

Auditing Course Material

Part 23 of 61 (Chapters 2201-2300)

3. Short-Term Sources

Commercial Paper (CP) is an unsecured, short-term debt instrument issued by large and financially strong companies to meet temporary working capital needs. It is typically issued in the form of a promissory note and has a maturity ranging from 7 days to 1 year. Because CP is unsecured, only companies with high credit ratings can issue it.

Commercial Paper is sold at a discount and redeemed at face value, allowing the issuing company to raise funds at a lower cost compared to bank loans. Investors such as mutual funds, banks, and other financial institutions prefer CP because it is safe, liquid, and offers attractive returns.

This instrument is useful for companies that need quick, low-cost finance and have a strong reputation in the market. However, it is not suitable for small firms or businesses with weak credit profiles.

3. Short-Term Sources

Factoring is a short-term financing method in which a business sells its accounts receivable (customer invoices) to a specialised financial institution called a *factor*. In return, the factor immediately provides a large portion of the invoice value—usually 70% to 90%—as upfront cash. The remaining amount is paid to the business after the customer clears the payment, minus the factor's fees.

Factoring helps companies convert credit sales into instant cash, improving liquidity and reducing the problem of delayed payments. It also allows firms to focus on production and sales instead of following up with customers for collections, as the factor often handles collection services.

This source of finance is useful for businesses with high credit sales, long credit periods, or slow-paying customers. However, it may be costlier than other short-term loans, especially for firms with unstable customer payment patterns.

3. Short-Term Sources

Bill discounting is a short-term financing method where a business receives immediate cash by selling its *Bills of Exchange* to a bank or financial institution at a discount. A Bill of Exchange is a written promise from the buyer to pay the seller at a future date. Instead of waiting for the due date, the seller gets the bill discounted and receives funds instantly.

The bank pays the seller the bill amount minus a discount (interest and charges) and collects the full amount from the buyer on the maturity date. This helps businesses maintain smooth cash flow, especially when sales are made on credit.

Bill discounting is useful for firms with regular credit sales and reliable customers. It reduces the waiting time for payments and ensures continuous working capital. However, banks may refuse to discount bills if the buyer has poor creditworthiness.

3. Short-Term Sources

Inter-corporate loans are short-term loans that one company provides to another company, usually for a period of a few months. These loans help businesses manage temporary cash shortages without approaching banks or financial institutions. Large companies that have surplus funds often lend to smaller firms or group companies to earn interest on idle cash.

These loans are typically unsecured and are based on trust, business relationships, or group ownership. The interest rates and repayment terms are mutually decided between the companies. Because the process is simple and quick, inter-corporate loans are useful for urgent working capital needs.

However, such loans involve higher risk for the lending company, especially if the borrowing firm has weak financial stability. Therefore, they are usually given to companies with reliable cash flows or within the same corporate group.

3. Short-Term Sources

A Letter of Credit (LC) is a short-term financing and payment assurance tool commonly used in domestic and international trade. It is issued by a bank on behalf of a buyer, guaranteeing that the seller will receive payment once the seller submits the required shipping or delivery documents. This removes the risk of non-payment for the seller.

For the buyer, an LC makes it easier to purchase goods even if immediate cash is not available, as the bank guarantees payment. The seller, in turn, feels more secure and may even offer better credit terms because the bank replaces the buyer's creditworthiness.

Letters of Credit are especially useful for businesses engaged in large transactions or foreign trade, where trust, distance, and unfamiliar regulations increase payment risk. However, banks charge fees for issuing and handling LCs, and compliance with documentation must be strictly followed.

4. Medium-Term Sources

Medium-term sources of finance are funds borrowed for a period between **one and five years**. These sources are mainly used for acquiring assets that have a moderate life span, such as machinery, vehicles, equipment, furniture, and technology upgrades. They are also commonly used for business expansion, renovation, and modernisation projects that do not require long-term investment.

Medium-term finance fills the gap between short-term working capital needs and long-term capital investments. It provides businesses with enough time to generate returns from the assets purchased and repay the borrowed amount in manageable instalments. Compared to short-term financing, medium-term sources offer more stability and structured repayment schedules, making them suitable for planned business activities.

Companies usually select these sources when they need reliable funding for projects that will generate revenue in a few years but are not large enough to require long-term financing. Banks and financial institutions evaluate the firm's creditworthiness, asset value, cash flows, and repayment capacity before offering these facilities.

The main medium-term sources of finance include:

- Term loans
 - Hire purchase
 - Leasing
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4. Medium-Term Sources

A term loan is a medium-term financing option provided by banks and financial institutions for purchasing fixed assets such as machinery, equipment, vehicles, or for funding expansion projects. These loans are normally sanctioned for a period of **1 to 5 years**, with repayment made in regular instalments.

Term loans offer structured and predictable repayment schedules, which help businesses plan their cash flows effectively. They may be secured by collateral such as machinery, property, or other business assets. The interest rate can be fixed or variable, depending on the agreement between the borrower and the lender.

This type of financing is suitable for companies that require funds for projects expected to generate returns in the near future. Term loans are commonly used for capacity expansion, technology upgrades, and modernisation initiatives. However, businesses must ensure stable cash flow to meet regular instalment payments.

Overall, term loans provide reliable and moderately long-term support for planned investments without causing excessive financial burden.

4. Medium-Term Sources

Hire purchase is a medium-term financing method that allows a business to acquire an asset by paying for it in instalments over a fixed period. The company gets immediate possession of the asset—such as machinery, vehicles, or equipment—but legal ownership is transferred only after the final instalment is paid.

Under this arrangement, the business (hirer) pays an initial down payment followed by periodic instalments that include both principal and interest. If the hirer fails to make payments, the seller or finance company has the right to repossess the asset. This reduces risk for the lender and makes hire purchase accessible even to businesses with limited upfront funds.

Hire purchase is useful for companies that want to use assets immediately without making a full upfront investment. It helps preserve cash flow while enabling expansion and operational growth. However, the total cost may be higher than outright purchase due to interest and charges.

4. Medium-Term Sources

Leasing is a medium-term financing option in which a business obtains the right to use an asset—such as machinery, vehicles, or equipment—by paying periodic rental charges to the owner, known as the lessor. Unlike hire purchase, the business (lessee) never becomes the legal owner of the asset; ownership remains with the lessor throughout the lease term.

There are two main types of leases: **operating lease** and **financial lease**. An operating lease is short and flexible, often used for assets requiring frequent upgrades. A financial lease is longer in duration and covers most of the asset's useful life. In both cases, leasing allows businesses to avoid large upfront payments and preserve working capital.

Leasing is beneficial for companies that need expensive assets but prefer not to invest heavily in ownership. It also offers tax benefits, reduces maintenance burden in some cases, and allows businesses to stay technologically updated. However, long-term leasing may result in higher overall costs compared to purchasing an asset outright.

5. Long-Term Sources

Long-term sources of finance refer to funds borrowed or invested in a business for a period exceeding **five years**. These sources are essential for financing major capital expenditures such as setting up new plants, expanding operations, purchasing large machinery, entering new markets, or undertaking strategic investments. They form the backbone of a company's capital structure and support long-term growth.

Long-term finance is crucial because large projects require significant investment and time to generate returns. These funds help businesses spread repayment over many years, reducing the financial burden. They also provide stability, as companies do not need to repay the amount immediately. The choice of long-term financing affects ownership, cost of capital, risk, and control, making it an important area of financial decision-making.

Companies may raise long-term funds through equity, debt, internal reserves, or foreign investment sources. Equity financing strengthens the capital base but may dilute ownership, while debt financing provides tax benefits but requires regular interest payments. Internal sources like retained earnings reduce financial dependence but are limited in availability. International options such as External Commercial Borrowings (ECB) and Foreign Direct Investment (FDI) support large-scale expansion and globalisation efforts.

The major long-term sources of finance include:

- **Equity shares**
 - **Preference shares**
 - **Debentures/bonds**
 - **Retained earnings**
 - **Venture capital**
 - **Private equity**
 - **Long-term loans from banks and financial institutions**
 - **External Commercial Borrowing (ECB)**
 - **Foreign Direct Investment (FDI)**
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5. Long-Term Sources

Equity shares represent ownership in a company. When a business issues equity shares, it raises long-term capital from investors who become part-owners of the organisation. Equity shareholders have voting rights, share in the company's profits through dividends, and benefit from the appreciation in share value.

Equity financing is one of the most important long-term sources of finance because it provides permanent capital that does not need to be repaid. This reduces financial pressure on the business, especially during early growth stages or expansion. However, issuing new shares dilutes ownership and control, as decision-making power is shared with more investors.

The cost of equity is relatively high because shareholders expect higher returns for taking greater risk. Unlike debt, equity dividends are not tax-deductible, and companies are not legally required to pay dividends every year. Despite this, equity shares are widely used for projects requiring large investments, long gestation periods, and strong growth potential.

Equity financing is suitable for startups, expanding companies, and businesses planning to enter new markets or develop new products. It strengthens the capital structure and helps build a stable financial base for long-term operations.

5. Long-Term Sources

Preference shares are a type of long-term financing that combines features of both equity and debt. Investors who buy preference shares receive a **fixed dividend** and have priority over equity shareholders when it comes to receiving dividends and repayment during liquidation. However, they generally **do not have voting rights** in the company.

From the company's perspective, preference shares provide long-term funds without diluting control, as preference shareholders do not participate in management decisions. They also offer flexibility because dividends on preference shares do not create a compulsory financial burden—if profits are insufficient, dividends may be postponed (in the case of cumulative preference shares).

For investors, preference shares offer regular and stable returns with lower risk compared to equity. These shares come in various forms, such as cumulative, non-cumulative, redeemable, and convertible, depending on the company's needs.

Preference shares are suitable for businesses seeking long-term capital without giving up control, or for companies with fluctuating profits that prefer flexible dividend obligations. However, the fixed dividend makes preference shares costlier than debt in some cases.

5. Long-Term Sources

Debentures and bonds are long-term debt instruments used by companies to raise funds from the public, financial institutions, or other investors. When a company issues debentures or bonds, it promises to repay the borrowed amount on a specified date and pay regular interest at a fixed or floating rate. These instruments do not provide ownership rights, so the lender does not participate in management or decision-making.

Debentures may be **secured or unsecured**, while bonds are typically considered more secure and may have additional features such as convertibility or call/put options. Because interest payments are tax-deductible, debt financing through debentures and bonds often costs less than raising capital through equity.

These instruments are suitable for companies with stable cash flows and strong creditworthiness, as they must meet periodic interest commitments. They are commonly used for large projects, infrastructure development, expansion activities, or refinancing old loans.

Investors prefer debentures and bonds because they provide fixed, predictable returns with lower risk compared to equity. However, excessive dependence on debt may increase a company's financial risk and affect its credit rating.

5. Long-Term Sources

Retained earnings are the portion of a company's profits that are kept within the business rather than distributed to shareholders as dividends. Over time, these accumulated profits become an important internal source of long-term finance. Companies use retained earnings to fund expansion, purchase new assets, repay debt, or support research and development.

Retained earnings are considered the **cheapest source of finance** because they do not involve interest payments, issue costs, or dilution of ownership. They also strengthen the company's financial stability and reduce dependence on external borrowings. Using internal funds demonstrates managerial confidence and can improve the company's creditworthiness.

However, retained earnings depend entirely on profitability, and not all companies can generate sufficient surplus. Excessive retention may also dissatisfy shareholders who expect regular dividends. Therefore, companies must maintain a balance between dividend payments and profit retention.

Retained earnings are most suitable for firms with consistent profits, long-term growth plans, and a desire to maintain independence from external financing.

5. Long-Term Sources

Venture capital (VC) is a long-term source of finance provided to **early-stage, high-potential, and innovative businesses**. Venture capitalists invest funds in startups that have strong growth prospects but lack collateral or a proven financial track record. In return, they receive an equity stake in the company and often participate actively in strategic decisions.

VC funding is especially useful for technology-driven startups, research-intensive companies, and innovative business models that require significant initial investment. Along with capital, venture capitalists provide mentorship, industry connections, managerial support, and guidance to accelerate business growth.

Venture capital is high-risk for investors because many startups fail; however, successful ventures can generate extraordinary returns. For companies, VC funding provides essential financial support during the development and expansion phases, but it also results in loss of control, as venture capitalists expect board positions and decision-making authority.

Venture capital is most suitable for businesses with scalable models, rapid growth potential, and a clear competitive advantage.

5. Long-Term Sources

Private equity (PE) is a long-term financing option where investment firms, high-net-worth individuals, or institutional investors invest large amounts of capital in established companies with strong growth potential. Unlike venture capital, which focuses on early-stage startups, private equity typically targets **mid-sized or mature businesses** that need funds for expansion, restructuring, or strategic transformations.

PE investors usually acquire a significant ownership stake, sometimes even full control of the company. Their goal is to improve the business's performance through operational efficiency, strategic realignment, or financial restructuring, and then sell their stake at a profit after a few years. Private equity funds actively participate in management and expect measurable performance improvements.

For companies, private equity offers not just capital but also managerial expertise, industry insights, and access to global networks. However, it involves dilution of ownership and significant influence from investors, who expect high returns within a fixed timeframe.

Private equity is suitable for businesses undergoing expansion, turnaround situations, management buyouts, or those seeking large-scale long-term investment for growth.

5. Long-Term Sources

Long-term loans from banks and financial institutions are a common source of finance for companies undertaking major capital investments such as setting up new plants, purchasing heavy machinery, expanding production capacity, or entering new markets. These loans typically have a repayment period extending beyond **five years**, with structured instalments.

Banks and financial institutions evaluate the company's creditworthiness, project feasibility, cash flows, and collateral before sanctioning the loan. The loans may be secured against fixed assets such as property, machinery, or land. Interest rates may be fixed or floating, depending on market conditions and the borrower's risk profile.

Long-term loans provide stability because the repayment is spread over several years, allowing the business to generate returns gradually from the investment. They also offer tax benefits, as interest payments are tax-deductible. However, companies must maintain steady cash flows to meet long-term commitments, and high levels of debt may increase financial risk.

These loans are most suitable for large, capital-intensive projects and for businesses with predictable income patterns and strong financial discipline.

5. Long-Term Sources

External Commercial Borrowing (ECB) refers to long-term loans raised by Indian companies from foreign lenders such as international banks, export credit agencies, foreign financial institutions, and global capital markets. ECB provides access to large funds at competitive interest rates, often lower than domestic borrowing costs.

ECB is commonly used for financing large infrastructure projects, expansion of industrial capacity, import of capital goods, refinancing existing loans, or investing in new ventures abroad. The borrowing terms, including maturity, interest rate, and end-use restrictions, are regulated by the Reserve Bank of India (RBI) to ensure financial stability.

Companies prefer ECB because it provides access to foreign currency loans, longer repayment periods, and potentially lower cost of capital. However, it also exposes the business to **foreign exchange risk**, as repayment must often be made in foreign currency. Fluctuations in exchange rates may significantly increase repayment costs.

ECB is suitable for financially strong companies with stable cash flows, capable management, and long-term project plans requiring substantial capital investment.

5. Long-Term Sources

Foreign Direct Investment (FDI) refers to long-term investment made by a foreign company, individual, or institution into an Indian business. In FDI, the foreign investor acquires a substantial ownership stake and often participates in management, technology transfer, and strategic decision-making. It is considered one of the strongest and most stable forms of long-term finance.

FDI brings more than just capital—it introduces advanced technology, managerial expertise, global best practices, and access to international markets. Many sectors such as manufacturing, infrastructure, services, and technology benefit significantly from FDI inflows. Depending on the sector, FDI may be allowed through the automatic route or require government approval.

For companies, FDI offers large-scale funding without increasing debt burden, as it does not require interest payments. However, it results in dilution of ownership and increased foreign influence on business decisions. The process may also involve regulatory compliance, due diligence, and negotiation of shareholder agreements.

FDI is most suitable for businesses seeking expansion, modernisation, technological upgradation, or partnerships with global companies to enhance competitiveness.

6. Scenarios and Suitable Funding Types

Choosing the right source of finance is one of the most important decisions for any business. Each situation demands a different type of funding depending on the amount required, time horizon, risk, cost, and urgency. The following scenarios illustrate how companies select the most appropriate source of finance:

1. Startup Launching a New Product

A startup developing a new app or innovative service usually needs funds for product development, marketing, and team building. Since it lacks collateral and has uncertain cash flows, traditional bank loans are difficult to obtain.

Suitable Sources:

- Venture Capital
- Angel Investment
- Equity Shares
- Incubation/Seed Funding

These sources provide risk capital along with mentorship and industry support.

2. Manufacturing Firm Needing Working Capital

A mid-sized manufacturing company may face delays in customer payments while needing immediate funds for raw materials and wages.

Suitable Sources:

- Trade Credit
- Cash Credit
- Bank Overdraft
- Factoring
- Bill Discounting

These sources provide quick liquidity and help manage daily operations.

3. Company Expanding Production Capacity

A stable company planning to buy new machinery or expand its plant requires predictable, long-term financing.

Suitable Sources:

- Term Loans
- Long-Term Loans from Banks/FIs
- Debentures/Bonds
- Retained Earnings

These instruments offer structured repayment and lower cost compared to equity.

4. Retail Business Facing Seasonal Demand

A retail business with high seasonal sales may need additional stock before festivals or peak periods.

Suitable Sources:

- Working Capital Loan
- Cash Credit
- Trade Credit
- Commercial Paper (if credit rating is strong)

Short-term financing ensures timely inventory procurement.

5. Large Infrastructure or Technology Project

Infrastructure, telecom, or power companies require massive investments for long-term projects.

Suitable Sources:

- External Commercial Borrowing (ECB)
- FDI Investments
- Debentures/Bonds
- Long-Term Bank Loans
- Private Equity

These funds support large-scale, long-gestation projects.

6. Company Planning Market Expansion or Acquisition

A business entering new markets or acquiring another firm needs flexible, large, long-term funds.

Suitable Sources:

- Private Equity
- FDI
- Equity Shares (Public Issue)
- Venture Capital (for high-growth phases)

Such sources provide strategic support and do not require fixed interest payments.

7. Business Under Temporary Cash Flow Stress

A firm experiencing a short-term payment mismatch needs immediate liquidity without long-term obligations.

Suitable Sources:

- Bank Overdraft
- Bill Discounting
- Factoring
- Inter-Corporate Loans

These options help in quick cash management and stabilising operations.

8. Company Modernising Technology

A business upgrading its systems, automation, or digital infrastructure needs medium to long-term funds.

Suitable Sources:

- Term Loans
- Leasing
- Hire Purchase
- Retained Earnings

These sources reduce upfront cost and support smooth technological improvement.

7. Contemporary sources of Funding

Modern businesses operate in a highly competitive and technology-driven environment. Traditional sources such as bank loans, equity shares, and debentures continue to be important, but companies now also rely on *contemporary or non-traditional sources of finance* that offer flexibility, innovation, and wider access to capital. These modern funding options are especially useful for startups, digital businesses, high-growth companies, and firms seeking faster and more customised financing solutions.

Contemporary sources of funding combine technology, alternative investment platforms, specialised financial products, and global capital flows. They are designed to meet the evolving needs of businesses that require quick, scalable, and less rigid financing options. These sources often rely on digital platforms, investor networks, and market-based mechanisms rather than traditional banking channels.

Key contemporary sources of funding include:

1. Crowdfunding

Crowdfunding allows businesses to raise small amounts of money from a large number of people through online platforms. It can be reward-based, donation-based, or equity-based. Crowdfunding is ideal for startups, creative projects, and early-stage ideas that need visibility along with funding.

2. Peer-to-Peer (P2P) Lending

P2P lending platforms connect borrowers directly with individual lenders, bypassing banks. Loans are typically unsecured and processed faster. P2P lending is popular among small businesses that need quick, short-term finance without strict banking requirements.

3. Angel Funding

Angel investors are wealthy individuals who invest their personal money in early-stage startups in exchange for equity. They offer not only funding but also mentorship, industry contacts, and strategic advice. Angel funding is suitable for innovative or technology-based startups.

4. Venture Debt

Venture debt is a loan provided to startups that are already backed by venture capital. Unlike bank loans, it does not require collateral and is used for extending runway, buying equipment, or managing working capital. It is less dilutive than equity.

5. Revenue-Based Financing

In this model, investors provide capital in exchange for a percentage of future monthly revenues. Repayments adjust based on actual business performance, making it suitable for predictable-revenue businesses like SaaS, D2C brands, and subscription-based companies.

6. Business Incubators and Accelerators

Incubators and accelerators support startups with seed funding, mentorship, office space, networking, and training programs. In return, they may take a small equity stake. These programs help early-stage ventures refine their business models and scale faster.

7. Asset-Backed Securitisation

Companies convert assets such as receivables, loans, or cash flows into marketable securities and sell them to investors. This method is common in financial institutions and large companies needing liquidity without traditional borrowing.

8. Initial Coin Offerings (ICOs) / Tokenisation

Technology-driven ventures use blockchain to issue digital tokens to investors. These tokens may represent rights, utility, or future value. ICOs gained popularity among tech startups but come with high regulatory and market risks.

9. Green Financing / Sustainability Funding

Businesses focusing on renewable energy, clean technology, and environmental projects raise funds through:

- Green bonds
- Sustainability-linked loans
- Government green funds

These sources support eco-friendly and socially responsible initiatives.

1. Need for Private Equity and Venture Capital

High-growth companies—especially in technology, biotechnology, logistics, SaaS—need money not for assets alone, but for *experiments, product development, team building, and customer acquisition*.

These activities take time to generate revenue.

So they need *long-term* capital that allows them to burn cash in the early years.

Flipkart lost money for 8 years before reaching breakeven. Such businesses cannot survive on short-term bank loans.

Banks lend against collateral. Start-ups have no collateral, no steady cash flow, no track record, and a high failure rate. So banks simply cannot fund them under their risk guidelines.

If Ola or Zomato went to a bank in 2010, no bank would give them a loan. Why? No assets, no profits, only an idea.

PE/VC firms do not just give money—they provide:

- mentorship
- industry connections
- governance
- strategic guidance
- access to networks

This combination of *capital + expertise* dramatically increases the chance of survival.

Sequoia did not just invest in Byju's—they helped with professionalising management and expansion.

VC funding is the lifeblood of the innovation ecosystem.

Almost every disruptive product we use today—Google, Facebook, Uber—started with VC money.

Without risk capital, innovation slows down, and economies stagnate.

