

16-osios Lietuvos jaunųjų mokslininkų konferencijos "Mokslas – Lietuvos ateitis" teminė konferencija Proceedings of the 16th Conference for Junior Researchers "Science – Future of Lithuania"

Verslas XXI amžiuje / Business in XXI Century

2013 m. vasario 7 d. Vilnius 7 February, Vilnius, Lithuania

Finansų valdymas Finance management eISSN 2029-7149 Article Number: verslas.0001

http://jmk.vvf.vgtu.lt

# LOW AND MIDDLE RISK INVESTMENT TOOLS ANALYSIS

## Erika Avižinytė

Vilnius Gediminas Technical University, Faculty of Business Management E-mail: erika.avizinyte@gmail.com

**Abstract**. Everyone who has held a job and a bank account understands the potential benefit of postponing consumption today in order to enjoy greater consumption in the future. If a person decides to save, a lot of investment tools could be chosen, some of course are more risky than others, but also generates bigger return. Those, who want to be certain about getting all invested money back, have to choose between low or middle risk ways of investment. Sampling, contrastive, descriptiveanalytical methods was used for the aim of this publication which is to look through the literate about small and middle risk investment possibilities. Research showed that a deeper analysis needs to be done in this interest of field, because most of authors discussing all investment, not specifying in a conservative way of investment. The comparison of low and middle risk investment tools and risk defining models was done, in order to have a wider look in this topic.

Keywords: investment tools, risk, rate of return, portfolio, diversification.

### 1. Introduction

By the middle of 2007, while the Lithuania's economy rapidly grew, banks gave the opportunity for population to borrow and use a lot of money. This influenced that the investors chosen more risky investments, thinking only about the return of the investment or borrowed not thinking about how to return the debt. The recent years of the global economy crisis showed, that most of the households did not have any savings, but had large debts. There is a tendency that the public interest in personal finance management, savings and cost controlling, tend to become important then the unknown about the tomorrow starts [2]. People starts to save for unexpected- situations and want to be prepared for the money shortage in the future so the larger part of the society take part in investment activities.

Usually all investments differ according to their instruments, strategies, areas, terms, conditions and other indications. Resent research shows, that the most important factors of choosing the instrument to invest are the risk and return of the investment. When the investor undertakes big risk, usually he expects also a better yield or return, but the additional risk can present a different growth of return. So it is important, that every investor chose the middle between his wanted return and accessible risk.

There is a large number of investments in Lithuania,

but investors, who tolerate low or middle risk usually chose between the most popular investment tools such deposits, investment deposits, government treasury bills, government and other bonds, money market funds or pension funds, which also differ according to their strategies of investment, return to the investor and the risk undertaken. It should be noted that the strategy of investment alone does not allow determining and evaluating unambiguously the level of return and risk.

*The novelty* of the work: most of articles studies and discusses all possible investment tools, usually the highest profit ones, but did not deeply look throw law or middle risk investment, which are the most important for an ordinary person, who gets an average salary and want to save for the future using without high risk. In order to this, law and middle investment tools have been chosen as a subject of this paper. This research differs because it concentrates on conservative investment; analyze risk and possible profit of these tools.

*The aim* is to analyze literature on low and middle risk investment tools and possible ways to analyze them.

*The objectives* of the article are to present the low and middle risk investment tools in literature, to discuss the problems of defining the level of risk, to compare and classify the investment tools, to look threw newest topics of investment worldwide and draw certain conclusions.

*The research methods* applied to this work are as follows: sampling method was used to select and arrange

the investment tools; contrastive method was used to compare the source text with the target text, descriptiveanalytical method was used to interpret and generalized the findings of the research, statistical method was applied to systemize the empirical data.

