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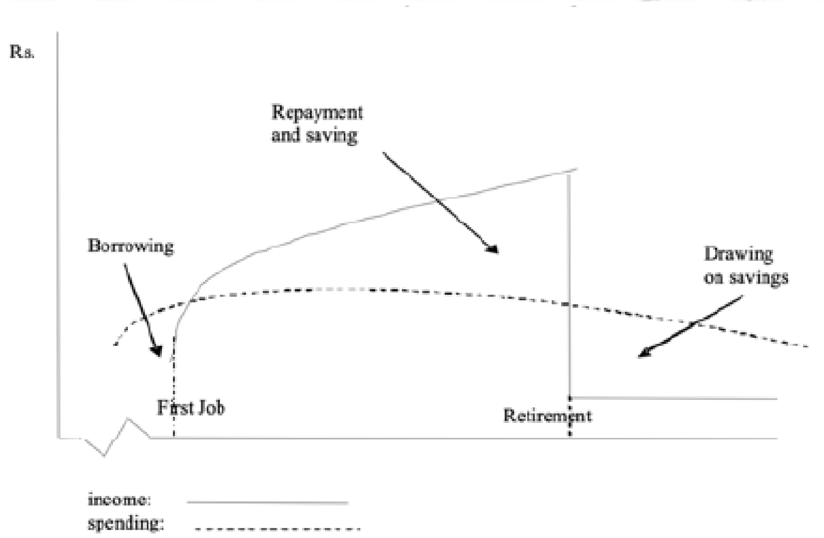
NISM SERIES XXI A - PORTFOLIO MANAGEMENT SERVICES

NISM XXI A – PORTFOLIO MANAGEMENT SERVICES (PMS) DISTRIBUTORS EXAMINATION

SHORT NOTES BY PASS4SURE.IN

CHAPTER 1: INVESTMENTS



People have, broadly, two options to utilise their savings. They can either keep it with them until their consumption requirements exceed their income, or, they can pass on their saving to those whose requirements exceed their income with the condition of returning it back with some increment.

Saving versus Investment

Saving is just the difference between money earned and money spent.

Investment is the current commitment of savings with an expectation of receiving a higher amount of committed savings. Investment involves some specific time period. It is the process of making the savings work to generate return.

Investment versus Speculation

Investment and speculation activities are so intermingled that it is very difficult to distinguish and separate them. An attempt can be made to distinguish between speculation and investment on the basis of criteria like investment time horizon and the process of decision making.

Investment Objectives

Investment objectives can be defined as investors' goals expressed in terms of risk, return and liquidity preferences. Some investors may have the tendency to express their goals solely on the basis of return.

The return objective may be simplified as follows:

Capital Preservation: It means minimizing or avoiding the chances of erosion in the principal amount of investment. Highly risk averse investors pursue this investment goal, as his investment objective requires no or minimal risk taking. Also, when funds are required for immediate short term, investors may state for capital preservation as the investment objective.

Capital Appreciation: It is an appropriate investment objective for those who want their portfolio value to grow over a period of time and are prepared to take risks. This may be an appropriate investment objective for long term investors.

Current Income: It is an investment objective pursued when investor wants her portfolio to generate income at regular interval by way of dividend, interest, rental income rather than appreciation in the value of the portfolio. This investment objective is mostly pursued by people who are retired and want their portfolios to generate income to meet their living expenses.

Estimating the required rate of return

Investment is the commitment of rupee for a period of time to earn a) pure time value of money for investors postpone their current consumption b) compensation for expected inflation during the period of investment for the change in the general price levels and c) risk premium for the uncertainty of future payments. The price paid for the exchange between current and future consumption is the pure rate of interest.

It is the rate of return, the investor demands even if there is no inflation and no uncertainty associated with future payments.

Required rate of return is the minimum rate of return investors expect when making investment decisions. It is to be noted that required rate of return is not guaranteed return or assured return. It is also different from expected or forecasted return. It is also different from realized return.

Real risk free rate is the basic rate of return or interest rate, assuming no inflation and no uncertainty about future cashflows. It is the compensation paid for postponing the consumption.

The **nominal risk-free rate** of return is the rate of return, an investor is certain of receiving on the due date. Investor is certain of the amount as well as the timing of the return.

Types of risks

Business Risk is the Uncertainty of income flows caused by the nature of a firm's business.

Financial risk relates to the means of financing assets – debt or equity. It is uncertainty caused by the use of debt financing.

Liquidity is defined as ease of converting an asset into cash at close to its economic worth. The more difficult the conversion, the more is **liquidity risk.**

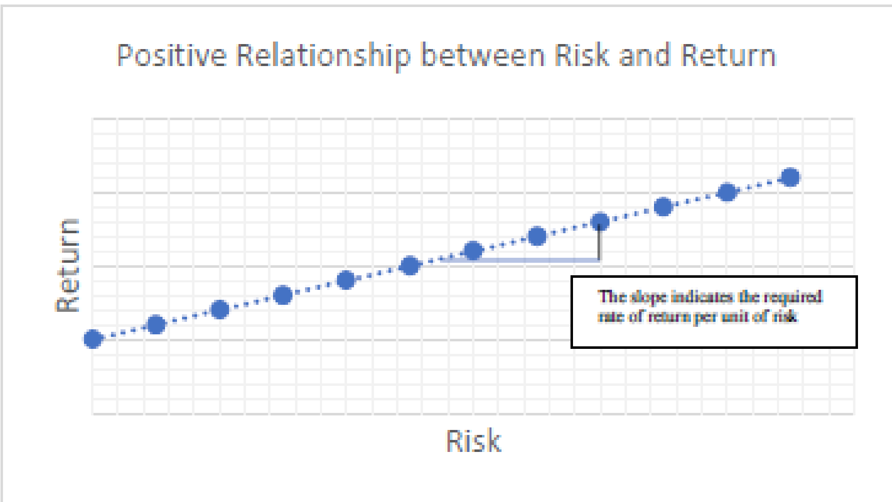
Exchange rate risk is the uncertainty of return introduced by acquiring investments denominated in a currency different from that of the investor.