2. Introduction

Private Equity (PE)

Private Equity refers to investment in privately held companies or in publicly listed companies that are taken private. PE investments are made in established firms that require capital for expansion, restructuring, acquisitions, or operational improvement. These investments are typically large, long-term, and involve significant managerial involvement by investors.

Venture Capital (VC)

Venture Capital is a specialised form of private equity that focuses on early-stage, innovative, high-growth potential start-ups. VC funds provide financing to young companies that lack access to capital markets but have promising business ideas. The risk is high, but so is the potential return.

Distinction Between PE and VC

While both are forms of private market investing, they differ in **stage**, **risk**, and **investment size**. VC invests in early-stage firms with unproven but innovative ideas, whereas PE invests in mature companies with stable operations. VC deals are small, risky, and equity-heavy, while PE deals involve large amounts of capital, complex financial structuring, and often use leverage.

Role and Importance

PE and VC play a crucial role in economic growth. They enable entrepreneurship, innovation, job creation, and competitiveness. PE investors help companies scale business operations, improve efficiency, and strengthen governance. VC investors support the start-up ecosystem by funding technological breakthroughs and new business models.

Key Participants

The private equity and venture capital ecosystem includes:

- **General Partners (GPs):** The fund managers who raise capital, make investment decisions, and manage the portfolio.
 - **Limited Partners (LPs):** Investors who contribute capital but do not participate in day-to-day management (e.g., pension funds, sovereign wealth funds, endowments, family offices).
 - **Portfolio Companies:** The businesses receiving PE/VC investments.
 - **Advisors and intermediaries:** Investment bankers, consultants, auditors, and legal experts supporting transactions.
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3. Types of Funds

Private Equity and Venture Capital funds operate through different strategies depending on the stage of the business, the risk appetite of investors, and the return expectations. This page explains the major classifications of PE and VC funds, their structures, and their funding sources.

Types of Private Equity (PE) Funds

Private Equity funds generally invest in established companies that require capital for expansion, restructuring, or ownership transition. Key types include:

1. Growth Equity Funds

These funds invest in mature companies that are profitable but need capital for scaling operations, entering new markets, or developing new products. They usually take minority stakes and focus on long-term value creation.

2. Buyout Funds

Buyout funds acquire controlling stakes in established companies. The acquisition may be financed through a mix of equity and debt (leveraged buyouts). The goal is to improve performance and eventually exit at a higher valuation.

3. Distressed or Special Situations Funds

These funds invest in financially troubled companies, firms undergoing restructuring, or businesses available at deep discounts. The objective is to turn around operations and revive profitability.

Types of Venture Capital (VC) Funds

Venture Capital funds primarily invest in young, innovative, and high-growth potential startups. VC funds are categorized based on the stage of the company:

1. Seed Funds

Seed funds provide very early-stage capital to support idea validation, prototype building, and initial product development. Risk is highest at this stage.

2. Angel Funds

Investments made by high-net-worth individuals or angel networks in early-stage ventures. They provide both funding and mentorship.

3. Early-Stage Funds

These funds invest when the startup has an initial product and early customer traction. The capital is used for product refinement and market expansion.

4. Late-Stage Funds

These invest in startups that have achieved significant revenues and are approaching profitability. The funds support scaling, acquisitions, and preparation for IPO.

Fund Structure in PE/VC

Both PE and VC funds typically follow a **Limited Partnership (LP–GP)** structure:

1. Limited Partners (LPs)

LPs are investors who contribute the majority of the capital. They have limited liability and do not participate in day-to-day management. LPs expect high-risk-adjusted returns.

Sources of Funds for PE/VC

PE and VC funds raise money from large institutional and individual investors. Major sources include:

- **Pension Funds:** Large retirement funds seeking long-term growth.
 - **Sovereign Wealth Funds (SWFs):** Government-owned investment pools.
 - **University Endowments:** Long-horizon funds with high-risk appetite.
 - **Family Offices & HNIs:** Wealthy individuals and family-managed investment arms.
 - **Insurance Companies:** Invest for diversification and higher long-term returns.
 - **Corporate Venture Capital (CVC):** Companies investing in startups aligned with their strategic interests.
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4. Stages of Venture Capital Financing

Venture Capital financing is structured into multiple stages, each aligned to the developmental needs, growth potential, and risk profile of a start-up or early-stage enterprise. These stages allow investors to deploy capital progressively, monitor progress, and manage risk through staged commitments.

1. Seed Stage Financing

Seed-stage financing is the earliest form of VC support, provided to validate a business idea or concept. Funds are typically used for preliminary research, product ideation, feasibility studies, and prototype development. This stage involves the highest level of uncertainty because commercial viability is yet to be established.

2. Start-up Stage Financing

Start-up financing is offered when the business has moved beyond the idea phase and is preparing to commence operations. The investment supports activities such as product development, initial marketing, hiring essential personnel, and establishing basic operational systems. The key purpose is to help the enterprise enter the market for the first time.

3. First-Round (Early Growth) Financing

This stage involves funding enterprises that have developed a functional product or service and may have acquired initial customers. The capital is used for scaling production, strengthening marketing efforts, enhancing technology, and building operational capabilities. First-round financing marks the transition from concept development to structured business expansion.

4. Second-Round (Expansion) Financing

Second-round financing is provided to firms that have begun generating revenue but have not yet achieved profitability. Funds are used to support operational continuity, expand customer acquisition, improve product offerings, and enter new markets. This stage helps accelerate growth and build a sustainable business model.

5. Third-Round (Mezzanine) Financing

Mezzanine financing is extended to companies that are profitable or nearing profitability and preparing for substantial expansion. It may support large-scale investments such as capacity expansion, entry into new geographies, strategic acquisitions, or major technological upgrades. This stage bridges the gap between pure venture capital and traditional debt or equity financing.

6. Fourth-Round (Bridge) Financing

Bridge financing is typically the final funding round prior to an Initial Public Offering (IPO). It provides short-term capital to cover expenses related to regulatory compliance, legal documentation, underwriting costs, and working capital needs during the transition to a public company. This stage ensures stability and readiness for listing on public markets.

5. Investment Process

The investment process in Private Equity (PE) and Venture Capital (VC) is a structured sequence of activities through which funds identify, evaluate, invest in, and support promising businesses. Although the exact flow may vary across funds, most PE/VC firms follow a systematic approach to ensure disciplined decision-making and effective risk management.

Deal Sourcing

Deal sourcing refers to the process of identifying potential investment opportunities. PE/VC firms develop strong networks with entrepreneurs, investment bankers, incubators, accelerators, consultants, and industry experts. They also use proactive methods such as industry research, outreach programs, and participation in business events to create a steady pipeline of deals.

Screening and Evaluation

Once opportunities are identified, firms conduct an initial screening to assess the strategic fit. This involves reviewing the business model, competitive positioning, size and growth of the target market, scalability potential, and quality of the management team. Only a small fraction of deals move forward to detailed evaluation.

Due Diligence

Due diligence is a comprehensive examination of various aspects of the target company.

PE/VC firms typically conduct:

- **Business Due Diligence:** Analysis of industry outlook, business model sustainability, customer base, supply chain, and operational processes.
- **Financial Due Diligence:** Examination of historical financial statements, revenue drivers, margins, cash flows, and projections.
- **Legal Due Diligence:** Verification of ownership structure, contracts, intellectual property rights, regulatory compliance, and potential legal liabilities.
- **Technical Due Diligence:** Assessment of technology stack, innovation capability, product roadmap, and technical risks (especially relevant for tech startups).

Due diligence helps investors understand opportunities, risks, and conditions that need to be incorporated into the investment terms.

Term Sheet and Negotiation

If the due diligence results are favourable, investors issue a term sheet.

A term sheet is a non-binding document that outlines key commercial and governance terms of the proposed investment, such as:

- Investment amount
- Valuation
- Ownership stake
- Rights and preferences
- Board representation
- Exit conditions

Negotiations take place to align expectations of both the investor and the entrepreneur. Once agreed, legally binding agreements are drafted.

Valuation Approaches in PE/VC

Valuation in PE/VC is challenging because many early-stage firms lack stable revenues or profits. Common valuation approaches include:

- **Discounted Cash Flow (DCF)**
- **Comparable Company Analysis (Comps)**
- **Comparable Transaction Analysis**
- **Venture Capital Method**
- **Scorecard and Berkus methods (primarily for early-stage startups)**

Valuation determines how much equity an investor receives in exchange for capital.

Investment Instruments

PE/VC funds use various instruments to structure investments based on risk and growth potential:

- **Equity Shares** (ownership stake)
- **Preference Shares** (with preferential rights)
- **Compulsorily Convertible Preference Shares (CCPS)**
- **Convertible Notes / Convertible Debentures**
- **Participating preference shares**

These instruments protect investors while supporting the company's capital requirements.

Staging and Tranching of Investments

PE/VC investments are often divided into stages (seed, early, growth, expansion) and tranches (parts released based on milestones). This ensures that:

- Capital is allocated efficiently
- The startup meets agreed performance benchmarks
- Investor risk is minimised
- Founders remain accountable and focused

Staged financing is a core pillar of venture capital methodology.

6. Post Investment Process

Once an investment is made, private equity (PE) and venture capital (VC) firms actively monitor the performance of the portfolio company. Monitoring involves regular interaction with the management team, reviewing financial statements, tracking key performance indicators (KPIs), and assessing operational progress. PE/VC investors typically evaluate whether the business is meeting the milestones agreed upon at the time of investment, such as revenue targets, customer acquisition metrics, cost efficiencies, or product development timelines. Continuous monitoring helps identify emerging issues early and ensures that corrective strategies can be implemented promptly.

Governance Mechanisms

Governance is a crucial mechanism through which PE/VC investors protect their interests and influence strategic decisions. Investors often obtain **board seats**, enabling them to participate directly in decision-making processes. They may also secure **voting rights**, protective provisions, and veto powers regarding key matters such as raising new capital, altering share structures, appointing senior management, or undertaking major acquisitions. These governance tools create accountability and ensure that the company's direction remains aligned with long-term value-creation objectives.

Value Creation Levers

PE/VC firms actively support portfolio companies to enhance their strategic and operational capabilities. One key lever is **strategic guidance**, where investors assist in refining business models, entering new markets, or forming partnerships. Another lever is **operational improvement**, such as optimizing supply chains, improving cost structures, or enhancing product quality. Many investors also emphasize **professionalisation**, helping startups or family-run businesses adopt stronger financial controls, better HR practices, and improved corporate governance frameworks. These interventions expand the company's long-term growth potential and strengthen competitiveness.

Risk Management in PE/VC Investments

PE/VC investments carry significant risks, including business risk, market volatility, regulatory uncertainties, and execution challenges. Investors manage these risks through portfolio diversification, structured investment instruments, staged funding, and strict due-diligence processes. They may also use contractual protections such as liquidation preferences, anti-dilution rights, and covenants to safeguard downside risk. Continuous engagement with the management team further helps mitigate operational and financial risks throughout the investment horizon.

Performance Measurement Metrics

Performance evaluation in PE/VC investing relies on specific financial metrics that reflect both returns and capital efficiency. A key metric is the **Internal Rate of Return (IRR)**, which measures the annualized return generated by an investment over time. Another commonly used measure is the **Multiple on Invested Capital (MOIC)**, which compares the total value of returns to the capital originally invested. **Distributions to Paid-In Capital (DPI)** assesses realized returns, while **Total Value to Paid-In Capital (TVPI)** includes both realized and unrealized gains. Together, these metrics provide a comprehensive picture of fund performance and help investors assess long-term value creation.

7. Exit Strategies

An exit in Private Equity (PE) and Venture Capital (VC) refers to the process through which investors sell their ownership stake in a portfolio company. Exits are essential because PE/VC funds are closed-ended vehicles, and investors receive returns only when the fund successfully realises (exits) its investment. A well-timed exit determines the overall profitability and performance metrics of the fund.

Types of Exit Strategies

1. Initial Public Offering (IPO)

An IPO involves offering the company's shares to the public through a stock exchange. It is considered a prestigious exit route as it often provides high valuation and increases liquidity. IPOs are more suited for companies that have achieved scale, maturity, and strong financial performance.

2. Strategic Sale

A strategic sale refers to selling the company to another business operating in the same or related industry. The acquiring firm sees strategic advantages such as market expansion, technology acquisition, or cost synergies. Strategic sales often provide attractive valuations.

3. Secondary Sale

In a secondary sale, the PE/VC investor sells its stake to another financial investor, such as another PE fund. This route is common when the portfolio company still has growth potential but the current investor has reached the end of its fund life.

4. Buyback by Promoters

Under this method, the original promoters or founders repurchase the equity held by the investor. This exit route is suitable when promoters want to regain ownership control and when the company is generating stable cash flows to finance the buyback.

5. Sale to Another PE/VC Fund (Tertiary/Quaternary Sale)

In some cases, the stake may be transferred multiple times across different PE/VC funds at different stages of the company's lifecycle. Each fund enters at a different valuation based on its investment strategy and risk appetite.

6. Write-Off or Liquidation

This is the least desirable exit route. It occurs when the company fails to perform, becomes insolvent, or cannot attract buyers. The investor writes off its investment, resulting in a financial loss.

Factors Influencing Choice of Exit

- **Market conditions:** IPOs and strategic sales depend heavily on investor sentiment, industry outlook, and stock market stability.
 - **Company maturity and performance:** Larger, profitable companies are more suited for IPOs; smaller firms may exit through sales.
 - **Fund life cycle:** Funds nearing closure may prefer quicker routes like secondary sales.
 - **Regulatory environment:** Policies affecting foreign investment or sectoral restrictions can influence exit options.
 - **Valuation expectations:** Investors choose the route that provides the best risk-adjusted return.
 - **Promoter willingness:** In India, promoter attitudes and negotiation play a significant role in buybacks and strategic sales.
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8. Regulatory Framework in India

The Private Equity (PE) and Venture Capital (VC) industry in India operates within a structured regulatory environment designed to ensure transparency, investor protection, and orderly growth of alternative investment markets. Several agencies such as SEBI, RBI, and the Ministry of Finance play crucial roles in governing fund registration, investment routes, compliance requirements, and cross-border capital flows.

Role of SEBI

The Securities and Exchange Board of India (SEBI) is the principal regulator overseeing PE and VC funds. Its mandate includes:

- Registering and regulating Alternative Investment Funds (AIFs).
- Protecting investor interests through disclosure and reporting requirements.
- Supervising fund operations, governance norms, investment limits, and risk management practices.
- Ensuring fair market conduct, preventing fraud, and promoting transparency in private market transactions.

SEBI provides the legal framework within which PE/VC funds must operate, making it the central authority for the Indian alternative investment ecosystem.

SEBI (Alternative Investment Funds) Regulations, 2012

SEBI introduced the AIF Regulations, 2012, to classify and regulate privately pooled investment vehicles. Under these regulations, PE and VC funds are registered under **three categories**:

Category I AIF

Includes funds that invest in socially or economically desirable sectors such as:

- Venture Capital Funds
- Angel Funds
- SME Funds
- Social Venture Funds
- Infrastructure Funds

These funds receive incentives or concessional treatment because they drive economic development.

Category II AIF

Includes funds that do not fall under Category I or III and do not employ complex leverage.

Examples:

- Private Equity Funds
- Debt Funds
- Fund of Funds (FoF)

These form the largest segment of PE investments in India.

Category III AIF

Includes funds that employ diverse or complex trading strategies and may use leverage.

Examples:

- Hedge Funds
- Long-short Funds

Regulations are stricter due to higher risk profiles.

FEMA Provisions for Foreign Investment (FDI/FPI)

Foreign investment into Indian PE/VC funds is regulated through the **Foreign Exchange Management Act (FEMA)**, administered by RBI.

Key provisions include:

- **FDI Route:** Foreign investors can contribute to the capital of AIFs subject to FEMA and RBI guidelines.
- **FPI Route:** Foreign Portfolio Investors may invest in listed securities or eligible instruments but require registration as FPIs.
- **Downstream Investment Rules:** If the AIF has foreign ownership above the prescribed threshold, its investments are treated as indirect foreign investment and must follow sectoral caps and conditions.
- **Valuation norms:** Investments must follow internationally accepted pricing guidelines to ensure fair valuation and avoid capital flight.

FEMA regulations ensure that foreign capital entering PE/VC ecosystems follows India's macroeconomic and strategic interests.

9. Emerging Trends

The landscape of Private Equity (PE) and Venture Capital (VC) is evolving rapidly due to changes in global capital flows, technological advancements, regulatory developments, and investor preferences. These emerging trends influence how funds raise capital, evaluate opportunities, create value, and exit investments. Understanding these trends is essential for MBA students as they reflect the future direction of the investment ecosystem.

1. ESG Investing (Environmental, Social & Governance)

ESG investing has become a major theme in PE/VC decision-making. Investors increasingly expect funds to consider environmental sustainability, social responsibility, and governance standards while evaluating companies.

Many global pension funds and sovereign wealth funds prefer deploying capital into funds that have strong ESG frameworks. As a result, PE/VC firms now integrate ESG metrics into due diligence, risk assessment, and portfolio monitoring. ESG compliance is also seen as enhancing long-term value creation.

2. Impact Investing

Impact investing focuses on funding enterprises that generate measurable social or environmental benefits alongside financial returns.

Unlike traditional philanthropy, impact funds seek commercially viable solutions in sectors such as renewable energy, healthcare, education, waste management, and financial inclusion.

Impact investing is rapidly expanding in India due to rising demand for sustainable development and government support for social enterprises.

3. Increasing Role of Sovereign Wealth Funds (SWFs)

Sovereign Wealth Funds from countries such as Singapore, Abu Dhabi, Saudi Arabia, and Canada are becoming large contributors to PE/VC capital pools.

SWFs often prefer long-term investments and participate in both growth capital and late-stage VC rounds. In India, SWFs have become major investors in tech unicorns, infrastructure platforms, and private credit structures. Their involvement strengthens the availability of patient capital.

4. Rise of Private Credit and Alternative Debt

Private credit has emerged as a key trend in the global and Indian investment landscape.

PE firms are increasingly offering structured debt products such as mezzanine financing, venture debt, and distressed debt.

This shift is driven by tightened bank lending norms and the need for flexible financing solutions among growth-stage companies. Private credit provides predictable returns and is less sensitive to market cycles compared to equity.

5. Larger Deal Sizes and Late-Stage Funding

With increasing capital availability, PE/VC funds are participating in larger transactions involving market leaders, unicorns, and established businesses.

Late-stage VC deals (Series D and beyond) have become more common, reflecting maturation of the Indian startup ecosystem. The presence of global investors encourages consolidation and scalability of business models.

6. Increased Use of Technology and Data Analytics

PE/VC firms now rely heavily on analytics, artificial intelligence, and machine learning for deal sourcing, due diligence, market assessment, and portfolio management.

Advanced analytical tools help identify trends, monitor competition, and predict portfolio performance more accurately. This improves the quality of investment decisions and risk mitigation.

7. Globalisation of Indian Startups and Cross-Border Investments

Indian startups increasingly attract international PE/VC investment due to strong digital adoption, favourable demographics, and policy support.

Investors are also facilitating cross-border expansion of Indian firms via partnerships, mergers, and global market access. Cross-border listings, especially on NASDAQ, are being explored as potential exit routes.

8. Growing Focus on Governance and Compliance

Regulatory tightening, especially under SEBI's AIF Regulations and RBI's FDI/FPI frameworks, is pushing funds to adopt stronger governance structures.

Investors now emphasise transparency, ethical business conduct, financial controls, and board effectiveness. Improved governance contributes to better valuations and smoother exits.

1. Introduction

Lease financing, also known as equipment leasing, is a method of obtaining the use of assets, such as machinery, equipment, or vehicles, without purchasing them outright.

In lease financing, the owner of the asset (called the lessor) allows another party (called the lessee) to use the asset for a specified period in exchange for regular payments.

The lessor and lessee enter into a lease agreement outlining the terms and conditions of the lease, including the duration of the lease, the amount of the lease payments, and any other relevant terms.

The lessee makes regular lease payments to the lessor for the use of the asset. These payments may be made monthly, quarterly, or annually, depending on the terms of the lease agreement. The amount of the lease payments is typically based on factors such as the value of the asset, the duration of the lease, and the lessee's creditworthiness.

At the end of the lease term, the lessee typically has the option to return the asset to the lessor, renew the lease for an additional period, or purchase the asset at a predetermined price (known as the residual value). The specific terms regarding the end of the lease term are outlined in the lease agreement.

2. Features of Lease Agreement

Key features of a lease financing agreement typically include:

Parties

The lease agreement clearly identifies the lessor (owner of the asset) and the lessee (user of the asset).

Description of Asset

The agreement specifies the asset being leased, including its description, model, serial number (if applicable), and any other relevant details.

Term of Lease

It outlines the duration of the lease, including the start date and end date of the lease period.

Payments of Lease

The agreement details the amount of lease payments, the frequency of payments (e.g., monthly, quarterly), and the method of payment.

End of Lease conditions

It specifies the options available to the lessee at the end of the lease term, such as returning the asset, renewing the lease, or purchasing the asset at a predetermined price (residual value).

Maintenance and Repairs

The agreement outlines the responsibilities for maintenance, repairs, and insurance coverage for the leased asset. In some cases, the lessor may be responsible for these, while in others, the lessee may bear these costs.

Conditions of Use

It includes terms regarding the permitted use of the asset, any restrictions or limitations on its use, and requirements for proper care and maintenance.

Termination Clause

The agreement specifies the conditions under which the lease can be terminated early, including any penalties or fees associated with early termination.

Default and Remedies

It outlines the consequences of default by either party, including remedies available to the non-defaulting party (such as repossession of the asset by the lessor).

Indemnification

The agreement may include provisions for indemnifying the lessor against any losses, damages, or liabilities arising from the use or operation of the leased asset.

Dispute Resolution

It specifies the governing law of the agreement and the procedures for resolving any disputes that may arise between the lessor and lessee.

Assignment and Subleasing

The agreement may address whether the lessee is permitted to assign its rights under the lease or sublease the asset to a third party.

Security Deposit or Guarantees

It may require the lessee to provide a security deposit or other forms of guarantees to secure the performance of its obligations under the lease.

3. Types of Lease

Lease contracts, which are agreements between a lessor (owner of an asset) and a lessee (user of the asset), can be broadly categorized into two main types: operating leases and financial leases. These two categories differ in their treatment of ownership, term, and accounting treatment, among other factors.

