

## NISM Series X-A: Investment Adviser Level 1

# Introduction to Investment

**LEARNING OBJECTIVES:** Types of Investment • Equity • Fixed Income • Commodities • Real Estate • Structured Products • Channels

## 1 Overview — Investment Universe



## 2 Equity Shares — Types & Features

Equity shares represent **ownership** in a company. Shareholders are **residual claimants** — they receive profits after all other obligations are met. Returns come through **dividends** (share of profits) and **capital appreciation** (share price rise). Over the long term, equities offer **time diversification** benefits.

Preference Share Type	Dividend Treatment	Voting Rights	Key Feature
Cumulative	Unpaid dividends accumulate; paid later in full	None (usually)	Safer for investor; arrears guaranteed
Non-Cumulative	Unpaid dividend lapses permanently	None (usually)	Riskier; no arrears entitlement
Participating	Fixed dividend + additional profit-linked bonus	None (usually)	Upside participation in profits
Non-Participating	Fixed rate dividend only; no extra upside	None (usually)	Predictable; no growth participation
Convertible	Fixed until converted to equity at set ratio	Equity rights post-conversion	Hybrid: debt floor + equity upside
Perpetual	No maturity; pays dividend indefinitely	None (usually)	Like equity but with preference priority

### ■ REAL-WORLD EXAMPLE — DVR Shares (Tata Motors 2008)

Tata Motors issued Differential Voting Rights (DVR) shares in 2008 with 1/10th voting power but 5% higher dividend than ordinary shares. Founders retained control; income investors got better yield. Other DVR issuers: Pantaloons Retail, Jain Irrigation Systems. Permitted since 2000.

## 3 Fixed Income — Debt Securities & Credit Ratings

**Debt instruments** (fixed income securities) are contracts promising a stream of cash flows. The issuer agrees to pay periodic interest plus principal repayment at maturity. Government Securities (G-Secs) carry **practically no default risk** and are called **risk-free gilt-edged instruments**.

**Credit Spread** = Yield(Corporate Bond) – Yield(G-Sec) for same maturity = **risk premium** for bearing default risk. Higher default probability → wider spread.

Rating	Category	Risk Level	Investor Classification
AAA	Highest Safety	Lowest credit risk	Investment Grade — all investors
AA	High Safety	Very low credit risk	Investment Grade
A	Adequate Safety	Low credit risk	Investment Grade
BBB	Moderate Safety	Moderate credit risk	Investment Grade — minimum threshold
BB / B	Moderate to High Risk	High credit risk	High Yield / Junk — many institutions restricted
C / D	Very High Risk / Default	In or near default	Junk — prohibited for most institutional investors

Investment Grade = **BBB and above**. Below BBB = **High Yield (Junk) Bonds**. Many institutional investors are **prohibited** from holding junk bonds due to high default risk.

#### 4 Commodities, Real Estate & Other Asset Classes

Asset Class	Sub-Types	Return Source	Portfolio Role
Soft Commodities	Wheat, corn, sugar, soybean	Capital appreciation only	High volatility; diversifier; low stock correlation
Hard Commodities	Gold, silver, oil, copper, aluminium	Capital appreciation only	Safe haven; inflation hedge; global portfolio
Real Estate	Commercial, Residential; Tier I/II/III cities	Capital gain + rental income	Long-term wealth; inflation hedge; REIT alternative
Structured Products	Market Linked Debentures (MLDs)	Linked to underlying index/basket	Complex; derivatives-based; NOT guaranteed returns
Distressed Securities	Equity/debt of near-bankrupt firms	Deep discount + recovery upside	"Fallen Angels"; hedge fund/AIF/PMS domain only
Art & Collectibles	Paintings, rare books, antiques	Capital appreciation only	Low financial correlation; illiquid; unregulated

#### 5 Channels for Making Investments

Channel	Description	Min Ticket	Key Attribute
Direct Investment	Buy securities directly from market / exchanges	Low (varies)	Low cost; needs investor knowledge
SEBI RIA (Investment Adviser)	Fee-only fiduciary; cannot earn commissions; must disclose conflicts of interest	No min (fee-based)	Aligned with investor; SEBI IA Regulations 2013
Mutual Funds (MF)	Pooled vehicle; diverse portfolio; SEBI regulated; daily NAV; transparent	Rs. 500 SIP	Retail-friendly; highly regulated; 80C ELSS
Portfolio Management (PMS)	Personalised portfolio; direct holding in investor demat; lighter regulation	Rs. 50 Lakhs	Customised; HNI-focused; "Rich Man's MF"
Alternative Investment Fund (AIF)	PE, VC, Hedge funds; sophisticated strategies; Cat I/II/III	Rs. 1 Crore	Ultra HNI + institutions; complex strategies
Collective Investment Scheme (CIS)	Pooled vehicle for plantation, art etc.; SEBI regulated	Varies	Specific asset class; SEBI oversight

#### 6 Investment Process — Flowchart



2

Preference shares are described as "hybrid" instruments because:

- a) They can be traded on two different stock exchanges simultaneously
- b) They carry characteristics of both debt (fixed dividend) and equity (perpetual; no maturity)
- c) They are issued simultaneously as both preference and equity shares
- d) They are regulated by both SEBI and RBI

✓ **Answer: b) They carry characteristics of both debt (fixed dividend) and equity (perpetual; no maturity)**

Preference shares have a fixed dividend like debt instruments AND can be perpetual like equity. They rank above equity in liquidation but below debt holders. This hybrid nature gives them characteristics of both asset classes.

3

A cumulative preference shareholder is different from a non-cumulative shareholder in that:

- a) Cumulative shareholders have voting rights; non-cumulative do not
- b) Unpaid dividends on cumulative shares accumulate and must be paid before equity dividends
- c) Cumulative shares can be converted to equity; non-cumulative cannot
- d) Cumulative shares always trade at a premium on stock exchanges

✓ **Answer: b) Unpaid dividends accumulate and must be paid before equity dividends**

If a company cannot pay dividends in a year, cumulative preference shareholders' dividends accumulate as arrears. These arrears must be cleared in full before any equity dividend can be declared. Non-cumulative shareholders simply lose that year's dividend.

