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# **General Ledger**

A General Ledger (GL) is a comprehensive record-keeping system that consolidates all the financial transactions of a company. It serves as the central repository for all accounting data and is fundamental to the preparation of financial statements. The general ledger contains accounts for all the company's assets, liabilities, equity, revenues, and expenses.

# **Key Components of a General Ledger:**

* + 1. Accounts: The general ledger is organized by accounts, which are categorized into five main types:

**Assets:** Resources owned by the company, such as cash, inventory, accounts receivable, and equipment.

**Liabilities:** Obligations the company owes, like loans, accounts payable, and accrued expenses.

**Equity:** The owner's interest in the company, including common stock and retained earnings.

**Revenue:** Income generated from business operations, such as sales revenue and interest income.

**Expenses:** Costs incurred in the process of earning revenue, including salaries, rent, and utilities.

* + 1. **Debits and Credits:** Each transaction in the general ledger affects at least two accounts in a double-entry bookkeeping system, where debits and credits must always balance. For example, a sale might increase both revenue (credit) and cash (debit).
    2. **Journal Entries**: Transactions are first recorded in a journal and then posted to the appropriate accounts in the general ledger. Journal entries include the date, accounts affected, amounts, and a description of the transaction.
    3. **Trial Balance:** A summary of all ledger accounts, showing the debits and credits balances to ensure they match. The trial balance is used to prepare financial statements and to check for any discrepancies.

# **Functions of a General Ledger:**

**Centralized Record Keeping**: Provides a comprehensive view of all financial transactions in one place.

**Financial Reporting**: Facilitates the preparation of key financial statements, including the balance sheet, income statement, and cash flow statement.

**Account Reconciliation**: Helps ensure accuracy by allowing accountants to reconcile account balances with bank statements and other financial records.

**Audit Trail:** Maintains a clear, chronological record of all transactions, providing a reliable audit trail for internal and external auditors.

**Financial Analysis**: Enables the analysis of financial performance by tracking revenues, expenses, and other financial data over time.

# **GL Account Structure**

Creating a General Ledger (GL) account structure involves defining the framework for recording and organizing financial transactions in an accounting system.

# **Limit Management**

Limit management in a stock broking firm is a critical function that involves monitoring and controlling the trading limits of clients to manage financial risk and ensure regulatory compliance.

**Client Classification and Segmentation**

Client Categorization: Clients are classified based on their risk profile, trading behavior, and financial strength. This can include retail clients, high-net-worth individuals (HNWIs), and institutional investors.

Segmented Limits: Different client segments may be assigned different trading limits based on their classification.

**Setting Trading Limits:**

Exposure Limits: The maximum allowable exposure (the total value of open positions) a client can have at any given time. This can be defined based on the client's margin deposits, trading history, and risk appetite.

Order Limits: The maximum size or value of a single order that a client can place. This is usually controlled by the firm's risk management system.

Turnover Limits: Limits on the total value of transactions a client can execute in a day.

**Monitoring and Real-Time Controls:**

Real-Time Monitoring: The broker continuously monitors the clients' positions and exposures in real-time to ensure they stay within their assigned limits.

Automated Alerts: Alerts are triggered when a client approaches their trading limit, allowing the broker to take action before limits are breached.

Margin Calls: If a client’s exposure exceeds the available margin, the broker can issue a margin call, requiring the client to deposit additional funds or reduce their positions.

**Risk Mitigation and Adjustment:**

Position Squaring: If a client fails to meet a margin call or breaches their limits, the broker may square off (close) positions to bring the exposure within the acceptable limits.

Dynamic Limit Adjustment: Depending on market conditions or changes in a client’s profile, the firm may adjust the trading limits dynamically.

Daily Settlement: Post-trade, the firm settles the positions, and any breaches of limits are analyzed to prevent recurrence.

**Regulatory Compliance:**

Compliance with Regulations: Brokers must comply with regulatory guidelines set by market regulators (like SEBI in India) concerning trading limits, margin requirements, and risk management.

Reporting: The firm needs to report any breaches or exceptions to the regulatory body, along with the actions taken to resolve them.

**System Integration:**

Integrated Risk Management Systems: Limit management systems are integrated with the broking firm's trading platforms, back-office systems, and risk management tools to ensure seamless operations.

Client Communication: Clients are often notified of their limit status via automated messages or real-time dashboard access.

# **Margin Call**

A margin call is a demand from a brokerage firm to a client to deposit additional funds or securities into their margin account to cover potential losses. This occurs when the value of the client's account falls below the broker's required minimum, known as the maintenance margin.

**How Margin Calls Work**

**Account Monitoring**: Brokers continuously monitor margin accounts to ensure they meet the required maintenance margin. If the account's value falls too low, the broker will issue a margin call.

**Issuance of a Margin Call:** Notification: The broker notifies the client that they need to deposit additional funds or securities into their account to restore the required margin level.

**Time Frame:** Clients usually have a short period (often within a few days) to meet the margin call. The exact time frame can vary depending on the broker and the circumstances.

**Actions Following a Margin Call**:

**Deposit Funds/Securities:** The client can deposit additional cash or securities into their account to meet the margin requirement.

**Sell Securities:** The client can sell some of the securities in their account to reduce the outstanding loan and bring the account balance back to the required level.

**Forced Liquidation:** If the client fails to meet the margin call within the specified time, the broker has the right to sell securities from the client's account to bring it back into compliance with the margin requirements.

**Example of a Margin Call**

**Scenario**: A client buys $10,000 worth of stock using $5,000 of their own money and $5,000 borrowed from the broker (50% initial margin).

**Market Decline:** The stock price drops, and the value of the securities falls to $8,000. The client’s equity is now $3,000 ($8,000 value minus $5,000 loan).

**Maintenance Margin Requirement:** If the broker requires a 30% maintenance margin, the client must maintain at least $2,400 (30% of $8,000).

**Margin Call Triggered:** If the client's equity falls below this $2,400 threshold, a margin call is issued, and the client must deposit additional funds or securities to cover the shortfall.

