

Short Study Material for NISM Series 5D – MF-SIF Exam

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NISM Series 5D - MUTUAL FUND – SIF DISTRIBUTORS EXAM

SIF – SPECIALISED INVESTMENT FUND

Assessment Structure

Total Questions	= 150 X 1 mark each
Total Duration	= 3 hours.
Passing score	= 60% i.e 90 marks
Certificate Validity	= 3 years.
Negative mark	= 10% i.e 0.1

Chapterwise Weightages

Module No.	Module / Chapter Names	Weightage
Module 1	Mutual Fund Distributors	45%
Chapter 1	Investment Landscape	5
Chapter 2	Concept & Role of a Mutual Fund	4
Chapter 3	Legal Structure of Mutual Funds in India	3
Chapter 4	Legal and Regulatory Framework	7

Module No.	Module / Chapter Names	Weightage
Chapter 5	Scheme Related Information	7
Chapter 6	Fund Distribution and Channel Management Practices	4
Chapter 7	Net Asset Value, Total Expense Ratio and Pricing of units	5
Chapter 8	Taxation	3
Chapter 9	Investor Services	10
Chapter 10	Risk, Return and Performance of Funds	5
Chapter 11	Mutual Fund Scheme Performance	5
Chapter 12	Mutual Fund Scheme Selection	10
Module 2	Equity Derivatives	35%
Chapter 13	Basics of Derivatives	10
Chapter 14	Understanding Index	5
Chapter 15	Introduction to Forwards and Futures	15
Chapter 16	Introduction to Options	13
Chapter 17	Strategies using Equity Futures and Equity Options	9
Module 3	Interest Rate Derivatives	20%
Chapter 18	Introduction to Interest Rate, Interest Rate Instruments and Fixed Income Markets	6
Chapter 19	Interest Rate Derivatives	2
Chapter 20	Exchange Traded Interest Rate Futures	10
Chapter 21	Exchange Traded Interest Rate Options	6
Chapter 22	Strategies using Interest Rate Derivatives	6

YouTube videos – Topic wise

1. [What is a Mutual Fund?](#)
2. [Terminologies used in Mutual Fund Industry](#)
3. [Open and Closed end funds](#)
4. [SEBI Stock Categorization: Large, Mid, & Small Cap Explained](#)
5. [Types of Equity Funds](#)
6. [Types of Debt Mutual Funds](#)
7. [Types of Hybrid Schemes, Balanced Schemes](#)

8. [Tax Saving Scheme - ELSS](#)
9. [Mutual Fund Taxation Explained | STCG vs LTCG Rules](#)
10. [Mutual Fund Dividend Tax: IDCW Rules & TDS Explained](#)
11. [Passive Funds and Fixed Maturity Plans](#)
12. [Index Funds](#)
13. [Tracking Error - Index Funds](#)
14. [Mutual Fund Structure and Constituents](#)
15. [Grandfather Clause introduced in Budget and Taxation changes](#)
16. [Tax Deducted at Source and Securities Transaction Tax](#)
17. [NAV Cut off Timing for Non Liquid Funds](#)
18. [Cutoff Time for Liquid Fund Purchase | Mutual Fund - YouTube](#)
19. [Liquid Funds - Redemption](#)
20. [Who can Invest in Mutual Funds?](#)
21. [Micro SIP and PAN Exempt Cases](#)
22. [Risk Adjusted Performance - Sharpe Ratio](#)
23. [Risk Adjusted Performance - Treynor ratio and Alpha](#)
24. [Mutual Fund Offer Document](#)
25. [Statement of Additional Information](#)
26. [NAV, Sale Price, Repurchase Price](#)
27. [NAV Calculation - Part1](#)
28. [NAV Calculation - Part2](#)
29. [PRI vs TRI Explained: How to Measure Real Stock Returns](#)
30. [Asset Allocation, Strategic Asset Allocation](#)
31. [SIP and STP](#)
32. [SWP, Dividend Payout, Dividend Reinvestment and Growth Options](#)
33. [Systematic Risk and Unsystematic Risk](#)
34. [Beta - measure of Market risk](#)
35. [Stamp Duty on Mutual Funds](#)
36. [Mutual Fund Instant Access Facility](#)
37. [Direct Plan & Regular Plan of Mutual Funds](#)
38. [What is Sensex and Nifty? How it is calculated?](#)
39. [Types of Derivatives | Forwards, Futures, Options & Swaps](#)
40. [How is a Stock Market Index Calculated ? - Types of Indices](#)
41. [Index Applications in Mutual Funds, Derivatives, Stock Markets](#)
42. [NISM ED - Bid Offer Spread / Bid Ask Spread](#)
43. [How to Measure the Liquidity of a Stock ? - Impact Cost](#)
44. [Positions in Derivatives | Open Position | Calendar Spread | Long & Short Positions](#)
45. [Definition of Futures Contract Explained with Example](#)
46. [How is a Futures contract Closed ? | Squared-off & Exercise](#)
47. [Long and Short Positions in Futures](#)

48. [Derivatives Terminology - FUTSTK, FUTIDX, OPTSTK, OPTIDX](#)
49. [Payoff for Futures](#)
50. [Meaning of a Call Option](#)
51. [Meaning of a Put Option](#)
52. [American & European Style Options](#)
53. [Option Formula](#)
54. [Option Calculation Table](#)
55. [Futures & Options Settlement](#)
56. [How are Futures Contracts settled on daily basis ? MTM](#)
57. [Hedging, Arbitraging & Speculation](#)
58. [Hedging](#)
59. [What is Basis in futures ? What is Tick Size ?](#)
60. [What is Cost of Carry in Futures / Equity Derivatives / Commodity markets?](#)
61. [What is Convenience Yield ?](#)
62. [What is Open Interest & Volume in Derivatives Market ?](#)
63. [Price Risk and its Types - Explained](#)
64. [How does Beta measure a Stock's Market Risk ?](#)
65. [Option Pricing](#)
66. [Option Pricing Models](#)
67. [Option Greeks](#)
68. [Option Trading Strategies](#)

Chapter 1 – The Investment Landscape

1. **Saving precedes investing.**
2. **Factors to evaluate investments - Safety, Liquidity, Returns, Convenience, Ticket size, Taxability of income, Tax deduction**
3. There are four broad asset categories or asset classes i.e. **Real estate, Commodities, Equity and Fixed income.**
4. Real estate could be further classified into various categories, viz., residential real estate, land, commercial real estate, etc.
5. Real estate is illiquid. It is not a divisible asset
6. Apart from capital appreciation, Real Estate can also generate current income in form of rents.
7. In case of real estate, the transaction costs, e.g., brokerage charges, registration charges, etc. are quite high.
8. Bonds can be classified into subcategories on the basis of issuer type i.e., issued by the government or corporates or on the basis of the maturity date: short term bonds (ideal for liquidity needs), medium term bonds, and long-term bonds (income generation needs).

9. Bonds pay regular interest; thus, the investors can expect current income. Bond transactions through secondary market may result into capital gains or losses.
10. Gold and silver are Metal commodities
11. Investments in equity and bonds can be done only in financial form, whereas one can buy the other two assets, viz., real estate and commodities either in financial or in physical form.
12. Real estate and commodities like silver or gold could be bought as investment or for consumption purposes
13. Equity - owner's capital in a business. Also known as **Risk Capital**.
14. Apart from long term capital appreciation, equity share owners may also receive dividends
15. Inflation or price inflation is the general rise in the prices of various commodities, products, and services that we consume.
16. Inflation erodes the purchasing power of the money.
17. The returns on investment without factoring inflation is known as the "**nominal rate**". Returns adjusted for inflation, one gets the "**real rate of return**". If the investment returns are higher than inflation, the investor is earning a positive real rate, and vice versa.
18. **Liquidity risk** is when the investor cannot liquidate their investments.
19. **Interest rate risk** is the risk that an investment's value will change as a result of a change in interest rates.
20. Interest rates and Bond Prices are inversely related. If interest rates increase then Bond price will decrease
21. **Credit Risk** - When someone lends money to a borrower, the borrower commits to repay the principal as well as pay the interest as per the agreed schedule. The issuer pays the dues, but with some delay, and the issuer does not pay principal and the interest at all – this is known as Credit Risk
22. **Market Risk** - the prices of all stocks (or at least a large number of stocks) in the market may witness a fall. This is a market wide fall.
23. Market Risk is also known as **Systematic Risk** or **NON-Diversifiable risk**. It cannot be reduced or diversified. It is measured by **BETA**
24. when the sales of a company's products fall, due to technological changes, or arrival of a better product, the company's share price falls. During such times, there could be many other companies, whose share prices may rise. This is an example of a **company specific risk**
25. **Industry Specific Risk** - if the Government policy changes with respect to a particular industry, all the firms may get impacted. Similarly, if a new and

better technology becomes available, all the firms within the same industry that use the old technology may get impacted.

26. **Confirmation bias** is the tendency to look for additional information that confirms their already held beliefs or views. investors decide first and then look for data to support their views.
27. **Availability Heuristic** - Most people rely on examples or experiences that come to mind immediately while analyzing any data, information, or options to choose from.
28. **Familiarity Bias** - An individual tends to prefer the familiar over the novel, as the popular proverb goes, "A known devil is better than an unknown angel." This leads an investor to concentrate the investments in what is familiar, which at times prevents one from exploring better opportunities, as well as from a meaningful diversification.
29. **Herd Mentality** - "Man is a social animal" – Human beings love to be part of a group.
30. **Loss Aversion** explains people's tendency to prefer avoiding losses to acquiring equivalent gains: people to stay away from profitable opportunities, due to perception of high risks
31. **Overconfidence** - This bias refers to a person's overconfidence in one's abilities or judgment. This leads one to believe that one is far better than others at something, whereas the reality may be quite different
32. **Recency bias** - The impact of recent events on decision making can be very strong. This applies equally to positive and negative experiences. Investors tend to extrapolate the event into the future and expect a repeat.
33. The risk profilers try to ascertain the risk appetite of the. In order to ascertain the risk appetite, the following must be evaluated:
 - The need to take risks
 - The ability to take risks, and
 - The willingness to take risks
34. **Asset Allocation** is a process of allocating money across various asset categories in line with a stated objective.
<https://www.youtube.com/watch?v=Kjdlf1zA6wU> (Asset allocation video)
35. **Strategic Asset Allocation** is allocation aligned to the financial goals of the individual. It considers the returns required from the portfolio to achieve the goals, given the time horizon available for the corpus to be created and the risk profile of the individual.
36. Strategic asset allocation - to maintain a target allocation across various asset categories. to arrive at allocation between various asset categories in

percentage terms. This **percentage target** is also called the “strategic asset allocation”.