Let us delve into each category in detail:

Operating Lease

Ownership: In an operating lease, the lessor retains ownership of the leased asset throughout the lease term.

Term: Operating leases are typically shorter-term agreements compared to financial leases. The lease term is often less than the economic life of the asset, and it does not usually cover the entire useful life of the asset.

Accounting Treatment: Operating leases are treated as off-balance-sheet financing. The lessee does not record the leased asset or the lease liability on its balance sheet. Instead, lease payments are treated as operating expenses and are recognized on the income statement over the lease term.

Flexibility: Operating leases offer more flexibility to lessees. They are often used for assets that are subject to rapid technological changes or for short-term needs.

Maintenance and Risk: Typically, the lessor retains responsibility for maintenance and repair of the leased asset. The lessee bears minimal risk, and at the end of the lease term, they can usually return the asset with no further obligation.

Basis	Finance Lease	Operating Lease
1. Life of contract	Approximates the economic life of the asset	Shorter than the economic life of the asset
2. Maintenance	Provided by the lessee or covered by a separate agreement	Provided by the lessor and included in the lease rentals
3. Lease Payments	Return the cost of the assets and allow a profit to the lessor	Not sufficient to cover the cost of the asset
4. Cancellation	May be cancelled only if both the lessor and the lessee agree	May be cancelled before expiring date.

Financial Lease

Ownership: In a financial lease, the lessee effectively gains ownership rights over the leased asset during the lease term. The lessor acts as a financing entity, and the lessee has a significant interest in the asset.

Term: Financial leases are usually long-term agreements that cover a substantial portion of the asset's useful life. They often extend beyond the economic life of the asset.

Accounting Treatment: Financial leases are treated differently from operating leases in accounting. The lessee records the leased asset as an asset on its balance sheet and recognizes a corresponding lease liability. Lease payments are apportioned between principal and interest, and the interest portion is expensed on the income statement.

Ownership and Purchase Option: A financial lease often includes a bargain purchase option, allowing the lessee to acquire ownership of the asset at a predetermined price at the end of the lease term. If the lessee exercises this option, the asset is typically transferred from the lessor to the lessee for a nominal amount.

Risk and Responsibility: In a financial lease, the lessee bears more responsibility for the maintenance and upkeep of the asset. They also assume more risk, as they are essentially treated as the owner of the asset for accounting and tax purposes.

3. Types of Lease

Some of other types of Lease arrangements are discussed below:

1. Sales and Lease Back

In a sales and leaseback arrangement, the owner of an asset sells it to another party (the buyer), who then leases the asset back to the original owner. This allows the original owner to retain the use of the asset while freeing up capital tied to the asset's ownership.

For example, a retail store owner sells the property to a leasing company and then leases it back to continue operating the store.

2. Leveraged Lease

In a leveraged lease, a third party, such as a lender, finances a portion of the asset's purchase cost, while the lessor and lessee are involved in the lease agreement. This allows the lessor to finance the asset with borrowed funds, reducing their own capital investment.

For example, an airline leases aircraft by financing part of the purchase cost with a loan from a bank, while the airline and leasing company are parties to the lease agreement.

3. Sales-aid Lease

In a sales-aid lease, the lessor partners with a manufacturer to market the manufacturer's products through leasing operations. This arrangement benefits both the lessor and the manufacturer, as the lessor earns income from lease rentals and may also receive commissions or credit from the manufacturer.

For example, a car rental company partners with an automobile manufacturer to lease out the manufacturer's vehicles to customers, earning income from lease payments and receiving incentives from the manufacturer.

4. Close-ended and Open-ended Leases

In a close-ended lease, the asset is transferred to the lessor at the end of the lease term, and the lessor bears the risk of obsolescence and residual value. In an open-ended lease, the lessee has the option to purchase the asset at the end of the lease term.

4. Advantages and Limitations

Let us understand both the advantages and limitations of leasing:

Advantages of Leasing

Risk Avoidance: Leasing allows businesses to transfer the risk of asset obsolescence to the lessor. In rapidly evolving industries where technology quickly becomes outdated, leasing enables lessees to use state-of-the-art equipment without the burden of ownership. This is particularly beneficial for businesses operating in sectors where equipment turnover is high, such as IT, healthcare, and manufacturing.

Convenience: Leasing offers businesses the flexibility to acquire assets without tying up significant capital upfront. This is especially advantageous for startups and small businesses that may have limited funds for large capital expenditures. By spreading the cost of acquiring assets over time through lease payments, businesses can conserve cash flow for other operational expenses or growth initiatives.

Enhanced Borrowing Capacity: Lease financing can improve a company's borrowing capacity since lease obligations are typically treated differently than traditional debt on financial statements. Because lease payments are considered operating expenses rather than debt, they may not impact debt-to-equity ratios or other financial metrics that lenders use to assess creditworthiness. This can enable businesses to access additional financing for expansion or investment opportunities.

Tax Benefits: Lease payments are often tax-deductible expenses, providing businesses with potential tax savings. By deducting lease payments from taxable income, companies can lower their overall tax liability, effectively reducing the cost of leasing assets. This tax advantage can make leasing a more cost-effective option compared to outright purchases, especially for assets with high lease payments or long lease terms.

Limitations of Leasing

Debt-Like Characteristics: While leasing offers advantages such as risk transfer and flexibility, it also carries characteristics of debt financing. Lease agreements typically involve contractual obligations and commitments similar to those of borrowing funds. As a result, lease obligations may affect a company's financial leverage, liquidity, and overall financial health, especially if lease liabilities are substantial or poorly managed.

Potential Costliness: Depending on the terms of the lease agreement, leasing can be more expensive than purchasing assets outright through traditional financing methods. In some cases, leasing may involve additional costs such as maintenance fees, insurance premiums, or higher interest rates, particularly for specialized or high-value assets. Businesses must carefully evaluate the total cost of leasing versus purchasing to determine the most cost-effective option for their specific needs.

Missed Asset Appreciation: One of the drawbacks of leasing is that lessees may miss out on potential asset appreciation over time. Unlike ownership, where businesses can benefit from asset appreciation and equity buildup, leasing typically involves returning the asset to the lessor at the end of the lease term. This means that lessees do not retain ownership rights or potential gains from asset appreciation, which could impact their long-term financial position and competitiveness in the market.

Risk of Asset Repossession: In certain leasing arrangements, such as leveraged leasing, the lessor may secure financing from third-party lenders to acquire assets. If the lessor defaults on loan payments or breaches the terms of the lease agreement, lenders may have the right to repossess leased assets. This can pose a significant risk to lessees, as asset repossession could disrupt business operations, leading to financial losses, legal disputes, and reputational damage.

5. Hire Purchase

Hire purchase is a method of acquiring assets, typically durable goods like machinery, equipment, vehicles, or appliances, where the buyer pays for the asset in installments over time. Unlike traditional leasing arrangements where the lessee returns the asset at the end of the lease term, hire purchase agreements allow the buyer to eventually own the asset after completing all installment payments.

In a hire purchase agreement, the buyer initially pays a deposit, typically a percentage of the total purchase price, and then makes regular payments over a fixed period, usually monthly or quarterly. The total purchase price includes the cost of the asset plus any interest or finance charges incurred over the payment period.

During the hire purchase period, the buyer has possession and use of the asset but does not own it outright until the final installment is paid. However, unlike leasing arrangements, the buyer has the option to purchase the asset at any time by paying the remaining balance, known as the balloon payment, which represents the remaining value of the asset.

Comparison	Lease Financing	Hire Purchase
Ownership	Doesn't grant ownership to the lessee	Grants ownership to the hirer after completion of payments
Depreciation	Depreciation isn't deductible for leased assets	Depreciation is deductible for hire purchase assets
Tax Deduction	Lease payments are fully tax-deductible as expenses	Hire purchase payments involve both capital and interest portions
Balance Sheet	Leased assets don't appear in the lessee's balance sheet	Hire purchase assets appear in the hirer's balance sheet
Down Payments	Down payments are generally not required for leasing	Down payments are common in hire purchase
Usage	Commonly used for industrial equipment	More common for transport vehicles

Once all installment payments, including the balloon payment, are made, ownership of the asset transfers from the seller to the buyer. This allows the buyer to spread the cost of acquiring the asset over time while enjoying its benefits immediately.

Hire purchase agreements are commonly used for purchasing vehicles, machinery, and equipment for businesses, as well as consumer goods like furniture and electronics. They provide businesses and individuals with a flexible financing option that allows them to acquire assets without making a large upfront payment, while also providing the opportunity to eventually own the asset outright.

1. Introduction

Businesses are created to earn profits and can be set up by an individual, a group of people in the private sector, or by the government in the public sector. When started by one person, it is called a sole proprietorship, while businesses run by groups can take forms like partnerships, Hindu Undivided Families, companies, or cooperatives.

To run a business smoothly, proper planning and arrangements are needed to connect people, materials, and machinery, which is called organizing. This process results in a structured business setup known as a business organization. Selecting the right type of organization is very important, as it impacts how the business operates, manages resources, raises funds, shares profits, and meets legal requirements, all of which influence its success.

The choice of the right business structure is critical when starting or expanding a business. The form of an organization influences decision-making, liability, tax obligations, and business continuity.

Common forms of business organization include Sole Proprietorship, Partnership, Limited Liability Partnership (LLP), Joint Hindu Family (HUF) Business, Joint Stock Companies, and Co-operative Societies. Each has unique features, advantages, and disadvantages that cater to specific business needs.

Any one of the above-mentioned forms may be adopted for establishing a business, but usually one form is more suitable than the other for a particular enterprise. The choice will depend on various factors like the nature of business, the objective, the capital required, the scale of operations, state control, legal requirements and so on.

The various forms of Business Organizations are discussed next.

2. Types of Business Organizations

The various forms of Business Organizations are as follows.

1. Sole Proprietorship
2. Partnership
3. Hindu Undivided Family Business
4. Joint Stock Company
5. Cooperatives, Societies and Trusts
6. Limited Liability Partnership.

The features, advantages and disadvantages of each of these forms of business organization are discussed next one by one.

2. Types of Business Organizations

The term "sole" refers to something that is single, while "proprietorship" means ownership. Therefore, a sole proprietorship is a type of business where one person is the sole owner. In this form of business, a single individual owns, manages, and controls all aspects of the business. The person who owns and operates the sole proprietorship is called a "sole proprietor" or "sole trader." The sole proprietor gathers and organizes resources in an orderly manner and oversees the business's activities with the main goal of making a profit.

Small businesses like vegetable shops, grocery stores, telephone booths, chemist shops, and similar establishments are common examples of sole proprietorships. In addition to retail, small manufacturing units, fabrication workshops, garages, beauty parlors, and other such businesses can also be operated by a sole proprietor. This form of business is the oldest and most widely recognized type of business organization.

Features of Sole Proprietorship

Sole proprietorships have several key characteristics:

- **Single Ownership:** The business is owned by a single individual who owns all the assets and properties. This person also bears all the risks, and the business ends when the owner decides or upon their death.
- **No Sharing of Profit and Loss:** The sole proprietor keeps all the profits from the business, but also bears any losses alone. No one else shares the business's financial outcomes.
- **One-man's Capital:** The sole proprietor arranges all the capital needed to run the business, either from personal funds or by borrowing from family, friends, banks, or financial institutions.
- **One-man Control:** The business is entirely controlled by the owner, who makes all decisions. While they may consult others, the final decision-making rests with the proprietor.
- **Unlimited Liability:** The proprietor has unlimited liability, meaning that if the business faces losses, both the business's assets and the personal assets of the owner can be used to pay off debts.
- **Less Legal Formalities:** Sole proprietorships require minimal legal formalities to set up and operate. Registration is not necessary, but depending on the business type, the owner might need certain licenses or permits (for example, a food vendor may need an FSSAI registration).

Advantages of Sole Proprietorship

The sole proprietorship form of business is the simplest and most common type of business in our country. It offers several advantages:

- **Easy to Form and Wind Up:** A sole proprietorship is easy to start, often requiring only a small amount of capital. There are minimal legal formalities, except for businesses that require specific licenses. It is also easy to wind up, as the decision to close the business rests entirely with the owner.
- **Direct Motivation:** Since the sole proprietor keeps all the profits and bears all the risks, there is a direct link between effort and reward. The harder the proprietor works, the more profit they can earn, which motivates them to work efficiently.
- **Quick Decision and Prompt Action:** The sole proprietor makes all decisions alone, without needing to consult others. This allows for quick and decisive action to be taken, making the business more responsive and agile.
- **Better Control:** The proprietor has full control over every aspect of the business. They manage all activities and are in charge of planning and organizing. This gives them better oversight and the ability to implement changes efficiently.
- **Maintenance of Business Secrets:** Since the proprietor handles all aspects of the business, they can easily keep their plans, strategies, and technical information confidential, without the need to share them with others.
- **Close Personal Relation:** The sole proprietor can maintain direct contact with both customers and employees, which helps build strong relationships. Understanding customer preferences and fostering good relations with employees makes the business run smoothly.
- **Flexibility in Operation:** The proprietor has the freedom to adjust the scope and nature of the business as needed. For example, they can expand their offerings, like adding stationery to a bookstore, or adding services like faxing in an STD booth, based on market demand.
- **Encourages Self-employment:** Sole proprietorships help create self-employment opportunities for the owner and sometimes for others as well. By hiring staff to assist in business operations, the owner helps reduce unemployment and contributes to the local economy.

Disadvantages of Sole Proprietorship

Despite the many advantages, sole proprietorships also have some significant disadvantages:

- **Limited Capital:** Since the sole proprietor is responsible for raising the capital, it can be difficult for one person to gather enough funds for business growth and expansion. Personal savings and borrowed money may not always be sufficient to meet the business's financial needs.
 - **Unlimited Liability:** The sole proprietor has unlimited liability, meaning that if the business incurs debts or obligations, the owner's personal assets can be used to pay those liabilities. This makes the proprietors more cautious about taking risks and can limit their ability to expand.
 - **Lack of Continuity:** The business is directly tied to the life of the proprietor. If the owner becomes ill, dies, or faces financial difficulties, the business may come to an end. This makes the continuity of the business uncertain.
 - **Limited Size:** A sole proprietorship has a limit to how large it can grow. It becomes challenging for one person to manage and supervise the business effectively once it exceeds a certain size, which can hinder expansion.
 - **Lack of Managerial Expertise:** The sole proprietor may not have expertise in all areas of management, such as marketing, finance, or human resources. Due to limited financial resources, it may not be possible to hire professional managers, which means the business may lack the benefits of skilled management.
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2. Types of Business Organizations

The Hindu Undivided Family (HUF) business is a unique form of business organization in India, governed by Hindu Inheritance Laws. It is jointly owned by all members of a Hindu family, spanning up to three generations, who are referred to as "co-parceners." Co-parceners have the right to demand partition and claim their share of the business.

The head of the family, called the "Karta," manages the business. The Karta holds a distinct and crucial role, combining limited personal interest with extensive managerial powers. Only the eldest male coparcener, or an adopted son if he is the eldest, can become a Karta. The Karta oversees the HUF property, ensures the welfare of the family, and is accountable for proper use of the family's income and assets. Mismanagement can make the Karta liable to compensate other family members. This role is unparalleled in other systems and is recognized and regulated by law.

Characteristics of a Hindu Undivided Family (HUF) Business

The following are the characteristics of HUF Business:

- **Legal Status:** The HUF business is treated as a jointly owned entity, similar to joint property, and is governed by Hindu Law.
- **Membership:** Only members of the joint family are part of the HUF business; no outsiders can join.
- **Profit Sharing:** All co-parceners share profits equally. If a co-parcener passes away, their spouse is entitled to claim their share of the profits.
- **Management:** The business is managed by the senior-most family member, known as the Karta, whose management decisions cannot be challenged by other co-parceners.
- **Liability:** While other members' liabilities are limited to their share in the business, the Karta's liability is unlimited and extends to their personal property.
- **Fluctuating Share:** The individual share of each co-parcener varies with changes in family composition, as births increase the number of co-parceners and deaths decrease it.
- **Continuity:** The HUF business remains intact despite the death of a co-parcener, with the next senior-most family member assuming the role of Karta. However, it can be dissolved at any time through mutual agreement or partition.

Advantages of Joint Hindu Family Business

The advantages of Joint Hindu Family Business are as follows:

- **Guaranteed Profit Share:** Every co-parcener is entitled to a share in the profits, regardless of their contribution. This ensures financial security for members such as minors, widows, or those who are sick or disabled.
- **Autonomy in Management:** The Karta has complete authority to manage the business, enabling quick and efficient decision-making without interference.
- **Learning Opportunity:** Young family members benefit from the knowledge and experience of elders, fostering virtues like discipline, self-sacrifice, and tolerance.
- **Accountability of Karta:** The Karta's unlimited liability motivates him to manage the business responsibly and efficiently.
- **Continuity:** The business remains unaffected by the death or insolvency of any member, including the Karta, ensuring long-term stability.

Disadvantages of Joint Hindu Family Business

The disadvantages of Joint Hindu Family Business are as follows:

- **Limited Resources:** Financial and managerial resources are generally restricted, limiting the ability to undertake large or risky ventures.
- **Lack of Incentive:** Members may lack motivation to work hard since profits are shared among all, reducing individual rewards for effort.
- **Potential Misuse of Power:** The Karta's unrestricted authority can be misused for personal gain, and an inefficient Karta can harm the business.
- **Generational Conflicts:** The involvement of male members from three generations often leads to disagreements and disputes.
- **Instability:** Although it ensures continuity, the business can still face challenges to its stability due to internal conflicts.

Suitability of Joint Hindu Family Business

The success of a Joint Hindu Family business largely depends on the efficiency of the Karta and the harmonious relationship among co-parceners. However, this model is gradually declining due to the weakening of the traditional joint family structure.

2. Types of Business Organizations

A partnership is an association of two or more individuals who agree to share the profits of a lawful business. The business may be managed by all or by one or more acting on behalf of the others. According to Haney, "Partnership is the relation between persons competent to make a contract who agree to carry on a lawful business in common with a view to private gain."

The formation of a partnership is simple and is often chosen to address the need for increased capital, effective supervision, specialized skills, division of labor, and risk-sharing. Members of the group are called "partners," and collectively they form a "partnership firm." The firm operates under the Indian Partnership Act, 1932.

Characteristics of Partnership form of Business Organization

The characteristics of Partnership form of Business Organization are given below:

- **Number of Partners:** At least two individuals are required to start a partnership.
- **Contractual Relationship:** The partnership is based on an agreement, verbal or written. A written agreement is referred to as a "Partnership Deed."
- **Competence of Partners:** Partners must be legally capable of entering into a contract. Minors, lunatics, or insolvent persons cannot be full partners, though minors can benefit from the partnership profits.
- **Profit and Loss Sharing:** Profits can be shared as agreed, or equally if not specified.
- **Unlimited Liability:** Partners have unlimited liability and can be held personally responsible for the firm's debts. Minors' liabilities are limited to their profit share.
- **Principal-Agent Relationship:** Each partner acts as both an agent for others and a principal for themselves, requiring mutual trust.
- **Transfer of Interest:** A partner's share cannot be transferred without the consent of all partners.
- **Legal Status:** A partnership firm is not a separate legal entity; the firm and partners are considered the same.
- **Voluntary Registration:** Registration is optional but recommended, as it provides legal benefits.
- **Dissolution:** The partnership dissolves upon changes in partner agreements, or due to withdrawal, death, or admission of a partner.

Advantages

The advantages of Partnership form of Business Organization are given below:

- **Easy Formation:** Partnerships can be set up quickly without legal complications.
- **Better Creditworthiness:** Creditors view partnerships favorably due to unlimited liability of partners.
- **Larger Capital:** Joint contributions from partners provides more resources.
- **Improved Management:** Duties are distributed based on partners' skills, enhancing efficiency.
- **Combined Expertise:** Partners bring diverse knowledge and skills, aiding better decision-making.
- **Profit Motivation:** Shared profits encourage collective effort.
- **Business Secrecy:** No legal requirement to publish financial statements.
- **Retention of Talent:** Talented employees can be offered partnership status.
- **Prudent Decisions:** Unlimited liability fosters careful decision-making.
- **Special Protection for Minors:** Minors can benefit from profits with limited liability.
- **Team Spirit:** Mutual trust and cooperation among partners promote harmony.
- **Tax Benefits:** Profits are taxed at partner levels, potentially lowering tax burdens.
- **Easy Dissolution:** Partnerships can be dissolved without elaborate formalities.

Disadvantages

The disadvantages of Partnership form of Business Organization are given below:

- **Unlimited Liability:** Partners' personal assets are at risk in case of business debts.
- **Limited Lifespan:** The firm may dissolve upon partner withdrawal, death, or disputes.
- **Frozen Investments:** Partners may face difficulty withdrawing their investments.
- **Partner Disputes:** Disagreements can disrupt business operations.
- **Resource Misuse:** Shared resources can be misused by a partner.
- **Decision Delays:** Conflicts may lead to slow decision-making, impacting business opportunities.
- **Divided Control:** Responsibility sharing can create inefficiencies and confusion.
- **Public Distrust:** Lack of transparency and regulatory oversight can reduce public confidence.
- **Implied Authority Risks:** Partners are liable for each other's actions, leading to shared consequences for poor decisions.

Suitability

Partnerships are ideal for small to medium-sized businesses, including retail and wholesale trade, professional services, and small-scale manufacturing. Many businesses start as partnerships and later transition to companies when expansion and investment opportunities arise.

2. Types of Business Organizations

The Company form of business organization is one of the most structured and regulated methods of conducting business. A company is a type of business organization formed as a voluntary association of individuals to carry out business activities. Typically, it is granted legal recognition and operates under specific legal regulations. This association consists of individuals who contribute funds toward a shared purpose, which collectively constitutes the company's capital. Those who provide this capital are referred to as members, and their respective contributions determine their ownership portion, known as shares. Hence, members of a company are called *shareholders*, and the company's capital is referred to as *share capital*. The share capital is divided into smaller units called 'shares.'

Familiar examples of companies include Tata Iron & Steel Co. Limited, Hindustan Lever Limited, Reliance Industries Limited, Steel Authority of India Limited, and Ponds India Limited.

Companies operate under the governance of the Indian Companies Act, 2013, which defines a company as an artificial legal entity created by law. A company has a distinct legal identity, perpetual succession, and a common seal. Under the Companies Act, 2013, a company must either be newly formed and registered under the Act or already exist and be registered under any previous legislation.