# **Portfolio valuations**

Portfolio valuations involve assessing the current market value of all assets within a portfolio to determine its overall worth at a specific point in time. This process is crucial for investors, fund managers, and financial institutions to understand the performance of their investments, make informed decisions, and ensure accurate financial reporting.

**1. Equity Investments**

Stocks: The current market value of shares held in publicly traded companies. This is usually based on the closing price of the stock on a specific date.

Preferred Shares: Valued similarly to common stocks but may include additional considerations like dividends or redemption features.

**2. Fixed-Income Securities**

Bonds: Valuation of bonds, including government, municipal, and corporate bonds, based on the present value of future cash flows (interest payments and principal repayment) discounted at the current market interest rate.

Treasury Bills: Short-term government securities valued based on the discount rate.

**3. Derivatives**

Options: Valuation of options contracts (calls and puts) using models like Black-Scholes, reflecting the current market price of the underlying asset.

Futures: The current market value of futures contracts, based on the price agreed upon in the contract and the market price of the underlying asset.

Swaps: Valued based on the present value of expected future cash flows.

**4. Mutual Funds and ETFs**

Net Asset Value (NAV): The market value of mutual funds or exchange-traded funds (ETFs) held in the portfolio, calculated by dividing the total value of the fund’s assets by the number of outstanding shares.

**5. Real Estate Investments**

Property Valuations: The current market value of real estate holdings, typically determined by professional appraisals, comparable sales, or income-generating potential.

REITs: The market value of shares in Real Estate Investment Trusts, based on the stock market price.

**6. Alternative Investments**

Private Equity: The estimated fair value of private company shares, often based on the latest funding round or a discounted cash flow (DCF) analysis.

Hedge Funds: The NAV of hedge fund investments, based on the fund’s underlying assets and liabilities.

Commodities: The market value of commodity investments like gold, oil, or agricultural products, typically based on futures prices or spot prices.

**7. Cash and Cash Equivalents**

Bank Balances: The amount of cash held in bank accounts.

Money Market Instruments: Valuation of short-term, highly liquid investments, such as Treasury bills, commercial paper, and certificates of deposit.

**8. Foreign Currency Holdings**

Currency Valuation: The current value of any foreign currencies held, converted into the portfolio’s base currency using the prevailing exchange rate.

**9. Accrued Income**

Dividends and Interest: Any income earned but not yet received, such as dividends declared but not paid or interest accrued on bonds.

**10. Liabilities and Expenses**

Margin Loans: If the portfolio is leveraged, the valuation includes the current balance of any loans or liabilities, subtracting these from the total asset value.

Management Fees: Deducting any fees owed to fund managers or advisors from the portfolio’s overall value.

# **Asset classes**

Asset classes are broad categories of investments with similar characteristics and behavior in the marketplace. They are typically grouped based on how they respond to market conditions, their risk profiles, and the types of returns they generate. Each asset class plays a different role in an investor’s portfolio, and diversifying across various asset classes can help mitigate risk.

**Common Types of Asset Classes:**

**Equities (Stocks):**

**Description:** Equities represent ownership in a company. When you buy a share of stock, you become a part-owner of that company.

**Risk and Return:** Stocks generally offer higher potential returns compared to other asset classes but come with higher risk due to market volatility.

**Examples:** Shares of companies like Apple, Google, or Tesla.

**Fixed Income (Bonds):**

Description: Bonds are debt instruments issued by governments, corporations, or other entities. When you buy a bond, you are essentially lending money to the issuer in exchange for regular interest payments and the return of the principal at maturity.

**Risk and Return:** Bonds are generally considered lower risk than stocks, especially government bonds. However, corporate bonds can carry higher risk depending on the issuer’s creditworthiness.

**Examples:** U.S. Treasury bonds, corporate bonds, municipal bonds.

**Cash and Cash Equivalents:**

**Description:** These include short-term, highly liquid investments that are easily converted into cash, such as money market funds and Treasury bills.

**Risk and Return**: Cash and cash equivalents offer the lowest risk but also the lowest returns. They are often used to provide liquidity and stability within a portfolio.

**Examples:** Savings accounts, money market funds, certificates of deposit (CDs).

**Real Estate:**

**Description:** Real estate as an asset class refers to physical property such as land, residential or commercial buildings, or real estate investment trusts (REITs).

**Risk and Return:** Real estate can offer moderate to high returns through rental income and property value appreciation, but it can also come with high risks due to economic conditions, property market cycles, and liquidity concerns.

**Examples:** Direct property ownership, REITs, real estate funds.

**Commodities:**

**Description:** Commodities are physical goods that are interchangeable with others of the same type, including metals, energy products, and agricultural products.

Risk and Return: Commodities can be highly volatile and influenced by global supply and demand, weather, geopolitical issues, and currency fluctuations. They are often used as a hedge against inflation.

Examples: Gold, silver, oil, natural gas, wheat, and coffee.

**Alternative Investments:**

**Description:** These include assets that do not fit into the traditional categories of stocks, bonds, or cash. Alternative investments are often less liquid and more complex, and they are typically used to diversify portfolios.

**Risk and Return:** They can offer unique returns that are uncorrelated to traditional markets but often come with higher risk and lower liquidity.

**Examples:** Private equity, hedge funds, venture capital, art, and collectibles.

**Derivatives:**

**Description:** Derivatives are financial instruments that derive their value from an underlying asset, such as a stock, bond, commodity, or index. Common derivatives include options, futures, and swaps.

**Risk and Return:** Derivatives can be used for hedging risk or for speculative purposes. They can offer significant returns but also carry high risk due to leverage and market complexity.

**Examples:** Stock options, futures contracts on commodities, credit default swaps.

Other Notable Asset Classes:

**Cryptocurrencies:** Digital or virtual currencies like Bitcoin, Ethereum, and others. Cryptocurrencies are relatively new, highly volatile, and not correlated with traditional asset classes.