### 2. Literature analysis

There is no one single definition, which define the investment. Different sources give different interpretations of the concept expression. Some authors pay attention to the economic substance of investment, then others relates investments to savings holding in various funds. The Republic of Lithuania "Investment Law" states that the investment - cash and other laws and regulations in accordance with assessed tangible, intangible and financial assets, which are invested in order to obtain the object of investment, the result of social or to ensure the implementation of state functions. International vocabulary gives the definition of investment: it is the purchase of a financial product or other item of value with an expectation of favorable future returns. In general terms, investment means the use money in the hope of making more money. The broader definition of investment says, that it is money, committed or property acquired for future income. There is two main classed of investment: 1. Fixed incomes investment such as bonds, fixed deposits, preference shares and 2. Variable income investment such as business ownership or property ownership. (Business Dictionary definition of investment). In economics, investment means creation of capital or goods capable of producing other goods or services.

In Lithuania author's publications, investments are defined as the current provision of funds for a certain period; in addition to set aside funds for reimbursement of funds for the grace period, the anticipated inflation rate and the recovery of funds in future risk (Kancerevyčius 2009). Investment is usually interpreted as the process, where one form of financial capital is converted into other funds or physical equipment. Each investment is related to the invested capital, the costs for investment projects, hoping after a certain time generate a profit. This must be carried out in capital investment planning (Smalenskas 2007). Investments - financial, tangible or intangible resource costs are invested in tangible, intangible and financial assets to purchase in order to receive some economic or non-economic effects, and their implementation is based on market principles and the time factor, risk and liquidity (Norvaisienė, Stankevicienė, Krusinskas 2008).

Investment education launched a new phase when H. Markowitz (1952) proposed the concept of efficient portfolio, which is characterized by not only profitability, but also by risk management aspects. The efficient investment is defined as a portfolio, which has the lowest risk to certain profitability, or the highest profitability at a certain level of risk. The main advantage of H.Markovitz model is that this model allows to determine the relationship between rate of return and risk level. J.Tobin (1958), W.Sharpe (1964), S.Ross, G.Fama and K. Fench the followers of H.Markowitz also widely considered the criteria of investments construction, the problems of optimal investment, the selection of the securities in the portfolio and pricing features, determinants of portfolio value and finding ways to quantify them. Blank, I. A (1995) presented as an alternative to modern portfolio theory and the traditional investment formation, which was based on technical and fundamental analysis. He offered to include a wide range of financial instruments into analysis and explained how they are diversifying.

Speaking about the risk and uncertainty, the theory of investors behavior in a world of uncertainty has been set out by several writers, such as Sharpe (1964), Linstner (1965) and Miller(1977). In these theories is mentioned, that all investors are assumed to have identical estimates of the expected return and probability distribution of return from all securities. However it is implausible to assume that although the future is very uncertain, and forecasts are very difficult to make, that somehow everyone makes identical estimates of the return and risk from every security [10]. Nowadays, every investor must choose his accessible level of risk. Jon Linster in his article "Securities prices, risk and maximal gains from diversification" (2012) considers conservative investment, and define it as the investment choice of an individual investor, who in choosing between any two different possible investment tools, always prefers the one, which gives him the largest expected return with the less risk. Authors such as Boddy, E. Merton, R. K. (2003) proposed to combine optimum portfolio of risky assets with a riskfree asset in order to balance the investor's expected return with an acceptable risk for him. The problems of risk - related return of investments are discussed by Lithuania professors Meilė Jasienė and Diana Kočiūnaitė as well.

Low and middle investment tools explanations can be found in most of commercials banks (AB DNB, SEB, Swedbank and others banks) publications. The most importance parts are description of the investment, investing conditions, possible risk and expected return. The suitable investment for a conservative investor will be discussed in a following section.

# 3. The classification and comparison of investment tools

Any profitability in relation to the safe asset investment is connected with risk. The higher return investors expect the higher element of risk they must to accept. The riskier the investment instrument is chosen, the more profit can be earned, but also there is a huge possibility to lose much as well, if the changes in the market are not properly monitored or the process of investment is out of control. The investor needs to decide and define what the expected rate of return is, and respectively what kind of risks can be taken to achieve this return. Profitable investments are those, that do not pay off very quickly, but ones that helps to achieve your goals.