4

An investor buys a corporate bond rated "BB". This bond falls into which category?

- a) Investment Grade — suitable for all institutional investors
- b) High Yield / Junk Bond — below investment grade threshold
- c) AAA equivalent — highest safety
- d) Gilt-edged government instrument

✓ **Answer: b) High Yield / Junk Bond — below investment grade threshold**

Investment Grade = BBB and above. BB is below BBB, making it a High Yield (Junk) Bond. Many institutional investors (insurance companies, pension funds, banks) are prohibited from holding below-investment-grade bonds due to their high default risk.

5

What is the "credit spread" on a corporate bond?

- a) The difference between the bond's bid and ask price on the exchange
- b) The additional yield a corporate bond pays over a comparable-maturity G-Sec
- c) The spread between the coupon rate and the market interest rate
- d) The difference between senior and subordinated debt yields of the same company

✓ **Answer: b) The additional yield a corporate bond pays over a comparable-maturity G-Sec**

Credit spread = Yield(Corporate) - Yield(G-Sec) for the same maturity. It represents the risk premium investors demand for bearing the default risk of a corporate issuer. Higher default probability = wider credit spread.

6

Gold is described as a "safe haven" asset primarily because:

- a) It generates regular interest income for investors
- b) It has global acceptability and holds value during economic uncertainty and geopolitical crises
- c) It is backed by the Reserve Bank of India
- d) Its price is guaranteed not to fall below a floor set by the government

✓ **Answer: b) It has global acceptability and holds value during economic uncertainty and crises**

Gold's safe haven status comes from its millennia-old global acceptance as a store of value. During financial crises, wars, or economic uncertainty, investors flock to gold. Unlike financial assets, it has no counterparty risk and retains value across cultures and geographies.

7

Which of the following statements about SEBI Registered Investment Advisers (RIAs) is CORRECT?

- a) RIAs earn commissions from product manufacturers like mutual fund distributors do
- b) RIAs are paid fees by investors and must act as fiduciaries in clients' best interests
- c) RIAs are only required to advise on equity investments
- d) RIAs are regulated by AMFI, not SEBI

✓ **Answer: b) RIAs are paid fees by investors and must act as fiduciaries in clients' best interests**

SEBI IA Regulations 2013 mandated that only fee-paying advisers (not commission-earning distributors) can call themselves "Investment Advisers." RIAs must disclose all conflicts of interest and are legally obligated to act in investors' best interests — a fiduciary duty.

8

What is the minimum investment required to invest in an Alternative Investment Fund (AIF)?

- a) Rs. 10,000 (same as mutual funds)      b) Rs. 10 Lakhs  
c) Rs. 50 Lakhs (same as PMS)              d) Rs. 1 Crore

✓ **Answer: d) Rs. 1 Crore**

SEBI AIF Regulations set the minimum investment at Rs. 1 Crore per investor. AIFs cater to ultra-HNI and institutional investors who can understand complex strategies and bear higher risks. PMS minimum is Rs. 50 Lakhs. AIFs and PMS are often called "Rich Man's Mutual Funds."

9

An investor buys "Market Linked Debentures" (MLDs). What should they understand?

- a) MLDs provide guaranteed returns linked to the market index      b) MLDs are capital-protected instruments approved by SEBI for retail investors  
c) MLDs are structured products whose performance is driven by an underlying strategy and are NOT capital-guaranteed      d) MLDs are a type of government bond issued by RBI

✓ **Answer: c) MLDs are structured products — NOT guaranteed return products**

Structured products like MLDs use derivatives to create risk-adjusted exposures. Their performance depends on the underlying strategy and market conditions. They may offer capital protection from 0% to 100% — but must NOT be mistaken for capital-guaranteed or assured-return instruments.

10

Under the Liberalised Remittance Scheme (LRS), an individual can invest abroad up to:

- a) \$50,000 per year      b) \$100,000 per year  
c) \$250,000 per year      d) \$500,000 per year

✓ **Answer: c) \$250,000 per year**

LRS allows resident individuals to remit up to USD 250,000 per financial year abroad for investments, education, travel etc. This enables geographic and currency diversification and opens up access to international investment opportunities not available in Indian markets.

## NISM Series X-A: Investment Adviser Level 1

# Investing in Stocks

**LEARNING OBJECTIVES:** Equity as Investment • Diversification • EIC Framework • Valuation Models • Technical Analysis • Qualitative Evaluation

### 1 Equity as an Investment — Core Characteristics

#### Residual Claim

Get what's left after all obligations paid; highest risk and reward

#### No Guaranteed Return

Not contractually obligated to pay dividend or return capital

#### Voting Rights

Participate in AGM; elect directors; governance oversight

#### Capital Appreciation

Share price rises with company growth and market sentiment

#### Dividend Income

Share of profits distributed; depends on profitability and board

#### Equity Risk Premium

Expected return on equity > debt; compensation for higher risk

### 2 Diversification — Cross-Sectional vs Time Series

Equity is inherently riskier than debt, but **diversification significantly reduces risk**. Research shows that a significant portion of risk can be eliminated without sacrificing returns.

Diversification Type	How It Works	Example	Key Concept
Cross-Sectional	Hold equities across different industries and geographies simultaneously	IT + Banking + FMCG + Pharma + International in one portfolio	"Don't put all eggs in one basket"
Time Series / Time Diversification	Stay invested over multiple complete market cycles; bad years cancel out good years	SIP for 15+ years averages out market peaks and troughs	"Time IN market" beats "timing THE market"

Sector Type	Performance Pattern	Examples	Best Phase to Invest
Cyclical	Outperform in economic expansion; underperform in recession	Auto, Banking, Consumer Durables, Capital Goods	Recovery + Expansion of business cycle
Defensive	Stable performance regardless of economic cycle	FMCG, Pharma, Utilities, Healthcare	Recession + Contraction; portfolio protection
Counter-Cyclical	Benefit during economic downturns	Discount retail, debt recovery agencies	During economic downturns

### 3 EIC Framework — Top-Down Stock Analysis

#### EIC Framework — Top-Down Approach to Fundamental Stock Analysis



### ■ KEY INSIGHT — Bottom-Up vs Top-Down Approach

Top-Down (EIC): Start from macro economy → find attractive industries → select best companies within.

