

RISK OF INVESTING IN FINANCIAL INSTRUMENTS

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Abstract: Every action taken and decisions made take place under conditions of uncertainty, as the future may not always coincide with expectations. This uncertainty and the incompleteness of the information we have about the conditions for making strategic and operational decisions makes every business activity risky. The concept of risk accompanies man in all areas of life, including business activities.

Keywords: investment, risk, finance, economic decisions.

1. Introduction

In the economic sphere there are, among other things, companies that carry out operational, financial and investment activities. Each of them is subject to certain risks. They can make tangible, intangible and financial investments, such as ethical investments. Different types of ethical financial investment projects launched by companies are accompanied by certain risks.

The purpose of this article is to identify and present the process of measuring the burdening risks taken by companies undertaking financial investments of different types.

The formulated research problem reads as follows: Is the process of measuring the risk of ethical financial investments of companies a three-element category? The hypothesis is stated: the risk measurement process of ethical financial investments of companies is a three-element category. The paper uses the deductive and functional method.

2. The concept of risk and its division

Risk is a concept with many meanings, there is no single universal definition of it. Most often, risk is equated with danger, uncertainty, loss, probability of undesirable events or potential outcome. All of these concepts are elements characteristic of risk, but individually they do not explain this phenomenon only through the interrelationships between the various elements and interactions are the basis for defining risk.

Defining the term risk was undertaken in the 1920s by F.H. Knight, he distinguished risk from uncertainty. According to Knight, risk is "measurable uncertainty", at the same time he stressed that uncertainty *sensu stricto* is unmeasurable [Knight, 1964, p. 20]. The moment there is a possibility of measurement is when uncertainty becomes risk. It follows that risk is a narrower category than uncertainty. The appearance of risk is highly dependent on the attitude of the subject who acts under uncertainty. With a subjective determination of the probability comes to a decision, this causes the subject to already act under conditions of risk. Thus, one can speak of risk when the effects of the existence of uncertainty about a certain variable directly or indirectly affect the situation of the entity under consideration, that is, uncertainty is therefore a source of risk [Staniec, 2015, p. 12]. With an increase in uncertainty, there is an increase in the probability of achieving a result that is not what was expected. It follows that risk is uncertainty, which can be measured, for example, by probability. Risk and uncertainty refer to the future.

Based on Knight's definition, H. Markowitz developed portfolio theory, in which he defined risk as "the variance of returns, while pointing out that it is an undesirable phenomenon for investors" [Markowitz, 1952, p.77-91]. Risk, which is expressed in terms of statistical measures (variance), emphasizes the measurability of this phenomenon and its neutrality (not limited to negative effects only) [Staniec, p.13]. According to T.T. Kaczmarek, risk is a set of factors or activities that cause damage or material loss, its characteristic is the uncertainty of its consequences [Kaczmarek, 2006, p.52]. This means that the risk is associated with the possibility of failure, and in particular with the possibility of the occurrence of events beyond the control of the acting entity, which it cannot predict or fully prevent, and which, by reducing useful results or increasing expenditures, deprive the action completely or partially of the characteristic of effectiveness, advantageousness or economy [Kaczmarek, 1999, p. 11].

L. Pritchard, on the other hand, defined risk as "the cumulative effect of the probability of uncertain events that may favorably or unfavorably affect the implementation of a project" [Pritchard, 2002, p. 7].

The most general division of risks can be made into [Jajuga, 1996, p. 99]:

- inherent risk - it operates according to the law of large numbers are, for example, natural disasters,
- subjective risk - it is due to the fact that a person can imperfectly predict his actions, for example, miscalculate the market situation,
- objective risk, is related to the impossibility of predicting certain developments e.g. scientific discoveries in the future.