Investors have different objectives, and those objectives require different investment instruments. Most importantly is to choose the investment objective and the financial means corresponding to that goal. The longer the period, the better, as it accumulates, and there is the better expected return on the result of investment [9]. Many investors often look only to profitability but looking through the participation in the world – it is now unacceptable. In Lithuania, there is a tendency that a possible investor, who tries to count a risk, usually chooses among conservative investments.



Fig. 1. The model of conservative Lithuanian people's savings (compiled by author)

As showed above, all personal savings can be divided into two groups: long term use and investments [15]. Conservative investor can choose among a high variety of investment tools, or in other cases use them all and make a diversified investment portfolio. In order to understand each of those tools, a short definition among each other is presented.

Bank deposit - the amount of money, which is given to the bank or other credit institution by the depositor, in order to protect money for a certain period of time and receive a fixed amount of interest. Bank deposits differ depending on the maturity, the investment conditions and the interest rate. Traditionally, there are three types of deposits: fixed term, deposits till the demand and savings deposits. Another type of deposits are Investment deposits. This is a fixed-term deposit, but its rate depends on the actual change in the value of financial instruments. Such deposit interest rate is higher than normal, but a greater potential of benefits, also increase the risks as well. In this case, there is a possibility do not receive the interests at all. Investment deposits have many similarities by comparing them with financial instruments, such as linked bonds, but their main advantage is that they are insured up to 100 thousand Euros by a state company Deposit and Investment Insurance. This product is a great alternative for investors who want to get higher than standard annual interest rates on time deposits and are able to assess and take risks.

Government treasury bills are a short-term debt obligation backed by the government with a maturity of a certain numbers of years, at this moment one, two or three years. These bills are guaranteed by the government and usually give a higher interest than deposits. The minus is, that investor must accept the risk that he cannot receive his investment at least half of the investment period.

A debt investment in which an investor loans money to an entity (corporate or governmental) that borrows the funds for a defined period of time at a fixed interest rate. Bonds are used by companies, municipalities, states and foreign governments to finance a variety of projects and activities. Bonds are commonly referred to as fixedincome securities and are one of the three main asset classes, along with stocks and cash equivalents.Theindebted entity (issuer) issues a bond that states the interest rate (coupon) that will be paid and when the loaned funds are to be returned. Usually the interests are higher than deposits or treasury bills, but the interest depends on the market, that means that there is a risk to lose money, if you do not hold the money till the end of the investment period

Money market funds are a popular cash management tool, where money are invested into short term investment tools. Money market funds usually pay a monthly dividend for an investor, but there are some other alternatives. By keeping a short time-frame, these funds attempt to reduce risk, but because of the highest interest, there are at least a couple of risks, that all investors must take into consideration: money markets fund rates are variable, and these funds has to deal with inflation, which at long periods of time, can eat away all return of investment.

The pension fund is a fund established in order to facilitate and organize the investment, to generate a stable growth over the long term, and provide pensions for employees when they reach the end of their working years and commence the retirement. There are articles; there are described costs and benefits of such funds. M. Jasienė in article "Investment return given the risk assessment of the problem and its possible solution" discuss risks of pension funds, which are not only the possible amount of return from these funds, but a possibility to get nothing at all if you died before the retirement age.

### 4. The risk level of the investment

For an investor it is important to choose not only the most profitable investment, but also to understand the possible risks. Investment management discusses the effectiveness of using many methods, evaluating the investments risk: Treynor index, Sharpe index [14]. One of the most popular Lithuanian, and foreign authors used models of investment management performance analysis is Markowitzmodel. Markowitz's model is a classical model of financial instruments. His model is based on modern portfolio theory. Markowitz has made several key assumptions about conservative investors (Vasiliauskas 2009):

- like profits and avoid risks;
- make rational decisions;
- Make decisions in order to maximize the benefits. Investor benefits are expected profitability and risk

function. Markowitz's model is based on the expected

profitability and risk concepts. This model has specific details:

- projected profitability of each individual instrument;
- profitability standard deviation, σ, as a measure of risk for each instrument;
- covariance instruments yield rate ratio measure.