Bottom-Up: Start from company analysis → verify industry dynamics → confirm macro environment.

Both use Economy + Industry + Company factors. The difference is only the starting point.

Industry Life Cycle Stage	Characteristics	Profit Margins	Investor Strategy
1. Introduction	Small market; losses common; high R&D costs; few competitors	Negative to minimal	High risk; VC/angel investing; speculative
2. Growth	Rapid sales growth; expanding market; few competitors	High; expanding	Growth investing; high PE acceptable
3. Maturity	Growth = GDP rate; intense competition; high rivalry	Normalised; stable	Dividend investing; value approach
4. Decline	Falling sales; firm exits; consolidation	Declining; negative for weak players	Avoid or short; distressed value only

## 4 Valuation Methods — Finding Intrinsic Value

### ■ CORE PRINCIPLE

"Price is a Fact; Value is an Opinion." Market price is observable — intrinsic value requires analysis.

Valuation is both an art and a science. Buy when market price < intrinsic value; sell when price > value.

Good company does NOT equal good investment if the stock already trades above its intrinsic value.

### ■ A. Discounted Cash Flow (DCF) Model

DCF is conceptually the most rigorous. Requires: (1) Stream of future cash flows, (2) Timing of flows, (3) Discount rate (required rate of return). Use **Free Cash Flow**, not accounting profit — profits include accruals not representing actual cash.

$$\text{Value} = \frac{CF_1}{(1+r)} + \frac{CF_2}{(1+r)^2} + \dots + \frac{(CF_n + \text{Terminal Value})}{(1+r)^n}$$

Multiple	Formula	Interpretation & Rule	Best For	Limitation
P/E Ratio	Price / EPS	Lower vs peers = cheaper. P/E 10 means pay Rs.10 per Re.1 of earnings.	Profitable companies; market-wide comparison	Meaningless for loss-making firms
Price/Book (P/BV)	Price / Book Value per Share	P/BV < 1 may signal undervaluation or asset quality issue.	Banks, NBFCs, financial services	Historical cost assets may not reflect market value
Price/Sales (P/S)	Mkt Cap / Annual Revenue	Lower = cheaper on revenue basis.	Pre-profit firms; startups; high-volume businesses	Ignores profitability and debt
PEG Ratio	P/E / 5yr Earnings Growth	PEG < 1 = undervalued given growth. PEG > 1 = overpriced.	Growth stocks; tech; FMCG with high growth	Depends on accuracy of earnings growth estimate
EV/EBITDA	(Mkt Cap+Debt-Cash) / EBITDA	Debt-neutral comparison. Lower = cheaper.	Capital-intensive firms: cement, steel, infra	Ignores capex intensity; EBITDA not real cash
Dividend Yield	DPS / Market Price x 100	Income return at current price.	Income investors; mature stable companies	High yield may signal distress not value
Earnings Yield	EPS / Market Price x 100	Inverse of P/E. Compare with bond yield for equity vs debt call.	Comparing equity attractiveness vs bonds	Same limitations as P/E ratio
EVA	NOPAT - (Invested Capital x WACC)	Positive EVA = true economic profit above cost of capital.	Management performance evaluation	Complex; WACC estimation is subjective

### ■ REAL-WORLD EXAMPLE — Why P/E > Price

Company A: Stock Rs.10, P/E = 75. Company B: Stock Rs.100, P/E = 20.

Despite the lower absolute price, Company A is FAR MORE EXPENSIVE on an earnings basis.

Always compare valuation multiples (P/E, PEG, EV/EBITDA), NEVER raw share prices.

## 5 Technical Analysis & Qualitative (SWOT) Evaluation

Technical analysis uses **historical price and volume data** to forecast future price direction. It answers: **where is the price going?** — unlike fundamental analysis which asks: **what is it worth?**

Tool / Concept	Definition	Signal Interpretation
Support Level	Price floor where buying pressure consistently emerges	Buy signal when price approaches support; bounce expected
Resistance Level	Price ceiling where selling pressure consistently dominates	Sell/exit signal when price nears resistance; reversal likely
Moving Average (MA)	Average price over N periods (50DMA, 200DMA common)	Golden Cross: 50DMA > 200DMA = bullish. Death Cross: reverse.
Volume	Number of shares/contracts traded in a period	High volume confirms trend strength; low volume = weak signal
RSI (Relative Strength Index)	Momentum oscillator scaled 0-100	RSI > 70 = overbought (sell signal). RSI < 30 = oversold (buy).
MACD	Moving Average Convergence Divergence indicator	MACD crossing signal line upward = bullish momentum signal

## ■ CHAPTER 8 — QUICK REVISION: INVESTING IN STOCKS

<b>Equity</b>	Ownership + residual claim. No guaranteed return. Higher risk compensated by higher long-term return.
<b>Cross-Sectional Div.</b>	Hold stocks across multiple industries and geographies simultaneously. Low correlation = risk reduction.
<b>Time Diversification</b>	Stay invested for long periods across market cycles. "Time in market" beats "timing the market."
<b>Cyclical Sectors</b>	Outperform in expansion (auto, banking). Underperform in recession. Follow economic cycle.
<b>Defensive Sectors</b>	FMCG, Pharma — stable regardless of economic cycle. Recession-proof essential demand.
<b>EIC Framework</b>	Economy → Industry → Company (top-down). Or Company → Industry → Economy (bottom-up).
<b>DCF</b>	PV of all future free cash flows at required discount rate. Most rigorous; most assumption-sensitive.
<b>P/E Ratio</b>	Price / EPS. Lower vs peers = potentially cheaper. Useless for loss-making companies.
<b>PEG Ratio</b>	P/E / Expected 5yr EPS Growth. PEG < 1 = undervalued given growth. PEG > 1 = overpriced.
<b>EV/EBITDA</b>	(Mkt Cap + Debt - Cash) / EBITDA. Best for capital-intensive firms; debt-neutral comparison.
<b>EVA</b>	NOPAT minus (Invested Capital x WACC). Positive EVA = creating true economic value above cost of capital.
<b>Technical Analysis</b>	Price + volume charts. Support/resistance. 50DMA/200DMA cross. RSI overbought/oversold.

