends on the goals they want to achieve by issuing. Prior to issuing bonds, the municipality examines the opinion of the public regarding the projects being financed and opens the opportunity for the local community to support projects that are of importance to the local self-government. The model of sale depends on the interests of the issuer, the situation of the capital market and the quality of the project being funded. In terms of cash flow, two types of municipal bonds can be distinguished. These are: general binding and income bonds.¹¹

¹¹Ministry of Finance of the Republic of Macedonia, Guide for Municipal Bonds Issuance, Skopje, February 2011, pp. 7-15

One of the indirect factors that influence the issuance of municipal bonds is the evaluation of the issuer's credit rating. Namely, the issuing procedure is an administrative procedure that implies the public submission of relevant financial data related to the bonds issuer, which are an integral part of the prospectus. This information must be authentic and true, in accordance with the actual situation, and be collected and systematized by a relevant and specialized financial entity. For their accuracy, the LSGU is responsible, and it is ultimately submit this information within the overall documentation. Typically, the assessment of creditworthiness of local governments is based on the following three risks:

- Economic risk;
- Political risk; and
- Financial risk.¹²

On the one hand this enables the promotion of the municipality as financially stable and present its image to the public, but on the other hand means extremely high risk and responsibility for the responsible persons in the municipality (especially the mayor), which can be a demotivating factor for financing by bonds.

Besides the stated reason for non-issuance of bonds, a number of other dilemmas and conditions can be mentioned that do not go in favor of financing by debt securities, and which are related to the role of the capital markets in meeting the requirements for financing the investment activities of the municipalities. A major obstacle for municipal financing in this way is the lack of experience and their reluctance to issue bonds. The weak financial power of the municipalities and the small banks' experience in assessing the creditworthiness of municipalities also limit the development of the capital market for municipalities. Adopting appropriate decisions in this direction also requires the development of a public financial management system, as well as raising the level of transparency and accountability of municipalities. In order to facilitate the process of issuing municipal bonds, in February 2011, the Ministry of Finance issued a Guide for issuing municipal bonds, and the Guide cover the following thematic units: Legal framework for municipalities borrowing; Advantages of borrowing by municipal bonds; Issuance of bonds; Legal framework; Issuance of bonds by private offer; and Issuance of bonds by public offer.

¹²[http://www.zels.org.mk/Upload/Content/Documents/Dokumenti/%D0%9C%D0%9A/2011/Priracnik%20za%20zadolzuvanje%20na%20LS%20\(2\).pdf](http://www.zels.org.mk/Upload/Content/Documents/Dokumenti/%D0%9C%D0%9A/2011/Priracnik%20za%20zadolzuvanje%20na%20LS%20(2).pdf)

CONCLUSION CONSIDERATIONS

Business entities in the direction of survival and development must respect the basic economic principles, i.e. the principles of liquidity, solvency, reliability, efficiency and profitability. At the same time, they must function in accordance with the basic economic legalities and developments in the country and abroad, to adapt flexibly to the competition and changes in the environment, as well as to the requirements of their clients and to achieve stability of the sources of funds and their investments. In this sense, the principles and risks that arise from them must be known, in terms of potential risk of material and financial loss as a consequence of a their bad determination or disrespect.

The issuance of securities, especially if they are debt securities creates a number of risks for the issuer. One of the basic tasks that managers of all economic entities are facing, and in this sense the municipalities through the implementation of public management is the need to provide the necessary liquidity in every moment, regardless of all the urgent and unforeseen situations that may arise. The lack of an adequate level of liquidity represents a significant risk for the economic entity and may be one of the initial signals for future serious problems (inability to borrow, increase in borrowing prices, the need for additional provision of future loans, reduction of future revenues, up to bankruptcy as a possible future most unfavorable outcome). Moreover, it should not be forgotten or marginalized that the issuance of municipal bonds is actually taking a loan by the municipalities.

And since it is much easier to take a loan than to return it, in this case with interest, the borrowers (the municipalities) and the lenders (buyers of municipal bonds/investors) should know that municipal bonds can be a powerful instrument, but also dangerous instrument on the capital market. One of the essential questions which have to be answered in this direction is the question: Why are the money borrowed, or for what purpose they will be used? In doing so, all factors that will have an impact on the entity's operations after lending should be carefully considered. Another question that is very important in this process is who the potential buyers of securities are and whether there is a sufficient interest for buying. In that direction is also the question is with the emitted and sold securities will be collected enough funds for financing the

planned project and what additional activities will be implemented if the obligations arising from the issue are undertaken, and the funds are insufficient for the realization of the plan. In addition, the actual legislation must also be respected in each individual case. In the inability to state all the questions arising from this complex activity, the main question is how the debt will be returned. The project for which the bonds are issued should generate sufficient revenue to repay the bonds and interest. An additional aspect in the financing with the use of debt securities is the standards for their issuance. Preparations for issuing are expensive because they involve engaging external experts for evaluation and giving an opinion on how to implement the procedure, which affects the costs, but also the motivation for using this source of funding.

REFERENCE:

1. Antony Saunders, Marcia Millon Cornett, *Financial Institutions Management – A Risk Management Approach*, McGraw – Hill International Edition, 5th edition, 2006, pp. 163
2. [http://www.zels.org.mk/Upload/Content/Documents/Dokumenti/%D0%9C%D0%9A/2011/Priracnik%20za%20zadolzuvanje%20na%20LS%20\(2\).pdf](http://www.zels.org.mk/Upload/Content/Documents/Dokumenti/%D0%9C%D0%9A/2011/Priracnik%20za%20zadolzuvanje%20na%20LS%20(2).pdf)
3. Igor Brajdić, *Mathematical models and methods of business decision making*, Faculty for Tourism and Hotel Management, Opatia, 2006, pp.8 (in Croatian)
4. Ministry of Finance of the Republic of Macedonia, *Guide for Municipal Bonds Issuance*, Skopje, February 2011, pp. 6
5. Official Gazette of the Republic of Macedonia, *Law for Local Self-Government Units Financing*, Skopje, No. 61/2004, 96/2004, 67/2007, 156/2009, 47/2011 and 192/2015
6. Official Gazette of the Republic of Macedonia, *Law on Personal Income Tax*, Skopje, No. 80/93, 71/96, 28/97, 8/01, 50/01, 52/01 and correction, 2/02, 44/02, 96/04, 120/05, 52/06, 139/06, 6/07- correction, 160/07, 159/08, 20/09, 139/09, 171/2010, 135/2011, 166/2012, 187/2013, 13/2014, 116/2015, 129/2015, 199/2015, 23/16 and 190/17
7. Official Gazette of the Republic of Macedonia, *Law on Public Debt*, Skopje, No. 165/14

8. Official Gazette of the Republic of Macedonia, *Law on Securities*, Skopje, No. 95/05, 25/07, 7/08, 57/10, 135/11, 13/13, 188/13, 43/14, 15/15, 154/15, 192/15, 23/16
9. Petersen, J., and Carihfield, J.B., *Linkages Between Local Governments and Financial Markets: A Tool Kit to Developing Sub-Sovereign Credit Markets in Emerging Economies*. Washington, D.C., The World Bank, 2000
10. Vera Karadjova, *Principles of Risk Management*, CNIR FTU, Ohrid, pp. 115 (in Macedonian)