Political risk is the uncertainty of returns caused by the possibility of a major change in the political or economic environment in a country.

Geopolitics is influence of geography and politics on economics and relationships between countries. **Geopolitical risk** is the risk associated with wars, terrorist acts, and tensions between states that affect the normal and peaceful course of international relations.

Regulatory risk is the risk associated with uncertainty about the regulatory framework pertaining to investments.

Relationship between risk and return



Types of Investments

Equity

Equity Shares represent ownership in a company that entitles its holders a share in profits and the right to vote on the company's affairs. Equity shareholders are residual owners of firm's profit after other contractual claims on the firm are satisfied and have the ultimate control over how the firm is operated. Equity Shareholders are residual claim holders. Investments in equity shares reward investors in two ways: dividend and capital appreciation.

Fixed Income

Debt instruments, also called fixed income instruments, are contracts containing a promise to pay a stream of cash flows during the term of the contract to the investors. The debt contract can be transferable, a feature specified in the contract that permits its sale to another investor, or non-transferable, which prohibits sale to another party.

Government versus corporate debt securities

A **Government Security (G-Sec)** is a tradeable instrument issued by the Central Government or the State Governments. It acknowledges the Government's debt obligation. Such securities are short term or long term.

Corporate fixed income securities pay higher interest rates than the government securities due to default risk. The difference between the yield on a government security and the corporate security for the same maturity is called "credit spread".

High yield versus investment grade

Higher rating denotes lower default risk and vice versa. The convention in the market is to classify bonds with rating BBB and above as investment grade and bonds below the BBB as high yield or junk bonds. Many institutional investors are prohibited from investing in junk bonds as they involve high default risk.

Money Market versus capital market

Money market securities have maturities of one year or less than one year. Treasury bills, commercial papers, certificate of deposits up to one year maturity are referred as money market instruments.

Capital market is a place for long term fund mobilization. Securities with maturities greater than one year are referred to as capital market securities. Stocks and bonds are capital market securities.

Commodities

Commodities are subject to higher business cycle risk as their prices are determined by the demand and supply of the end products in which they are consumed. Soft commodities historically have shown low correlation to stocks and bonds. Hence, they provide benefits of risk diversification when held in a portfolio along with stock and bonds.

Real Estate

Real estate is the largest asset class in the world. It has been a significant driver of economic growth. It offers significant diversification opportunities. It has been historically viewed as good inflation hedge. Investors can invest into real estate with capital appreciation as investment objective as well as to generate regular income by way of rents. It is usually a long term investment. Real estate is classified into two sub-classes: commercial real estate or residential real estate.

Structured Products

Structured products are customized and sophisticated investments. They provide investors risk-adjusted exposure to traditional investments or to assets that are otherwise difficult to obtain. Structured products greatly use derivatives to create desired risk exposures. Many structured products are designed to provide risk-adjusted returns that are linked to equity market indices, sector indices, basket of stocks with some particular theme, currencies, interest rates, commodity or a basket of commodities.

Distressed Securities

Distressed securities are the securities of the companies that are in financial distress or near bankruptcy. Investors can make investments in the equity and debt securities of publicly traded companies. These may be available at huge discounts, however investments in them require higher skills and greater experience in business valuation than regular securities.

<u>Channels for making investments</u>

Investors can invest in any of the investment opportunities discussed above directly or through intermediaries providing various managed portfolio solutions.

Direct investments

Direct investments are when investors buy the securities issued by companies and government bodies and commodities like gold and silver. Investors can buy gold or silver directly from the sellers or dealers. In case of financial securities, a few fee-based financial intermediaries aid investors buy or sell investments viz. brokers, depositories, advisors etc., for fees or commission.

Registered Investment Advisers

Investors can take the advice from SEBI Registered Investment Adviser (RIAs). These advisers are paid fees by the investors who hire them for investment advice. These advisers, like other fee-based professionals, are only accountable to their investors. They are required to follow a strict code of conduct and offer advice in the investors' best interests. Thus advisor can help investors create an optimum investment portfolio and help them in making rational investment decisions.

Investments through managed portfolios

These investment vehicles are professionally managed. Through these managed portfolios they can avail the professional expertise at much lower costs.

The following are examples of managed portfolio solutions available to investors in India:
- Mutual Funds
- Alternative Investment Funds
- Portfolio Managers
- Collective Investment Schemes

Mutual Fund

A mutual fund is a trust that pools the savings of a number of investors who share a common financial goal. Money collected through mutual fund is then invested in various investment opportunities such as shares, debentures and other securities.

The following are the benefits of investing through mutual funds:
- Professional investment management
- Risk reduction through diversification
- Convenience
- Unit holders account administration and services
- Reduction in transaction costs
- Regulatory protection
- Product variety

Alternative Investment Fund

Alternative Investment Fund or AIF is a privately pooled investment vehicle which collects funds from sophisticated investors, for investing it in accordance with a defined investment policy for the benefit of its investors. These private investors are institutions and high net worth individuals who understand the nuances of higher risk taking and complex investment arrangements. The minimum investment value in AIF is one crore rupees. AIFs are categorized into three categories:

Category I AIF – is an AIF that invests in start-up or early stage ventures or social ventures or SMEs or infrastructure or other sectors.

Category II AIF – is an AIF that does not fall in Category I and III and which does not undertake leverage or borrowing other than to meet day-to-day operational requirements or as permitted in the regulations.

Category III AIF – is an AIF that which employs diverse or complex trading strategies and may employ leverage including through investment in listed or unlisted derivatives.