**Infrastructure:** Investments in large public works projects like roads, bridges, and energy grids, which can provide stable, long-term returns.

**Importance of Asset Classes:**

Investors often diversify across multiple asset classes to reduce risk and achieve balanced returns. Each asset class reacts differently to economic events, which helps in building a well-rounded portfolio that can withstand market volatility.

# **Market Risk**

Market risk in stock broking refers to the potential financial loss that a brokerage firm or its clients might face due to adverse movements in market prices. This type of risk arises from fluctuations in the prices of securities, interest rates, foreign exchange rates, and other market variables. In the context of a stock broking firm, market risk can impact both the firm's own positions (if it holds proprietary trading positions) and its clients' portfolios.

**Market Risk Management:**

**VaR (Value at Risk):** Firms often use VaR models to estimate the potential loss in value of their portfolios over a given time period under normal market conditions.

**Stress Testing:** Stress tests are conducted to evaluate the impact of extreme market scenarios (e.g., a market crash) on the firm's and clients' portfolios.

**Hedging**: Firms may use derivatives like options and futures to hedge against adverse price movements, reducing exposure to market risk.

**Diversification:** By diversifying portfolios across different asset classes and securities, the impact of adverse price movements in any single asset can be mitigated.

**Stop-Loss Orders**: Brokers may enforce stop-loss orders to automatically sell a security when its price falls to a certain level, limiting potential losses.

**Position Limits:** Setting limits on the size of positions that clients and the firm can take in specific securities or markets helps manage exposure.

# **Credit Risk**

Credit risk is the risk of financial loss that occurs when a borrower fails to meet their obligations to repay a loan or debt. It represents the possibility that a lender or creditor will not receive the principal and interest owed, leading to a loss. Credit risk is a critical factor in lending decisions and is managed closely by banks, financial institutions, and investors.

Key Concepts of Credit Risk:

**Default Risk**: This is the primary form of credit risk, where a borrower is unable or unwilling to repay the loan. A borrower defaulting on a loan results in a financial loss for the lender.

**Creditworthiness:** To manage credit risk, lenders assess the creditworthiness of borrowers. This involves evaluating the borrower's financial history, credit score, income, and debt levels to determine the likelihood of repayment.

**Counterparty Risk:** In financial markets, credit risk can also arise from the failure of a counterparty in a financial contract (such as a derivative or swap) to fulfill their payment obligations.

**Recovery Rate:** This refers to the amount that can be recovered from a borrower in case of default. A higher recovery rate reduces the overall impact of credit risk.

**Credit Spread:** The difference between the interest rate on a risk-free asset (like government bonds) and a risky asset (like corporate bonds) is known as the credit spread. It compensates lenders for taking on credit risk—the higher the risk, the higher the spread.

**Types of Credit Risk:**

**Individual Credit Risk:** This occurs when a person or individual borrower defaults on a loan, such as a personal loan, mortgage, or credit card debt.

**Institutional Credit Risk:** This refers to the risk that large entities like corporations, governments, or financial institutions default on their debt obligations, such as bonds or loans.

**Sovereign Credit Risk:** The risk that a country will default on its financial obligations, which could affect bonds issued by that country or loans to the government.

**Concentration Risk:** This arises when a lender has a large exposure to a single borrower or sector, increasing the potential impact of credit default.

How Credit Risk is managed:

**Credit Rating:** Agencies such as Moody's, S&P, and Fitch provide credit ratings to assess the creditworthiness of borrowers, especially companies and governments. Higher-rated entities are seen as lower risk.

**Diversification:** Lenders reduce credit risk by diversifying their loan portfolios across different borrowers, industries, and geographic regions.

**Collateral:** Lenders often require collateral (such as property or assets) that can be seized and sold if the borrower defaults, reducing the risk of loss.

**Credit Derivatives:** Instruments like credit default swaps (CDS) allow lenders to transfer the risk of default to another party, helping to hedge against credit risk.

**Credit Limits:** Financial institutions set credit limits for borrowers based on their credit profile to minimize potential exposure to credit risk.

Example of Credit Risk in Practice:

Personal Loan: A bank offers a personal loan to an individual. The bank assesses the borrower’s credit score, employment history, and income. If the borrower loses their job and defaults on the loan, the bank faces credit risk.

Corporate Bonds: An investor buys corporate bonds from a company. If the company goes bankrupt and is unable to pay back the bondholders, the investors face credit risk and could lose their investment.

# **Risk Sensitivity**

Risk sensitivity refers to the degree to which an asset, investment, or portfolio responds to changes in various risk factors. It measures how sensitive the value of an asset is to specific risks, such as interest rates, market volatility, or economic conditions. By understanding risk sensitivity, investors and financial institutions can assess how their investments might react to changes in these risk factors and adjust their strategies accordingly.

**Types of Risk Sensitivity:**

Interest Rate Sensitivity:

Definition: This measures how sensitive an asset or investment (such as bonds) is to changes in interest rates.

Example: When interest rates rise, the price of bonds typically falls, especially for long-duration bonds. This is because the fixed interest payments from bonds become less attractive compared to new bonds offering higher yields.

**Market Sensitivity (Beta):**

Definition: Beta is a measure of how sensitive an individual stock or portfolio is to the movements of the overall market.

Example: A stock with a beta of 1.5 is considered 50% more volatile than the market. If the market rises by 10%, the stock is expected to rise by 15%, and vice versa.

**Credit Sensitivity:**

Definition: This refers to how an asset is affected by changes in the creditworthiness of the borrower or counterparty.

Example: A bond issued by a company with declining credit quality may see a drop in price because investors demand higher yields (risk premium) to compensate for the increased default risk.

**Inflation Sensitivity:**

Definition: Measures how the value of an asset or portfolio is affected by changes in inflation.

Example: Fixed-income investments like bonds are more sensitive to inflation because inflation erodes the purchasing power of future fixed payments.

