IJARSCT

ISSN (Online) 2581-9429

International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal

Impact Factor: 7.53

Volume 4, Issue 5, March 2024

Risk Management in Stock Market

Shravani Ashish Dhumal[1] and Dr. Basukinath Jha[2]

Research Scholar[1] and Assistant Professor[2]

The Byramjee Jeejeebhoy College of Commerce, Mumbai, Maharashtra, India

Abstract: *This research paper delves into the critical aspects of risk management within the stock market, aiming to provide insights and strategies to enhance risk management practices for investors and market participants. Through a comprehensive review of existing literature, various dimensions of risk in stock market investments are explored, including market risk, credit risk, liquidity risk, operational risk, and systemic risk. The paper analyzes different methodologies and tools utilized in risk assessment and mitigation, such as Value-at-Risk (VaR), stress testing, derivatives, portfolio diversification, and hedging techniques. Furthermore, it examines the role of regulatory frameworks and institutional mechanisms in managing risk within the stock market ecosystem. Drawing upon empirical evidence and case studies, the paper highlights best practices and emerging trends in risk management, along with potential challenges and opportunities for future research and implementation.*

The main objective of present study is to present review of literature related to Indian Stock Market to study the Indian Stock Market in depth. The study would facilitate the reader to know the past, current and future trend, or prospects of Indian Stock market. This study would provide guidelines to investor to maximise profit with minimize risks. High degree of volatility in the recent times in the Indian market has led to more development in the future.

Keywords: Securities, Derivatives, NSE, BSE, Public Issue, Maximise Profit, Minimize Risk

I. INTRODUCTION

Risk management in share market is a crucial aspect. The stock market is an inherently volatile environment where risks can arise from a variety of factors, such as market trends, economic conditions, company performance, and geopolitical events. Therefore, it is essential for investors to have a well-defined risk management strategy that can help them mitigate potential losses and maximize returns. By implementing risk management techniques, investors can make informed investment decisions and minimize the impact of market fluctuations on their portfolios. In this context, this essay aims to explore the concept of risk management in the stock market, its significance, and the different strategies that investors can use to manage risk effectively.Risk management is a systematic process of identifying, assessing, and mitigating risks associated with an activity or investment. The main objective of risk management is to minimize the potential impact of risks on an investment portfolio while maximizing its returns.Risk management in stock market involves a comprehensive approach that considers various factors that can impact an investment portfolio. These factors may include market trends, economic conditions, political events, and company performance, among others. There are several risk management techniques that investors can use to manage risks effectively. One popular strategy is diversification, where investors spread their investments across different asset classes or securities to reduce the impact of market fluctuations on their portfolio. Other techniques include hedging, where investors use financial instruments such as options or futures contracts to offset potential losses, and active portfolio management, where investment managers continuously monitor and adjust their portfolios in response to changing market conditions.

Definition:

It is a place where shares of pubic listed companies are traded. The primary market is where companies float shares to the public in an initial public offering (IOP) to raise capital.

Once new securities have been sold in the primary market, they are traded in the secondary market—where one investor buys shares from another investor at the prevailing market price or at whatever price both the buyer and seller agree

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upon. The secondary market or the stock exchanges are regulated by the regulatory authority. In India, the secondary and primary markets are governed by the Security and Exchange Board of India (SEBI).
A stock exchange facilitates stock brokers to trade company stocks and other securities. A stock may be bought or sold only if it is listed on an exchange. Thus, it is the meeting place of the stock buyers and sellers. India's premier stock exchanges are the Bombay Stock Exchange and the National Stock Exchange.

