

Original Article: Investigating the Strategic Concept of Risk Management in the Stock Market and Investing



Amir Samimi¹, Marzieh Samimi²

¹Ph.D. of Science in Chemical Engineering, Process Engineer & Risk Specialist in Industries, Iran

²M.A in Agriculture Engineering, Food Engineer & Risk Specialist in Industries, Iran



Citation Samimi A, Samimi M, Investigating the Strategic Concept of Risk Management in the Stock Market and Investing. JEIR. 2021; 2(1): 1-6

doi <http://dx.doi.org/10.22034/jeires.2021.120228>



Article info:

Received: 08 June 2020

Accepted: 04 December 2020

Available Online: 05 February 2021

Checked for Plagiarism:

Dr. Sami Sajjadifar

Peer Reviewers Approved by:

Dr. Amir Samimi

Editor who Approved Publication:

Professor Dr. Mohammad Haghighi

Keywords:

Risk management, Capital, Market, Analysis, Strategy, Stocks.

ABSTRACT

In this study, risk management in stock market was investigated. The growth and development of the capital market as one of the important sectors of any country's economy requires having an efficient risk management system in it. In the business world today, the need for an integrated risk management system and risk-based investment analysis has become increasingly important for the development of the capital market. So that one of the main differences between investors, both institutional and individual in the competitive world, is the adoption of correct strategies and orientations in investment and economic activities. Stock risk management is one of the most basic skill needs of any smart investor in this market. Reasonable, scientific and successful financial investment in this market requires high risk management in the stock market. But risk management is itself part of sound capital management or sound money management. To cover the risk in investing, it is best to form an investment portfolio. The results of the present study show that company value has a negative impact on stock return risk, profitability has a negative impact on company stock return risk.

Introduction

There is a fixed principle in the investment culture that capital is risk averse and tends towards returns and profits. That is why risk-averse investors refuse to enter their capital where there is risk or there is an uncertain horizon against the profit and their capital. But is it possible to find a place where investing is not risky? The risk of losing the original capital is everywhere, some investments are high risk and some are low

risk. The investor expects a profit and a proportionate return regarding the investment risk.

Types of investments

The investors usually tend to business activities with the proportionate returns according to the relevant risk through financial analysis. In a normal market where market participants have appropriate information, higher returns will always lead to higher risks. This makes the decision to invest always be based on the relationship between risk

*Corresponding Author: Amir Samimi, (amirsamimi1161@gmail.com)

and return, and an investor always considers two factors of risk and return in analyzing and managing her portfolio. Investors can buy securities in two ways: the first way is for people to buy and sell stocks directly, which is called direct investment; or they can do this through financial intermediaries, called indirect investments [1-4].

Types of investors based on risk tolerance

Expected utility theory has introduced three types of trends based on the degree of risk tolerance by investors. According to this theory, investors are divided into three categories:

- Risk Averse
- Risk Loving
- Risk Neutral

Risk neutral investors are people who do not pay attention to the investment risk and only seek to maximize their return and their desirability is determined by the return on investment. Some investments and assets fluctuate more than others. As a result, investing in them is riskier. One group of investors is more risk loving than others; As a result, they are better able to cope with these fluctuations than others. When faced with two projects with equal returns, they choose the project that is riskier to invest in, because the benefits of succeeding in a high-risk project outweigh the disadvantages of losing them. They are more inclined to work in the stock market and are less inclined to deposit in banks. The last category is risk-averse investors. They are more interested in investing in cases where they have a safe return and avoid investing in risky projects. Most of them turn to bank deposits and believe that depositing in a bank is a safe investment. These three categories can each be divided into three different classes. For example, people who invest in the stock market are not all willing to accept the same level of risk. For example, some invest in stocks that are very risky (such as stocks with poor fundamentals that are in good technical condition and are expected to grow rapidly in the near future).

While others only invest in stocks of large corporations with strong fundamentals and high dividends, these stocks may grow slowly.

Capital management is defined as the professional management of a variety of assets in

order to achieve the investor's goals, whether tangible assets such as housing or intangible assets such as goodwill and brand equity. Each person's right strategy for investing is different. Factors such as education and financial literacy, age, income, initial capital, risk-taking, etc. lead to different investment strategies. After choosing the desired strategy, investors should monitor their investment portfolio and, if necessary, make the necessary adjustments according to their conditions and the market. When the inflation rate in a country increases, we will see a decrease in the purchasing power of money, which is said to have lost its value. So, it does not make sense to deposit all your money in the bank, because the inflation rate is higher than the bank's annual interest rate, and your money can not grow in line with inflation. This means that your money can not maintain its purchasing power. However, the capital market (stock exchange) can grow in line with inflation. In this market, people with proper investment and capital management can maintain the value of their money and even achieve attractive profits [5].