Portfolio Management Services

A portfolio manager is a body corporate who advises or directs or undertakes on behalf of the investors the management or administration of a portfolio of securities. There are two types of portfolio management services available. The discretionary portfolio manager individually and independently manages the funds of each investor whereas the non-discretionary portfolio manager manages the funds in accordance with the directions of the investors. The portfolio manager is required to accept minimum Rs. 50 lakhs or securities having a minimum worth of Rs. 50 lakhs from the client while opening the account for the purpose of rendering portfolio management service to the client.

CHAPTER 2: INTRODUCTION TO SECURITIES MARKETS

The securities market provides an institutional structure that enables a more efficient flow of capital in the economy. If a household has some savings, such savings can be deployed to fund the capital requirement of a business enterprise, through the securities markets.

A **Security** represents the terms of exchange of money between two parties. They are purchased by investors who have the money to invest. Security ownership allows investors to convert their savings into financial assets which provide a return. Security issuance allows borrowers to raise money at a reasonable cost.

Primary and Secondary market

Primary Market: The primary market, also called the new issue market, is where issuers raise capital by issuing securities to investors. Fresh securities are issued in this market. Various methods of issue in the primary market are:

- Primary Issue
- Initial Public Offering (IPO)
- Further Public offer (FPO)
- Rights Issue
- Private Placement
- Preferential Issue
- Qualified Institutional Placements (QIP)
- Onshore and Offshore Offerings
- Offer For Sale (OFS)
- Employee Stock Ownership Plan (ESOP)
- Foreign Currency Convertible Bond (FCCB)
- Depository Reciepts (ADR/GDR)
- Anchor Investor

Secondary Market: The secondary market facilitates trades in already-issued securities, thereby enabling investors to exit from an investment or new investors to buy already existing securities.

An active secondary market promotes the growth of the primary market and capital formation, since the investors in the primary market are assured of a continuous market where they have an option to liquidate or exit their investments. Let's look at various terminologies in the secondary market:

- Over-The-Counter Market (OTC)
- Exchange Traded Markets
- Trading
- Clearing and Settlement

Market Participants and their Activities

Market Infrastructure Institutions and other intermediaries

Stock Exchanges provide a trading platform where buyers and sellers can transact in already issued securities. Trading happens on these exchanges through electronic trading terminals which feature anonymous order matching.

Depositories are institutions that hold securities (shares, debentures, bonds, government securities, mutual fund units) of investors in electronic form. Currently there are two Depositories in India that are registered with SEBI—Central Depository Services Limited (CDSL), and National Securities Depository Limited (NSDL).

A **Depository Participant (DP)** is an agent of the depository through which it interfaces with the investors and provides depository services. Depository participants enable investors to hold and transact in securities in the dematerialized form.

Trading Members/Stock Brokers are registered members of a Stock Exchange. They facilitate buy and sell transactions of investors on stock exchanges.

Authorise Persons are agents of the brokers (previously referred to as sub-brokers) and are registered with the respective stock exchanges. APs help in reaching the services of brokers to a larger number of investors.

A **Custodian** is an entity that is vested with the responsibility of holding funds and securities of its large clients, typically institutions such as banks, insurance companies, and foreign portfolio investors.

Clearing Corporations play an important role in safeguarding the interest of investors in the Securities Market. Clearing agencies ensure that members on the Stock Exchange meet their obligations to deliver funds or securities.

Clearing Bank acts as an important intermediary between clearing members and the clearing corporation. Every clearing member needs to maintain an account with the clearing bank.

Merchant bankers are entities registered with SEBI and act as issue managers, investment bankers or lead managers. They help an issuer access the security market with an issuance of securities.

Underwriters are intermediaries in the primary market who undertake to subscribe any portion of a public offer of securities which may not be bought by investors.

Institutional Participants

Mutual Funds are professionally managed collective investment scheme that pools money from many investors to purchase securities on their behalf.

Pension Funds are established to facilitate and organize the investment of the retirement funds contributed by the employees and employers or even only the employees in some cases.

Insurance companies' core business is to insure assets. Depending on the type of assets that are insured, there are various insurance companies like life insurance and general insurance etc.

Alternative Investment Funds: The SEBI Regulations 2012 define 'Alternative Investment Fund' (AIF) as one which is primarily a privately pooled investment vehicle. Under the SEBI AIF Regulations 2012, we can list the following types of funds as AIFs: Venture Capital Fund, Angel Fund, Private Equity Fund, Debt Fund, Infrastructure Fund, SME Fund, Hedge Fund and Social Venture Fund.

Foreign Portfolio Investors (FPIs) is an entity established or incorporated outside India that proposes to make investments in India. These international investors must register with the SEBI to participate in the Indian securities markets.

Investment advisers work with investors to help them decide on asset allocation and make a choice of investments based on an assessment of their needs, time horizon return expectation and ability to bear risk.

EPFO is a statutory body set up under the Employees' Provident Funds & Miscellaneous Provisions Act, 1952

National Pension System (NPS) is a pension cum investment scheme launched by Government of India to provide old age security to Citizens of India.

Family office can be defined as the ecosystem which the family builds around itself to manage its wealth.

Corporate Treasuries: Traditionally, the role of corporate treasury has been that of manager of financial risks and provider of liquidity. The focus area of corporate treasuries has been debt management to capital structure management with the key responsibility of raising long term funds and minimizing the cost of capital.

CHAPTER 3: INVESTING IN STOCKS

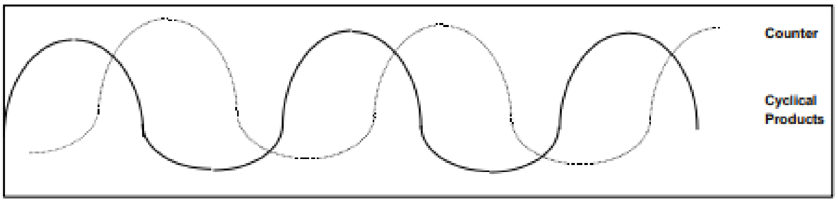
Equity as an investment

Securities markets enable investors to invest and disinvest their surplus funds in various instruments. These instruments are pre-defined for their features, issued under regulatory supervision, and in most cases have ready liquidity. When a company issues equity securities, it is not contractually obligated to repay the amount it receives from shareholders. It is also not contractually obligated to make periodic payments to shareholders for the use of their funds. Equity investors also known as shareholders have a claim on the company's net assets, i.e. assets after all liabilities have been paid. Equity shareholders have residual claim in the business.

Diversification of risk through equity instruments

Diversification of equity investment achieves risk reduction. Conceptually, it is achieved due to the relatively less correlated behaviour of various business sectors which underlie each equity investment. A business cycle is shown as a dark line. Some businesses may be at peak when others are at their trough, as shown by the broken line. These products or businesses are called 'counter-cyclical' or defensive businesses. Businesses that do better in a recession are called 'recession-proof' businesses. Some products, sectors or countries come out of a recession faster than others; other products, sectors or countries may go into recession later than others.

Exhibit 3.1 Counter-cyclical products



Risks of equity investments

Market risks arise due to the fluctuations in the prices of equity shares due to various market related dynamics.
Sector specific risk is due to factors that affect the performance of businesses in a particular sector.

Company specific risk is due to factors that affect the performance of a single company.

Liquidity risk is the impact cost. The impact cost is the percentage price movement caused by a particular order size

Overview of Equity Market

Equity securities represent ownership claims on a company's net assets. A thorough understanding of equity market is required to make optimal allocation to this asset class. The equity market provides various choices to investors in terms of risk-return-liquidity profile.

In addition to equity shares, companies may also issue preference shares. Preference Shares rank above equity shares with respect to the payment of dividends and distribution of company's net assets in case of liquidation. However, preference share do not generally have voting rights like equity shares, unless stated otherwise.

The chief characteristic of equity shares is shareholders' participation in the governance of the company through voting rights.

Equity research and stock selection

The idea behind equity research is to come up with intrinsic value of the stock to compare with market price and then decide whether to buy or hold or sell the stock. There are many frameworks/methodologies available for stock selection.

Fundamental Analysis

Fundamental analysis is the process of determining intrinsic value for the stock. These values depend on underlying economic factors such as future earnings or cash flows, interest rates, and risk variables. By examining these factors, intrinsic value of the stock is determined. Investor should buy the stock if its market price is below intrinsic value and do not buy, or sell, if the market price is above the intrinsic value, after taking into consideration the transaction cost.

Top-Down approach versus Bottom-up Approach: Analysts follow two broad approaches to fundamental analysis—top down and bottom up.

Buy side research versus Sell Side Research: Sell-side Analysts work for firms that provide investment banking, broking, advisory services for clients. They typically publish research reports on the securities of companies or industries with specific recommendation to buy, hold, or sell the subject security. Buy-side Analysts work for money managers like mutual funds, hedge funds, pension funds, or portfolio managers that purchase and sell securities for their own investment accounts or on behalf of their clients.

Stock Analysis Process

The objective of stock analysis is to make the critical risk-return decision at the marketindustry-company stock level. The stock analysis process involves three steps. It requires analysis of the economy and market. It includes

- Economic Analysis
- Industry/Sector Analysis

Industry Life Cycle

- Introduction
- Growth
- Maturity
- Deceleration of Growth

Porter's 5 Model

Michael Porter suggests that five competitive forces determine the intensity of competition in the industry, that in turn affects the profitability of the firms in the industry. The impact of these factors can be different for different industries. The 5 factors are rivalry among existing competitors, threat of new entrants, threat of substitute products, bargaining power of buyers and bargaining power of suppliers.

Company Analysis

Company analysis is the final step in the top-down approach to stock analysis. Macroeconomic analysis prepares us to understand the impact of forecasted macroeconomic environment on different asset classes. It enables us to decide how much exposure to be made to equity.

Fundamentals Driven model - Estimation of intrinsic value

There are various approach to valuation. There are uncertainties associated with the inputs that go into these valuation approaches. As a result, the final output can at best be considered an educated estimate, provided adequate due diligence associated with valuing the asset has been complied with.

Discounted Cash Flow Model:
Conceptually, discounted cash flow (DCF) approach to valuation is the most appropriate approach for valuations when three things are known: Stream of future cash flows, Timings of these cash flows, and Expected rate of return of the investors (called discount rate).

Free Cash Flow Model:

There are two ways to look at the cash flows of a business. One is the free cash flows to the firm (FCFF), where the cash flows before any payments are made on the debt outstanding are taken into consideration. This is the cash flow available to all capital contributors—both equity and debt. The second way is to estimate the cash flows that accrue to the equity investors alone. To calculate the value of the firm, the FCFF is discounted by the weighted average cost of capital (WACC) that considers both debt and equity. To calculate the value of equity, FCFE is discounted using the cost of equity.

As per Capital Asset Pricing Model (CAPM) ,the cost of equity is computed as follows:

$$Ke = Rf + \beta * (Rm – Rf)$$

Asset Based Valuation

Under this method, the value of the business is found out by subtracting the value of its liabilities from its assets.