Key Characteristics of a Company

The key characteristics of a Company are as follows:

- **Artificial Legal Person:** A company is created by law and treated as an independent legal entity. It can sue and be sued in its own name.
- **Incorporated Body:** A company is formed by registering under the Companies Act, which grants it corporate status distinct from its shareholders.
- **Capital Divisible into Shares:** The capital is divided into shares, which are units of ownership.
- **Transferability of Shares:** Shares can be easily transferred, especially in public companies.
- **Perpetual Existence:** The company's existence is not affected by the death, insolvency, or withdrawal of shareholders.
- **Limited Liability:** Shareholders are liable only to the extent of their unpaid share value.
- **Representative Management:** The company is managed by elected directors, collectively called the Board of Directors.

Advantages of a Company

The advantages of a Company are as follows:

- **Perpetual Existence:** Ensures continuity irrespective of changes in membership.
- **Limited Liability:** Protects personal assets of shareholders.
- **Ease of Ownership Transfer:** Shares can be traded freely in a public company.
- **Attraction of Capital:** Can raise substantial funds by issuing shares.
- **Specialized Management:** Allows employment of skilled professionals for various functions.
- **Legal Recognition:** Operates as a separate legal entity.
- **Higher Profits:** Benefits from economies of scale and efficient production.
- **Democratic Setup:** Managed by directors elected by shareholders.
- **Risk Distribution:** Shares risks among a large number of shareholders.
- **Social Benefits:** Allows individuals with limited resources to invest in large-scale businesses.

Disadvantages of a Company

The disadvantages of a Company are as follows:

- **Complex Formation:** Involves time-consuming legal procedures and significant costs.
- **Double Taxation:** Earnings are taxed at the company level and again when distributed as dividends.
- **Separation of Ownership and Control:** Shareholders have little say in daily operations, which are managed by directors.
- **Fraud Risks:** Promoters may mislead investors during the company's formation.
- **Speculation:** Reckless trading of shares in the stock market can destabilize the company.
- **Lack of Secrecy:** Disclosure requirements expose sensitive information to competitors.
- **Impersonal Relationships:** Employees and management may lack personal connections due to the company's large size.
- **Favoritism and Nepotism:** Directors may appoint close associates to key roles, regardless of merit.
- **Group Power Struggles:** Internal conflicts among directors can affect stability.

Suitability of a Company

A company is most appropriate in cases where:

- The business involves large-scale operations.
- Substantial capital is required.
- The area of operation is extensive, necessitating a formal structure.
- There is significant risk, requiring limited liability.
- Professional and specialized management is needed.
- Examples include sectors like banking, insurance, manufacturing, and large-scale retailing.

This form of business is highly structured and capable of handling large operations but requires compliance with legal frameworks and careful management to avoid pitfalls.

2. Types of Business Organizations

The following are the types of Companies under the Companies Act 2013:

Company limited by guarantee

Company limited by guarantee means a company having limited liability of its members limited to the extent undertaken by them to contribute to the assets of the company in the event of its being wound up.

Company limited by shares

Company limited by shares means a company having limited liability of its members limited to the amount, if any, unpaid on the shares held by them.

Unlimited company

Unlimited company means a company not having any limit on the liability of its members.

Associate company

Associate company, in relation to another company, means a company in which that other company has a significant influence (i.e. control of at least 20% of total voting power or control of or participation in business decisions under agreement), but which is not a subsidiary company of the company having such influence and includes a joint venture company.

One Person Company

One Person Company (OPC) means a company which has only one person as a member.

Private Company

Private Company means a company having a prescribed minimum paid-up share capital and which by its Articles:

- restricts the right to transfer its shares;
- except in case of OPC, limits the number of its members to 200;
- prohibits any invitation to the public to subscribe for any securities of the company.

Public Company

Public Company means a company which:

- is not a private company; and
- has a prescribed minimum paid-up share capital.

A company which is a subsidiary of a company, not being a private company, shall be deemed to be public company for the purposes of this Act even where such subsidiary company continues to be a private company in its articles. There is no minimum paid up share capital to form a public company.

Government company

Government company means any company in which not less than 51% of the paid-up share capital is held by:

- the Central Government, or
- by any State Government or Governments, or
- partly by the Central Government and partly by one or more State Governments, and
- includes a company which is a subsidiary company of such a Government company.

Small company

Small company means a company, other than a public company:

- paid-up share capital of which does not exceed Rs. 50 Lakhs or such prescribed higher amount up to a maximum of Rs. 10 crore; and
- turnover of which does not exceed Rs. 2 crore or such prescribed higher amount up to a maximum of Rs. 100 crore.

Nothing stated here shall apply to:

- a holding company or a subsidiary company;
- a company registered under Section 8 (Companies for charitable purpose); or
- a company or body corporate governed by any special Act.

Holding Company

Holding company, in relation to one or more other companies, means a company of which such companies are subsidiary companies.

Subsidiary company

Subsidiary company, in relation to any other company (that is to say the holding company), means a company in which the holding company:

- controls the composition of the BOD (i.e. power to appoint or remove majority of the directors); or
- exercises or controls more than ½ of the total voting power either at its own or together with one or more of its subsidiary companies.

Note that a private company, which is subsidiary of a public company shall be deemed to be public company for the purpose of this Act, even where such subsidiary company continues to be a private company in its articles.

Listed company

Listed company means a company which has any of its securities listed on any recognised stock exchange. Such class of companies, which have listed or intend to list such class of securities, as prescribed in consultation with the Securities and Exchange Board of India, shall not be considered as listed companies.

Dormant company

Dormant company means a company formed and registered for a future project or to hold an asset or intellectual property and has no significant accounting transaction. Such a company or an inactive company may make an application to the Registrar for obtaining the status of a dormant company.

Inactive company

Inactive company means a company which has not been carrying on any business or operation or has not made any significant accounting transaction during the last 2 financial years, or has not filed financial statements and annual returns during the last 2 financial years.

Foreign company

Foreign company means any company or body corporate incorporated outside India which:

- has a place of business in India whether by itself or through an agent, physically or through electronic mode; and
- conducts any business activity in India in any other manner.

Banking company

Banking company means a banking company as defined in Section 5(c) of the Banking Regulation Act, 1949.

Nidhi company

Nidhi company means a company which has been incorporated as a Nidhi with the object of cultivating the habit of thrift and savings amongst its members, receiving deposits from, and lending to, its members only, for their mutual benefit.

Companies for charitable purpose

Companies for charitable purpose (popularly known as Section 8 Companies) means a limited company:

- has in its objects the promotion of commerce, art, science, sports, education, research, social welfare, religion, charity, protection of environment or any such other object;
- intends to apply its profits, if any, or other income in promoting its objects; and
- intends to prohibit the payment of any dividend to its members.

For example, FICCI, ASSOCHAM, National Sports Club of India, CII etc. The Central Government may allow such companies to be registered as a limited company without the addition to its name of the word "Limited", or "Private Limited".

2. Types of Business Organizations

Certain organizations engage in business with the primary goal of serving their members rather than maximizing profits. While generating some profit is essential for sustainability, their focus is not on growth or profit-making. These organizations pool resources from members, use them effectively, and share the benefits among the members.

The term "co-operation" comes from the Latin word co-operari, where "co" means "with," and "operari" means "to work." Therefore, co-operation implies working together. Individuals with a shared economic objective can form a co-operative society, a voluntary association aimed at promoting economic interests through self-help and mutual assistance. Unlike other business entities, co-operative societies prioritize service over profit.

A co-operative society can be formed by a minimum of 10 members and operates under the Cooperative Societies Act, 1912, along with various state-specific laws. These societies are distinct from other business organizations, emphasizing service to members and the community, mutual help over competition, and self-reliance over dependence.

Types of Co-operative Societies

The following are the types of co-operative societies:

- **Consumers' Co-operative Societies:** Protect consumer interests by offering goods at reasonable prices. Examples include Kendriya Bhandar and Sahkari Bhandar.
- **Producers' Co-operative Societies:** Support small producers by supplying essential production materials. Examples include APPCO and Haryana Handloom.
- **Co-operative Marketing Societies:** Assist small producers in marketing their products collectively. An example is the Gujarat Co-operative Milk Marketing Federation (AMUL).
- **Co-operative Credit Societies:** Provide financial aid to members through loans and credit facilities. Examples include Urban Cooperative Banks and Village Service Co-operatives.
- **Co-operative Farming Societies:** Enable small farmers to benefit from large-scale farming by pooling resources.
- **Housing Co-operative Societies:** Offer affordable housing or loans for house construction.

Key Characteristics of Co-operative Societies

The key characteristics of co-operative societies are as follows:

- **Voluntary Membership:** Open to all, with no discrimination, and members can exit anytime.
- **Legal Entity:** Once registered, a co-operative society is an independent legal entity.
- **Democratic Management:** Operates on "one member, one vote," ensuring equal participation.
- **Service Orientation:** Prioritizes mutual benefit and service over profit.
- **Surplus Utilization:** Reserves a portion of profits and distributes the remainder as dividends.
- **Cash-Based Transactions:** Primarily conducts business on a cash basis, ensuring financial stability.
- **Limited Returns on Capital:** Members earn a fixed return on their contributions, capped at 9% annually.
- **Government Regulation:** Governed by state and central laws, ensuring compliance and oversight.
- **Capital Formation:** Primarily financed through member contributions, government loans, and grants.

Advantages of Co-Operatives

The advantages of co-operatives are as follows:

- **Easy Formation:** Requires only ten members and simple registration.
- **Open Membership:** Encourages broad participation.
- **Democratic Control:** Equal rights for all members.
- **Limited Liability:** Members' liability is limited to their share contributions.
- **Continuity:** Not affected by changes in membership.
- **Affordable Prices:** Goods are sold at lower prices due to minimal profit margins.
- **Mutual Support:** Encourages collaboration among members.
- **Social Impact:** Promotes welfare through community-oriented initiatives.
- **Savings Promotion:** Encourages thrift and effective use of pooled resources.

Disadvantages of Co-Operatives

The disadvantages of co-operatives are as follows:

- **Limited Capital:** Often lacks substantial financial resources.
- **Inefficient Management:** Operated by members who may lack professional expertise.

- **Internal Conflicts:** Disputes among members can hinder progress.
- **Low Motivation:** Members may lack the drive to perform efficiently.
- **Political Interference:** Often influenced by government politics.
- **Lack of Secrecy:** Transparency in operations can compromise business confidentiality.
- **Excessive Regulation:** Over-regulation by authorities can limit flexibility.

Suitability

Co-operative societies are ideal for organizations focused on service rather than profit, especially in small to medium-sized operations. Despite their challenges, successful examples like IFFCO and AMUL demonstrate the potential of co-operatives to thrive on a larger scale.

2. Types of Business Organizations

A Limited Liability Partnership (LLP), introduced in India through the Limited Liability Partnership Act, 2008, is a hybrid business structure that blends the features of a company and a partnership. LLP offers limited liability protection to its partners while allowing them the flexibility of managing the business directly. Unlike traditional partnerships, one partner is not liable for another's misconduct or negligence, making it a globally preferred model.

In an LLP, partners' liabilities are limited to their contributions, akin to shareholders in a corporation. However, unlike corporate shareholders, LLP partners actively manage the business. The LLP structure also shields partners from liabilities arising from errors or negligence by other partners or employees.

The LLP is governed by the LLP Agreement, which outlines the mutual rights and duties of the partners. In the absence of such an agreement, Schedule 1 of the Limited Liability Partnership Act, 2008, serves as the default framework.

Key features of LLP

The key features of LLP are as follows:

- **Separate Legal Entity:** LLP is a corporate body with perpetual succession, distinct from its partners.
- **Limited Liability:** Partners' liability is limited to their agreed contributions. However, liabilities become unlimited in cases involving fraud or intent to deceive creditors.
- **Mutual Agreement:** The rights and duties of partners and LLP are governed by an agreement. In its absence, the LLP Act's provisions apply.
- **Partner Equality:** All partners have equal rights to participate in decision-making and share profits or losses unless otherwise agreed.
- **Perpetual Existence:** The LLP continues to exist regardless of changes in partnership composition.
- **Flexibility:** LLPs offer operational flexibility with minimal procedural and legal formalities.

Advantages of LLP

The advantages of LLP form of Business Organization are as follows:

- **Separate Legal Entity:** LLP has its own legal identity, independent of its partners.
- **Limited Liability:** Partners are not personally liable for the actions of other partners.
- **Flexibility:** LLPs allow operational freedom with fewer compliance requirements.
- **Perpetual Existence:** The LLP remains unaffected by changes in partners.
- **No Minimum Capital Requirement:** There is no mandatory capital contribution.
- **Distinct Partners and Entity:** LLP and its partners are treated as separate entities.
- **Easy Formation and Dissolution:** Establishing and winding up an LLP is straightforward.
- **Lower Compliance Costs:** LLPs do not need to maintain detailed statutory records.

Disadvantages of LLP

The disadvantages of LLP form of Business Organization are as follows:

- **Limited Fundraising Options:** LLPs cannot raise capital from the public.
- **Individual Acts Binding LLP:** Actions by one partner may bind the LLP.
- **Extended Liability in Fraud Cases:** Partners' personal assets may be exposed in cases of fraud.
- **No Separation of Ownership and Management:** Partners manage the business directly.

LLPs are ideal for small and medium enterprises looking for a blend of limited liability, flexibility, and low compliance costs while enjoying operational freedom.

3. Choice of an Appropriate Form of Business Organization

Choosing the right form of business organization is a crucial decision for an entrepreneur, as it directly impacts their authority, responsibility, risk, and profit-sharing. Since this decision often involves long-term commitment, careful consideration of various factors is necessary.

Below are the key factors influencing the choice of business organization:

1. Nature of Business

The type of business activities plays a significant role in determining the appropriate structure:

- *Direct Services*: Businesses like tailoring, restaurants, or professional services (doctors, lawyers) are usually best suited for sole proprietorship.
- *Skill & Fund Pooling*: Activities requiring a combination of expertise and resources, such as accounting firms, work well as partnerships.
- *Large-Scale Manufacturing or Trading*: Typically set up as private or public companies due to their complex operations and high capital needs.

2. Volume of Business

- *Small-Scale Operations*: Sole proprietorship or partnership is ideal for businesses with limited transactions and scope.
- *Large-Scale Operations*: Companies are better suited for handling extensive business activities, especially those targeting national or international markets.

3. Area of Operation

- *Local Operations*: Proprietorship or partnerships are sufficient for businesses confined to a particular locality.
- *Wide-Spread Operations*: Companies are more effective for businesses operating on a national or international scale.

4. Financial Requirements

- *High Capital Needs*: When substantial initial or working capital is required, a company form is preferred due to its ability to raise funds from various sources.
- *Moderate to Low Capital Needs*: Proprietorship or partnership forms are adequate for businesses with lower capital requirements.

5. Ownership and Control

- *Direct Control*: Entrepreneurs seeking full control prefer sole proprietorship.
- *Separation of Ownership and Management*: Companies are suitable when ownership is spread among multiple individuals and management is handled by professionals.

6. Liability

- *Unlimited Liability*: Sole proprietorships and partnerships are suitable for individuals willing to assume full responsibility for business risks.
- *Limited Liability*: Companies or LLPs are ideal for those who want to limit personal risk to the extent of their investment.

7. Independence

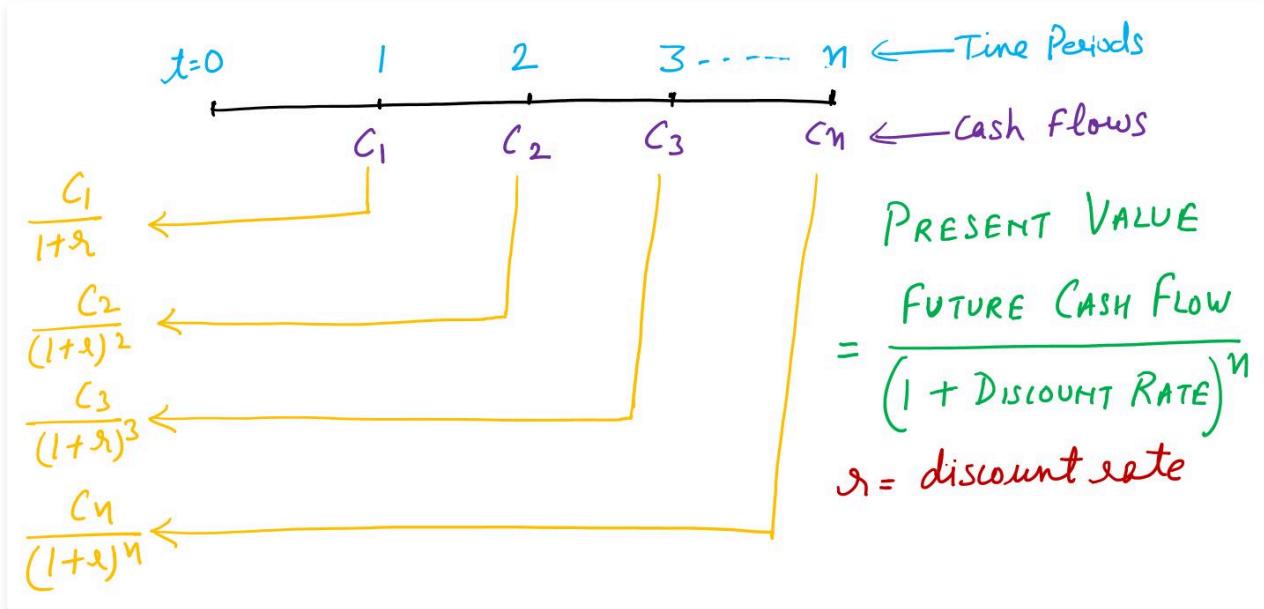
- *Minimal Government Interference*: Entrepreneurs who want freedom in business operations prefer sole proprietorships or partnerships.
- *Strict Regulations*: Companies and cooperatives are subject to extensive government regulations, making them less flexible.

The choice of a business organization should be tailored to the specific needs and circumstances of the entrepreneur, taking into account the factors mentioned above. The right decision ensures smooth operations, effective management, and long-term success.

1. Concept of Valuation

Valuation of any financial asset, whether it is a bond or a stock, is fundamentally based on the concept of discounted cash flow (DCF) analysis. This approach determines the intrinsic value of an asset by calculating the present value of all expected future cash flows it is expected to generate.

The first step in DCF analysis is to estimate the future cash flows the asset is expected to generate. For bonds, these cash flows typically consist of periodic interest payments and the principal repayment at maturity. For stocks, cash flows include dividends and the eventual sale of the stock.



Since cash received in the future is worth less than cash received today due to the opportunity cost of capital and risk, future cash flows must be discounted back to their present value. This is done using a discount rate, often referred to as the required rate of return or discount rate, which reflects the risk associated with the asset.

Once all future cash flows are discounted to their present value, they are summed up to derive the total intrinsic value of the asset. This total represents the estimated fair value of the asset in today's terms.

Required Rate of Return

The Required Rate of Return (r), also known as the hurdle rate or the minimum acceptable rate of return, is the minimum return that an investor expects to achieve from an investment in order to compensate for the level of risk associated with that investment. It represents the minimum rate of return necessary to justify the investment decision.

2. Introduction to Bonds

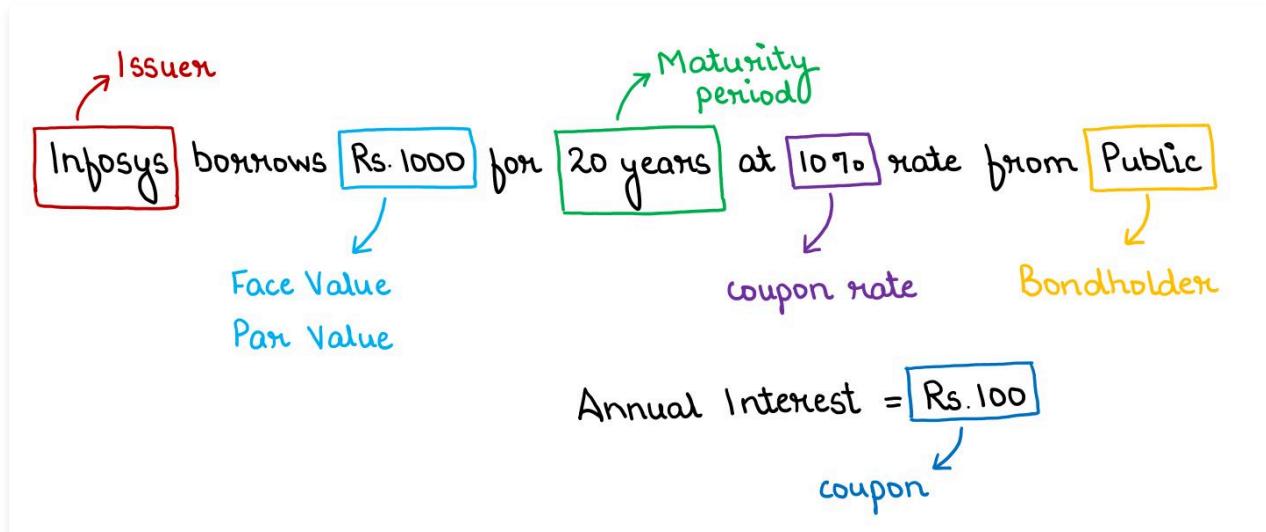
A **bond** is an interest-only loan, meaning that the borrower will pay the interest every period, but none of the principal will be repaid until the end of the loan. They are a form of debt issued by entities seeking capital, such as companies or governments.

To understand, how bonds work, consider an example.

Consider Infosys, which requires funds for expansion. To secure the necessary capital, Infosys can opt to borrow from the public through bonds. Since Infosys is essentially taking a loan, it is obligated to repay the borrowed amount.

Suppose Infosys issues a bond with a **face value or par value** of Rs 1000, carrying a 10% annual **interest rate** for a duration of 20 years. This means that each year, Infosys is committed to paying an interest of 10% of the face value, amounting to Rs 100.

The individuals or entities lending this money to Infosys and receiving periodic interest payments of Rs 100 annually are referred to as **bondholders**. In this example, Infosys is recognized as the **issuer of the bond**.



Let us break down the terminology, used:

The initial borrowed amount (Rs 1000) that Infosys agrees to repay at the bond's maturity is called **Face Value or Par Value**.

The fixed annual interest rate (10%) expressed as a percentage of the bond's face value is called **Coupon Rate**.