There are different ways and methods of dividing risk and its assessment is the result of the fact that it is an ambiguous concept. From the portfolio theory comes the basic division of risk from the point of view of the investor, it can then be divided into systematic risk and specific risk [Culp, 2001]. Systematic risk has the characteristics of market risk, it arises from events beyond the control of the economic entity involved. This is a type of risk closely related to the economic conditions that are in a particular country, region. Factors that affect this type of risk include, among others, interest rates, inflation, exchange rates, the market, purchasing power, the political and economic situation. On the other hand, specific (non-systematic) risk is a type of risk that can be controlled by a business entity and the area that is within this range is the business entity's area of operation. The sources of this risk are the choice of financial instrument, competition, business, finance, management, liquidity, price change, reinvestment and bankruptcy of the business entity.

Within the framework of specific risk, the literature has identified such categories and divisions of this risk:

- pure risk and speculative risk; if the only alternative to the current state is the occurrence of loss (damage), such a situation is referred to as a case of pure risk, but if unknown future events can cause both losses and profits, such a situation is referred to as speculative risk [Dziwago, 1998, p. 18],
- external risk it is independent of the bank's policies, such as institutional risk [Nowak, 1999, p. 240],
- static and dynamic risk - in the case of static risk, its existence is associated with natural phenomena and is not affected by technological progress, as opposed to dynamic risk, which is associated with changes in technology, are the result of civilization and economic or organizational progress,
- project risk - it depends on the technical conditions of the implemented project, what works in one entity does not have to work in another due to the scale of operations and the type of [Tarczyński, Mojsiewicz, 2001, p. 16],

- risk of the owners, which arises from the lack of interest of the owners in different directions of development of the company, this can lead to the minimization of the risk of business activity,
- company risk - occurs when the investing company misjudges future market conditions.

In business, such risks as financial and non-financial risks are distinguished, both one and the other risks affect the results that can be achieved by the business entity. With financial risk there is a direct impact on the amount of profit or loss, it can be measured. With non-financial risk, there is an indirect impact on the performance of the business, and this impact cannot be measured - it can be political risk, for example.

Within the framework of financial risk, Christopher L. Culp distinguished five categories of it, these are [Culp, 2002, p. 168]:

- market risk - this is the risk that is a consequence of any fluctuations in the financial market, it is associated with changes in the values of assets, liabilities, revenues, costs and cash flows, it is the result of fluctuations in the prices of financial instruments or interest rates, prices. The essence of market risk is the connection with active markets. Within the framework of market risk, currency risk, interest rate risk and price risk have been distinguished,
- financial (financial risk), is the risk that arises from the stability of money, from exchange rate fluctuations, taxes, budget deficits and public debt, as well as from the financial policy pursued,
- market liquidity - directly relates to the financial engineering used, is associated with the difficulties that can be when converting assets into cash especially in the short term, and the loss of the ability to timely service current obligations,
- credit (*default risk*) associated with the likelihood of default by the counterparty, also called contractual risk, this is the risk most often affecting business entities,
- legal - is the risk of losses that result from the inability to enforce a contract that had guaranteed performance of the terms by the other party. Within this risk is the withdrawal from the execution of the swap contract by the other party to the contract.

Classifying risk in terms of time horizon, one can distinguish:

- operational risk - short-term, which is related to the activities of the entity,
- strategic risk - long-term, which is related to long-term decisions.

In practice, various risks are interrelated, such is the case with currency risk and credit risk and interest rate and credit risk. The causes of some of the risks can be internal or external, and in some areas there is at least some overlap.

There are many more risks in the literature, many of which are related to the risk of investing in financial instruments.

3. Risks of investing in financial instruments

Every investment involves more or less risk. Financing in financial instruments is associated with risks associated with them, as well as general risks. Typically, a greater expected return is associated with a greater risk taken by the investor, this is due to objective and subjective reasons that cannot be completely eliminated. The riskier the venture is the involvement of the funds held by the investor, the higher the expected rate of income.

Investment risk is defined as the potential objective and subjectively perceived degree of danger in obtaining the financial benefits expected by the investor, i.e. the term risk is defined as the danger of loss or the danger of failure to achieve the goal assumed in making the decision [Jajuga, 2002, p. 56].

