

SELF LEARNING MATERIAL



STOCK MARKET OPERATIONS

COURSE CODE: M21CM01SC

Skill Enhancement Compulsory Course

Postgraduate Programme

Master of Commerce



SREENARAYANAGURU
OPEN UNIVERSITY

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The State University for Education, Training and Research in Blended Format, Kerala

SREENARAYANAGURU OPEN UNIVERSITY

Vision

To increase access of potential learners of all categories to higher education, research and training, and ensure equity through delivery of high quality processes and outcomes fostering inclusive educational empowerment for social advancement.

Mission

To be benchmarked as a model for conservation and dissemination of knowledge and skill on blended and virtual mode in education, training and research for normal, continuing, and adult learners.

Pathway

Access and Quality define Equity.

Stock Market Operations

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Semester - III

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MESSAGE FROM VICE CHANCELLOR

Dear learner,

I extend my heartfelt greetings and profound enthusiasm as I warmly welcome you to Sreenarayanaguru Open University. Established in September 2020 as a state-led endeavour to promote higher education through open and distance learning modes, our institution was shaped by the guiding principle that access and quality are the cornerstones of equity. We have firmly resolved to uphold the highest standards of education, setting the benchmark and charting the course.

The courses offered by the Sreenarayanaguru Open University aim to strike a quality balance, ensuring students are equipped for both personal growth and professional excellence. The University embraces the widely acclaimed “blended format,” a practical framework that harmoniously integrates Self-Learning Materials, Classroom Counseling, and Virtual modes, fostering a dynamic and enriching experience for both learners and instructors.

The university aims to offer you an engaging and thought-provoking educational journey. This learning material titled Business Policies and Strategic Management offered for MCom programme builds on the knowledge gained in undergraduate studies. Skill Enhancement Courses occupy the curriculum of the PG programme with a view to expose the learner to discipline-specific skills. This is an important step of the university to provide new experiences of content of the discipline. The curriculum has been designed at par with similar courses of other premier institutions imparting skill training. The Self-Learning Material has been meticulously crafted, incorporating relevant examples to facilitate better comprehension.

Rest assured, the university’s student support services will be at your disposal throughout your academic journey, readily available to address any concerns or grievances you may encounter. We encourage you to reach out to us freely regarding any matter about your academic programme. It is our sincere wish that you achieve the utmost success.



Warm regards.
Dr. Jagathy Raj V. P.

01-07-2024

Contents

Block 01	Investing in the Stock Market	1
Unit 1	Fundamentals of Stock Market Investment	2
Unit 2	Trading Mechanism	16
Block 02	Derivative Market	41
Unit 1	Introduction to Derivative Market	42
Unit 2	Strategy for Derivative Trading	60

01 BLOCK

INVESTING IN THE STOCK MARKET

Block Content

- Unit - 1 Fundamentals of Stock Market Investment
- Unit - 2 Trading Mechanism

Unit 1

Fundamentals of Stock Market Investment

Learning Outcomes

Upon completing this unit, the learner will be able to:

- ◆ gain an insight into the basics of stock trading
- ◆ identify the support and resistance of a stock
- ◆ familiarise with the screen-based trading

Background

Imagine you want to start trading in the financial markets, but you feel overwhelmed by the complexity and the amount of information available. You see charts, numbers, and terms that are hard to understand, making it challenging to know where to begin or how to make the right decisions.

This unit aims to simplify the process for you. By learning the basics of stock trading, you'll gain a clear understanding of important concepts like candlestick patterns and indicators, which help you read market trends. You'll also learn about support and resistance, which are key to identifying the best times to buy and sell. Additionally, this unit explains screen-based trading and online trading, making it easier for you to use modern tools and platforms to execute your trades. This knowledge will give you the confidence to start trading and make informed decisions.

Keywords

Candlestick, Support, Resistance, Screen-based trading, Online trading

Discussion

1.1.1 Basics of trading

◆ Buying and selling of financial assets

Trading involves buying and selling financial assets like stocks, bonds, currencies, and commodities. The goal is to make a profit by purchasing these assets at a lower price and selling them at a higher price. Trading can be done by individuals or institutions, and it takes place in various markets, including stock exchanges and over-the-counter (OTC) markets.

◆ Dynamic and fast-paced

The nature of trading is dynamic and fast-paced. It requires understanding market trends and making quick decisions. Traders use different strategies and tools to analyse the market, predict price movements, and execute trades. Some traders hold their positions for a short time, aiming for quick profits, while others may keep for longer periods, waiting for larger gains. Trading can be influenced by economic data, news, and global events, making it both challenging and exciting.

1.1.1.1 Types of trading

Speculative Transactions

With the abolition of the outcry system and the introduction of online trading enforcement of strict regulatory norms, several types of speculative practices like blank transfer badla /carry forward, etc., that prevailed in the secondary market earlier have disappeared. This ensures more transparency and less fraud.

Type of trading on the basis of timeframe:

i. Day Trading/Intra-day Transactions

◆ Buy and sell assets within the same day

Day traders buy and sell assets within the same day, aiming to profit from short-term price movements. They do not hold positions overnight and typically make multiple trades in a single day.

ii. Swing Trading

◆ Hold assets for several days or weeks

Swing traders hold assets for several days or weeks, trying to profit from price swings. They use technical analysis to identify trends and make decisions based on market patterns.

iii. Position Trading

◆ Hold assets for months or even years

Position traders hold assets for months or even years, focusing on long-term trends and potential growth. They often use fundamental analysis to make their trading decisions.



◆ Numerous small trades throughout the day

iv. Scalping

Scalpers make numerous small trades throughout the day, holding positions for just seconds or minutes. They aim to profit from tiny price changes and need a fast-trading platform to execute trades quickly.

◆ Analysing a company's financial health

a) Type of trading on the basis of strategy:

i. Fundamental Trading

This approach involves analysing a company's financial health, industry trends, and overall economic conditions to identify undervalued securities with long-term growth potential.

Identify trading opportunities based on historical price patterns

ii. Technical Trading

Technical traders use charts and technical indicators to identify trading opportunities based on historical price patterns and market sentiment.

◆ Move with momentum

iii. Momentum Trading

Momentum traders focus on stocks with strong price trends, aiming to ride the wave until the momentum slows down.

◆ Represent price movements

1.1.2 Candle sticks & indicators

A candlestick is a type of chart used in trading to represent the price movements of an asset over a specific period. Each candlestick shows four key pieces of information:

- i. Open: The price at the beginning of the period.
- ii. High: The highest price reached during the period.
- iii. Low: The lowest price reached during the period.
- iv. Close: The price at the end of the period.

The body of the candlestick represents the difference between the opening and closing prices, while the thin lines (called wicks or shadows) indicate the high and low prices.

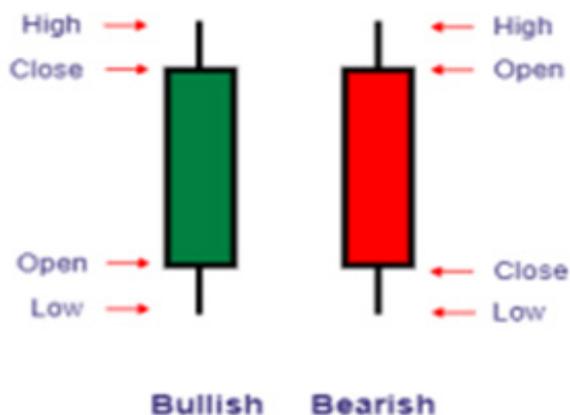


Figure 1.1.1 Candlesticks

1.1.2.1 Types of Candlesticks

There are various types of candlesticks, each providing different information about market movements. Here are some common types:

◆ The closing price is higher than the opening price

◆ Potential reversal from a downtrend

a. **Bullish Candlesticks:** These indicate that the closing price is higher than the opening price, showing that buyers were in control. They are often coloured green or white.

i. **Hammer:** A short body with a long lower wick, indicating a potential reversal from a downtrend.

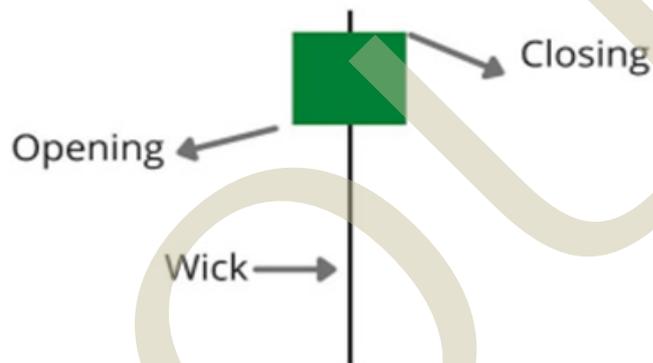


Figure 1.1.2 Hammer

◆ Suggesting a potential upward reversal

ii. **Bullish Engulfing:** The bullish engulfing pattern consists of two candlesticks. The first candlestick is a small bearish (black) candle, and the second candlestick is a larger bullish (white) candle that completely engulfs the body of the first candlestick. This pattern occurs at the bottom of a downtrend and signals a potential reversal to the upside. The larger bullish candle engulfs the smaller bearish candle, indicating strong buying pressure and a possible shift in momentum.



Figure 1.1.3 Bullish Engulfing

◆ The closing price is lower than the opening price

◆ Indicating a potential reversal from an uptrend

◆ Potential reversal to the downside

b. **Bearish Candlesticks:** These indicate that the closing price is lower than the opening price, showing that sellers were in control. They are often coloured red or black.

i. **Shooting Star:** The shooting star candlestick has a small body, a long upper shadow, and a little or no lower shadow. The body is typically black (bearish) or white (bullish). The shooting star appears at the top of an uptrend and suggests a potential bearish reversal. The long upper shadow indicates that buyers drove the price up significantly during the session, but sellers pushed the price back down, signalling that the upward momentum might be fading.

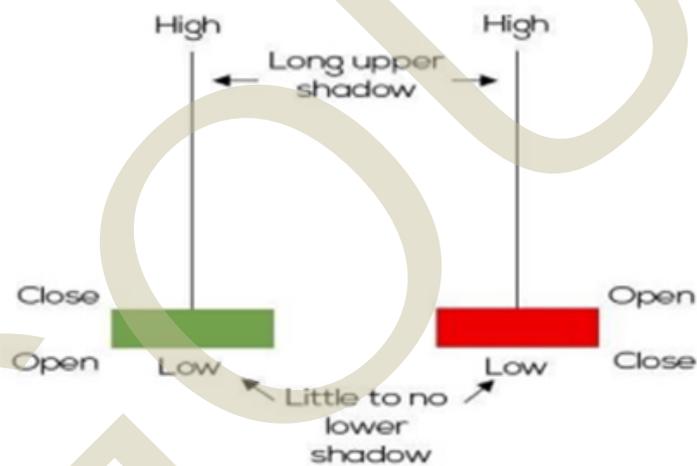


Figure 1.1.4 Shooting Star

ii. **Bearish Engulfing:** The bearish engulfing pattern consists of two candlesticks. The first candlestick is a small bullish (white) candle, and the second candlestick is a larger bearish (black) candle that completely engulfs the body of the first candlestick. This pattern occurs at the top of an uptrend and indicates a potential reversal to the downside. The larger bearish candle engulfs the smaller bullish candle, suggesting strong selling pressure and a shift in momentum.

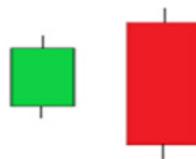


Figure 1.1.5 Bearish Engulfing

◆ Opening and closing prices are nearly equal

◆ Indicates significant indecision and volatility in the market

◆ Potential bearish reversal

c. **Doji Candlesticks:** These have very small bodies, indicating indecision in the market as the opening and closing prices are nearly equal. The doji indicates indecision in the market. It shows that neither buyers nor sellers were able to gain control, leading to a potential reversal or continuation of the current trend. The significance of the Doji increases when it appears at the end of a trend.

i. **Long-Legged Doji:** Long wicks on both ends, showing significant indecision. This candlestick pattern indicates significant indecision and volatility in the market. The long shadows suggest that there was strong buying and selling pressure during the session, but neither side was able to maintain control. It often signals a potential reversal or continuation of the trend, depending on the context.