Coupon (Rs 100) represents the annual interest payment made by Infosys to the bondholders, calculated at the specified coupon rate of 10%. In some cases, a bond's coupon payment will vary over time. These are called **floating rate bonds**.

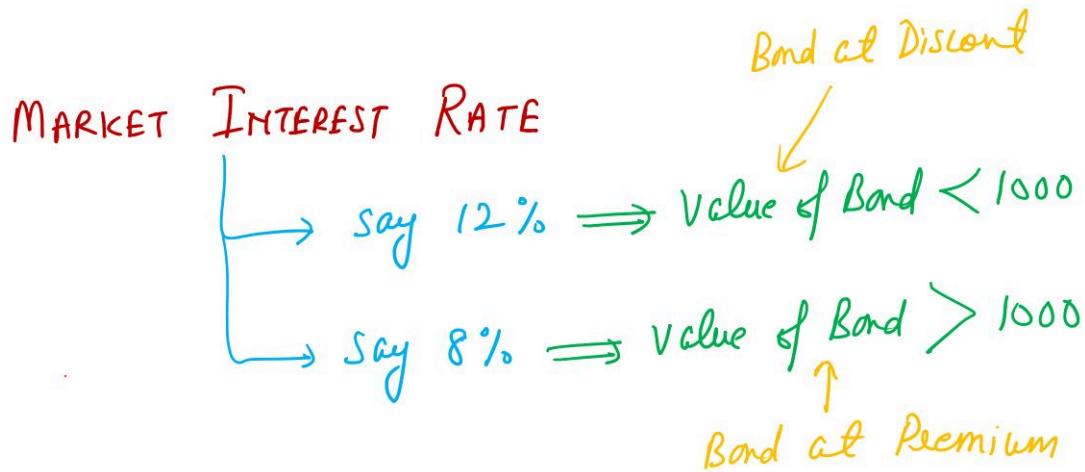
Maturity Period (20 years) is the agreed time frame until the bond matures, at which point Infosys is obligated to repay the face value to the bondholders.

Following the 20-year maturity period, Infosys will reimburse the initial Rs 1000 to the bondholders. This is called **Maturity Value (MV)** or **Redeemable Value (RV)**. Thus, the repayment structure involves two components: periodic payments of Rs 100, representing interest, and the principal amount of Rs 1000.

3. Interest Rate and Value of Bond

Suppose Mohan purchases a bond from Infosys with a face value of Rs 1000 and a coupon rate of 10%. This means he receives annual payments of Rs 100 from Infosys until the bond matures, which has a maturity period of 20 years.

Now, suppose Mohan wants to sell his bond to someone else, before its maturity period ends.



Mohan approaches Abhinav to sell the bond. If Abhinav buys the bond from Mohan, he will receive Rs 100 annually from Infosys as interest payments, and upon maturity after 20 years, he will receive the face value of Rs 1000.

Abhinav evaluates whether it's worthwhile to purchase the bond from Mohan at price X, considering alternative investment opportunities that might offer higher returns. Hence, the prevailing market interest rate plays a crucial role in determining the acceptable price (X) for Abhinav to buy the bond.

If the market interest rate is higher than the bond's coupon rate, Abhinav may consider the bond less valuable relative to other investment options, and thus, the bond's value would be less than its face value of Rs 1000.

Conversely, if the market interest rate is lower than the bond's coupon rate, Abhinav may perceive the bond as more valuable compared to alternative investments, resulting in a bond value higher than Rs 1000.

To summarize, the interest rates in the market fluctuate. Since the cash flows from a bond remain constant, the bond's value also changes. When interest rates increase, the present value of the bond's future cash flows decreases, resulting in a lower bond value. Conversely, when interest rates decrease, the bond becomes more valuable.

4. Computing Value of a Bond

The valuation of a bond follows the same principles as any other security. We calculate its worth by discounting all forthcoming cash flows to determine their present value (PV). These cash flows comprise of (i) periodic coupon payments (C) and (ii) bond's face value (FV), both of which need to be discounted.

The diagram illustrates the formula for the value of a bond:

$$\text{VALUE OF A BOND} = \frac{C}{1+\lambda} + \frac{C}{(1+\lambda)^2} + \frac{C}{(1+\lambda)^3} + \dots + \frac{C}{(1+\lambda)^{n-1}} + \frac{C+MV}{(1+\lambda)^n}$$

Annotations explain the components:

- PRESENT VALUE OF COUPONS** = $C \times PVIFA(\lambda\%, n)$
- PRESENT VALUE OF MATURITY VALUE** = $MV \times PVIF(\lambda\%, n)$
- C = Coupon Amount**
- λ = Market Interest Rate or Discount Rate**
- MV = Maturity Value**
- n = Time to Maturity**

Thus, the value of a bond depends upon 4 factors:

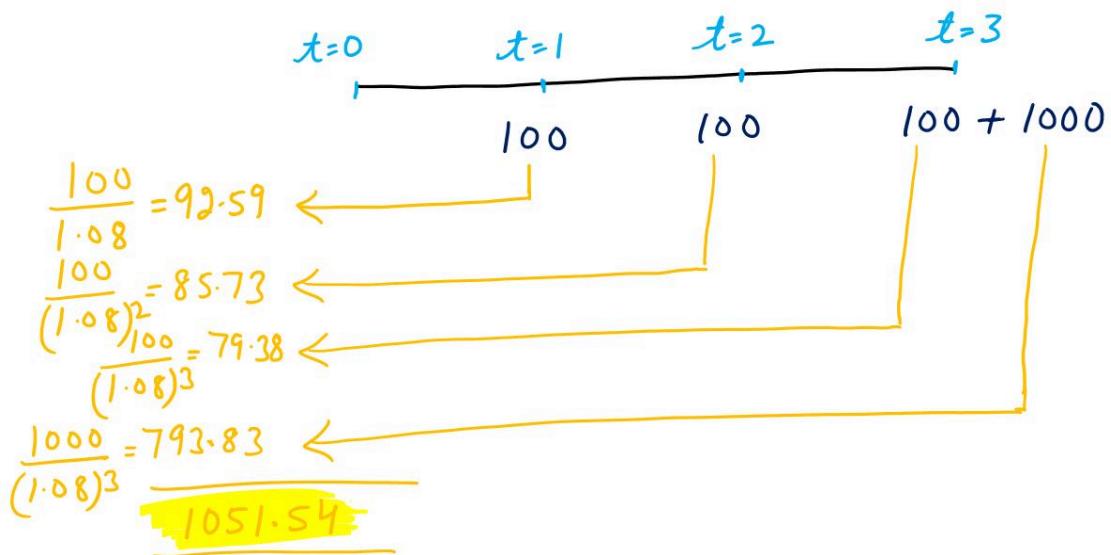
- Face Value:** The face value, also known as the par value, is the initial amount of money that the bond issuer agrees to repay to the bondholder upon maturity (this is usually equal to Maturity Value (MV), also called Redeemable Value (RV)). This represents the principal amount of the bond. The face value remains constant throughout the bond's life and serves as the baseline for determining the bond's worth at maturity.
- Coupon Rate:** The coupon rate is the fixed annual interest rate that the bond issuer agrees to pay to the bondholder based on the bond's face value. This rate determines the periodic interest payments made by the issuer to the bondholder. A higher coupon rate implies higher periodic interest payments, making the bond more valuable to investors.
- Maturity Period:** The maturity period is the length of time until the bond reaches its maturity date, at which point the issuer repays the face value to the bondholder. The maturity period influences the timing of the bond's cash flows. Generally, bonds with longer maturity periods carry higher risks and may have higher or lower values depending on prevailing market conditions and investor preferences.
- Market Rate of Interest:** The market rate of interest, also known as the prevailing yield or interest rate, is the rate of return demanded by investors for investing in bonds with similar characteristics to the one being evaluated. It represents the opportunity cost of investing in one bond relative to other investment options available in the market. Changes in market interest rates can affect bond prices inversely—when market interest rates rise, bond prices tend to fall, and vice versa.

4. Computing Value of a Bond

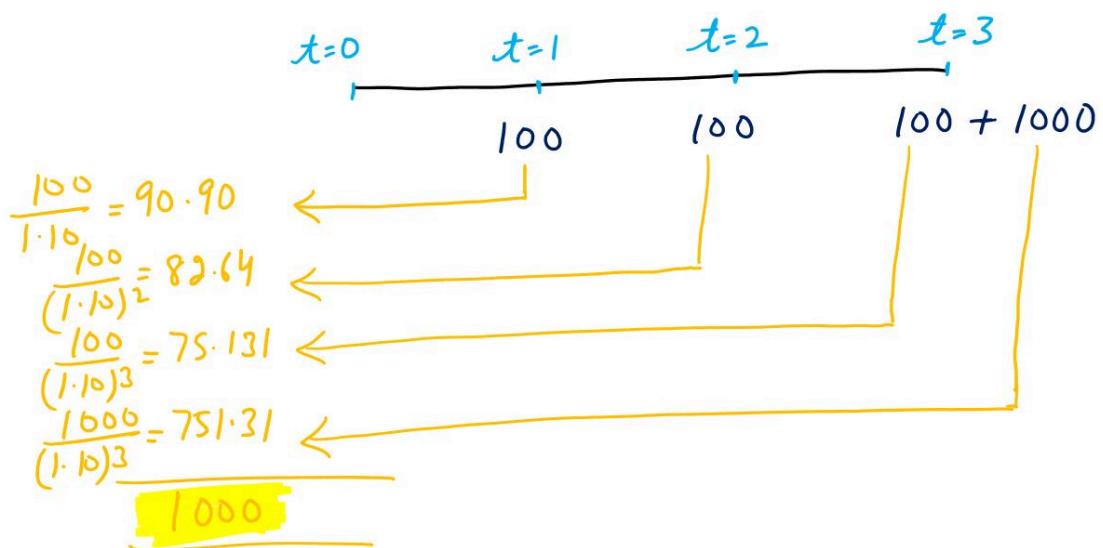
Consider a bond with a face value of Rs 1000, a coupon rate of 10% paid annually. Calculate the present value of the bond, if the market interest rate (discount rate) is 8%. What if the discount rate is 10%? What is the value, if the discount rate is 13%? What can we infer from this?

Solution:

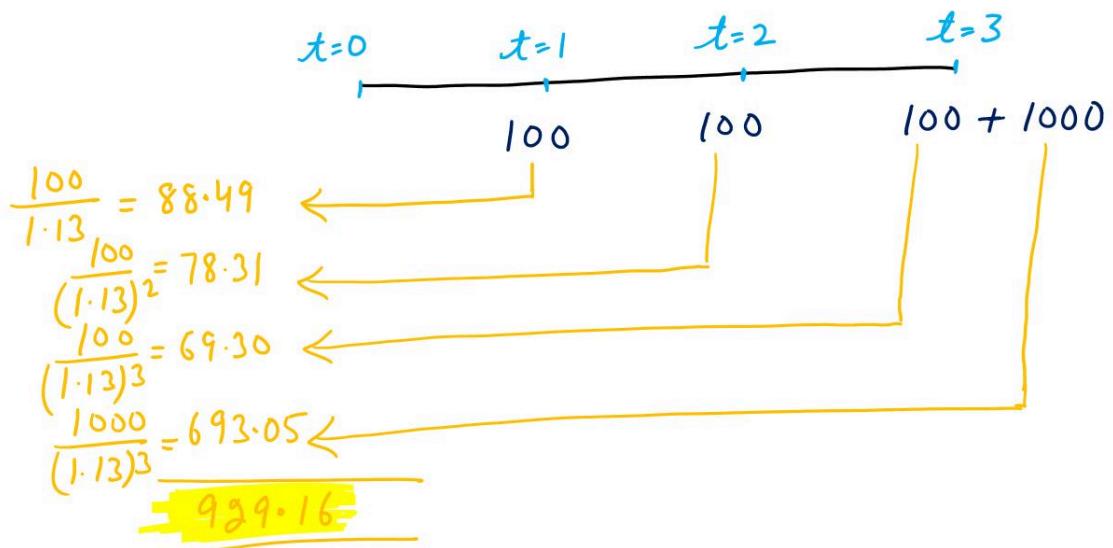
WHEN DISCOUNT RATE IS 8%



WHEN DISCOUNT RATE IS 10%



WHEN DISCOUNT RATE IS 13%



MARKET INTEREST RATE $>$ COUPON RATE

\Rightarrow BOND VALUE DECREASES

MARKET INTEREST RATE $<$ COUPON RATE

\Rightarrow BOND VALUE INCREASES

MARKET INTEREST RATE $=$ COUPON RATE

\Rightarrow BOND VALUE IS SAME AS FACE VALUE

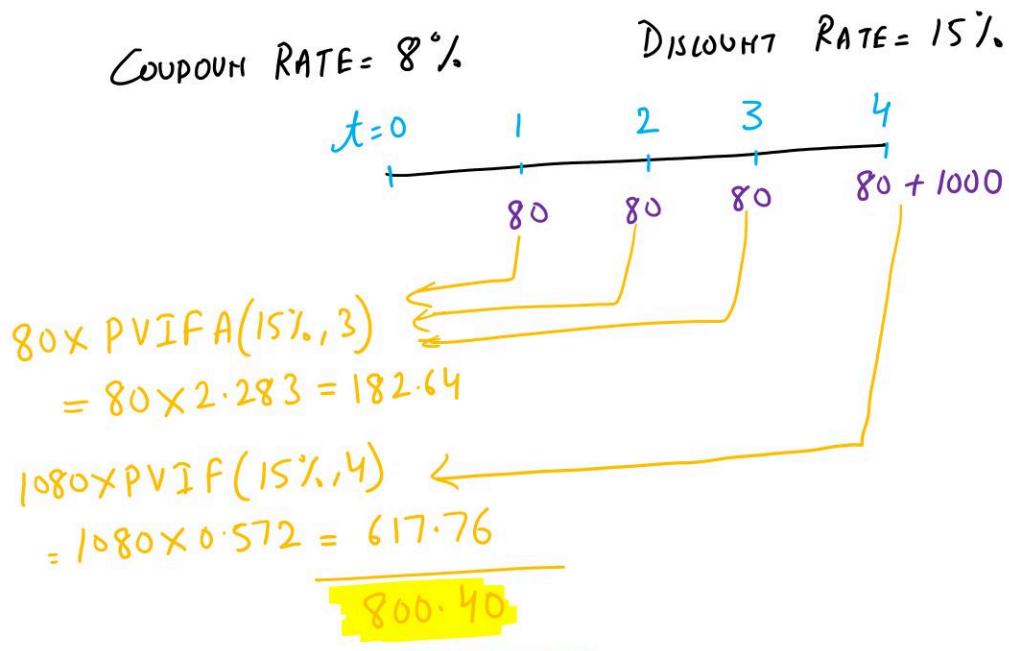
4. Computing Value of a Bond

A Company has outstanding an 8%, 4-year, Rs 1,000-par-value bond on which interest is paid annually.

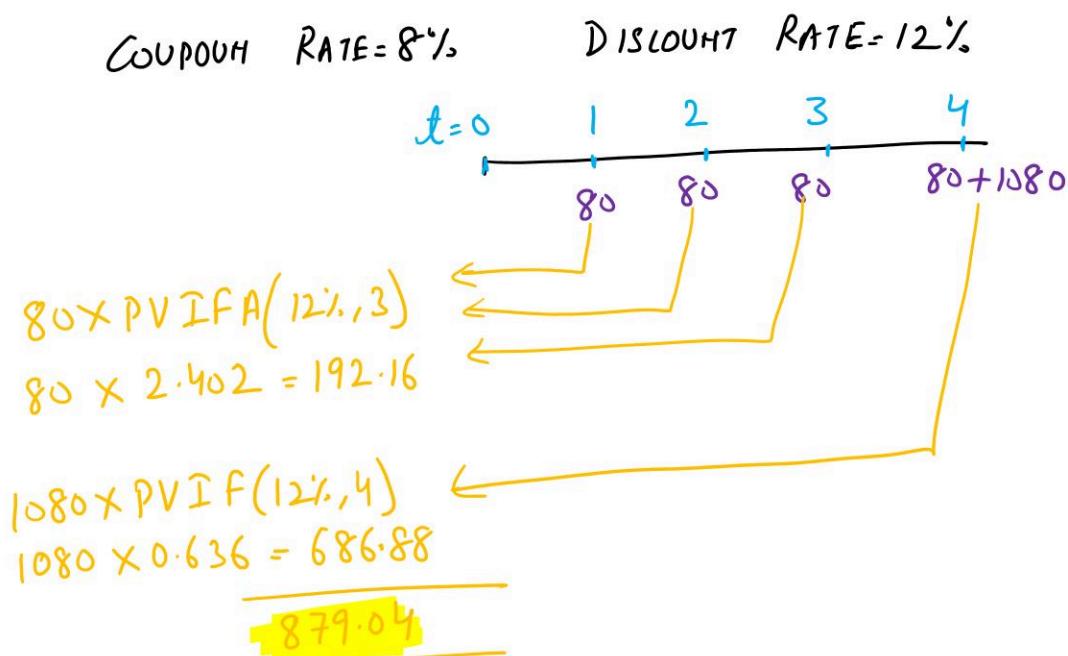
- If the market required rate of return is 15%, what is the market value of the bond?
- What would be its market value if the market required return dropped to 12%?
- If the coupon rate were 15% instead of 8%, what would be the market value, when required rate of return is 15%?

Solution:

- If the market required rate of return is 15%, what is the market value of the bond?



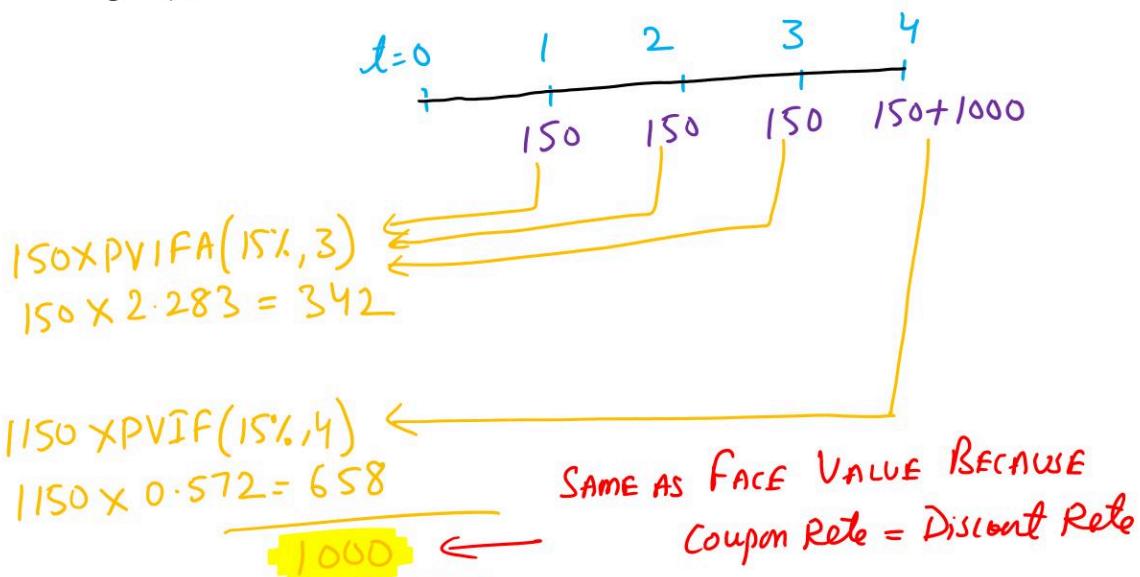
- What would be its market value if the market required return dropped to 12%?



- If the coupon rate were 15% instead of 8%, what would be the market value, when required rate of return is 15%?

Coupon Rate = 15%

Discount Rate = 15%



5. Discount Bonds and Premium Bonds

Discount bonds and premium bonds are two terms used to describe value of bond (price of bond) relative to their face value.

Market Interest Rate > Coupon Rate }
Bond Value < Face Value } DISCOUNT BONDS

Market Interest Rate < Coupon Rate }
Bond Value > Face Value } PREMIUM BONDS

Market Interest Rate = Coupon Rate }
Bond Value = Face Value } AT PAR BONDS

Discount Bonds

These are bonds that are sold in the market at a price below their face value. The coupon rate of a discount bond is lower than the prevailing interest rates in the market, which causes the bond's price to trade at a discount.

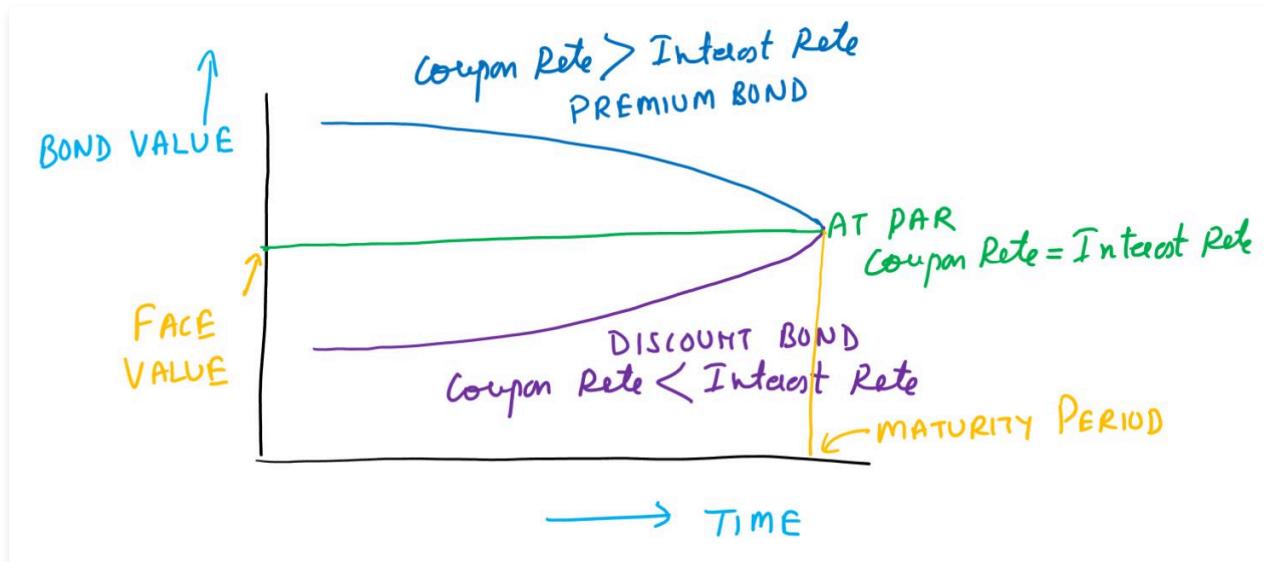
Premium Bonds

Conversely, premium bonds are those bonds that are sold in the market at a price higher than their face value. These bonds have a coupon rate higher than the prevailing market interest rates.