37. **Tactical asset allocation** is typically suitable for seasoned investors operating with a large investible surplus.
38. Tactical asset allocation dynamically changes the allocation between the asset categories to take advantage of the opportunities presented by various markets at different points of time

Chapter 2 – Concept and Role of a Mutual Fund

1. https://youtu.be/07mktpDEYil?list=PLCZvkZJiAVK56z_al_5b-4WMMRUXMWydc
2. A Mutual Fund is a **trust** that pools the savings of a number of investors who share a common financial goal to invest in different markets and securities, in line with stated investment objectives.
3. The investment that an investor makes in a scheme is translated into a certain number of ‘**Units**’ in the scheme.
4. **Unit Capital = No of Units issued X Face Value.**
5. The fees or commissions paid to various mutual fund constituents come out of the expenses charged to the mutual fund scheme. These are known as **recurring expenses**.
6. the true worth of a unit, is called **Net Asset Value (NAV)**.
7. When a scheme is first made available for investment, it is called a ‘**New Fund Offer**’ (NFO).
8. Sum of all investments made by investors in the mutual fund scheme is the entire mutual fund scheme’s size, is known as the scheme’s **Assets Under Management (AUM)**.
9. Process of valuing each security in the investment portfolio of the scheme at its current market value is called **Mark to Market (MTM)**.
10. Mutual funds also offer facilities that help investors invest amounts regularly through a **Systematic Investment Plan (SIP)**; or withdraw amounts regularly through a **Systematic Withdrawal Plan (SWP)**; or move money between different kinds of schemes through a **Systematic Transfer Plan (STP)**.
11. Open-ended funds allow the investors to enter or exit at any time, after the NFO.
12. Close-ended funds have a **fixed maturity**. Investors can buy units of a close-ended scheme, from the fund, only during its NFO. Post NFO closed end units can be bought or sold through stock exchange.
13. Closed Ended Funds have a **fixed Unit Capital**

14. **Interval funds** combine features of both open-ended and close-ended schemes. They are largely close-ended but become open-ended at pre-specified intervals.
15. The periods when an interval scheme becomes open-ended, are called '**transaction period**'; the period between the close of a transaction period, and the opening of the next transaction period is called the '**interval period**'.
16. Minimum duration of transaction period is **2 days**, and minimum duration of interval period is **15 days**.
17. **Exchange Traded Funds (ETFs)** are those mutual fund schemes that are traded on a stock exchange just like any other stock. These funds usually track an index so they are **passive** in nature.
18. **Actively managed funds** are funds where the fund manager has the flexibility to choose the investment portfolio, within the broad parameters of the investment objective of the scheme. **Higher expenses**
19. **Passive funds** invest on the basis of a specified index; whose performance it seeks to track. They are not designed to perform better than the market. Such schemes are also **called index schemes**. these schemes have **low running costs**
20. **Fixed Maturity Plans** are a kind of close-ended debt fund where the duration of the investment portfolio is closely aligned to the maturity of the scheme.
21. **Capital Protection Funds** are closed-end hybrids funds.
22. **Mutual Fund Lite framework** for passively managed schemes of mutual funds "**MF Lite**" as a mutual fund that is having only such index funds, exchange traded funds, fund of funds or other mutual fund schemes
23. SEBI has defined large cap, mid cap and small cap companies as follows:
 - a. **Large Cap**: 1st -100th company in terms of full market capitalization
 - b. **Mid Cap**: 101st -250th company in terms of full market capitalization
 - c. **Small Cap**: 251st company onwards in terms of full market capitalization

<https://youtu.be/wzVwuJLn-QM?si=glSuzTaOp0T1hjJn>

Equity Schemes - <https://youtu.be/z07YOiyoTIE?si=9-JhWJeTfkJOI9Ko>

No.	Category of Schemes	Scheme Characteristics
1	Multi Cap Fund	Large 25% Mid 25% Small 25%

2	Flexi Cap Fund	Equity 65%+
3	Large Cap Fund	Large Cap 80%
4	Large & Mid Cap Fund	Large 35% Mid 35%
5	Mid Cap Fund	Mid Cap 65%
6	Small Cap Fund	Small Cap 65%
7	Dividend Yield Fund	Dividend Stocks 80%
8	Value Fund	Value Strategy Equity 80%
9	Contra Fund	Contra Strategy Equity 80%
10	Focused Fund	Max 30 Stocks Equity 80%
11	Sectoral / Thematic	Sector/Thematic 80%
12	ELSS	Equity 80% Lock-in 3Y Section 80 C tax benefit

Mutual Funds shall be permitted to offer both Value and Contra funds subject to the condition that scheme portfolio overlap between the two schemes shall not be more than 50%.

DEBT Funds

https://www.youtube.com/watch?v=3w_Ta-iUJzc&index=7&list=PLCZvkZJiAVK56z_al_5b-4WMMRUXMWydc

Category of Schemes	Scheme Characteristics
Overnight Fund	1 Day
Liquid Fund	Up to 91 Days
Ultra Short Duration	3–6 Months
Ultra Short to Short Term	6–12 Months
Money Market Fund	Up to 1 Year
Short Duration Fund	1–3 Years
Medium Duration Fund	3–4 Years
Medium to Long Duration	4–7 Years
Long Duration Fund	> 7 Years

Dynamic Bond Fund	Any Duration
Corporate Bond Fund	AA+ & Above 80%
Credit Risk Fund	Below AA 65%
Banking & PSU Fund	Bank/PSU/PFI 80%
Gilt Fund	G-Sec 80%
Gilt 10Y Constant	Duration 10Y
Floater Fund	Floating Rate 65%
Sectoral Debt Fund	Sector Debt 80%.

Sectoral Debt Funds may be launched in following sectors: Financial Services, Energy, Infrastructure, Housing, Real Estate

Hybrid Funds – Investing in two or more asset class

https://www.youtube.com/watch?v=AXHEbVFHrpQ&index=8&list=PLCZvkZJiAVK56z_al_5b-4WMMRUXMWydc

Category of Schemes	Scheme Characteristics
Conservative Hybrid Fund	Equity - 10% to 25%; Debt - 75% to 90%
Balanced Hybrid Fund	Equity - 40% to 60%; Debt - 40% to 60%
Aggressive Hybrid Fund	Equity - 65% to 80%; Debt - 20% to 35%
Dynamic Asset Allocation or Balanced Advantage	Equity/ debt portion is managed dynamically
Multi Asset Allocation	at least three asset classes . at least 10% each in all three asset classes
Arbitrage Fund	arbitrage strategy. Minimum investment in equity & equity related instruments- 65% of total assets
Equity Savings	Equity – minimum 65% of total assets and minimum investment in debt- 10% of total assets. Hedging ALLOWED

Solution Oriented Schemes:

No.	Category of Schemes	Scheme Characteristics
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1	Retirement Fund	Scheme having a lock-in for at least 5 years or till retirement age whichever is earlier
2	Children's Fund	Scheme having a lock-in for at least 5 years or till the child attains age of majority whichever is earlier

Other Schemes

No	Category of Schemes	Scheme Characteristics
1	Index Funds/ ETFs	Minimum investment in securities of a particular index (which is being replicated/ tracked)- 95% of total assets
2	FoFs (Overseas/ Domestic)	Minimum investment in the underlying fund- 95% of total assets.

There can be only one scheme per category, except in the following cases:

1. Index funds and ETFs replicating or tracking different indices,
2. Fund of Funds having different underlying schemes, and
3. Sector funds or thematic funds investing in different sectors or themes

For any scheme offering in sectoral/thematic equity category, Mutual Funds shall ensure that no more than 50% of the schemes portfolios would overlap with other equity schemes in sectoral/thematic category and other equity schemes categories except for large cap scheme.

Index or Passive Funds : <https://www.youtube.com/watch?v=uq7ICqOk4bw>

Gold Exchange Traded Funds (GETFs) – Invest in GOLD and track gold prices

Gold Sector Funds are schemes that invest in shares of gold mining and other gold processing companies.

Capital Protected Schemes are close-ended schemes, which are structured to ensure that investors get their principal back, irrespective of what happens to the market.

Fund of Funds (FOFs) - Fund of Funds are schemes that invest in other mutual fund schemes. Minimum investment in the underlying fund - 95% of total assets.

Specialized Investment Fund - The minimum required investment amount is Rs. 10 lakhs from the investors across all investment strategies.

CHAPTER 3: LEGAL STRUCTURE OF MUTUAL FUNDS IN INDIA

https://youtu.be/bhXoJXpMiNU?list=PLCZvkZJiAVK56z_al_5b-4WMMRUXMWydc

1. Mutual funds are constituted as **Trusts**. Therefore, they are governed by the Indian Trusts Act, 1882.
2. Day to day management of the schemes is handled by an Asset Management Company (AMC). The AMC is appointed by the sponsor or the Trustees.
3. AMC should have networth of at least Rs **50 crore**.
4. At least **50% of the directors** of AMC should be independent directors.
5. Prior approval of the trustees is required before a person is appointed as director on the board of the AMC.
6. Appointment of an AMC can be terminated by a **majority of trustees, or by 75 % of the Unit-holders**
7. Sponsor needs to have a **minimum 40% shareholding** in the capital of the AMC.
8. The sponsor has to appoint at least **4 trustees** – at least **two-thirds** of them need to be independent.
9. The application to SEBI for registration of a mutual fund is made by the sponsor(s) and the sponsor invests in the capital of the AMC.
10. The **custodian** has custody of the assets of the fund. Custodian Accept and give delivery of securities and settles all the transactions
11. Custodian is a SEBI Registered entity appointed by Trustees and Tracks corporate actions such as dividends, bonuses and rights
12. **Scheme auditor** is appointed by the Trustees, the AMC auditor is appointed by the AMC. Auditor appointed to audit MF scheme accounts needs to be different from the auditor of the AMC. Scheme A/c maintained independently of AMC A/c
13. Collecting banks enable the collection and payment of funds for the schemes
14. Depository holds the securities in dematerialised or electronic form. **National Securities Depository Limited (NSDL) and Central Depository Services Limited (CDSL)** are two depositories in India
15. **Registrar and Transfer Agency (RTA)** maintains investor records as well as allots or redeems units, processes purchase/redemption/switch requests, dividends, etc. Appointing a Registrar & Transfer Agent (RTA) is optional. AMC can do this in-house also.
16. Offices of RTA – **Investor Service Centres**
17. **Dealer** place orders with securities brokers based on the instructions of the fund managers
18. **Collecting Bankers or Payment aggregators enable the collection and payment of funds for the schemes.**

19. **Fund accountant** performs the role of calculating the NAV, by collecting information about the assets and liabilities of each scheme.
20. All distributors need to pass the NISM Certification Examination (**NISM-Series-V-A: Mutual Fund Distributors (MFD) Certification Examination**) and register with AMFI.
21. It is mandatory for all investors in the securities market, including the mutual fund investors, to be **KYC** (Know Your Customer) compliant under the provisions of the Prevention of Money Laundering Act.
22. AMFI involves the registration of mutual fund distributors, by allotting them AMFI Registration Number (ARN), which is mandatory for becoming a mutual fund distributor. For employees of Mutual Fund Distributors AMFI allot **EUIN** (Employee Unique Identification Number)
23. AMFI is neither a regulatory body nor a **Self-Regulatory Organisation (SRO)**. AMFI conducts nationwide investor awareness programme and also interact with SEBI, RBI, Government on all matters concerning the mutual fund industry
24. AMFI disseminate information on the MF industry and to undertake studies and research

CHAPTER 4: LEGAL AND REGULATORY FRAMEWORK

1. The Mutual Fund will buy and sell securities on **delivery basis**.
2. The Mutual Fund shall not advance any loans.
3. The scheme will not invest in the unlisted or privately placed securities of any associate or group company of the sponsor.
4. SEBI has permitted celebrity endorsements at the industry level for the purpose of increasing awareness of Mutual Funds
5. **Non-Convertible Preference Shares** are to be treated as debt instruments
6. Point-to-point returns on a standard investment of Rs. 10,000 shall also be shown in addition to CAGR
7. Performance advertisement of mutual fund schemes shall be provided in terms of **CAGR** for the past **1 year, 3 years, 5 years and since inception**.
8. In case of Overnight funds, Liquid funds and Money Market funds simple annualization of yields if a performance figure is available for at least 7 days, 15 days and 30 days
9. SEBI has mandated that the scheme performance should be compared with the **total return index (TRI)**, as against the **price return index (PRI)**.
10. A **PRI** or Price Return Index considers only the price movement of its constituents and captures only the capital gains of the constituents.
11. A **TRI or Total Return Index** considers all dividends/interest payments that are generated from Index Stocks.
12. The gap between the returns between PRI and TRI is the amount of dividend.