The risk of investing in financial instruments is the total of factors that can affect the financial instrument that is in the investor's portfolio reducing its value. Investment risk is characterized by many forms an investor should determine how much risk he is willing to accept before making an investment decision.

Investment risk has links to various types of risk, such as currency risk, interest rate risk, inflation risk, equity market share price risk, liquidity risk, stock market risk, price risk, competition risk and social risk.

Capital market stock price risk also market risk or bull bear market risk is the result of stock prices fluctuating - rising as well as falling. A positive or negative rate of return can then be realized. Stock prices fluctuate when there is uncertainty about the profit expected from the business entity. These risks arise when the object of investment is stocks or financial instruments that depend on stock prices (investment certificates, units). Stock prices are subject to high volatility in the short term, this is primarily due to the immediate situation of the issuer, its financial condition, as well as trends in the economy and market conditions. With a longer time horizon, price volatility is reduced.

The main risk factors in equities are [2]:

- 1) leverage - is encountered when purchasing shares using funds from a loan, then an increased level of risk appears. There is a risk of loss when the amount of invested equity funds is exceeded,
- 2) volatility risk - large fluctuations in the market price in a short period of time can cause a change in the value of invested capital,
- 3) risk of future share price - uncertainty about the direction of share prices in the future may result in a loss of part or all of the capital that was invested,
- 4) Risk of suspension of trading in shares or their exclusion from trading on the WSE,
- 5) liquidity risk - occurs when it is impossible to buy or sell an instrument without a significant impact on its price,
- 6) Risk of companies listed on more than one regulated market as well as the risk of foreign companies, i.e. companies based outside Poland, listed on the WSE arising, among other things, from limited access to information in Polish,
- 7) Compulsory buyout risk - is the need to sell shares held through a tender offer,
- 8) industry risk for companies operating in a specific industry,
- 9) macroeconomic risk - this is the sensitivity of the capital market to domestic and global macroeconomic factors min. budget and trade deficits, economic growth rates, inflation and interest rate levels, investment levels, consumer demand, commodity prices and the geopolitical situation.

For futures contracts, the main risk factors are [2]:

- 1) factors specific to the underlying instrument of the contract,
- 2) basis risk - a significant difference between the price of the derivative and the price of the underlying,
- 3) low liquidity risk - the inability to buy or sell an instrument without a significant impact on its price,
- 4) Margin risk - the possibility of losing his or all the capital that was invested,
- 5) risk of suspension of trading in contracts or their exclusion from trading,
- 6) dividend risk - with contracts that are based on price indices dividend payments of index components can negatively affect the valuation of the underlying instrument, as well as the futures contract.

With options, risk factors may include [2]:

- 1) factors specific to the underlying instrument, while the market price of an option is the resultant of market expectations of the future behavior of the underlying instrument,

- 2) volatility risk - in the short term, the market price can fluctuate a lot, which translates into a significant fluctuation in the value of the capital that was invested. Before selling an option, a margin must be paid, which is only a small part of the size of the total liability that results from the option standard, the so-called leverage. Therefore, there is a multiplication of investment risk in the occurrence of sudden and significant fluctuations in the price of options,
- 3) the risk of future development of the option price - uncertainty about the direction of the option price in the future may result in the loss of some or all of the capital that has been invested. When options are written, the loss can be unlimited,
- 4) liquidity risk - with some options there is a very low risk, this risk is the inability to buy or sell options without a significant impact on their price,
- 5) time lapse risk - this depends on the time left until the expiration of the option. As the expiration date approaches, the value of the option may fall even if the level of the underlying instrument does not change. The highest loss can be incurred by a client who takes a long position on options (that is, acquiring a call or put option) in the amount equal to the invested capital. On the other hand, the maximum loss of a client who takes a short position on options (that is, selling a call or put option) may significantly exceed the value of his deposit,
- 6) risk of suspension of options trading or their exclusion from trading - this is a risk arising from the current legal status,
- 7) dividend risk - in the case of call options based on shares of companies paying dividends or on price indexes, dividend payments components of the indices negatively affect the valuation of the underlying instrument and, consequently, options on the instrument.