Relative Valuation

Relative valuation is conducted by identifying comparable firms and then obtaining market values of equity of these firms. These values are then converted into standardized values which are in form of multiples, with respect to any chosen metric of the company's financials, such as earnings, cash flow, book values or sales. Common metrics used in relative valuation are:

- PE Ratio
- PB Ratio
- PS Ratio
- PEG Ratio
- EVA and MVA
- EBIT/EV and EV/EBITDA Ratio
- EV/S Ratio

Technical Analysis

Technical analysis is based on the assumption that any information that can affect the performance of a stock, company fundamentals, economic factors and market sentiments, is reflected already in its stock prices. There are three elements in understanding price behavior:

1. The history of past prices provides indications of the underlying trend and its direction.
2. The volume of trading that accompanies price movements provides important inputs on the underlying strength of the trend.
3. The time span over which price and volume are observed factors in the impact of long-term factors that influence prices over a period of time.

Technical analysis integrates these three elements into price charts, points of support and resistance in charts and price trends. By observing price and volume patterns, technical analysts try to understand if there is adequate buying interest that may take prices up, or vice versa.

Assumptions of Technical Analysis

1. The market price is determined by the interaction of supply and demand.
2. Supply and demand are governed by many rational and irrational factors.
3. Price adjustments are not instantaneous and prices move in trends
4. Trends persist for appreciable lengths of time.
5. Trends change in reaction to shifts in supply and demand relationships.
6. These shifts can be detected in the action of the market itself.

There are numerous trading rules and indicators. There are indicators of overall market momentum, used to make aggregate market decisions. There are trading rules and indicators to be applied for individual securities. Some of the popular ones are:

- Trend-line analysis
- Moving averages
- Bollinger-Band Analysis

CHAPTER 4: INVESTING IN FIXED INCOME SECURITIES

Since bonds create fixed financial obligations on the issuers, they are referred as fixed income securities. The issuer of a bond agrees to
1) pay a fixed amount of interest (known as coupon) periodically
2) repay the fixed amount of principal (known as face value) at the date of maturity.
The fixed obligations of the security are the most defining characteristic of bond. Mostly bonds make semi-annual interest payments, though some may make annual, quarterly or monthly interest payment (except zero coupon bonds which make no interest payment).

Bonds can also be issued with embedded options. Some common types of bonds with embedded options are: bonds with call option, bonds with put option and convertible bonds.

Determinants of bond safety

The most important document to understand the safety aspects of the bond is its indenture. It is the legal agreement between the firm issuing the bond and the bondholders, providing the specific terms of the debt agreement. All the features of the bond i.e. its par value, coupon rate, maturity period, periodicity of coupon payments, collateral for the bond, seniority of the payments will be set forth in the indenture. To understand the probability of default by the issuer, most bond investors rely on Rating Agencies which have their own methodology to gauge the creditworthiness. They use symbols to express their opinion, Typically, ratings are expressed as grades from 'AAA' to 'D'.

Analysis and Valuation of Bonds

Bond Pricing: The price of a bond is sum of present value of all future cash flows of the bond. The interest rate used for discounting the cash flows is the Yield to Maturity (YTM).

$$P_m = \sum_{t=1}^{2n} \frac{C_i/2}{(1+i/2)^t} + \frac{P_p}{(1+i/2)^{2n}}$$

Bond Yield Measures:

The **coupon yield** is the coupon payment as a percentage of the face value.

The **current yield** is the coupon payment as a percentage of the bond's current market price.

Yield to Maturity (YTM) is the discount rate which equates the present value of the future cash flows from a bond to its current market price .

Yield to call measures the estimated rate of return for bond held to first call date in a bond with an embedded option.

Measuring Price Volatility of bonds:

Market price of a bond is a function of the Par value of the bond; Coupon rate of the bond; Maturity period and Prevailing market interest rate.

1. Bond prices and the interest rates have inverse relationship.
2. Bond price volatility is inversely related to coupon.
3. Bond price volatility is directly related to term to maturity
4. Bond price movements resulting from equal absolute increases or decreases in yield are not symmetrical.

Interest Rate Risk is defined as the risk emanating from changes in the interest rate in the market.

Determining duration: Duration (also known as Macaulay Duration) of a bond is a measure of the time taken to recover the initial investment in present value terms. *Calculating Duration of a bond is covered in detail in the NISM Workbook. Pleas go through it carefully to understand the same.*

CHAPTER 5: DERIVATIVES

Derivative is a contract or a product whose value is derived from value of some other asset known as underlying. Derivatives are based on wide range of underlying assets. These include metals, energy resources, Agri commodities and financial assets.

Types of derivative products

Forward contract is an agreement made directly between two parties to buy or sell an asset on a specific date in the future, at the terms decided today.

A **futures contract** is an agreement made through an organized exchange to buy or sell a fixed amount of a commodity or a financial asset on a future date at an agreed price.

An **Option** is a contract that gives its buyers the right, but not an obligation, to buy or sell the underlying asset on or before a stated date/day, at a stated price, for a premium (price)

A **swap** is a contract in which two parties agree to a specified exchange of cash flows on a future date(s).

Structure of derivative markets

OTC Markets: Some derivative contracts are settled between counterparties on terms mutually agreed upon between them. These are called over the counter (OTC) derivatives. They are non-standard and they rely on the trust between parties to meet their commitment as promised.

Exchange Traded Markets: Exchange-traded derivatives are standard derivative contracts defined by an exchange, and are usually settled through a clearing house. The buyers and sellers maintain margins with the clearing-corporations, which enables players to enter into contracts on the strength of the settlement process of the clearing house.

Purpose of Derivatives

Hedging: When an investor has an open position in the underlying, he can use the derivative markets to protect that position from the risks of future price movements.

Speculation: A speculative trade in a derivative is not supported by an underlying position in cash, but simply implements a view on the future prices of the underlying, at a lower cost.

Arbitrage: Arbitrageurs are specialist traders who evaluate whether the difference in price is higher than the cost of borrowing.

Commodity and Currency Futures and Options

Commodity derivatives: Commodity derivatives markets play an increasingly important role in the commodity market value chain by performing key economic functions such as risk management through risk reduction and risk transfer, price discovery and transactional efficiency. Commodity derivatives markets allow market participants such as farmers, traders, processors, etc. to hedge their risk against price volatility through futures and options.

Currency derivatives: Unlike any other traded asset class, the most significant part of currency market is the concept of currency pairs. In currency market, while initiating a trade you buy one currency and sell another currency. A currency future, also known as FX future, is a futures contract to exchange one currency for another at a specified date in the future at a price (exchange rate) that is fixed on the purchase date. Currency Options are contracts that grant the buyer of the option the right, but not the obligation, to buy or sell underlying currency at a specified exchange rate during a specified period of time.

Underlying concepts in derivatives

Zero Sum Game: In a futures contract, the counterparties who enter into the contract have opposing view. The sum of the two position's gain and loss is zero assuming zero transaction costs and zero taxes.

Settlement Mechanism: Earlier most derivative contracts were settled in cash. However, SEBI has mandated physical settlement (settlement by delivery of underlying stock) for all stock derivatives.

Arbitrage: The law of one price states that two goods (assets) that are identical, cannot trade at different prices in two different markets. The demand in the cheaper market will increase prices there and the supply into the costlier market will reduce prices, bringing the prices in both markets to the same level. Prices in two markets for the same tradable asset will be different only to the extent of transaction costs.

Margining Process: Margin is defined as the funds or securities which must be deposited by Clearing Members as collateral before executing a trade. The provision of collateral is intended to ensure that all financial commitments related to the open positions of a Clearing Member can be offset within specified period of time.

Open Interest: Open interest is commonly associated with the futures and options markets. Open interest is the total number of outstanding derivative contracts that have not been settled. The open interest number only changes when a new buyer and seller enter the market, creating a new contract, or when a buyer and seller meet—thereby closing both positions. Open interest is a measure of market activity. However, it is to be noted that it is not trading volume.

CHAPTER 6: MUTUAL FUND

Mutual fund is a vehicle (in the form of a "trust") to mobilize money from investors, to invest in different markets and securities, in line with stated investment objectives. Mutual funds offer different kinds of schemes to cater to the need of diverse investors. Various investors have different investment preferences and needs. In order to accommodate these preferences, mutual funds mobilize different pools of money.

Benefits of investing through mutual funds

- Affordable Portfolio Diversification
- Economies Of Scale
- Transparency
- Tax Benefits
- Convenient Options
- Regulatory Comfort

Working of mutual funds

Day to day operations of mutual fund is handled by the AMC. The sponsor or, the trustees if so authorized by the trust deed, shall appoint the AMC with the approval of SEBI. Various functions include:

- Compliance Function
- Fund Management
- Operations and Customer Services Team
- Sales And Marketing Team

Types of Mutual fund products

Mutual Fund Schemes are classified on various parameters, some of them being:

- Open Ended v/s Close Ended
- Active Funds v/s Passive Funds
- By the investment Universe: Equity Funds, Debt Funds, Commodity Funds, Gold Funds, International Funds etc.

Processes of investing in mutual funds

Processes of units include Purchase, Redemption and Systematic Transfers.

Net Asset Value, Total Expense Ratio, Pricing of Units

The **NAV** or **Net Asset Value** is the current value of a mutual fund unit. This will depend upon the current mark to market (MTM) value of the securities held in the portfolio of the fund and any income earned such as dividend and interest.

Pricing of Units: In case of open-ended funds, transactions are priced using the NAV to ensure parity among investors that buy new units, investors that stay in the fund, and investors that move out of a fund.

Total Expense Ratio: All types of expenses incurred by the Asset Management Company have to be clearly identified and appropriated for all mutual fund schemes. The most important expense is the Investment and Advisory Fees charged to the scheme by the AMC.

CHAPTER 7: ROLE OF PORTFOLIO MANAGERS

Risk and return are the two important aspects of financial investment. Portfolio management involves selecting and managing a basket of assets that minimizes risk, while maximizing return on investments. A portfolio manager plays a pivotal role in designing customized investment solutions for the clients.

Types of portfolio management services

On the basis of provider of the services PMS can be classified as:
1. PMS by asset management companies
2. PMS by brokerage houses
3. Boutique (independent) PMS houses

Discretionary Services: Discretionary portfolio manager individually and independently manages the funds of each investor as per the contract. This could be based on an existing investment approach or strategy which the portfolio manager is offering or can be customized based on client's requirement.

Non-Discretionary Services: Non-discretionary portfolio manager manages the funds in accordance with the directions of the client. The portfolio manager does not exercise his/her discretion for the buy or sell decisions. The portfolio manager has to consult the client for every transaction.

Advisory Services: In advisory role, the portfolio manager suggests the investment ideas or provides non-binding investment advice. The investor takes the decisions. The investors also execute the transactions.

(Kindly go through the compliance rules given in the workbook once)

CHAPTER 8: OPERATIONAL ASPECTS OF PORTFOLIO MANAGERS

Entities which can invest in PMS

The following entities can invest in PMS with a minimum investment of Rs. 50 lacs:
- Individuals
- Non-resident Indians (as per the RBI guidelines)
- Hindu Undivided Family
- Proprietorship firms
- Association of person
- Partnership Firms
- Limited liability Partnership
- Trust
- Body Corporate

Disclosures to the prospective clients

Accurate and standardized disclosure by PMS providers is needed to help existing & prospective investors take well informed investment decisions. SEBI (Portfolio Managers) Regulation 2020 requires that the disclosure document is to be given to the prospective client along with the account opening form prior to signing of the agreement.

Best Practices for the disclosures – Global Investment Performance Standards

The GIPS standards are ethical standards for calculating and presenting investment performance based on the principles of fair representation and full disclosure. These standards were originally created for investment firms managing composite strategies, with a focus on how firms present performance of composites to prospective clients.