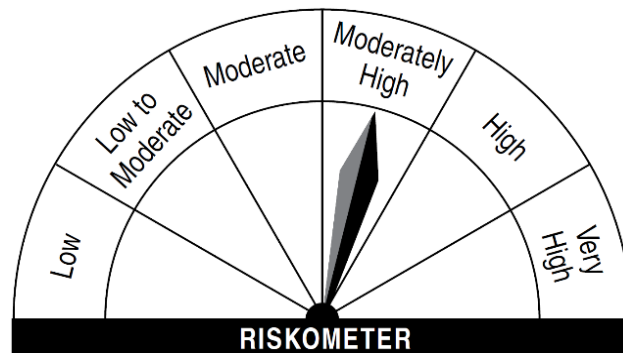
13. https://youtu.be/9FKwxMGo6Rc?si=ZaGBksiE_2DKtKVw
14. Unit-holders have a proportionate right to the beneficial ownership of the assets of the scheme.
15. Investors can choose to change their distributor or opt for direct investing.
16. Unit-holders have the right to inspect key documents such as the Trust Deed, Investment Management Agreement, Custodial Services Agreement, RTA agreement and Memorandum & Articles of Association of the AMC.
17. Investors can pledge their mutual fund units.
18. The investors can appoint up to 3 nominees, who will be entitled to the 'Units' in the event of the demise of the investors. The investor can also specify the percentage distribution between the nominees. If no distribution is indicated, then an equal distribution between the nominees will be presumed.
19. If there is a change in the fundamental attributes of a mutual fund scheme, then the unitholders are provided the option to exit at the prevailing NAV without any exit load. This exit window has to be open for at least 30 days.
20. **SEBI Complaint Redress System (SCORES)** is a web-based centralized grievance redress system of SEBI. SCORES enables investors to lodge, follow up on their complaints and track the status of redressal of such complaints online on the website (<http://sebi.scores.gov.in>).
21. AMFI has also framed a set of guidelines and code of conduct for intermediaries (known as **AMFI Guidelines & Norms for Intermediaries (AGNI)**), consisting of individual agents, brokers, distribution houses and banks engaged in selling of mutual fund products.
22. Entities against which complaints are handled by SEBI through SCORES:
 - a. Listed companies/registrar & transfer agents
 - b. Brokers/stock exchanges
 - c. Depository participants/depository
 - d. Mutual funds
 - e. Portfolio Managers
 - f. Other entities (KRAs, Collective investment scheme, Merchant banker, Credit rating agencies, foreign portfolio investor etc.)

CHAPTER 5: SCHEME RELATED INFORMATION

https://youtu.be/Yo1G_Rfg7Js

1. Mutual fund investments are subject to market risk. It is necessary to read all scheme related documents before investing.

2. There are primarily two important documents for understanding about the mutual fund scheme:
 - **Scheme Information Document (SID)** has details of the particular scheme.
 - **Statement of Additional Information (SAI)**, which has statutory information about the mutual fund or AMC, that is offering the scheme.
3. A pictorial representation of the risk to the principal invested in a mutual fund product is depicted using a '**Riskometer**'.
4. Risk-o-meter shall have the following six levels of risk.



5. **SID** also describes the Investment Objective of the scheme that helps investors match their objective to that of the scheme.
6. **Key Information Memorandum (KIM) – Synopsis** is essentially a summary of the SID and SAI. It contains the key points of SID & SAI
7. **KIM is attached to all application forms.**
8. SID, SAI and KIM need to be updated periodically and the interim changes are updated through the issuance of an addendum. The addendum is considered to be a part of the scheme related documents and must accompany the KIM.
9. Regular updating of SAI has to be done by the end of **3 months** of every financial year.
10. KIM shall be updated at least once in half-year
11. Mutual Fund declares the Net Asset Value of the scheme on every business day on AMFI's website **www.amfiindia.com**.
12. In case of open-ended schemes, the NAV is calculated for all business days and released to the Press. In case of closed-ended schemes, the NAV is calculated at least once a week.
13. Fund factsheet contains the basic information of each scheme such as the inception date, corpus size (AUM), current NAV, benchmark and a pictorial depiction of the fund's style of managing the fund. It is published monthly and contains economic and market overview.

Scheme Information Document has the following information

- details of the particular scheme

- Name of the scheme
- Type of the scheme-Open-ended/Close-ended/Interval
- Equity/Debt/Liquid/Hybrid etc.(the expected nature of scheme portfolio)
- Standard Risk Factors-risks that all MF investments are exposed to
- Scheme Specific Risk- risks specific to the individual asset category.
- minimum number of investors in the scheme- **20**

SAI – Statement of Additional Information

- **Single SAI** is relevant for all the schemes offered by a mutual fund
- **SAI is part of the SID** and has statutory information about the mutual fund or AMC, that is offering the scheme
- Contents of SAI - Constituents of the mutual fund, How to apply, Rights of Unit Holders, Investment Valuation norms, Tax Legal, Investor Grievance

Key Information Memorandum KIM - Synopsis

Fundamental Attributes

- **Type of a scheme** - Open ended/Close ended/Interval scheme, Sectoral/Equity Fund/Balance Fund/Income Fund/Index Fund/Any other type of Fund
- **Investment Objective** – Growth or Income
- **Tentative Portfolio**, minimum and maximum asset allocation, option to alter the asset allocation for a short term period on defensive considerations
- **Terms of Issue** like Liquidity Provisions such as Listing Purchase Redemption
- **Fees or Expenses charged**, Any Safety net or guarantee
- Documents in the market are “vetted” by SEBI, and not approved by SEBI.
- SID and SAI are prepared in the format prescribed by SEBI
- Draft SID and SAI are available on SEBI’s website
- The final documents (after incorporating SEBI’s observations) have to be hosted on AMFI’s website (www.amfiindia.com) two days before the issue opens.
- **Non-Mandatory Document - Monthly Fact Sheet**. It is not a regulatory requirement to publish the monthly fact sheet, rather it is a market practice followed. Factsheet is a marketing and information document

CHAPTER 6: FUND DISTRIBUTION & CHANNEL MANAGEMENT PRACTICES

1. Mutual funds are distributed in India to the investors through multiple channels, viz., individual mutual fund distributors, bank branches, national distributors through their branches or their sub-agents, post offices, and directly by the AMCs.
2. SEBI has facilitated buying and selling of the units of open-ended mutual funds through the stock exchanges.
3. **National Stock Exchange (NSE) and Bombay Stock Exchange (BSE)** have extended their trading platforms to help the stock exchange brokers become a channel for investors to transact in Mutual Fund units.
4. NSE's platform is called **NSE INVEST Platform**. BSE's platform is the **BSE STAR Mutual Funds Platform**.
5. **MF Utilities (MFU)** is a transaction aggregating platform that connects investors, RTAs, distributors, banks, AMCs and others.
6. Investors who register on the MFU are allotted a **Common Account Number (CAN)** under which all their mutual fund holdings are consolidated.
7. **Trail commission** is calculated as a **percentage of the net assets** attributable to the Units sold by the distributor. It is normally paid by the AMC on a **monthly basis**.
8. Trail Commission payable as a percentage of AUM attributable to the Units sold by the distributor
9. Trail commission is paid for as long as the investor's money is held in the fund.
10. Investment advisor means any person, who for consideration, is engaged in the business of providing investment advice to clients or other persons or group of persons and includes any person who holds out himself as an investment adviser.
11. No commission is payable to the distributor for their own investments
12. SEBI has mandated AMCs to put in place a due diligence process to regulate distributors who qualify any one of the following criteria:
 - Multiple point presence (More than 20 locations)
 - AUM raised over Rs. 100 crores across the industry in the non-institutional category but including high net worth individuals (HNIs)
 - The commission received of over Rs. 1 Crore p.a. across industry
 - The commission received of over Rs. 50 Lakhs from a single mutual fund

CHAPTER 7: NAV, TOTAL EXPENSE RATIO & PRICING OF UNITS

1. The unit-holders' funds in the scheme are commonly referred to as "**net assets**".

2. Net asset includes the amounts originally invested, the profits booked in the scheme, as well as appreciation in the investment portfolio. It goes up when the market goes up, even if the investments have not been sold.
3. NAV of the scheme will depend upon the value of this portfolio, which in turn, depends upon the value of the securities held in it.
4. The process of valuing each security in the investment portfolio of the scheme at its current market value is called '**mark to market**'.
5. **Investment and Advisory Fees** are charged to the scheme by the AMC.
6. The difference between the NAV and re-purchase Price is called the "**exit load**".
7. NAV is to be calculated up to **4 decimal places** in the case of index funds, liquid funds and other debt funds. In case of equity and balanced funds is to be calculated up to at least **2 decimal places**.
8. SEBI has banned entry loads. Sale Price needs to be the same as NAV
9. Exit loads have to be credited back to the scheme immediately
10. Mutual funds are not allowed to charge differential exit loads based on the amount of investment.
11. Initial Issue / NFO Expenses are Borne by AMC
12. Index fund / ETF – Base expense ratio including the investment and advisory fees shall **not exceed 0.9%**.
13. The securities shall be valued at the last quoted closing price on the stock exchange
14. When the securities are traded on more than one recognised stock exchange, the securities shall be valued at the last quoted closing price on the stock exchange where the security is principally traded.
15. When a security is not traded on any stock exchange for a period of thirty days prior to the valuation date, the scrip must be treated as a 'non-traded' scrip.
16. Segregated Portfolio is a portfolio, comprising of debt or money market instrument affected by a credit event
17. AMC shall not charge investment and advisory fees on the segregated portfolio.
18. The Net Asset Value (NAV) of the segregated portfolio shall be declared on a daily basis.
19. Segregated portfolio shall be effective from the day of credit event
20. All existing investors shall be allotted equal number of units in the segregated portfolio as held in the main portfolio as on the day of the credit event
21. Redemption or subscription is not allowed in a segregated portfolio
22. Units of segregated portfolio shall be listed on recognized stock exchanges.
23. "Main portfolio" means the scheme portfolio excluding the segregated portfolio.
24. Creation of segregated portfolio was made optional and at the discretion of the AMC.

25. **NAV = (Value of stocks + Value of bonds + Value of money market instruments + Dividend accrued but not received + Interest accrued but not received – Fees payable) / No. of outstanding units**

NAV & Sale Price Explanation - https://youtu.be/rVuo_gTWTLQ

NAV Calculation Video –

https://youtu.be/lz0YUFimOTs?list=PLCZvkZJiAVK56z_al_5b-4WMMRUXMWydc

CHAPTER :8 TAXATION

https://www.youtube.com/watch?v=v_tlb7BX7TQ&list=PLCZvkZJiAVK56z_al_5b-4WMMRUXMWydc&index=74

<https://youtu.be/UceCg88B8h4?si=N9jlckeOZKvh6NFj>

- Section 10(23)(D) of the Income Tax Act exempts all the income earned by the mutual fund schemes.
- **Long term Capital Gain**
 - Equity Schemes & Listed Securities – more than 1 year holding period
 - Non Equity Schemes – more than 2 years Holding period.
- **Short term Capital Gain**
 - Equity Schemes & Listed Securities – less than 1 year holding period
 - Non Equity Schemes – less than 2 years Holding period
- Equity Long-term capital gains – **First 1.25 lakhs** is tax free.
- Equity Short term capital gains – 20% tax on gains
- Dividends are taxed in the hands of Investors as per their slab
- Securities Transaction Tax (STT) at the time of Redemption applicable only for Equity Schemes.