## &#9632; MCQ PRACTICE — Chapter 8 — Investing in Stocks

10 Questions | Answers shown below each question

1

An equity investor is called a "residual claimant." This means:

- a) The investor has a claim that is processed first before all other claimants
- b) The investor receives profits and assets only after all other obligations (debt, preference)
- c) The investor's claim is filed as a legal residue in the courts
- d) The investor gets a residual fixed interest payment

✓ **Answer: b) Receives profits and assets only after all other obligations are met**

Equity shareholders own the residual interest in a company. They get paid last — after employees, creditors, debt holders, and preference shareholders. This is why equity carries the highest risk AND has the highest potential return: all excess profits and asset appreciation belong to equity holders.

2

Which of the following BEST describes "time diversification" in equity investing?

- a) Investing at different times of day to get better average prices
- b) Holding a portfolio across multiple time zones and international markets
- c) Staying invested in equities over multiple market cycles so good years offset bad years
- d) Switching between equity and debt every few months based on market conditions

✓ **Answer: c) Staying invested so good years offset bad years**

Time diversification means investing across time — staying invested through complete market cycles (bull and bear). Empirically, longer holding periods in equities show lower annualised volatility. This is the basis for "time in market" advice over "timing the market."

3

During a recession, which sectors tend to OUTPERFORM the broader market?

- a) Auto, banking, and consumer durables
- b) Pharmaceuticals, FMCG, and utilities
- c) Capital goods, real estate, and infrastructure
- d) Metals, mining, and commodity producers

✓ **Answer: b) Pharmaceuticals, FMCG, and utilities**

Defensive sectors like pharma, FMCG, and utilities provide essential goods and services that people need regardless of economic conditions. These are "recession-proof" businesses. Cyclical sectors (auto, banking) are more sensitive to the economic cycle and underperform during recessions.

4

In the EIC (Economy-Industry-Company) top-down framework, what does the Economy Analysis step primarily assess?

- a) Which individual stocks are undervalued at current market prices
- b) The macroeconomic environment including GDP, inflation, interest rates, and monetary policy
- c) The competitive dynamics within a specific industry sector
- d) The financial strength of individual companies through ratio analysis

✓ **Answer: b) Macroeconomic environment: GDP, inflation, interest rates, monetary policy**

Economy Analysis is the first step in top-down analysis. It examines macro variables (GDP growth, inflation, interest rates, fiscal and monetary policy) that impact all industries and companies. This framework then narrows to identify which sectors benefit from the macro outlook.

5

A stock trades at Rs. 50 with EPS of Rs. 10, giving a P/E of 5. A peer company trades at Rs. 5 with EPS of Rs. 0.10, giving a P/E of 50. Which stock is CHEAPER on a valuation basis?

- a) The Rs. 5 stock because it has a lower absolute price
- b) The Rs. 50 stock because it has a P/E of only 5
- c) Both are equally valued since both are penny stocks
- d) Cannot be determined without knowing the dividend yield

✓ **Answer: b) The Rs. 50 stock — P/E of 5 is much cheaper than P/E of 50**

Valuation is measured by multiples, NOT absolute price. P/E of 5 means you pay Rs. 5 for every Re. 1 of earnings — far cheaper than paying Rs. 50 per Re. 1 of earnings (P/E 50). This is a core exam concept: never compare raw stock prices; always compare valuation ratios.

6

The PEG ratio is 0.8 for Company X (P/E = 24; 5yr EPS growth = 30%). What does this indicate?

- a) The stock is overvalued because PEG exceeds 0.5
- b) The stock appears undervalued relative to its earnings growth rate
- c) The stock has no growth potential and should be avoided
- d) The P/E ratio is too high for the company to be worth investing in

✓ **Answer: b) Stock appears undervalued relative to its earnings growth rate**

PEG ratio = P/E / Expected EPS Growth =  $24/30 = 0.8$ . PEG < 1 suggests the stock's price does not fully reflect its earnings growth potential — it appears undervalued. PEG > 1 would suggest overvaluation. This metric is particularly useful for growth companies where high P/E may be justified.

7

Which valuation multiple is MOST appropriate for comparing cement companies that are not yet profitable at the net income level?

- a) P/E ratio (Price to Earnings)
- b) Price to Book Value (P/BV)
- c) EV/EBITDA (Enterprise Value to EBITDA)
- d) Dividend Yield

✓ Answer: c) EV/EBITDA

Cement companies are highly capital-intensive. EV/EBITDA is preferred because: (1) It uses Enterprise Value (includes debt) making it capital-structure neutral, (2) EBITDA adds back depreciation, relevant for asset-heavy businesses, (3) It works even when net profit is negative. P/E fails for loss-making firms.

8

Economic Value Added (EVA) is positive for a company. What does this tell an investor?

- a) The company's stock price has increased above its book value
- b) The company is generating returns above its cost of capital, creating true economic profit
- c) The company has zero debt and is entirely equity-financed
- d) The company's earnings per share (EPS) has increased this quarter

✓ Answer: b) Company is generating returns above its cost of capital

$EVA = NOPAT - (Invested\ Capital \times WACC)$ . Positive EVA means the company earns more than the minimum return its investors (both debt and equity) require. This is "true economic profit" — the company is genuinely creating wealth for shareholders, not just accounting profit.

9

In Technical Analysis, what does a "Golden Cross" signal indicate?

- a) The stock price has hit a new all-time high and should be sold
- b) The 50-day moving average crosses ABOVE the 200-day moving average — a bullish signal
- c) The RSI has crossed 70, indicating the stock is overbought
- d) The volume has doubled compared to the previous day's average

✓ Answer: b) 50DMA crosses ABOVE 200DMA — a bullish signal

A Golden Cross occurs when the shorter-term moving average (50DMA) crosses above the longer-term moving average (200DMA). This is widely considered a bullish signal indicating potential upward price momentum. The reverse (50DMA crossing below 200DMA) is called a Death Cross — a bearish signal.