Process of On-boarding of clients

The two important elements of the customer life cycle are: client onboarding and reporting. The following are the important aspects of the client onboarding process in case of a PMS service:
1. Reading of Disclosure Document
2. Fulfilling KYC Requirements.

KYC Requirements differ as per the type of client. Some of them are:

- KYC for Non-Residents
- NRI Demat Account
- NRI Trading Account
-

3. Submitting Duly Filled Application Form

Content of agreement between the portfolio manager and investor: The portfolio manager before taking up an assignment of management of funds and portfolio on behalf of a client, enters into an agreement in writing with such client that clearly defines the inter se relationship and sets out their mutual rights, liabilities, and obligations relating to management of portfolio.

Direct On-boarding in PMS

As per the SEBI circular, Portfolio Managers shall provide an option to clients to be onboarded directly, without intermediation of persons engaged in distribution services. Portfolio Managers shall prominently disclose in its disclosure documents, marketing material and on its website, about the option for direct on-boarding.

Costs, expenses and fees of investing in PMS

- Investment Management and Advisory Fees
- Custodian/Depository Fee
- Registrar And Transfer Agent Fee
- Brokerage and Transactions Costs
- Certification charges, Fund Accounting charges and Professional fee
- Out of Pocket and Other Incidental Expenses

High Water Mark is the highest value that the portfolio/account has reached. The portfolio manager charges performance based fee only on increase in portfolio value in excess of the previously achieved high water mark.

Profit sharing/performance related fees are usually charged by portfolio managers upon exceeding a **hurdle rate** or benchmark as specified in the agreement.

CHAPTER 9: PORTFOLIO MANAGEMENT PROCESS

Importance of Asset Allocation Decision

Asset allocation is the process of deciding how to distribute an investor's wealth into different asset classes for investment purposes. An asset class is defined as a collection of securities that have similar characteristics, attributes, and risk/return relationships.

Understanding correlation across asset classes and securities

Correlation measures the strength and direction of relationship between two variables. Correlation coefficient vary in the range −1 to +1. Understanding correlation across asset classes is very crucial in making asset allocation decision. Correlation is the most relevant factor in reaping the benefits of risk diversification i.e. in reducing portfolio risk.

Investment Policy Statement (IPS)

Development of Investment Policy Statement (IPS) is the key step in the process of portfolio management. IPS is the road map that guides the investment process. Either investors or their advisors draft the IPS specifying their investment objectives, goals, constraints, preferences and risks they are willing to take. All investment decision are based on IPS considering investors' goal and objectives, risk appetite etc. Since investors requirement's change over a period time, IPS also needs to be updated and revised periodically.

Investment Constraints

- Liquidity Constrains
- Regulatory Constrains
- Tax Constrains

Psychographic analysis of investor

Psychographic analysis of investor bridges the gap between standard finance which treats investors as rational human beings and behavioral finance which view them as normal human beings who have biases and make cognitive errors. In other words, psychographic analysis of investor recognizes investors as normal human beings who are susceptible to biased or irrational behavior.

Lifecycle of investing

- Accumulation Phase
- Consolidation Phase
- Spending Phase
- Gifting Phase

The investment policy statement needs to provide a framework for evaluating the performance of the portfolio. It will typically include a **benchmark portfolio** which matches in composition of the investor's portfolio.

Asset allocation decision

The asset allocation decision which is made after taking into consideration investor's characteristics is **strategic asset allocation (SAA**). It is the target policy portfolio.

Tactical asset allocation (TAA) is short-term asset allocation decision. These decision are taken more frequently than SAA. The idea behind TAA is to take the advantage of the opportunities in the financial markets.

Rebalancing of Portfolio

Portfolio needs to be continuously monitored and periodically rebalanced. The need for rebalancing arises due to price changes in portfolio holdings. Over time, asset classes produce different returns that can change the portfolio's asset allocation. To keep the portfolio's original risk-and-return characteristics, the portfolio may require rebalancing.

CHAPTER 10: PERFORMANCE MEASUREMENT AND EVALUATION OF PORTFOLIO MANAGERS

The main issue in performance measurement and evaluation is the human tendency to focus on the return, the investment has earned over a period of time with little regard to the risk involved in achieving that return.

Rate of return measures

- Holding Period Return
- Time weighted Rate of Return (TWRR) or Geometric Mean
- Money weighted Rate of return (MWRR)
- Arithmetic Mean Return
- Gross Return
- Net Return
- Compounded Annual Growth Rate
- Annualized Return
- Cash Drag adjusted Return
- Alpha and Beta Return
- Portfolio Return

Students should be aware about how each of the above returns are calculated

Risk measures

Two possible measures of risk have received support in theory to capture total risk: **the variance** and **the standard deviation** of the estimated distribution of expected returns. Whereas downside risk includes concepts such as semi-variance/standard deviation and target semi variance/standard deviations.

Standard deviation is the square root of variance. It quantifies the degree to which returns fluctuate around their average. A higher value of standard deviation means higher risk

Semi variance measures the dispersion of the return below the mean return. Target Semi variance measures the dispersion of the return below the target return. In case of symmetrically distributed return, semi variance will be proportional to variance and provides no additional insight.

Portfolio risk versus individual risk

Standard deviation or variance of the returns is used as measure of risk. While computing portfolio risk, it is to be borne in mind that portfolio standard deviation is not the weighted average standard deviation of individual investments in a portfolio (except when these investments have perfect positive correlation with each other, which is practically an impossibility). Portfolio risk depends on the weights of the investments, their individual standard deviations and more importantly the correlation across those investments

Systematic Risk and Unsystematic Risk

Systematic risk is defined as risk due to common risk factors, like interest rates, exchange rates, commodities prices. It is linked to supply and demand in various marketplaces. All investments get affected by these common risk factors directly or indirectly.

Systematic risk is measured by **Beta**. Beta relates the return of a stock or a portfolio to the return on market index. It reflects the sensitivity of the fund's return to fluctuations in the market index.

$$Beta = Cov (M_r P_r) / Var(M_r)$$

Tracking error is the standard deviation of the difference between the portfolio and its target benchmark portfolio total return. Generally indices are used to benchmark portfolios.

Risk-adjusted return

Sharpe Ratio is the portfolio's return in excess of the risk-free return and divide the excess return by the portfolio's standard deviation. This risk adjusted return is called Sharpe ratio. This ratio named after William Sharpe. It measures Reward to Variability.

The **Treynor** measure adjusts excess return for systematic risk. It is computed by dividing a portfolio's excess return, by its beta.

The **Sortino Ratio**, portfolio's return in excess of the risk-free return is divided by the portfolio's semi-standard deviation. Thus, Sortino Ratio adjusts portfolio's excess return to the downside risk.

The numerator in **the information ratio** represents the fund manager's ability to use his skill and information to generate a portfolio return that differs from the benchmark. The denominator measures the amount of residual (unsystematic) risk that the investor incurred in pursuit of those excess returns.

The **M^2 Ratio** is adjusted the risk of the portfolio to match the risk of the market portfolio. For such a risk adjusted portfolio, they calculated the return, and compared it with the market return to determine portfolio's over or underperformance.

Performance attribution analysis

Differential return can achieved by choosing to over-invest in (or overweight) a particular economic sector that outperformed the total benchmark (sector allocation) for that period or to underinvest in or avoid (or underweight) an asset category that underperformed the total benchmark (asset allocation).

Differential return can also be achieved by selecting securities that performed well relative to the benchmark or avoiding benchmark securities that performed relatively poorly.

An Indian investor who buys and sells securities that are denominated in currencies other than the Indian rupee need to calculate the return after adjusting the fluctuation in Indian rupee against those foreign currencies, as the return earned on investments denominated in foreign currencies would not be the same when converted back to rupee term.

CHAPTER 11: TAXATION

Taxation of investors

Income-tax liability of an assessee is calculated on basis of his 'Total Income'. What is to be included in the total income of assessee is greatly influenced by his residential status in India and his citizenship is of no consequence.

The residential status of an Individual as inferred from provisions of Section 6 of the Act can
be categorized into the following categories:
1. Ordinary Resident in India
2. Resident But Not Ordinarily Resident in India
3. Deemed resident
4. Non-Resident

Residential status of a company

- Indian Company
- Foreign Company

Nature of income	Resident and ordinarily resident	Resident but not ordinarily resident	Non-resident
Income received or is deemed to be received in India	Taxable	Taxable	Taxable
Income accrues or arises or is deemed to accrue or arise to him in India	Taxable	Taxable	Taxable
Income accrues or arises outside India if it is derived from a business controlled in India or a profession set up in India	Taxable	Taxable	Not-taxable
Income accrues or arises outside India (from a business controlled from outside India or from a profession set up outside India)	Taxable	Not-taxable	Not-taxable

Capital Gains

Any profits or gains arising from the transfer of a capital asset is taxable under the head 'capital gains' in the previous year in which such transfer takes place. However, every transfer of a capital asset does not give rise to taxable capital gains because some transactions are either not treated as 'transfer' under Section 47 or they are excluded from the meaning of a capital asset.

The **Indexed Cost of acquisition** shall be calculated in a two-step process. The first step is to calculate the cost of acquisition of capital asset. In the second step, such cost of acquisition is multiplied with the Cost Inflation Index (CII) of the year in which capital asset is transferred and divided by CII of the year in which asset is first held by the assessee or CII of 2001- 02, whichever is later.

The income in the nature of dividend on securities is taxable in the hands of the assessee under the head **'income from other sources'.**

The income in the nature of interest on securities is taxable in the hands of the assessee under the head 'income from other sources'. This income is taxable as other sources if it is not in the nature of business income.

CHAPTER 12: REGULATORY, GOVERNANCE AND ETHICAL ASPECTS OF PORTFOLIO MANAGERS

Prevention of Money Laundering Act, 2002

The Prevention of Money Laundering Act, 2002 (PMLA) forms the core of the legal framework put in place in India to combat money laundering. The provisions of PMLA came into force on July 1 2005. The objective of PMLA is, "to prevent money-laundering and to provide for confiscation of property derived from, or involved in, money-laundering and for matters connected therewith or incidental thereto."

SEBI (Prohibition of Insider Trading) Regulations 2015

Any dealing/trading done by an insider based on information which is not available in public domain, gives an undue advantage to insiders and affects market integrity. This is not in line with the principle of fair and equitable markets. In order to protect integrity of the market, the SEBI (Prohibition of Insider Trading) Regulations have been put in place.

SEBI (Prohibition of Fraudulent and Unfair Trade Practices Relating to Securities Market) Regulations, 2003

SEBI (Prohibition of Fraudulent and Unfair Trade Practices relating to Securities Market) Regulations, 2003 prohibits fraudulent, unfair and manipulative trade practices in securities. Regulation 2(1)(c) defines fraud as inclusive of any act, expression, omission or concealment committed to induce another person or his agent to deal in securities.

SEBI (Portfolio Managers) Regulations, 2020

This section gives a summary of the SEBI (Portfolio Managers) Regulations, 2020.

Soft dollar practices

Investment management firms pay commission to brokerage firms for executing trades. Soft dollar arrangements are the one where investment managers pay a higher commission to the brokerage firm in lieu of enjoying additional services like access to their research reports, hardware, software or even non-research-related services, etc.. In portfolio management services, the investor is charged the brokerage fee. Soft dollar arrangement must be avoided as it is abusive in nature. There should be transparency with regard to the services availed by the buy side firm such as portfolio manager and the charges paid towards them.

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