**Currency Sensitivity:**

Definition: Refers to how changes in exchange rates affect the value of an asset or investment, particularly for investments in foreign assets.

Example: If an investor holds assets denominated in foreign currencies, a strengthening of the investor's home currency could reduce the value of those assets when converted back.

**Volatility Sensitivity (Vega):**

Definition: Measures the sensitivity of an option’s price to changes in market volatility.

Example: Options are more sensitive to volatility than underlying assets. A rise in volatility increases the value of options because there’s a greater chance of profitable price movements.

**Duration Sensitivity:**

Definition: Refers to the sensitivity of a bond's price to changes in interest rates, typically measured by its duration.

Example: A bond with a higher duration will experience a larger price change when interest rates change. For example, a bond with a duration of 10 years will lose approximately 10% of its value if interest rates rise by 1%.

**Applications of Risk Sensitivity:**

**Portfolio Management**: Understanding risk sensitivity helps in designing a balanced portfolio that can withstand various risk factors. By diversifying assets with different risk sensitivities, investors can minimize overall portfolio risk.

**Hedging Strategies**: Investors can use derivatives like options and futures to hedge against specific risks. For example, if a portfolio is highly sensitive to interest rate changes, interest rate swaps can be used to reduce exposure.

**Stress Testing**: Financial institutions use risk sensitivity to perform stress testing, simulating extreme market conditions to understand how different assets and portfolios would react to large risk factor changes.

**Regulatory Compliance**: Banks and financial institutions assess risk sensitivity to comply with regulations that require adequate capital reserves to absorb potential losses from market, credit, and operational risks.

Example:

If a portfolio manager holds a bond portfolio that is sensitive to interest rate movements, they might calculate the duration to understand how much the portfolio’s value would drop if interest rates rise by a certain percentage. This helps in managing interest rate risk and ensuring that the portfolio’s exposure aligns with the investor’s risk tolerance.

# **Greeks**

The Greeks are key measures used to assess this sensitivity, helping traders and risk managers understand how different variables affect the price of derivatives

**Delta (Δ):** Delta measures the sensitivity of the option's price to changes in the price of the underlying asset.

For example, a delta of 0.5 means that for every $1 change in the underlying asset's price, the option's price will move by $0.50.

Call options have positive delta (between 0 and 1), and put options have negative delta (between -1 and 0).

**Gamma (Γ):** Gamma measures the rate of change of delta as the underlying asset’s price changes. It shows how much the delta will change with a $1 move in the underlying price.

Gamma is highest when the option is at the money (the strike price is close to the asset’s price), and it helps traders understand the stability of delta.

**Vega (ν):** Vega measures the sensitivity of the option's price to changes in the volatility of the underlying asset. Higher volatility usually increases the price of options.

It indicates how much the option price will change with a 1% change in volatility.

**Theta (Θ):** Theta measures the sensitivity of the option's price to the passage of time, also known as time decay.

It shows how much the option price will decrease as it approaches expiration, assuming all other factors remain constant.

Options lose value over time, and theta is usually negative for buyers.

**Rho (ρ):** Rho measures the sensitivity of the option's price to changes in interest rates.

For example, if Rho is 0.05, it means that for a 1% increase in interest rates, the price of the option will increase by 0.05.

# **Capital Market**

The capital market is a **financial market** where long-term **financial instruments**, such as **stocks and bonds**, are **bought and sold**. It plays a crucial role in the economy by facilitating the **raising of capital for businesses and governments**, as well as providing **investment opportunities for individuals and institutions.**

**Key Components of Capital Markets:**

1. **Primary Market:**
   * **Definition:** The primary market is where new securities are issued and sold for the first time. This is where companies and governments raise capital by issuing stocks, bonds, or other financial instruments.
   * **Examples:** Initial Public Offerings (IPOs), new bond issues, and private placements.
2. **Secondary Market:**
   * **Definition:** The secondary market is where existing securities are traded among investors. It provides liquidity and enables investors to buy and sell securities that were previously issued in the primary market.
   * **Examples:** Stock exchanges like the New York Stock Exchange (NYSE) and NASDAQ, bond trading platforms.

**Types of Instruments Traded in Capital Markets:**

1. **Equities (Stocks):**
   * **Definition:** Shares representing ownership in a company. Investors buy stocks to gain ownership and potentially benefit from the company's growth through capital gains and dividends.
   * **Types:** Common shares, preferred shares.
2. **Fixed-Income Securities (Bonds):**
   * **Definition:** Debt instruments issued by corporations, governments, or other entities to raise funds. Investors purchase bonds to receive periodic interest payments and the return of the principal amount at maturity.
   * **Types:** Government bonds, corporate bonds, municipal bonds.
3. **Derivatives:**
   * **Definition:** Financial contracts whose value is derived from an underlying asset, such as stocks, bonds, or commodities. Derivatives are used for hedging, speculation, or arbitrage.
   * **Types:** Options, futures, swaps.
4. **Investment Funds:**
   * **Definition:** Pooled investment vehicles that allow investors to gain exposure to a diversified portfolio of assets.
   * **Types:** Mutual funds, exchange-traded funds (ETFs), hedge funds.

# **Index**

An Index is used to give information about the price movements of products in the financial, commodities or any other markets. Stock market indices are meant to capture the overall behaviour of the equity markets. The stock market index is created by selecting a group of stocks that are representative of the whole market or a specified sector or segment of the market. The blue chip index of NSE is CNX Nifty.

# **Mutual Funds**

Investment vehicles **that pool money from multiple investors** to purchase a **diversified portfolio** of **stocks, bonds, or other securities**. They offer diversification and professional management.

**Investment Goals, Risk Appetite, Fund Performance, Expense Ratio, Tax Implications**

# **Bonds (Fixed Income Securities):**

Debt instruments issued by corporations, municipalities, or governments. When you purchase a bond, you are lending money to the issuer in exchange for periodic interest payments and the return of the bond's face value at maturity.