Objective:
The objectives of a stock Market can be summarized as follows:

- To Facilitate Capital Formation
- To Enable Easy Trading and Liquidity
- To Establish Fairness and Transparency in Pricing:
- To facilitate the exchange of securities between buyers and sellers thus providing a market place

II. REVIEW OF LITERATURE

Comptroller's Handbook (1997): defined derivative as an instrument that primarily derive its value from the performance of underlying interest or foreign exchange rates, equity, or commodity prices. In this article, financial risk has been divided into 9 categories and various measurement and management techniques have been discussed to eliminate the effect of all these types of risks. Value-at-risk (VAR) is one of the most common methods used by dealer banks to measure aggregate price risk.
Ghose.T.P. (1998): conducted a study on VAR (Value at Risk). There are two steps in measuring market risk; the first step is computation of the Daily Earning at Risk; the second step is the computation of the VAR. He stated that price sensitivity could be measured by modified duration (MD) or by cash flow approach. He reviewed the various types of risks in relation to the different institutions.
Hanif and Bhatti (2010): analysed the stability of CAPM in KSE by using the data of 60 firms listed in KSE from the year 2003 to 2008. They found that CAPM is applicable to calculate the accurate return only for a limited period. Results show only 28 out of 332 observations support CAPM. They conclude that CAPM is not reliable in predicting the risk and return relationship. Hui and Christopher (2008) investigated the validity of CAPM in Japan and US stock markets.

III. RESEARCH METHODOLOGY

Planning Your Trades: As Chinese military general Sun Tzu's famously said: "Every battle is won before it is fought." This phrase implies that planning and strategy—not the battles—win wars. Similarly, successful traders commonly quote the phrase: "Plan the trade and trade the plan." Just like in war, planning can often mean the difference between success and failure.
Consider the One-Percent Rule**:** A lot of day traders follow what is called the one-percent rule. Basically, this rule of thumb suggests that you should never put more than 1% of your capital or your trading account into a single trade. So, if you have $10,000 in your trading account, your position in any given instrument should not be more than $100.
Setting Stop-Loss and Take-Profit Points: A stop-loss point is the price at which a trader will sell a stock and take a loss on the trade. This often happens when a trade does not pan out the way a trader hoped. The points are designed to prevent the "it will come back" mentality and limit losses before they escalate. For example, if a stock breaks below a key support level, traders often sell as soon as possible.
How to More Effectively Set Stop-Loss Points: Setting stop-loss and take-profit points is often done using technical analysis, but fundamental analysis can also play a key role in timing. For example, if a trader is holding a stock ahead of earnings as excitement builds, they may want to sell before the news hits the market if expectations have become too high, regardless of whether the take-profit price has been hit.
Calculating Expected Return: The importance of this calculation cannot be overstated, as it forces traders to think through their trades and rationalize them. It also gives them a systematic way to compare various trades and select only the most profitable ones.

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Diversify and Hedge: Making sure you make the most of your trading means never putting all your eggs in one basket. If you put all your money into one idea, you are setting yourself up for a big loss. Remember to diversify your investments—across both industry sector as well as market capitalization and geographic region. Not only does this help you manage your risk, but it also opens you up to more opportunities.