5. Discount Bonds and Premium Bonds

Following points summarize behaviour of value of a bond with respect to change in interest rates.

1. Whenever the going rate of interest, is equal to the coupon rate, a fixed-rate bond will sell at its **par value**. Normally, the coupon rate is set equal to the going rate when a bond is issued, causing it to sell at par initially.



2. Interest rates do change over time, but the coupon rate remains fixed after the bond has been issued. Whenever the going rate of interest rises above the coupon rate, a fixed-rate bond's price will fall below its par value. Such a bond is called a **discount bond**.
3. Whenever the going rate of interest falls below the coupon rate, a fixed-rate bond's price will rise above its par value. Such a bond is called a **premium bond**.
4. Thus, an increase in interest rates will cause the prices of outstanding bonds to fall, whereas a decrease in rates will cause bond prices to rise.
5. The market value of a bond will always approach its par value as its maturity date approaches, provided the firm does not go bankrupt.

6. Yield to Maturity

The yield to maturity (YTM) of a bond is the total return anticipated on a bond if it is held until it matures. It represents the annualized rate of return an investor can expect to earn from a bond if it is held until maturity.

$$\begin{aligned}\text{VALUE OF } & \text{BOND} = \frac{C}{1+r} + \frac{C}{(1+r)^2} + \dots + \frac{C}{(1+r)^n} + \frac{FV}{(1+r)^n} \\ & = C \times \frac{\left(1 - \frac{1}{(1+r)^n}\right)}{r} + \frac{FV}{(1+r)^n} \\ & \boxed{YTM = r}\end{aligned}$$

The YTM accounts for both the interest income from coupon payments and any capital gains or losses due to differences between the purchase price and the face value at maturity.

In other words, the YTM is that discount rate, which explains given value of a bond. It is also called IRR of bond. It is also called Yield of a bond.

$YTM > COUPON\ RATE$
→ DISCOUNT BOND

$YTM < COUPON\ RATE$
→ PREMIUM BOND

$YTM = COUPON\ RATE$
→ AT PAR BOND

It provides investors with a standardized measure to compare the potential returns of different bonds with varying characteristics.

The calculation of YTM requires use of computers/calculators. However following formula may be used for approximate value of YTM.

$$YTM = \frac{C + \frac{FV-P}{n}}{\frac{FV+P}{2}}$$

C = coupon payment

FV = Face Value / Redemption Value

n = Number of years till maturity

P = current market price

7. Yield to Call

If you purchased a bond that was callable and the company called it, you would not have the option of holding the bond until it matured. Therefore, the yield to maturity would not be earned.

If current interest rates are well below an outstanding bond's coupon rate, then a callable bond is likely to be called, and investors will estimate its expected rate of return as the yield to call (YTC) rather than as the yield to maturity (YTM).

To calculate the YTC, we may use the below formula:

$$\text{VALUE OF CALLABLE BOND} = \frac{C}{1+\lambda} + \frac{C}{(1+\lambda)^2} + \dots + \frac{C}{(1+\lambda)^n} + \frac{\text{CALL PRICE}}{(1+\lambda)^n}$$

YTC = λ

The diagram shows the formula for the value of a callable bond. Below it, a box contains the equation $YTC = \lambda$. Three blue arrows point from the terms in the formula above to the corresponding terms in the formula below: one arrow points from the first term $\frac{C}{1+\lambda}$ to the first term in the box; another points from the second term $\frac{C}{(1+\lambda)^2}$ to the second term in the box; and a third points from the last term $\frac{C}{(1+\lambda)^n}$ to the last term in the box. The word "CALL PRICE" is written above the final term in the formula above.

8. Total Yield

The total yield of a bond, also known as the yield to maturity (YTM), comprises two components: the current yield and the capital gains yield.

$$\text{TOTAL YIELD} = \text{CURRENT YIELD} + \text{CAPITAL GAINS YIELD}$$
$$\frac{\text{Periodic Coupon Payment}}{\text{Market Price of Bond}}$$
$$\frac{\text{Change in Bond Price}}{\text{Original Price}}$$

The **current yield** of a bond is calculated by dividing the annual interest payment (coupon payment) by the current market price of the bond. The current yield provides a simple measure of the bond's return based solely on its coupon payments relative to its current price.

The **capital gains yield** of a bond represents the change in its price over a given period, expressed as a percentage of its original price. This component of YTM reflects the potential appreciation or depreciation of the bond's market value due to changes in interest rates or other market factors. If interest rates decrease after the bond is issued, its market price may rise, resulting in a positive capital gains yield. Conversely, if interest rates increase, the bond's market price may fall, leading to a negative capital gains yield.

By combining the current yield and the capital gains yield, investors can assess the total return they may expect from holding a bond until maturity. The YTM provides a comprehensive measure of the bond's potential return, incorporating both its coupon payments and any changes in its market value over time.

8. Total Yield

Jagdish Corporation's bonds have 12 years remaining to maturity. The bonds have a Rs. 1,000 par value, interest is paid annually, and the coupon interest rate is 8%. The bonds have a yield to maturity of 9%. What is the current market price of these bonds? Given that: PVA_F (9%, 12) = 7.161, PV_F (9%, 12) = 0.356

Solution:

$$\text{VALUE OF BOND} = \text{PV of COUPONS} + \text{PV of REDEEMABLE VALUE}$$
$$C \times \text{PVA}_F(YTM, n)$$
$$8\% \times 1000 \times \text{PVA}_F(9\%, 12)$$
$$80 \times 7.161$$
$$572.88$$
$$FV \times \text{PV}_F(YTM, n)$$
$$1000 \times \text{PV}_F(9\%, 12)$$
$$1000 \times 0.356$$
$$356$$
$$572.88 + 356 = \boxed{\text{Rs } 928.88}$$

8. Total Yield

Wasim Ltd.'s bonds have 12 years remaining to maturity. Interest is paid annually, the bonds have a Rs. 1,000 par value, and the coupon interest rate is 10%. The bonds sell at a price of Rs. 850. What is their yield to maturity? Use Approximation method to calculate YTM.

Solution:

$$YTM = \frac{C + \frac{FV-P}{n}}{\frac{FV+P}{2}}$$
$$C = 10\% \times 1000$$
$$= \text{Rs } 100$$
$$= \frac{100 + \frac{1000-850}{12}}{\frac{1000+850}{2}}$$
$$= 0.1216$$
$$= 12.16\%$$

8. Total Yield

Wasim Ltd.'s bonds have 12 years remaining to maturity. Interest is paid annually, the bonds have a Rs. 1,000 par value, and the coupon interest rate is 10%. The bonds sell at a price of Rs. 850. Compute the yield to maturity, with trial and error method? Given that: PVAF (11%, 12) = 6.492, PVF (11%, 12) = 0.286, PVAF (13%, 12) = 5.918, PVF (13%, 12) = 0.231

Solution:

$$\text{Assume } YTM = 11\%$$

$$\begin{aligned}\text{Value of Bond} &= 100 \times \text{PVAF}(11\%, 12) + 1000 \times \text{PVF}(11\%, 12) \\ &= 100 \times 6.492 + 1000 \times 0.286 = \text{Rs } 935.2\end{aligned}$$

Since $935.2 > 850$, TAKE HIGHER YTM , ASSUME $YTM = 13\%$

$$\begin{aligned}\text{Value of Bond} &= 100 \times \text{PVAF}(13\%, 12) + 1000 \times \text{PVF}(13\%, 12) \\ &= 100 \times 5.918 + 1000 \times 0.231 = \text{Rs } 822.8\end{aligned}$$

Since $822.8 < 850$, YTM WILL BE BETWEEN $11\% < YTM < 13\%$

$$2\% \text{ DIFFERENCE OF } YTM \implies 935.2 - 822.8 = 112.4$$

$$\text{FOR } 935.2 - 850 = \text{Rs } 85.2 \implies \text{CORRESPONDING } YTM$$

$$\frac{2\%}{112.4} \times 85.2 = 1.52\%$$

$$YTM = 11\% + 1.52 = \boxed{12.52\%}$$

8. Total Yield

Hema Foods's bonds have 7 years remaining to maturity. The bonds have a face value of Rs. 1,000 and a yield to maturity of 8%. They pay interest annually and have a 9% coupon rate. What is their current yield? Given that: PVAF (8%, 7) = 5.206, PVF (8%, 7) = 0.583

Solution:

$$\begin{aligned}\text{CURRENT VALUE} &= C \times \text{PVAF(YTM, n)} + FV \times \text{PVF(YTM, n)} \\ \text{OF BOND} &= 90 \times \text{PVAF}(8\%, 7) + 1000 \times \text{PVF}(8\%, 7) \\ &= 90 \times 5.206 + 1000 \times 0.583 \\ &= \text{Rs } 1051.54 \\ \text{CURRENT YIELD} &= \frac{\text{COUPON AMOUNT}}{\text{CURRENT MARKET VALUE}} = \frac{90}{1051.54} = 8.56\%\end{aligned}$$

I = 9% of 1000 = Rs 90

8. Total Yield

Rashmi Enterprises has issued bonds that have a 10% coupon rate, payable semiannually. The bonds mature in 8 years, have a face value of Rs. 1,000, and a yield to maturity of 8.5%. What is the price of the bonds? Given that: PVA(4.25%, 16) = 11.440, PVF(4.25%, 16) = 0.514

Solution:

INTEREST IS PAID SEMI-ANNUALLY

INTEREST RATE IS HALVED
 $\frac{10\%}{2} = 5\%$

TIME TO MATURITY IS DOUBLED
 $8 \times 2 = 16$

DISCOUNTING RATE IS HALVED
 $\frac{8.5\%}{2} = 4.25\%$

$I = 5\% \text{ of } 1000 = \text{Rs } 50$

CURRENT PRICE OF BOND

$$\begin{aligned} &= 50 \times \text{PVA}(4.25\%, 16) + 1000 \times \text{PVF}(4.25\%, 16) \\ &= 50 \times 11.440 + 1000 \times 0.514 \\ &= 572 + 514 = \text{Rs } 1086 \end{aligned}$$

8. Total Yield

Avinash Corporation's bonds will mature in 10 years. The bonds have a face value of Rs. 1,000 and an 8% coupon rate, paid semiannually. The price of the bonds is Rs. 1,100. The bonds are callable in 5 years at a call price of Rs. 1,050. What is their yield to maturity? What is their yield to call?

Solution:

SINCE INTEREST IS PAID SEMI-ANNUALLY

$$\text{Coupon Rate} = \frac{8\%}{2} = 4\%$$

$$\text{Coupon Amount} = 4\% \text{ of } 1000 = \text{Rs } 40$$

$$n = 10 \times 2 = 20$$

PRICE (VALUE) OF BOND, $P = \text{Rs } 1100$

$$YTM = \frac{C + \frac{FV - P}{n}}{\frac{FV + P}{2}} = \frac{40 + \frac{1000 - 1100}{20}}{\frac{1000 + 1100}{2}} = 0.333, 3.33\%$$

SINCE INTEREST IS PAID SEMI-ANNUALLY, $YTM = 3.33 \times 2 = 6.66\%$

YIELD TO CALL
REDEEMABLE VALUE = Rs 1050 (RV)

$$n = 5 \times 2 = 10$$

$$YTM = \frac{C + \frac{RV - P}{n}}{\frac{PV + P}{2}} = \frac{40 + \frac{1050 - 1100}{10}}{\frac{1050 + 1100}{2}} = 3.26\%$$

SINCE PAID SEMI-ANNUALLY $3.26 \times 2 = 6.52\%$

8. Total Yield

The Brijesh Corporation's bonds have 5 years remaining to maturity. Interest is paid annually, the bonds have a Rs. 1,000 par value, and the coupon interest rate is 9%.

(a) What is the yield to maturity at a current market price of Rs. 829?

(b) Would you pay Rs. 829 for one of these bonds? Explain your answer.

Solution:

(a) What is the yield to maturity at a current market price of Rs. 829?

$$YTM = \frac{C + \frac{FV-P}{n}}{\frac{PV+P}{2}} = \frac{90 + \frac{1000-829}{5}}{\frac{1000 + 829}{2}} = 0.1397 \\ 13.97\%$$

$$C = 9\% \text{ of } 1000 = \text{Rs } 90$$

$$n = 5$$

$$P = \text{Rs } 829$$

(b) Would you pay Rs. 829 for one of these bonds if you thought that the appropriate rate of interest was 12%? Explain your answer.

$$\begin{aligned} \text{CURRENT PRICE OF BOND} &= 120 \times PVAF(12\%, 5) + 1000 \times PVF(12\%, 5) \\ &= 120 \times 3.436 + 1000 \times 0.520 \\ &= 412.32 + 520 = \text{Rs } 932.32 \end{aligned}$$

SINCE $829 < 932.32 \Rightarrow$ PURCHASE THE BOND

8. Total Yield

You just purchased a bond that matures in 5 years. The bond has a face value of Rs. 1,000 and has an 8% annual coupon. The bond has a current yield of 8.21%. What is the bond's yield to maturity?

Solution:

$$\text{CURRENT YIELD} = \frac{\text{COUPON AMOUNT}}{\text{MARKET VALUE OF BOND}}$$

$\leftarrow 8\% \text{ of } 1000 \\ = \text{Rs } 80$

\uparrow

$\curvearrowleft ?$

$$\text{MARKET PRICE OF BOND} = \frac{80}{0.0821} = \text{Rs } 974.42$$
$$YTM = \frac{80 + \frac{1000 - 974.42}{5}}{\frac{1000 + 974.42}{5}} = \frac{80 + 5.116}{987.21} = 0.0862$$

8.62%

8. Total Yield

A bond that matures in 7 years sells for Rs. 1,020. The bond has a face value of Rs. 1,000 and a yield to maturity of 10.5883%. The bond pays coupons semiannually. What is the bond's current yield?

Solution:

SEMI-ANNUAL PAYMENT OF COUPON

$$YTM = \frac{10.5883}{2} = 5.294\%$$
$$n = 7 \times 2 = 14$$
$$YTM = \frac{C + \frac{FV-P}{n}}{\frac{FV+P}{2}}$$

Annotations: $\frac{1000}{1000}$ above C , $\frac{1020}{14}$ above $FV-P$, $\frac{1020}{14}$ below $FV+P$, 0.5294 above $\frac{1000}{1000}$, 109.8 below $\frac{1020}{2}$.

$$\Rightarrow C = 54.9$$
$$\text{ANNUAL COUPON AMOUNT} = 54.9 \times 2 = \text{Rs } 109.8$$

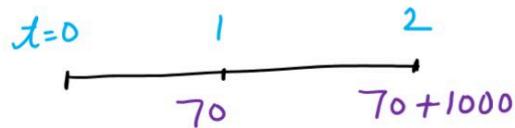
$$\text{CURRENT YIELD} = \frac{\text{ANNUAL COUPON AMOUNT}}{\text{MARKET PRICE OF BOND}}$$
$$= \frac{109.8}{1020} = 0.1076 \quad 10.76\%$$

8. Total Yield

Both a default-free two-year government bond and a two-year corporate bond pay a 7 percent coupon. However, the government bond sells at par (Rs 1,000) and the corporate bond sells at Rs 982.16. What are the yields on these two bonds? Why is there a difference in yields? Are these yields promised yields? Assume annual coupon payments.

Solution:

$$\text{COUPON AMOUNT} = 7\% \text{ of } 1000 = \text{Rs } 70$$



GOVERNMENT BOND

$$1000 = \frac{70}{1+YTM} + \frac{70+1000}{(1+YTM)^2} \Rightarrow YTM = 7\%$$

CORPORATE BOND

$$982.16 = \frac{70}{1+YTM} + \frac{70+1000}{(1+YTM)^2} \Rightarrow YTM = 8\%$$

The yield on the government bond is below that on the corporate bond because the corporate bond has default risk, while the government bond does not.

For both bonds, the yields we calculated are promised yields, because the coupons are promised coupons. These coupons will not be paid in full if there is a default. The promised yield is equal to the expected return on the government bond, since there is no chance of default. However, the promised yield is greater than the expected return on the corporate bond because default is a possibility.

9. Zero coupon bonds

Zero coupon bonds, also known as zeroes, are bonds that do not make periodic interest payments like traditional bonds. Instead, they are offered at a price significantly below their face value because they do not pay any coupons at all. This means that investors purchase zero coupon bonds at a discounted price and receive the full face value of the bond at maturity, thereby earning a return through capital appreciation rather than periodic interest payments.

$$\text{VALUE OF ZERO COUPON BOND} = \frac{F.V.}{(1+r)^t}$$

$F.V.$ = FACE VALUE
or
REDEEMABLE VALUE r = DISCOUNT RATE
 t = TIME TO MATURITY

Since zeroes do not pay coupons, their return is based solely on the difference between the purchase price and the face value of the bond at maturity.

9. Zero coupon bonds

A zero-coupon, Rs 1,000-par-value bond is currently selling for Rs 312 and matures in exactly 10 years. The compounding is being done semi-annually. What is the bond's:

- (i) (nominal annual) yield to maturity?
- (ii) (effective annual) yield to maturity?

Solution:

Value of Zero Coupon Bond

$$V = \frac{FV}{(1+r)^t}$$

$$V = FV \times PVIF(r, t)$$

$$312 = 1000 \times PVIF(r, t)$$

$$PVIF(r, t) = \frac{312}{1000} = 0.312$$

Since Semi-Annual Discounting $r = \frac{x}{2}$ $t = 2 \times 10 = 20$

From PVIF table If $PVIF\left(\frac{x}{2}, 20\right) = 0.312$

$$\Rightarrow \frac{x}{2} = 6\% \Rightarrow x = 12\%$$

Normal Rate = 12% Annually

$$\text{Effective Rate} = (1 + 0.06)^2 - 1 = 12.36\%$$

9. Zero coupon bonds

Suppose that the PQR corporation issues a Rs 1,000 face value, eight-year zero coupon bond. What is the yield to maturity on the bond if the bond is offered at Rs 627? Assume annual compounding.

Solution:

$$\text{VALUE OF ZERO COUPON BOND} = \frac{FV}{(1+YTM)^t}$$
$$627 = \frac{1000}{(1+YTM)^8}$$
$$(1+YTM)^8 = \frac{1000}{627}$$
$$YTM = 0.06 \Rightarrow 6\%$$

9. Zero coupon bonds

Suppose a company issues a Rs 1,000 face value, five-year zero coupon bond. The initial price is set at Rs 508.35. What is the yield to maturity using semiannual compounding?

Solution:

$$\text{VALUE OF BOND} = \frac{FV}{(1+i)^t}$$
$$508.35 = \frac{1000}{(1+YTM)^{10}}$$
$$\Rightarrow YTM = 0.07$$

SINCE SEMI-ANNUAL COMPOUNDING

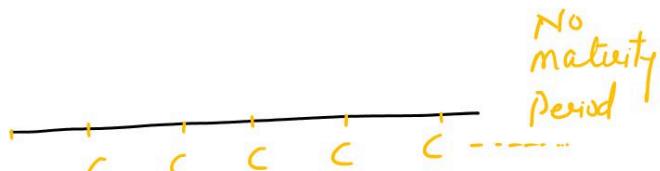
$$YTM = 0.07 \times 2 = 0.14 \quad 14\%$$

10. Perpetual Bond

A perpetual bond, also known as a perpetuity or perpetuity, is a type of bond that has no fixed maturity date. Unlike conventional bonds, which have a specified term during which interest payments are made and the principal is repaid upon maturity, perpetual bonds have no maturity date. Instead, they pay interest indefinitely, providing a fixed income stream to investors for as long as the bond issuer remains solvent.

VALUE OF A
PERPETUAL BOND

$$= \frac{C}{r}$$



C = PERIODIC COUPON AMOUNT

r = RATE OF RETURN (DISCOUNT RATE)

Although perpetual bonds have no maturity date, some issuers include call provisions that allow them to redeem the bonds at certain predetermined dates or intervals. When a bond is called, the issuer repurchases it from bondholders at a specified price, typically at a premium to the face value.

10. Perpetual Bond

Compute the value of a bond that pays Rs 50 a year forever. Assuming that your required rate of return for this type of bond is 12 percent.

Solution:

$$\begin{aligned} \text{VALUE OF PERPETUAL BOND} &= \frac{C}{r} \\ &= \frac{50}{0.12} = 416.67 \end{aligned}$$

11. Interest Rate Risk

The risk that arises for bond owners from fluctuating interest rates is called **interest rate risk**. How much interest rate risk a bond has depends on how sensitive its price is to interest rate changes.

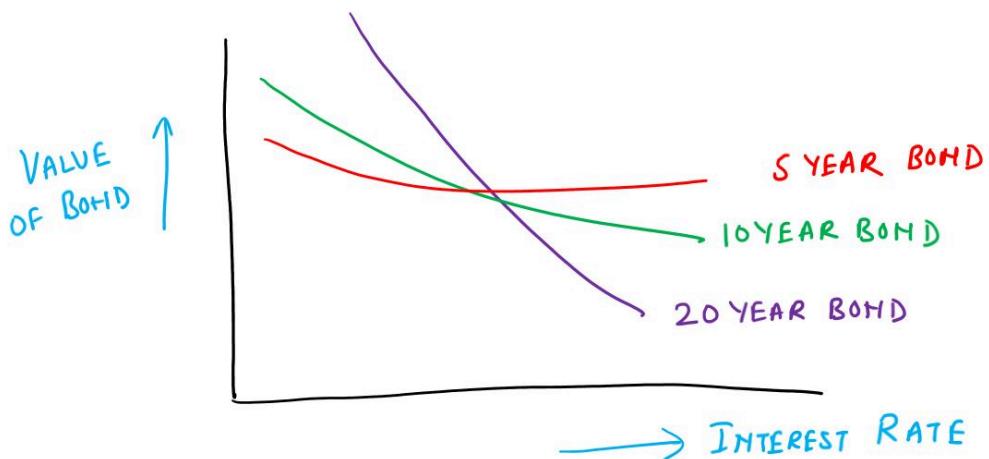
This sensitivity directly depends on two things: the time to maturity and the coupon rate.