To cover the risk in investing, it is best to form an investment portfolio. To do this, a person divides her capital into several parts and takes each part to different markets. Each of the existing markets has a different risk and the duration of return and the expected rate of return are different for each of them. While choosing a target market for investment, one must consider the two variables of risk and return simultaneously, in fact, risk and return are two main elements in making investment decisions. Maximum return is always a good criterion for investing, given the minimum amount of risk. The figure above is just an example of a few markets in which people can choose different markets to invest and distribute risk according to their circumstances. They can even increase or decrease the number of selected markets. Capital management is very important, especially in corporate affairs. For example, if a company is looking to build a new production line, it needs a lot of cash to build that line. In these cases, the manager examines the company's portfolio to determine which investments are converted into cash faster.

If a large percentage of the company's portfolio is real estate, it will take a long time for these properties to be converted into cash. On the other hand, if a large part of the portfolio consists of

shares, it can be more easily converted into cash and use the money earned to launch a new production line [6-8].

Strategic concept of risk management and ways to deal with it

Risk management is a two-step process: identifying investment risks and then managing those risks in the best way that fits the investment goals (maximizing profits, minimizing costs, or any other goal). Risk management can be done anywhere in the financial world; commodity exchanges are the main place in the world to cover the risk of price fluctuations. However, it is necessary to pay attention to the fact that the activities of traders in their financial markets, motivated by risk-seeking coverage with the aim of speculation, can direct risk to the activities of the stock exchange. For example, when an investor is willing to fulfill his obligations in certain circumstances, he transfers all his obligations to the stock exchange. Therefore, in addition to providing a suitable environment for risk coverage, stock exchanges should apply various policies and methods in order to control the risks that may be created for them by the performance of market participants [9-11].

Risk analysis when planning and designing a project allows business owners to anticipate or mitigate their problems. Risk is an integral part of financial and banking activities. All accrediting institutions put themselves at risk, regardless of the goal they pursue. Risk arises in situations where the following conditions are met:

The action or activity performed produced more than one possible outcome;

It is not clear which will be achieved until the results are achieved and tangible;

At least one possible outcome can have unintended consequences [12-14].

In this definition, project risk management is "all processes related to identifying, analyzing and responding to any uncertainty, which includes maximizing the results of desirable events and minimizing the consequences of adverse events."

Life in its real face, and especially in its economic face, is associated with threats and dangers. In economic texts, the head of the group of risks in the economy is the risk of fate, which is the

coercive force and the basis and source of suspension of most treaties.

Applications of risk analysis

When planning and designing a project, it allows business owners to anticipate or mitigate their problems.

When the project stops

When managing potential risks

At the time of a work system error (equipment failure, staff illness, natural disasters, etc.)

At the time of designing and making changes in the business due to changes in the country's labor policies or the entry of new competitors in the market [15].

Risk management is one of the important areas of project management that is used in developed countries in an organized and legal manner in all projects. Insufficient knowledge of managers of executive organizations and public contractors in Iran about the issue of project management, has led to efforts to take advantage of this discussion in the form of copying its foreign version which is not compliance with the technical, environmental and diplomatic conditions of Iran. The purpose of implementing the project risk management process is to identify the causes of each risk, analyze it as much as possible, plan and implement response methods and assign risks to competent agents, in order to effectively control the preferred risks of each project [16].

How to use risk analysis

Challenges are identified and used to eliminate or minimize business risks.

Identifying Challenges: The first step in risk analysis is identifying potential challenges that usually have multiple sources.

Human Challenges: Includes illness, death, and other possible factors that lead to staff loss.

Operational challenges: Disruption of the supply or distribution system, loss of access to raw materials.

Credit Challenge: Loss of customers, declining corporate reputation and notoriety in the market.

Procedural challenges: Errors in internal systems, auditing and control due to fraud and filing etc. [17].

Project Challenges: Increased project implementation costs (over budget), lengthy processes, product quality and service problems

Financing Challenge: Market fluctuations, changes in interest rates, unavailability of budget and financing funds [18].

Technical Challenges: Increasing technological advances, system errors

Natural Challenges: Natural disasters such as floods, earthquakes, fires etc.

Political Challenges: Changing tax laws and government policies, changing public opinion and foreign policy [19].

Risk Assessment: After identifying the challenges in the business, the probability of its occurrence and its effects on the business should be calculated.

Risk avoidance: Risk avoidance is one of the management strategies that usually helps to avoid a project at work because the challenges and negative effects of the project may be more than the amount of profit.

Risk Sharing: Risk sharing involves doing some collaborative activities with organizations, teams, and third parties. This minimizes business risks and, on the other hand, all the gains from the success of the work are shared between teams and organizations [20].

