Ramchandra Ghimire

Best Strategies for Buying Stocks in a Bear Market

Behavioural Finance and Risk Management

Metropolia University of Applied Sciences

Bachelor of Business Administration

International Business and Logistics

Bachelor's Thesis

May 2025

Abstract

Author(s):	Ramchandra Ghimire
Title:	Best Strategies to Buy Stock in a Bear Market
Number of Pages:	46 pages
Date:	05 May 2025
Degree:	Bachelor of Business Administration
Degree Programme:	International Business and Logistics
Specialisation option:	Finance
Supervisor:	Kevin McIntire, Senior Lecturer

Bear markets- Periods of market decline and uncertainty in which investors may get chances to identify mispricing, which can be exploited through intelligent trading strategies (Malkiel, B.G,1989). The objective of this paper is to study is there are any best strategies which can be used by individual investors and to know the importance of behavioral finance in the market. In addition to that the paper investigates the options that can be used for risk management. The Study is based on Secondary data that includes academic literature, news articles, financial reports and expert analysis of the market. The paper found that even with the advancement in technology, the combination of value investing strategy with hedging strategy appears to be the effective strategy for the Investment in a bear market however, it all depends on investors' goals, risk tolerance, and knowledge. In addition to that, liquidity management plays a key role in the market. The paper also finds that Macroeconomic indicators and Federal reserve policies may not be directly useful in a value investing approach, but they play a key role in looking at the overall situation of the market but hedging strategy is directly influenced by macroeconomic indicators so if an investor is using the combination of value investing and hedging strategy microeconomic indicators are more important.

Keywords: Bear Market, Mispricing, Risk Management, Value Investing Strategy, Hedging Strategy, Liquidity Management

Contents

List of Figures

Glossary

ALGO	Algorithmic
CMF	Chaikin Money Flow
EMH	Efficient Market Hypothesis
FED	Federal Reserve
GDP	Gross Domestic Product
HFT	High-Frequency Trading
MACD	Moving Average Convergence/Divergence indicator
NYSE	New York Stock Exchange
RSI	Relative Strength Index

1 Introduction

The efficiency of financial markets has been of much concern to economists and investors for many years (Bailey,2005). The theory that has gained the most recognition is the Efficient Market Hypothesis (EMH), which states that security prices reflect all available information and, therefore, it is difficult to predict their future values. However, bear markets – periods of market decline and uncertainty may identify mispricing that can be exploited through intelligent trading strategies (Malkiel, B.G,1989). A basic rule of investing is to buy low and sell high (Gitman & Joehnk,2015). Bear markets are characterized by low asset prices and open opportunities to buy. However, the problem is that it may not be possible to determine the correct time for such investments (Schultz, H.D,2002). During the 2008 financial crisis, many people panicked and left the market, while others bought low and sold high in the long run. Warren Buffett, one of the biggest investors in the world, has invested according to the value investing strategy and has been successful (Graham and McGowan,2003).

In his book “The Essays of Warren Buffett: Lessons for Corporate America” (2001), Buffett stressed that one should not panic and make decisions based on the market movements. Instead, he suggests focusing on the fundamental value of the enterprise rather than the market sentiments. Buffett has been able to build Berkshire Hathaway by identifying good businesses at low prices and holding them for many years to allow their value to be appreciated. However, it does not mean he perfectly timed the market; it means that the financial market needs patience, but it needs good knowledge and the strategy to select a good stock. Ancient strategies such as value investing have been compounded by technological advancement, especially algorithmic and high-frequency trading. These are trade executions that are made quickly and automatically, and they only add to the complexity of the investment process. Hence, it is crucial to employ data analysis in the assessment of bear markets (Maheu, McCurdy & Song, 2021). Moreover, the theory of behavioral finance is also relevant as investors’ behavior is ruled by such things as fear, herd instinct, and the fear of

loss (Shiller, 1989). Buffett also cautions against following the crowd, arguing that “the market is there to take the money away from the passive investors and give it to the active traders,” which explains why one must remain disciplined during volatile market conditions.

Historically, value investing, as advocated by Benjamin Graham, has been a good strategy for all markets. However, due to the current world with algorithmic trading, fast decisions, and global events, such as the COVID-19 pandemic, new approaches are needed (Maheu, McCurdy & Song, 2021). According to the literature, investors’ behavior affects the trends in the market through their assessment of future economic trends (Barsky & De Long, 1990). For instance, the COVID-19 crisis was a clear example of how strategies must be changed in the face of a sudden market shock. In line with the traditional value investing approach, Buffett has also shared his views on investing during a crisis. He points out that, during downturns, most corporations are overreacting to the sentiments of the market rather than the fundamentals of the company. This view is consistent with the buy-and-hold strategy of investing in recognized value stocks in bear markets, which was observable during the 2008 financial crisis and other economic downturns. This is where Buffett’s principle of ‘being greedy when others are fearful, and fearful when others are greedy’ is understood.

The objective of this study is to determine if any strategies can be used to choose a stock in a bear market. In addition to surveying existing literature on the topic. It will examine the prices, trading volume, and other factors, such as macroeconomics, to see if they help in identifying undervalued companies. Also, the study will examine if algorithmic trading can enhance value investing strategies and how behavioral factors affect market movements during downtrends. In addition, the role of psychological factors like overreaction and fear leading to selling will be discussed to gain an understanding of the decision-making process. To arrive at the findings of the study, the work of Graham, Buffett and other contemporary scholars will be reviewed to derive some practical recommendations for investors to trade through bear markets.

The results will help to enhance the knowledge of how investors can recognize the potential, avoid the risks, and take advantage of the market declines with a systematic approach. The implications of the study will help to increase the understanding of how investors can look for opportunities, avoid threats, and profit from market declines with the help of a systematic approach.

1.1 Methodology

This Study uses an analytical approach to see if it is possible to determine the strategies to purchase stocks in the market during bear seasons. Information from historical stock markets, behavioural finance, and investment strategies is used to analyse overall market behaviour. The study is based on secondary data sources that include academic literature, news articles, financial reports and expert analyses of the market. These works provide a detailed understanding of the behaviour of various market participants during down turns and help in providing practical suggestions on how to make investment decisions during bear markets.

1.2 Research Design

The Study follows a mixed methods design that uses qualitative and quantitative analysis, which combines financial theory with historical case studies to evaluate stock market behaviour during bear markets. The study looks at previous downturns like the 2008 financial crisis, the Dot-com Bubble, and the COVID-19 crash to understand the patterns of decision-making among investors and market recoveries.

1.3 Data Collection

The data for this research is gathered from different secondary sources, including the S&P 500 and Dow Jones Industrial Average from stock markets, financial reports from Bloomberg and CNBC, and literature reviewing behavioural finance and investment approaches. Quantitative data includes key market indicators like P/E ratios, moving averages, and Bollinger Bands. The qualitative aspect is derived from investor psychology and financial literature, including the investment principles of Warren Buffett, Benjamin Graham's principles, and the behavioural finance notions discussed in Fuller, Han & Tung (2010). Moreover, Maheu, McCurdy & Song (2021) offer a statistical model that empirically analyses market phases and transitions to provide a better comprehension of market sentiment as well as risk assessment. As a result, these sources offer a wide data set that enables a thorough analysis of market sentiment, value investing strategies and hedge fund approaches.

1.4 Data Analysis

The study combines both qualitative and limited quantitative methods to analyse market trends and investment strategies. First, the historical data are used to analyse the trends in the stock prices over the period preceding the bear market, during the bear market and after the bear market. This paper also combines other indicators, such as moving averages of price averages, to help in informing the time of entry into the market.

