PORTFOLIO INVESTMENT RISKS: TYPOLOGY AND MITIGATION

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Abstract

Portfolio investment is an important integral part of every well-functioning stock market. This type of investment, however, has a number of risks. The two main risks are systemic and non-systemic risk. Each of these categories can be further divided into many other subcategories, and all of these subcategories have their own characteristics, specificities and ways of materialization, which need to be differentiated and studied by investors so that they know how to properly manage or avoid them.

In the current paper, a high level typology of those risks is presented and particular ways of their manifestation are pointed out.

Key words: *portfolio investment risks, β-coefficient (beta), systemic and non-systemic risks*

1. INTRODUCTION

The stock market is a potentially important mechanism for attracting financial resources in the economy of each country, since the government and the commercial banks often do not have the capacity to invest in some economic activities. Also, in many cases, banks do not want to undertake the risks inherent to some economic activities since their own creditworthiness heavily relies on their ability to identify the risks and to evaluate them (Sariyski, 2008). There are many risks inherent to portfolio investment decisions of economic agents. Investment decisions on their part are tightly related to the investors' expectations related to the returns from their choices. The general rule is that the more risks are undertaken the higher the expected returns. In order for the best outcome to be reached for each particular investor, knowing the basic foundations of risks is of vital importance.

2. PORTFOLIO INVESTING AND RISKS

An investor places free financial resources in various instruments aiming at achieving a certain amount of returns in absolute terms. Returns are relative and they indicate the ratio between the income achieved and the capital invested. Each investor is interested in the future income and therefore in the evaluation of the risks related to particular investment decisions. This evaluation is specified with a probability for deviation in the amount of the returns within a defined range of values. It is of vital importance for each investor to comprehend and, if possible, to evaluate the risks associated with his choices since investment decision could prove to be inappropriate as a result of incorrect risk estimation (Dimitrov, 2013).

The stock market practice has created the following condition – the more the expected returns, the higher the risks related to the acquisition of a certain type of stock market instruments.

Investment activity risks are expressed in terms of decrease in returns of the portfolio when compared to the expected return, and this leads to either direct financial losses or lost expected profits.

Many oftentimes random factors influence investment activity. These factors could be identified both at macro and at micro level. For this reason, minimizing risks depending on the investor (subjective risks) is of vital importance. A financial deal is considered risky, if its effectiveness in terms of profitability is not fully within the knowledge of the investor at the moment of striking it. The uncertainty of the efficiency and consequently its riskiness is characteristic of each sell or buy deal.

For the purpose of measuring the consequences of the activities of the investors within the conditions of uncertainty, a coefficient for financial risk is used. This coefficient represents the possibility of the company which has issued the instruments, to cover its obligations only with own financial means.

This indicator is considered a generalizing one as regards the evaluation of the conditions for financing the company though the attraction of financial means outside of it. Normally the coefficient is presented in details towards understanding the elements of debt, namely the long term assets and liabilities. It is calculated as the ratio of the total amount of the liabilities and the amount of the own capital:

Risk coefficient = Total amount of liabilities x 100/Own capital

The values of the risk coefficient reveal the level of risk which leads to bankruptcy. When its values are up to 0.3 it is considered that the risk is manageable and undertaking it could not lead to failure of the company. When the values fall within the range 0.31-0.69 the situation is considered intermediate. When they are 0.7 and above then it is highly probable that taking the risk would lead to serious financial problems and eventually to bankruptcy of the company.

There are a number of methods which are used for the purpose of decreasing the overall financial risk related to the investment portfolio. These are the following:

- Diversification;
- Finding additional information for the subject of the deal;
- Self-insurance, which include the creation of financial reserve for the absorption of probable losses;
- Hedging.

It should also be noted that the effectiveness of the deals with financial instruments depends on three main factors:

- Price at which they are bought (buy price);
- Intermediate payments;
- Sell price.

As regards interest-bearing instruments (bonds), the first two above mentioned factors - buy price and intermediate payments are known, since they are stated within the obligations of the issuer. There is a risk for bankruptcy of the issuer and in this case bonds may not be realized in terms that the holders may not be able to take back their money. An unexpected decision for adjourning the payments could be taken, and this case is possible even for treasury bills. Also, the price dynamics of the interest-bearing stocks is also unknown. The holder may sell them at any moment in time before maturity, if he decides that the current price is favorable for him.

The effectiveness of the deals with interest bearing stock can be determined with a number of assumptions, since coupon and final payments are guaranteed by either the government (if the bonds are issued by it) or by the corporation (in case they are corporate bonds). In the worst case scenario – bankruptcy, credit obligations need to be redeemed first.

Common stock represent a different situation. The issuers are not obliged to pay dividends or to buy them back at a certain predefined price. Holding common stock is considered comparatively risky activity.

Portfolio risk is related to the possibility certain circumstances to occur in which the investor to incur losses originating from the investments in the portfolio as well as from operations for the attraction of financial resources for the purpose of creating and holding the portfolio.

The aim of portfolio management is achieving returns, liquidity and security with minimal financial risk. The return for the holder of the investment portfolio can be represented by the formula:

Portfolio returns = income from investing in the portfolio – expenses for the creation of the portfolio.

It is generally accepted that the risk for the investment portfolio grows with the expansion of their time horizons, i.e. that portfolios with longer time horizons are exposed to higher risks. Also, it is generally considered that longer term stocks portfolios are more profitable than such made of bonds, however a recent study has proven that "for long-term investors, investments in corporate bonds are more profitable in terms of the risk–return ratio than investments in stocks" (Abramov et al, 2015, p. 273).

Both the income from investing in the portfolio and the expenses related to its creation and management are tightly connected to the various risks which it is exposed to. Below a brief typology of the most important risks is presented.

3. PORTFOLIO INVESTMENT RISKS TYPOLOGY

The risks related to the operations with financial assets can be divided in two groups: systemic, or non-diversifiable, and non-systemic, or diversifiable. The classification is presented in Table 1 below.

3.1. Systemic risks

Systemic risk is defined as the risk related to the macroeconomic situation in a country, and it depends on the level of business activity on the financial market in it. It is not related to specific financial instruments and therefore is not diversifiable. Systemic risk impacts a large number of types pf assets. One significant political event for example could influence most of the assets within one portfolio. It is practically impossible to avoid this risk. It is a fundamental type of risk for all types of investments in financial instruments. In case of high systemic risk, an investor could not free his funds from the portfolio without incurring losses. Systemic risk analysis could be reduced to the question whether it is worth working with a portfolio of stocks, or it is rather more profitable to invest in other types of assets such as real estates and other real investments, FX instruments, etc.

Below the basic subtypes of systemic risks are presented.

Table 1. Classification of risks related to investment portfolios

Systemic risks	**Non-systemic risks**
Macroeconomic, sector-specific and regional risks: • Country specific risks (economic, political, etc.) • Legal risk • FX risk • Inflation risk • Sector-specific risk	**1. Risks for the issuer:** • Credit risk • Liquidity risk • Interest rate risk • Risk of unfair market behavior **2. Risks related to the specific portfolio management, including technical risks:** • Capital risk • Selection risk • Risk of futures delivery • Operational risk risk

3.1.1. Country risk

This is the risk for the investments in stocks of companies operating in a country which is politically unstable, which is undergoing an economic crisis or is in poor relations with the country from which the investor is. Also, country risk could be the risk a particular government not to be in a position to cover its obligations on the bonds it has issued. If such a situation is reached, this might deteriorate the profitability of all financial instruments within this country as well as within countries with which it has strong relations. Country risk could be particularly found in developing markets or in countries which are undergoing serious budget deficits.

3.1.2. Legal risk

Legal risk is related to possible changes in the legal environment impacting negatively business and investments. This type of risk occurs for example when restrictive measures are implemented for the purpose of decreasing production of certain goods and services, increasing the excise on fuels and the rates on various taxes, the revocation of tax preferences and reliefs, etc. Legal risk can also appear at micro level in the process of renewing the tax registration of a company, receiving license for operating with financial instruments, actions which lead to additional expenses both for the issuer and for the investor.

3.1.3. FX risk

FX or foreign exchange risk is related to investments in various assets denominated in a currency different from the currency of the investor. When the currency in which the assets are denominated fluctuates on the market, this leads to either profits or losses for the investor. It is especially dangerous when the foreign (to the investor) currency appreciates and an investor has liabilities in it, and vice-versa, in case it appreciates and he has assets in it, he generates profits.

3.1.4. Inflation risk

Inflation risk appears when, as a result from high inflation, the income the investors have generated from the portfolio depreciates in terms of purchasing power. This type of risk is partially connected to the maturity risk and reflects the possibility for losses related to the depreciation of the financial assets within the time during which they are held by the investor. The longer-term investments are exposed to inflation for a longer period of time compared to shorter-term ones, and therefore they bear higher inflation risk.

3.2. *Sector-specific risk*

This type of risk is related to the realization of losses due to the negative tendencies in the development of the particular economic sector in which the company-issuer operates. It manifests itself in terms of change of the investment qualities and price of the assets and the losses for the investor come from the fact that it is part of the specific economic sector. Economic sectors on their part could be divided to such subject to stronger or to weaker cyclical movements.

3.2.1. The beta coefficient (beta, β) – index of the systemic (market) risk

When reviewing portfolio risks, it should be noted that each investor needs to consider the risk of its portfolio and the fact that the risks related to one kind of shares, bonds or other instruments is connected to the effect that it has on the entire portfolio. The leads to the following important assumption, particularly valid and useful when analysis of stocks is performed.

The contribution of one type of stocks (shares) to the risk of a well-diversified portfolio is measured by its β-coefficient. The higher the β-coefficient, the more the particular share contributes to the increase of the risk of the entire portfolio. Therefore, beta measures the sensitivity of a stock or of an entire portfolio vis-à-vis the whole market.

Stocks differ from one another in terms of their beta. If the beta coefficient for a particular stock is equal to 1, this means that its return equals the return of the market. If the beta of a stock equals 2, its price will be growing or decreasing with 2% for each change of the market with 1%. This type of stocks are considered high-risk ones. If the beta of a stock is 0.5, this means that its price will be growing or decreasing with 0.5% given the respective market change of 1%.

Stocks with beta of less than 1 are called "defensive". Their sensitivity towards the market is generally small. Vice versa, stocks with beta higher than 1 exhibit generally higher sensitivity to the market and are called "aggressive" stocks.

The beta of a portfolio is the average beta of the stocks included in it, weighed against their values in the portfolio.

A lot of research have been produced for the last twenty years with the aim of studying the performance of various betas across different economic sectors. In a contemporary research Bollerslev et al. (2016) have found that "the two rough betas associated with intraday discontinuous and overnight returns entail significant risk premiums, while the intraday continuous beta does not". The authors reach this conclusion after having studied almost 1000 stocks for over twenty years, using high frequency data. It therefore needs to be seriously taken into consideration when examining various investment choices.

*3.2.2. Non-systemic risk*s

Non-systemic risks, also called specific risks are those types of risk which influences a small number of assets. For example – news for an upcoming strike of the employees of a particular company will impact the prices of the stocks issued by this company. The only way for an investor to protect himself from non-systemic risks is diversification.

The following types of non-systemic risks can be identified:

- **Credit risk.** It occurs when the issuer of the bonds falls in a position not to be able to pay the coupons or the principle of the debt. This type of risk affects particularly investors who have bonds in their portfolios. Government bonds have the lowest levels of credit risk but they also can offer the lowest level of returns when compared to other asset classes. An indication of the level of risk can be found in the ratings the major rating agencies provide for the issuers.
- **Liquidity risk.** It is related to the possibility of losses in the realization of stocks upon changes in their characteristics. This happens when stocks are being sold at prices lower than their inherent value. That is why investors do not consider them credible assets. Liquidity risk originates from the transformation of the maturity and the currency structure of the portfolio. There are three types of liquidity risks:
    - Short-term liquidity risk;
    - Risk within the process of providing funding;
    - Market conditions based liquidity risk.

    Liquidity risks are particularly important in the strategies using FX derivatives (FXD). As demonstrated by Thapa et al. (2016, p. 46) the "ability to use FXD can be constrained by higher trading costs and the liquidity risks of the FXD available in different markets/currencies across countries."

- **Interest rate risk.** Interest rate risk is the risk of losses stemming from change of the value of the investment as a result of fluctuations in the interest rates.
- **Risk of unfair market behavior.** This type of risk is most often related to the possibility losses to be incurred as a result of fraudulent behavior on the part of the investor.
- **Capital risk.** Capital risk is common to all types of investment portfolios and cannot be avoided.
- **Selection risk.** This is the risk of incorrect choice of stocks or bonds in the portfolio compared to other choices. This type of risk is normally incurred from an incorrect judgment on the part of the investor as regards the investment qualities of the stocks or bonds.
- **Risk of futures delivery.** This kind of risk reflects the possibility of non-delivery of futures contracts. Investors need to be quite sensitive to it when buying futures.
- **Operational risk.** This is the risk of losses related to inadequate processes or people, or systems within the issuer, or from external circumstances.

A contemporary study has found that "financial companies have a significantly higher systematic risk than industrial companies" (Balaban, E., Ozgen, T., 2016). This point is of particular importance for investors when they seek to diversify their portfolios including in them stocks or bonds from different industries.

Apart from the above mentioned risks, for the last ten years especially, evaluation and management of other risks, such as environmental and social risks, has been gaining momentum. Investment portfolio strategies have been created in order to mitigate those risks in the investment portfolios. Organizations such as Eurosif, EFAMA and GSIF have systematized the specificities of those strategies, and by present, seven such strategies have been outlined, all of which gaining increasing attention from the investment community (Zhelyazkova, 2015, p. 519**)**. Needless to say that investor rely on information from the companies in which they plan to invest regarding their non-financial performance presented in the non-financial reporting they provide, especially in the so-called corporate social responsibility reporting (Peycheva, M., Veysel, A., Dineva, V., 2016, pp. 96), a practice which is becoming more and more common across the world.

4. CONCLUSION

It is important to underline that investors need to take into consideration all kinds of risks listed above when structuring and managing their portfolios, i.e. to have an all-embracive attitude when examining and estimating risks. All kinds of risks have their impact on the portfolio and its returns. Evaluating and following up the manifestation of these risks is part of the daily tasks of portfolio managers. It requires an excellent overall view of the economic situation and knowledge on the characteristics of the particular portfolio and how the various types of risks can affect it. Managing those risks in their entirety is a difficult task. There are several general rules which, when followed, can help both investors and investment portfolio managers in the process of managing risks.

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