Risk acceptance: Risk acceptance is done when the costs of challenging the business are less than the costs of dealing with the risks and preventing them from occurring (in other words, it is simply accepting the risk to prevent it).

Identification measures: include identifying factors that can cause errors. This allows managers to quickly fix any errors in the process. These include reviewing financial statements, ensuring product safety and security before distribution, or installing appropriate sensors to detect system errors.

Designing, implementation, review, implementation: This method, like the business testing method, is one of the appropriate methods to prevent the negative effects of potential challenges in high-risk situations, which tests existing ways to reduce risk. This method includes four phases of analyzing the conditions, creating and testing the solution, reviewing the solution and finally implementing it.

Risk reactions are basically classified into these four groups. Also called risk strategies.

Avoidance: Uncertainty should be removed from the project, i.e. risk in the project should be made impossible (the probability of happening should be reduced to zero). Or the plan can be implemented in another way that eventually achieves the same predetermined goals. As a result, the project is safe from the effects of risk. (The risk effect on the project should be reduced to zero.)

Transfer: Finding another risk loving person who is more capable of managing risk, that is, someone who is able to take responsibility for performing the action.

Calming: Reducing the amount of risk in order to make it acceptable to the project or organization by reducing the impact or likelihood of risk.

Acceptance: These risks must be accepted and responded to, either actively through appropriate cost allocation or passively without doing anything.

These four types of strategies are only appropriate in dealing with threats, otherwise any managers don't want to avoid an opportunity or reduce the impact or likelihood of an opportunity. Therefore, new strategies are needed to respond to opportunities. It is suggested that these strategies can be derived from threat strategies. This can be done by generalizing the method used for threats. Four strategies for reacting to opportunities are suggested:

- **Exploitation:** This strategy is parallel to the avoidance strategy, which is a way to eliminate uncertainty. This strategy is trying to make sure that opportunities happen. (This means that it increases the probability of occurrence of the opportunity by 100%). The criteria used in this strategy try to

ensure that the current benefits of the opportunity - if realized - are delivered in the project [21].

- **Participation:** The transfer strategy is to delegate responsibility to a third party who can better manage the threats in the organization. In the sharing strategy, we are looking for situations that are more capable of managing opportunities. That is, someone who can maximize the chances of an opportunity occurring and increase its potential benefits. As the transfer strategy transmits the threats, so does the distribution of opportunities in the same way.
- **Increase:** Equivalent to the strategy of calming a threat is a strategy of increasing opportunity. Calming down reduces the degree of threat by reducing the likelihood or impact. While the increase strategy seeks to increase the probability in order to maximize the benefits of the project.
- **Ignore:** The acceptance strategy does not include any plans for the remaining threats, except for threats that are likely to have a relative impact on the project. Therefore, minor opportunities can also be ignored. In this strategy, a reaction method is adopted without performing a clear operation.

The method chosen at this stage should be applied equally to both threats and opportunities, and no changes, even minor ones, are suggested. This stage should not be underestimated because many organizations practically failed to achieve their goals due to lack of attention to this stage of the process [22].

Investigation of financial risk management

Financial risk management refers to the process of gradual and continuous improvement of acceptable financial value in any organization. Financial instruments are commonly used to assist the management team in managing risk disclosure, especially credit risk and market risk. Other risks include stock risk, supplier risk, customer risk, partner risk, financial risk, liquidity risk, and interest rate, (foreign) currency rate, and exchange rate and commodity price risks. The financial risk management algorithm is similar to general risk management. The financial risk management process is generally divided into three stages: identify sources of risk, evaluate it and develop relevant plans. Both quantitative and qualitative

approaches are applicable and possible in financial risk management, and the use of each of these methods depends on the type of risk faced by the management team.

Financial risk management analysis

Suppose a company or a financial management team intends to calculate the severity and types of potential risks. To do this, the team must analyze the whole situation and use a technique, approach or method that is more applicable than other methods to prevent the risk from occurring or to minimize its effects.

Methods of conducting financial risk management analysis

Value at risk (VAR): One of the most important methods or measures for managing financial risk is VAR analysis. Value at risk is calculated based on the amount of potential damage, the probability of severity of damages and the duration.

Imagine a hypothetical project carried out by a financial company with a risk value of Rs 7,000 and a total capital of Rs 20,000 per month. This means that there is a 7% chance of losing 20,000 rupees per month during the project life. Another example is the typical investment of a company or an individual. If the VAR measurement criterion is Rs 10,000 and the confidence level is 38% confidence during the 29-day period without investment or sale until the 29th day, then there is a 38% chance that the investor will lose Rs 10,000 in a month. The value at risk is an approximate amount for the possibility of financial loss. Actual losses may be more or less than the estimated value.