This Study also explores behavioural biases such as loss aversion and herd mentality in the context of investor response to bear markets with insights from Graham's conservative investment approach and Buffett's contrarian approach. In addition, Schwager's analysis of hedge fund performance gives a different view of the market and timing as well as risk management. The application of the concepts from Cunningham (2001), Fuller, Han & Tung (2010), and Maheu, McCurdy & Song (2021) also support the behavioural finance part of the analysis

and help to understand the psychological and statistical factors that affect investment decisions during bear markets.

2 Market Efficiency

To discuss the bear markets, firstly, we need to talk about market efficiency because if inefficiencies exist, then the investors should exploit the opportunities, and it will be more beneficial in bear markets (Daniel and Titman,1999). In financial markets, the view of efficiency is related to the informational content of asset prices. The efficient market hypothesis states that security prices should reflect all information available to Investors. In the early works on financial markets, security prices were modelled as a martingale or random walk. Because of the martingale assumption, the expected price of an asset in any future period is equal to the current price, conditional on available information. Moreover, the stock price volatility increases linearly with time (Tomat, 2023).

The term market efficiency was taken from a paper written in 1970 by economist Eugene Fama (Fama,1970). According to Fama, there are three degrees of market efficiency. The weak form of market efficiency is that past price movements do not matter for the prediction of upcoming prices. The semi-strong form of market efficiency believes that the market reacts to new news so quickly that the news cannot be used by the investor to benefit from it. The third degree is a strong form of market efficiency in which market prices already reflect the information, which may be private or public. Given the hypothesis that stock prices reflect all public and private information, “no investor, including a corporate insider, would be able to gain above the average investor even if he is aware of new insider information” (Sewell,2011).

However, Fama himself admits that the term is a bit misleading because no one has a clear meaning of how to completely define or precisely measure the thing called market efficiency. Despite these limitations, the term is used in referring to the Efficient Market hypothesis (EMH). The EMH proposes that markets are efficient. However, there may be some markets that are less efficient in comparison to others. An inefficient market is one in which the actual value of assets is not captured in the asset's price. "Which may occur for several reasons. Market inefficiencies can be due to information asymmetries, a lack of buyers and sellers (i.e. low liquidity), huge transaction costs or delays, market psychology, and human emotion, among other reasons" (Investopedia).

3 Behaviour Finance in Bear Markets

Do all the people investing in the financial market have financial literacy or knowledge about behaviour finance (Blume, Crockett, and Friend,1974)? If not, then after discussing market efficiency, this section should be for behaviour finance, which is certainly a critical thing in a bear market. Investors' behaviour plays a key role in determining how much the market will go down. In a bear market, investors sell their stocks out of fear and panic. People have always feared in their minds that they will lose their hard-earned income when the market goes down. People sell, and it goes down more; this is where behaviour finance comes in.

Through behavioural finance we can study how psychological elements affect investment behaviour, especially during bear markets where fear and uncertainty win. During periods of high ambivalence, investors display extreme sensitivity to losses instead of showing equal appreciation for gains, which leads to poor investment choices. This leads to panic selling because investors quickly sell their assets to avoid future losses, even though they disregard long-range fundamentals.

The collective actions of investors push stock prices outside their real value so that informed investors can purchase undervalued assets, according to Russell Investments. Herd behaviour represents another widespread behavioral pattern that affects investors who fail to perform independent research while following market direction. Many investors imitate the selling actions of others because they want to avoid missing important market indicators. Herd behavior results in asset mispricing because stocks become undervalued after panic-driven market downturns. Herd behavior may contribute to extreme market declines, which require investors to distinguish between basic market movements and emotional responses.

There is also hubris behaviour, which is the opposite of herd behaviour, and it states that Investors who exhibit overconfidence think they can predict market changes too confidently, which causes them to make excessive trading decisions and suffer potential losses (Baker, H.K. and Nofsinger, J.R.,2002)

Investors may deal with the herd and hubris behaviour, which are more external, but there is something which is somehow internal, and that is Bias, which will be discussed in the next section. One thing is sure that knowledge of behavioral finance enables investors to manage risk more effectively during bear markets. To minimize emotional decision-making, investors should establish pre-determined exit strategies combined with long-term focus and sentiment analysis tools. When investors identify their biases, they can make Wise choices to seize opportunities that appear too risky for others (Kahneman & Riepe,1998). The knowledge of behavioral finance is very important for a person to invest in stocks it is more crucial in a bear market.

3.1 How Bias Affects Investor Behaviour

“The investor’s chief problem, his worst enemy is likely to be himself”- Benjamin Graham. Investors' behaviour repeatedly digresses from logic and reason, emotional processes, mental distraction, and Individual nature, making investment decisions more difficult. So, investment is not just looking at the technical indicators and buying and selling different stocks; a considerable portion of investing depends on investors' attitudes. This section identifies different biases and how we can minimize their effect. Behavioural biases in investing include different kinds. For instance, cognitive biases are the way to believe and act in specific ways. A cognitive bias can be viewed as a rule of thumb or heuristic, leading to systematic variations from a standard of rationality or good judgment. Other biases are more emotional biases. An emotional bias results in acting based on feelings instead of facts (Baker, H.K. and Nofsinger, J.R.,2002).

Investor behaviour plays a vital role and understanding it will help the investor to make improved decisions in selecting investment services, making better decisions. Investors show many biases. Few of the behavioural biases exist in isolation because deep interactions exist among different biases. Some examples of behaviour biases and how to deal are mentioned here. Representativeness results in investors describing an investment as good or bad based on its recent performance. So, the investors buy stocks after prices have risen expecting those increases to continue and ignore stocks when their prices are below their fundamental values. Investors should have a clearly defined systematic process that they test and retest to refine and improve over the long run.

Loss aversion bias is when investors make a terrible decision and regret why they made the wrong call. To make up for the loss, investors take more risks and invest again, which will risk more capital. Regret aversion can explain investors' unwillingness to sell losing investments because it gives them

feedback that they have made bad decisions. Disciplined investing requires selling the stocks when they need to sell them (Baker, H.K. and Nofsinger, J.R.,2002)

Investors show several behaviour biases which influence their investing decision-making methods. While it may be difficult to avoid all biases, Investors can minimise their effects. This requires understanding one's behaviours and developing and following objective investment strategies and trading rules.

4 Market Timing Strategies in a Bear Market

A time when market sentiments are negative and the market index falls by 20 % or more over at least two months, then it is called bear market (U.S Securities and Exchange commission). Yes, there are market timing strategies in a bear market, but this is very important and not easy to do. Nevertheless, there are some ways investors can decide when to buy stocks when the market is falling. This is because bear markets are defined by the situation where stock prices fall over a period due to factors such as economic recession, financial crises or other external factors. This is because those investors who can identify with markers of a market bottom and have the right investment strategies will be in a better position to benefit from the recovery.

4.1 Value Investing and Contrarian Strategies

Value investing is a popular strategy that is used in different financial markets, as pointed out by Warren Buffett (Buffett, 1998). It is a strategy that involves identifying those stocks that are fundamentally strong but are trading at a low due to temporary market factors. In a bear market, most shares tend to fall regardless of their fundamental value as panic-driven investors sell their stocks in significant amounts. One of the key tenets of contrarian investing is buying when the market et is pessimistic because fear leads to underpricing and, sometimes, even historical lows. This is something that investors must do, that is, hold on to their investments for as long as it takes for the market to recover. Successful value investors look for companies' strong earnings, low debt, stable cash flows, and sustainable competitive advantages to make sure that their investments can grow and recover in the future (Dreman, D,.2008).

Another aspect of value investing is the margin of safety, which was first described by Benjamin Graham (Graham, B.&McGowan, B). This principle states that investors should purchase stocks at a significantly lower price than their actual value to minimise the risk of losing money. Therefore, value investors can take advantage of buying stocks of strong fundamental companies at fair prices during bear markets and make high returns when the market recovers. So, it may be the best way to identify the good stocks which are fundamentally strong because they will go up as their roots are strong and a bear market gives chance for investors to buy them at a low price.