Transaction	STT Rates	Payable by
Purchase of units of equity oriented mutual fund	Nil	Purchaser
Sale of units of equity oriented mutual fund (delivery based)	0.001	Seller
Sale of units of an equity oriented mutual fund to the mutual fund	0.001	Seller
Sale of equity shares, units of business trust, units of equity oriented mutual fund (non- delivery based)	0.025	Seller

Setting off Capital Losses under Income Tax Act

- Capital loss, short term or long term, cannot be set off against any other head of income (e.g. salaries).
- Short term capital loss set off against short term capital gain or long-term capital gain.
- Long term capital loss can only be set off against long term capital gain

The dividend would be added to the taxable income of the assessee for the year. The dividends would be taxable in the hands of the recipient at the applicable tax rate.

Tax benefit under Section 80C of the Income Tax Act

Equity Linked Savings Schemes (ELSS) are eligible for deduction under Section 80C of the Income Tax Act. The benefit is available upto Rs. 1.50 lacs per year per taxpayer in case of individuals and HUFs. The scheme has a lock-in period of three years from the date of investment.

Tax Deducted at Source

There is no TDS on re-purchase proceeds to resident investors.

In case of dividends from mutual fund schemes, even for resident Indians, TDS is applicable. Tax is required to be deducted at 10 percent on the dividend amount if it exceeds Rs. 10,000.

Dividend plans in Mutual Funds are called IDCW (Income Distribution cum Capital Withdrawal)

CHAPTER 9: INVESTOR SERVICES

Close-ended Schemes have an NFO Open Date and NFO Close Date. But, they have no Scheme Re-opening Date, because the scheme does not sell or re-purchase units. Investors will need to buy or sell units from the stock exchange where the scheme is listed.

Direct and Regular Plans

Investors have the option to invest (purchase or subscribe to mutual fund units) directly without routing the investment through a distributor (Direct Plan). In this case, the investor must mention "Direct" in the space provided in the application form for entering the AMFI Registration Number (ARN).

If the investment (purchase/subscription) is routed through a distributor/Advisor (Regular Plan) then the ARN/RIA number and other details have to be provided in the space provided for the same.

The direct plan shall have a lower expense ratio excluding distribution expenses, commission, etc., and no commission shall be paid from such plans. Since the TER is different in both cases, the plans will have separate NAVs

Switch is a redemption from one scheme & a purchase into another combined into one transaction. It is a combination of Purchase and Repurchase transactions simultaneously.

NACH - National Automated Clearing House (NACH) is a centralised clearing system launched by the National Payments Corporation of India (NPCI). NACH have same day presentation and settlement, including returns processing. It comes in two variants – NACH Credit and NACH Debit.

Application Supported by Blocked Amount - (ASBA) is a facility where the investment application in a New Fund Offer (NFO) is accompanied by an authorization to the bank to block the amount of the application money in the investor's bank account.

The benefit of ASBA is that the money goes out of the investor's bank account only on allotment. Until then, it keeps earning interest for the investor. Further, since the money transferred from the investor's bank account is the exact application money that is due on account of the allotment, the investor does not have to wait for any refund

Cash Payments - Mutual funds usually do not accept cash. Small investors, who may not be tax payers and may not have PAN/bank accounts, such as farmers, small traders/businessmen/workers are allowed cash transactions for purchase of units in mutual funds to the extent of Rs. 50,000/- per investor, per mutual fund, per financial year

Instant Access Facility - IAF facilitates credit of redemption proceeds in the bank account of the investor on the same day of the redemption request. The MFs/AMCs can offer IAF only in Liquid and Overnight schemes of the mutual fund. The monetary limit under the IAF is Rs. 50,000 or 90 percent of latest value of investment in the scheme, whichever is lower. This limit is applicable per day per scheme per investor. Also, there can be repurchase transactions through the stock exchange platform or MFU platform.

CUT OFF TIMING –

[NAV Cut off Timing for Non Liquid Funds | Mutual Fund NAV - YouTube](#)
[Cutoff Time for Liquid Fund Purchase | Mutual Fund - YouTube](#)

Purchase – NON Liquid Funds	Time	NAV
Fund available for Utilisation	Till 3 PM	Same day NAV
<i>NAV of the business day on which the funds are available for utilization before the cut-off time is applicable</i>		
Redemption – NON Liquid Funds, Any Amount, till 3 PM, Same Day NAV		
Purchase – LIQUID FUNDS	Time	NAV

Fund available for Utilization	Before 1.30 pm	Previous Day NAV
Closing NAV of the day immediately preceding the day on which the funds are available for utilization.		
Redemption – LIQUID Funds		
Any Amount	Till 3PM	NAV of the day immediately preceding the next business day

Cutoff timings are not applicable for NFO's and International Funds.

Time Stamping - The time stamping on the transaction requests is done at the official points of acceptance. The time stamping on the transaction requests is done at the official points of acceptance.

Applications for non-financial transactions like the change of address, and investor's acknowledgement are stamped. However, here stamping of time is not relevant; the date stamping is pertinent.

Application for purchase of units is stamped with automatically generated location code, machine identifier, serial number, date and time; the reverse of the payment instrument has to be similarly stamped with the same number; the acknowledgement issued to the investor gets a similar stamp.

SEBI and RBI have allowed Qualified Foreign portfolio investors who meet KYC requirements to invest in equity and debt schemes of Mutual Funds through two routes

Direct route – Holding MF units in Demat account through a SEBI registered DP

Indirect route – Holding MF units via Unit Confirmation Receipt (UCR)

Individual and non-individual investors are permitted to invest in mutual funds in India. The 'Who can invest' section of the Offer Document is the best source to check on eligibility to invest.

KYC Registration Agencies - KRA

All Investors have to comply with the KYC formalities. In-Person Verification (IPV) by a SEBI-registered intermediary is compulsory for all investors. IPV done by only one SEBI-registered intermediary (broker, depository, mutual fund distributor etc.). This IPV will be valid for transactions with other SEBI-registered intermediaries too. Distributors who have a valid NISM-Series-V-A: Mutual Fund Distributors certificate and a valid ARN can carry out the In-person verification if they have completed the KYD process.

PAN Exempt Investments in Mutual Funds

Micro-SIPs i.e., SIPs where annual investment does not exceed Rs 50,000. Small investors investing up to Rs. 50,000 per mutual fund per financial year do not need to provide PAN Card. Rs. 50,000 is a composite limit for the small investor's Micro-SIP and lump sum investments together.

Government of India authorised the **Central Registry of Securitisation and Asset Reconstruction and Security Interest of India (CERSAI)** to act as and to perform the functions of the Central KYC Record Registry

SIP Top-up Facility - Mutual funds provide an additional facility through an SIP to enhance the disciplined savings of investors. It is called the SIP Top-Up facility

Nomination

- Nomination can be made in favour of a maximum of 3 nominees.
- Where there are multiple nominees, the unitholder(s) must define the percentage holding for each nominee making a total of 100 percent
- Only individual investors can make a nomination. Investments by minors cannot have a nomination. A Power of Attorney holder cannot make a nomination.
- The nominee can be an individual, including minors and NRIs, central and state governments and local authorities. If the nominee is a minor, then a guardian too can be specified.
- nomination cannot be made in favour of a trust (except a religious or charitable trust), society, body corporate, partnership, Karta of an HUF or a Power of Attorney holder.

Transmission of Units - process of transferring units to the person entitled to receive it in the event of the death of the unit holder. The person entitled to receive it depends upon the folio conditions of joint holding and nomination. If the first holder passes away, the second holder is substituted as first holder. In a singly held folio with nominations, the units are transferred to the nominee. If a folio is jointly held and has nominations, the right of the joint holder will take precedence. If there are no nominations in the folio, the units are transmitted to the legal successors

Service provided by Mutual Funds	Turnaround Time
NAV Calculation and disclosure	On a daily basis
Mutual Fund Schemes (other than NFO of ELSS) to remain open for subscription	Maximum of 15 days
Mutual Fund Schemes to allot units or refund money	Within 5 business days of closure of NFOs

Re-opening for ongoing sale/re-purchase of open-ended scheme (other than ELSS)	Within 5 business days of allotment
Unit certificate	To be issued within 5 working days of the receipt of request for the certificate.
	For close ended schemes, units in demat form to be issued to unitholders within 2 working days of the receipt of request from unitholders.

CHAPTER 10: RISK, RETURN AND PERFORMANCE OF FUNDS

<https://www.youtube.com/watch?v=luoBu2OqaCc>

General Risk Factors

- Liquidity Risk
- Interest Rate Risk
- Re-investment Risk
- Political Risk
- Economic Risk
- Foreign Currency Risk

Specific Risk Factors

- Risk related to equity and equity related securities
 - Risk associated with short selling and Stock Lending
 - Risks associated with mid-cap and small-cap companies
 - Risk associated with Dividend
 - Risk associated with Derivatives
- Risks related to debt funds
 - Reinvestment Risk
 - Rating Migration Risk
 - Term Structure of Interest Rates Risk
 - Credit Risk
 - Risk associated with floating rate securities
 - Risk factors associated with repo transactions in Corporate Bonds
 - Risks associated with Creation of Segregated portfolio
 - Risks associated with investments in Securitized Assets

Growth investment style entails investing in high growth stocks i.e. stocks of companies that are likely to grow much faster than the market

Value investment style is an approach of picking up stocks, which are priced lower than their intrinsic value, based on fundamental analysis

Investors need a longer investment horizon to benefit from the price appreciation in such stocks.

Portfolio building approach – Top down and Bottom up

A bottom-up approach on the other hand analyses the company-specific factors first and then evaluates the industry factors and finally the macro-economic scenario and its impact on the companies that are being considered for investment. Stock selection is the key decision in this approach; sector allocation is a result of the stock selection decisions.

Both the approaches have their merit. **Top down approach** minimizes the chance of being stuck with large exposure to a poor sector. Bottom up approach ensures that a good stock is picked, even if it belongs to a sector that is not so hot. What is important is that the approach selected should be implemented professionally.

Standard Deviation - is a measure of total risk in an investment. As a measure of risk it is relevant for both debt and equity schemes.

A high standard deviation indicates greater volatility in the returns and greater risk. Comparing the standard deviation of a scheme with that of the benchmark and peer group funds gives the investor a perspective of the risk in the scheme

Beta - is based on the **Capital Asset Pricing Model (CAPM)**, which states that there are two kinds of risk in investing in equities – **systematic risk and non-systematic risk**.

Modified duration measures the sensitivity of value of a debt security to changes in interest rates. Higher the modified duration, higher is the interest sensitive risk in a debt portfolio

The credit rating profile indicates the credit or default risk in a scheme. Government securities do not have a credit risk. Similarly, cash and cash equivalents do not have a credit risk. Investments in corporate issuances carry credit risk. Higher the credit rating, lower is the default risk.