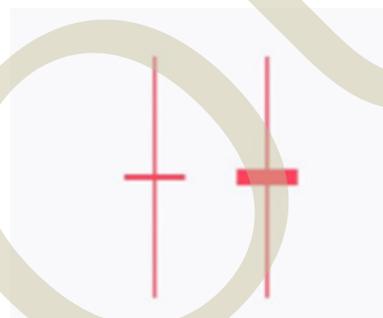


Figure 1.1.6 Long-Legged Doji

ii. **Gravestone Doji:** A long upper wick and no lower wick, indicating a potential bearish reversal. The gravestone Doji appears at the top of an uptrend and suggests a potential bearish reversal. The long upper shadow indicates that buyers drove the price up significantly, but sellers managed to push it back down to close near the open price. This pattern suggests that the bullish momentum might be fading

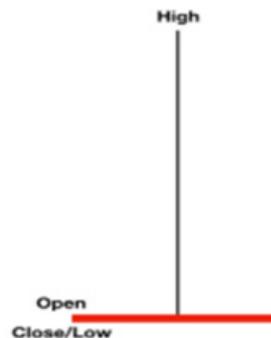


Figure 1.1.7 Gravestone Doji

◆ Potential bullish reversal

iii. **Dragonfly Doji:** A long lower wick and no upper wick, indicating a potential bullish reversal. The dragonfly Doji appears at the bottom of a downtrend and suggests a possible bullish reversal. The long lower shadow indicates that sellers drove the price down significantly, but buyers managed to push it back up to close near the open price. This pattern signals that the selling pressure might be weakening.



Figure 1.1.8 Dragonfly Doji

1.1.2.2 Uses of candlesticks

Candlesticks can be used to understand market trends and make informed trading decisions. The uses of candlesticks are as follows:

- i. **Identify Market Trends:** By looking at a series of candlesticks, you can identify overall market trends. A series of bullish candlesticks suggests an uptrend, while a series of bearish candlesticks indicates a downtrend.
- ii. **Analyse market sentiment:** Candlesticks help to determine market sentiment, key pressure level and market volatility.
- iii. **Spotting Reversals:** Certain candlestick patterns, like the hammer or shooting star, can indicate potential reversals in the market. Recognising these patterns can help you anticipate changes in market direction.
- iv. **Confirming Trends:** Candlestick patterns can also confirm trends. For example, a bullish engulfing pattern during an uptrend can confirm the continuation of the upward movement.
- v. **Support and Resistance Levels:** Candlesticks can help identify support and resistance levels. The wicks of can-

dlesticks can show where prices have been rejected, indicating potential levels of support (where prices might stop falling) and resistance (where prices might stop rising).

- vi. Market trading decisions By analysing candlestick patterns, traders can determine the best times to enter or exit trades. For example, spotting a bullish engulfing pattern might signal a good time to buy, while a bearish engulfing pattern might indicate a good time to sell.

1.1.3 Support and Resistance

◆ Stock Price Movements

◆ Indicate areas of pause or reverse

Imagine a ball bouncing between the floor (support) and the ceiling (resistance). The floor prevents it from falling lower, and the ceiling stops it from going higher. In the same way, stock prices often move between support and resistance levels until something changes that causes a breakout.

Support and resistance (S&R) are zones on a price chart that technical analysts believe indicate areas where the price of an asset is likely to pause or reverse. They represent the balance between supply and demand.



Figure 1.1.9 Support and Resistance

1.1.3.1 Support

◆ A level where the price tends to stop falling

Think of support as a floor price for the stock. It's a level where the price tends to stop falling and may even start to go up again. This happens because many buyers are willing to buy the stock at that price, creating a "support" level. If the price falls to this level, it usually doesn't go much lower because the demand

to buy the stock increases. A price level where buying pressure is strong enough to reverse or halt a downward trend.

1.1.3.2 Resistance

Resistance is like a ceiling for the stock price. It's a level where the price tends to stop rising and may start to go down. This occurs because many sellers are willing to sell the stock at that price, creating a "resistance" level. If the price rises to this level, it usually doesn't go much higher because the supply of the stock increases. The price level is where selling pressure is strong enough to reverse or halt an upward trend.

◆ A level where the price tends to stop rising



Figure 1.1.10 Support and Resistance

In the figure 1.1.10, support and resistance levels are clearly illustrated. Support acts as a floor for the stock price, as seen on the lower black line in the chart. This level is identified by observing the points where the stock price consistently stops falling and begins to rise again. For instance, every time the price drops to around the 40 mark, it halts its decline and bounces back up, indicating strong buying interest at this level. Investors often view this as a good buying opportunity, anticipating that the price will not fall much further and is likely to rise.

◆ Buying pressure at the support level

On the other hand, resistance serves as a ceiling for the stock price, marked by the upper black line in the chart. This level is determined by observing the points where the stock price repeatedly stops rising and starts to fall. In this chart, the price hits the 120 mark several times and then retreats, suggesting significant

◆ Selling pressure at resistance level

selling pressure at this level. Investors typically see this as a signal to sell, expecting that the price will not rise much higher and may soon decline.

◆ Historical price movements

To fix these levels of support and resistance, one must analyse historical price movements and identify where the price has consistently reversed direction. The more times the price touches these levels and changes direction, the stronger and more reliable these levels are considered.

◆ Profit booking using support and resistance

At the support level, investors often buy the stock, anticipating a price increase, or set stop-loss orders to limit potential losses if the price breaks below the support. At the resistance level, investors usually sell the stock to lock in gains or set take-profit orders, expecting the price to fall after reaching this point.

1.1.4 Indicators

Technical indicators like breadth and sentiment indicators are tools that help investors understand the overall health and mood of the stock market:

◆ The measure of stock advancing versus declining

- i. **Breadth Indicators:** Imagine you're at a party, and you want to know if everyone is enjoying themselves. Breadth indicators in the stock market are like checking how many people are dancing or chatting happily versus those sitting quietly in a corner. They measure the number of stocks advancing (going up) versus declining (going down) in a given index or market. A high number of advancing stocks suggests widespread confidence and bullish sentiment (optimism), while more declining stocks may indicate caution or bearish sentiment (pessimism).
- ii. **Sentiment Indicators:** Sentiment indicators measure investors' emotions about the market. It's like taking the pulse of the room at that party to see if people are excited or nervous. These indicators use surveys, social media analysis, or even trading volume patterns to assess whether investors are optimistic (bullish) or pessimistic (bearish) about the future direction of stocks. High bullish sentiment could mean many investors expect prices to rise, while high bearish sentiment might signal expectations of price declines.

1.1.5 Screen-based trading or Online trading

Screen-based trading, also known as electronic trading, refers to buying and selling securities entirely through a computer platform. This eliminates the need for a physical trading floor where

- ◆ Buying and selling securities entirely through an electronic platform

people shout orders at each other. Instead of traders gathering on a physical trading floor, screen-based trading occurs on electronic platforms. These platforms can be accessed by authorised participants such as brokers, institutional investors, and individual traders.

Screen-based trading provides transparency as traders can see real-time prices and market depth (the volume of buy and sell orders at different price levels). This information helps traders make informed decisions. This also increases accessibility to financial markets.

- ◆ Enhance transparency, accountability and speed

Traders can participate from anywhere with an internet connection, which broadens market participation beyond geographical limitations. Electronic trading platforms contribute to market efficiency by facilitating faster transactions, reducing transaction costs, and enhancing liquidity. This efficiency benefits both traders and the overall market ecosystem.

Summarised Overview

Trading involves the buying and selling of financial assets, such as stocks or bonds, with the aim of making a profit. One crucial aspect of trading is understanding market patterns and behaviour, which are often depicted using candlestick charts. Candlestick charts visually represent price movements over a specific period, showing whether prices have risen or fallen. These patterns help traders predict future price movements and make informed decisions. Support and resistance levels are key concepts in trading. Support is a price level where a stock tends to find buying interest, preventing it from falling further. Resistance, on the other hand, is a price level where selling interest tends to be strong, preventing the stock from rising further. Traders use these levels to identify potential entry and exit points for their trades, aiming to buy near support and sell near resistance to maximise profits.

Online trading has revolutionised how trading is conducted. Instead of traditional methods where traders physically visit exchanges, online trading allows them to trade directly through electronic platforms accessed via the internet. This accessibility means traders can execute trades from anywhere at any time, using computers or mobile devices. Online trading platforms provide real-time market data, advanced charting tools, and quick order execution, empowering traders to react swiftly to market changes and participation beyond geographical limitations

Self-Assessment Question

1. What is swing trading?
2. Differentiate between support and resistance.
3. What is candlestick?
4. What is Bullish Candlestick?
5. What is Bearish Engulfing?
6. What is Gravestone Doji?
7. Explain Screen-based trading.
8. How can candlestick patterns influence trading strategies?

Assignments

1. Define support and resistance levels in trading. How do traders use these levels in their decision-making process?
2. Explain how candlestick charts represent price movements. Give examples of common candlestick patterns.
3. How can support and resistance levels be identified on a price chart? 4. Explain a scenario where identifying a strong support level could influence a trader's decision to enter a trade.
4. Conduct a case study on a recent market event where understanding support and resistance levels could have influenced trading outcomes. Analyse the impact. 6. Select a stock or index. Plot its historical price chart for the past year. Identify at least two instances where clear support and resistance levels were formed. Explain how these levels influenced trading decisions.
5. Compare traditional floor trading with online trading. Discuss the advantages and disadvantages of each method, highlighting how technology has influenced trading practices over time.

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Suggested Reading

1. 1. John C.Hull (2005) *Options, Futures, and Other Derivatives*, Pearson Education
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Space for Learner Engagement for Objective Questions

Learners are encouraged to develop objective questions based on the content in the paragraph as a sign of their comprehension of the content. The Learners may reflect on the recap bullets and relate their understanding with the narrative in order to frame objective questions from the given text. The University expects that 1 - 2 questions are developed for each paragraph. The space given below can be used for listing the questions.

SGOU

Unit 2

Trading Mechanism

Learning Outcomes

Upon completing this unit, the learner will be able to

- ◆ Gain familiarity with various trading strategies
- ◆ Understand the clearing and settlement mechanisms in trading
- ◆ Identify the impact of corporate actions on stock prices
- ◆ Analyse the role of market volatility in trading decisions

Background

Imagine you have some savings, and you're eager to invest them wisely to grow your money. You've heard about the stock market, where people buy and sell shares of companies, hoping to earn profits. It all sounds fascinating but also complex and intimidating. How do you know which stocks to choose? How can you be sure you're making smart investment decisions that will pay off in the long run?

To navigate these uncertainties, understanding key concepts like trading strategies, investment decisions under IPO, FPO, and Right issues, the impact of corporate actions on stock markets, and managing behavioural biases becomes essential. This unit equips you with the knowledge to navigate market uncertainties by exploring key concepts like trading strategies, IPOs, FPOs, rights issues, and the impact of corporate actions and behavioural biases on the stock market.

Keywords

Trading strategies, IPO, FPO, Valuation of bonds, Clearing and settlement mechanism

1.2.1 Trading Strategies

◆ Systematic approaches

Trading strategies are systematic approaches or plans that traders use to determine when to buy or sell assets like stocks, currencies, or commodities in financial markets. These strategies help traders manage risk, identify opportunities, and maximise profits. The key aspects of trading strategies involve the following:

- i. **Market *Analysis*:** Strategies rely on either fundamental analysis (focusing on a company's financial health and prospects) or technical analysis (using charts and indicators to identify price trends).
- ii. ***Time Horizon*:** Different strategies hold positions for varying lengths of time. Day trading involves frequent buying and selling within a single day, while swing trading holds positions for days or weeks, and position trading focuses on long-term trends lasting months or years.
- iii. ***Risk Management*:** A good strategy includes risk management techniques like stop-loss orders to limit potential losses.
- iv. ***Portfolio Management*:** Quality strategy depends on asset allocation and diversification
- v. **Entry and exit rules:** strategy formulation should consider specific conditions for buying and selling.

The different types of trading strategies are as follows:

◆ Follow the trend

- i. ***Trend Following*:** This strategy involves identifying and trading in the direction of a prevailing trend in the market. Traders using this strategy believe that assets tend to continue moving in their current direction. They buy when prices are trending upwards (bullish trend) and sell or short-sell when prices are trending downwards (bearish trend). Some of the most popular technical analysis tools included in trend-following strategies include moving averages, the relative strength index (RSI) and the average directional index (ADI).
- ii. ***Range Trading*:** Range traders identify price levels where an asset repeatedly bounces between a support (lower boundary) and resistance (upper boundary) level. Traders buy at support and sell at resistance, aiming to profit from price movements within this range. This strategy assumes

◆ Trade using support and resistance price level

◆ Capture significant price movements

◆ Buying when prices are low and selling when prices are high

◆ Focus on strong upward or downward momentum

◆ Executing a large number of trades within a single day

◆ Short to medium-term price movements

that prices will continue to fluctuate within predictable boundaries over time. While trend traders focus on the overall trend, range traders will focus on the short-term changes in price.

iii. Breakout Trading: Breakout traders look for instances when the price of an asset moves beyond a predefined support or resistance level, signalling a potential trend continuation or reversal. Traders enter positions when the price breaks out of its current range, aiming to capture significant price movements in the direction of the breakout. Most breakout trading strategies are based on volume levels, as the theory assumes that when volume levels start to increase, there will soon be a breakout from a support or resistance level.

iv. Counter-Trend Trading: Counter-trend traders seek to profit from reversals in existing trends. They identify overbought (high) or oversold (low) conditions in the market and anticipate price corrections or reversals. This strategy involves buying when prices are low and selling when prices are high, contrary to the prevailing trend.

v. Momentum Trading: Momentum traders focus on assets that are showing strong upward or downward momentum. They aim to capitalise on the continuation of current price trends by entering positions in assets with significant recent price movements. This strategy assumes that strong trends are likely to persist in the short to medium term.

vi. Scalping: Scalping is a short-term trading strategy where traders aim to profit from small price movements by executing a large number of trades within a single day. Scalpers typically hold positions for only a few seconds to minutes, relying on quick execution and small incremental gains to accumulate profits over time.

vii. Swing Trading: Swing traders aim to capture short to medium-term price movements in assets, typically holding positions for several days to weeks. They identify price swings within broader trends or ranges and enter positions at favourable entry points (swing lows in uptrends or swing highs in downtrends). Scalpers need high observational skills and experience to pinpoint trades and place orders.