10

Which of the following is an example of a **STRENGTH** in a SWOT analysis for a company?

- a) A new competitor entering the market with disruptive technology
- b) A favourable government policy that increases demand for the company's products
- c) The company's proprietary technology that gives it a cost advantage over competitors
- d) Rising raw material costs that cannot be passed on to consumers

✓ **Answer: c) Proprietary technology — cost advantage over competitors**

Strengths are **INTERNAL** positive factors the company controls. Proprietary technology and cost leadership are classic internal strengths. Option (a) is a Threat (external negative), Option (b) is an Opportunity (external positive), and Option (d) is a Weakness (internal negative — inability to pass on costs).

Sneha Rege

## NISM Series X-A: Investment Adviser Level 1

# Introduction to Fixed Income & Debt Markets

**LEARNING OBJECTIVES:** Bond Ecosystem • Bond Risks • Bond Pricing • Yield Measures • Yield Curve • Duration • Money Market • G-Sec • Small Savings

## 1 Bond Market Ecosystem — Core Concepts & Features

### Coupon Rate

Annual interest as % of face value; paid periodically to bondholder

### Face Value / Par

Principal amount repaid at maturity. G-Sec: Rs.100; Corporate: Rs.10,000

### Maturity / Tenor

Life of bond. <1yr = Money Market; >1yr = Capital Market instrument

### Indenture

Legal contract specifying all bond terms between issuer and investors

### YTM

Yield to Maturity: total return assuming held till maturity and coupons

### Credit Spread

Extra yield corporate bond pays over G-Sec = default risk premium

Bond Type	Coupon Feature	Key Characteristic	Example
Fixed Coupon Bond	Same rate throughout life	Most common; predictable cash flows	8% G-Sec 2032
Zero Coupon Bond	No periodic coupons	Issued at discount; redeemed at par; return = discount	91-day T-Bill
Floating Rate Bond	Resets periodically vs benchmark	Protects against rising rates; inflation hedge	RBI FRB: NSC + 35bps
Callable Bond	Issuer can redeem early	Issuer-friendly; creates reinvestment risk for investor	Many corporate NCDs
Puttable Bond	Investor can sell back to issuer at set dates	Investor-friendly; guaranteed exit price	Some corporate bonds
Convertible Bond	Can convert to equity shares of issuer	Hybrid: debt floor + equity upside	Compulsory Convertible Debentures
Perpetual Bond	No maturity date; coupon paid indefinitely	Bank Tier 1 capital; high call risk	AT1 bonds (SBI, HDFC)

## 2 Risks in Fixed Income — Complete Risk Framework

Risk Type	Cause	Impact on Investor	Mitigation Strategy
Interest Rate Risk	Market rates rise after bond is purchased	Bond price falls; capital loss if sold before maturity	Hold to maturity; match bond duration to horizon
Call Risk	Issuer redeems bond early when market rates fall	Forced reinvestment at lower prevailing rates	Avoid callable bonds when rates expected to fall
Reinvestment Risk	Rates fall when coupons are received for reinvestment	Total return falls below YTM calculated at purchase	Zero coupon bonds eliminate this risk

Risk Type	Cause	Impact on Investor	Mitigation Strategy
Downgrade Risk	Rating agency lowers issuer credit rating after purchase	Bond price falls; issuer faces higher borrowing cost	Monitor issuer financials; diversify issuers
Spread Risk	Economic conditions worsen; credit spreads widen	Corporate bond prices fall even without default	Higher-rated bonds; sector diversification
Default Risk	Issuer fails to pay coupon or principal	Partial or total capital loss; lengthy recovery	Credit rating analysis; investment-grade focus
Liquidity Risk	Few buyers when investor wants to sell	Forced to accept distressed price below intrinsic value	G-Sec/AAA bonds; shorter maturities; listed bonds
Exchange Rate Risk	Domestic currency depreciates vs foreign bond currency	Higher cost to pay foreign currency obligations	Currency hedging; avoid unhedged foreign bonds
Inflation Risk	Actual inflation exceeds expectation at purchase	Real (inflation-adjusted) return erodes	Floating rate bonds; inflation-indexed bonds
Event Risk	Pandemic, regulatory change, natural disaster	Sudden inability to service debt obligations	Sector diversification; avoid concentration risk

#### ■ REAL-WORLD EXAMPLE — IL&FS Crisis (August-September 2018)

IL&FS (Infrastructure Leasing & Financial Services) held AAA rating (highest safety) in early 2018. By Aug-Sep 2018, it was abruptly downgraded to D (Default) — a catastrophic multi-notch fall. Bondholders suffered severe capital losses overnight. This is Downgrade + Default Risk together. Key lesson: Never rely solely on ratings; monitor promoter quality, cash flows, debt maturity profile.

### 3 Bond Pricing, Yield Measures & Valuation

A bond's price = **sum of present values of all future cash flows** (coupons + face value) discounted at the **Yield to Maturity (YTM)**.

If **YTM > Coupon Rate** → Bond trades at **DISCOUNT** (below Rs. 100)

If **YTM = Coupon Rate** → Bond trades at **PAR** (= Rs. 100)

If **YTM < Coupon Rate** → Bond trades at **PREMIUM** (above Rs. 100)

#### ■ WORKED EXAMPLE — Bond Pricing (Annual Coupon Bond)

10% annual coupon bond, 5-year maturity, Face Value Rs.100. Market YTM = 8%.