CHAPTER 11: MUTUAL FUND SCHEME PERFORMANCE

Returns can be measured in various ways – Simple Returns, Annualised Returns, Compounded Returns, Compounded Annual Growth Rate. CAGR assumes that all dividend payouts are reinvested in the scheme at the ex-dividend NAV.

Loads and taxes pull the investor's returns below that earned by the Scheme.

ICICI Securities' Sovereign Bond Index (I-Bex) is based on government securities. The three sub-indices are—**Si-Bex (1 to 3 yrs)**, **Mi-Bex (3 to 7 yrs)** and **Li-Bex (more than 7 yrs)**

Liquid schemes invest in securities of upto **91 days'** maturity. **CRISIL Liquid Fund Index** is suitable.

Hybrid Funds - invest in a mix of debt and equity. Therefore, the benchmark for a hybrid fund is a blend of an equity and debt index.

Gold ETF - Gold price would be the benchmark for such funds.

International Funds - The benchmark would depend on where the scheme proposes to invest. Thus, a scheme seeking to invest in China might have the Hang Seng Index (Chinese index) as the benchmark.

S&P 500 may be appropriate for a scheme that would invest largely in the US market

Standard benchmarks

Equity scheme	-	Sensex or Nifty
Long term debt scheme	-	10 year dated Gov security
Short-term debt fund	-	1 year T-Bill

Gold is a truly international asset, whose quality can be objectively measured. The value of gold in India depends on the international price of gold (which is quoted in foreign currency), the exchange rate for converting the currency into Indian rupees, and any duties on the import of gold.

Unlike gold, which is a global asset, real estate is a local asset. It cannot be transported – and its value is driven by local factors

Sharpe Ratio = $(R_s \text{ minus } R_f) \div \text{Standard Deviation}$

Treynor Ratio = $(R_s \text{ minus } R_f) \div \text{Beta}$

The difference between a scheme's actual return and its optimal return is its **Alpha**—**a measure of the fund manager's performance**. Alpha measures the performance of the investment in comparison to a suitable market index. Positive alpha is indicative of outperformance by the fund manager; negative alpha might indicate under-performance

Tracking Error - The Beta of the market, by definition is 1. An index fund mirrors the index. Therefore, the index fund too would have a Beta of 1, and it ought to earn the same return as the market. The difference between an index fund's return and the market return is the *tracking error*

CHAPTER 12: MUTUAL FUND SCHEME SELECTION

International Equity funds

When an Indian investor invests in equities abroad, he is essentially taking two exposures:

- An exposure on the international equity market.
- An exposure to the exchange rate of the rupee. If the investor invests in the US, and the US Dollar becomes stronger during the period of his investment, he benefits; if the US Dollar weakens (i.e. Rupee becomes stronger), he loses or the portfolio returns will be lower.

Portfolio Turnover

Purchase and sale of securities entails broking costs for the scheme. Frequent churning of the portfolio increases broking costs, and indicates of unsteady investment management.

Portfolio Turnover Ratio is calculated as Value of Purchase and Sale of Securities during a period divided by the average size of net assets of the scheme during the period

Core Portfolio

- To meet the **long-term** needs and goals of the investor.
- Long-term returns in broad alignment with the markets.
- Diversified Equity / Large Cap / Mid Cap funds are examples

Satellite Portfolio

- Take advantage of expected **short-term** market movements - Tactical Asset Allocation
- Held for the period when the conditions are suitable.

Examples

- (1) Sector / Thematic Funds - Cyclical
- (2) Long term GILT Funds – Interest rates are expected to come down
- (3) Gold funds – Unstable Political Scenario

The division between core and satellite portfolios will depend upon each investor's profile. Conservative investors may like a very small proportion of their overall portfolio to be managed tactically. A moderate investor may be comfortable with an

80 percent allocation to core investments and a 20 percent exposure to satellite or tactical portfolio. An investor comfortable with taking higher risk may have an even higher exposure to tactical investments.

Significant Unit holder means any entity holding 5% or more of the total corpus of any scheme.

Amongst index schemes, tracking error is a basis to select the better scheme. Lower the tracking error, the better it is. Similarly, Gold ETFs need to be selected based on how well they track gold prices.

Chapter 1: Basics of Derivatives

Derivative is a contract or a product whose value is derived from value of some other asset known as underlying. Derivatives are based on the following underlying assets

- Metals such as Gold, Silver, Aluminium, Copper, Zinc, Nickel, Tin, Lead
- Energy resources such as Oil and Gas, Coal, Electricity, Natural Gas
- Agri commodities such as wheat, Sugar, Coffee, Cotton, Pulses and
- Financial assets such as Shares, Bonds and Foreign Exchange.

Some of the factors driving the growth of financial derivatives are:

- Increased fluctuations in underlying asset prices in financial markets.
- Integration of financial markets globally.
- Latest technology in communications has helped in reduction of transaction costs.
- Enhanced understanding of market participants on sophisticated risk management tools to manage risk.
- Frequent innovations in derivatives market and newer applications of products.

Types of Derivatives

Forwards - It is a contractual agreement between two parties to buy/sell an underlying asset at a certain future date for a particular price that is pre-decided on the date of contract. Both the contracting parties are committed and are obliged to honour the transaction irrespective of price of the underlying asset at the time of delivery. Since forwards are negotiated between two parties, the terms and conditions of contracts are customized. These are OTC contracts.

Futures - A futures contract is similar to a forward, except that the deal is made through an organized and regulated exchange rather than being negotiated directly between two parties. Indeed, we may say futures are exchange traded forward contracts.

Options - is a contract that gives the right, but not an obligation, to buy or sell the underlying on or before a stated date and at a stated price. While buyer of option pays the premium and buys the right, writer/seller of option receives the premium with obligation to sell/ buy the underlying asset, if the buyer exercises his right.

Swaps - A swap is an agreement made between two parties to exchange cash flows in the future according to a prearranged formula. Swaps are series of forward contracts. Swaps help market participants manage risk associated with volatile interest rates, currency exchange rates and commodity prices.

Market Participants are of three types in the derivatives market - hedgers, traders (also called speculators) and arbitrageurs

Types of Derivatives Markets

OTC Derivatives Market have following features compared to exchange traded derivatives:

- Contracts are tailor made to fit in the specific requirements of dealing counterparties.
- The management of counter-party (credit) risk is decentralized and located within individual institutions.
- There are no formal centralized limits on individual positions, leverage, or margining.
- There are no formal rules or mechanisms for risk management to ensure market stability and integrity, and for safeguarding the collective interest of market participants.
- Transactions are private with little or no disclosure to the entire market.

Exchange Traded Derivatives Market - Exchange-traded contracts are standardized, traded on organized exchanges with prices determined by the interaction of buyers and sellers through anonymous auction platform. A clearing house/ clearing corporation, guarantees contract performance (settlement of transactions).

Significance of Derivatives Market

- Derivatives market helps in improving **price discovery** based on actual valuations and expectations.
- Derivatives market helps in **transfer of various risks** from those who are exposed to risk but have low risk appetite to participants with high risk appetite. For example hedgers want to give away the risk where as traders are willing to take risk.
- Derivatives market helps **shift of speculative trades from unorganized market to organized market**. Risk management mechanism and surveillance of activities of various participants in organized space provide stability to the financial system

Market participants, who trade in derivatives are advised to carefully read the **Model Risk Disclosure Document**, given by the broker to his clients at the time of signing agreement.

Model Risk Disclosure Document is issued by the members of Exchanges and contains important information on trading in Equities and F&O Segments of exchanges. All prospective participants should read this document before trading on Capital Market/Cash Segment or F&O segment of the Exchanges.

Chapter 2: Understanding Index

1. Index is a statistical indicator that measures changes in the economy in general or in particular areas.
2. An index is a portfolio of securities that represent a particular market or a portion of a market.
3. Each Index has its own calculation methodology and usually is expressed in terms of a change from a base value. the percentage change is more important than the actual numeric value.
4. Financial indices are created to measure price movement of stocks, bonds, T-bills and other type of financial securities.
5. A stock index is created to provide market participants with the information regarding average share price movement in the market. Broad indices are expected to capture the overall behaviour of equity market and need to represent the return obtained by typical portfolios in the country

Significance of Index

- A stock index is an indicator of the performance of overall market or a particular sector.
- It serves as a benchmark for portfolio performance - Managed portfolios, belonging either to individuals or mutual funds; use the stock index as a measure for evaluation of their performance.
- It is used as an underlying for financial application of derivatives – Various products in OTC and exchange traded markets are based on indices as underlying asset.

Types of Stock Market Indices

Market capitalization weighted index - In this method of calculation, each stock is given weight according to its market capitalization. So higher the market capitalization of a constituent, higher is its weight in the index.

Free-Float Market Capitalization Index - if we compute the index based on weights of each security based on free float market cap, it is called free float market

capitalization index. Indeed, both Sensex and Nifty, over a period of time, have moved to free float basis

Price-Weighted Index - A stock index in which each stock influences the index in proportion to its price. Stocks with a higher price will be given more weight and therefore, will have a greater influence over the performance of the index.

Equal Weighted Index An equal-weighted index is one in which all stocks included in the index have the same weightage. The number of shares of each stock is adjusted in such a way that the weight of each stock in the index is the same. Subsequently, if there is any change in the market price of each stock, the weight of each stock will change. In order to maintain the same equal weights as earlier, the fund manager needs to sell those stocks that have increased in price and buy the stocks that have fallen in price.

The difference between the best buy and the best sell orders is called **bid-ask spread**. The “bid-ask spread” therefore conveys transaction cost for small trade

Percentage degradation (From an Ideal Price) that occurs when shares are bought or sold, is called **impact cost**. Impact cost varies with transaction size. Also, it would be different for buy side and sell side.

NSE indices are managed by a separate company called **NSE Indices Limited**. A good index is a trade-off between diversification and liquidity. A well diversified index reflects the behaviour of the overall market/ economy

Index Funds invest in a specific index with an objective to generate returns equivalent to the return on index. These funds invest in index stocks in the proportions in which these stocks exist in the index. For instance, Sensex index fund would get the similar returns as that of Sensex index.

Exchange Traded Funds (ETFs) are a basket of securities that trade like individual stock, on an exchange. They can be bought and sold on the exchange. Since ETFs are traded on exchanges intraday transaction is possible.

Index Derivatives

- Index Derivatives are derivative contracts which have the index as the underlying asset.
- Index Options and Index Futures are the most popular derivative contracts worldwide.
- Index derivatives are useful as a tool to hedge against the market risk.

Chapter 3: Introduction to Forwards and Futures

Essential features of a forward are:

- It is a contract between two parties (Bilateral contract).
- All terms of the contract like price, quantity and quality of underlying, delivery terms like place, settlement procedure etc. are fixed on the day of entering into the contract

Forwards are bilateral over the counter (OTC) transactions where the terms of the contract, such as price, quantity, quality, time and place are negotiated between two parties to the contract. Any alteration in the terms of the contract is possible if both parties agree to it. Corporations, traders and investing institutions extensively use OTC transactions to meet their specific requirements.

Major limitations of forwards

Liquidity Risk - Liquidity is nothing but the ability of the market participants to buy or sell the desired quantity of an underlying asset

Counterparty risk - Counterparty risk is the risk of an economic loss from the failure of counterparty to fulfil its contractual obligation. In addition to the illiquidity and counterparty risks, there are several issues like lack of transparency, settlement complications as it is to be done directly between the contracting parties

Future Contract Specifications

Underlying instrument and underlying price - The underlying instrument refers to the index or stock on which the futures contract is traded. The underlying price is the spot price or the price at which the underlying asset trades in the cash market.