# **Derivatives**

Financial contracts whose value is derived from an **underlying asset**, such as **stocks, bonds, commodities, or interest rates**. Common derivatives include **options, futures, and swaps**.

# **Options**

Options are financial derivatives that give the holder the right, but not the obligation, to buy or sell an underlying asset at a predetermined price before or on a specific date.

## **Call Options**

These give the holder the right to buy the underlying asset at a specified price (strike price) within a certain time frame.

**Put Options**

These give the holder the right to sell the underlying asset at a specified price within a certain time frame.

# **Swaps**

Swaps are financial derivatives in which two parties agree to exchange cash flows or other financial instruments over a specified period. Common types of swaps include:

**Interest Rate Swaps**

These involve exchanging fixed interest rate payments for floating interest rate payments, or vice versa.

**Currency Swaps**

These involve exchanging principal and interest payments in different currencies.

**Commodity Swaps**

These involve exchanging cash flows related to commodity prices.

# **Fixed Income (Bonds)**

Fixed income refers to investments that provide regular, fixed interest payments and the return of principal at maturity.

Bonds: Debt instruments issued by corporations, municipalities, or governments. Investors receive periodic interest payments (coupon payments) and the return of the bond's face value at maturity.

Government Bonds: Issued by national governments (e.g., U.S. Treasury bonds).

Corporate Bonds: Issued by companies to raise capital.

Municipal Bonds: Issued by states, cities, or other local government entities.

Treasury Securities: Issued by the government to finance its operations.

Treasury Bills (T-bills): Short-term securities maturing in one year or less.

Treasury Notes (T-notes): Medium-term securities maturing in 2 to 10 years.

Treasury Bonds (T-bonds): Long-term securities maturing in 20 to 30 years.

# **Market Capitalization**

Market Capitalization = Closing price of share \* Number of outstanding shares

# **(i) Wholesale Debt Market (WDM) Segment**

This segment at NSE commenced its operations in June 1994. It provides the trading platform for wide range of debt securities which includes **State and Central Government securities, T-Bills, PSU Bonds, Corporate debentures, Commercial Papers, Certificate of Deposits etc**.

# **(ii) Capital Market (CM) Segment**

This segment at NSE commenced its operations in November 1994. It offers a fully automated screen based trading system, known as the National Exchange for Automated Trading (NEAT) system. Various types of securities e.g. **equity shares, warrants, debentures etc. are traded on this system.**

# **(iii) Futures & Options (F&O) Segment**

This segment provides trading in derivatives instruments like **index futures, index options, stock options, and stock futures,** and commenced its operations at NSE in June 2000.

# **(iv) Currency Derivatives Segment (CDS) Segment**

This segment at NSE commenced its operations on August 29, 2008, with the launch **of currency futures trading in US Dollar-Indian Rupee (USD-INR**). Trading in other currency pairs like Euro-INR, Pound Sterling-INR and Japanese Yen-INR was further made available for trading in February 2010. ‘Interest rate futures’ was another product made available for trading on this segment with effect from August 31, 2009

# **Reforms in Indian Securities Markets**

Over a period, the Indian securities market has undergone remarkable changes and grown exponentially, particularly in terms of resource mobilization, intermediaries, the number of listed stocks, market capitalization, and turnover and investor population. The following paragraphs list the principal reform measures undertaken since 1992.

## **Creation of Market Regulator**

Securities and Exchange Board of India (SEBI), the securities market regulator in India, was established under SEBI Act 1992, with the main objective and responsibility for (i) protecting the interests of investors in securities, (ii) promoting the development of the securities market, and (iii) regulating the securities market.

## **Screen Based Trading**

Prior to setting up of NSE, the trading on stock exchanges in India was based on an open outcry system. The system was inefficient and time consuming because of its inability to provide immediate matching or recording of trades. In order to provide efficiency, liquidity and transparency, NSE introduced a nation-wide on-line fully automated screen based trading system (SBTS) on the CM segment on November 3, 1994.

## **Reduction of Trading Cycle**

Earlier, the trading cycle for stocks, based on type of securities, used to vary between 14 days to 30 days and the settlement involved another fortnight. The Exchanges, however, continued to have different weekly trading cycles, which enabled shifting of positions from one Exchange to another. It was made mandatory for all Exchanges to follow a uniform weekly trading cycle in respect of scrips not under rolling settlement. In December 2001, all scrips were moved to rolling settlement and the settlement period was reduced progressively from T+5 to T+3 days. From April 2003 onwards, T+2 days settlement cycle is being followed.

## **Equity Derivatives Trading**

Equity Derivatives Trading: In order to assist market participants in managing risks better through hedging, speculation and arbitrage, SC(R) A was amended in 1995 to lift the ban on options in securities. Trading in derivatives, however, took off in 2000 with index futures after suitable legal and regulatory framework was put in place. The market presently offers index futures, index options, single stock futures and single stock options.

## **Demutualization**

Historically, stock exchanges were owned, controlled and managed by the brokers. In case of disputes, integrity of the stock exchange suffered. NSE, however, was set up with a pure demutualized governance structure, having ownership, management and trading with three different sets of people. Currently, all the stock exchanges in India have a Demutualized set up.

## **Dematerialisation**

As discussed before, the old settlement system was inefficient due to (i) the time lag for settlement and (ii) the physical movement of paper-based securities. To obviate these problems, the Depositories Act, 1996 was passed to provide for the establishment of depositories in securities with the objective of ensuring free transferability 10 of securities with speed and accuracy. There are two depositories in India, viz. NSDL and CDSL. They have been set up to provide instantaneous electronic transfer of securities. Demat (Dematerialised) settlement has eliminated the bad deliveries and associated problems. To prevent physical certificates from sneaking into circulation, it has been made mandatory for all newly issued securities to be compulsorily traded in dematerialised form. Now, the public listed companies making IPO of any security for ` 10 crore or more have to make the IPO only in dematerialised form.