4.2 Technical Indicators in Bear markets: A contrasting Approach to value Investing

Investors may be able to identify optimal buying opportunities in bear markets through technical analysis, which reveals patterns and trends in stock price movements. The 200-day moving average stands as a widely applied technical indicator which reveals long-term price trends to analysts. A significant drop in stock prices below this level often shows that these securities have become undervalued and may soon make a recovery. The Relative Strength Index (RSI) allows analysts to evaluate market momentum through its usage as a technical analysis tool. The indicator shows oversold conditions when the RSI value drops below 30, indicating that stock prices have fallen too far before potentially reversing.

The MACD system assists investors in identifying changes in market momentum through its application. A bullish MACD crossover occurs when the short-term moving average moves above the long-term moving average to signal potential market recovery, according to research by Fuller et al. (2010). Using these technical tools alongside fundamental analysis, investors can make more informed decisions about market entry during a downturn. Quant traders use stats to make an informed decision, but as a value investor, it is best to look at the stats and the firm before investing (Nti, Adekoya, Weyori,2020)

4.3 Market Sentiment and Fear Indicators

Market sentiment is an essential component for investment timing because it tracks investors' collective emotions. The VIX (Volatility Index) serves as the market's "fear gauge" while providing a measurement of future volatility expectations. The market typically recovers from its lows after reaching extreme VIX levels, as shown in the chart. VIX peaked at around 80 during the 2008 Financial crisis and it was because stocks become undervalued during periods of intense fear and uncertainty, but later, when the market recovered, the VIX dropped sharply in 2009 and early 2010. (Economou, Hassapis, Philippas, 2018).

Figure 1: Historical Volatility Index Chart From 2006 to 2014 (Source: macrotrends)

A market high above 30 indicates elevated fear which operates as a useful contrarian indicator to identify potential investment opportunities. Market sentiment based on options activity determined using the put-call ratio helps investors better understand prevailing attitudes. When put-call ratios rise higher, investors spend more on put options, which indicates an excessive bearish sentiment. Extreme levels of bearish sentiment typically precede market rebounds according to situations where this ratio reaches its peak (Cunningham, 2001). Important sentiment indicators come from tracking both investor surveys and fund flows along with media narratives. Through these indicators, investors can determine if market turning points approach soon.

4.4 Macroeconomic Indicators and Federal Reserve Policies

Macroeconomic conditions are a significant factor that determines the time when the bear market will recover, as economic indicators affect the beliefs of investors and the profits of companies. Some of the critical levers that can be used to understand market cycles include interest rates, inflation rates and real GDP growth. In the past, bear markets were followed by the central banks cutting interest rates or starting economic stimulus measures when the markets began to recover.

This is because the Federal Reserve (Fed) is one of the most critical factors that impact the behaviour of markets and the confidence of inventors. The governments, banks and the Federal Reserve are more potent than any traders on Wall street. Investors listen to the Fed and make decisions based on what the Fed says about the future. The Fed’s press conference, which occurs 8 times a year, causes some swings in the market, and it can be seen almost every time. The central bank used to be a bit secretive about what they used to do but now they are more transparent about their policy decisions, and part of that transparency is signaling where policy is likely to go. The public comments that are made by leaders of the central bank are known as forward guidance. The Fed takes forward guidance in two different ways. The first way the Fed does forward

guidance is a very overt way, in which it tells the people how it thinks the economy is going to evolve. (Campbell, Evans, Jonas, Alejandro, Charles & Michael,2012)

The other way the Fed influences expectations about the future path in language, which can be very subtle. Some economic models say that forward guidance is compelling. The idea of Fed is to change people's expectations of the future, so that they change their behaviour in the present to improve the present. Whenever the Fed make some statement, investors usually listen to the key phrase such as " softening of labor market conditions" Some of the most potent Fed statements are about the upcoming path of short-term interest rates. The Fed sets the interest rate that it pays on reserve held by banks sort of the same way that banks set the rate they pay on deposits to individuals.

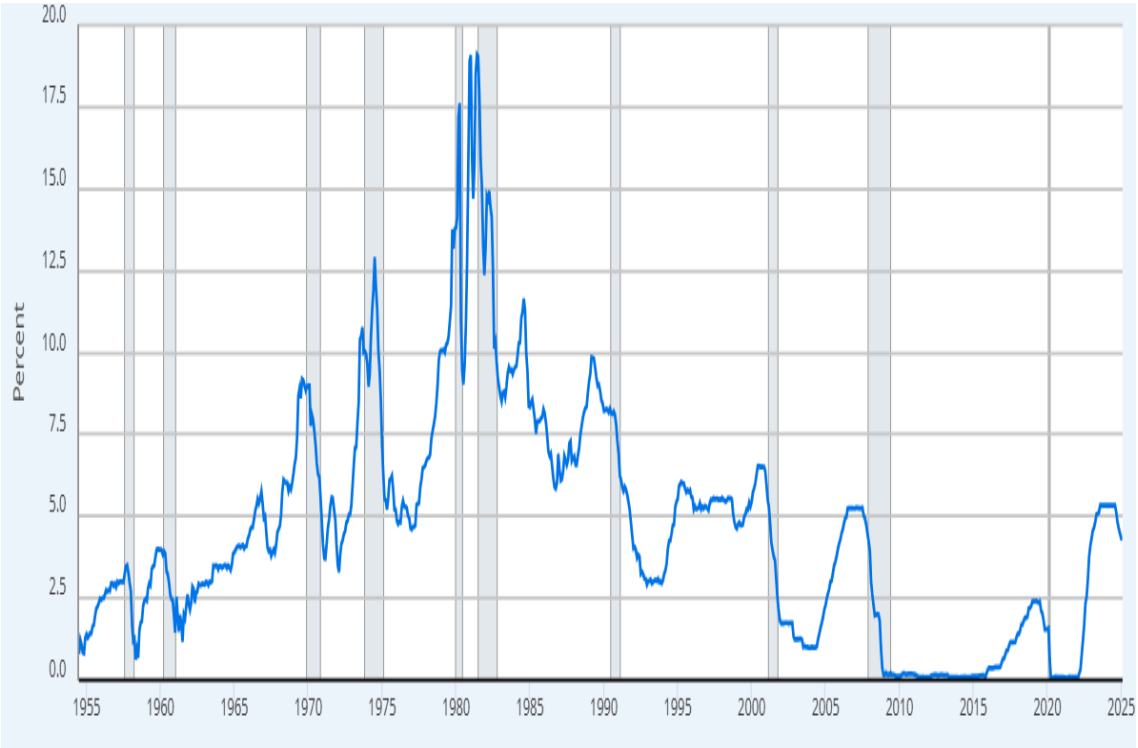

Figure 2: Federal fund rate (source: Board of Governors of the Federal Reserve System (US))

There is also a connection between short-term interest rates that are closely connected to monetary policy and the interest rates to monetary policy and the interest rates on mortgages, auto loans things like that.

In the case of economic recession, the Fed may reduce the interest rates to encourage people to borrow and invest, which in turn may lead to increased economic growth and, therefore, a rise in the stock market. Investors should also take note of the Fed policy statements as changes in the monetary policy can be used as a 7-indicator of change in the market. Other tools, such as the rate of unemployment, which we will discuss in the history of the bear market section. Corporate earnings and consumer confidence surveys can also be used by investors to get a view of the economy and possibly place their bets on a particular market recovery (Fuller, Han & Tung, 2010).