However, H. Markowitz model's practical application is problematic, because, in order to assess the risk of portfolio at a relatively high number of securities in portfolio, also a large number of statistical calculation has to be made, as it is necessary to calculate and assess correlations and co variations between each pair of securities. Treynor developed the first composite portfolio management efficiency measure that counting and risk component. Some sources may be called as a profit-volatility ratio. J. Treynor proposed to distinguish two risk components (Kancerevyčius 2009):

- market volatility created by the risk;
- instruments in the investments portfolio price volatility risks.

In order to identify the risks of market fluctuations, J. Treynor suggested the use of a standard line that describes the relationship between the portfolio profitability over time and the market portfolio profitability. If investor's assets are invested in financial instruments investments, the Sharpe measure is more appropriate because it includes non-systematic risk [6]. W. F. Sharpe developed a methodology for measuring the efficiency of investment funds. His method is associated with a fixed asset revaluation model and the capital market line [4]. This calculation method is similar to the Treynor model, but it seeks to measure the investment risk, portfolio profitability by using the standard deviation, not only systemic risk measure.

To sum up all discussed models, profitability of all securities more or less varies along with the market profitability. The main criteria in the portfolio management: the systematic and non-systematic risk, profitability and Sharp indicator showing how many unit of the investment return go to one investment risk (the average standard deviation) unit.

### 5. Conclusions

Literature analysis showed that there are lots of articles; there necessary information about investments could be found. Also there are discussed theoretical models of investment and risk management, but through looked literature, there is no one single arti-

cle which concentrate all the main information of the topic and could be helpful for a conservative investor. This means, that a deeper analysis in this topic needs to be done.

- 2. A conservative investor can choose from a high variety of investment tools, which are offered by financial institutions, but instead of choosing by himself, possible investors should use professional consultations, which could help define the tolerate rate of risk and diversified the portfolio in order to generate the highest rate of return due to current market conditions.
- 3. In the literature there are lots of possible models to define the level of risk, but the truth is that usually the market changes very quickly through a very short time and the courses deviate so heavily, that to define the real level of risk is very complicated. That's why choosing conservative and diversified investment tools could help generate not very large, but at least guaranteed profit.

#### References

Bussines dictionary [online]. [cited 21 December,

2012].Available from Inter-

net<<u>http://www.businessdictionary.com/definition/investme</u>nt.html>.

Cox, J. 2008. Financial Crisis Timeline,[online]. University of Iowa, [cited 15 December, 2012]. Available from Internet <<u>http://www.uiowa.edu/ifdebook/timeline/timeline1.shtml</u>>.

Crawford, P. J., Young, T. 2007. The end of the beginning. *The Economist.* August 25th-31th 2007.

Dzikevičius, A. 2004. Apibendrintos Sharpe metodikos taikymas portfeliui valdyti. Verslas, vadyba ir studijos, 4. 3128.

International vocabulary [online]. [cited 21 December, 2012]. Available from Internet

<<u>http://www.investorwords.com/2599/investment.html</u>>.

H.White, A.Kane, K.Tae-Hwan 2006. Active Portfolio Management: the Power of the Treynor Model[online]. [cited 21 December, 2012]. Available from Inter-

net<<u>http://dss.ucsd.edu/~hwhite/pub\_files/hwcv-112.pdf.</u>>. Jasienė M. Kočiūnaitė D. 2007. Investicijų grąžos įvertinimo

atsižvelgiant į rizikč problema ir jos sprendimo galimybė. *Ekonomika.64-72.*ISSN 1392-1258

Kancerevyčius G. 2009. Finansai ir investicijos.Smaltijos leidykla. 108 - 283p. ISBN 9789-95-57076-46

Lileikienė A., Daugintytė D.2009 Investicinio portfelio valdymas: investicinės grąžos ir rizikos subalansavimas. *Journal* of Management(14).1.14-24. ISSN 1648-7974

Lintner John. Security prices, Risk, and Maximal Gains from Diversification. 1965 *The American Finance Association* [cited 30 April 2012] .DOI: 10.1111/j.1540-6261.1965.tb02930.x

Malinauskienė R. 2011. Personal Finance: Investment by example of social group. *Vilnius Gediminas Technical University*.