## **Clearing Corporation**

The anonymous electronic order book ushered in by the NSE did not permit members to assess credit risk of the counter-party and thus necessitated some innovation in this area. To address this concern, NSE had set up the first clearing corporation, viz. National Securities Clearing Corporation Ltd. (NSCCL), which commenced its operations in April 1996

## **Margins from the Clients**

Members should have a prudent system of risk management to protect themselves from client default. Margins are an important element of such a system. The policy of risk management addressing the margin requirements should be well documented and be made accessible to the clients and the stock exchanges. In capital market segment, however, the quantum of these margins, the form and the mode of collection are left to the discretion of the members5. The margin so collected is kept separately in the client bank account/client beneficiary account. In case of default, they are utilized for making payment to the clearing corporation for margin and settlement with respect to that client.

## **Contract Note**

Contract note is a confirmation of trade(s) done on a particular day for and on behalf of a client. A stock-broker should issue a contract note to his clients for trades (purchase/sale of securities). The contract note should contain name and address (registered office address as well as dealing office address) of the TM, the SEBI registration number of the TM, details of trade viz. order number, trade number, order time, trade time, security name, quantity, trade price, brokerage, settlement number and details of other levies.

As per Regulation 18 of SEBI (Stock-Brokers & Sub-Brokers) Regulations, 1992, the TM should preserve the duplicate copy of the contract notes issued for a minimum of five years. The TM should ensure that:

a) Contract note is issued to a client within 24 hours and should be signed by the trading member or by an authorized signatory trading member.

b) Contract notes are in the prescribed format.

c) Stamp duty is paid,

d) All statutory levies are shown separately in the contract note

## **Trading Cycle**

Trading in Retail Debt Market is permitted under Rolling Settlement, where in each trading day is considered as a trading period and trades executed during the day are settled based on the net obligations for the day. Settlement is on a T+2 basis i.e. on the 2nd working day. For arriving at the settlement day all intervening holidays, which include bank holidays, NSE holidays, Saturdays and Sundays are excluded. Typically trades taking place on Monday are settled on Wednesday, Tuesday’s trades settled on Thursday and so on.

## **Steps in Transaction Cycle**

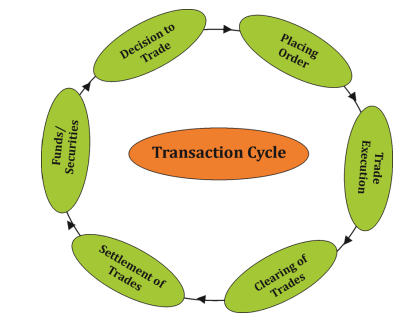
a) A person holding assets (securities/funds), either to meet his liquidity needs or to reshuffle his holdings in response to changes in his perception about risk and return of the assets, decides to buy or sell the securities.

b) He selects a broker and instructs him to place buy/sell order on an exchange.

c) The order is converted to a trade as soon as it finds a matching sell/buy order.

d) At the end of the trade cycle, the trades are netted to determine the obligations of the trading members to deliver securities/funds as per settlement schedule.

e) Buyer (seller) delivers funds (securities) and receives securities (funds) and acquires ownership of the securities. A securities transaction cycle is presented.



# **Trade Life Cycle**

1. **Order Initiation and Execution**

**Order Placement**: A trader or investor initiates a trade by placing an order to buy or sell a financial instrument (e.g., stocks, bonds, derivatives).

**Order Execution**: The order is executed in the market, matching the buyer's order with a seller's order, resulting in a trade.

**2. Trade Capture**

The details of the executed trade (e.g., instrument, quantity, price, time) are recorded in the trading system or platform. This process is known as trade capture.

**3. Trade Validation**

The trade is validated to ensure that all the trade details are correct, comply with regulatory requirements, and are within the agreed-upon limits.

**4. Trade Enrichment**

Additional information, such as settlement instructions, currency conversions, and counterparty details, is added to the trade record to prepare it for settlement.

**5. Confirmation/Matching**

Trade details are sent to the counterparty for confirmation. Both parties must agree on the trade details, and any discrepancies must be resolved. This step is often referred to as trade matching.

**6. Clearing**

The clearing process involves the calculation of obligations (e.g., payment amounts, delivery of securities) between the parties involved. A clearinghouse may be involved to manage risk and ensure that both sides fulfill their obligations.

NSCCL (National Securities Clearing Corporation Limited), ICCL (Indian Clearing Corporation Limited), MCX-SX Clearing Corporation Ltd. (MCX-SX CCL)

**7. Settlement**

The actual exchange of securities and funds between the buyer and the seller occurs during the settlement. The buyer pays the agreed amount, and the seller delivers the securities. Settlement typically occurs on T+2 (trade date plus two business days) for most securities.

**8. Reconciliation**

After settlement, firms perform reconciliation to ensure that their internal records match the records of the counterparties, custodians, and clearinghouses. This step helps identify and resolve any discrepancies.

**9. Accounting and Reporting**

The trade is recorded in the firm's accounting system, and the necessary financial and regulatory reports are generated.

**10. Risk Management and Monitoring**

Throughout the trade life cycle, firms monitor and manage risks, such as market risk, credit risk, and operational risk. This includes margin calls, collateral management, and adherence to regulatory requirements.

**11. Corporate Actions**

If the trade involves securities that undergo corporate actions (e.g., dividends, stock splits, mergers), the trade life cycle extends to include the processing of these events.

**12. Post-Trade Processing**

This includes any actions required after settlement, such as reporting to regulators, managing trade disputes, and handling any post-settlement corporate actions.

# **Settlement Agencies**

The roles of several entities involved in the process of clearing and settling the trades executed on Exchanges are explained below:

**Clearing Corporation (NSCCL):**

The NSCCL is responsible for post-trade activities of a stock exchange. Clearing and settlement of trades and risk management are its central functions. It clears all trades, determines obligations of members, arranges for pay-in of funds/securities, receives funds / securities, processes for shortages in funds/securities, arranges for pay-out of funds/securities to members, guarantees settlement, and collects and maintains margins / collateral base capital/other funds.