Year 1:  $Rs.10 \times 0.9259 = Rs.9.26$  | Year 2:  $Rs.10 \times 0.8573 = Rs.8.57$

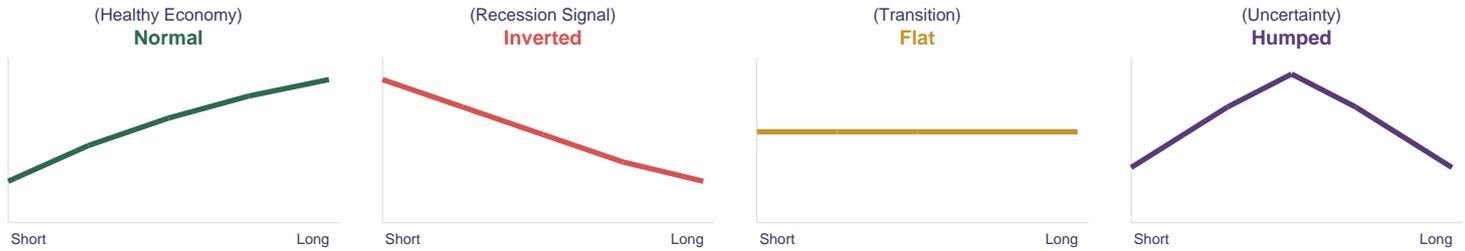
Year 3:  $Rs.10 \times 0.7938 = Rs.7.94$  | Year 4:  $Rs.10 \times 0.7350 = Rs.7.35$

Year 5:  $Rs.110 \times 0.6806 = Rs.74.86$  → Total Bond Price = Rs.107.98 (PREMIUM)

Yield Measure	Formula	What It Tells You	Key Limitation
Coupon Yield	$\text{Annual Coupon} / \text{Face Value} \times 100$	Nominal rate on face value; fixed regardless of market price	Does not capture price paid by secondary market investor
Current Yield	$\text{Annual Coupon} / \text{Market Price} \times 100$	Annual income return at today's purchase price	Ignores capital gain/loss on redemption; not total return
Yield to Maturity (YTM)	IRR of all cash flows (coupons + par redemption)	Total annualised return if held to maturity; most comprehensive	Assumes coupons reinvested at same YTM — rarely achievable
Yield to Call (YTC)	IRR assuming bond called at earliest call date	Relevant for callable bonds; usually < YTM when rates falling	Only relevant for callable bonds; call date uncertain

### 4 Yield Curve — Shapes, Signals & Economic Implications

### Four Shapes of the Yield Curve



Shape	Description	Economic Signal	Policy / Market Implication
Normal (Upward)	Long-term rates consistently > short-term rates	Healthy growing economy; positive future outlook	Investors demand time premium; stable economic environment
Inverted (Downward)	Short-term rates > long-term rates	Classic recession predictor; market expects rate cuts ahead	Central bank keeping short rates high to fight inflation
Flat	All maturities yield approximately the same rate	Economic transition; uncertainty about future direction	Market undecided between growth and recession scenarios
Humped	Medium-term yields peak; short and long-term lower	Near-term uncertainty concentrated in medium horizon	Temporary distortion; often precedes a shape change

## 5 Duration — Measuring Interest Rate Sensitivity

**Macaulay Duration** = weighted average time (in years) to receive all cash flows. It is the **payback period** of a bond in present value terms.  
**Modified Duration** = Macaulay Duration ÷ (1 + YTM). It measures the **% change in bond price** for a 1% (100 bps) change in market yield.

Duration Rule	Explanation
Higher Duration = Higher Price Sensitivity	Longer-duration bonds lose/gain more value per 1% interest rate change
Zero Coupon Bond: Duration = Maturity	No interim CFs → all cash received at maturity → maximum duration for given tenor
Adding Coupons Reduces Duration	Earlier cash flows reduce the weighted average time to recover investment
Duration Plateaus at Long Maturities	Duration does not grow proportionally; stagnates and flattens for very long bonds
Modified Duration	Macaulay Duration / (1+YTM). % price change per 1% yield change.
Convexity	Captures curvature in price-yield relationship; improves duration approximation for large rate moves

## 6 Money Market Instruments — Complete Reference

Instrument	Issuer	Maturity	Min Size	Key Feature
Call Money	SCBs + Primary Dealers only	Overnight	Rs.1 lakh	Unsecured; purely interbank; NDS-CALL platform; daily liquidity
Notice Money	SCBs + Primary Dealers	2-14 days	Rs.1 lakh	Extension of call money; uncollateralized interbank
Term Money	SCBs + Primary Dealers	15 days-1 yr	Rs.1 lakh	Longer tenor interbank; uncollateralized
Treasury Bills (T-Bills)	Govt of India via RBI weekly auctions	91d / 182d / 364d	Rs.10,000	Zero coupon; risk-free; issued at discount to par
Cash Mgmt Bills (CMBs)	Govt of India (ad-hoc)	< 91 days	Rs.10,000	Very short T-bills for govt cash flow mismatches
Commercial Paper (CP)	Corporates; min 2nd highest credit rating	7 days-1 year	Rs.5 lakh	Unsecured; discounted; working capital funding for corporates

Instrument	Issuer	Maturity	Min Size	Key Feature
Certificate of Deposit (CD)	Banks (7d-1yr); FIs (1yr-3yr)	As stated	Rs.1 lakh	Bank-backed; discounted; more credit quality than CP
Market Repo	SCBs, PDs, MFs, NBFCs, FIs, Insurance	Overnight-1yr	Rs.1 crore	Collateralised vs G-Secs; CROMS platform; CCIL settlement
Triparty Repo (TREP)	Broad participation via TREPS	Overnight-1yr	Rs.5 lakh	CCIL as 3rd-party agent; funds exempt from CRR/SLR

## 7 G-Sec & Corporate Debt Market

G-Sec Instrument	Issuer	Maturity	Coupon	Key Feature
Treasury Bills (91/182/364d)	Central Govt	< 1 year	Zero coupon	Risk-free; weekly RBI auctions; money market instrument
Cash Management Bills	Central Govt	< 91 days	Zero coupon	Ad-hoc T-bills for govt cash shortfalls
Dated G-Securities	Central Govt	5-30 years	Fixed semi-annual	Benchmark securities; largest segment of Indian debt market
State Dev Loans (SDLs)	State Govts	5-15 years	Fixed coupon	Slight spread over central G-Sec for state borrowing
Floating Rate Bonds	Central Govt	Varied	Resets 6-monthly	Linked to NSC rate + 35 bps; rate/inflation protection
Inflation-Indexed Bonds	Central Govt	Long-term	CPI-adjusted	Principal indexed; real return of investor protected