Regression Analysis: Another method or approach of financial risk management is regression analysis. This analysis is to study the effects and consequences of exposing a variable to any kind of change. This analysis, for example, shows how much liquidity changes will occur when interest rates rise or fall.

Scenario Analysis: Scenario analysis is another powerful method of financial risk management. It is even sometimes considered as one of the financial risk management techniques. Also called pressure test, sensitivity test or "what if" analysis.

In this method, managers and financial teams discuss and prepare several hypothetical yet relevant scenarios, and the question they ask is: what will happen if this situation occurs? Other questions are: What will happen if the stock market falls 48%? What if the central bank raises interest rates by 29 percent?

After evaluation, the results of the hypothetical scenario analysis, taking into account the risk disclosure based on the calculations, become a small value that indicates the amount of loss due to the risk. The maximum projected number of losses is then considered as the worst-case scenario.

Conclusion

Risk management or risk control means that a trader must be aware of the amount of forces in the opposite position. In addition, risk management includes instructions on how to deal with trading failures, how to reduce risk, and how to set performance standards. Therefore, risk management determines the standards and guidelines in which the financial management method should be selected. The purpose of financial risk management as a specific branch of risk management is to help prioritize financial instruments and use them to manage costly risks. The interdependence between risks makes them more risky, and the company or amount invested becomes more vulnerable. For example, currency rates and interest rates are highly interdependent. Therefore, their dependence should be considered when developing a financial risk management framework. Financial risk management is designed and implemented using efficient financial tools to protect the company from various financial risks.

References

- [1] Braglia M, Frosolini M, Montanari R. *Quality and Reliability Engineering International*, 2003, 19, 425–443.
- [2] Carr V, Tah JH. *Advances in Engineering Software*, 2001, 32, 847-857.
- [3] Ebrahimnejad S, Mousavi SM, Seyrafiyanpour H. *Expert Systems with Applications*, 2010, 37, 575-586.
- [4]. Rosenberg JV, Schuermann T. *Journal of Financial Economics*, 2006, 79, 569-614.
- [5]. Samimi A, Samimi M, Investigating the Strategic Concept of Risk Management in the Stock Market and Investing”, *Journal of Engineering in Industrial Research*, 2019, 2(1), 1-15.
- [6]. Domnikov A, Khodorovsky M, Khomenko P. *Economy of Region*, 2014, 2, 248–253.
- [7]. Mohammadnazar D, Samimi A. *Journal of Chemical Review*, 2019, 1(4), 252-259.
- [8]. Domnikov A, Khomenko P, Chebotareva G. *WIT Transactions on Ecology and the Environment*, 2014, 186, 13–24.
- [9]. Gazeev MKh., Volynskaya NA. *Bulletin of Higher Educational Institutions*, 2012, 3, 37-41.
- [10]. Shattuck T, Slaughter A, Zonneveld P. A report by Deloitte Center for Energy Solutions, 2017.
- [11]. Trujillo-Ponce A, Samaniego-Medina R, Cardone-Riportella C. *Journal of Business Economics and Management*, 2014, 15(2), 253–276.
- [12]. Osinovskaya IV. *Economy and Entrepreneurship*, 2015, 8-1, 767-770.
- [13]. Samimi A, Zarinabadi S, Setoudeh M. *International Journal of Basic and Applied Sciences*, 2012, 1(2), 429-434.
- [14]. Walls MR. *Society of Petroleum Engineers*, 1994.
- [15]. Delquie P. *Decision Analysis*, 2008, 5, 5-9.
- [16]. Ben-Tal A, Teboulle M. *Management Science*, 1986, 32, 1445–1446.
- [17]. Street A, *Internal Research Reports*, 2009.
- [18]. Samimi A. *Progress in Chemical and Biochemical Research*, 2020, 3(2), 130-134.
- [19]. Andrieu L, Lara MD, Seck B. presented at the *Seminaire Louis Bachelier*, 2011.
- [20]. Goudarzi M, Mossallami Aghili S, Mokhtary Tajeek Z, *Int. J. Adv. Stu. Hum. Soc. Sci.* 2019, 8(3), 301.
- [21]. Bakhtyari M, *Int. J. Adv. Stu. Hum. Soc. Sci.* 2019, 8(2), 126-131.
- [22]. Samimi A. *Progress in Chemical and Biochemical Research*, 2020, 3(2), 130-134.
- [23]. Samimi A, Samimi M. *Journal of Engineering in Industrial Research*, 2(1), 1-15
- [24]. Samimi A, (BOOK). *A Review of Risk Management (According to ISO 31000, 2018)*, Scholar Press Publishing, ISBN: 978-613-8-94189-7