**Clearing Members**

They are responsible for settling their obligations as determined by the NSCCL. They have to make available funds and/or securities in the designated accounts with clearing bank/depository participant, as the case may be, to meet their obligations on the settlement day. In the capital market segment, all trading members of the Exchange are required to become the Clearing Member of the Clearing Corporation.

**Custodians**

A custodian is an entity who is responsible for safeguarding the documentary evidence of the title to property like share certificates, etc. The title to the custodian’s property remains vested with the original holder, or in their nominee(s), or custodian trustee, as the case may be. In NSCCL, custodian is a clearing member but not a trading member. The custodian settles trades assigned by trading members. The custodian is required to confirm whether it is going to settle a particular trade or not. If it is confirmed, the NSCCL assigns that obligation to that custodian and the custodian is required to settle it on the settlement day. If the custodian rejects the trade, the obligation is assigned back to the trading/clearing member.

**Depositories**

Depositories are the people who are in charge of both the custody and the legal ownership of securities. Securities are not legally owned by custodians. A depository is a financial institution or organization that accepts deposits and holds securities and other financial assets in the business world. A depository owns these assets legally and is responsible for managing them according to established rules, laws, regulations, and guidelines. The clearing and settlement of financial securities, as well as the book-entry transfer of those securities, are all possible with a securities depository. For example, The Depository Trust and Clearing Corporation (the world's largest depositor) acts as a custodian for securities held and also provides clearing and settlement services.

**Difference between Depository and Custodian?**

Custodian refers to the person in charge of the property, while Depository refers to the location where the funds are held. So your shares or holdings will be held by the custodian, but they will be legally held in a Depository's safe-keeping account. As a result, your dematerialized shares will be held by the Depository.

In a nutshell, custody is a depository function, and each depository is a custodian; however, a custodian is not a depository.

Depositary = Custody + control, legal ownership of securities

Custodian = Custody only

**Clearing Banks**

Clearing banks are a key link between the clearing members and NSCCL for funds settlement. Every clearing member is required to open a dedicated settlement account with one of the clearing banks. Based on his obligation as determined through clearing, the clearing member makes funds available in the clearing account for the pay-in and receives funds in case of a pay-out. Multiple clearing banks provide advantages of competitive forces, facilitate introduction of new products viz. working capital funding, anywhere banking facilities, the option to members to settle funds through a bank, which provides the maximum services suitable to the member.

**Functions of Clearing Banks**

The clearing banks are required to provide the following services as a single window to all clearing members of National Securities Clearing Corporation Ltd. as also to the clearing corporation:

a) Branch network in cities that cover bulk of the trading cum clearing members

b) High level automation including Real time gross settlement (RTGS) 8 and electronic funds transfer (EFT) facilities

c) Facilities like

(i) Dedicated branch facilities

(ii) Software to interface with the clearing corporation

(iii) Access to accounts information on a real time basis

d) Value-added services to members such as free-of-cost funds transfer across centers etc.

e) Providing working capital funds.

f) Stock lending facilities i.e. lending of a security by the registered owner, to an authorized third party, for a fixed or open period of time, for an agreed consideration secured by collateral. The demand to borrow securities comes mainly from market makers to cover short positions or take arbitrage opportunities.

g) Services as Depository Participants (an agent of the depository through which it interfaces with the investor)

h) Other Capital Market related facilities

i) All other banking facilities like issuing bank guarantees / credit facilities etc

**Margins**

Margins form a key part of the risk management system. In the stock markets there is always an uncertainty in the movement of share prices. This uncertainty leads to risk which is addressed by margining system of stock markets. Let us understand the concept of margins with the help of a following example.

Example: Suppose an investor purchases 1000 shares of ‘xyz’ company at ` 100/- on January 1, 2008. Investor has to give the purchase amount of ` 1, 00,000/- (1000 x 100) to his broker on or before January 2, 2008. Broker, in turn, has to give this money to stock exchange on January 3, 2008. There is always a small chance that the investor may not be able to bring the required money by required date. As an advance for buying the shares, investor is required to pay a portion of the total amount of ` 1, 00,000/- to the broker at the time of placing the buy order. Stock exchange in turn collects similar amount from the broker upon execution of the order. This initial token payment is called margin. It is important to remember that for every buyer there is a seller and if the buyer does not bring the money, seller may not get his / her money and vice versa. Therefore, margin is levied on the seller also to ensure that he/ she gives the 100 shares sold to the broker who in turn gives it to the stock exchange. In the above example, assume that margin was 15%. That is investor has to give

` 15,000/ - (15% of ` 1, 00,000/) to the broker before buying. Now suppose that investor bought the shares at 11 am on January 1, 2008. Assume that by the end of the day, price of the share falls by ` 25/-. That is total value of the shares has come down to ` 75,000/-. That is buyer has suffered a notional loss of ` 25,000/-. In our example buyer has paid ` 15,000/- as margin but the notional loss, because of fall in price, is ` 25,000/-. That is notional loss is more than the margin given.

In such a situation, the buyer may not want to pay ` 1, 00,000/- for the shares whose value has come down to ` 75,000/-. Similarly, if the price has gone up by ` 25/-, the seller may not want to give the shares at ` 1, 00,000/-. To ensure that both buyers and sellers fulfill their obligations irrespective of price movements, notional losses are also need to be collected

Prices of shares keep on moving every day. Margins ensure that buyers bring money and sellers bring shares to complete their obligations even though the prices have moved down or up.

# **Depository**

A depository is a financial institution or entity that holds securities (such as stocks, bonds, and other financial instruments) in electronic form on behalf of investors. The primary function of a depository is to facilitate the holding, transfer, and settlement of securities, reducing the risks associated with physical certificates and streamlining the process of securities transactions.

NSDL (National Securities Depository Limited), CDSL (Central Depository Services (India) Limited)

**Key Differences between Depositories and Clearing Houses:**

Depositories primarily deal with the safekeeping and maintenance of securities in electronic form and facilitate the transfer of ownership of these securities. They manage the accounts of investors and ensure the accurate recording of holdings.