4.5 Lessons from Historical Bear Markets

There is a long history of bear markets. Maybe the 2020 bear market happened in a very short period, but there are a lot of triggering points which ultimately bring the bear market. Bear markets are usually long-lasting affairs. “Bear market of 1987, related to the saving and loan crash, which is also known as black Monday, when DJIA dropped 22.6% in a single day” (Charles and Dane,2014). There may have been five factors which contributed to it. A frothy market where Overconfident investors ignored market fundamentals and bid up many assets’ prices beyond their quantitate worth, Interest rates moved up, Algorithmic/program trading, Computer generated algorithms traded baskets of stocks in large volumes, sometimes with great frequency, Future market was still in its infancy, Treasury security gave controversial statements about the dollar.

Before the dot-com bubble burst the Federal Reserve chairman at that time had a very easy monetary supply kind of stands; The below chart illustrates that low unemployment rate and higher GDP in early 2000 was the sign of booming economy but it made the people overconfident to fuel the bubble more and after the burst the unemployment rate rose and GDP went down.

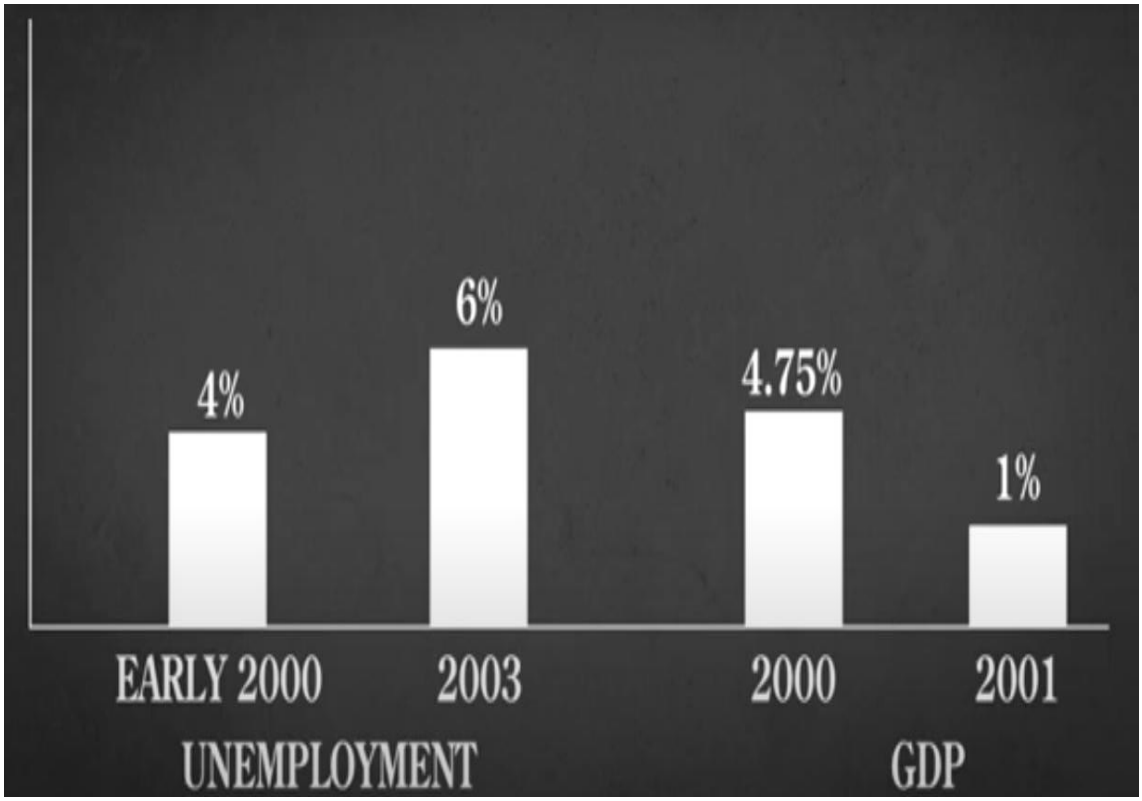

Figure 3: Unemployment and GDP Chart (Stock charts TV)

Past bear markets provide essential insights into market recovery patterns as well as investor behaviour patterns. The 2008 financial crisis and the 2020 COVID-19 crash showed that the most severe market crashes are the best times to buy stocks. According to Buffett (1998), markets typically hit their low points when public sentiment is extremely negative toward the market and valuation multiples are extremely favourable. In both bear markets and bull markets, different industry groups perform differently.

Defensive sectors include consumer staples, healthcare and utilities, which tend to perform better, while technology, along with the financial sector, tends to experience more volatility. With this knowledge, investors can make more effective portfolio allocation decisions. Another critical lesson is the importance of diversification. Across different asset classes, industries and geographic

regions, investors who maintain a diverse portfolio of investments can decrease their portfolio risk while increasing their long-term returns. Here is a table of bear market history that ended in 1957 or later.

Bear Market Period	Duration	Total S&P 500 Decline
August 1956 to October 1957	14 months	-22%
December 1961 to June 1962	6 months	-28%
February 1966 to October 1966	8 months	-22%
December 1968 to May 1970	17 months	-36%
January 1973 to October 1974	21 months	-48%
November 1980 to August 1982	21 months	-27%
August 1987 to December 1987	4 months	-34%
July 1990 to October 1990	3 months	-20%
March 2000 to October 2002	31 months	-49%
October 2007 to March 2009	17 months	-56%

Figure 4: S&P 500 Bear Markets 1956 to 2009

By studying market cycles and following a systematic approach, investors can move through bear markets with reduced worry and set themselves up for future gains. With all these strategies, investors shouldn’t forget about the risk that is attached to the financial markets; let's have a view on the Risk management techniques in the bear market.

5 Risk Management in Bear Markets

As it is always seen, “Financial markets are subjected to risk” in any sort of investing advertisement. The Financial market, especially the bear market, and risk are two sides of the same coin. Bear markets are difficult times for investors, and effective risk management is crucial to minimise losses and to be able to invest for the future. Successful investors know that managing risk is about the use of assets, hedges, decisions and behaviour finance. Without proper risk management, the investor may lose a lot of money, and it may take years to get back to even. This section outlines essential risk management techniques such as diversification, hedging, stop loss, and psychological control of the investor, with the help of financial literature including Buffett (1998), Cunningham (2001), Fuller, Han & Tung (2010), Maheu, McCurdy & Song (2021) and Hagstrom (2005).

5.1 Portfolio Diversification

Diversification is one of the most effective ways to manage risk during bear markets. Investors can avoid market downturns by distributing investments across different asset groups, such as equities, bonds, commodities, and other investments. Maheu, McCurdy & Song (2021), in their empirical studies, have found that portfolios that have exposure to defensive sectors like healthcare, consumer staples and utilities have tended to perform better during bear markets. But then there are haven assets, for example, gold, US Treasury bonds and money market funds that provide stability in market distress.

But Buffett (1998) has also stressed that diversification should not be random but should rather be done on fundamentally strong companies that can withstand economic downturns. In addition, depending on the market of one country can be sometime too bad for the investor. As of today 16th, March 2025, an article published on CNN says US stock market is down, and economists are predicting a recession. It may be true or not, but the question is, investors should not be

focused on one country's global diversification; that is, investing across different countries and regions can be used to avoid risks of localised economic crises.

In the above paragraph, after talking about global diversification and economic instability and commodities, the question of why gold can’t be a valuable addition is raised. The standard policy of people worldwide who mistrust their currency is to buy and hold gold. Gold is one of the most significant financial assets in the world, with a daily trading volume of $183 billion. The price of gold has tripled since 2000.

The current gold price reflects only a little of the inflation already in the worldwide monetary system. Throughout history gold has been most popular for its ability to hedge against market volatility. The dollar and gold have had an inverse relationship over history, so as the value of the dollar is debased and pulled back, many times, gold moves in the other direction. It is not susceptible to inflation; it doesn’t lose its value as other assets do. Between 2008 and 2012, following the Great Recession, the value of gold increased dramatically from about $1,150 per ounce to around $1,970 per ounce, adjusted for inflation. Gold prices also reached new heights during the 2020 recession caused by the pandemic, with prices reaching an all-time high of $2,021 per ounce, settling above $2,000 for the first time in August 2021. It is because gold has proven its value in being a liquid asset, an asset that can be used to meet margin calls elsewhere and still retain its value.