Spot Price: The price at which an asset trades in the cash market

Futures Price: The price of the futures contract in the futures market.

Contract Cycle: It is a period over which a contract trades. Index and stock futures contracts follow a three-month trading cycle. - the near month (Current Month), the next month and the far month

Expiration Day: The day on which a derivative contract ceases to exist. It is last trading day of the contract. Generally, it is the last Thursday of the expiry month

unless it is a trading holiday on that day. If the last Thursday is a trading holiday, the contracts expire on the previous trading day.

Tick Size - It is minimum move allowed in the price quotations. Exchanges decide the tick sizes on traded contracts as part of contract specification. Tick size for Nifty futures is 5 paisa. Bid price is the price buyer is willing to pay and ask price is the price seller is willing to sell.

Contract multiplier or Contract Size: Futures contracts are traded in lots. The lot size or contract size for the index and stock futures is determined by the exchange. Contract sizes are different for each stock and index traded in the derivatives segment

Daily settlement price: The exchange follows a daily settlement procedure for open positions in equity index and stock futures contracts. All open positions are settled daily based on the daily settlement price of the futures contracts, which is calculated by the exchange on the basis of the last half-an-hour weighted average price of that futures contract. Thus, the daily settlement price is different for each futures contract of a different expiry month

Final settlement price is the price at which all open positions in the near-month futures contracts are finally settled on the expiration day of the near-month futures contract. The final settlement price is the closing price of the relevant underlying index or stock in the cash segment on the last trading day of the futures contract

Basis - The difference between the spot price and the futures price is called basis. If the futures price is greater than spot price, basis for the asset is negative. Similarly, if the spot price is greater than futures price, basis for the asset is positive. During the life of the contract, the basis may become negative or positive, as there is a movement in the futures price and spot price. Further, whatever the basis is, positive or negative, it turns to zero at maturity of the futures contract i.e. there should not be any difference between futures price and spot price at the time of maturity/ expiry of contract

Cost of Carry is the relationship between futures prices and spot prices. It measures the storage cost (in commodity markets) plus the interest that is paid to finance or 'carry' the asset till delivery less the income earned on the asset during the holding period. For equity derivatives, carrying cost is the interest paid to finance the purchase less (minus) dividend earned.

Margin Account - As exchange guarantees the settlement of all the trades, to protect itself against default by either counterparty, it charges various margins from brokers. Brokers in turn charge margins from their customers

Initial Margin - The amount one needs to deposit in the margin account at the time entering a futures contract is known as the initial margin

Marking to Market (MTM) - In futures market, while contracts have maturity of several months, profits and losses are settled on day-to-day basis – called mark to market (MTM) settlement. The exchange collects these margins (MTM margins) from the loss making participants and pays to the gainers on day-to-day basis.

Open Interest and Volumes Traded - An open interest is the total number of contracts outstanding (yet to be settled) for an underlying asset. The level of open interest indicates depth in the market.

Long position Outstanding/ unsettled buy position in a contract is called “Long Position”.

Short Position Outstanding/ unsettled sell position in a contract is called “Short Position”.

Open position Outstanding/ unsettled either long (buy) or short (sell) position in various derivative contracts is called “Open Position”

Naked positions - Naked position in futures market simply means a long or short position in any futures contract without having any position in the underlying asset.

Calendar spread position is a combination of two positions in futures on the same underlying - long on one maturity contract and short on a different maturity contract. For instance, a short position in near month contract coupled with a long position in far month contract is a calendar spread position.

Calendar spread position is computed with respect to the near month series and becomes an open position once the near month contract expires or either of the offsetting positions is closed. A calendar spread is always defined with regard to the relevant months i.e. spread between August contract and September contract, August contract and October contract and September contract and October contract

Cash and Carry Model for Futures Pricing

Cash and Carry model is also known as **non-arbitrage model**. This model assumes that in an efficient market, arbitrage opportunities cannot exist. In other words, the moment there is an opportunity to make money in the market due to mispricing in the asset price and its replicas, arbitrageurs will start trading to profit from these

mispricing and thereby eliminating these opportunities. This trading continues until the prices are aligned across the products/ markets for replicating assets.

When an underlying asset is not storable i.e. the asset is not easy to hold/maintain, then one cannot carry the asset to the future. The cash and carry model is not applicable to these types of underlying assets.

in case of natural disaster like flood in a particular region, people start storing essential commodities like grains, vegetables and energy products (heating oil) etc. As a human tendency we store more than what is required for our real consumption during a crisis. If every person behaves in similar way then suddenly a demand is created for an underlying asset in the cash market. This indirectly increases the price of underlying assets. In such situations people are deriving convenience, just by holding the asset. This is termed as **convenience return or convenience yield**.

If futures price is higher than spot price of an underlying asset, market participants may expect the spot price to go up in near future. This expectedly rising market is called "Contango market". Similarly, if futures price are lower than spot price of an asset, market participants may expect the spot price to come down in future. This expectedly falling market is called "**Backwardation market**".

Price risk is nothing but change in the price movement of asset, held by a market participant, in an unfavourable direction. This risk broadly divided into two components - specific risk or unsystematic risk and market risk or systematic risk.

Unsystematic Risk - Specific risk or unsystematic risk is the component of price risk that is unique to particular events of the company and/or industry. This risk is inseparable from investing in the securities. This risk could be reduced to a certain extent by diversifying the portfolio.

Systematic Risk - An investor can diversify his portfolio and eliminate major part of price risk i.e. the diversifiable/unsystematic risk but what is left is the non-diversifiable portion or the market risk-called systematic risk. Variability in a security's total returns that are directly associated with overall movements in the general market or economy is called systematic risk

Beta - A measure of systematic risk of a security that cannot be avoided through diversification. It measures the sensitivity of a scrip/ portfolio vis-a-vis index movement over a period of time, on the basis of historical prices. Suppose a stock has a beta equal to 2. This means that historically a security has moved 20% when the index moved 10%, indicating that the stock is more volatile than the index. Scripts/ portfolios having beta more than 1 are called aggressive and having beta less than 1 are called conservative scrips/ portfolios.

To find the number of contracts for perfect hedge 'hedge ratio' is used. Hedge ratio is calculated as:

Number of contracts for perfect hedge = $V_p * \beta_p / V_i$

V_p – Value of the portfolio β_p – Beta of the portfolio V_i – Value of index futures contract

Long hedge is the transaction when we hedge our position in cash market by going long in futures market.

Short hedge is a transaction when the hedge is accomplished by going short in futures market

Cross hedge - When futures contract on an asset is not available, market participants look forward to an asset that is closely associated with their underlying and trades in the futures market of that closely associated asset, for hedging purpose. They may trade in futures in this asset to protect the value of their asset in cash market. This is called cross hedge.

Hedge contract month is the maturity month of the contract through which we hedge our position

Arbitrage opportunities in futures market - Arbitrage is simultaneous purchase and sale of an asset or replicating asset in the market in an attempt to profit from discrepancies in their prices. Arbitrage involves activity on one or several instruments/assets in one or different markets, simultaneously. Important point to understand is that in an efficient market, arbitrage opportunities may exist only for shorter period or none at all. The moment an arbitrage spots an arbitrage opportunity, he would initiate the arbitrage to eliminate the arbitrage opportunity. Arbitrage occupies a prominent position in the futures world as a mechanism that keeps the prices of futures contracts aligned properly with prices of the underlying assets.

The objective of arbitrage is to make profits without taking risk, but the complexity of activity is such that it may result in losses as well

Arbitrage in the futures market can typically be of three types:

- **Cash and carry arbitrage:** Cash and carry arbitrage refers to a long position in the cash or underlying market and a short position in futures market.
- **Reverse cash and carry arbitrage:** Reverse cash and carry arbitrage refers to long position in futures market and short position in the underlying or cash market.
- **Inter-Exchange arbitrage:** This arbitrage entails two positions on the same contract in two different markets/ exchanges.

Inter-market arbitrage This arbitrage opportunity arises because of some price differences existing in same underlying at two different exchanges. If August futures on stock Z are trading at Rs. 101 at NSE and Rs. 100 at BSE, the trader can buy a contract at BSE and sell at NSE. The positions could be reversed over a period of time when difference between futures prices squeeze. This would be profitable to an arbitrageur.

Chapter 4: Introduction to Options

Options may be categorized into two main types:- • Call Options • Put Options

Option, which gives buyer a right to buy the underlying asset, is called Call option and the option which gives buyer a right to sell the underlying asset, is called Put option

Option Premium: It is the price which the option buyer pays to the option seller

Writer of an option - The writer of an option is one who receives the option premium and is thereby obliged to sell/buy the asset if the buyer of option exercises his right.

American option - The owner of such option can exercise his right at any time on or before the expiry date/day of the contract.

European option - The owner of such option can exercise his right only on the expiry date/day of the contract. In India, Index & stock options are European

Strike price or Exercise price - Strike price is the price per share for which the underlying security may be purchased or sold by the option holder

Assignment of Options means the allocation of exercised options to one or more option sellers

Time value - It is the difference between premium and intrinsic value, if any, of an option. ATM and OTM options will have only time value because the intrinsic value of such options is zero.

Open Interest is the total number of option contracts outstanding for an underlying asset.

Tick size: It is the minimum move allowed in the price quotations. the tick size for index and stock option contracts is **5 paisa**.

Moneyiness of the Options

In the money (ITM) option - This option would give holder a positive cash flow, if it were exercised immediately. A call option is said to be ITM, when spot price is higher than strike price. And, a put option is said to be ITM when spot price is lower than strike price. In our examples, call option is in the money.

At the money (ATM) option - At the money option would lead to zero cash flow if it were exercised immediately. Therefore, for both call and put ATM options, strike price is equal to spot price.

Out of the money (OTM) option - Out of the money option is one with strike price worse than the spot price for the holder of option. In other words, this option would give the holder a negative cash flow if it were exercised immediately. A call option is said to be OTM, when spot price is lower than strike price. And a put option is said to be OTM when spot price is higher than strike price.

If the stock price goes up, the buyer of the call gains in proportion to the rise in the stock's value, thereby giving **asymmetric pay off**. Futures have symmetric risk exposures (**symmetric pay off**).

Leverage An option buyer pays a relatively small premium for market exposure in relation to the contract value. This is known as leverage. Leverage also has downside implications. If the underlying price does not rise/fall as anticipated during the lifetime of the option, leverage can magnify the investment's percentage loss. Options offer their owners a predetermined, set risk

	Risk / Loss	Return / Profit
Long	Premium paid	Unlimited
Short	Unlimited	Premium received

There are five fundamental parameters on which the option price depends:

- 1) Spot price of the underlying asset
- 2) Strike price of the option
- 3) Volatility of the underlying asset's price
- 4) Time to expiration
- 5) Interest rates

Spot price of the underlying asset - If price of the underlying asset goes up the value of the call option increases while the value of the put option decreases. Similarly if the price of the underlying asset falls, the value of the call option decreases while the value of the put option increases.

Strike Price - If all the other factors remain constant but the strike price of option increases, intrinsic value of the call option will decrease and hence its value will

also decrease. On the other hand, with all the other factors remain constant, increase in strike price of option increases the intrinsic value of the put option which in turn increases its option value.

