Comprehensive Finance and Stock Market Reference Guide

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Basic Financial Concepts

Money and Currency

- Money: A medium of exchange, store of value, and unit of account. Money facilitates trade by eliminating the need for coincidence of wants in barter systems. Throughout history, money has evolved from commodity money (gold, silver) to representative money (backed by commodities) to today's fiat currencies. Money must be durable, portable, divisible, uniform, limited in supply, and widely accepted.
- Fiat Currency: Government-issued currency not backed by a physical commodity like gold or silver. Its value is derived from the trust in the issuing government and its economy. Examples include the US Dollar, Euro, Japanese Yen, and British Pound. Fiat money allows central banks to control money supply and implement monetary policy to stabilize economies.
- Legal Tender: Currency that must be accepted for payment of debts within a specific jurisdiction. Laws typically require that a national currency must be accepted for all debts, public and private. This status is what gives fiat currency much of its practical value. Refusing to accept legal tender for debt repayment may void the debt in many jurisdictions.
- Exchange Rate: The value of one currency relative to another, determining how much of one currency you can exchange for another. Exchange rates can be fixed (pegged to another currency or basket of currencies) or floating (determined by market forces). Factors affecting exchange rates include interest rates, inflation, political stability, economic performance, and market speculation.
- Purchasing Power: The value of a currency expressed in terms of goods and services it can buy. Purchasing power decreases with inflation and increases with deflation. Purchasing Power Parity (PPP)

is a theory that compares different countries' currencies through a "basket of goods" approach, suggesting that identical goods should cost the same in different countries after exchange rates are considered.

Time Value of Money

- Present Value (PV}: The current worth of a future sum of money, calculated by discounting future cash flows to the present using a specified rate of return. PV is a fundamental concept in finance that acknowledges a dollar today is worth more than a dollar in the future due to potential earning capacity. The formula is PV = FV - (1 + r)^n, where r is the discount rate and n is the number of time periods.
- Future Value (FV}: The value of a current asset at a future date based on an assumed growth rate. FV calculations help investors understand what their investments might be worth over time. The basic formula is FV = PV (1 + r)^n, where PV is present value, r is interest rate, and n is number of time periods. Future value is a critical concept for retirement planning and long-term investment strategies.
- Compound Interest: Interest calculated on initial principal and accumulated interest, causing wealth to grow at an accelerating rate over time. Einstein allegedly called it the "eighth wonder of the world." The power of compounding increases with time, which is why starting to invest early is so advantageous. Compound interest is calculated as A = P(1 + r/n)^(nt), where A is final amount, P is principal, r is interest rate, n is compounding frequency per period, and t is time.
- Simple Interest: Interest calculated only on the initial principal, not on accumulated interest. Simple interest is typically used for short-term loans, bonds, and fixed deposits. The formula is I = P r t, where I is interest earned, P is principal, r is interest rate, and I is time. While simpler to calculate than compound interest, it results in lower returns for investors over longer periods.
- Discount Rate: The interest rate used to determine the present value of future cash flows. The discount rate represents the time value of money and risk associated with future cash flows. Higher discount rates reflect higher risk or uncertainty. In corporate finance, discount rates often use the Weighted Average Cost of Capital (WACC). Different scenarios might require different discount rates based on risk profiles and investment alternatives.
- Rule of 72: A method to estimate how long it takes to double an investment by dividing 72 by the annual interest rate. For example, at 8% interest, an investment will double in approximately 9 years (72 + 8 = 9). This mathematical shortcut is remarkably accurate for interest rates between 6% and 10%. The rule can also be used to estimate the interest rate needed to double money in a given time period by dividing 72 by the number of years.

Inflation and Purchasing Power

- Inflation: The rate at which the general price level of goods and services rises
- Deflation: A decrease in the general price level of goods and services

- **Consumer** Price Index (CPI): A measure of changes in the price level of a market basket of consumer goods
- Inflation Rate: The percentage change in a price index over a period
- Inflation-Adjusted Returns: Investment returns that account for the effects of inflation

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Financial Markets Overview

Types of Financial Markets

- Capital Markets: Markets for buying and selling equity and debt instruments
- Money Markets: Markets for short-term borrowing, lending, buying and selling (< 1 year)
- Primary Markets: Where new securities are issued (e.g., IPOs)
- Secondary Markets: Where existing securities are traded between investors
- Over-the-Counter (OTC) Markets: Decentralized markets without a central physical location
- Exchange Markets: Centralized markets where securities are traded (e.g., NYSE, NASDAQ)

Market **Participants**

- **Retail Investors:** Individual investors who buy and sell securities for personal accounts
- Institutional Investors: Organizations that invest on behalf of others (pension funds, insurance companies)
- Market **Makers:** Entities that facilitate trading by quoting buy and sell prices
- **Brokers:** Intermediaries who execute trades on behalf of clients
- **Dealers:** Entities that buy and sell securities from their own accounts
- **Regulators:** Government agencies that oversee financial markets (SEC, FINRA)

Market Indicators

- Market Indices: Measures of market segments (S&P 500, Dow Jones, NASDAQ Russell 2000)
- Market Capitalization: The total value of a company's outstanding shares
- Market Breadth: The number of advancing vs. declining stocks
- Trading Volume: The number of shares traded in a given period
- Volatility Index (VIX}: A measure of market's expectation of volatility
- Yield Curve: A plot of interest rates of bonds with equal credit quality but different maturities

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Stock Market Fundamentals

Equity **Securities**

- Common Stock: Represents ownership in a corporation with voting rights

- Preferred Stock: Stock with priority over common stock for dividends and assets
- ADRs (American Depositary Receipts): US-traded certificates representing foreign shares
- Share Classes: Different types of shares with varying rights (Class A, B, etc.)

Stock Markets and Exchanges

- NYSE (New York Stock Exchange): The largest equities-based exchange in the world
- NASDAQ: Electronic exchange known for technology stocks
- Market Sessions: Pre-market, regular trading hours, after-hours trading
- Circuit Breakers: Temporary trading halts triggered by large market moves
- Market Orders: Buy or sell orders executed at current market price
- Limit Orders: Orders to buy or sell at a specific price or better

Stock Valuation Metrics

- Price-to-Earnings Ratio (P/E): Stock price divided by earnings per share, indicating how much investors are willing to pay for each dollar of earnings. The P/E ratio is one of the most widely used valuation metrics. A high P/E may suggest investors expect high growth in the future, or it could indicate overvaluation. A low P/E might indicate undervaluation or anticipated problems. The S&P 500 has historically averaged a P/E ratio between 15-25. P/E ratios should be compared within industries as typical values vary significantly by sector. There are two types: trailing P/E (based on past earnings) and forward P/E (based on projected future earnings).
- Earnings Per Share (EPS): Net income divided by outstanding shares, representing the company's profitability on a per-share basis. EPS is a key component in calculating P/E ratios and is closely watched by investors. Basic EPS uses outstanding shares, while diluted EPS accounts for all potential shares from convertible securities and options. Growing EPS over time generally indicates improving company performance. However, EPS can be manipulated through share buybacks without actual business improvement, so it should be analyzed alongside other metrics.
- Price-to-Book Ratio (P/B): Stock price divided by book value per share, with book value representing a company's assets minus liabilities. P/B ratio compares a company's market valuation to its accounting value. A P/B ratio under 1.0 often suggests an undervalued company, though it may also indicate fundamental problems. Value investors like Benjamin Graham traditionally sought stocks with low P/B ratios. P/B is particularly useful for evaluating financial institutions and capital-intensive businesses. Tech companies and service businesses often trade at high P/B ratios due to unrecorded intangible assets.
- Price-to-Sales Ratio (P/S): Market cap divided by annual revenue, useful for valuing companies without positive earnings. P/S ratio gained popularity during the dot-com era for evaluating pre-profit tech companies. Lower P/S ratios generally indicate better value, though appropriate levels vary by industry. Unlike earnings, sales are harder to manipulate through accounting practices. However, P/S ignores profitability differences—a company with high revenue but poor margins may have a

misleadingly attractive P/S ratio. P/S is best used in conjunction with other metrics and for comparing similar companies within an industry.

- Dividend Yield: Annual dividends per share divided by stock price, representing the percentage return paid to shareholders as dividends. Higher yields may attract income investors, but extremely high yields (>7-8%) often indicate potential dividend cuts or other problems. Mature companies in established industries (utilities, consumer staples) typically offer higher dividend yields. Growth companies often reinvest profits rather than pay dividends. Total return includes both dividends and price appreciation. Dividend aristocrats are companies that have increased dividends for at least 25 consecutive years, demonstrating financial stability.
- Market Capitalization: Stock price multiplied by shares outstanding, representing the total market value of a company's equity. Market cap classifications include: small-cap (<$2 billion), mid-cap ($2-10 billion), large-cap ($10-200 billion), and mega-cap (>$200 billion). Market cap determines index inclusion and influences institutional investment eligibility. Larger companies tend to be less volatile but offer lower growth potential. Market cap focuses on equity value only and doesn't account for debt, so enterprise value (market cap + debt - cash) provides a more complete picture of a company's total value.

Corporate Actions

- Dividends: Distribution of a portion of company's earnings to shareholders
- Stock Splits: Division of existing shares into multiple shares
- Reverse Stock Splits: Consolidation of shares to form a smaller number of proportionally more valuable shares
- Share Buybacks: Company repurchasing its own shares from the marketplace
- Mergers and Acquisitions: Consolidation of companies or assets

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Investing Principles

Investment Strategies

- Value Investing: Buying undervalued stocks trading below their intrinsic value, popularized by Benjamin Graham and Warren Buffett. Value investors search for companies trading at a discount to their intrinsic or book value, often identified through fundamental analysis of financial statements. They look for low P/E ratios, high dividend yields, low P/B ratios, and strong balance sheets. Value investors require patience, as undervalued stocks may remain undervalued for extended periods before the market recognizes their true worth. The strategy assumes markets are inefficient in the short term but efficient in the long term. Famous value investors include Warren Buffett, Charlie Munger, Seth Klarman, and Howard Marks.
- Growth Investing: Focusing on companies with high growth potential in earnings, revenue, and cash flows, even when current valuations appear expensive. Growth investors often look for companies in

expanding industries with significant market opportunities. They typically accept higher valuations (high P/E ratios) with the expectation of future performance justifying current prices. Growth stocks generally reinvest profits rather than pay dividends. The strategy requires careful analysis of competitive advantages, management quality, and market trends. Notable growth investors include Philip Fisher, Peter Lynch, and Cathie Wood. Tech, healthcare, and consumer discretionary sectors often contain many growth stocks.

- Income Investing: Emphasizing investments that generate regular income through dividends, interest, or other distributions, particularly attractive to retirees and those seeking cash flow. Income investors focus on dividend-paying stocks, bonds, REITs, MLPs, preferred stocks, and fixed-income securities. The strategy prioritizes consistent, reliable income streams over capital appreciation potential. Dividend aristocrats (companies that have increased dividends for 25+ consecutive years) are popular choices. Income investing provides greater stability during market downturns but may underperform during strong bull markets. Tax efficiency is an important consideration, as different income sources are taxed at different rates.
- Momentum Investing: Buying securities showing upward price trends and selling those in downtrends, based on the theory that securities that have performed well will continue to perform well. Momentum investors analyze price trends, relative strength, and technical indicators to identify securities with upward momentum. This strategy requires strict discipline to cut losses when momentum reverses. Academic research has shown momentum to be a persistent factor in returns across different markets and time periods. Momentum strategies typically have high turnover rates, potentially resulting in higher transaction costs and tax implications. The strategy can experience severe drawdowns during market regime changes.
- Contrarian Investing: Going against prevailing market trends by buying assets that are out of favor and selling those that are popular, based on the belief that markets overreact in both directions. Contrarians look for excessive pessimism or optimism in specific sectors or individual stocks. The strategy requires strong conviction and emotional discipline to withstand short-term underperformance and criticism. Contrarians often use sentiment indicators, analyst ratings, and valuation metrics to identify opportunities. Famous contrarians include David Dreman, Marc Faber, and Michael Burry. The strategy's success depends on correctly identifying when market sentiment has reached an extreme and is ready to reverse.
- Dollar-Cost Averaging: Investing fixed amounts at regular intervals regardless of market conditions, reducing the impact of volatility and eliminating the need to time the market. This systematic approach automatically purchases more shares when prices are low and fewer when prices are high. DCA is especially beneficial for retail investors with regular income and long-term horizons. It removes emotional decision-making and creates financial discipline. Research shows that while lump-sum investing may outperform mathematically, DCA offers psychological benefits that help investors stay invested during market turbulence. Many retirement plans like 401(k)s implicitly use dollar-cost averaging through regular payroll deductions.

Asset Allocation

- Strategic Asset Allocation: Lonp-term mix of assets based on goals and risk tolerance
- Tactical Asset Allocation: Short-term adjustments to take advantage of market conditions
- Modern **Portfolio Theory:** Framework for assembling a portfolio of assets to maximize returns for a given level of risk
- Rebalancing: Periodically buyinp/selling assets to maintain desired allocation
- Core-Satellite Strategy: Combining passive core holdings with actively managed satellite positions

Investment Timeframes

- Short-term Trading: Positions held for days to weeks
- Medium-term Investing: Positions held for months to a few years
- Long-term Investing: Positions held for many years to decades
- Buy and Hold: Strategy of buying investments and holding them for long periods

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Financial Analysis

Fundamental Analysis

- **Financial** Statements: Balance sheet, income statement, cash flow statement
- Financial Ratios: Profitability, liquidity, solvency, efficiency metrics
- Discounted Cash Flow (DCF): Valuation method using future cash flow projections
- Intrinsic Value: Actual value of a company based on fundamentals
- Economic Moat: Sustainable competitive advantages
- Industry Analysis: Evaluation of industry trends and competitive dynamics

Technical Analysis

- Chart Patterns: Recognizable patterns in price charts (head and shoulders, triangles)
- Support and Resistance: Price levels where stocks tend to find stability or reverse
- Moving Averages: Average price over a specific time period
- Relative Strength Index (RSI): Momentum oscillator measuring speed and change of price movements
- MACD (Moving Average Convergence Divergence): Trend-following momentum indicator
- Fibonacci Retracement: Potential support/resistance levels based on Fibonacci sequence

Economic Analysis

- GDP (Gross Domestic Product): Total value of goods and services produced

- Interest Rates: The cost of borrowing money
- Unemployment Rate: Percentage of workforce without jobs
- Fiscal Policy: Government spending and taxation
- Monetary Policy: Central bank actions to influence money supply and interest rates
- Business Cycle: Economic expansion and contraction patterns

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Portfolio Management

Portfolio Construction

- Diversification: Spreading investments across various assets to reduce risk
- Correlation: Relationship between prices of different assets
- Risk-Adjusted Return: Return earned per unit of risk
- Sharpe Ratio: Measure of risk-adjusted performance
- Alpha: Excess return of an investment relative to benchmark
- Beta: Measure of volatility or systematic risk compared to the market

Investment Vehicles

- Mutual Funds: Pooled investment vehicles managed by professionals
- Exchange-Traded Funds (ETFs): Funds that trade like stocks and typically track indices
- Index Funds: Funds designed to track specific market indices
- Closed-End Funds: Funds with fixed number of shares trading on exchanges
- Unit Investment Trusts (UITs): Investment companies offering fixed portfolio of securities
- Separately Managed Accounts (SMAs): Portfolios managed for individual clients

Performance Measurement

- Benchmark Comparison: Measuring performance against relevant indices
- Time-Weighted Return: Return measure that eliminates the impact of cash flows
- Money-Weighted Return: Return measure that accounts for timing and amount of cash flows
- Attribution Analysis: Breaking down performance by asset allocation and security selection
- Tracking Error: Divergence between portfolio performance and benchmark

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Alternative Investments

Real Estate

- REITs (Real Estate Investment Trusts): Companies that own or finance income-producing real estate

- Direct Property Investment: Owning physical real estate properties
- Real Estate Funds: Pooled investments in real estate
- Mortgage-Backed Securities: Securities backed by mortgage loans
- Commercial vs. Residential: Different categories of real estate investment

Private Markets

- Private Equity: Investment in non-public companies
- Venture Capital: Financing provided to early-stage, high-potential startups
- Angel Investing: Providing capital for business startups
- Leveraged Buyouts (LBOs): Acquisition of companies using significant borrowed funds
- Private Debt: Loans made outside traditional banking system

Commodities and Derivatives

- Commodities: Physical goods such as gold, oil, agricultural products
- Futures Contracts: Agreements to buy/sell assets at predetermined future prices
- Options: Contracts giving right to buy/sell assets at specific prices
- Swaps: Agreements to exchange cash flows or other financial instruments
- Forwards: Customized contracts to buy/sell assets at future date
- Hedging: Using derivatives to reduce risk exposure

Digital Assets

- Cryptocurrencies: Digital or virtual currencies using cryptography for security and operating on decentralized networks based on blockchain technology. Bitcoin, created in 2009 by an entity using the pseudonym Satoshi Nakamoto, was the first cryptocurrency and remains the largest by market capitalization. Ethereum, launched in 2015, introduced smart contracts, enabling programmable transactions and decentralized applications. Cryptocurrencies typically have limited supply (Bitcoin is capped at 21 million coins) to maintain value. They offer benefits including borderless transactions, censorship resistance, and potential protection against inflation. However, they face challenges including volatility, regulatory scrutiny, security concerns, and environmental impact (particularly for proof-of-work cryptocurrencies). Investors use cryptocurrencies for portfolio diversification, speculation, and as potential inflation hedges.
- Blockchain Technology: Distributed ledger technology underlying cryptocurrencies that records transactions across many computers so that any involved record cannot be altered retroactively. Blockchain operates as a decentralized database managed by a peer-to-peer network of computers (nodes) that validate transactions. Each "block" contains transaction data and a cryptographic hash of the previous block, creating an immutable "chain." There are several consensus mechanisms to validate transactions, including Proof of Work (computing power-intensive, used by Bitcoin) and

Proof of Stake (validators stake tokens, more energy-efficient). Beyond cryptocurrencies, blockchain applications include supply chain tracking, digital identity verification, smart contracts, voting systems, and intellectual property protection. Enterprise blockchain solutions like Hyperledger Fabric and R3 Corda provide permissioned blockchain implementations for business use cases.

- NFTs (Non-Fungible Tokens): Unique digital assets representing ownership or proof of authenticity of a specific item or piece of content, stored on a blockchain. Unlike cryptocurrencies, each NFT has distinct value and cannot be exchanged on a one-to-one basis. NFTs utilize blockchain standards like Ethereum's ERC-721 and ERC-1155. They have gained popularity in digital art, collectibles, gaming (for unique in-game assets), music, and virtual real estate. Notable sales include Beeple's "Everydays: The First 5000 Days" for $69.3 million and Jack Dorsey's first tweet for $2.9 million. NFTs provide verifiable scarcity, proof of ownership, and creator royalties through smart contracts. Critics note issues including environmental concerns, market speculation, and intellectual property rights questions. The technology continues evolving with solutions like layer-2 scaling to reduce transaction costs and environmental impact.
- DeFi (Decentralized Finance): Blockchain-based financial services that aim to recreate and improve upon traditional financial systems without centralized intermediaries like banks. DeFi applications include decentralized exchanges (DEXs) like Uniswap, lending/borrowing platforms like Aave and Compound, stablecoins pegged to fiat currencies, yield farming (optimizing returns across protocols), synthetic assets, and insurance. Smart contracts automatically execute transactions when conditions are met, enabling trustless operations. DeFi offers benefits including global accessibility, censorship resistance, transparency, and potentially higher yields than traditional finance. However, risks include smart contract vulnerabilities, regulatory uncertainty, high volatility, and complexity. Total Value Locked (TVL) in DeFi protocols exceeded $100 billion at its peak, demonstrating significant adoption despite the experimental nature of many protocols.
- Tokenization: Converting rights to an asset into a digital token on a blockchain, allowing for fractional ownership, increased liquidity, and programmable features. Virtually any asset can be tokenized, including real estate, art, commodities, equities, debt, and intellectual property. Security tokens represent ownership in regulated securities and must comply with securities laws. Utility tokens provide access to a product or service. Tokenization benefits include reduced minimum investment amounts (democratizing access), automated compliance through smart contracts, faster settlement times, and 24/7 trading. Real-world applications include tokenized real estate projects allowing investors to own fractions of properties, tokenized art enabling partial ownership of valuable works, and tokenization of carbon credits to improve market efficiency. Regulatory frameworks are still evolving to address this new asset paradigm.

Risk Management

Types of Risk

- Market Risk: Risk of losses due to factors affecting the entire market, such as recessions, political instability, changes in interest rates, or natural disasters. Also known as systematic risk, market risk cannot be eliminated through diversification. Beta is a common measure of market risk, indicating how much a security's price moves relative to the overall market. Market risk can be partially hedged using derivatives, inverse ETFs, or allocating to uncorrelated assets. Historical examples include the 2008 financial crisis and the COVID-19 market crash of 2020, when virtually all equities declined simultaneously regardless of individual company fundamentals.
- Credit Risk: Risk that borrowers will default on obligations, failing to make required interest or principal payments. Credit risk applies to bonds, loans, and even counterparties in derivatives transactions. Credit ratings from agencies like Moody's, S&P, and Fitch provide standardized assessments of credit risk. Higher credit risk typically demands higher yields (the "credit spread"). Credit risk can be managed through diversification, collateralization, credit default swaps, and careful analysis of financial statements and debt covenants. Bond mutual funds and ETFs spread credit risk across many issuers. Corporate bankruptcies, sovereign debt defaults, and mortgage delinquencies are all manifestations of credit risk.
- Liquidity Risk: Risk that assets cannot be sold quickly without substantial price discounts, particularly relevant during market stress when buyers disappear. Liquidity risk varies greatly by asset class—Treasury securities have minimal liquidity risk, while private real estate investments may take months to sell. Bid-ask spreads widen during liquidity crunches. The 2008 crisis demonstrated severe liquidity risk when previously liquid mortgage-backed securities became "toxic assets" with few buyers at any price. Investors should consider potential liquidity needs when constructing portfolios, maintaining some allocation to highly liquid assets. Fund managers must manage liquidity to meet potential redemptions without forced selling of illiquid assets.
- Operational Risk: Risk of loss from inadequate or failed internal processes, people, and systems, or from external events. Examples include fraud, trading errors, system failures, legal risks, employee misconduct, and cybersecurity breaches. Unlike market risk, operational risk is often difficult to quantify and model. The 1995 Barings Bank collapse (due to unauthorized trading by Nick Leeson) and Knight Capital's $440 million loss in 2012 (from software errors) demonstrate operational risk's potential severity. Risk management frameworks like Basel III require banks to hold capital against operational risk. Mitigation strategies include internal controls, process documentation, duty segregation, business continuity planning, and insurance.
- Systematic Risk: Market-wide risk that cannot be eliminated through diversification, arising from factors affecting the entire economy or markets. Sources include economic recessions, wars, interest rate changes, inflation, and major policy shifts. Beta measures a security's sensitivity to systematic risk relative to the market. Portfolio managers must decide how much systematic risk to accept based on investment objectives and time horizon. Systematic risk can be partially managed through asset allocation, hedging strategies, and derivatives. Modern Portfolio Theory suggests investors should be compensated only for bearing systematic risk, not unsystematic risk which can be diversified away.

- Unsystematic Risk: Company-specific or industry-specific risk that can be reduced through diversification, also called idiosyncratic or diversifiable risk. Examples include management changes, product failures, labor strikes, regulatory actions affecting specific companies, and competitive pressures. Research suggests that a well-diversified portfolio of 25-30 stocks can eliminate approximately 90% of unsystematic risk. Factor models like the Fama-French Three-Factor Model help identify sources of unsystematic risk. Active managers attempt to benefit from unsystematic risk by overweighting securities they believe will outperform, while passive investors accept market returns by diversifying away unsystematic risk entirely.

Risk Measures

- Standard Deviation: Measure of dispersion or volatility of returns
- Value at Risk (VaR): Maximum potential loss over a specific time period
- Drawdown: Decline from peak to trough in investment value
- Stress Testing: Analyzing portfolio performance under extreme scenarios
- Scenario Analysis: Evaluating impact of different economic scenarios
- Duration: Measure of bond price sensitivity to interest rate changes

Risk Management Strategies

- Diversification: Spreading investments across different assets
- Hedging: Using offsetting positions to reduce risk
- Stop-Loss Orders: Orders to sell when price falls to specific level
- Position Sizing: Determining appropriate amount to invest in each position
- Rebalancing: Periodically adjusting portfolio back to target allocation
- Insurance Products: Using financial instruments like put options for protection

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Personal Finance

Budgeting and Saving

- Personal Budget: Plan for allocating income to expenses and savings
- Emergency Fund: Savings for unexpected expenses
- Saving Rate: Percentage of income saved
- Pay Yourself First: Prioritizing savings before spending
- 50/30/20 Rule: Budgeting 50% for needs, 30% for wants, 20% for savings
- Expense Tracking: Monitoring and categorizing spending

Debt Management

- Good vs. Bad Debt: Productive debt vs. consumer debt
- Debt-to-Income Ratio: Total debt payments divided by gross income
- Credit Score: Numerical expression of creditworthiness
- Debt Snowball: Paying smallest debts first for psychological wins
- Debt Avalanche: Paying highest interest debts first for maximum savings
- Loan Consolidation: Combining multiple loans into a single loan

Retirement Planning

- 401(k): Employer-sponsored retirement plan that allows employees to contribute a portion of their wages on a pre-tax basis. Named after section 401(k) of the Internal Revenue Code, these plans were first introduced in 1978 and have largely replaced traditional pension plans. Contribution limits for 2024 are $23,000 for individuals under 50 and $30,500 for those 50 and older (with catch-up contributions). Many employers offer matching contributions (typically 3-6% of salary), effectively providing "free money" that employees should maximize. Funds grow tax-deferred until withdrawal during retirement. Early withdrawals before age 59½ generally incur a 10% penalty plus income tax, though exceptions exist for hardship. Investment options typically include a selection of mutual funds across various asset classes. The SECURE Act of 2019 made significant changes to 401(k) rules, including raising the RMD age and allowing long-term part-time employees to participate.
- IRA (Individual Retirement Account): Tax-advantaged retirement account that individuals can establish without employer sponsorship. Contribution limits for 2024 are $7,000 for individuals under 50 and $8,000 for those 50 and older. Traditional IRAs offer tax-deductible contributions for qualified individuals, while Roth IRAs provide tax-free withdrawals in retirement. IRA contribution deductibility phases out at higher income levels. IRAs typically offer more investment options than 401(k)s, including individual stocks, bonds, ETFs, and alternative investments. SEP IRAs and SIMPLE IRAs are variations designed for self-employed individuals and small businesses. Unlike 401(k)s, IRAs allow penalty-free withdrawals for first-time home purchases (up to $10,000) and qualified higher education expenses. Rollovers from employer plans to IRAs are common when changing jobs to maintain tax-advantaged status.
- Roth vs. Traditional: After-tax vs. pre-tax retirement contributions, representing fundamentally different tax treatment strategies. Traditional accounts provide immediate tax deductions but require tax payments upon withdrawal. Roth accounts use after-tax contributions but provide tax-free growth and withdrawals. The Roth option benefits those who expect to be in a higher tax bracket in retirement or anticipate higher future tax rates overall. Traditional accounts benefit those in high current tax brackets who expect lower rates in retirement. Roth accounts have no required minimum distributions during the owner's lifetime, allowing continued tax-free growth. Roth conversions (transferring traditional IRA/401(k) funds to Roth accounts) require paying income tax on the converted amount but allow future tax-free growth. A common strategy is to maintain both types for tax diversification, allowing for flexible withdrawal strategies in retirement to manage tax brackets.

- Social Security: Government program providing retirement benefits to eligible workers and their families, established in 1935 as part of the New Deal. Benefits are based on lifetime earnings, with higher earners receiving higher benefits up to a maximum. Full retirement age ranges from 66 to 67, depending on birth year. Early claiming (starting at age 62) permanently reduces benefits (up to 30% reduction), while delayed claiming (until age 70) increases benefits (up to 32% increase). The average monthly benefit in 2024 is approximately $1,907. Social Security replaces about 40% of pre-retirement income for average earners. The program faces long-term funding challenges due to demographic shifts, with the trust fund projected to be depleted by the mid-2030s absent reforms. Strategies to maximize benefits include coordinating spousal benefits, considering life expectancy, and optimizing claiming age based on individual circumstances.
- Pension Plans: Employer-funded retirement plans that provide guaranteed income for life, also known as defined benefit plans. Traditional pensions calculate benefits based on years of service, final salary, and a multiplier. Unlike 401(k)s, the investment risk falls on employers rather than employees. Pensions have declined significantly in the private sector (from 38% of workers in 1980 to less than 15% today) but remain common in public sectorjobs. The Pension Benefit Guaranty Corporation (PBGC) provides insurance for private-sector pension plans if employers go bankrupt. Pension income can be taken as a single life annuity (higher payments that end at death) or joint and survivor annuity (lower payments that continue for a spouse). Some plans offer lump-sum distribution options, which should be carefully evaluated against the guaranteed lifetime income. Cash balance plans are a hybrid type combining elements of both defined benefit and defined contribution plans.
- Required Minimum Distributions (RMDs): Mandatory withdrawals from retirement accounts required by the IRS to ensure retirement funds are taxed during the owner's lifetime. The SECURE 2.0 Act raised the RMD starting age to 73 (for those born 1951-1959) and 75 (for those born in 1960 or later). RMDs apply to traditional IRAs, 401(k)s, 403(b)s, and most other tax-deferred retirement accounts. Roth IRAs have no RMDs during the owner's lifetime, though inherited Roth IRAs may be subject to RMDs. The annual distribution amount is calculated by dividing the previous year-end account balance by a life expectancy factor from IRS tables. Failure to take RMDs results in severe penalties—previously 50^{0}/oof the amount not taken, reduced to 25^{0}/o(or 10% if corrected promptly) under SECURE 2.0. Qualified charitable distributions (QCDs) allow IRA owners to donate up to $100,000 annually directly to charity, satisfying RMD requirements without increasing taxable income.

Tax Planning

- Tax-Efficient Investing: Strategies to minimize tax impact on investments
- Capital Gains: Profits from selling investments
- Tax-Loss Harvesting: Selling investments at a loss to offset gains
- Tax-Advantaged Accounts: Accounts with tax benefits (401(k), IRA, HSA)
- Marginal Tax Rate: Tax rate on additional income
- Effective Tax Rate: Average tax rate on total income

Glossary of Financial Terms

A-D

- Arbitrage: Profiting from price differences of identical assets in different markets
- Bear Market: Market condition when prices are falling
- Bull Market: Market condition when prices are rising
- Blue-Chip Stocks: Shares of large, well-established companies
- Broker: Intermediary who executes trades for clients
- Coupon Rate: Fixed interest rate paid by bond issuers
- Depreciation: Reduction in value of an asset over time
- Dividend: Distribution of company profits to shareholders

E-H

- Equity: Ownership interest in a company
- Exchange Rate: Value of one currency relative to another
- EBITDA: Earnings Before Interest, Taxes, Depreciation, and Amortization
- Face Value: Nominal value of a security
- Fiscal Year: 12-month accounting period
- Gross Margin: Revenue minus cost of goods sold, divided by revenue
- Hedge Fund: Alternative investment using pooled funds with various strategies
- High-Yield Bond: Bond with higher interest rate due to higher risk

I-L

- Income Statement: Financial statement showing revenues and expenses
- Initial Public Offering (IPO): First sale of stock by a private company to the public
- Junk Bond: High-risk, high-yield bond with lower credit rating
- Leverage: Usinp borrowed capital to increase potential return
- Liquidity: Ease with which an asset can be converted to cash
- LIBOR: London Interbank Offered Rate, benchmark interest rate

M-P

- Market Capitalization: Total value of a company's outstanding shares
- Margin Call: Demand for additional funds when account value falls below requirement
- Net Asset Value (NAV}: Value of fund's assets minus liabilities
- Option Premium: Price paid to acquire an option

- Opportunity Cost: Value of the next best alternative forgone
- Price-to-Earnings Ratio (P/E): Stock price divided by earnings per share
- Portfolio: Collection of investments owned by an individual or organization

Q-T

- **Quantitative Easing:** Monetary policy to increase money supply
- Quote: Current price at which a security can be bought or sold
- **Return on Investment (ROI):** Profit divided by investment cost
- **Risk Premium:** Extra return expected for taking additional risk
- Stock Split: Division of existing shares into multiple shares
- **Treasury Bond:** U.S. government debt security with maturity > 10 years
- **Trade Deficit:** When a country's imports exceed its exports

U-z

- Underwriter: Financial institution that evaluates and assumes risks
- Volatility: Degree of variation in trading price over time
- Yield: Income return on an investment
- Yield Curve: Plot of interest rates of bonds with equal credit quality but different maturities
- Zero-Coupon Bond: Bond that does not pay interest but trades at discount
- Z-Score: Statistical measurement used in financial analysis to predict bankruptcy