Risk management strategies in stock market

- **Stop loss:** This is the lowest price that the investor is willing to sell and prevent further loss. Setting a stop-loss point is useful when the market does not move as per the investor expectations. It is beneficial in preventing the „price will come back" mentality and limiting the loss on the investment.
- **Profit Point:** This is the price at which the investor is willing to sell his investment and book profits. This point is beneficial to reduce the risks when the possibility of further price increase is huge. Booking profits on stocks that are nearing their resistance levels after large gains ensures that investors sell these before consolidation occurs and prices begin to decrease.
- **Adding non-cyclicals to the portfolio:** These are stocks of companies that sell essential goods and, as such, are relatively insulated from economic cycles. Examples include pharmaceutical and Fast-Moving Consumer Goods (FMCG) stocks. Why you wonder? This is because people cannot stop spending on healthcare and groceries, irrespective of the state of the economy. At best, they may reduce their spending on some essential goods and services. As such, non-cyclical stocks have relatively stable revenues, which translate into stable stock prices. You may find many experts call them „Defensives".
- **Hedging:** Hedging refers to the use of derivative instruments, such as Futures and Options contracts, for risk management in equity. A futures contract helps you to fix the price for a future buy/sell transaction in the future. This way, you can cut down the risk of price fluctuations. For example, even if the price of your stock falls, you can sell it at the higher price that you fixed. Similarly, you can buy at lower rates even if the price rises thanks to derivatives contracts. There are different types of such derivatives contracts that you can use. We‟ll read about these in depth in the Derivatives section.
- **Investing in dividend-paying stocks:** Companies that have a history of consistent dividend payments are usually strong, established companies. Adding them to your portfolio can shield you from equity risk. Companies are generally reluctant to cut their dividends because the market perceives a dividend cut as a sign of poor financial health. As such, dividend-paying stocks also ensure that you receive a constant stream of returns, even if their prices fall. They reduce risk by bringing more predictability and stability to your portfolio.
- **Opting for blue-chips:** Not all stocks have the same risk. Stocks of smaller or medium-sized companies can be riskier and more volatile in the stock market. This is because such companies are more prone to various business risks. Established companies, meanwhile, can be more stable. This extends to their stock prices too. So, you can reduce risk by opting for such stocks
- **Pairs trading:** This is a good way to mitigate equity risk when you are anticipating a big price move, but are not sure of its direction. An example is when a big regulatory decision is expected to be made, but you don‟t know what the decision will be. In such cases, you simultaneously buy the stock of one company and short sell (i.e. sell first and cover by buying later) the stocks of another company from the same sector. Ensure that both stocks are not related and are likely to benefit in different ways. This ensures that irrespective of which stock rises or falls, you profit. We‟lllook into this in detail in the Technical Analysis section.

Data analysis:

Exploratory Data Analysis (EDA) is a crucial step in data science projects. It helps in understanding the underlying patterns and relationships in the data. In this tutorial, we will perform EDA on the S&P 500 dataset using Python.

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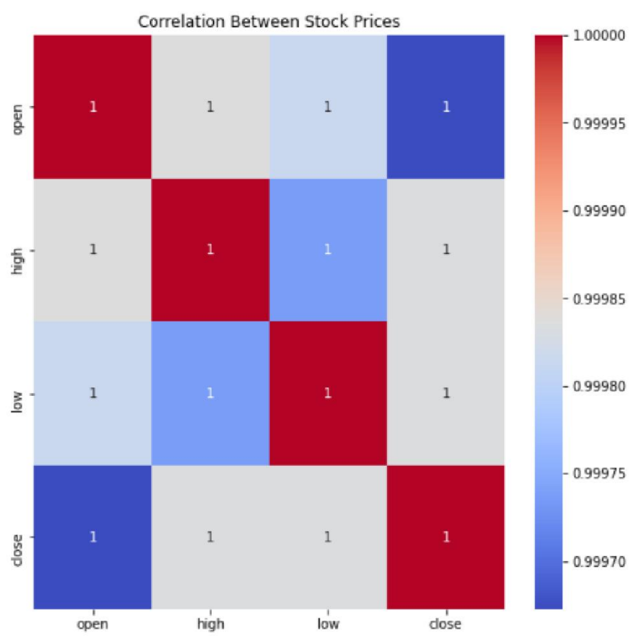
```
df['year'] = df['date'].dt.year
sns.boxplot(x='year', y='close', data=df)
plt.title('Closing Stock Prices by Year')
plt.xlabel('Year')
plt.ylabel('Closing Stock Price')
plt.show()
```



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From the plot, we can see that the closing stock prices have generally increased over the years, with some outliers.Heatmap: We can create a heatmap to visualize the correlation between the stock prices using the seaborn library. From the heatmap, we can see that the opening and closing prices have a strong positive correlation, while the low and high prices have a weaker positive correlation.We can start by visualizing the distribution of the target variable, which in this case is the closing stock price. We can use a histogram to visualize the distribution.

IV. CONCLUSION

In conclusion, risk management is an essential aspect of investing in the stock market. As the stock market is inherently volatile and subject to numerous risks, implementing a well-defined risk management strategy is crucial for minimizing potential losses and maximizing returns. The significance of risk management in the stock market cannot be overstated, as it enables investors to navigate the complexities of the market and achieve their investment objectives while maintaining a level of control over their portfolios. By prioritizing risk management in their investment strategy, investors can optimize their returns and achieve long-term financial success.

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