Corporate Debt Instrument	Maturity	Key Feature	Risk Level
Company Fixed Deposits	1-3 years	Not transferable; higher rate than bank FD; not DICGC covered	MEDIUM-HIGH
Non-Convertible Debentures (NCDs)	Medium-long	Listed/tradeable; secured or unsecured; credit-rated	MEDIUM (by rating)
Infrastructure Bonds	10-20 years	Long-term project finance; secondary market trading	LOW-MEDIUM
Masala Bonds	Varied	INR-denominated; issued abroad; FX risk on foreign investor	MEDIUM + FX

## 8 Small Saving Instruments — Government Schemes

Scheme	Tenure	Eligibility	Min / Max	Tax Status
PPF (Public Provident Fund)	15 yrs (extend 5yr)	Resident individuals (NOT NRI/HUF)	Rs.500/yr - Rs.1.5L/yr	EEE: 80C + interest tax-free + maturity tax-free
NSC (Natl Savings Cert.)	5 years	Resident individuals (NOT NRI/HUF)	Rs.100 min; no max	EET: 80C; accrued interest deemed reinvested = 80C
SCSS (Senior Citizens SS)	5+3 years	Age 60+ (55+ VRS retirees)	Rs.1,000 - Rs.30L	Principal: 80C; Interest: fully taxable; quarterly payout
POMIS (Post Office MIS)	5 years	Resident individuals	Rs.1,500 - Rs.9L joint	No 80C; monthly interest fully taxable
PO Time Deposit	1/2/3/5 years	Resident individuals (max 2 joint)	Rs.100; no max	5yr TD: 80C eligible; interest taxable
PO Recurring Deposit	5 years	Resident individuals	Rs.10/month; no max	No 80C; interest taxable; quarterly compounding

Scheme	Tenure	Eligibility	Min / Max	Tax Status
Kisan Vikas Patra (KVP)	Doubles at prevailing rate	Resident adults (NOT NRI/HUF)	Rs.1,000; no max	No 80C; interest taxable on accrual basis
Sukanya Samriddhi	21 yrs from opening	Girl child < 10 yrs (guardian opens)	Rs.250 - Rs.1.5L/yr	EEE: 80C + interest tax-free + maturity tax-free
Bank FD (5-year)	5 year lock-in	All resident individuals	Bank minimum; no max	80C upto Rs.1.5L; DICGC insured upto Rs.5L/bank

#### ■ KEY INSIGHT — EEE Tax Status

EEE = Exempt-Exempt-Exempt: Investment (80C) + Interest (tax-free) + Maturity (tax-free) — triple tax benefit.

Only PPF and Sukanya Samriddhi offer true EEE status in India. Best long-term tax-efficient instruments.

NSC: effectively EEE because accrued interest deemed reinvested qualifies for 80C deduction each year.

DICGC insures bank deposits up to Rs.5 lakh per depositor per bank — includes principal + accrued interest.

## ■ CHAPTER 9 — QUICK REVISION: FIXED INCOME & DEBT MARKETS

<b>Bond Price-Yield</b>	Inverse relationship. Interest rates rise → Bond prices fall. Rates fall → Prices rise.
<b>Premium / Discount</b>	Coupon > YTM = Premium (above Rs.100). Coupon < YTM = Discount (below Rs.100). Equal = Par.
<b>YTM</b>	Total annualised return if held to maturity; includes coupons + capital gain/loss + reinvestment.
<b>Macaulay Duration</b>	Weighted average time to receive all cash flows. Longer = more sensitive to rate changes.
<b>Modified Duration</b>	Macaulay Duration / (1+YTM). Approximates % price change per 1% yield change.
<b>Normal Yield Curve</b>	Upward sloping = healthy economy. Long-term rates > short-term rates = typical state.
<b>Inverted Yield Curve</b>	Short-term rates > long-term. Classic recession predictor. Policy rates kept high to curb inflation.
<b>T-Bills</b>	Zero coupon; issued at discount; redeemed at par. 91/182/364 days. RBI weekly auctions.
<b>Commercial Paper</b>	Unsecured short-term corporate borrowing. 7d-1yr. Min 2nd highest rating. Rs.5L minimum.
<b>PPF</b>	15yr; Rs.500-1.5L/yr; EEE; one account per person; no NRI/HUF; extends in 5yr blocks.
<b>SCSS</b>	Age 60+ (55+ VRS). Max Rs.30L. 5+3yr tenure. Quarterly payout. Interest taxable.
<b>Sukanya Samriddhi</b>	Girl child < 10yr. 21yr maturity. EEE. Rs.250-1.5L/yr. 50% withdrawal allowed at age 18.
<b>DICGC Cover</b>	Bank deposits insured upto Rs.5 lakh per depositor per bank (principal + interest combined).
<b>Repo</b>	Sale of G-Sec + agreement to repurchase. Collateralised borrowing. RBI uses for liquidity management.

## &#9632; MCQ PRACTICE — Chapter 9 — Introduction to Fixed Income & Debt Markets

10 Questions | Answers shown below each question

1

When market interest rates RISE, what happens to the price of an existing fixed-rate bond?

- a) The bond price rises proportionally with the interest rate increase
- b) The bond price falls because new bonds offer higher coupons making the existing bond less attractive
- c) The bond price remains unchanged because the coupon is fixed
- d) The bond price becomes equal to its face value (par)

✓ **Answer: b) Bond price FALLS — inverse relationship between price and yield**

This is the most fundamental rule of fixed income. When market rates rise, newly issued bonds offer higher coupons. Existing bonds with lower coupons become less attractive, so their prices FALL to offer competitive yields to new buyers. Bond price and yield always move in OPPOSITE directions.

2

A bond with a 9% coupon rate is trading at Rs. 108 in the market. What can be inferred about the current market yield?

- a) Market yield is exactly 9% because the coupon rate defines the yield
- b) Market yield is above 9% because the bond trades at premium
- c) Market yield is below 9% because the bond trades at premium
- d) Market yield equals 12% because Rs.108 is 12% above Rs.100 face value

✓ **Answer: c) Market yield is BELOW 9% — bond at premium means YTM < coupon rate**

When a bond trades at PREMIUM (above par), it means investors are willing to accept a lower yield than the coupon because the coupon is higher than current market rates. Premium = YTM < Coupon Rate. Discount = YTM > Coupon Rate. Par = YTM = Coupon Rate.