1.2.2 Best practices in trading

Best practices in trading are guidelines and habits that successful traders follow to improve their chances of making profitable trades and managing risk effectively. By following these

best practices, traders can improve their chances of success in the markets while minimising risks. The best practices in trading are as follows:

- i. Have a Trading Plan:** A well-defined trading plan outlines your trading goals, risk tolerance, entry and exit strategies, and rules for managing trades. Sticking to a plan helps you stay disciplined and make objective decisions rather than impulsive ones.
- ii. Risk Management:** Always manage your risk by setting stop-loss orders to limit potential losses on each trade. Never risk more than a small percentage of your trading capital on a single trade. This helps protect your account from significant losses.
- iii. Stay Informed:** Keep up with market news, economic indicators, and events that could impact the assets you trade. Understanding the broader market environment can help you make informed trading decisions.
- iv. Use Technical and Fundamental Analysis:** Combine technical analysis (studying price charts and patterns) with fundamental analysis (evaluating economic data and financial statements) to get a comprehensive view of the market. This dual approach can improve the accuracy of your trades.
- v. Be Patient and Disciplined:** Avoid overtrading or chasing the market. Wait for clear signals that align with your trading plan. Patience and discipline are essential to avoid emotional decisions and maintain a long-term perspective.
- vi. Keep a Trading Journal:** Document all your trades, including entry and exit points, reasons for the trade, and the outcome. Reviewing your trades regularly helps you identify strengths and weaknesses in your strategy and improve over time.
- vii. Control Emotions:** Trading can be emotionally challenging. Develop strategies to manage emotions like fear and greed, which can lead to poor decision-making. Sticking to your trading plan and risk management rules helps control emotional impulses.
- viii. Use Proper Position Sizing:** Adjust the size of your trades based on your account size and risk tolerance. Proper position sizing ensures that no single trade has a disproportionate impact on your overall portfolio.
- ix. Learn Continuously:** The market is constantly evolving, and so should your trading skills. Continuously educate

yourself by reading books, attending webinars, and following experienced traders. Staying updated with new strategies and tools can give you an edge.

- x. **Back-test Your Strategies:** Before applying a new trading strategy in the live market, back-test it using historical data to see how it would have performed in the past. This helps you understand the strategy's strengths and weaknesses and refine it accordingly.
- xi. **Diversify Your Trades:** Avoid putting all your capital into a single asset or trade. Diversification reduces the risk of significant losses by spreading your investments across different assets or sectors.
- xii. **Stay Flexible:** Be ready to adapt your strategies based on changing market conditions. Flexibility allows you to take advantage of new opportunities and avoid sticking with a strategy that's no longer effective.

1.2.3 Investment decision under IPO, FPO and Right issue

When companies seek to raise capital, they may issue new shares through various methods such as Initial Public Offerings (IPOs), Follow-on Public Offerings (FPOs), and Right Issues. Each of these offers unique opportunities and risks for investors.

1.2.3.1 Initial Public Offering (IPO)

◆ This is the first time a company has offered its shares to the public

An IPO is the first time a company offers its shares to the public. This process transforms a private company into a public one, allowing it to raise funds from a broad pool of investors. Investing in a company going public for the first time, there's limited historical data to analyse its performance. This makes IPOs inherently risky, but successful companies can offer significant returns.

Types of IPO

I. Based on offering structure

i. Fixed price offering

Under this method, the company determines a fixed price per share with or without a premium or discount, which remains constant throughout the IPO process. To determine this price, the company consults with financial experts such as merchant bankers and underwriters.

ii. Book building offering

Book building offers a more dynamic approach to determin-

ing share prices. Under this method, the company sets a price range or commonly known as price band, within which investors can bid for shares. This range includes a lower limit known as “the floor price” and an upper limit called “cap price.”

iii. Auction based

In auction-based IPOs, the share price is determined through auctions.

iv. Right issue IPO

In this offering structure, existing shareholders offered additional shares.

II.By listing location

- i. Domestic IPO: IPO listed on the domestic stock exchange.
- ii. International IPO: Listed on a foreign stock exchange
- iii. Global IPO: listed on multiple stock exchanges.
- iv. Dual-listed IPO: Listed on two or more stock exchanges.

III. Based on Investors participation.

- i. Retail IPO: IPO open to individual investors.
- ii. Institutional IPO: IPO offers to institutions like merchant banks, financial institutions, etc.
- iii. Qualified institutional placement.(QIP) : IPO for qualified institutional buyers.

IV . Based on company type:

- i. Traditional IPO: For established companies.
- ii. Unicorn IPO: For privately funded startups valued at over \$1 billion.
- iii. SPAC (Special Purpose Acquisition Company): For a company seeking a merger.

V. Based on listing methods:

- i. Direct listing IPO: IPO with no underwriter’s involvement.
- ii. Reverse merger IPO: For merging with a listed shell company.
- iii. Alternative public offering (APO): For companies with mergers.



VI. Other types:

- i. Mini IPO: Smaller offerings under \$50 million.
- ii. Micro IPO: Even smaller IPO offers typically \$10 million.
- iii. Dutch auction: share price determined by descending auction.

Factors Affecting Investment Decisions under IPO

- i. **Company's Fundamentals:** Be wary of blindly following the hype surrounding an IPO. Before investing, assess the company's financial health, business model, growth prospects, and competitive position. Read the IPO prospectus to understand these details.
- ii. **Valuation:** Compare the IPO price with the company's intrinsic value and the valuations of similar companies. Ensure you're not overpaying for the shares.
- iii. **Market Conditions:** Consider the overall market environment. IPOs tend to perform better in bullish markets.
- iv. **Lock-up Periods:** Be aware of any lock-up periods during which insiders are restricted from selling their shares. This can impact stock prices once the period ends.
- v. **Potential for Growth:** Evaluate the company's growth potential and how the funds raised will be used to drive future growth.

◆ Publicly traded company issues additional shares after an IPO

1.2.3.2 Follow-on Public Offer /Further Public Offer(FPO)

An FPO is when a publicly traded company issues additional shares after an IPO. This can help the company raise more capital or reduce debt. Compared to IPOs, FPOs involve established companies with a track record. This allows for better analysis of their financial health and future potential.

Considerations of Investment Decision under FPO:

- i. **Purpose of FPO:** Understand why the company is issuing additional shares. Raising funds for expansion is generally positive, whereas raising funds to cover losses may indicate financial trouble.
- ii. **Dilution of Shares:** Additional shares can dilute the value of existing shares. Consider the potential impact on your holdings.
- iii. **Company Performance:** Review the company's performance since its IPO. Has it met or exceeded expectations?
- iv. **Price Analysis:** Compare the FPO price with the current market price and historical performance. Ensure it offers

good value. If the FPO price is significantly higher than the current market price, it might be a sign the company is overvalued.

- v. **Market Sentiment:** Measures - investor sentiment towards the company and the industry. Positive sentiment can lead to better performance post-FPO.

1.2.3.3 Right Issue

◆ Allows existing shareholders to buy additional shares at a fixed price

The issue of new equity shares to existing shareholders of a company on a record date in proportion to their existing shareholding is called a rights issue. A Right Issue guarantees existing shareholders to buy additional shares at a fixed price before the company offers them to the public. It's a way for companies to raise capital while giving current shareholders a chance to maintain their ownership percentage.

Considerations of Investment Decision under Right Issue:

The Existing shareholders have the option to exercise their rights by purchasing, renouncing or expiring additional shares. This option depends on factors such as the company's financial health, prevailing market price, growth prospects and the attractiveness of the offer price.

- i. **Discount Offered:** Evaluate the discount offered on the new shares. A significant discount can make the Right Issue more attractive. Usually, the company won't issue a discount, but the shares offered are guaranteed to existing shareholders.
- ii. **Purpose of Funds:** Determine how the company plans to use the funds. Investments in growth opportunities or debt reduction are generally positive signs.
- iii. **Dilution Risk:** Consider the potential dilution of your shares if you do not participate in the Right Issue.
- iv. **Financial Health:** Assess the company's financial health and why it needs additional capital. This can indicate its future stability and growth potential.
- v. **Exercising Rights:** Decide whether to exercise your rights (buy the new shares), sell the rights in the market, or let them expire. Exercising rights can help maintain your ownership percentage and benefit from the discount.

1.2.4 Valuation of bonds

A bond is essentially a debt security issued by a government or corporation to raise money. It's like borrowing money from

◆ Debt instrument

investors, promising to pay back the principal amount (the initial investment) at a specified maturity date, along with regular interest payments. Bonds can vary in terms of risk, return, and maturity length, offering different investment options for individuals and institutions.

◆ Determining the fair price of a bond

Bond valuation is the process of determining the fair price of a bond. This involves calculating the present value of the bond's future interest payments and the repayment of its face value at maturity. The present value is found by discounting these future cash flows using a discount rate, which reflects the bond's risk and the current interest rate environment. Understanding bond valuation is important for investors because it helps them decide whether a bond is a good investment compared to other options.

◆ Total profit earned from holding a bond

Bond returns are the total profit earned from holding a bond, including interest payments and any capital gains or losses from selling the bond. For example, if you purchase a bond for

₹1,000, receive annual coupon payments of ₹50, and sell the bond for ₹1,100, your total return would be ₹50 (coupon payment) + ₹100 (capital gain) = ₹150 total return.

Coupon rate

◆ Annual interest rate

The coupon rate is the annual interest rate paid by the bond issuer to the bondholder, expressed as a percentage of the bond's face value. For example, if a bond has a face value of ₹1,000 and a coupon rate of 6%, you will receive ₹60 in interest each year ($₹1,000 \times 6\%$). This rate is fixed throughout the life of the bond.

◆ Bond yield based on current value

Current yield

The current yield represents the bond's annual coupon payment divided by its current market price, indicating the bond's income relative to its market value. For example, if a bond with a face value of ₹1,000 and a coupon rate of 6% is currently trading at ₹950, its current yield is **calculated as** ₹60 (annual coupon)

$\frac{₹60}{₹950 \text{ (current price)}} = 6.32\%$. This means the bond yields 6.32% of its current market price annually.

Spot interest rate

◆ Discount future cash flows to their present value

The spot interest rate is used to discount future cash flows to their present value. This means it helps determine how much a sum of money received in the future is worth in today's terms. It is crucial for pricing zero-coupon bonds, which do not pay periodic interest but are sold at a discount to their face value and mature at face value.

Suppose you want to know the present value of ₹1,000 that you will receive one year from now. If the current one-year spot interest rate is 6%, you can calculate the present value of that ₹1,000 using this rate.

To calculate the present value (PV), we can use the formula:

$$PV = \frac{F}{(1+r)^n}$$

where:

- ◆ F is the future value (₹1,000)
- ◆ r is the spot interest rate (6% or 0.06)
- ◆ n is the number of years (1 year)

$$\begin{aligned} PV &= \frac{1000}{(1+0.06)^1} \\ &= \frac{1000}{(1.06)^1} \\ &= 943.40 \end{aligned}$$

This calculation shows that ₹1,000 received one year from now is worth approximately ₹943.40 today if the spot interest rate is 6%.

Yield to Maturity (YTM)

Yield to Maturity (YTM) is the total return an investor can expect if the bond is held until it matures. It accounts for the bond's current price, coupon payments, and the time remaining until maturity. For instance, if you buy a bond for ₹950 with a face value of ₹1,000, a coupon rate of 7%, and it matures in 5 years, the YTM represents the annualised return considering the bond's purchase price, coupon payments, and the ₹50 gain (from ₹950 to ₹1,000 face value) when it matures.

◆ The total return an investor can expect if the bond is held until it matures

YTM can be calculated using the following equation.

$$YTM = \frac{C + \frac{F - P}{N}}{\frac{F + P}{2}}$$

Where:

- ◆ C = Annual coupon payment
- ◆ F = Face value of the bond
- ◆ P = Current bond price
- ◆ N = Number of years to maturity



Illustration 1.2.1

A trader purchases a 5-year government bond with a face value of ₹10,000 that pays an annual coupon rate of 6%. The bond is currently selling for ₹9,500. Calculate the yield to maturity (YTM).