But whether gold is a tremendous inflationary hedge is probably not. More recent analysis has shown that gold’s correlation to inflation has been relatively low. Generally, it’s yielded mixed returns for investors during high inflationary periods, suggesting that hedging might be more of a gamble than a safe bet. However, it can be a good option to diversify the portfolio (CNBC, 2025).

Figure 5: Gold Price of last 25 years (Gold.co.Uk live chart)

5.2 Hedging Strategies

Hedging is utilising financial instruments to try and lessen the potential for loss in a portfolio. One of the most common ways is using options, including put options, which give investors a way to protect against a drop in the price of the stock. Schwager (2012) explains how hedge funds operate by arbitraging market risks using derivatives, futures, and other investment approaches. Other hedging tools include inverse ETFs that rise in value as the market declines and are also available for investors. However, he says that such hedging instruments should be used cautiously because they can bring about more losses if they are not well managed. Another way is by purchasing volatility-related securities, for example, the VIX, which rises during market declines and can be helpful as a hedge against other securities in the portfolio.

5.3 Stop-Loss and Risk Control Measures

Stop-loss orders are critical to limit the risk of losing money in the investment. These are quotas that assist the investors in identifying the cost at which the security should be purchased or sold to avoid the emotions likely to be made in the market (Graham,2006). The Intelligent Investor recommends that rebalancing of the portfolio should be done more systematically to ensure that losses are identified and that only capital is conserved for use in the next round of investing. Maheu, McCurdy & Song (2021) also underscore how predictive analysis can identify the best times to exit a market, minimising the duration of losses. Furthermore, investors may wish to use dynamic trailing stop-loss orders, which move along with the stock's price, allowing for potential gains while preventing significant losses.

5.4 Psychological Aspects of Risk Management

Behavioural finance is a key component of risk management, as investor psychology is known to dictate decision-making in bear markets. Loss aversion and herd behaviour, which are cognitive biases that investors have, are explained by Fuller, Han & Tung (2010) as causing investors to make poor decisions in declining markets. It is also important to control one's emotions, not panic, and sell assets.

(Buffett,1998) supports this, saying that "the stock market was created to transfer money from the impatient to the patient," which is a perfect lesson on the need to think long-term. Cunningham (2001) also believes that investors who follow sound fundamental principles instead of being guided by short-term price movements usually make higher returns. Stress testing is another crucial part of psychological risk management when investors try to predict how different market conditions will affect their portfolios. This approach enables investors to be ready for the worst case and modify their approaches appropriately.

5.5 Adapting Investment Strategies to Market Conditions

It is essential to have a dynamic approach to investment strategies for risk management in bear markets. Investors should be flexible and willing to change their portfolios according to the changes that are made in the market. In severe downturns, defensive stocks and dividend-paying equities can offer some stability. In the recovery mode of the markets, the funds could be rotated into growth stocks and cyclical industries to capture the upside. The ability to shift investment plans according to the macro economy, actions taken by central banks and the general mood in the market is another key risk management practice (Hagstrom, 2005).

5.6 Liquidity Management

Whenever there is an investment opportunity, people talk about the profit, but in a minute, the second thing that hits the mind is how liquid the opportunity will be. It may be investing in the stock market, gold or real estate investment and the talk about liquidity management is not new. The global financial crisis started when people lost trust in the financial system because of unpaid loans and bankruptcies of businesses that were supposed to be reliable. As early as August 2007, Institutions saw a fundamental shift in the liquidity of markets, well before understanding the depth of the mortgage crisis.

Today, more than 18 years later, when there are a lot of regulations and rules still banks, asset managers, regulators, and customers are still worried about liquidity risk (John Wiley&Sons,2016). The profile of a loan portfolio can take months or even years to deteriorate, but liquidity can disappear in hours. Liquidity is unpredictable, complex to measure, and often unclear. In a crisis, market participants are more likely to rely on the media and the rumour mill rather than earning releases to evaluate the risk of providing liquidity to a trading partner” (John Wiley & Sons,2016). This was the case for the

Institutions. Even for them, it isn't easy to handle the liquidity, so for an individual investor, it is different as institutions are handling their customers' money, but for the individual, it's theirs, but the challenges are different.

Investors need money to spend, and liquidity is crucial in every business or investment. Sometimes, Investors get excellent opportunities in the market. Still, they have nothing to invest in as they invested earlier, so maintaining adequate liquidity during bear markets is crucial to taking advantage of investment opportunities and covering sudden expenses. Investors should ensure sufficient resources to meet their financial obligations and avoid forced selling of assets at depressed prices. A well-structured liquidity strategy allows investors to buy high-quality assets at discounted prices, positioning themselves for strong returns once markets recover. Buffett (1998) stresses the importance of having a cash cushion during volatile periods, as it enables investors to capitalise on market inefficiencies.

Managing risk during bear markets requires a strategic combination of diversification, hedging, disciplined trading techniques, liquidity management, and an awareness of behavioural biases. By applying these principles, investors can navigate market downturns effectively and position themselves for long-term financial success.

6 The Role of Technical Trading in Value Investing During the Bear Market.

As discussed in the above sections, bear markets are complex for investors. We debated Warren Buffet, who focuses more on the fundamental analysis of stocks to determine the essential value and long-term potential. However, using technical trading strategies with value investing will be more beneficial in a bear market. While fundamental analysis finds good stocks, technical indicators are used to determine the timing to buy and sell, so it can be helpful for an investor to purchase at the lowest possible price during downtrends. Technical Indicators such as Moving Averages, Bollinger Bands, and Chaikin Money Flow (CMF) and keeping in mind the fundamental metrics such as P/E ratio, Dividend Yield, and Depth-to-equity ratio help make better stock decisions.

6.1 Technical Indicators

Moving Averages

The moving average is one of the most famous technical indicators worldwide, and both short-term and long-term investors use it. Moving Averages takes data from the starting price and time to the closing specified time and outputs their average cost. In simple terms, the moving average is the average price of the last number of periods, which can be 5 days, 10 days or 200 days. The beauty of the moving average is that it smoothens out short-term fluctuations in stock and gives investors the big picture of trends. A stock goes up and down on a day-to-day basis, but if the investor wants to know if the stock is in an uptrend or downtrend, then the moving average tells the real story.

Short-term investors use short-term duration, but long-term investors typically use a 200-day duration. Moving averages have many variations, such as simple moving averages and exponential moving averages. Moving averages are also used to calculate other indicators, such as MACD. It is Wise to use moving

averages for Basic Trend Identification, Support and Resistance, and Price crossovers (Trading View, 2024).

Charting stock prices over 50 days using a simple moving average may look like this.

Figure 6: Charting a 50–Day Simple Moving Average (Sabrina Jiang, Investopedia,2021)

Bollinger Bands

Bollinger Bands are the technical indicators that help define trends and measure the volatility of stocks. Bollinger Bands are applicable across all financial markets, such as stocks, forex, commodities, and futures. They can be utilised across various time frames. Bollinger Bands offer a comparative perspective on what constitutes high and low prices, which can be employed to analyse price movements and indicator behaviour to make informed buy and sell choices. (Bollinger,2025) Using Bolinger Bands, it doesn’t necessarily

indicate that you should sell When the price touches the upper band. Similarly, when the price touches the lower band, “it doesn’t necessarily mean you should buy. There is absolutely nothing about a tag of a band that in and of itself is a signal” – John Bollinger.