Volatility - It is the magnitude of movement in the underlying asset's price, either up or down. It affects both call and put options in the same way. Higher the volatility of the underlying stock, higher the premium because there is a greater possibility that the option will move in-the-money during the life of the contract.

Higher volatility = Higher premium, Lower volatility = Lower premium (for both call and put options).

Time to expiration - The effect of time to expiration on both call and put options is similar to that of volatility on option premiums. Generally, longer the maturity of the option greater is the uncertainty and hence the higher premiums. If all other factors affecting an option's price remain same, the time value portion of an option's premium will decrease with the passage of time. This is also known as **time decay**. Options are known as 'wasting assets', due to this property where the time value gradually falls to zero. high interest rates will result in an increase in the value of a call option and a decrease in the value of a put option.

Options Pricing Models

The Binomial Pricing Model - This is a very accurate model as it is iterative, but also very lengthy and time consuming

The Black & Scholes Model - It is one of the most popular, relative simple and fast modes of calculation. Unlike the binomial model, it does not rely on calculation by iteration.

Option Greeks

Delta (δ or Δ) - The most important of the 'Greeks' is the option's "Delta". This measures the sensitivity of the option value to a given small change in the price of the underlying asset. It may also be seen as the speed with which an option moves with respect to price of the underlying asset. Delta = Change in option premium/ Unit change in price of the underlying asset.

Delta for call option buyer is positive

Delta for put option buyer is negative

Gamma (γ) - It measures change in delta with respect to change in price of the underlying asset. This is called a second derivative option with regard to price of the

underlying asset. It is calculated as the ratio of change in delta for a unit change in market price of the underlying asset. $\text{Gamma} = \frac{\text{Change in an option delta}}{\text{Unit change in price of underlying asset}}$

Theta (θ) - It is a measure of an option's sensitivity to time decay. Theta is the change in option price given a one-day decrease in time to expiration. It is a measure of time decay. Theta is generally used to gain an idea of how time decay is affecting your option positions. $\text{Theta} = \frac{\text{Change in an option premium}}{\text{Change in time to expiry}}$

Vega (v) - This is a measure of the sensitivity of an option price to changes in market volatility. It is the change of an option premium for a given change (typically 1%) in the underlying volatility. $\text{Vega} = \frac{\text{Change in an option premium}}{\text{Change in volatility}}$

Rho (ρ) - Rho is the change in option price given a one percentage point change in the risk-free interest rate. Rho measures the change in an option's price per unit increase in the cost of funding the underlying. $\text{Rho} = \frac{\text{Change in an option premium}}{\text{Change in cost of funding the underlying}}$

Chapter 5: Option Trading Strategies

Option Spreads - Spreads involve combining options on the same underlying and of same type (call/ put) but with different strikes and maturities. These are limited profit and limited loss positions. They are primarily categorized into three sections as:

• Vertical Spreads • Horizontal Spreads • Diagonal Spreads

Vertical Spreads

Vertical spreads are created by using options having same expiry but different strike prices. Further, these can be created either using calls as combination or puts as combination. These can be further classified as:

• Bullish Vertical Spread

o Using Calls

o Using Puts

• Bearish Vertical Spread

o Using Calls

o Using Puts

Horizontal Spread involves same strike, same type but different expiry options. This is also known as time spread or calendar spread.

Diagonal spread involves combination of options having same underlying but different expiries as well as different strikes. Again, as the two legs in a spread are in different maturities, it is not possible to draw payoffs here as well.

Straddle - This strategy involves two options of same strike prices and same maturity. A long straddle position is created by buying a call and a put option of same strike and same expiry whereas a short straddle is created by shorting a call and a put option of same strike and same expiry.

Strangle is similar to straddle in outlook but different in implementation, aggression and cost.

Long Strangle - As in case of straddle, the outlook here (for the long strangle position) is that the market will move substantially in either direction, but while in straddle, both options have same strike price, in case of a strangle, the strikes are different. Also, both the options (call and put) in this case are out-of-the-money and hence the premium paid is low.

Short Strangle - This is exactly opposite to the long strangle with two out-of-the-money options (call and put) shorted. Outlook, like short straddle, is that market will remain stable over the life of options

Covered Call - This strategy is used to generate extra income from existing holdings in the cash market. If an investor has bought shares and intends to hold them for some time, then he would like to earn some income on that asset, without selling it, thereby reducing his cost of acquisition.

Protective Put - Any investor, long in the cash market, always runs the risk of a fall in prices and thereby reduction of portfolio value and MTM losses. A protective put payoff is similar to that of long call. This is called synthetic long call position. Its like buying insurance to protect your portfolio against market falls.

Collar - A collar strategy is an extension of covered call strategy. in case of covered call, the downside risk remains for falling prices; i.e. if the stock price moves down, losses keep increasing (covered call is similar to short put). To put a floor to this downside, we long a put option, which essentially negates the downside of the short underlying/futures (or the synthetic short put)

Butterfly Spread - As collar is an extension of covered call, butterfly spread is an extension of short straddle. Downside in short straddle is unlimited if market moves significantly in either direction. To put a limit to this downside, along with short straddle, trader buys one out of the money call and one out of the money put.

Resultantly, a position is created with pictorial pay-off, which looks like a butterfly and so this strategy is called “Butterfly Spread”. Butterfly spread can be created with only calls, only puts or combinations of both calls and puts.

Delta-hedging -the delta of the option measures the sensitivity of the option value to a given small change in the price of the underlying asset. Option traders use the concept of delta to hedge their portfolio of option positions. the trader has to keep buying or selling futures contracts in order to maintain the delta of the combined position near zero. This process is known as ‘delta hedging’. It is the option trader’s way of managing the risk of his short option position

Put-call ratio: This is the ratio of trading volume of put options to call options. The ratio is calculated either on the basis of options trading volumes or on the basis of their open interest. The put-call ratio is generally treated as a contrarian indicator. If the PCR is less than one, it means that the open interest of calls exceeds that of puts. It also means that option traders prefer to sell more calls than puts. This indicates that option sellers do not expect the index to rise in the near future. Thus, a PCR less than one signals a bearish trend. A PCR greater than one, say 1.25, means that the open interest of puts is higher than that of calls. This is taken as a bullish signal, because it shows that option sellers do not expect a fall in the market.

CHAPTER 1: INTRODUCTION TO INTEREST RATE, INTEREST RATE INSTRUMENTS AND FIXED INCOME MARKET

Interest Rate: Interest rate is the charge to the borrower for the use of an asset, expressed as a percentage of the principal per annum; it is also the rate of return for the lender.

Nominal Annual Interest Rate: The stated interest rate on a loan or bond quoted as a percentage per year, without adjusting for the compounding frequency within the year.

Effective Interest Rate: Actual annual return earned after accounting for compounding; calculated as $[(1 + \text{annual rate} / n)^n] - 1$, where n is the number of compounding periods per year.

Real Interest Rate: The nominal interest rate adjusted for inflation; approximated as Real Rate = Nominal Rate - Inflation Rate, showing the true growth in purchasing power.

Macro Factors Affecting Interest Rates: Key macro factors include demand and supply of money, fiscal deficit, inflation, global interest rates, and central bank policy actions such as changes in the repo rate.

Micro Factors Affecting Interest Rates: Factors at the security level include tenor/maturity, credit risk, seniority, security/collateral, liquidity of the bond, and investor sentiment.

Fixed Income Securities: Debt instruments that pay interest (coupon) at fixed intervals and return the principal at maturity; bonds and debentures are the most common form.

Face Value (FV): Also called par value or principal; the amount the issuer agrees to repay at maturity, and the base on which coupon/interest is calculated.

Coupon Rate: The annual interest payment expressed as a percentage of the face value; determines periodic cash flows paid to the bondholder.

Zero Coupon Bond (ZCB): A bond that pays no periodic interest but is issued at a discount to face value and redeemed at par at maturity; examples include Treasury Bills and STRIPS.

Floating Rate Bonds (FRBs): Bonds whose coupon is linked to a benchmark rate (e.g., 182-day T-bill yield) and reset on each coupon payment date, making them largely immune to interest rate risk.

Inflation Indexed Bonds: A type of floating rate bond where the principal or coupon (or both) is indexed to an inflation measure (WPI or CPI) to protect investors from rising prices.

Perpetual Bonds: Bonds with no fixed maturity date that continue paying coupons indefinitely; banks issue them as AT-1 bonds to meet Tier-1 capital requirements under Basel III.

Callable Bond: A bond with a provision allowing the issuer to redeem it before the original maturity date at a pre-fixed call date, typically exercised when market interest rates fall.

Puttable Bond: A bond giving the investor the right to demand early redemption at a pre-fixed put date, typically exercised when market interest rates rise above the coupon rate.

Credit Risk: risk that a bond issuer may fail to make timely coupon and principal payments; sovereign bonds in home currency are considered risk-free as governments can print money.

Credit Spread: The difference in yield between a corporate bond and a risk-free government bond of the same maturity; it represents the price of credit risk for non-sovereign borrowers.

Risk-Free Rate: The benchmark interest rate on sovereign borrowing in home currency where credit risk is zero; all other instruments are priced as a spread over this rate.

Price Risk (Interest Rate Risk): risk that a bond's market price will change due to changes in prevailing interest rates; bond prices and interest rates move in opposite directions.

Reinvestment Risk: The risk that coupon payments received during a bond's life must be reinvested at unknown future rates, leading to uncertainty in total return.

Term Structure of Interest Rates (Yield Curve): A graph plotting interest rates (vertical axis) against maturities/tenors (horizontal axis) for the same type of borrower; the risk-free curve is the most important benchmark.

Normal Yield Curve: An upward-sloping yield curve where long-term yields are higher than short-term yields, reflecting higher risk premia and inflation expectations for longer maturities.

Inverted Yield Curve: A downward-sloping curve where short-term yields exceed long-term yields; often signals expected economic slowdown or aggressive monetary tightening.

Flat Yield Curve: A curve where short-term and long-term yields are approximately equal, indicating little or no extra premium for longer maturities.

Humped Yield Curve: A curve where medium-term yields are higher than both short-term and long-term yields; less common but can reflect specific supply-demand imbalances.

Yield Curve Shifts: Parallel: All rates across the maturity spectrum move in the same direction by the same magnitude; the spread between short-term and long-term rates remains unchanged.

Yield Curve Shifts: Steepening: The spread between long-term and short-term rates widens; the curve shifts anti-clockwise. It can result from a twist (rates move in opposite directions) or convexity change.

Yield Curve Shifts: Flattening: The spread between long-term and short-term rates narrows; the curve shifts clockwise. As with steepening, it can occur via twist or convexity change.

Simple Interest (SI): Interest calculated only on the original principal: $SI = \text{Principal} \times \text{Rate p.a.} \times \text{Time (years)}$; no reinvestment of interest earned in prior periods.

Compound Interest (CI): Interest computed on both principal and previously earned interest; leads to exponential growth. Formula: $FV = PV \times (1 + r)^t$ for multi-period investment.

Future Value (FV): The value of an investment at a future date after applying the rate of return; $FV = PV \times (1 + r)^t$, where t is the number of compounding periods.

Present Value (PV): The current value of a future cash flow discounted at the interest rate; $PV = FV / (1 + r)^t$.

Government Securities (G-Secs): Bonds issued by the central government, considered risk-free in home currency; they form the largest segment of India's fixed income market and benchmark all valuations.