Solution

$$YTM = \frac{C + \frac{F - P}{N}}{\frac{F + P}{2}}$$

Coupon Payment Calculation:

- The bond pays a 6% coupon annually on its face value.
- Annual coupon payment = 6% of ₹10,000 = ₹600.

Current Price and Face Value:

- Current price (P) = ₹9,500.
- Face value (F) = ₹10,000.
- Number of Years to Maturity (N): 5 years

$$\begin{aligned} YTM &= \frac{600 + \frac{10000 - 9500}{5}}{\frac{10000 + 9500}{2}} \\ &= \frac{600 + \frac{500}{5}}{9750} \\ &= \frac{600 + 100}{9750} \\ &= \frac{700}{9750} = 7.18\% \end{aligned}$$

YTM = 7.18% (A will get a yield of 7.18 percent if he holds the security for 5 years.)

Illustration 1.2.2

Ravi is considering purchasing a corporate bond issued by an Indian company named Bharat Enterprises. The bond has a face value of ₹20,000 and a remaining maturity of 8 years. It

pays an annual coupon rate of 7%. Currently, the bond is selling for ₹18,500. Calculate the Yield to Maturity (YTM) for this bond.

Solution

Coupon Payment Calculation:

- The bond pays a 7% coupon annually on its face value.
- Annual coupon payment = 7% of ₹20,000 = ₹1,400.

Current Price and Face Value:

- Current price (P) = ₹18,500.
- Face value (F) = ₹20,000.

Number of Years to Maturity (N):

- N = 8 years.

$$YTM = \frac{C + \frac{F - P}{N}}{\frac{F + P}{2}}$$
$$YTM = \frac{1400 + \frac{20000 - 18500}{8}}{\frac{20000 + 18500}{2}}$$
$$= \frac{1400 + 187.5}{19250}$$
$$= \frac{1587.5}{19250}$$
$$= 8.25\%$$

Illustration 1.2.3

Meera is considering purchasing a corporate bond issued by XYZ Ltd. The bond has a face value of ₹15,000 and a remaining maturity of 6 years. It pays an annual coupon rate of 8%. Currently, the bond is selling for ₹16,200. Calculate the Yield to Maturity (YTM) for this bond.

Solution

Coupon Payment Calculation:

- ♦ The bond pays an 8% coupon annually on its face value.
 - ♦ Annual coupon payment C = 8% of ₹15,000 = ₹1,200.
- Current Price and Face Value:



- Current price $P = ₹16,200$.
 - Face value $F = ₹15,000$.
- Number of Years to Maturity (N):

- $N = 6$ years.

$$YTM = \frac{C + \frac{F - P}{N}}{\frac{F + P}{2}}$$

$$= \frac{1200 + \frac{15000 - 16200}{6}}{\frac{15000 + 16200}{2}}$$

$$= 6.41 \%$$

Yield to Call (YTC)

Yield to Call (YTC) is a measure used to evaluate the potential return of a callable bond if it is redeemed (called) by the issuer before its maturity date. This is relevant for callable bonds, which allow the issuer to repurchase the bond at a predetermined price before maturity. For example, if a bond with a face value of ₹1,000, a coupon rate of 7%, and a call price of ₹1,050 is called in 3 years, the YTC calculates the return based on receiving the call price rather than the face value at maturity. If the bond is called early, the YTC may differ from the Yield to Maturity.

♦ The potential return of a callable bond

The YTC can be calculated using the following equation:

$$YTC = \frac{C + \frac{\text{Call Price} - P}{N}}{\frac{\text{Call Price} + P}{2}}$$

Where:

- C = Annual coupon payment
- P = Current bond price
- Call Price = Call price of the bond
- N = Number of years to call

Illustration 1.2.4

An investor is considering purchasing a callable bond issued by ABC Corp. The bond has the following details:

Face value: ₹10,000

Annual coupon rate: 6%

Current market price: ₹10,500

Maturity: 10 years

Callable in 5 years at a call price of ₹10,200

Calculate the Yield to Call (YTC) for this bond.

Solution

$$YTC = \frac{C + \frac{\text{Call Price} - P}{N}}{\frac{\text{Call Price} + P}{2}}$$

Where:

- $C = 6\%$ of ₹10,000 = 600
- $P = 10500$
- $\text{Call Price} = 10200$
- $N = 5$

$$\begin{aligned} YTC &= \frac{600 + \frac{10200 - 10500}{5}}{\frac{10200 + 10500}{2}} \\ &= \frac{600 + \frac{-300}{5}}{\frac{20700}{2}} \\ &= \frac{540}{10350} \\ &= 5.227\% \end{aligned}$$

Illustration 1.2.5

Sita is evaluating a callable bond issued by DEF Ltd. The bond has the following features:

Face value: ₹50,000

Annual coupon rate: 8%

Current market price: ₹52,500

Maturity: 12 years

Callable in 7 years at a call price of ₹51,000

Calculate the Yield to Call (YTC) for this bond.

Solution



$$YTC = \frac{C + \frac{\text{Call Price} - P}{N}}{\frac{\text{Call Price} + P}{2}}$$

Where:

- C = 8% of ₹50,000 = 4000
- P = 52500
- Call Price = 51000
- N = 7

$$\begin{aligned} YTC &= \frac{4000 + \frac{51000 - 52500}{7}}{\frac{103500}{2}} \\ &= \frac{4000 + \frac{-1500}{7}}{51750} \\ &= \frac{3785.71}{51750} \\ &= 7.31\% \end{aligned}$$

1.2.5 Clearing and Settlement Mechanism

Clearing and settlement are critical processes in financial markets that ensure the smooth transfer of securities and funds between buyers and sellers. Clearing involves confirming and reconciling trades, while settlement focuses on transferring securities and funds between parties. They involve confirming, matching, and transferring ownership of financial instruments, such as stocks, bonds, and derivatives, as well as the associated payments. These processes are essential for reducing risk and ensuring that transactions are completed efficiently and accurately.

1.2.5.1 Clearing

Clearing is the process of managing and reconciling transactions between trading parties. It involves several key steps, including:

- i. Trade Confirmation: Once a trade is executed, it must be confirmed by both the buyer and seller. This includes verifying the trade details, such as the quantity of securities, price, and settlement date. Trade confirmation helps to en-

◆ Confirming and reconciling trades

sure that both parties agree on the terms of the trade.

- ii. **Netting:** In clearing, netting involves offsetting buy and sell transactions to reduce the total number of transactions and the amount of money that needs to be exchanged. This reduces the risk and complexity of the settlement process. For example, if a trader buys 100 shares of a stock and sells 80 shares of the same stock on the same day, the net position for that stock is 20 shares. Netting helps to simplify the settlement process and minimise the amount of cash required.
- iii. **Risk Management:** Clearing houses, also known as central counterparties (CCPs), play a crucial role in managing counterparty risk. They act as intermediaries between buyers and sellers, guaranteeing that both parties fulfil their obligations. To manage risk, clearing houses may require traders to post collateral or margin to cover potential losses.

1.2.5.2 Settlement

Settlement is the process of transferring ownership of securities and funds between the buyer and seller. It involves the following steps:

◆ Delivery, payment, and reconciliation are steps in settlement.

- i. **Delivery:** Delivery refers to the transfer of securities from the seller to the buyer. This is typically done electronically through depositories, which maintain electronic records of ownership. For example, in India, the National Securities Depository Limited (NSDL) and the Central Depository Services Limited (CDSL) handle the electronic settlement of securities.
- ii. **Payment:** Payment involves transferring the agreed-upon amount of money from the buyer to the seller. This is usually done through electronic funds transfer systems. For instance, in India, the Reserve Bank of India (RBI) operates systems like the Real Time Gross Settlement (RTGS) and National Electronic Funds Transfer (NEFT) to facilitate the transfer of funds.
- iii. **Reconciliation:** After the delivery of securities and payment, both parties need to reconcile their records to ensure that the transaction has been completed accurately. Reconciliation involves verifying that the securities and funds have been transferred as agreed.

1.2.5.3 The Role of Clearing Houses

Clearing houses are central to the clearing and settlement pro-



cess. They provide several key functions:

- ◆ **Intermediation:** Clearing houses act as intermediaries between buyers and sellers, guaranteeing the completion of trades. This helps to reduce counterparty risk, as the clearing house assumes the risk if one party defaults on the transaction.
- ◆ **Margin Requirements:** Clearing houses require traders to post margin or collateral to cover potential losses. This helps to ensure that both parties can fulfil their obligations and reduces the risk of default.
- ◆ **Netting and Settlement:** Clearing houses perform netting of trades and handle the settlement process. They calculate the net amounts that need to be exchanged and facilitate the transfer of securities and funds.

1.2.6 Impact of corporate actions and Announcements on stock market instrument

A corporate action is any action taken by a company that brings material change to a company and directly impacts stakeholder value. These may be either monetary or non-monetary. Corporate actions and announcements can have a significant effect on stock market instruments, influencing investor behaviour and market prices. These actions include events like dividends, stock splits, mergers and acquisitions, rights issues, share buy-backs, Offer for Sale (OFS), capital expenditure (CAPEX) Announcements, corporate restructuring and debt issuance or repayment. Each type of action can signal various things about a company's financial health and future prospects, thereby affecting the perception of its value in the market. Following are some examples of corporate actions and announcements:

i. Dividends

Dividends are payments made by a company to its shareholders, usually derived from profits. Announcements regarding dividends, such as increases or decreases, can have a direct impact on the stock price. A higher-than-expected dividend might indicate strong financial health and confidence in future earnings, often leading to a rise in the stock's price. Conversely, a dividend cut can signal financial trouble, leading to a decrease in the stock's price as investors reassess the company's profitability and risk.

ii. Stock Splits

A stock split increases the number of shares outstanding by

issuing more shares to current shareholders, while proportionally reducing the price per share. Although the total market value of the company remains the same, stock splits can make shares more affordable and attractive to a broader range of investors, potentially increasing demand and the stock price post-split. It also often reflects management's confidence in the company's future prospects, which can positively influence investor sentiment.

iii. Mergers and Acquisitions (M&A)

Mergers and acquisitions can significantly impact stock prices, often resulting in immediate changes in the valuation of the companies involved. The acquiring company's stock might decrease if the market perceives the acquisition as overvalued or risky, while the target company's stock typically increases as the acquisition price usually includes a premium over the market price. The long-term impact depends on the perceived success of the merger or acquisition in creating value.

iv. Rights Issues

A rights issue occurs when a company offers additional shares to existing shareholders, typically at a discount. This can be seen as a sign that the company needs to raise capital, possibly due to financial strain or for funding growth opportunities. The announcement of a rights issue can lead to a decrease in the stock price, as it dilutes the value of existing shares. However, if the market believes the funds will be used effectively for growth, the long-term impact can be positive.

v. Share Buybacks

Share buybacks involve a company repurchasing its shares from the market. This can signal that the company believes its shares are undervalued and that it has surplus cash. Buybacks reduce the number of shares outstanding, often leading to an increase in earnings per share (EPS) and potentially boosting the stock price. This action can be interpreted as a positive signal, suggesting that management has confidence in the company's future earnings potential.

vi. Earnings Announcements

Quarterly earnings reports are critical events that can cause significant stock price movements. If a company's earnings surpass market expectations, the stock price often rises, reflecting

investor optimism about the company's financial health and future prospects. Conversely, earnings that fall short of expectations can lead to a drop in stock prices as investors adjust their expectations and valuations.

vii. Offer for Sale (OFS)

An Offer for Sale (OFS) is a method by which promoters or large shareholders of a company sell their shares on the stock exchange. Unlike a public issue, an OFS does not involve issuing new shares but rather offloading existing ones. This action can impact the stock price, depending on the market's perception of why the shares are being sold. If the sale is perceived as promoters reducing their stake due to a lack of confidence in the company's future, it can lead to a decline in stock price. However, if it's part of a planned strategy or regulation compliance, the impact might be neutral or even positive.

viii. Capital Expenditure (CAPEX) Announcements

Capital Expenditure (CAPEX) refers to investments made by a company to acquire or upgrade physical assets such as property, industrial buildings, or equipment.

Announcements regarding CAPEX plans can significantly affect stock prices. Large CAPEX investments can be a sign of expansion and growth prospects, potentially leading to an increase in the stock price if investors believe the investments will yield future returns. Conversely, if the market perceives the CAPEX as unnecessary or risky, it might negatively impact the stock price.

ix. Corporate Restructuring

Corporate restructuring involves significant changes to a company's structure or operations, such as reorganising business units, divesting non-core assets, or changing management. Restructuring can have a profound impact on the company's stock price. If the market views the restructuring as a move to streamline operations, cut costs, or focus on more profitable areas, the stock price might rise. However, if the restructuring is seen as a sign of deeper issues within the company, it could lead to a decline in the stock price.

x. Debt Issuance or Repayment

Announcements related to debt issuance or repayment can also influence a company's stock price. Issuing new debt might

be seen as a positive sign if the funds are used for expansion or growth initiatives, suggesting confidence in the company's future cash flows. However, if the debt issuance increases leverage and financial risk, it can negatively affect the stock price. Conversely, repaying debt or reducing leverage can improve the company's financial health and reduce interest expenses, which might positively impact the stock price by improving profitability and lowering risk.