3

Which of the following bonds eliminates REINVESTMENT RISK for the investor?

- a) A callable bond with 10-year maturity
- b) A floating rate bond linked to T-Bill rate
- c) A zero coupon bond held to maturity
- d) A corporate bond rated AAA by CRISIL

✓ **Answer: c) Zero coupon bond held to maturity**

Reinvestment risk is the risk of having to reinvest coupons at lower rates. Zero coupon bonds pay NO intermediate coupons — the investor receives a lump sum at maturity only. With no interim cash flows to reinvest, reinvestment risk is completely eliminated. The return is locked in at purchase.

4

An IL&FS bond holder in 2018 experienced which types of risk materialising simultaneously?

- a) Only inflation risk and liquidity risk
- b) Downgrade risk (AAA to D) and default risk occurring together
- c) Only interest rate risk due to RBI rate hikes
- d) Exchange rate risk because IL&FS had foreign currency bonds

✓ **Answer: b) Downgrade risk + Default risk — both materialised simultaneously**

IL&FS was rated AAA until Aug-Sep 2018 when it was suddenly downgraded to D (Default). Bondholders experienced Downgrade Risk (loss from rating fall → price crash) AND Default Risk (actual non-payment of obligations). This event is a landmark case study on concentration risk and over-reliance on credit ratings.

5

The Macaulay Duration of Bond A is 7 years and Bond B is 4 years. If market interest rates rise by 1%, which bond will experience a GREATER fall in price?

- a) Bond B — shorter duration means more volatility
- b) Bond A — higher duration means greater price sensitivity to rate changes
- c) Both bonds will fall by the same amount
- d) Neither bond changes in price as they are held to maturity

✓ **Answer: b) Bond A — higher Macaulay Duration = greater price sensitivity**

Duration directly measures price sensitivity to interest rate changes. Bond A with duration 7 will fall approximately 7% for a 1% rise in yields, while Bond B with duration 4 falls approximately 4%. Higher duration = higher interest rate risk = greater price volatility. This is the core use of the duration metric.

6

The Reserve Bank of India uses Repo and Reverse Repo rates to implement monetary policy. What is a "Repo" transaction from RBI's perspective?

- a) RBI lending money to banks against collateral of government securities
- b) RBI borrowing money from banks by selling G-Secs with an agreement to repurchase
- c) RBI purchasing foreign exchange to strengthen the Rupee
- d) RBI issuing new Treasury Bills to manage government cash flow

✓ **Answer: a) RBI lending money to banks against collateral of G-Secs**

Repo (from RBI's perspective) = RBI lending money to commercial banks. Banks sell G-Secs to RBI and agree to buy them back at a higher price (incorporating interest). When RBI wants to INJECT liquidity → lowers Repo rate. To WITHDRAW liquidity → raises Repo rate. This is the primary tool of Indian monetary policy transmission.

**7** A 91-day Treasury Bill has a face value of Rs. 100. It is issued at Rs. 97.80.

What is the investor's return?

- a) The investor earns Rs. 2.20 as the discount to face value
- b) The investor earns a 9% annual coupon paid quarterly
- c) The investor earns interest at the prevailing savings bank rate
- d) The investor earns no return — T-Bills are risk-free instruments

✓ **Answer: a) Investor earns Rs. 2.20 — the discount (difference between purchase price and par)**

T-Bills are ZERO COUPON securities. They are issued at a discount to face value and redeemed at par (Rs.100). The investor's return = Face Value - Purchase Price = Rs.100 - Rs.97.80 = Rs.2.20 per unit, annualised to get the yield. This discount is the only return; there are no periodic coupon payments.

**8** Which small savings scheme is EXCLUSIVELY available to a girl child?

- a) PPF (Public Provident Fund)
- b) NSC (National Savings Certificate)
- c) Sukanya Samriddhi Account
- d) Senior Citizens Saving Scheme

✓ **Answer: c) Sukanya Samriddhi Account**

Sukanya Samriddhi Account was launched specifically for the benefit of girl children. It must be opened by a natural/legal guardian for a girl child who is not more than 10 years old. Maximum 2 accounts can be opened (for 2 girl children). It offers EEE tax status and one of the highest interest rates among small savings schemes.

**9** Ananya invested Rs.1.5 lakh in PPF and Rs.1 lakh in NSC. Which statement correctly describes the tax treatment?

- a) Both qualify for 80C but only PPF interest is tax-free; NSC interest is fully taxable
- b) Both qualify for 80C; PPF interest is tax-free; NSC interest accrues but is deemed reinvested
- c) Neither qualifies for 80C as both are government schemes
- d) Only PPF qualifies for 80C; NSC investments do not qualify

✓ **Answer: b) Both qualify for 80C; PPF interest tax-free; NSC accrued interest eligible for 80C**

PPF has EEE status — investment qualifies for 80C AND interest is completely tax-free. NSC interest accrues annually and is technically taxable, but it is deemed to be reinvested and therefore eligible for Section 80C deduction each year until the final year. In the final year, the maturity interest is taxable.

10

A bank fixed deposit holder has Rs.8 lakh deposited in a single bank. The bank fails. How much will the DICGC insure?

- a) Full Rs.8 lakh because DICGC covers all bank deposits
- b) Rs.5 lakh per account, so Rs.5 lakh for the FD account
- c) Rs.5 lakh total across all deposits in that bank (including all accounts and accrued interest)
- d) Nothing — bank FDs are not covered by any government insurance scheme

✓ **Answer: c) Rs.5 lakh total across ALL deposits in that bank**

DICGC (Deposit Insurance and Credit Guarantee Corporation) insures deposits up to Rs.5 lakh per depositor per bank — covering ALL accounts (savings, FD, RD etc.) in that bank combined, including principal and accrued interest. The remaining Rs.3 lakh is uninsured. This is why depositors are advised to diversify across banks for amounts above Rs.5 lakh.

Sneha Rege