State Development Loans (SDLs): Bonds issued by State Governments and Union Territories to fund their fiscal deficits; they are part of the broader government securities market.

Corporate Bonds / NCDs: Debt securities issued by companies to raise capital; they carry higher credit risk than G-Secs and hence offer higher yields, with credit rating agencies assessing their creditworthiness.

Securitization / Asset Backed Securities: Process of pooling illiquid loans into a Special Purpose Vehicle (SPV) and converting them into tradable bonds; transfers ownership of assets from originator to investors.

AT-1 Bonds (Additional Tier-1): Unsecured, perpetual, non-convertible bonds issued by banks to meet Additional Tier-1 capital requirements under Basel III norms; they carry high risk and no maturity date.

AT-2 / Tier-2 Bonds: Subordinated bonds with a minimum tenure of 5 years issued by banks to meet Tier-2 capital requirements; they have a call option but no put option, exercisable after 5 years with RBI approval.

Green Bonds: Fixed-income instruments specifically earmarked to raise money for climate and environmental projects; they carry the same credit rating as the issuer's other debt.

Masala Bonds: Rupee-denominated bonds issued outside India by Indian entities to raise funds in local currency from foreign investors.

Deep Discount Bonds: Zero coupon bonds issued at a high discount (generally 20% or more) to face value with relatively longer maturity; favored by infrastructure companies with long gestation periods.

Step-Up Bonds: Bonds that pay a lower coupon in early years and a higher coupon closer to maturity; preferred by issuers like start-ups expecting cash flows to grow over time.

Deferred Coupon Bonds: Hybrid instruments that pay no interest in initial years but very high interest in later years before maturity; suited for projects with long gestation periods.

Seniority of Bonds: The priority order in which bondholders are repaid in case of default or liquidation; senior debt is repaid before subordinated (junior) debt, which is repaid before equity.

Credit Enhancement: A strategy that improves a bond's creditworthiness through additional collateral, third-party guarantees, or insurance; it lowers the borrower's cost and improves the bond's credit rating.

Money Market Instruments: Short-term debt instruments with maturity up to one year, including Treasury Bills (T-Bills), Commercial Papers (CPs), Certificate of Deposits (CDs), and Cash Management Bills (CMBs).

Equity vs. Debt Securities: Equity represents ownership with variable returns and voting rights; debt represents a loan with fixed periodic interest, priority in liquidation, and no voting rights.

Advantages of Debt Financing: Debt does not dilute ownership, interest is tax-deductible, future obligations are known for cash flow planning, and raising debt through private placement involves fewer regulatory complexities.

Disadvantages of Debt Financing: Debt must be repaid regardless of market conditions, creates fixed cash flow obligations, increases financial leverage and default risk, and may require asset liens or sinking fund creation.

REITs and InvITs: REITs (Real Estate Investment Trusts) invest in commercial real estate and InvITs (Infrastructure Investment Trusts) invest in infrastructure assets; both are SEBI-registered trusts that distribute cash flows as dividends to investors.

CHAPTER 2: INTEREST RATE DERIVATIVES

Derivative: A financial contract whose value is derived from an underlying asset such as a commodity, interest rate, or equity; it cannot exist without the underlying.

Key Criteria for Financial Derivatives (IAS 39 / AS 30): A financial derivative must: (1) have its value linked to an underlying, (2) be settled on a future date, and (3) require no full cash outlay on the trade date (leverage).

Five Asset Classes of Derivatives: Derivatives are classified into five asset classes: interest rate, credit, equity, forex, and commodity; within each, four generic products exist: forward, futures, swap, and option.

Forward Contract: A customized OTC agreement between two parties to buy or sell an underlying asset at a pre-determined price on a future date; both parties are obligated to honor the contract.

Futures Contract: A standardized forward contract traded on a recognized exchange with guaranteed settlement by the clearing corporation; margins and daily mark-to-market (MTM) are applicable.

Swap: An agreement between two parties to exchange cash flows over a period based on a prearranged formula, typically fixed-to-floating or floating-to-floating interest payments on a notional principal.

Option: A contract giving the buyer the right, but not the obligation, to buy (call) or sell (put) the underlying at a pre-determined price on or before a specified date, in exchange for paying a premium.

Forward Rate Agreement (FRA): An OTC interest rate derivative where two parties agree to borrow or lend at a fixed rate on a future date for a specified period; usually cash-settled based on the difference between the FRA rate and a benchmark rate.

Bond Forward: An OTC rupee interest rate derivative where one party (buyer) agrees to buy a specific Government Security from the seller at a price determined on the trade date, for settlement on a future date.

Interest Rate Swap (IRS): A derivative contract involving the exchange of a stream of agreed interest payments on a notional principal; the most common form exchanges a fixed rate for a floating rate (e.g., Overnight MIBOR).

Overnight Index Swap (OIS): An IRS where the floating leg is linked to the daily overnight MIBOR rate compounded for the contract period; it is the most liquid OTC interest rate derivative in India.

Swaption: An option on an interest rate swap; a call swaption gives the right to receive fixed/pay floating, while a put swaption gives the right to pay fixed/receive floating.

Interest Rate Cap: A series of call options (caplets) on an interest rate; the buyer receives payment at the end of each period when the floating rate exceeds the agreed strike rate.

Interest Rate Floor: A series of put options (floorlets) on an interest rate; the buyer receives payment at the end of each period when the floating rate falls below the strike rate.

Interest Rate Collar: A derivative where the buyer simultaneously purchases a cap and sells a floor; limits exposure to interest rate movements within a band, with the sold floor partially financing the cost of the cap.

Reverse Interest Rate Collar: A derivative involving simultaneous purchase of a floor and sale of a cap on the same rate; used by borrowers expecting rates to fall who also want to cap their benefit.

Hedging: Using derivatives to offset or eliminate existing price risk, locking in a future return at a known level; no upfront cost unlike insurance.

Speculation / Trading: Taking risk by entering derivative positions without an underlying exposure, aiming to profit from predicted price movements; can result in profit or loss.

Insurance (via Options): Selectively eliminating downside risk while retaining upside potential using options; unlike hedging, it has an explicit upfront cost (option premium).

Arbitrage: Exploiting price differences in the same or related instruments across different markets by simultaneously buying cheap and selling expensive, locking in a riskless profit.

Hedgers in IRD Market: Participants who use interest rate derivatives to reduce real interest rate exposure; examples include banks, mutual funds, insurance companies, and corporates with floating rate loans.

Speculators in IRD Market: Participants who take positions in interest rate derivatives based on their directional view on future interest rate movements to earn profit; they provide liquidity to the market.

Arbitragers in IRD Market: Participants who exploit mispricing between underlying and derivatives markets (OTC vs exchange) or between different derivative instruments to earn riskless profits.

Why Interest Rate Derivatives are Largest: Every business and individual faces interest rate risk (from loans, bonds, deposits), unlike equity, currency, or commodity risk which affects only specific sectors; hence IRD market is the largest globally.

OTC Derivatives (OTCD): Privately negotiated contracts between two parties with customized terms; they carry counterparty credit risk and settlement risk but can be tailored to exact requirements.

Exchange Traded Derivatives (ETD): Standardized contracts traded on exchanges with guaranteed settlement via clearing corporation acting as central counterparty (CCP) through novation; no counterparty credit risk.

Novation: The process by which the clearing corporation (CCP) interposes itself between buyer and seller, becoming the buyer to the seller and the seller to the buyer, thereby eliminating counterparty risk.

Margining and Mark-to-Market (MTM): Processes by which clearing corporations protect themselves from credit risk; margins are collected upfront and MTM gains/losses are settled daily.

Central Counterparty (CCP): An entity that stands between the buyer and seller in a derivatives transaction; in India, CCIL provides CCP services for OTC interest rate derivative settlement.

Interest Rate Futures (IRF): Standardized interest rate derivative contracts traded on a recognized exchange to buy or sell a notional security or any other interest-bearing instrument at a specified future date and price.

Underlying for IRD: Interest Rate: Derivatives on benchmark money market rates (e.g., Overnight MIBOR, Repo Rate, 91-day T-Bill yield); participants effectively borrow or lend at agreed rates on future dates.

Underlying for IRD: Notional Bond: A theoretical bond with fixed maturity and coupon whose price is inferred from market-available bonds; e.g., the 10-year notional GOI bond used in bond futures.

Underlying for IRD: Single Bond: A specific debt security (e.g., 6.10% GOI 2031) used as the underlying; participants agree to buy or sell this bond at an agreed price on a future date.

Long vs. Short Position in Interest Rate Derivatives: In interest rate futures, the borrowing party (long on interest rate) benefits from rate increases; in bond futures, the buyer (long on bond) benefits from rate decreases (price increases).

Credit Default Swap (CDS): An OTC derivative where the protection buyer makes periodic payments to the protection seller, who agrees to compensate the buyer if a specified credit event (default) occurs on a reference obligation.

Securities Laws (Second Amendment) Act, 1999: This act included derivatives within the definition of Securities under SCRA 1956; it made exchange-traded and clearing house-settled derivative contracts legal and valid in India.

CCIL (Clearing Corporation of India Ltd.): India's central counterparty for OTC interest rate and forex derivative settlement; it provides trade guarantee and CCP clearing services for OTC IRD including bond forwards.

Growth Drivers of Derivatives Market: Key drivers include increased financial market volatility, integration of global markets, advances in technology (high-speed processors), development of sophisticated risk management tools, and product innovation.

Request-for-Quote (RFQ) and Exchange-for-Physical (EFP): Facilities offered by some derivatives exchanges to provide customized contracts, blurring the distinction between OTC and exchange-traded markets.

Advantages of ETD over OTC: ETD offers price transparency, elimination of counterparty credit risk (due to CCP), access to all market participants, credit agnostic participation, and generally lower impact cost.

Limitations of ETD vs OTC: ETD standardization may lead to imperfect hedges as amount and settlement dates cannot be customized; daily MTM and margin requirements create operational challenges.

IAS 39 / AS 30 FAS 133 Criteria: FAS 133 additionally requires that a derivative trade must settle (or be capable of settling) on a net basis rather than a gross basis; this is in addition to the three criteria under IAS 39.

Notional Principal in Swaps: The reference amount on which swap interest payments are calculated; the notional principal itself is not exchanged between the parties.

Fixed-to-Floating Interest Rate Swap: The most common swap structure where one party pays a fixed rate and receives a floating rate (e.g., MIBOR); used to convert fixed-rate borrowings to floating or vice versa.

Leverage in Derivatives: The ability to gain exposure to a large notional value of underlying assets with a small initial margin payment; amplifies both gains and losses.

Risks in Derivatives Trading: Key risks include counterparty risk, price/market risk, leverage risk, liquidity risk, legal/regulatory risk, and operational risk (fraud, documentation errors).

Economic Functions of Derivatives: Beyond risk management, derivatives serve price discovery, enhance market efficiency (arbitrage keeps prices in equilibrium), provide access to otherwise unavailable markets, and improve price stability.

Interest Rate Derivatives have the largest market size globally

IMPORTANT NOTE :

1. Attend **ALL** Questions.
2. For the questions you don't know the right answer – Try to eliminate the wrong answers and take a guess on the remaining answers.
3. DO NOT MEMORISE the question & answers. It's not the right way to prepare for any NISM exam. Good understanding of Concepts is essential.

All the Best 😊

MODELEXAM

Email: myakshaya@gmail.com, WhatsApp only: 98949 49988

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