1. All other things being equal, the longer the time to maturity, the greater the interest rate risk.
2. All other things being equal, the lower the coupon rate, the greater the interest rate risk.

Let us understand results of both these results.

1. Longer the time to maturity, the greater the interest rate risk

Shorter-term bonds are less sensitive to interest rate changes because the face value is received sooner, resulting in less impact on present value. However, for longer-term bonds, even small changes in interest rates compounded over many years can substantially affect present value, making them more volatile.



Additionally, interest rate risk increases at a decreasing rate, meaning that while a 10-year bond has significantly more risk than a 1-year bond, the incremental increase in risk from a 10-year to a 30-year bond is relatively small.

2. Lower the coupon rate, the greater the interest rate risk

Bonds with lower coupon rates have greater interest rate risk because their value is more dependent on the face amount to be received at maturity.

The reason for this effect is that the lower the coupon rate, the more return to the investor is reflected in the principal payment at maturity (Maturity Value) as opposed to interim interest payments (coupons). Put another way, investors realize their returns later with a low-coupon-rate bond than with a high-coupon-rate bond. In general, the further in the future the bulk of the payment stream, the greater the present value effect caused by a change in interest rate (required return). Even if high and low coupon rate bonds have the same maturity, the price of the low coupon rate bond tends to be more volatile.

12. Inflation and Interest Rates

Let us understand the relationship between inflation and interest rates using an example.

Imagine the one-year interest rate is 15.5 percent, meaning that if someone deposits Rs 100 in a bank today, they will receive Rs 115.50 at the end of the year, inclusive of interest.

Now, consider that a burger costs Rs 5 today, allowing Rs 100 to purchase 20 burgers ($100/5 = 20$). This implies that the purchasing power of Rs 100 is equivalent to 20 burgers.

Assuming an inflation rate of 5 percent, the price of a burger increases to Rs 5.25 next year. Inflation refers to the general rise in prices of goods and services over time, resulting in a decrease in the purchasing power of money.

Given the new price of Rs 5.25 per burger, the Rs 115.50 earned from the bank deposit can now buy $115.50/5.25 = 22$ burgers. This indicates an increase in the quantity of burgers that can be purchased compared to the initial 20 burgers, signifying a 10 percent increase in purchasing power.

Economists differentiate between the nominal interest rate, which is the stated rate of interest, and the real interest rate, which adjusts for inflation. In this scenario, although the nominal interest rate is 15.5 percent, the real interest rate is only 10 percent. The real interest rate reflects the actual increase in purchasing power adjusted for inflation, providing a more accurate measure of the return on investment.

We can generalize the relation between nominal rates, real rates, and inflation as:

$$(1+n) = (1+r) \times (1+i)$$

n = Nominal Rate

r = Real Rate

i = Inflation Rate

Above relation is sometimes approximated as:

$$n \approx r + i$$

It is important to note that financial rates, such as interest rates, discount rates, and rates of return, are almost always quoted in nominal terms.

12. Inflation and Interest Rates

If investors require a 10 percent real rate of return, and the inflation rate is 8 percent, what must be the approximate nominal rate? What will be exact nominal rate?

Solution:

EXACT EQUATION

$$\begin{aligned}(1+n) &= (1+\alpha)(1+i) \\ 1+n &= (1+0.10)(1+0.08) \\ 1+n &= 1.1880 \\ n &= 0.1880\end{aligned}$$

18.80%

APPROXIMATED EQUATION

$$\begin{aligned}n &= \alpha + i \\ &= 0.10 + 0.08 \\ &= 0.18\end{aligned}$$

18%

12. Inflation and Interest Rates

An investment offers a 14% total return over the coming year. Amit thinks the total real return on this investment will be only 10%. What does Amit believe the inflation rate will be over the next year?

Solution:

$$\begin{aligned}(1+n) &= (1+\alpha) \times (1+i) \\ 0.14 &\quad \quad \quad 0.10 \\ i &= \frac{1+0.14}{1+0.10} - 1 = 0.0364\end{aligned}$$

3.64%

12. Inflation and Interest Rates

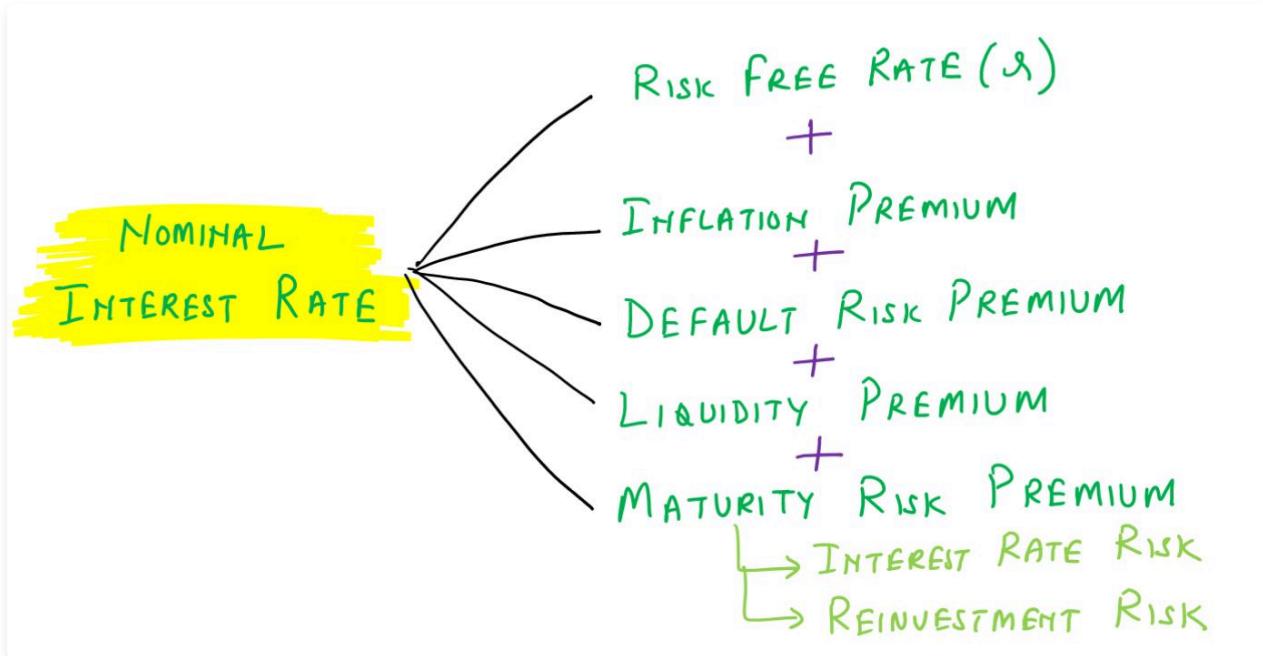
Say you own an asset that had a total return last year of 12.5%. If the inflation rate last year was 5.3%, what was your real return?

Solution:

$$(1+n) = (1+\alpha) \times (1+i)$$
$$n = \frac{1+0.125}{1+0.053} - 1 = 0.0684 \quad 6.84\%$$

13. Determinants of Market Interest Rates

We have just discussed impact of inflation on the interest rates.



Various factors contribute to the differences in market interest rates among different debt securities. Typically, the quoted or nominal interest rate on a debt security, comprises following components:

1. Real Risk-Free Rate (r)

This is the baseline interest rate that would prevail in an ideal, risk-free market environment with no inflation. It represents the compensation an investor would demand for forgoing consumption in the present and lending money with no risk. The real risk-free rate is influenced by factors such as economic growth prospects, productivity, and monetary policy.

2. Inflation Premium (IP)

Investors demand compensation for the expected loss in purchasing power due to inflation. Therefore, the nominal interest rate includes an inflation premium to account for the anticipated erosion of the currency's value over time. Higher expected inflation leads to higher nominal interest rates to preserve the real return to investors. It is important to note that the inflation rate built into interest rates is the inflation rate expected in the future, not the rate experienced in the past.

3. Default Risk Premium (DRP)

Debt securities with higher default risk or credit risk typically offer higher yields to compensate investors for the added risk. The risk premium reflects the additional return investors require for bearing the uncertainty of potential default or downgrade in credit quality. Factors affecting the risk premium include the issuer's creditworthiness, financial stability, industry conditions, and economic outlook. The Default Risk Premium is zero for Government securities.

4. Marketability or Liquidity Premium (LP)

Securities that are more easily traded in the market or have higher liquidity tend to offer lower yields compared to less liquid securities. Investors value liquidity because it provides the ability to buy or sell securities quickly and with minimal impact on market prices. Debt securities with lower liquidity may command higher yields to compensate investors for the potential difficulty in selling or trading them.

5. Maturity Risk Premium (MRP)

The Maturity Risk Premium is a compensation demanded by investors to account for the additional risk associated with holding bonds, due to fluctuations in interest rates over time. It reflects the combined impact of interest rate risk and reinvestment risk on a bond's yield.

(i) *Interest Rate Risk:* Interest rate risk refers to the risk of a decline in the value of bonds as a result of changes in prevailing interest rates. When interest rates rise, the value of existing bonds with fixed coupon rates decreases because newer bonds offer higher yields. This inverse relationship between bond prices and interest rates is more pronounced for bonds with longer maturities. Therefore, longer-term bonds are exposed to greater interest rate risk compared to short-term bonds. Even if the

risk of default is the same, bonds with longer maturities experience larger price fluctuations in response to changes in interest rates.

(ii) *Reinvestment Risk:* Reinvestment risk arises from the uncertainty of reinvesting coupon payments or bond proceeds at prevailing interest rates when existing bonds mature or coupons are received. When interest rates decline, bondholders may face the challenge of reinvesting cash flows at lower rates, resulting in reduced income. This risk is particularly significant for callable bonds and short-term bonds because the shorter the maturity, the sooner cash flows must be reinvested at potentially lower rates. In contrast, holders of long-term bonds may continue to enjoy higher coupon payments without facing significant reinvestment risk.

It is essential to distinguish between interest rate risk and reinvestment rate risk. Interest rate risk affects the value of a bond portfolio, causing fluctuations in its market price, while reinvestment rate risk impacts the portfolio's income stream, leading to variability in coupon payments or cash flows. Investors holding long-term bonds are more exposed to interest rate risk but less exposed to reinvestment rate risk, as their income remains relatively stable. Conversely, investors holding short-term bonds experience lower interest rate risk but face higher reinvestment rate risk, resulting in income fluctuations with changes in interest rates.

13. Determinants of Market Interest Rates

The real risk-free rate is 3%, and inflation is expected to be 3% for the next 2 years. A 2-year Treasury security yields 6.3%. What is the maturity risk premium for the 2-year security?

Solution:

Yield on a security $\downarrow 6.3\%$

$$= \text{Risk free rate of interest} + \text{Inflation premium} + \text{Default risk premium} + \text{Liquidity premium} + \text{Maturity risk premium}$$

3% 3% 0 0 $?$

$6.3 = 3 + 3 + 0 + 0 + MRP$

$MRP = 0.3\%$

13. Determinants of Market Interest Rates

The real risk-free rate of interest is 4%. Inflation is expected to be 2% this year and 4% during the next 2 years. Assume that the maturity risk premium is zero. What is the yield on 2-year Treasury securities and on 3-year Treasury securities?

Solution:

For 2 YEAR SECURITY

Yield on a security $\leftarrow 4 + 3 + 0 + 0 + 0 = 7\%$

= Risk free rate of interest + Inflation premium + Default risk premium + Liquidity premium + Maturity risk premium

$$\begin{array}{c} \uparrow 4\% \\ 2\% + 4\% \\ \hline \frac{2}{2} = 3\% \end{array}$$

For 3 YEAR SECURITY

Yield on a security $\leftarrow 4 + 3.33 + 0 + 0 + 0 = 7.33\%$

= Risk free rate of interest + Inflation premium + Default risk premium + Liquidity premium + Maturity risk premium

$$\begin{array}{c} \uparrow 4 \\ 2\% + 4\% + 4\% \\ \hline \frac{3}{3} = 3.33 \end{array}$$

13. Determinants of Market Interest Rates

The real risk-free rate is 2%. Inflation is expected to be 3% this year, 4% next year, and then 3.5% thereafter. The maturity risk premium is estimated to be $0.0005 \times (t-1)$, where t = number of years to maturity. What is the nominal interest rate on a 7-year Treasury security?

Solution:

Yield on a security

= Risk free rate of interest + Inflation premium + Default risk premium + Liquidity premium + Maturity risk premium

$$\begin{array}{c} \uparrow 2\% \\ 3\% + 4\% + 3.5\% \\ \hline \frac{3}{3} = 3.5\% \end{array}$$

$$\begin{array}{l} 0.0005 \times (7-1) \\ = 0.003 \end{array}$$

$$= 0.02 + 0.035 + 0 + 0 + 0.003 = 0.058 \quad \boxed{5.8\%}$$

13. Determinants of Market Interest Rates

Assume that the real risk-free rate is 3% and that inflation is expected to be 8% in Year 1, 5% in Year 2, and 4% thereafter. Assume also that all Treasury securities are highly liquid and free of default risk. If 2-year and 5-year Treasury notes both yield 10%, what is the difference in the maturity risk premiums (MRPs) on the two notes?

Solution:

For 2 YEAR SECURITY

Yield on a security $\leftarrow 10\%$

= Risk free rate of interest + Inflation premium + Default risk premium + Liquidity premium + Maturity risk premium

$$\begin{array}{ccccccc} 3\% & & \frac{8\%+5\%}{2} = 6.5\% & 0 & 0 & \uparrow ? \\ \uparrow & & \uparrow & \uparrow & \uparrow & & \end{array}$$
$$10 = 3 + 6.5 + 0 + 0 + MRP$$
$$MRP = 0.5$$

For 5 YEAR SECURITY

Yield on a security

= Risk free rate of interest + Inflation premium + Default risk premium + Liquidity premium + Maturity risk premium

$$\begin{array}{ccccccc} 3\% & & \frac{8\%+5\%+4\%+4\%+4\%}{5} & 0 & 0 & \uparrow ? \\ \uparrow & & \uparrow & \uparrow & \uparrow & & \end{array}$$
$$10 = 3 + 5 + 0 + 0 + MRP$$
$$MRP = 2\%$$

$$MRP_5 - MRP_2 = 2 - 0.5 = 1.5\%$$

13. Determinants of Market Interest Rates

Because of a recession, the inflation rate expected for the coming year is only 3%. However, the inflation rate in Year 2 and thereafter is expected to be constant at some level above 3%. Assume that the real risk-free rate = 2% for all maturities and that there are no maturity premiums. If 3-year Treasury notes yield 2 percentage points more than 1-year notes, what inflation rate is expected after Year 1?

Solution:

$$\text{YIELD ON 1 YEAR NOTES} = 2\% + 3\% + 0 + 0 + 0 = 5\%$$

$$\begin{aligned}\text{YIELD ON 3 YEAR NOTES} &= \text{YIELD ON 1 YEAR NOTES} + 2\% \\ &= 5\% + 2\% = 7\%\end{aligned}$$

Let inflation rate from year 2 = x

For 3 Year Notes

$$\text{YIELD} = 7\% \quad \text{RISK FREE RATE} = 2\%$$

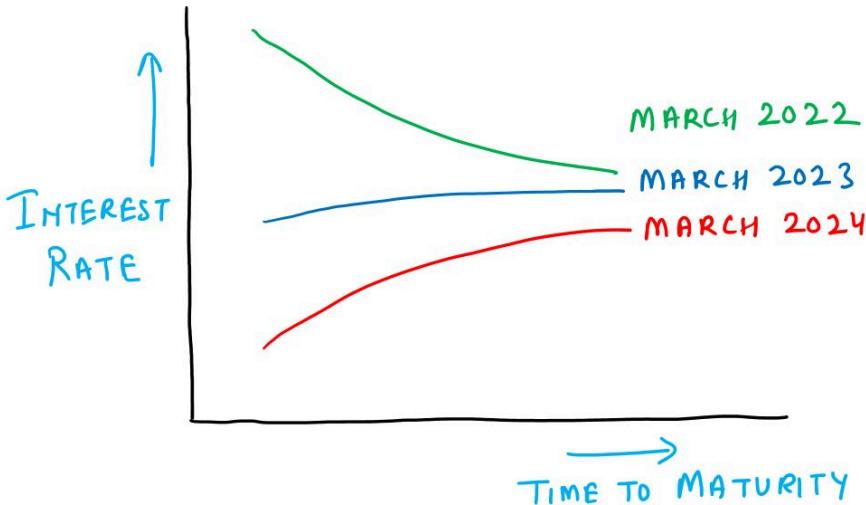
$$7 = \frac{3+x+x}{3} + 2$$

$$x = 6\%$$

14. Term Structure of Interest Rates

At any point in time, short-term and long-term interest rates will generally be different. Sometimes short-term rates are higher, sometimes lower.

The relationship between short and long-term interest rates is known as the **term structure of interest rates**.



The term structure is important both to corporate treasurers deciding whether to borrow by issuing long or short-term debt and to investors who are deciding whether to buy long or short-term bonds.

The term structure is depicted graphically using a **yield curve**, which shows interest rates for different maturities on specific dates. The shape and slope of the yield curve can vary over time, reflecting changes in economic conditions and expectations.

The Figure presents interest rates for different maturities on three different dates in March 2022, March 2023 and March 2024.

In March 2022, high inflation was anticipated. The short-term yields were higher than long-term yields due to a larger inflation premium for short-term bonds. This resulted in a downward-sloping yield curve, indicating that short-term rates were higher.

By March 2023, as inflation declined, all rates decreased, leading to a humped yield curve where medium-term rates were higher than short- or long-term rates. This shape often occurs when rates initially rise but then decline for longer-term maturities.

In March 2024, with rates falling below previous levels, short-term rates dropped below long-term rates, causing an upward-sloping yield curve where long-term rates were higher.

Historically, long-term rates are generally above short-term rates because of the maturity risk premium, so the yield curve usually slopes upward. For this reason, people often call an upward-sloping yield curve a **normal** yield curve. If a yield curve slopes downward, it is called **abnormal** curve (for example in recession).

15. Term Structure Theories

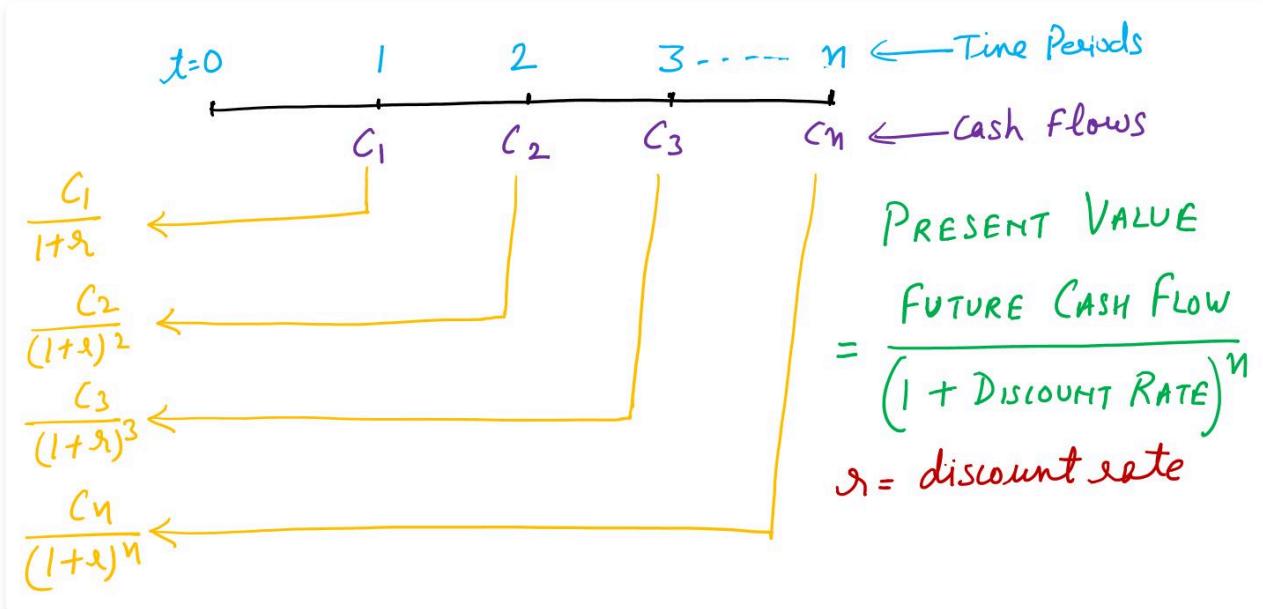
The term structure of interest rates, or yield curve, refers to the relationship between interest rates and the maturity of debt securities. There are three primary theories that attempt to explain the term structure:

1. **Unbiased Expectations Theory:** This theory posits that the expected return from a one-period security is equal to the expected return from a multi-period security, assuming they carry the same level of risk. In other words, investors are indifferent to investing in bonds of different maturities because they expect the same return regardless of the maturity. For example, according to this theory, the return from a 3-year bond should be equal to the return from a 2-year bond plus the return from a 1-year bond.
 2. **Segmented Markets Theory:** Also known as institutional, hedging, or segmentation theory, this perspective suggests that the bond market is segmented based on the term structure of bonds. According to this theory, each segment of the bond market operates independently, and the return offered by bonds within a specific term structure is determined solely by the supply and demand dynamics within that segment. In other words, investors have preferences for bonds with certain maturities and do not necessarily consider bonds with different maturities as substitutes.
 3. **Liquidity Preference Theory:** This theory rejects the idea that short-term and long-term securities are comparable solely based on maturity. Instead, it acknowledges that yields on different maturities are related to each other through the expectations of both short-run and long-run rates. According to the liquidity preference theory, investors demand a risk premium for holding longer-term bonds due to the increased price variability associated with longer maturities. Therefore, investors view shorter-term bonds as safer and demand a premium for holding longer-term bonds to compensate for the increased risk.
-

1. Concept of Valuation

Valuation of any financial asset, whether it is a bond or a stock, is fundamentally based on the concept of discounted cash flow (DCF) analysis. This approach determines the intrinsic value of an asset by calculating the present value of all expected future cash flows it is expected to generate.

The first step in DCF analysis is to estimate the future cash flows the asset is expected to generate. For bonds, these cash flows typically consist of periodic interest payments and the principal repayment at maturity. For stocks, cash flows include dividends and the eventual sale of the stock.