Miller E.M. Risk, Uncertainty and Divergence of Opinion.1977. *The American Finance Association* [cited 30 April 2012] DOI: 10.1111/j.1540-6261.1977.tb03317.x

- Norvaisienė, R., Stankevicienė, J., & Krusinskas, R. 2008. The Impact of Loan Capital on the Baltic Listed
- Companies' Investment and Growth. *Engineering Economics* (2), 40-48.
- Paškevičius A., Sačilka O. 2010. Structured securities and their development in Lithuania. *Ekonomika 89(4)*.66-72. ISSN 1392 – 1258
- Rakauskienė O. G. Bikas E., Lithuanian population savings:
  Women's and men's saving behavior models, *Economics*, 79: Vilnius University Press, p. 126
- Rutkauskas, A. V., Martinkutė, R. 2007. Investicijų portfelio anatomija ir valdymas. *Technika*, Vilnius.
- The Republic of Lithuania "Investment Law", 2012-11-01, [online]. [cited 21 December, 2012].Available from Internet <<u>http://www3.lrs.lt/pls/inter2/dokpaieska.showdoc\_1?p\_id=</u> <u>433578</u>>.
- Tobin, J. 1958. Liquidity Preference as Behavior Towards Risk. *The Review of Economic studies*, 25(67), 65-86.
- Sharpe, W.1964. Capital Asset Prices: A theory of Market Equilibrium Under Conditions of Risk: *Journal of Finance*,
- Sharpe, F. W. 1994. The Sharpe Ratio.[online] Reprinted from The Journal of Portfolio Management, Fall. [cited 15 December, 2012]. Stanford University, Available from Internet <http://www.stanford.edu/~wfsharpe/art/sr/sr.htm>.

Sharpe F. W.1994. The Sharpe Ratio.*The Journal of Portfolio Management* [online]. Stanford University [cited 26 December, 2012].Available from Internet <<u>http://www.stanford.edu/~wfsharpe/art/sr/sr.htm</u>>.

Smalenskas G. Finansai. *Ekonomika*, *vadyba*. 2007.Homo liber leidykla, 130-154p. ISBN: 9955-44967-5

### MAŽOS IR VIDUTINĖS RIZIKOS INVESTAVIMO PRIEMONIŲ ANALIZĖ

E. Avižinytė

Santrauka

Taupymas ir vartojimas yra neatsiejama šiuolaikinės ekonomikos dalis. Pablogėjus ekonominei situacijai, dauguma vartotoju suvokė atsidėjimo ateičiai svarbą ir pradėjo taupyti buitinėmis sąlygomis arba pasirinkdami iš galybės finansinių institucijų teikiamu paslaugu. Rinkoje galima pasirinkti įvairias investavimo priemones, kurių pagrindiniai skirtumai atsispindi generuojamos grąžos ir rizikingumo aspektais. Literatūros analizė parodė, jog dauguma autorių analizuoja didžiausią grąžą teikiančias investavimo priemones, tuo tarpu neskirdami daug dėmesio konservatyviam taupymui. Straipsnio tikslas yra peržvelgus literatūra analizuojama tema palyginti konservatyvaus investavimo priemones bei pasigilinti į rizikos nustatymo modelius. Darbe naudoti literatūros šaltinių analizės, apibendrinimo ir lyginamieji tyrimo metodai. Nustatyta, jog nera pakankamai publikacijų analizuojama tema, kurios galėtų padėti susidaryti tinkamą konservatyvaus investavimo planą ir apibrėžtų visus privalumus ir trūkumus. Rizikos nustatymo modeliai yra sunkiai taikomi ir reikalaujantys detalių skaičiavimų ir apibendrinimų, kas deja eiliniam visuomenės nariui yra sunkiai prieinama, todėl detalesnė šios temos analizė yra reikalinga ir būtų naudinga.

**Reikšminiai žodžiai:** investicijos, taupymas, rizika, palūkanų grąža, investicinis portelis, diversifikacija.