Foreign exchange risk - is the risk of losing the value of an investment that is denominated in a foreign currency due to a change in the price of the foreign currency relative to the domestic currency [Jajuga, p. 104]. The rate of return on the investment is also dependent on changes in the exchange rate, in a situation where the currency of the investment strengthens against the investor's home currency, it will gain in value of his investment, when the home currency strengthens, there will be a decline in the value of the investment.

Interest rate risk - results from the volatility of interest rates. If an investor acquires a financial instrument that depends on the level of the interest rate then he realizes income or loss resulting from changes in the level of interest rates in the market. When acquiring a certificate of deposit bearing a fixed interest rate, the investor may incur a loss when the level of interest

rates rises in the market higher than the fixed rate on the certificate, with the level of interest rates in the market lower than the rate on the certificate - the investor gains.

The level of the interest rate depends on factors such as the level of prime rates, the supply and demand for money and the risk of the entity that lends the funds, i.e. the recipient of the money [Tarczyński, Mojsiewicz, p.170]. Fixed-rate and long-maturity securities are particularly exposed to interest rate risk; they react strongly to any fluctuation in interest rates.

Liquidity risk - occurs when an investor holds financial instruments that are relatively difficult to sell.

Default risk - applies primarily to debt documents, and can occur when the party issuing the financial instrument fails to meet the terms of the contract, e.g. fails to make a payment that is due to the other party, it is also the failure of the issuer to pay interest (with bonds), failure to pay dividends (with stocks).

Management risk - results from good or bad management of the economic entity that is the issuer of stocks or bonds, as a result of which the prices of financial instruments and investors' income will be either favorable or unfavorable.

Financial risk - is the result of the use of foreign capital by business entities in financing their activities (this primarily refers to bank loans). Too much foreign capital in the company's capital creates risk - the company cannot meet its obligations, this affects the value of financial instruments and the investor's income.

Business risk - also referred to as the risk associated with the volatility of income received by the issuer of the instrument, e.g. a mismanaged company is unable to generate income which translates into a decline in share prices.

Bankruptcy risk - is the risk associated with the risk of default and financial risk. If a stock or bond issuer goes bankrupt, it affects the value of the instruments and the investor's income.

Price change risk (holding period risk) - is a special type of interest rate risk refers primarily to bonds. This risk arises when the holder of a bond intends to sell it even before the maturity date, this may result in the risk of loss, which is related to the change in the price of the bond depending on the change in the interest rate.

Call risk (callability risk) - this refers to the risk of a financial instrument that has a call option "on demand", these are, for example, bonds with a call option redemption on demand. The risk occurs when interest rates fall at the time of the call for redemption.

Reinvestment risk - is the risk that occurs when funds that are obtained from an entity's ownership of a particular financial instrument are subsequently reinvested at a different interest rate (due to changes in market rates) than the instrument's rate of return [Tarczyński, Mojsiewicz, p.173].

Convertibility risk - this risk occurs when an instrument can be converted into another instrument, an example is convertible bonds. The risk arises when the conversion will be at a time unfavorable to the holder of the instrument.

4. Stability of the Polish financial system and the risks associated with it

The Polish financial system is an autonomous system, a manifestation of this is caution in taking risky actions, as well as high resistance to shocks that come from outside. Much of the credit for this goes to state institutions, which strive to maintain the stability of the Polish financial system.

If the financial system functions in a continuous manner and demonstrates efficiency, even in the event of disruptions of scale or unexpected events - this is a state of stability of the financial system. Any disruption in the financial system and the emergence of inefficiency in the provision of financial intermediation services translates into a deteriorating situation for business entities and households.