Since cash received in the future is worth less than cash received today due to the opportunity cost of capital and risk, future cash flows must be discounted back to their present value. This is done using a discount rate, often referred to as the required rate of return or discount rate, which reflects the risk associated with the asset.

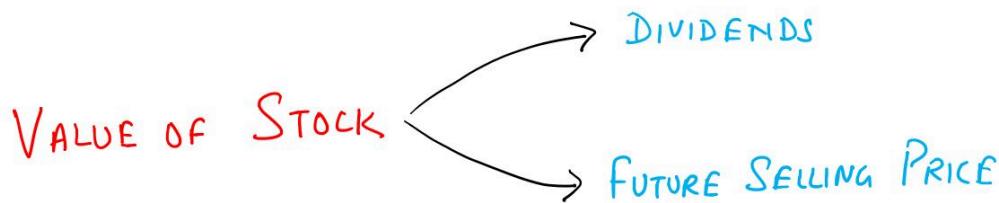
Once all future cash flows are discounted to their present value, they are summed up to derive the total intrinsic value of the asset. This total represents the estimated fair value of the asset in today's terms.

Required Rate of Return

The Required Rate of Return (r), also known as the hurdle rate or the minimum acceptable rate of return, is the minimum return that an investor expects to achieve from an investment in order to compensate for the level of risk associated with that investment. It represents the minimum rate of return necessary to justify the investment decision.

2. Value of Common Stock

The value of a common stock comes from the cash it's expected to generate in the future. This includes dividends investors receive and the future selling price of the stock.



To figure out how much a stock is truly worth, we calculate its intrinsic value by discounting these expected cash flows at the rate of return investors expect.

Here, let us understand the difference between stock price and intrinsic value. The **stock price** is what you see on the market right now, while **intrinsic value** is the actual worth of the stock, which we have to estimate. If the stock market is working efficiently, the difference between these two values shouldn't be huge or last very long.

So, the intrinsic value of a stock is the present value of all the dividends it's expected to pay out in the future.

Also called fundamental value

$$\text{INTRINSIC VALUE of Stock} = \frac{D_1}{(1+r)} + \frac{D_2}{(1+r)^2} + \frac{D_3}{(1+r)^3} + \dots \frac{D_\infty}{(1+r)^\infty}$$

$D_1, D_2, D_3 \dots D_\infty$ are dividends at end of time period 1, 2, 3 ... respectively

r = discount rate

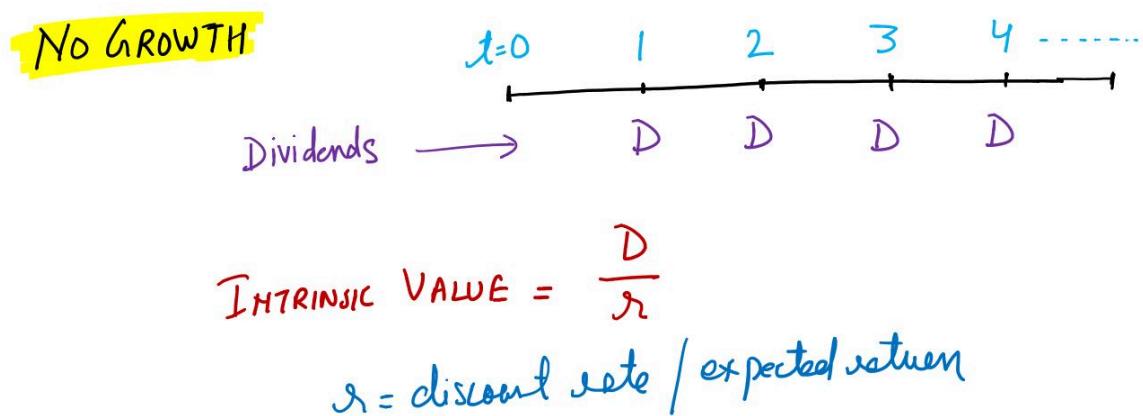
The valuation of stocks is done by discounting **dividends**, and not earnings. Discounting earnings instead of dividends would lead to an overestimated stock price, as it would overlook the investment firms must make today to generate future dividends, with only a portion of earnings distributed as dividends while the rest is reinvested.

3. Dividend based Models

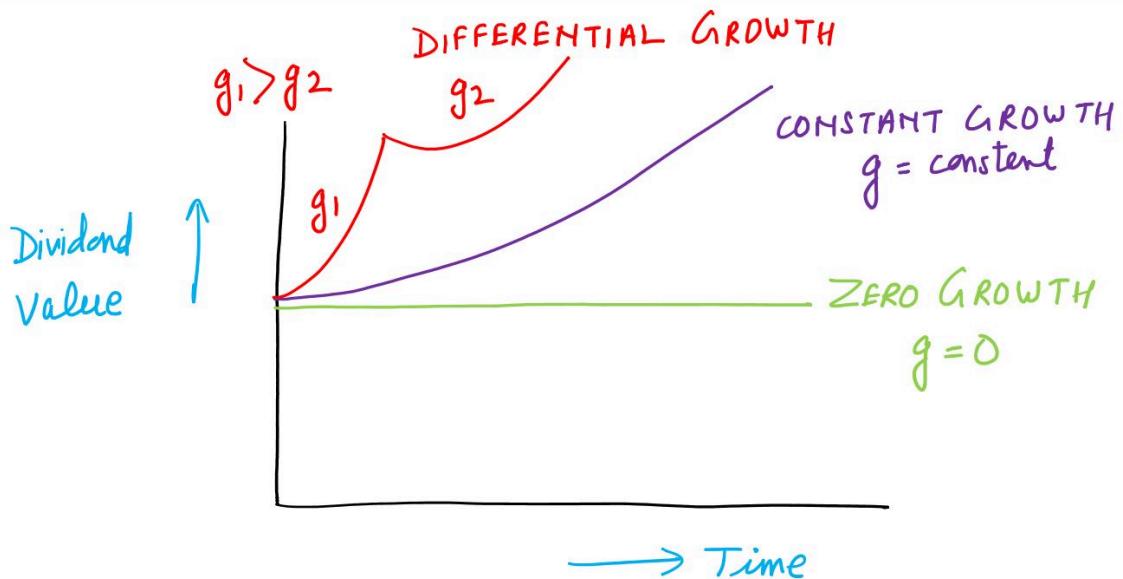
There are 3 models which provide different ways to estimate the intrinsic value of a stock based on the expected growth pattern of dividends.

1. Zero Growth Model

In this model, it's assumed that dividends paid by the company will remain constant over time.



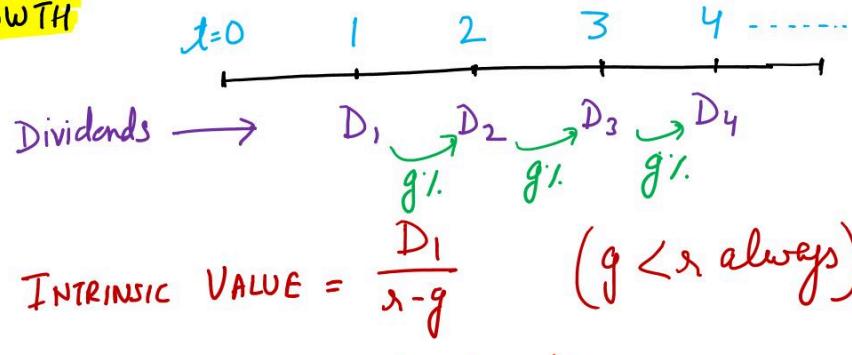
Since dividends don't grow, the value of the stock is calculated simply by dividing the annual dividend (D) by the required rate of return (r) for investors. Note that this formula is similar to the formula for valuation of a perpetuity.



2. Constant Growth Model

Also known as the Gordon Growth Model or Dividend Discount Model (DDM), this model assumes that dividends will grow at a constant rate indefinitely.

CONSTANT GROWTH



$$\text{INTRINSIC VALUE} = \frac{D_1}{r-g} \quad (g < r \text{ always})$$

$$D_1 = D_0 (1+g)$$

g = growth rate *it is expected growth rate*

The value of the stock is determined by dividing the next expected dividend (D_1) by the difference between the required rate of return (r) and the growth rate of dividends (g).

This is also known as **Gordon model** of constant growth. The dividend can also be calculated from Earning per Share(EPS), using Retention Ratio (b).

$$D = EPS (1 - b)$$

↑ ↑
 DIVIDEND EARNING PER SHARE RETENTION RATIO

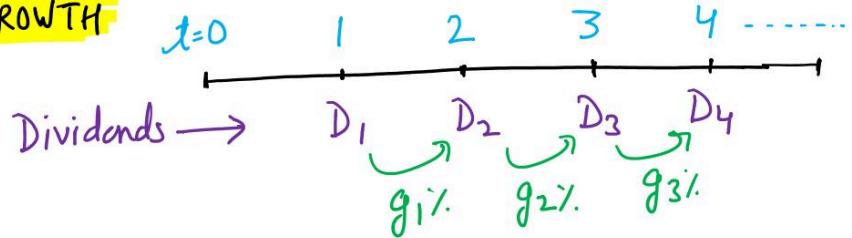
$$\text{INTRINSIC VALUE, } P_0 = \frac{D_1}{r-g} = \frac{EPS_1 (1-b)}{r-g}$$

When the dividend growth rate (g) of a stock is equal to its Rate of Return (r), theoretically, the stock price becomes infinite. However, in the real world, stock prices are never infinite. So, if an analyst's estimated growth rate (g) for a particular company is equal to or higher than its Rate of Return (r), it suggests a mistake has been made.

3. Differential Growth of Dividends

In this model, dividends are expected to grow at different rates over time. It's a more complex model where the growth rate of dividends changes over specific periods.

DIFFERENTIAL GROWTH



$$D_2 = D_1 (1+g_1)$$

$$D_3 = D_2 (1+g_2)$$

$$D_4 = D_3 (1+g_3)$$

INTRINSIC VALUE = P.V. of $D_1, D_2, D_3, D_4 \dots$

The value of the stock is calculated by discounting each future dividend at the corresponding discount rate.

3. Dividend based Models

HUL is a no growth company, pays a dividend of Rs. 5 per share. If the expected rate of return is 10%, calculate the current market price of the share?

Solution:

$$D = \text{Rs } 5 \quad r_e = 0.10$$

$$\begin{aligned} \text{CURRENT SHARE PRICE} &= \frac{D}{r_e} \\ (\text{P}_0) &= \frac{5}{0.10} = \text{Rs } 50 \end{aligned}$$

3. Dividend based Models

ABC is a company having share capital of Rs. 10 lakhs of Rs. 10 each. It distributed current dividend of 20% per annum. Annual growth rate in dividend expected is 2%. The expected rate of return on its equity capital is 15%. Compute price of share.

Solution:

$$g = 0.02 \quad r = 0.15 \quad D_0 = 20\% \text{ of } Rs 10 = Rs 2$$

$$\begin{aligned} \text{CURRENT SHARE PRICE (P_0)} &= \frac{D_1}{r-g} = \frac{D_0(1+g)}{r-g} \\ &= \frac{2(1+0.02)}{0.15 - 0.02} = \boxed{Rs. 15.69} \end{aligned}$$

3. Dividend based Models

Suppose an investor is considering the purchase of a share of the HDFC Bank. The stock will pay a Rs 3 dividend a year from today. This dividend is expected to grow at 10 percent per year for the foreseeable future. The investor thinks that the required return on this stock is 15 percent, given her assessment of HDFC Bank's risk.

- (i) What is the price of a share of HDFC Bank stock?
- (ii) If growth rate is estimated to be 12.5 percent, what will be the value of the share?
- (iii) If there is zero growth, what will be the value of the share?
- (iv) what will be the value of the share, if growth rate is estimated to be 18 percent ?

Solution:

$$D_1 = \text{Rs } 3 \quad g = 0.10 \quad r = 0.15$$

- (i) What is the price of a share of HDFC Bank stock?

$$(i) \text{ Current Share Price} = \frac{D_1}{r-g} = \frac{3}{0.15-0.10} = \text{Rs } 60$$

- (ii) If growth rate is estimated to be 12.5 percent, what will be the value of the share?

$$(ii) \text{ Current Share Price} = \frac{3}{0.15-0.125} = \text{Rs } 120$$

- (iii) If there is zero growth, what will be the value of the share?

$$(iii) \text{ Current Share Price} = \frac{D}{r} = \frac{3}{0.15} = \text{Rs } 20$$

- (iv) what will be the value of the share, if growth rate is estimated to be 18 percent ?

$$(iv) \quad g = 0.18 \quad r = 0.15$$

$$\text{Value of stock} = \frac{D_1}{r-g}$$

Since $g < r \Rightarrow \text{Denominator becomes -ve}$

The value of required rate of return (r) should always be greater than growth rate (g), for this formula.

3. Dividend based Models

The stock of XYZ company is expected to be sold at Rs 36, with a dividend of Rs 6, after 1 year. If the required rate of return is 20%, what will be the price of the share?

Solution:

Dividend After 1 Year

$$D_1 = \text{Rs } 6$$



$$PV = \frac{6}{(1+0.20)^1}$$

Share Price After 1 Year

$$P_1 = \text{Rs } 36$$



$$\frac{36}{(1+0.20)^1}$$

$$P_0 (\text{ Share Price}) = \frac{6}{1+0.20} + \frac{36}{1+0.20} = \text{Rs } 35$$

3. Dividend based Models

ABC has paid annual dividend of Rs 4 per share. It is expected to grow at 20% for the next two years and 10% thereafter. The required rate of return of equity investors is 15%. Compute the current price at which equity shares should sell. (Present Value Interest Factor (PVIF) @ 15% for year 1 is 0.8696 and for year 2 is 0.7561).

Solution:

$$D_0 = \text{Rs } 4$$

$$\alpha = 0.15$$

$$D_1 = 4 \times 1.20 = \text{Rs } 4.80$$

$$D_2 = 4 \times (1.20)^2 = \text{Rs } 5.76$$

$$D_3 = 4 \times (1.20)^2 \times (1.10) = \text{Rs } 6.336$$

Value of share after 2 years

$$P_2 = \frac{D_3}{\alpha - g} = \frac{6.336}{0.15 - 0.10} = 126.72$$

$$P_0 = \frac{D_1}{1+\alpha} + \frac{D_2}{(1+\alpha)^2} + \frac{TV_2}{(1+\alpha)^2} = \frac{4.80}{1.15} + \frac{5.76}{1.15^2} + \frac{126.72}{1.15^2}$$
$$\left. \begin{aligned} \frac{1}{1.15} &= 0.8696 & \frac{1}{1.15^2} &= 0.7561 \end{aligned} \right\} = \text{Rs } 104.34$$

3. Dividend based Models

A company has just declared a dividend of Rs 14.00 per share. Bikram is planning to purchase the share of this company, anticipating increase in growth rate from 8% to 9%, which will continue for 3 years. He also expects the market price of this share to be Rs 360 after three years.

- (i) What is the maximum amount, Bikram should pay for shares, if he requires a rate of return of 13% per annum.
- (ii) What is the maximum price Bikram will be willing to pay for share, if he is of the opinion that the 9% growth can be maintained indefinitely and require 13% rate of return per annum.
- (iii) What is the price of share at the end of three years, if 9% growth rate is achieved and assuming other conditions remaining same as in (ii) above.

Solution:

- (i) What is the maximum amount, Bikram should pay for shares, if he requires a rate of return of 13% per annum.

$$r = 0.13 \quad P_3 = 360 \text{ (Price after 3 years)}$$

$$D_1 = 14 \times 1.09 = 15.26$$

$$D_2 = 14 \times (1.09)^2 = 16.63$$

$$D_3 = 14 \times (1.09)^3 = 18.13$$

$$\begin{aligned} PV(P_0) &= \frac{D_1}{1+r} + \frac{D_2}{(1+r)^2} + \frac{D_3}{(1+r)^3} + \frac{P_3}{(1+r)^3} \\ &= \frac{15.26}{1+0.13} + \frac{16.63}{(1+0.13)^2} + \frac{18.13}{(1+0.13)^3} + \frac{360}{(1+0.13)^3} = \text{Rs } 288.56 \end{aligned}$$

- (ii) What is the maximum price Bikram will be willing to pay for share, if he is of the opinion that the 9% growth can be maintained indefinitely and require 13% rate of return per annum.

$$D_1 = 14 \times 1.09 = \text{Rs } 15.26$$

$$g = 0.09$$

$$r = 0.13$$

$$P_0 = \frac{D_1}{r-g} = \frac{15.26}{0.13-0.09} = \text{Rs } 381.50$$

- (iii) What is the price of share at the end of three years, if 9% growth rate is achieved and assuming other conditions remaining same as in (ii) above.

$$D_4 = D_3 (1+0.09)$$

$$= 18.13 \times 1.09$$

$$= 19.76$$

$$P_3 = \frac{D_4}{r-g} = \frac{19.76}{0.13-0.09} = \text{Rs } 494$$

3. Dividend based Models

A Mining Company's ore reserves are being depleted, so its sales are falling. Also, its pit is getting deeper each year, so its costs are rising. As a result, the company's earnings and dividends are declining at the constant rate of 4% per year. If D_0 = Rs. 5 and required return = 15%, what is the value of company's stock?

Solution:

$$\begin{aligned} P_0 &= \frac{D_1}{r-g} = \frac{D_0 (1+g)}{r-g} \\ &= \frac{5 (1 + (-0.04))}{0.15 - (-0.04)} = \text{Rs } 95.26 \end{aligned}$$

3. Dividend based Models

The firm ABC Ltd has 10 Crore shares outstanding and expects net income at the end of the year of Rs 40 Crores. The firm plans to pay out 60 percent of its net income, paying 30 percent in dividends and 30 percent to repurchase shares. The firm expects net income to increase by 5 percent per year in perpetuity. If firm's required return is 10 percent, what is its share price?

Solution:

The firms frequently pay cash to shareholders by buying back shares of stock outstanding. The share repurchase payouts can be thought of as substitutes for cash dividend payouts..

$$\text{Total payout} = 0.60 \times 40 = 24 \text{ Crores}$$
$$\text{PV of all future payouts} = \frac{24}{0.10 - 0.05} = 480 \text{ Crores}$$

$$\text{Price per share} = \frac{480 \text{ Crores}}{10 \text{ crore shares}} = \text{Rs 48 per share}$$

3. Dividend based Models

XYZ Company's current stock price is Rs. 36, and its last dividend was Rs. 2.40. In view of XYZ's strong financial position and its consequent low risk, its required rate of return is only 12%. If dividends are expected to grow at a constant rate (g) in the future, and if required rate of return is expected to remain at 12%, then what is XYZ's expected stock price 5 years from now? (The value of $(1.05)^5 = 1.276$)

Solution:

$$P_0 = \frac{D_1}{r-g}$$
$$36 = \frac{2.40(1+g)}{0.12-g}$$
$$\Rightarrow g = 0.05 \quad 5\%$$

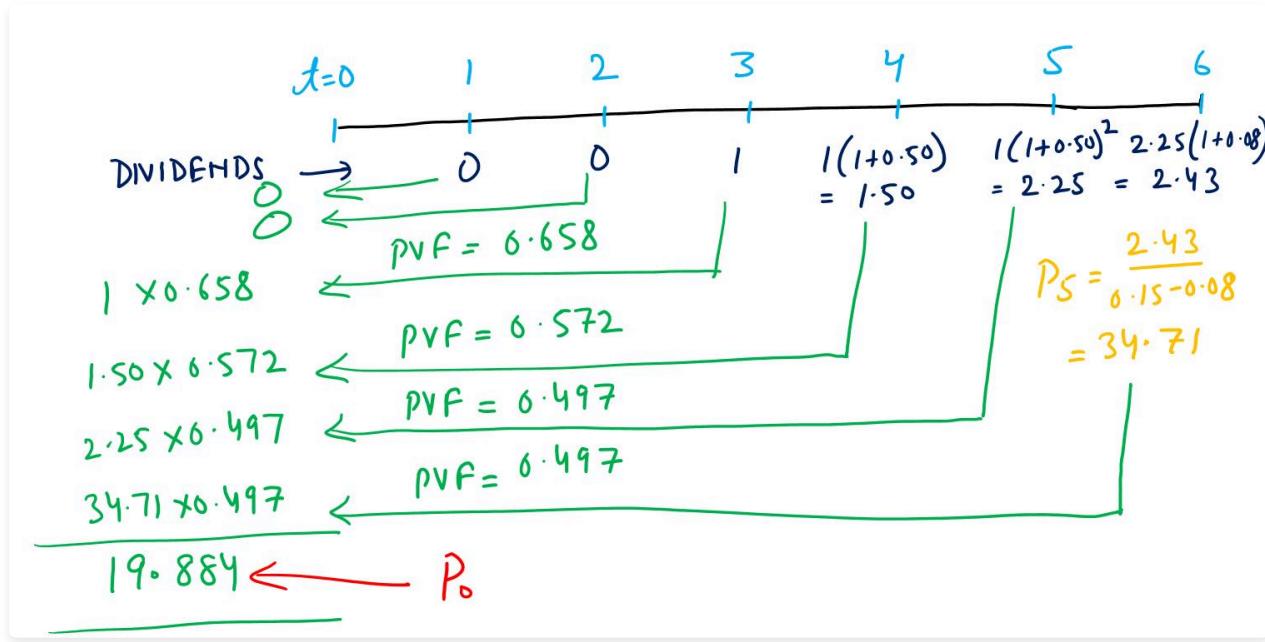
Stock PRICE AFTER 5 YEARS, P_5

$$= 36 (1+0.05)^5 = 36 \times 1.05^5 = \text{Rs } 45.94$$

3. Dividend based Models

AI Corporation is expanding rapidly, and it does not pay any dividends because it currently needs to retain all of its earnings. However, investors expect AI Corporation to begin paying dividends, with the first dividend of Rs. 1.00 coming 3 years from today. The dividend should grow rapidly—at a rate of 50% per year—during Years 4 and 5. After Year 5, the company should grow at a constant rate of 8% per year. If the required return on the stock is 15%, what is the value of the stock today? (PVF @ 15% for years 1 to 5 are 0.870, 0.756, 0.658, 0.572, 0.497)

Solution:



3. Dividend based Models

A Company currently pays a dividend of Rs 1.60 per share on its common stock. The company expects to increase the dividend at a 20% annual rate for the first four years and at a 13% rate for the next four years, and then grow the dividend at a 7% rate thereafter. You require a 16% return to invest in this stock. What value should you place on a share of this stock?

Solution:

