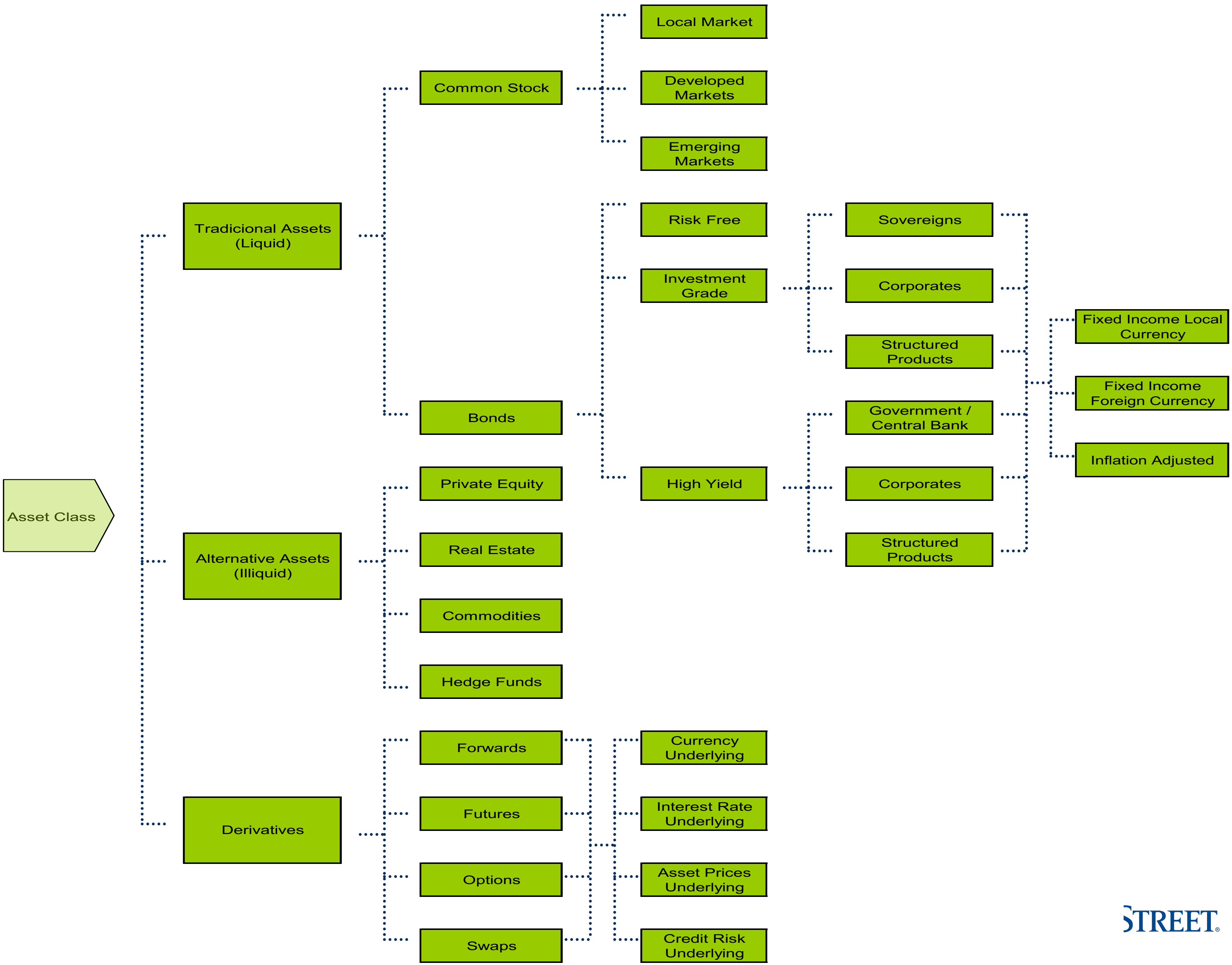
An Introduction To Financial Instruments

STATE STREET®


Asset Class
Tradicional Assets (Liquid)
Alternative Assets (Illiquid)
Derivatives
Common Stock
Bonds
Local Market
Developed Markets
Emerging Markets
Risk Free
Investment Grade
High Yield
Sovereigns
Corporates
Structured Products
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Corporates
Structured Products
Fixed Income Local Currency
Fixed Income Foreign Currency
Inflation Adjusted
Private Equity
Real Estate
Commodities
Hedge Funds
Forwards
Futures
Options
Swaps
Currency Underlying
Interest Rate Underlying
Asset Prices Underlying
Credit Risk Underlying

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Financial Instruments Introduction

- Traditional asset
  - Equities
  - Fixed Income Assets
- Foreign Currency
- International Securities
- Mutual Funds
- Exchange Traded Funds (ETFs)
- Derivatives
- Alternative Investments
  - Hedge Funds
  - Private Equity Funds
  - Venture Capital
  - Real Estate

The Origination of Financial Instruments: Bond

- Bond has an earlier origination than stocks

- 在证券中，债券的历史比股票要悠久，其中最早的债券形式就是在奴隶制时代产生的公债券。

- 据文献记载，希腊和罗马在公元前4世纪就开始出现国家向商人、高利贷者和寺院借债的情况。

- 进入封建社会之后，公债就得到进一步的发展，许多封建主、帝王和共和国每当遇到财政困难、特别是发生战争时便发行公债。12世纪末期，在当时经济最发达的意大利城市佛罗伦萨，政府曾向金融业者募集公债。其后热那亚、威尼斯等城市相继仿效。15世纪末16世纪初，美洲新大陆被发现，欧洲和印度之间的航路开通，贸易进一步扩大。

Then Stocks Come to the Stage

- 从16世纪到18世纪的一两百年间，是所谓的“重商主义”时代。当时的欧洲各国，为了掠夺大量的黄金白银，所以成立了全世界第一家国营企业——东印度公司。东印度公司是国有企业，是以炮舰为前导、以盈利为目的的一家公司。欧洲各国，为了掠夺殖民地，不停的打仗，打得民穷财尽。不得已只有发行战争债券，这是现代债券的起源。

- 债券的一个重要特点是需要到期偿还，没钱还怎么办？打白条，把白条摞成一堆，形成存量(Stock)于是就出现了股票。

- 400年前的中国是明末清初，皇太极刚上位，但是在遥远欧洲，荷兰的阿姆斯特丹，出现了一家载入史册的公司：东印度公司。

The Origination of Stocks - Continued

- 国营企业，是政府的资产。表面看这公司搞航海贸易，实为海盗。他们的工作就是掠夺各国香料以及其余物资。

- 每次出征前都需耗费大量资金补充弹药与粮食，等到香料掠夺回来，再扣去弹药与粮食的支出，事实上也就只剩一点薄利。

- 让老百姓参与进来。

- 无法到期偿还，所以成立市场

- 未来现金流：海盗战利品

The Origination of Stocks - Continued

- 18世纪，欧洲三次大的金融危机
  - 郁金香泡沫，密西西比泡沫和南海泡沫事件

- 1720年，英国、法国等国针对当时所发生的三次欧洲金融危机拟定了一个《泡沫法案》
  - 英国禁止了股份有限公司达一百年之久。
  - 法国禁止了银行这个名词达到了150年之久。

Financial Instruments in the USA

- 美国在独立战争时期，也曾发行多种中期债券和临时债券，这些债券的发行和交易便形成了美国最初的证券市场。19世纪30年代后，美国各州大量发行州际债券。

- 19世纪40—50年代由政府担保的铁路债券迅速增长，有力地推动了美国的铁路建设。

- 19世纪末到20世纪，欧美资本主义各国相继进入垄断阶段，为确保原料来源和产品市场，建立和巩固殖民统治，加速资本的积聚和集中，发行了大量的股票和债券。

- 此后，逐步演化成今天成熟的股票和债券市场

Equities

Securities representing shares of ownership in a corporation

- Common Stock

  Security representing (partial) ownership of a company's assets, generally with the right to participate in dividends and in most cases to vote on major matters affecting stockholder interests.

- Preferred Stock

  Described as equity ownership of a corporation's shares where the owners are entitled to regular fixed dividend before a dividend can be paid to common stock holders.

Example Stock Certificate

Equity Types

- Variants of Common Stock
- Class ‘A’ Ordinary Shares
- Class ‘B’ Shares
  - A classification of common stock that may be accompanied by more or fewer voting rights than Class A shares. Although Class A shares are often thought to carry more voting rights than Class B shares

- Variants of Preferred Stock
- Cumulative Preferred Stock
- Redeemable Preferred Stock
- Participating Preferred Stock
- Convertible Preferred Stock
- Prior/Ranked Preferred Stock

How Stocks trade

- Primary Market
  - The primary market is where securities are created (by means of an IPO)
- Secondary Market
  - Investors trade previously-issued securities without the involvement of the issuing-companies. The secondary market is what people are referring to when they talk about "the stock market."
- Exchanges
  - NYSE, AMEX (纽约证券交易所，美国证券交易所)
- Over the Counter
  - NASDAQ (National Association of Securities Dealers Automated Quotation)

Financial Markets

Financial Securities are bought and sold in the marketplace. The market place is typically a stock exchange. The stock exchange provides a primary market where corporations, who wish to raise equity capital, can issue stock which is sold to investors.

- The New York Stock Exchange (NYSE)
- The American Stock Exchange (AMEX)
- The London Stock Exchange (LSE)
- Nasdaq Stock Market (National Association of Securities Dealers
  Automated Quotations)
- Over-the-counter (OTC) Market
- Boston Stock Exchange (BSE)

Market Capitalization

- Companies share price multiplied by the number of shares outstanding. GE is a 340 billion dollar company because it has 10 million shares trading at about 34 dollars.

- Large cap stocks
  - market values of 5 billion or more
- Mid cap stocks
  - market values 1 billion to 5
- Small cap stocks
  - market values under 1 billion

Stock Market Index

- Dow Jones Industrial Average (DJIA)
- Standard & Poors Composite Index (S&P 500)
- S&P Midcap 400
- Russell 1000
- Russell 2000
- EAFE – Europe, Australia, Far East Index

Bonds or Fixed Income Securities

A bond is an interest bearing promise to pay a specified sum of money on a specific date. It is also described as a contractual obligation of the borrower to make payments of interest and repayment of principal on borrowed funds.

Features of Bonds

Interest rate (coupon rate) -The interest rate on a bond security The issuer promises to pay the owner until maturity. It is expressed as Fixed, Variable/Floating, or Zero Coupon.

Dated date (or issue date)- The date a bond is issued. The first interest payment is calculated from the dated date to first income date.

Maturity- The maturity date is the date upon which the principal of a security becomes due and payable to the security holder.

Par Amount- Face value of the bond (security) as given on the certificate or instrument multiplied by the number of bonds held, in dollars.

Coupon - a bonds coupon or coupon rate is the interest you receive each year.

Par Value - known as face value is the amount the bond issuer agrees to pay at maturity. bonds often trade above or below par. Buying below par is a discount, above par is premium

Yield - effective rate of interest paid on a bond, calculated by the coupon rate divided by the bond's market price. Furthermore, for any investment, yield is the annual rate of return expressed as a percentage

Yield to Maturity - The rate of return anticipated on a bond if it is held until the maturity date. YTM is considered a long term bond yield expressed as an annual rate.

Bond Issuers

- Corporate Bonds
- Municipal Bonds
- Government Bond (Treasuries)
- Asset Backed Securities (ABS)
- Non-Marketable Government Bond **– Series EE, HH, and I Savings Bonds**

Bond Issuers Corporate

- Corporate Bond – A corporation-issued, long-term debt instrument. The corporate bond market is one of the largest debt markets in the US. They usually have one of three coupon structures; Fixed, Floating/Variable, or Zero coupon
- Not secured by collateral

Bond Issuers Municipal

Municipal Securities/ (Munis) -A general term referring to securities issued by local governmental subdivisions such as cities, towns, villages, counties or special districts. Reason for issue, Big Dig, Dept. of Wakefield. They are mostly long-term instruments.

Such expenditures might include the construction of highways, bridges, or schools. "Munis" are bought for their favorable tax implications, and are popular with people in high income tax brackets.

Bond Issuers Treasuries

Treasury Bond - A U.S. Treasury-issued security with a maturity of more than 10 years and is guaranteed by the U. S. government.

Treasury Note - A U.S. Treasury-issued security with a maturity of between 2 and 10 years and is guaranteed by the U.S. government.

Treasury Bill - A short-term non-interest bearing discount instrument issued by the US Treasury and guaranteed by the U.S. government. Typically issued with 3 month, 6 month, and 1 year maturities.

Treasury STRIPS "Separate Trading of Registered Interest and Principal of Securities."- U.S. Treasuries which are direct obligations of the U.S. Treasury Department. Separating the interest coupons effectively creates a ZERO-COUPON SECURITY, a bond that pays no interest until maturity.

TIPS -Treasury Inflation Index Securities

Gilts - British government debt (treasury) securities.

Bond Issuers, Federal Agencies (Asset Backed)

Government credit agencies act as financial intermediaries. They use funds to make loans to farmers, students and homeowners, and insolvent S & L's.

- Fannie (FNMA) Federal National Mortgage Association
- Freddie Mac (FHLMC) Federal Home Loan Mortgage
- Ginnie Mae (GNMA) Government National Mortgage Association
  Association
- Sallie Mae (SLMA) Student Loan Marketing Association
- Federal Home Loan Bank (FHLBS)
- Resolution Trust Corporation
  - 重组信托公司（Resolution Trust Corporation，RTC）是美国政府为解决20世纪80年代发生的储贷机构（savings and loan associations, S&L）危机而专门成立的资产处置机构。从1989年8月成立到1995年12月解散的6年多内，RTC成功重组747家问题储贷机构，涉及资产约4206亿美元，估计重组成本约875亿美元。

Mutual Funds

- A Mutual Fund is an investment vehicle with a pre-stated objective that allows investors to pool their money and benefits from professional management and diversification of investment

Mutual Fund Characteristics

Choice	Many funds to choose from in one family
Diversification	Mutual funds hold many companies, lowering the risk over holding individuals stocks
Pooled Investments	Those investing small amounts of money get the same investments of those investing large amounts
Prices Daily	Constantly aware of the value of your investments. See price in paper.
Professionally Managed	Teams working full time tracking the investments
Prospectus	All the risks and costs all stated in this document
Stated Investment Objective	Investor knows exactly what they are investing in
Very Liquid	Can redeem quickly

Mutual Fund Fee Structure

- Front End Load
  - Fee that is charged up-front. For example, an investor may have $1000 to invest in a Mutual Fund. If the Mutual Fund charges a Front-End fee (load) of 4% then the investor only invest $960 into the mutual fund.
- Back End Load
  - the Mutual Fund Company charges a fee when the investor redeems out of a mutual fund.
- No Load Funds
  - the offering price of the mutual fund is equal to the Net Asset Value of the fund.

Shareholder Access

- Open Ended Funds
  - Funds that will distribute an **unlimited amount of mutual fund shares** to new shareholders. As the shares of the mutual fund grow, so does the size of the fund.

- Closed Ended Funds
  - Funds that are **closed** to new investors. A fixed number of shares outstanding have been established. The number of shares was determined when the fund was organized and only that number of shares can ever be sold. These shares can be traded on exchanges between investors as can any publicly traded company.

Exchange Traded Funds (ETFs)

- Similar to index mutual funds, but are traded more like a stock. As their name implies, Exchange Traded Funds (ETFs) represent a basket of securities that are traded on an exchange.

- Exchange traded funds offer more flexibility than your typical mutual fund.

- ETFs can be bought and sold throughout the trading day, allowing for intraday trading - which is rare with mutual funds.

- Traders have the ability to short or buy ETFs on margin.

- Low annual expenses rival the cheapest mutual funds.

- Tax efficiency - due to SEC regulations, ETF tend to beat out mutual funds when it comes to tax efficiency (if it is a non-taxable account then they are equal).

Foreign Exchange (Currencies)

- Strictly speaking, foreign exchange is not a asset class.
- Foreign exchange is the quotation of one currency against another. For example 1USD = 6.66 CNY
- By converting one currency to another, then converting back, it is likely one could make profit, so it could be treated as an investment.
- SPOT FX
  - Contract used when the investor needs the currency trade to settle within two business days of trade date
- Forward FX
  - Contract used when the investor does not need the currency trade to settle right away. The exchange rates used are the rates projected to be in effect a that future settlement date

International Securities

- Equities
- Debt
- Others

Derivatives

- Forward Contracts
- Future Contracts
- Option Contracts
- SWAP

DERIVATIVES What is DERIVATIVES?

- Financial contract which *derives* its value from the performance of another entity such as an asset, called the "underlying".
- The most common underlying assets include Securities, Commodity, index, interest rate, or Currency
- Derivatives are one of the three main categories of financial instruments, the other two being equities (i.e. stocks) and debt (i.e. bonds and mortgages).
- Features： 1) Zero-Sum Game 2) High leverage

DERIVATIVES Participants of Derivatives

- Hedgers

  - is an investment position intended to offset potential losses/gains that may be incurred by a companion investment

  Corporate/Banks, Financial Institutions to manage ALM and to hedge their proprietary positions/ Trade Business – Exporters and Importers

- Speculators

  - to capture market movements with an intention to make profits

- Arbitragers

  - is the practice of taking advantage of a price difference between two or more markets

DERIVATIVES Why DERIVATIVES are used?

- Price determination
- To hedge the risks
- Reduce the costs and Enhance the yields
- Manage Asset-Liability
- Segregation of Liquidity & Interest Risk
- Insurance

DERIVATIVES Currency Future

- Future contract is a STANDARDIZED agreement with an organized exchange to buy or sell a currency pair at a fixed price at a certain date in the future.

- The contract is exchangeable and thus more liquid.

DERIVATIVES Comparison of Forward & Future Contracts

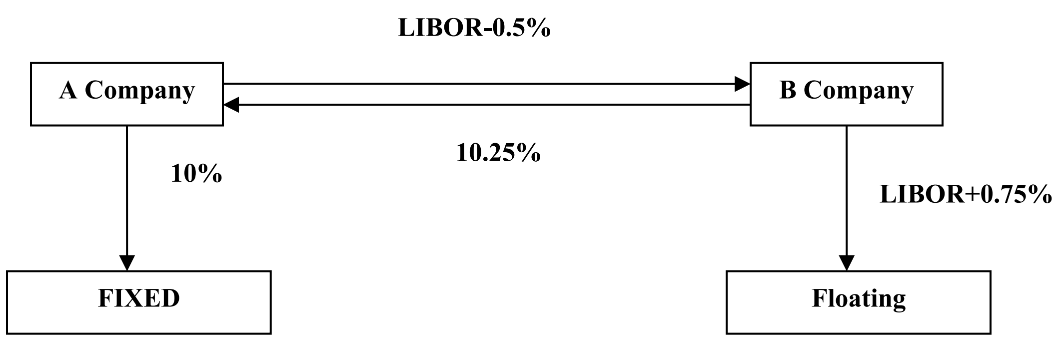
	Forward	Future
Size	Tailored	Standardized (typically USD5K – USD100K)
Range of Currencies	Over 50	Limited to major currencies
Settlement Date	Tailored	Standardized, typical 4-6 times a year e.g. PHLX (Mar/May/Jun/Jul/Sep/Dec)
Cost	No fee, cost reflected in the spread points	No spread, paid as brokerage fee
Regulation	Self-regulated	Regulated by exchange
Credit Risk	Counterparty risk is significant	Minimized with marginal deposit and daily cash settlement of profits or loss
Mark to market	Only at maturity	Profit/Loss

DERIVATIVES Currency Options

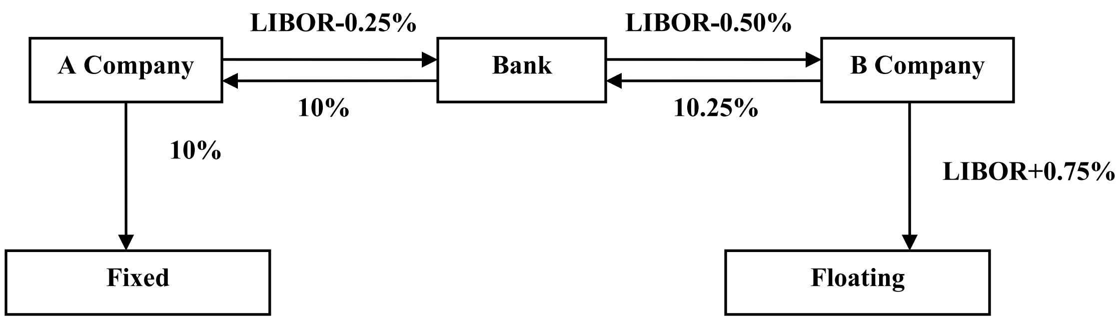
- Definition: A contract for future delivery of a specific currency in exchange for another, in which the holder of the option has the right to buy (or sell) the currency at an agreed price, the strike price, or exercise price, but is not required to do so.
- The right to buy is call, the right to sell is a put
- The option seller receives the option premium and is obliged to ensure the delivery
- American options permit the holder to exercise at anytime before the expiration date whereas European options, only at the expiration date.
- Two type of options market: Over the Counter (OTC) & Exchange Traded

DERIVATIVES Interest Rate Swaps (I.R.S)

- Is a financial contract between two parties exchanging or swapping a stream of interest payments for notional principal amount on multiple occasions during a specified period.



DERIVATIVES Interest Rate Swaps (I.R.S)



Alternative Investments

- Hedge Funds
- Private Equity Funds
- Venture Capital
- Real Estate
- Alternative assets are generally more risky than traditional assets, but they should, in theory, generate higher returns for investors.

Hedge Funds

- An aggressively managed fund portfolio taking positions in both safe and speculative opportunities
- Most hedge funds are limited to a maximum of 100 investors. And for the most part, hedge funds (unlike regular mutual funds) are unregulated because it is assumed that the people investing in them are very sophisticated and wealthy investors.

  Don't be fooled by the name: hedging is actually the practice of attempting to reduce risk, and the main goal of a hedge fund is to get a maximum rate of return, using strategies involving options, short selling, and leverage. On the other hand, because they often use futures, swaps, and arbitrage strategies, you could argue that hedge funds diversify away some of the investor risk of the stock market

Private Equity Funds

- Equity securities of companies that have not "gone public" (are not listed on a public exchange).
- Private equities are generally illiquid and thought of as a long-term investment.
- They are not listed on an exchanges, any investor wishing to sell securities in private companies must find a buyer in the absence of a marketplace. In addition, there are many transfer restrictions on private securities.
- Investors in private securities generally receive their return through one of three ways: an initial public offering, a sale or merger, or a recapitalization .

The average individual investor will not have access to private equity because it requires a very large investment.

Venture Capital (VC)

- Money and resources made available to startup firms and small businesses with exceptional growth potential.

  Venture capital often also includes managerial and technical expertise.
- Most venture capital money comes from an organized group of wealthy investors. This form of raising capital is increasingly popular among new companies that, because of a limited operating history, can't raise money through a debt issue.

- The downside for entrepreneurs is that venture capitalists usually receive a say in the major decisions of the company in addition to a portion of the equity.

Real Estate Investment Trusts(REITs)

- A REIT is a type of security that invests in real estate through property or mortgages and often trades on major exchanges like a stock. REITs provide investors with an extremely liquid stake in real estate. They receive special tax considerations and typically offer high dividend yields.

- REITs, an investment vehicle for real estate that is comparable to a mutual fund, allowing both small and large investors to acquire ownership in real estate ventures, own and in some cases operate commercial properties such as apartment complexes, hospitals, office buildings, timber land, warehouses, hotels and shopping malls.

- REIT ETF

Weekly Quiz

- 1.Which of the following investment has the most risk potential?
- A. Long a call option B. Short a call option
- C. Long a put option D. Short a put option

- 2. Assume Stock you buy stock A at $ 100 per share with 20% margin, now the stocks has rise to a price of $150, please Calculate the return for your investment.