1.2.7 Management of Behavioural Biases for Better Investment Decisions

◆ Irrational beliefs or behaviours

Managing behavioural biases is crucial for making sound investment decisions. Behavioural biases are irrational beliefs or behaviours that can lead to ineffective investment outcomes. These biases often arise from cognitive errors and emotional influences, causing investors to deviate from rational decision-making. To make sound investment decisions, it's crucial to understand and manage these biases.

◆ Cognitive biases

Our investment decisions can be influenced by psychological quirks called behavioural biases. These biases come in two ways: cognitive and emotional. Cognitive biases are thinking errors, like overconfidence, where we believe we can predict the market better than we actually can. This can lead to risky bets. Loss aversion is another example, where the fear of losing money is so strong that we sell investments too early or miss out on good

opportunities. Anchoring bias makes us focus too heavily on the first piece of information we hear, potentially leading to poor choices.

◆ Emotional biases

Then, there are emotional biases, where feelings rule logic. Greed can make us chase quick gains, while fear can cause us to overreact to market downturns. Regret aversion makes us avoid actions that might lead to future buyer's guilt, and the endowment effect tricks us into overvaluing things we already own. Recognising these biases is the first step to making smarter investment decisions.

1.2.7.1 Common Behavioural Biases in Investment

- i. **Overconfidence Bias:** Overconfidence bias occurs when investors overestimate their knowledge or ability to predict market movements. This can lead to excessive trading, underestimation of risks, and failure to diversify portfolios. Overconfident investors might believe they can consistently beat the market, leading to higher transaction

costs and potential losses. This bias puts the investor in big trouble. To overcome this bias, gather information regarding investment decisions from available sources and conduct fundamental and technical analysis.

- ii. **Herding Behaviour:** When the investors follow and copy what other investors are doing instead of analysing investment decisions before entering the stock market, it is often known as herd mentality bias. Herding involves following the actions of a larger group, often leading to buying high and selling low. This bias can be driven by a fear of missing out (FOMO) or the belief that the crowd's actions are based on superior information. Herding can cause bubbles or crashes in the market, as irrational buying or selling drives prices away from their intrinsic values.
- iii. **Anchoring Bias:** Anchoring bias is the tendency to rely heavily on the first piece of information encountered (the "anchor") when making decisions. In investing, this can manifest as a fixation on a stock's historical price, preventing investors from adjusting their expectations based on new information. This bias can lead to holding onto losing investments in the hope they will return to the anchor price.
- iv. **Confirmation Bias:** Confirmation bias is the tendency to seek out and favour information that confirms existing beliefs while ignoring or discounting information that contradicts them. Investors affected by this bias might only consider data that supports their investment thesis, leading to poor decision-making and missed opportunities for course correction. To deal with this bias, gather all available information and then only make a wise investment decision
- v. **Loss Aversion:** Loss aversion refers to the tendency to prefer avoiding losses over acquiring equivalent gains. Investors might hold onto losing investments longer than advisable, hoping to recover their initial investment rather than cutting losses. This bias can lead to suboptimal portfolio performance, as funds remain tied up in underperforming assets. To overcome this bias, understand your risk profile and make investment decision accordingly to mitigate loss.

1.2.7.2 Strategies to Manage Behavioural Biases

- i. **Education and Awareness:** The first step in managing behavioural biases is recognising their existence and understanding how they affect decision-making. Investors

can educate themselves about common biases through books, articles, or courses on behavioural finance. Awareness can help investors pause and critically evaluate their decisions, reducing the influence of irrational impulses.

- ii. **Objective Decision-Making Frameworks:** Establishing a structured investment plan with predefined rules can help mitigate biases. This includes setting clear criteria for buying and selling assets, such as target prices, stop-loss levels, and portfolio rebalancing schedules. By adhering to a disciplined approach, investors can reduce the influence of emotional reactions to market fluctuations.
- iii. **Diversification:** Diversifying investments across different asset classes, sectors, and geographies can reduce the impact of biases like overconfidence and herding. A well-diversified portfolio is less likely to be overly influenced by any single bias or market event, providing a shield against irrational decision-making.
- iv. **Seeking Contrarian Views:** Actively seeking out opinions and analyses that challenge one's investment thesis can counteract confirmation bias. Engaging with diverse perspectives can provide a more balanced view and highlight potential risks or opportunities that might have been overlooked.
- v. **Mindfulness and Emotional Control:** Developing mindfulness and emotional regulation techniques can help investors manage stress and emotions that contribute to biased decisions.
- vi. **Use of Technology and Automation:** Leveraging technology, such as algorithmic trading and robo-advisors, can help minimise the impact of human biases. Automated systems can implement investment strategies based on data and algorithms, reducing the influence of emotional decision-making and ensuring consistent adherence to investment rules.

Regularly reviewing investment performance and decision-making processes can help identify patterns of bias. Investors should assess whether their decisions align with their investment goals and strategies and whether any biases may have influenced their choices. Reflecting on past mistakes and successes can provide valuable insights and help improve future decision-making.

Summarised Overview

This unit focuses on the key aspects of trading and investing, commencing with best practices for traders, encompassing strategies for informed decision-making, risk management, and maximising returns. It further explores investment avenues like IPOs, FPOs, and Rights Issues, equipping investors to evaluate new share offerings and their portfolio implications. The unit also covers bond valuation, elucidating the calculation of fair value through present value analysis of future payments and face value. Additionally, it examines the clearing and settlement process, ensuring transaction completion, and the impact of corporate actions like dividends, stock splits, and mergers on stock prices and investor decisions. Finally, the unit underscores the significance of recognising and mitigating behavioural biases to make rational and effective investment choices.

Self-Assessment Question

1. What are some common trading strategies used by investors, and how do they differ in terms of risk and return?
2. What are the key components of a well-structured trading plan, and why is it important to follow one?
3. What factors should an investor consider when deciding whether to invest in an Initial Public Offering (IPO)?
4. How does a Follow-on Public Offering (FPO) differ from an IPO, and what are the implications for existing shareholders?
5. What is a Rights Issue, and how can it affect an investor's decision to participate or sell their rights?
6. Explain the concept of Yield to Maturity (YTM) and its significance in bond investing.
7. What is the role of clearing houses in the clearing and settlement process, and how do they reduce counterparty risk?
8. Describe the netting process in clearing and its benefits for financial market participants.
9. What are the main steps involved in the settlement of a trade, and why is timely settlement important?

Assignments

1. Discuss the different types of trading strategies (e.g., day trading, swing trading, position trading) and analyse the advantages and disadvantages of each in various market conditions.
2. Create a case study illustrating the importance of risk management in trading. Include examples of how improper risk management has led to significant losses for traders.
3. Investigate a recent IPO and analyse the factors that influenced its initial pricing and subsequent performance in the market. What lessons can investors learn from this IPO?
4. Compare and contrast IPOs, FPOs, and Rights Issues. Discuss the strategic considerations for companies choosing between these methods of raising capital and the impact on existing shareholders.
5. Analyse the clearing and settlement process in the Indian stock market. Discuss the roles of various entities involved and the importance of efficient clearing and settlement for market stability.

Reference

1. S. Kevin (2020), *Security Analysis and Portfolio Management*, PHI Learning Private Limited (2nd ed.)
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Suggested Reading

1. John C. Hull (2005) *Options, Futures, and Other Derivatives*, Pearson Education 2. N.K Gupta and Monica Chopra (2008), *Financial Markets, Institutions & Services*, Ane Book India



Space for Learner Engagement for Objective Questions

Learners are encouraged to develop objective questions based on the content in the paragraph as a sign of their comprehension of the content. The Learners may reflect on the recap bullets and relate their understanding with the narrative in order to frame objective questions from the given text. The University expects that 1 - 2 questions are developed for each paragraph. The space given below can be used for listing the questions.

SGOU

02 BLOCK

DERIVATIVE MARKET

Block Content

- Unit - 1 Introduction To Derivative Market
- Unit - 2 Strategy for Derivative Trading



Unit 1

Introduction to Derivative Market

Learning Outcomes

After completing this unit, the learner will be able to:

- ◆ understand the derivative market
- ◆ identify different derivative contracts
- ◆ familiarize themselves with the advantages and disadvantages of derivative contracts
- ◆ differentiate between various types of derivative contracts

Background

Imagine you have a neighbour who owns a large farm. Concerned about the fluctuating prices of crops, they enter into an agreement with a local grocery store to sell their produce at a predetermined price months before the harvest. This agreement, while simple, is a basic example of a derivative contract—a financial instrument whose value is derived from an underlying asset.

The derivative market operates on a similar principle involving contracts that derive their value from assets such as stocks, commodities, currencies, or indices. These contracts, known as derivatives, include options, futures, forwards, and swaps. They play a crucial role in the financial ecosystem, allowing individuals and institutions to hedge against risks, speculate on future price movements, and enhance portfolio performance.

Studying the derivative market is essential for understanding the complexities of modern finance. It not only provides insights into the mechanisms of risk management and speculation but also offers a window into the broader economic forces that influence market dynamics. This exploration will lead into the fundamental concepts of the derivative market, examine the types of derivative contracts available, and discuss their advantages and disadvantages. Through this unit, learners will gain a comprehensive understanding of how derivatives function and their impact on financial markets.

Keywords

Derivative market, Forward, Future, Options, Swaps

Discussion

2.1.1 Derivative market

- ◆ Value-based on underlying asset

The derivative market is a financial market where derivatives are traded. Derivatives are financial instruments whose value is derived from the value of an underlying asset, such as stocks, bonds, commodities, currencies, interest rates, or market indexes. The primary purpose of derivatives is to hedge against risk or to speculate on the future price movements of the underlying asset.

Consider a scenario where a farmer grows wheat and is worried about the fluctuations in wheat prices. The farmer anticipates that the cost of grain might decrease by the time of harvest, which could reduce their income. To mitigate this risk, the farmer enters into a contract with a buyer, such as a flour mill, to sell a specific quantity of wheat at a predetermined price of ₹20,000 per metric ton, to be delivered in three months.

By using a contract, both the farmer and the buyer lock in the price of wheat. If the market price of wheat falls to ₹18,000 per metric ton by the time of harvest, the farmer still receives ₹20,000 per metric ton as agreed in the contract, thus avoiding a loss. Conversely, if the market price rises to ₹22,000 per metric ton, the farmer still sells at ₹20,000 per metric ton, potentially losing out on the higher price but having the certainty of income. The buyer, on the other hand, benefits if the market price rises, as they secure the wheat at a lower price, but they may face a disadvantage if prices fall.

- ◆ Hedging, speculation, and arbitrage

This example demonstrates how derivatives are used in India to hedge against price volatility in agricultural markets. Similarly, derivatives are used in the Indian stock market, currency market, and commodity market for various purposes, including hedging, speculation, and arbitrage. The derivatives market thus plays a crucial role in the Indian financial system, helping participants manage risk and improve market efficiency.

2.1.2 Derivative contracts

- ◆ Financial agreements

Derivative contracts are financial agreements whose value is derived from an underlying asset, index, or benchmark. These contracts are pivotal in modern financial markets, serving as tools for hedging, speculation, and arbitrage. The underlying assets can range from commodities, such as oil and gold, to financial instruments like stocks, bonds, currencies, and interest rates. The primary types of derivative contracts include futures, options,



forwards, and swaps. Each type has its unique characteristics and uses the Derivatives market to facilitate price discovery by reflecting market sentiments and expectations. SEBI formulates the regulatory framework governing derivatives in India. SEBI make appropriate rules, regulations and guidelines regarding the trading, clearing and settlement of derivative contracts.

2.1.2.1 Future contract

◆ Traded on exchanges

A futures contract is a standardised agreement between two parties to buy or sell an asset at a predetermined price on a specific future date. Unlike forward contracts, futures contracts are traded on exchanges, which provide Standardisation in terms of contract size, expiration date, and other conditions. This Standardisation, along with the daily settlement process, reduces counterparty risk and increases market liquidity.

Let's consider an example involving a trader and a farmer in India. Suppose a wheat farmer is concerned that the price of wheat might decrease by the time of harvest due to anticipated high supply. To hedge against this risk, the farmer decides to use a futures contract.

The details of the futures contract are as follows:

- ◆ Underlying Asset: Wheat
- ◆ Contract Size: 10 metric tons
- ◆ Price: ₹20,000 per metric ton
- ◆ Expiration Date: 3 months from the date of contract initiation

The farmer enters into a futures contract to sell ten metric tons of wheat at ₹20,000 per metric ton in three months. On the other hand, a trader who believes the price of grain might increase agrees to buy the wheat at the same price and date.