The Financial Supervisory Commission safeguards liquidity in the banking and insurance sectors and strengthens their capital positions. The Ministry of Finance supports financial institutions and their recapitalization, which is a safeguard in case of threats to the Polish financial market. In order to improve cooperation between the Financial Supervision Commission and the National Bank of Poland and the Ministry of Finance, the Financial Stability Committee was established. The Financial Stability Committee is the competent body for macroprudential supervision in Poland. The Committee's primary tasks are to identify, assess and monitor systemic risks that arise either in the financial system or its environment.

Recent years have shown that in the history of the world and Poland, phenomena previously unknown have occurred, and could not have been predicted. Such an event was the crisis caused by the Covid-19 pandemic and the outbreak of war in Ukraine. These are events that caused a shock to aggregate demand and supply, and uncertainty emerged over the entire economy. These two events left their mark on the Polish financial system and threatened its stability.

Only thanks to state intervention, which occurred through fiscal, monetary and micro- and macro-prudential policy measures, was it possible to reduce the economic consequences of

the pandemic [20]. At the beginning of the COVID-19 pandemic, the Financial Stability Committee issued a recommendation and the Minister of Finance rescinded a regulation that required banks to maintain a systemic risk buffer of 3% of national risk exposure [15]. The stability of the financial system is largely influenced by the dynamics and balance within the overall economy. Based on historical experience and the emergence of so-called scarred beliefs and expectations of entrepreneurs, one can postulate that long-term GDP growth and the natural real rate will be reduced percentage. "Historical experience shows that after the epidemic there was a significant decline in the dynamics of the economy, mainly as a result of a reduction in investment and an increase in savings" [19].

The war in Ukraine is having a huge impact on Poland's economy and financial system. Since the outbreak of the war in Poland, inflation has been rising rapidly, at the beginning of January 2022 it was – 9.2% and already at the beginning of May it was as high as 12.4%. The Monetary Policy Council, in order to curb this galloping inflation, decided to raise interest rates. The interest rate hike has an effect on exchange rates; the higher the interest rates, the more attractive the zloty becomes to investors.

The Polish currency is weakening as capital due to geopolitical risks is flowing out and away from Poland, risk aversion in the country is growing. Investors are withdrawing their capital as uncertainty grows among investors due to the proximity of ongoing hostilities. Currencies such as the U.S. dollar, the euro, the Swiss franc and the yen are strengthening, which is returning to China [21]. The weakening of the zloty contributes to Polish exports becoming competitive in the global market.

Since the outbreak of the war on the Polish financial market, there has been a preference for stocks over bonds in the portfolios of investment funds. Since the beginning of 2022, there have been discounts in stock markets and a visible increase in the yields of government bonds - a decline in their prices. Polish indices are becoming weaker and weaker. At the end of 2021, the yields on Polish government bonds in Polish currency rose significantly, they exceeded the levels that were quoted before the outbreak of the COVID-19 pandemic [13].

In order to minimize the interest rate risk, a recommendation was issued by the FSC and an opinion from the Financial Stability Committee and the Minister of Finance to replace the WIBOR index with an index that was indicated in the regulation. This is the indicator that the market for interest rate risk hedging instruments must have created [18].

5. Conclusion

Investing in financial instruments requires a great deal of knowledge and skill. There are, admittedly, occasional situations of obtaining large incomes by novice investors, as well as by investors guided by intuition in investing, however by far the more common situation is that a lack of knowledge of investment methods and principles leads to losses. It should also be added that investing in a professional manner is difficult, but it is also not a 100% guarantee of success.

Risk functions in a negative sense as well as in a positive sense, it refers to the effects of the risk. Risk in the negative sense is the danger of not achieving the goal that was adopted when making the economic decision, it is also the probability that the current amount of return on investment may be different from the amount that was expected. It is assumed that the defining characteristic of risk is that it describes recurring events, occurring cyclically or as a result of the information held quantifiable.

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