Figure 7: S&p 500 Trend With Bollinger Bands (Active Trader pro, Fidelity,2025)

Chaikin Money Flow (CMF)

The Chaikin Money Flow is a technical tool that assesses whether a financial instrument is being accumulated or distributed. It compares the closing price to the high-low range of the trading session. If the prices close near the high of the

session with bigger volume, CMF increases in value, and if the price closes near the low session with raised volume, CMF decreases in value. CMF majors buy and sell pressure over a set period, and it is a popular indicator among traders who use volume technical analysis. CMF volume forms the basis for the Accumulation of the Distribution Line. Instead of a cumulative total, CMF sums Money Flow volume for a detailed look-back period, typically 20 or 21 days. The resulting indicators fluctuate above/below the zero line like an oscillator. Chartists weigh the balance of buying or selling pressure with the level of Chaikin Money Flow. Furthermore, Chartists can look for crosses above or below the Zero line to identify changes in money flow. (Stock Charts, 2024)

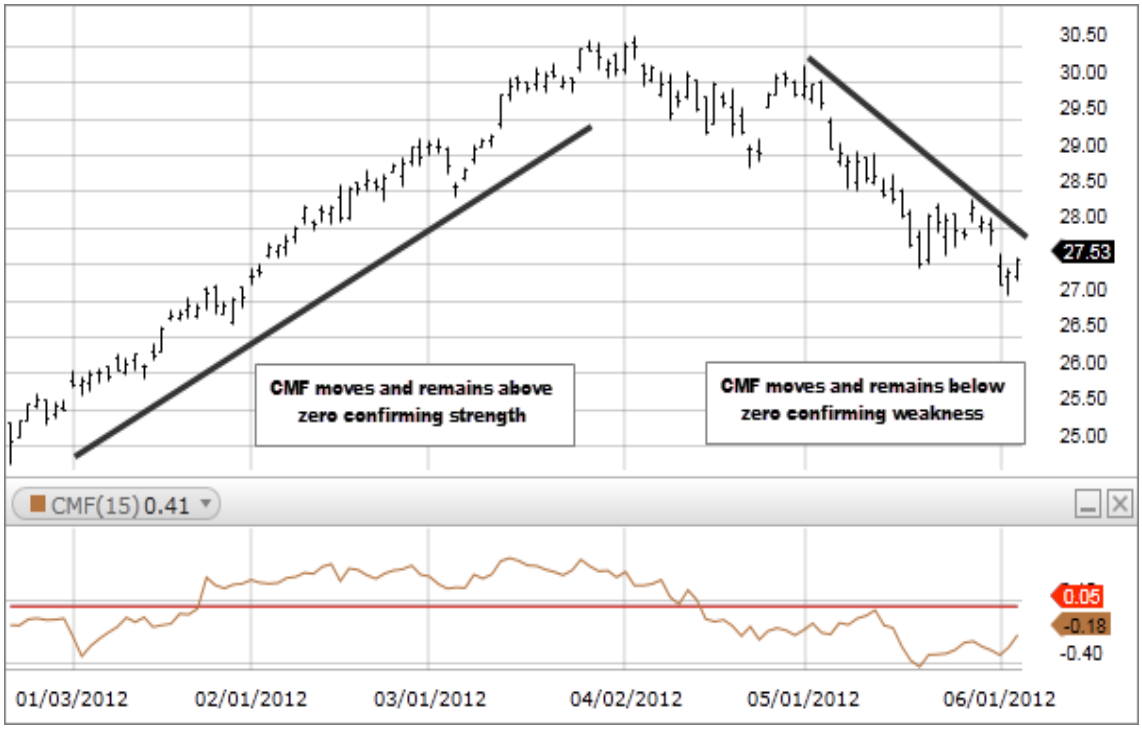

Figure 8: Chaikin Money Flow (CMF) Indicator Confirming Trend (Fidelity Investment,2015)

6.2 Fundamental Metrics

Why do we need fundamental metrics? The answer is simple for value investing in all financial markets: the health of the organization matters. The metrics such as P/E ratio, dividend yield and debt to equity with other metrics give an idea to an investor which company's stock they should choose so they can get more benefit. In a bear market, the best company is likely available at a good price, but this metric will help to choose the best of them.

P/E Ratio

The Price-earnings ratio is vital in choosing a stock in the financial market. Going to the basics of Finance and using the formula P/E ratio is more important than ever. The price-earnings ratio (PE) is a widely observed measure of how much the market is willing to pay per share for $1.00 of earnings from the firm. It gives investors a better idea of the company's value. It is calculated by dividing the market price by the earnings per share (EPS) reported in the Income statement (Shen,2000).

Dividend Yield

There are two primary sorts of income from a stock: either selling it in increased value or getting dividends. The dividend yield is a ratio that shows the revenue earned per year for every dollar invested in a stock. Companies are not required to pay dividends; for example, Berkshire Hathaway has a policy to reinvest earnings into the company. Several factors influence a company's dividend yield, including stock market conditions and company performance, but the primary influence is done by the company's share price. Some top companies having multi-billion-dollar valuations may not provide dividends. (Forbes, n.d)

Debt-to-Equity Ratio

The debt-to-equity ratio is an important tool used to assess the risk associated with a company's financial structure. Unlike the debt-assets ratio, which uses total assets as a denominator, the D/E Ratio uses total equity. A high debt-equity ratio can be good because it shows that a firm can efficiently service its debt obligations (through cash flow) and use the leverage to increase equity returns, whereas more debt relative to its equity means it is riskier than the competitor. (Corporate Finance Institute,n.d.)

7 Algorithmic trading

The value investing approach may have benefited in the past, but is sticking only with the value investing principles enough? There is no doubt that the future is moving with a lot of advancement in technology. The objective of this section may not be to encourage an algorithmic approach or a momentum approach over a value-investing approach but is to show how our markets are moving at a fast pace and maybe in the future the destiny of our financial markets is driven by algorithmic trading. On May 6, 2010, the Dow Jones Industrial dropped nearly 1,000 points, about 9%; however, it recovered in 36 minutes. HFT and automated sells-offs and wave of automated selling has caused it which was confirmed by SEC and CFTC Joint report (SEC-CFTC,2010). It is the choice of the investor to choose different approaches but knowing about algorithmic trading is important to survive in the future market. At the start of the paper, in the section on Market efficiency, we discussed the semi-strong form of market efficiency which believes that the market reacts to new news so quickly that the news can't be used by the investor to benefit from it. It may have been written for humans who could not have imagined placing 100 or thousands of orders in a second, but now it is possible with high-frequency trading. In this section, algorithmic trading is discussed and the upcoming section, about high-frequency trading and AI in financial markets.

In simple words Algorithmic trading means we feed all the information to a computer program and the computer program execute on behalf of us for example an investor has list of 30 stocks and he/she tracks that they are on uptrends and wait for 20 or 30 moving day average and when they get their the investor buy the stock and aspect for the bounce from this stocks and whenever the stocks gets bounce of 5% or 10% the investor will book the profit and similarly target for stop-loss to execute this strategy investor has to do a lot of things such as putting alerts and checking every stocks the more stocks the more difficult it will be because of the manual work but it can be done by building an algorithm with this strategy so all the manual work the investor doesn't need to do. In this section, there are algorithmic trading strategies that investors can promptly apply. The section will consist of back testing and Automated Execution, Mean reversion of Stocks and ETFS and the last strategy will be Intraday momentum strategies.

7.1 Backtesting and automated execution

Backtesting is the process of testing an algorithm in which historical information is given to the trading strategy and checked to see how it would have acted. By doing this, investors can believe it can work well in the future based on its past performance. Backtesting can help identify potential problems with the strategy execution details, for instance, when to make trades or which price to use, All this information can significantly affect the profitability of a live-traded strategy. In simple terms, we check our strategy by using an algorithm so that we can use it in future.

After we test the strategy by the back testing process we implement it automatically, and it is done by algorithm. Investors can transfer the strategy into a computerised execution program by just confirming it. In back-testing a strategy, we often find ways to refine and improve it to make it more profitable or less risky(Chan,2013)

Trading strategies are not perfect, and backtesting gives opportunities to find the errors. There are some common pitfalls of backtesting and they are If some information given only happened in the past, then it may not adapt to the future market conditions. Backtesting may work well in a bull market, but it is difficult in a bear market where the market is more volatile also short sale constraints. There may be different platforms to do backtesting and automated execution, but it all depends on how good the investor's programming skills are. A person with little programming skills has only the option of picking a singular-purpose trading platform, for example, Deltix, Algo trader,kavout. Risk management is the key problem in backtesting and automated execution. There are no stop-loss or price points to stop the loss.

7.2 Mean Reversion of Stocks and ETFs

Mean reversion is the strategy which is based on the belief that the up and down in market are the temporarily fluctuations and the market and stock price will return to the average price after some time for example a certain companies Share price is higher which is not usual the algorithm will detect that it will return to its normal price or the stock price is down so the algorithm expect that the fluctuation is temporary and it will go up again. It is generally used for short-term investments. The first algorithmic trading strategy was invented at Morgan Stanley(Patterson,2010). But it is challenging to squeeze profits out of it. Another algorithmic mean reversion strategy is intraday mean reversion: The gap model. In this strategy, stock prices follow geometric random walks, which is possible only if we test price series for mean reversion strictly at regular intervals (such as using their daily doses) (Chan,2013).

As investors, we must find special conditions or specific periods when reversion occurs regularly while not analysing the data many times. The strategy has rules, such as narrowing the list of stocks by requiring their open prices to be higher than the 20-day moving average of the closing prices (Chan,2013). The last mean reversion strategy discussed in this section is

cross-sectional mean reversion. In a linear long-short model in this cross-sectional mean reversion strategy, the individual stock price does not necessarily return to its past mean; instead, the focus is on their short-term performance, and we depend on the anti-correlation of these relative returns to generate profits. The means reversion strategy is a particularly clear strategy which believes the market will correct itself, and it can generally provide low-risk opportunities; however, the con of this strategy is that sometimes, the price will not return to its average price (Chan,2013).

7.3 Intraday Momentum Strategies

If a human being buys and sells the stocks within a single day, then that is an Intraday momentum strategy, and the idea behind it is that the stock will go in a certain direction during that day, so go with the momentum and make a profit before the day ends. But with the algorithm this process is automated. Researchers have divided intraday momentum strategies into two types which are time series momentum and cross sections momentum. On on-time series momentum algorithm looks for a single stock's price that the stock is going up or down but in the cross-section momentum strategies the algorithm looks for a lot of stock options and finally picks a stock based on that and if it upward then it buys and sells within a single day if it is downward then it short sell the stock. (Chan,2013).

There are pros and cons with the intraday momentum strategy. The pros of momentum strategies are in the case of risk management because there are two options: one is time-based and stop-loss. In time-based, the algorithm sells the stocks and exits whatever the price may be and in stop-loss, the algorithm has a predetermined price point in which it will sell the stock and exit. Their downside is limited. However, the cons of the intraday momentum strategy are that it is very difficult to make profitable momentum strategies, and if there are profitable, they have much lower Sharpe ratios in comparison to mean-reversal strategies. (Chan,2013).

7.4 High-Frequency Trading

HFT is a highly dedicated model of algo trading where trading happens at a high frequency. If an Individual is fast then also it is impossible to place a lot of orders at a time. But in the world of high frequency trading it is possible as it is not possible to execute high frequency trading manually so, it is completely automated and is done by high performance computers apart from frequency of trades what differentiate high frequency trading from other trading style is the duration of the trade in high frequency trading the lifecycle of trade may not even last for a fraction of second. HFT strategies focus on making very small parts over a very large number of trades (Aldridge,2013).

One of the most common strategies deployed by high frequency trading is called statistical arbitrage which looks for inefficiencies in the pricing or an index for example a stock is trading in both New York stock exchange and London stock exchange on NYSE a stock is trading at 36$ and in London Stock exchange the price of the stock is 36.2$ so, the same stock is trading at two different prices that is an arbitrage opportunity buying at a lower price and selling at a higher price it can be for same stock between different exchanges, future or option(Pole,2011)

This is one simple example of how high-frequency trading works, but in real life high frequency trading strategies stand to be more complicated than this example. This algorithm is consistently scanning for negative and key words all over the internet. When it gets negative news, it short-sells and takes advantage of the prices. Similarly, if it sees positive news, this high-frequency trading buys stocks and takes advantage. HFT requires a lot of infrastructure, a lot of programming and a huge amount of money. It is very difficult for individual investors, but it may be used by Investment banks, hedge funds or institutional investors. It may be possible for individual investors can do it in future, but for now, it needs a lot of capital to do it. The negative aspect of high-frequency trading is that because it is done by big institutions they are making money from

the individual investors. Some of the strategies that are designed are legitimate but some of them might have been designed to mislead by flooding false news with fake order which they never intend to execute at first place as soon as the price reaches near the orders they are automatically cancelled because of this fake orders stock exchanges around the world are prompt to flash crashes.

7.5 AI in the Financial Markets

The world is changing, and financial markets, too, with artificial intelligence. There may be no debate that AI have both advantages and disadvantages and helps to develop better strategies to make more profitable trades. It is used to assist customers with account inquiries or provide a technical market analysis. The actual question is, how much can we expect to see AI in the financial market? Some financial newspapers have already started using AI. For example, Bloomberg, an international news agency, has been automatically generating written press releases for its terminal. The best use of AI has been done to follow the trend where AI trading software is made in a short way that comes with recommendations like what to buy and when to buy with real-time data. The type of information that the AI software gives is very valuable, as we can use it to be fast in the decision-making process and earn much profit from it (Cecconi,2023).

We also need to know the challenges. There are rules in the market, but with AI in the market, the rule interpretation and enforcement are inconsistent. Different investor has different risk-bearing capacities. Some can bear more, and some can bear less, but do the AI understand this? Fake videos of financial experts will float in the market, and the impact will be that individual investors who are not so good with financial literacy will invest their money in insufficient stock. The market is very dynamic, and the investors or the participants in the market will react to it. Technology is suitable for everyone, but the thing is that it should

be handled carefully. It can be more challenging for the individual to make actual use of it as it needs a lot of time and effort, as well as money. Big investors may be full of cash to invest, but perhaps not the individual investor, which will not give a level playing field.

8 Conclusion

This study has shown that even with all the technological advancements, especially algorithmic and high-frequency trading the combination of value investing approach and hedging strategy could be the best approach to go with as the fundamental value of an organization will be there however the market behaves, and Hedging strategies will help to limit losses on unexpected shocks like Covid-19. But how good this strategy will be depends on the investor's goals. risk tolerance and time horizon. The knowledge of Algorithmic trading and high-frequency trading is likely to be helpful but not as compared to the value investing approach on a bear market, and the computer-based trading may need a lot of money and computer knowledge, which an individual investor may lack. The choice of value investing approach and technical indicators will depend on the investors choice as value investing will be best for the long term strategy and technical indicator for the short term strategy but for the short term algorithmic trading likely to be advanced to win against technical indicators as algorithm uses technical indicators and they can make the fast and more informed decisions as we can feed all the data to the program. Macroeconomic indicators and Federal reserve policies may not be directly useful in a value

investing approach however, the companies are affected by it so it can help in the valuation of the company.

The Study also finds that diversifying Stocks in only on stock market will not be good enough it could be the best idea if investors diversify investments in wide range of investment opportunities because history showed that whenever the stock market goes down, commodities such as gold may be stable, so diversifying a portfolio is an effective way to manage risk during a bear market. Liquidity management is valuable so that investors can buy when there are opportunities to invest, and a bear market gives a lot of those opportunities, but an investor should ensure sufficient resources to meet their financial obligations and avoid forced selling of assets on down price as history shows us that a bear market can last more than years.

There are a lot of strategies that can be studied in the future. Algorithmic trading is a more cost-based trading strategy for individual investors so future studies can be done on how an investor can reduce the cost of it. Secondly, behavioural finance plays a key role in the market, and the AI will understand the psychological elements of investment like human does remains uncertain.

9 References

Aldridge, I., 2013. *High-frequency trading: a practical guide to algorithmic strategies and trading systems*. John Wiley & Sons

Bailey, R.E., 2005. *The economics of financial markets*. Cambridge University Press.

Baker, H.K. and Nofsinger, J.R., 2002. *Psychological biases of investors. Financial services review*, *11*(2), pp.97-116.

Blume, M.E., Crockett, J. and Friend, I., 1974. *Stock ownership in the United States: Characteristics and trends*. *Survey of Current Business*, *54*(11), pp.1640.

Bollinger, J., 2024. *Bollinger Bands*. Available at: https://www.bollingerbands.com/ [Accessed 2 March 2025]

Bloomberg (2024) '*Federal Reserve Policy and Market Trends'.* Available at: https://www.bloomberg.com/markets (Accessed: 13 February 2025).

Buffett, W. (1998) *The Essays of Warren Buffett: Lessons for Corporate America*. 2nd ed. Lawrence A. Cunningham (ed.). New York: Cardozo Law Review.

Campbell, J.R., Evans, C.L., Fisher, J.D., Justiniano, A., Calomiris, C.W. and Woodford, M., 2012. Macroeconomic effects of federal reserve forward guidance [with comments and discussion]. *Brookings papers on economic activity*, pp.1-80.

Cecconi, F. (2023). *AI in the financial markets: New algorithms and solutions*. Cham: Springer Nature Switzerland AG. Available at: https://doi.org/10.1007/978-3-031-26518-1 (Accessed: 3 March 2025)

Chan, E.P., 2013. *Algorithmic Trading: Winning Strategies and Their Rationale.* Hoboken, NJ: John Wiley & Sons.

Charles, Amélie, and Olivier Darné. "*Large shocks in the volatility of the Dow Jones Industrial Average index*: 1928–2013." *Journal of Banking & Finance* 43 (2014): 188-199.

Cipriano, M. and Gruca, T.S., 2014. The power of priors: How confirmation bias impacts market prices. *The Journal of Prediction Markets*, *8*(3), pp.34-56.

CNBC(2023)*Is gold a good Investment*? https://youtu.be/eody-H_X44A?si=OmfF62ZOBLE-N-VP (Accessed 15 February 2025)

CNBC (2024) 'Market Sentiment Indicators: VIX and Put-Call Ratios'. Available at: https://www.cnbc.com/markets/ (Accessed: 8 February 2025).

CNBC(2023)*How the Government's Bank shapes the stock market* https://youtu.be/cWE8a_Ge4aU?si=Ku2Ew6bJy146TL0N (Accessed: 10 February 2025).

Cunningham, L.A. (2001) H*ow to Think Like Benjamin Graham and Invest Like Warren Buffett*. New York: McGraw-Hill.

Corporate Finance Institute (n.d..) '*Debt to Equity Ratio – How to Calculate Leverage, Formula, Examples'*. Available at: https://corporatefinanceinstitute.com/resources/commercial-lending/debt-to-equity-ratio-formula/ (Accessed: 2 March 2025).

Daniel, K. and Titman, S., 1999. *Market efficiency in an irrational world*. *Financial Analysts Journal*, *55*(6), pp.28-40.

Dreman, D., 2008. *Contrarian investment strategies: The next generation*.Simon and Schuster.

Gitman, L.J., Joehnk, M.D., Smart, S. and Juchau, R.H., 2015. Fundamentals of investing. Pearson higher education AU.

Graham, B. and McGowan, B., 2003. *The intelligent investor*. New York: HarperBusiness Essentials.

Economou, F., Hassapis, C. and Philippas, N., 2018. *Investors' fear and herding in the stock market*. *Applied Economics*, *50*(34-35), pp.3654-3663.

Fine Edge (2024) '*5 Behavioral Biases Influencing Investment* Decisions'. Available at: https://www.finedge.in/blog/investing-behaviour (Accessed: 17 February 2025).

Forbes (n.d..) *'What Is Dividend Yield*?', Forbes Advisor UK. Available at: https://www.forbes.com/uk/advisor/investing/what-is-dividend-yield/ (Accessed: 2 March 2025).

Fuller, R.J., Han, B. and Tung, Y. (2010) 'Behavioral biases and investor performance', Journal of Behavioral Finance, 11(3), pp. 156-169.

Investopedia (2023) '*Herd Behavior in Finance'*. Available at: https://www.investopedia.com/articles/trading/04/011404.asp (Accessed: 13 February 2025).

Investing.com (2024) '*Technical Analysis Guide'*. Available at: https://www.investing.com/technical/technical-analysis-guide (Accessed: 17 February 2025).

Kahneman, D. and Riepe, M.W., 1998. Aspects of investor psychology. *Journal of portfolio management*, *24*(4), pp.52

Malkiel, B.G., 1989. *Efficient market hypothesis. In Finance* (pp. 127-134). London: Palgrave Macmillan UK.

Morningstar (2023) '*Lessons from Historical Bear Markets'*. Available at: https://www.morningstar.com/insights/2023/market-trends (Accessed: 10 February 2025).

Nti, I.K., Adekoya, A.F. and Weyori, B.A., 2020. A systematic review of fundamental and technical analysis of stock market predictions. *Artificial Intelligence Review*, *53*(4), pp.3007-3057.

Patterson, S. (2010) *The Quants: How a New Breed of Math Whizzes Conquered Wall Street and Nearly Destroyed It*. New York: Crown Business

Pole, A., 2011. *Statistical arbitrage: algorithmic trading insights and techniques*. John Wiley & Sons

Russell Investments (n.d..) '*Avoid Behavioral Bias in Investing'*. Available at: https://russellinvestments.com/us/blog/avoid-behavioral-bias (Accessed: 13 February 2025).

SEC-CFTC (2010)" *Finding Regarding the Market Events Of May 6, 2010".* U.S.Commodity Futures Trading Commission and U.S. Securities & Exchange Commission. Available at: Findings Regarding the Market Events of May 6, 2010: Report of the Staffs of the CFTC and SEC to the Joint Advisory Committee on Emerging Regulatory Issues(Accessed:1 April 2025).

Shen, P., 2000. The P/E ratio and stock market performance. *Economic review-Federal reserve bank of Kansas city*, *85*(4), pp.23-36

Schultz, H.D., 2002. *Bear market investing strategies*. John Wiley & Sons.

Sewell, M., 2011. *History of the efficient market hypothesis*. *Rn*, *11*(04), p.04.

Stockcharts, *Chaikin Money Flow* https://chartschool.stockcharts.com/table-of-contents/technical-indicators-and-overlays/technical-indicators/chaikin-money-flow-cmf [Accessed 2 March 2025]

TradingView, 2024. *Moving Averages*. Available at: https://www.tradingview.com/support/solutions/43000502589-moving-averages/ [Accessed 2 March 2025]

Tomat, G.M. (2023) *Financial Markets Efficiency and Economic Behaviour: Evaluating Euro Area Economies.* eBook. Cham: Palgrave Macmillan. Available at: https://doi.org/10.1007/978-3-031-36836-3 (Accessed: 2 March 2025).

U.S Securities and Exchange Commission (n,d). Bear market, Available at: Bear Market | Investor.gov (Accessed: 3 April 2025)

Venkat, Shyam & Baird, S., 2016. *Liquidity Risk Management*. Hoboken, NJ: John Wiley & Sons, Incorporated.