After three months, the market price of wheat could be different from the contract price. Let's explore two scenarios:

Price Decrease Scenario: If the market price of wheat falls to ₹18,000 per metric ton, the farmer benefits from the futures contract. Instead of selling at the lower market price, the farmer sells the wheat at the contracted price of ₹20,000 per metric ton, thus avoiding a loss of ₹2,000 per metric ton.

Price Increase Scenario: If the market price rises to ₹22,000 per metric ton, the trader benefits. The trader buys the wheat at the contracted price of ₹20,000 per metric ton and can potentially sell it at the higher market price, making a profit of ₹2,000 per

◆ Hedge against price volatility

metric ton. However, the farmer misses out on the higher market price but still receives the agreed-upon ₹20,000 per metric ton.

Futures contracts are commonly used by producers and consumers of commodities, financial institutions, and investors to hedge against price volatility or to speculate on price movements. They provide a mechanism to manage risk, ensuring price certainty and stability. Additionally, the daily settlement process, known as "mark-to-market," requires traders to settle any gains or losses at the end of each trading day, which helps mitigate counterparty risk.

Advantages of Future Contracts

i. Standardization

Futures contracts are standardised in terms of contract size, expiration dates, and other specifications, which makes them easily tradable on exchanges. This standardisation increases market liquidity and makes it easier for participants to enter and exit positions.

ii. Liquidity

The futures market is highly liquid, meaning there are many buyers and sellers actively trading contracts. This liquidity ensures that positions can be bought or sold quickly without significantly affecting the market price. The traders can easily enter and exit positions at competitive prices, reducing the risk of price slippage.

iii. Leverage

Futures contracts require only a margin deposit, which is a fraction of the total contract value. This allows traders to control large positions with a relatively small amount of capital, potentially amplifying profits. However, it also increases the risk of losses. Leverage enables the traders to make a profit (or loss) with a comparatively small amount of capital.

iv. Price Discovery

Futures markets facilitate price discovery for the underlying assets, as they aggregate the expectations of all market participants regarding future price movements. This can provide valuable information for decision-making.

v. Hedging

Futures contracts are commonly used by producers, consumers, and investors to hedge against price volatility. By locking in prices, parties can protect themselves from adverse price movements in commodities, currencies, interest rates, and other financial instruments.

vi. Transparency and Regulation

Futures exchanges are regulated and have established rules



for trading, clearing, and settlement. This regulation helps ensure fair practices and reduces the risk of fraud and manipulation. The daily mark-to-market settlement process also ensures that gains and losses are settled regularly, reducing the risk of default.

Disadvantages of Futures Contracts

i. Leverage Risk

While leverage can amplify profits, it also increases the potential for significant losses. Because only a small margin is required to enter a contract, traders can lose more than their initial investment if the market moves against their position.

ii. Standardization Limitations

The standardisation of futures contracts can be a disadvantage for those who need customised terms. Unlike forward contracts, which can be tailored to specific needs, futures contracts may not match the exact specifications required by all participants.

iii. Complexity

Futures trading requires a good understanding of the markets and the specific contract terms. For inexperienced traders, the complexities of margin requirements, mark-to-market settlements, and potential market volatility can lead to significant financial losses.

iv. Market Volatility

Futures markets can be highly volatile, and prices can fluctuate rapidly based on economic news, geopolitical events, and other factors. This volatility can result in large and unexpected losses, especially for those using leverage.

v. Liquidity Risk in Some Markets

While the major futures markets are generally liquid, some contracts may have lower trading volumes, leading to liquidity risk. This can make it difficult to enter or exit positions without affecting the market price.

vi. Margin Calls

If the market moves against a trader's position, they may be required to deposit additional funds to maintain the margin level. This can be challenging if the trader does not have sufficient funds readily available, potentially leading to forced liquidation of the position at a loss.

2.1.2.2 Forward contract

A forward contract is a customised financial agreement be-

- ◆ Not traded on exchanges

tween two parties to buy or sell an asset at a specified future date for a price agreed upon today. Unlike futures contracts, which are standardised and traded on exchanges, forward contracts are negotiated directly between the parties and are typically traded over the counter (OTC). This customisation allows the parties to tailor the contract terms, such as the quantity, quality, and delivery date of the asset.

Let's consider an example involving a rice farmer in India. The farmer expects to harvest 1,000 quintals of rice in three months. However, the farmer is concerned about the potential drop in rice prices due to a bumper crop forecast. To mitigate the risk of price fluctuations, the farmer enters into a forward contract with a rice trader.

The terms of the forward contract are as follows:

- ◆ Quantity: 1,000 quintals of rice
- ◆ Price: ₹2,000 per quintal
- ◆ Delivery Date: Three months from the date of the agreement

In this contract, the farmer agrees to sell 1,000 quintals of rice to the trader at ₹2,000 per quintal, three months later. This arrangement allows the farmer to lock in a price, ensuring that even if the market price of rice falls, they will still receive ₹2,000 per quintal.

Suppose that at the time of harvest, the market price of rice has dropped to ₹1,800 per quintal due to a surplus supply. The farmer benefits from the forward contract by selling the rice at the higher agreed-upon price of ₹2,000 per quintal, thereby avoiding a loss of ₹200 per quintal. On the other hand, if the market price rises to ₹2,200 per quintal, the farmer must still sell at ₹2,000 per quintal, potentially losing out on an additional ₹200 per quintal profit.

The trader, conversely, benefits if the market price rises above the contract price and incurs a loss if the price falls below ₹2,000 per quintal. In this case, the trader would have to buy the rice at a higher price than the current market rate.

This example illustrates how forward contracts can be used to hedge against price risk and provide certainty to both buyers and sellers in uncertain market conditions. However, because forward contracts are not standardised and are OTC instruments, they carry counterparty risk—the risk that one party may default on the agreement.

- ◆ OTC instrument



Advantages of Forward Contracts

i. Customisation

Forward contracts can be tailored to meet the specific needs of the parties involved. This includes specifying the quantity, quality, delivery date, and price of the underlying asset, making them flexible tools for managing unique risks.

ii. Hedging Risk

They allow businesses and individuals to hedge against price volatility in various markets, such as commodities, currencies, or interest rates. By locking in prices, parties can protect themselves from adverse price movements.

iii. Cost-Effectiveness

Since forward contracts are traded over-the-counter (OTC) and do not require an upfront margin payment, they can be more cost-effective compared to futures contracts, which typically require margin deposits and are subject to daily settlements.

iv. No Standardization

The absence of standardisation in forward contracts allows parties to negotiate and set terms that precisely fit their needs, which can be particularly useful in specialised or niche markets.

v. Privacy

Forward contracts are private agreements between two parties and are not traded on public exchanges. This confidentiality can be advantageous for businesses that do not want their transactions to be publicly disclosed.

Disadvantages of Forward Contracts

i. Counterparty Risk

The most significant risk associated with forward contracts is counterparty risk, the possibility that one of the parties may default on the agreement. Since these contracts are not standardised or regulated, there's no central clearinghouse to guarantee the transaction.

Feature	Forward Contracts	Futures Contracts
Definition	Customised agreements to buy or sell an asset at a specific future date for a price agreed upon today.	Standardised agreements are traded on exchanges to buy or sell an asset at a particular future date for a predetermined price.
Trading Venue	Over-the-counter (OTC), negotiated directly between parties.	Traded on organised exchanges (e.g., NSE, BSE).

Standardisation	Highly customisable (quantity, quality, delivery date, etc.).	Standardised in terms of contract size, expiration dates, and specifications.
Regulation	Less regulated, higher counterparty risk due to the lack of a central clearinghouse.	Regulated by exchanges and oversight bodies, includes a clearinghouse that mitigates counterparty risk.
Counterparty Risk	Higher risk, as there is no central clearing party, relies on the trustworthiness of the counterparty.	Lower risk due to the presence of a clearinghouse that guarantees the trade.
Settlement	Settlement occurs at contract maturity, usually through physical delivery or cash settlement.	Daily mark-to-market settlement, with gains and losses, settled daily.
Margin Requirements	Typically, no initial margin is required, but collateral may be needed based on counterparty agreement.	Requires initial and maintenance margins, with potential margin calls.
Liquidity	Generally, less liquid due to the customised nature of contracts.	High liquidity, with a large number of buyers and sellers trading standardised agreements.
Flexibility	Flexible terms can be tailored to specific needs of the parties involved.	Limited flexibility due to standardised contract terms.
Market Transparency	Less transparency, as contracts are private and not publicly disclosed.	High transparency, with prices and trading information publicly available.
Purpose	Often used for hedging specific exposures with customised risk management strategies.	Used for hedging and speculation, providing market participants with standardised risk management tools.
Examples of Underlying Assets	Typically used for commodities, interest rates, currencies, and bespoke financial instruments.	Commonly includes commodities, currencies, interest rates, indices, and financial instruments.

ii. Liquidity Risk

Forward contracts are typically less liquid than standardised contracts like futures. This lack of liquidity can make it difficult to exit or unwind positions before the contract's maturity if market conditions change or if financial needs shift.

iii. Lack of Regulation

Being OTC instruments, forward contracts are not subject to the same regulatory oversight as exchange-traded derivatives. This can result in a lack of transparency and a higher potential for disputes or fraudulent activities.

iv. Mark-to-Market Requirements

While forward contracts generally do not require daily settlements, significant price movements in the underlying asset can still expose parties to substantial financial obligations. This can create issues if the market value diverges significantly from the agreed contract price.

v. Limited Access

Forward contracts are usually accessible to larger institutions and corporations with the resources and expertise to negotiate and manage them. Retail investors or smaller businesses may find it challenging to participate due to the bespoke nature and higher complexity of these contracts.

2.1.2.3 Options

◆ Gives the holder the right, but not the obligation

An option is a financial derivative that gives the holder the right, but not the obligation, to buy or sell an underlying asset at a specified price before or on a specific date. Options are versatile tools used for hedging, speculation, and arbitrage. There are two primary types of options: call options and put options.

◆ Right to buy

◆ Call Option

Gives the holder the right to buy the underlying asset at a specified price (strike price) before or on the expiration date. If the asset's price rises above the strike price, the call option becomes profitable.

Example: You buy a call option on Apple stock with a strike price of ₹150 and an expiration date of one month. If Apple's stock price rises to ₹170 before the expiration date, you can exercise the option to buy Apple stock at ₹150 and then sell it at the market price of ₹170, making a profit.

◆ Right to sell

◆ Put Option

Gives the holder the right to sell the underlying asset at a specified price before or on the expiration date. If the asset's price falls below the strike price, the put option becomes profitable.

Example: You buy a put option on Apple stock with a strike price of ₹150 and an expiration date of one month. If Apple's stock price falls to ₹130 before the expiration date, you can exercise the option to sell Apple stock at ₹150, even though the market price is only ₹130, making a profit.

The below example shows a clear picture of how the option works:

Suppose you are a business owner based in India, and you ex-

pect to receive a payment of \$100,000 from a US client in three months. You are concerned that the exchange rate might decline, which would reduce the amount of rupees you receive when you convert the dollars.

To protect yourself from a potential decline in the exchange rate, you decide to buy a put option on the USD/INR currency pair:

- ◆ Underlying Asset: USD/INR exchange rate
- ◆ Strike Price: ₹75 per USD
- ◆ Premium: ₹0.50 per USD
- ◆ Expiration Date: 3 months from today

Here's how this put option works in different scenarios:

- ◆ **Exchange Rate Decreases**

- ▶ If the USD/INR exchange rate falls to ₹73 per USD before the expiration date, you can exercise your put option to sell USD at the higher strike price of ₹75.
- ▶ Your effective selling price is ₹75 per USD, even though the market rate is ₹73.
- ▶ The total amount received in rupees: Amount = USD Amount × Strike Price = 100,000 × ₹75 = ₹75,000,000
- ▶ Subtract the premium paid:
Premium Cost = 100,000 × ₹0.50 = ₹50,000
- ▶ The net amount received in rupees:
Net Amount = ₹75,000,000 – ₹50,000 = ₹74,950,000

- ◆ **Exchange Rate Increases**

- ▶ If the USD/INR exchange rate rises to ₹78 per USD, the put option is not exercised because selling at ₹75 per USD is less favourable than the current market rate of ₹78.
- ▶ You would convert the USD at the market rate of ₹78:
- ▶ Amount = USD Amount × Market Rate = 100,000 × ₹78 = ₹78,000,000
- ▶ Your loss is limited to the premium paid:
Premium Cost = ₹50,000
- ▶ The net amount received in rupees:
Net Amount = ₹78,000,000 – ₹50,000 = ₹77,950,000



◆ Exchange Rate Remains the Same

▶ If the USD/INR exchange rate remains at ₹75 per USD, the put option is not exercised because the strike price equals the market rate.

▶ You convert the USD at the market rate of ₹75:

$$\begin{aligned}\text{Amount} &= \text{USD Amount} \times \text{Market Rate} \\ &= 100,000 \times ₹75 = ₹75,000,000\end{aligned}$$

▶ Your loss is the premium paid:

$$\text{Premium Cost} = ₹50,000$$

▶ The net amount received in rupees:

$$\text{Net Amount} = ₹75,000,000 - ₹50,000 = ₹74,950,000$$

Advantages of Options

i. Flexibility

Options provide flexibility in terms of strategies and trading approaches. Investors can use options to hedge against risks, speculate on price movements, or generate income through various methods, such as covered calls and straddles.

ii. Leverage

Options allow investors to control a large amount of the underlying asset with a relatively small investment (the premium). This leverage can amplify potential returns on investment.

iii. Limited Risk for Buyers

For option buyers, the maximum loss is limited to the premium paid for the option. This limited risk makes options an attractive tool for hedging and speculation.

iv. Hedging and Risk Management

Options are commonly used to hedge against adverse movements in the price of underlying assets. For example, investors can use put options to protect their stock holdings from potential declines.

v. Income Generation

Options can be used to generate income through strategies like writing (selling) covered calls. This can provide additional revenue for investors who already own the underlying asset.

vi. Strategic Flexibility

Investors can employ various strategies with options to profit in different market conditions, such as bullish, bearish, or sideways markets. Strategies include spreads, straddles, and iron condors.

vii. Price Discovery

Options markets can provide insights into the market's expectations of future volatility and price movements. The prices of options reflect market sentiment and potential future volatility.

Disadvantages of Options

i. Complexity

Options are complex financial instruments that require a good understanding of their mechanics and strategies. For inexperienced traders, the complexity can lead to misunderstandings and potential losses.

ii. Time Decay

Options lose value as they approach their expiration date due to time decay. This means that the value of an option decreases over time if other factors remain constant, which can erode potential profits.

iii. Leverage Risk

While leverage can magnify potential returns, it also increases the risk of significant losses. For option sellers, the risk can be theoretically unlimited, especially for uncovered or naked options.

iv. Premium Cost

The premium paid for an option can be significant, and if the option expires worthless (out of the money), the entire premium is lost. This cost must be considered when evaluating potential returns.

v. Liquidity Risks

Not all options markets are highly liquid. Low liquidity can lead to wider bid-ask spreads, making it more expensive to enter and exit positions.

vi. Expiration Risk

Options have expiration dates, and if the underlying asset does not move as anticipated by the expiration date, the option can expire worthless. This imposes a time constraint on the investment strategy.

vii. Margin Requirements

Writing options may require significant margin requirements, which can tie up capital and expose traders to margin calls if the market moves against their positions.

2.1.2.4 Swaps

- ◆ Exchange of cash flows

A swap is a financial derivative contract in which two parties agree to exchange cash flows or financial instruments for a specified period. Swaps are used to manage financial risks, such as interest rate risk or currency exchange rate risk. They are also used to speculate on changes in market conditions. The two most common types of swaps are interest rate swaps and currency swaps.

Types of Swaps

i. Interest Rate Swaps

- ◆ Manage interest rate exposure.

In an interest rate swap, parties exchange cash flows based on different interest rates. One party typically pays a fixed interest rate while the other pays a floating interest rate. These swaps are often used to manage interest rate exposure.

Example: Imagine Company A has a loan with a variable interest rate based on LIBOR (London Interbank Offered Rate), currently at LIBOR + 2%, and Company B has a loan with a fixed interest rate of 5%. Company A prefers a fixed rate to avoid the risk of rising interest rates, while Company B prefers a floating rate, anticipating that interest rates might fall.

Interest Rate Swap Agreement:

- ◆ Company A agrees to pay Company B a fixed rate of 5% on a notional principal of ₹10,00,000 for a specified period.
- ◆ Company B agrees to pay Company A a floating rate of LIBOR + 2% on the same notional principal for the same period.

Here's how the cash flows work in the swap:

Initial Situation:

- ◆ Company A pays interest on its loan at LIBOR + 2%.
- ◆ Company B pays interest on its loan at 5%.

After the Swap:

- ◆ Company A pays Company B 5% fixed on ₹10,00,000.
- ◆ Company B pays Company A LIBOR + 2% on ₹10,00,000.

Calculation:

Suppose the current LIBOR is 3%.

- ◆ Company A's Payment:
Pays fixed rate of 5% on ₹10,00,000
Payment = $0.05 \times ₹10,00,000 = ₹50,000$

◆ Company B's Payment

Pays floating rate of LIBOR + 2% (5%) on ₹10,00,000

$$\text{Payment} = 0.05 \times ₹10,00,000 = ₹50,000$$

In this example, both payments are equal, resulting in a net income of zero for both companies. However, if LIBOR rises above 3%, Company B would pay more to Company A, benefiting Company A as they would receive more in floating payments than they pay in fixed costs.

ii. Currency Swaps

In a currency swap, parties exchange principal and interest payments in different currencies. This is often used to hedge against currency risk or to obtain more favourable loan terms.

◆ Hedge against currency risk

Example: An Indian company, Company A, wants to fund a project in the US and needs \$10 million. Meanwhile, a US company, Company B, needs ₹75 crore for a project in India. Both companies face better borrowing rates in each other's domestic currency. To take advantage of these rates, they enter into a currency swap agreement. They exchange the principal amounts at the current exchange rate of ₹75 per USD, meaning Company A receives \$10 million, and Company B receives ₹75 crore.

Throughout the swap's three-year term, Company A pays Company B a 4% annual interest on the \$10 million principal, totalling \$400,000 per year. Conversely, Company B pays Company A a 6% yearly interest on the ₹75 crore principal, amounting to ₹4.5 crore per year. At the end of the swap, the principal amounts are exchanged back at the original rate, with Company A returning \$10 million and Company B returning ₹75 crore.

◆ Stabilising financial planning

This arrangement benefits both companies by providing access to more favourable interest rates in their respective currencies and hedging against potential currency fluctuations, thereby stabilising their financial planning and reducing costs associated with currency exchange risks.

Advantages of Swaps

i. Risk Management

Swaps are often used to manage interest rate or currency risk. For example, a company might use an interest rate swap to switch from a floating rate loan to a fixed rate, reducing the risk of interest rate fluctuations.

ii. Cost Savings

Companies can potentially reduce borrowing costs or obtain more favourable financing terms through swaps.

iii. Customisation

Swaps can be customised to meet the specific needs of the parties involved, including the notional amount, terms, and payment frequencies.



iv. Access to Different Markets

Swaps can provide companies with access to capital markets that may otherwise be difficult to enter, such as foreign currency markets.

Disadvantages of Swaps

i. Counterparty Risk

Swaps are agreements between two parties, and there is a risk that one party may default on its obligations.

ii. Complexity

Swaps can be complex financial instruments, requiring a deep understanding of the terms and potential implications.

iii. Liquidity Risk

Some swaps, especially customised ones, may not be easily tradable in secondary markets, leading to potential liquidity issues.

Summarised Overview

Derivative instruments are financial contracts that derive their value from an underlying asset, such as stocks, bonds, commodities, or currencies. They are primarily used for hedging risks, speculating on future price movements, or managing investments more efficiently. The main types of derivatives include futures contracts, forward contracts, options, and swaps. Futures contracts are standardised agreements to buy or sell an asset at a future date and price traded on exchanges to protect against price fluctuations. Forward contracts are similar but are customised agreements between two parties, not traded on exchanges.

Options provide the buyer with the right, but not the obligation, to buy or sell an asset at a specific price before a certain date, offering a flexible tool for hedging or speculation. Swaps involve exchanging cash flows or other financial instruments, such as interest rate swaps, where parties exchange fixed and floating interest payments to manage interest rate exposure. While derivatives offer significant advantages in managing financial risks and creating strategic investment opportunities, they also carry complexities and the potential for substantial losses, requiring careful consideration and understanding.

Self-Assessment Question

1. What are derivative instruments, and how do they derive their value?
2. Name at least three underlying assets that can be associated with derivative instruments.
3. What is the primary purpose of using derivative instruments in financial markets?

4. Describe a futures contract and explain how it is used to hedge against price fluctuations.
5. How does a forward contract differ from a futures contract in terms of trading and customisation?
6. What is an option in the context of financial derivatives, and what are the two main types of options?
7. Explain the difference between a 'call' option and a 'put' option.
8. What are swaps, and how can they be used to manage interest rate exposure?
9. In what ways can derivative instruments be used for speculative purposes?
10. Discuss the potential risks associated with trading or using derivative instruments.
11. Why might a company choose to enter into a currency swap agreement?

Assignments

1. Discuss the key differences between futures contracts and forward contracts. Provide examples to illustrate these differences.
2. Explain the concept of an options contract. How do call and put options differ in terms of rights and obligations?
3. Analyse the role of futures contracts in hedging risk. How do they help investors and companies protect against adverse price movements?
4. Describe the mechanics of a currency swap. How can companies use currency swaps to hedge against exchange rate fluctuations?
5. Evaluate the advantages and disadvantages of using derivative instruments for speculative purposes. Include potential risks and benefits.

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Unit 2

Strategy for Derivative Trading

Learning Outcomes

After completing this unit, the learner will be able to:

- ◆ determine the pricing of forward contracts.
- ◆ familiarise themselves with trading strategies for futures.
- ◆ familiarise themselves with trading strategies for options.
- ◆ recognise the differences between short trades and long trades.

Background

Imagine you are an investor trying to handle the risks of changing prices in the market. You have already learned about different types of derivatives, like forward contracts, futures, and options, including their pros and cons. Now, you need to use this knowledge to make smart trading choices. In the last unit, we covered the basics of these derivative instruments. This unit will focus on how to figure out the prices of forward contracts and how to create good trading strategies for futures and options. By learning these skills, you will be better equipped to manage risks and make wise trading decisions.

Keywords

Pricing of forward contracts, Trading strategy for futures and options, long trades, short trades, Bull calendar spread, Bear calendar spread

Discussion

2.2.1 Pricing of forward contract

A forward contract is a financial agreement between two parties to buy or sell an asset at a specific price on a future date. The pricing of a forward contract involves determining the agreed-upon price, known as the forward price, which is set at the contract's inception. This price is crucial because it reflects the anticipated future value of the asset and helps both parties manage their risk exposure.

- ◆ Determining the forward price

Key Components of Forward Contract Pricing:

- ◆ Current market price

i. Spot Price:
The current market price of the underlying asset is known as the spot price. This is the price at which the asset can be bought or sold immediately in the market.

- ◆ Positive correlation

ii. Interest Rates:
The forward price is influenced by the prevailing interest rates. If the interest rates are high, the cost of holding the asset until the future date increases, which typically raises the forward price. Conversely, lower interest rates can reduce the forward price.

- ◆ Costs associated with holding the asset

iii. Cost of Carry:
This includes costs associated with holding the asset, such as storage fees or insurance. These costs impact the forward price by adding to the overall expense of holding the asset until the future date.

- ◆ Positive correlation

iv. Time to Maturity:
The length of time until the forward contract's expiration affects the forward price. The longer the time to maturity, the more the forward price may deviate from the spot price due to changes in interest rates and other factors.

Calculating the Forward Price:

The forward price (F) can be calculated using the formula:

Pricing a Forward Contract on a Dividend-Paying Asset

$$F = S \times e^{(r-d) \times T}$$

Pricing a Forward Contract on a Non-Dividend-Paying Asset

$$F = S \times e^{rT}$$

where:

- ◆ S = Spot price of the asset
- ◆ r = Risk-free interest rate
- ◆ d = Dividend yield (if applicable)
- ◆ T = Time to maturity (in years)
- ◆ e = Base of the natural logarithm (approximately 2.71828)

Illustration 2.2.1

A trader enters into a forward contract to purchase 100 barrels of oil in six months. The current spot price of oil is ₹5,000 per barrel. Assuming an annual risk-free interest rate of 5% and no dividends or storage costs, what is the fair forward price for this contract?

Solution

$$F = S \times e^{rT}$$

$$\begin{aligned} F &= 5000 \times 2.71823^{0.05 \times 0.5} \\ &= 5000 \times 2.71823^{0.025} \end{aligned}$$

So, the forward price for the oil contract would be approximately ₹5,126.50 per barrel. This means that in 6 months, the trader agrees to buy 100 barrels of oil at a price of ₹5126.57 per barrel, regardless of the spot price at that time.

Illustration 2.2.2

An investor plans to enter into a 6-month forward contract to purchase shares of ABC Corporation. The current spot price of ABC's shares is ₹150 per share. The shares have an annual dividend yield of 4%. The annual risk-free interest rate is 5%. Calculate the forward price of the shares, considering the dividend yield.

Solution

S = Spot price of the asset (₹150)

r = Risk-free interest rate (5% or 0.05)

d = Dividend yield (4% or 0.04)

T = Time to maturity in years (6 months or 0.5 years)

e = Base of the natural logarithm (approximately 2.71828)

To calculate the forward price with dividend yield, the formula is:

$$F = S \times e^{(r-d) \times T}$$

$$F = 150 \times 2.71828^{(0.05-0.04) \times 0.5}$$

$$= 150 \times 2.71828^{0.01 \times 0.5}$$

$$= 150 \times 2.71828^{0.005}$$

$$= 150 \times 1.00501$$

$$F = 150.75$$

The forward price of ABC Corporation's shares, considering the dividend yield, is approximately ₹150.75 per share.

2.2.2 Trading strategy for futures

Futures contracts are standardised agreements to buy or sell an asset at a predetermined price on a specific future date. They are widely used for speculation, hedging, and arbitrage in vari-

ous markets, including commodities, financial instruments, and indices. This note explores key futures trading strategies, including long and short trades, as well as bull and bear calendar spreads.

Long Trades

In a long futures position, a trader commits to buying the underlying asset at a specified price (the futures price) at a future date. This strategy is typically used when the trader anticipates an increase in the asset's price. For example, if a trader expects the price of crude oil to rise from ₹4,000 per barrel to ₹4,500 per barrel, they might buy a futures contract at the current price. If the market price increases as expected, the trader can sell the contract at the higher price, realizing a profit equal to the difference between the selling price and the purchase price, minus any associated costs.

- ◆ Trader commits to buying the underlying asset at a specified price (the futures price) at a future date

Example: Suppose a trader buys a futures contract for gold at ₹5,000 per gram, with delivery set for three months later. If, at the contract's expiration, the spot price of gold has risen to ₹5,300 per gram, the trader profits by ₹300 per gram (excluding transaction costs).

Short Trades

In a short futures position, a trader agrees to sell the underlying asset at a specified price at a future date. This strategy is employed when the trader expects the asset's price to decrease. For instance, if a trader anticipates a decline in the price of wheat from ₹1,200 per quintal to ₹1,000 per quintal, they might sell a futures contract at ₹1,200. If the price drops as expected, they can buy back the contract at the lower price, earning a profit from the difference.

- ◆ Trader agrees to sell the underlying asset at a specified price at a future date

Example: A trader sells a futures contract for silver at ₹70,000 per kilogram. If the price drops to ₹65,000 per kilogram at the contract's expiration, the trader profits by ₹5,000 per kilogram (excluding transaction costs).

Calendar spread

A calendar spread is an options or futures strategy where an investor enters into long and short positions simultaneously on the same derivative (underlying Asset) but with different delivery dates. Objective of Calendar spread is to generate profit when an asset's price remains relatively stable. The typical calendar spread involves the sale of an option (Call/Put) with a near term expiration date and simultaneously buying an option (Call/Put) with a longer term expiration.

Bull Calendar Spread

A bull calendar spread involves buying a futures contract with a longer maturity and selling a futures contract with a shorter



- ◆ Buying a futures contract with a longer maturity and selling a futures contract with a shorter maturity

maturity on the same underlying asset. This strategy profits if the price of the underlying asset rises or remains stable, causing the price difference between the two contracts (the spread) to widen favourably.

Example: Consider a trader who buys a December wheat futures contract at ₹1,300 per quintal and sells a September wheat futures contract at ₹1,200 per quintal. If the price of wheat rises, the December contract is likely to increase more than the September contract due to its longer duration. The trader benefits from the widening spread between the two contracts, as the profit from the long position in the December contract will exceed the loss from the short position in the September contract.

Bear Calendar Spread

- ◆ Buying with long maturity and selling with short maturity

A bear calendar spread involves buying a futures contract with a longer maturity and selling a futures contract with a shorter maturity on the same underlying asset, similar to the bull calendar spread but with a bearish outlook. This strategy profits if the price of the underlying asset falls, causing the spread between the contracts to narrow or move favourably.

Example: A trader buys a December crude oil futures contract at ₹4,500 per barrel and sells a September crude oil futures contract at ₹4,700 per barrel. If the price of crude oil declines, the September contract's price is likely to decrease more rapidly than the December contract's price, benefiting the trader as the spread narrows.

2.2.3 Trading strategy for options

Options are versatile financial instruments that provide traders with the right, but not the obligation, to buy or sell an underlying asset at a predetermined price within a specified period. Options trading can be complex, with various strategies catering to different market conditions and trader objectives.

- ◆ Right to buy the underlying asset at a specified strike price before the option's expiration

Long Trades

i. Long call option:

A long call option gives the trader the right to buy the underlying asset at a specified strike price before the option's expiration. This strategy is used when the trader expects the asset's price to increase.

Example: If a trader buys a call option on a stock with a strike price of ₹100 and the stock price rises to ₹120, the trader can exercise the option to buy the stock at ₹100 and either hold or sell it at the current market price, realising a profit. The potential loss is limited to the premium paid for the option, while the potential gain is theoretically unlimited, depending on the extent of the price increase.

♦ Right to sell the underlying asset at a specified strike price before the option's expiration.

ii. Long Put Options:

A long-put option gives the trader the right to sell the underlying asset at a specified strike price before the option's expiration. This strategy is employed when the trader expects the asset's price to decrease.

Example: If a trader buys a put option on a stock with a strike price of ₹100 and the stock price falls to ₹80, the trader can exercise the option to sell the stock at ₹100 despite the market price being lower. This allows the trader to profit from the difference. The potential loss is limited to the premium paid for the option, while the potential gain can be significant, depending on the extent of the price decrease.

Short Trades

♦ Right to purchase the underlying asset at a specified strike price.

i. Short Call Options (Covered Call):

Selling a call option involves granting the buyer the right to purchase the underlying asset at a specified strike price. This strategy is used when the trader expects the asset's price to remain below the strike price, allowing them to keep the premium received from selling the option.

Example: A trader owns 100 shares of a stock currently trading at ₹90 and sells a call option with a strike price of ₹100. If the stock price remains below ₹100, the option expires worthless, and the trader retains the premium. However, if the stock price exceeds ₹100, the trader may have to sell the stock at the strike price, potentially missing out on gains above ₹100.

♦ Right to sell the underlying asset at a specified strike price.

ii. Short Put Options (Cash-Secured Put):

Selling a put option involves giving the buyer the right to sell the underlying asset at a specified strike price. This strategy is used when the trader expects the asset's price to stay above the strike price, allowing them to keep the premium received from selling the option.

Example: A trader sells a put option on a stock with a strike price of ₹80. If the stock remains above ₹80, the option expires worthless, and the trader retains the premium. However, if the stock price falls below ₹80, the trader may have to buy the stock at the strike price, potentially incurring a loss if the market price is significantly lower.

Comparison of long trade and short trade strategy for options

Aspect	Long Call Option	Long Put Option	Short Call Option	Short Put Option
Description	Gives the buyer the right to buy the underlying asset at a specified strike price.	Provides the buyer with the right to sell the underlying asset at a specified strike price.	Obligates the seller to sell the underlying asset at a specified strike price if the option is exercised.	Obligates the seller to buy the underlying asset at a specified strike price if the option is exercised.
Objective	Expecting the asset's price to rise.	Expecting the asset's price to fall.	Expecting the asset's price to stay below the strike price.	Expecting the asset's price to stay above the strike price.
Profit Potential	Unlimited potential gain if the asset price rises significantly.	Significant gain if the asset price falls below the strike price.	Limited to the premium received for selling the option.	Limited to the premium received for selling the option.
Loss Potential	This option is limited to the premium paid for it.	This option is limited to the premium paid for it.	Potentially unlimited if the asset price rises significantly.	Significant loss if the asset price falls below the strike price.
Example Scenario	Buy a call option with a strike price of ₹100 when the stock is ₹90. If the stock rises to ₹120, profit from the difference minus the premium paid.	Buy a put option with a strike price of ₹100 when the stock is ₹110. If the stock falls to ₹80, profit from the difference minus the premium paid.	Sell a call option with a strike price of ₹100 when the stock is ₹90. If the stock remains below ₹100, keep the premium. If the stock rises above ₹100, potential losses increase.	Sell a put option with a strike price of ₹100 when the stock is ₹110. If the stock remains above ₹100, keep the premium. If the stock falls below ₹100, potential losses increase.

- ◆ Buying a longer-term call option and selling a shorter-term call option

Bull Calendar Spread

A bull calendar spread involves buying a longer-term call option and selling a shorter-term call option with the same strike price. This strategy profits if the underlying asset's price rises modestly, causing the longer-term option to appreciate more than the shorter-term option.

Example: A trader buys a call option on a stock with a strike price of ₹100 expiring in six months and sells a call option with the same strike price expiring in three months. If the stock price rises slowly and remains near ₹100, the shorter-term option will lose value faster due to time decay, while the longer-term option retains more of its value. This difference in time decay can generate a profit.

Bear Calendar Spread

- ◆ Buying a longer-term put option and selling a shorter-term put option

A bear calendar spread involves buying a longer-term put option and selling a shorter-term put option with the same strike price. This strategy profits if the underlying asset's price decreases modestly, causing the longer-term option to appreciate more than the shorter-term option.

Example: A trader buys a put option on a stock with a strike price of ₹100 expiring in six months and sells a put option with the same strike price expiring in three months. If the stock price falls slowly and remains near ₹100, the shorter-term option will lose value faster due to time decay, while the longer-term option retains more of its value. This difference in time decay can generate a profit.

Summarised Overview

Forward contracts are agreements to buy or sell an asset at a set price on a future date. The price is determined based on the current market price, the time until the contract expires, and the cost of holding the asset until then. This pricing mechanism helps traders manage future price risks by locking in prices today.

When it comes to trading strategies for futures and options, traders use various approaches to profit from price movements. In futures trading, long trades involve buying futures contracts to benefit from expected price increases, while short trades involve selling futures contracts to profit from anticipated price declines. For options, long trades involve buying call or put options to profit from price changes, and short trades involve selling these options to gain from stable or adverse price movements.

A bull calendar spread is a strategy where traders buy a long-term option and sell a shorter-term option with the same strike price, aiming to profit from price increases and the faster time decay of the short-term option. Conversely, a bear calendar spread

involves buying a long-term option and selling a shorter-term option, hoping to profit from price declines and the faster time decay of the short-term option. Both strategies use the differences in time decay between short-term and long-term options to manage risk and potentially generate profits.

Self-Assessment Question

1. What factors determine the price of a forward contract?
2. Explain how a trader would use a long futures position to profit from an anticipated increase in asset prices.
3. What is the primary objective of a short futures trade, and how does it work?
4. Describe the concept of a long call option and its potential outcomes.
5. How does a bull calendar spread to profit from price movements and time decay?
6. How does a short put option strategy benefit the seller, and what are the associated risks?
7. A company wants to lock in the price of raw materials by entering into a 6-month forward contract. The current spot price of the raw material is ₹1,000 per unit. The risk-free interest rate for the 6 months is 8% per annum. Calculate the forward price for the raw material (Ans: 1040.81)
8. A trader enters into a 9-month forward contract to buy shares of XYZ Ltd. The current spot price of XYZ Ltd's shares is ₹250 per share. The company has an annual dividend yield of 3%. The annual risk-free interest rate is 6%. Calculate the forward price of the shares, considering the dividend yield. (Ans: 255.69)

Assignments

1. Compare and contrast the long-call and short-call option strategies in terms of their objectives and risk profiles.
2. Compare and contrast the trading strategies for futures and options. How can traders use these strategies to manage risk and capitalise on market movements?
3. Explain the concept of a long trade in futures and provide a scenario where a trader might use this strategy. What are the potential risks and rewards?
4. What is a bull calendar spread? Outline the steps to implement this strategy and explain under what market conditions it is most effective.
5. Illustrate the differences between a short call option and a short put option. Discuss the scenarios in which a trader would use these strategies and the associated risks.

6. An investor plans to enter into a 1-year forward contract to purchase shares of DEF Corporation. The current spot price of DEF's shares is ₹500 per share. DEF Corporation offers an annual dividend yield of 2.5%. The annual risk-free interest rate is 4%. Calculate the forward price of the shares, considering the dividend yield. (Ans: 507.56)
7. An investor is considering a 3-month forward contract to purchase gold. The current spot price of gold is ₹4,500 per gram. The annual risk-free interest rate is 7%. Calculate the forward price of gold for this contract. (Ans: 4579.56)

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വിശ്വപൗരരായി മാറണം
ശ്രദ്ധപ്രസാദമായ് വിളങ്ങണം
ഗുരുപ്രകാശമേ നയിക്കണേ

കുതിരുട്ടിൽ നിന്നു ഞങ്ങളെ
സൂര്യവീഥിയിൽ തെളിക്കണം
സ്നേഹദീപ്തിയായ് വിളങ്ങണം
നീതിവൈജയന്തി പറണം

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ജ്ഞാനകേന്ദ്രമേ ജ്വലിക്കണേ

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