Clearing Houses focus on the clearing and settlement of trades executed on stock exchanges, acting as intermediaries between buyers and sellers to guarantee the completion of trades. They handle the financial transactions associated with buying and selling securities.

# **Stock Brokers**

A stock broker is an intermediary who arranges to buy and sell securities on the behalf of clients (the buyer and the seller). According to SEBI (Stock Brokers and Sub-Brokers) Regulations, 1992, a stockbroker is member of a stock exchange and requires to hold a certificate of registration from SEBI in order to buy, sell or deal in securities. SEBI grants a certificate to a stock broker subject to the conditions that the stock broker:

a) Holds the membership of any stock exchange,

b) Should abide by the rules, regulations and bye-laws of the stock exchange or stock exchanges of which he is a member,

c) Should obtain prior permission of SEBI to continue to buy, sell or deal in securities in any stock exchange in case of any change in the status and constitution,

d) Should pay the amount of fees for registration in the prescribed manner, and

e) Should take adequate steps for redress of grievances of the investors within one month of the date of the receipt of the complaint and keep SEBI informed about the number, nature and other particulars of the complaints. While considering the application of an entity for the grant of registration as a stock broker,

# **SEBI checks out if the applicant:**

a) Is eligible to be admitted as a member of a stock exchange,

b) Has the necessary infrastructure like adequate office space, equipment and manpower to effectively discharge his activities,

c) Has any past experience in the business of buying, selling or dealing in securities,

d) Is subjected to any disciplinary proceedings under the rules, regulations and bye-laws of a stock exchange with respect to his business as a stock-broker involving either himself or any of his partners, directors or employees.

# **Animals in the Market**

A traditional marketplace where animals like cattle, sheep, goats, and poultry are bought and sold for farming, meat, dairy, or wool production

# **Classification of Financial Markets**

**Capital Markets:**

Stock Market: Where equities (shares) are bought and sold.

Bond Market: For trading debt securities like bonds.

**Money Markets:** For short-term debt instruments like Treasury bills, commercial paper, and certificates of deposit.

**Derivatives Markets:** Where financial contracts like futures, options, and swaps are traded, derived from underlying assets.

**Forex Market:** For the trading of currencies.

**Commodities Markets:** For trading raw materials like gold, oil, and agricultural products.

**Cryptocurrency Markets:** For trading digital currencies like Bitcoin and Ethereum.

# **Participants in Financial Markets**

**Individual Investors**: Retail investors who buy and sell securities for personal investment.

**Institutional Investors**: Entities like pension funds, mutual funds, hedge funds, and insurance companies that invest large sums of money.

**Brokers and Dealers:** Intermediaries who facilitate transactions between buyers and sellers, earning commissions or spreads.

**Investment Banks:** Assist in issuing new securities, provide advisory services, and engage in proprietary trading.

**Commercial Banks:** Provide loans, accept deposits, and engage in currency and bond trading.

**Regulators:** Government agencies like the SEC (Securities and Exchange Commission) and central banks that oversee financial market activities.

**Market Makers:** Entities that provide liquidity by continuously buying and selling securities to ensure smoother trading.

**Exchanges:** Platforms like the NYSE or NASDAQ where securities are traded.

**Clearing Houses:** Facilitate the settlement of transactions and reduce counterparty risk by ensuring trade completion.

Primary Market

Secondary Market

# **Fixed Income Securities**

Fixed income securities are financial instruments that provide regular, fixed interest payments over a specified period and return the principal at maturity.

**Common types include:**

**Bonds**: Debt securities issued by governments, municipalities, or corporations to raise capital, with periodic interest payments (coupons) and repayment of principal.

**Treasury Bills (T-Bills):** Short-term government securities with maturities of one year or less, sold at a discount and repaid at face value at maturity.

**Certificates of Deposit (CDs):** Time deposits issued by banks with a fixed interest rate and maturity date.

**Municipal Bonds:** Bonds issued by state or local governments, often offering tax-free interest income to investors.

**Corporate Bonds:** Bonds issued by companies to finance operations, paying higher interest than government bonds due to higher risk.

**Preferred Stock:** Equity that pays fixed dividends, similar to bond interest, and has priority over common stock in dividend payments.

# **Features/characteristics of a bond**

**Face Value (Par Value):** The principal amount the bondholder will receive at maturity, usually in denominations like $1,000.

**Coupon Rate:** The fixed interest rate paid by the bond issuer to bondholders, typically expressed as a percentage of the face value.

**Maturity Date:** The date on which the bond's principal is repaid to the bondholder, marking the end of the bond's life.

Coupon Payments: Periodic interest payments made to bondholders, typically semi-annually or annually, based on the coupon rate.

**Issuer:** The entity that issues the bond, which can be a government, municipality, or corporation.

**Yield:** The return on investment for the bond, including the coupon payments and any capital gain or loss if the bond is bought or sold at a price different from the face value.

**Credit Rating:** An assessment of the bond issuer’s creditworthiness, determining the risk of default. Higher-rated bonds (AAA, AA) have lower risk, while lower-rated bonds (junk bonds) have higher risk.

**Market Price:** The price at which the bond trades in the market, which can fluctuate due to interest rates, credit ratings, and economic conditions.

**Callability:** Some bonds have a call option, allowing the issuer to repay the bond before maturity, often at a premium price.

**Convertible Feature:** Certain bonds can be converted into a predefined number of shares of the issuer's stock under specified conditions.

Types of Fixed Income

Terms Used in Fixed Income

Classification of Fixed Income Markets Primary Bond Markets

Secondary Bond Markets

Bond Indenture

Yield, Accrued Interest, Coupon, Maturity, Issuers, Rating Agencies

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WHAT IS THE NAME OF INDUSTRY ASSOCIATION FOR THE MUTUAL FUND INDUSTRY? Dividend Reinvestment Option

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