



Chapter 3 – Asset Classes

14 Questions



Cash



Cash Deposits

Characteristics

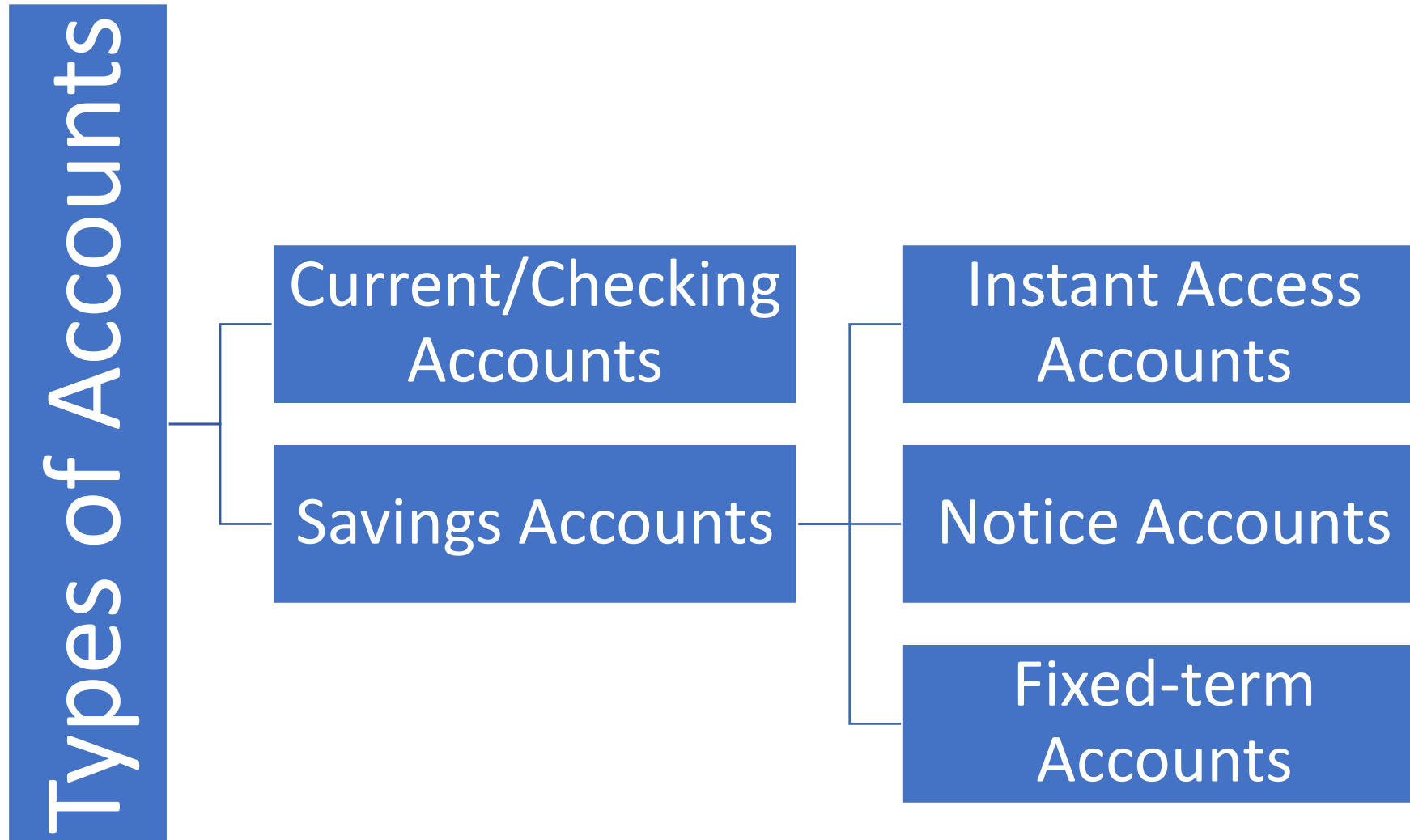
- Return varies depending upon amount deposited, term and general level of interest rates
- Return comprises interest earned
- Real return depends upon level of inflation
- No potential for capital growth
- Amount invested is returned at end of term

Advantages and Disadvantages?

Protected by a government-sponsored compensation scheme

Factors to consider if cash is deposited overseas?





Types of Accounts

Money Market Accounts

- Alternate to standard retail accounts.
- Offer high rates but require huge deposits

Overseas Accounts and Foreign Currency Deposits

- Facilitate payments on overseas property
- Regular visitors
- To take advantage of higher rates
- Speculation on currency movements
- Need to consider exchange rate risk; tax implications; exchange controls

Islamic Savings Accounts

- Shariah Compliant
- Element of shared risk
- No interest but no guarantee to get full money back



Annual Equivalent Rates (AER) or effective rate

- Annual Equivalent Rate = $(1 + r)^n$
- r = Nominal rate of interest
- n = Number of periods interest will be paid on

For example, if a bank offers an instant access account with an advertised rate of 3% which is credited quarterly, the AER for the account can be calculated using this formula by:

- Firstly, work out the rate of interest being paid. In this example, it is 3% pa, but is paid quarterly. You, therefore, need to divide the annual rate by the number of periods in which it is paid – ie, 3% divided by 4 = 0.75%.
- The result is converted into a decimal to give 0.0075.
- You then get the first step in the formula of $(1 + 0.0075)$.
- This is then multiplied to the power of 4, the number of periods - 1.0075 to the power of 4 = 1.030339.
- This is then converted into the percentage return by deducting 1 and expressing the number as a percentage.



Risks presented by cash-based investments include:

- Creditworthiness and default risk of deposit-taking institutions
- Inflation and after-tax effects
- Fluctuations in interest rate
- Currency Fluctuations



Preventive measure:

- Deposit Insurance - under bank deposit protection scheme.
- For e.g.:
 - In the US, FDIC provides insurance cover for deposit accounts
 - In the EU, deposit guarantee schemes for first 100% deposits up to €100,000



The **money markets** are the wholesale or institutional markets for cash and are characterised by the issue, trading and **redemption** of short-dated negotiable securities.

[By contrast, the **capital markets** are the long-term providers of finance for companies, either through investment in bonds or shares.]

Money Market Characteristics

- Have a **maturity** of up to one year, though three months or less is more typical.
- Most money market instruments are issued at a discount to their face value to save on the administration associated with registration and the payment of interest.
- Relatively high minimum subscription - more suitable for institutional investors.
- Accessible to retail investors indirectly through collective investment (mutual) funds.
- Are all bearer instruments for which the issuer does not maintain a register of ownership.
- In practice, these are immobilised centrally in vaults by central securities depositories (CSDs) or similar agencies.



Money Markets

Same settlement system that is used for equities and bonds - settled on same or following day of the trade

Not readily accessible by private investors - need to utilise either money market accounts offered by banks, or money market funds.

A money market fund is actually a money market mutual fund, a collective investment scheme which pools investors' money to invest in short-term debt instruments, such as Treasury bills and commercial paper.

A money market account is perhaps better described as a money market deposit account.

- A savings account that typically requires a substantial minimum balance and notice period.
- Depositor generally has the safety net of some form of depositor protection scheme.



Types of Money Market Instruments

Treasury Bills

- Issued weekly by Governments to fund short-term borrowing needs
- Non-interest bearing instruments
- Zero Coupons i.e. issued at discount to par

Certificates of Deposit

- Issued by banks in return for deposited money
- Can be bought and sold in the same way as shares
- If investor needs the money back before the fixed period has elapsed, can sell the CD to another investor in the money market

Commercial Paper

- Corporate equivalent of a Treasury Bill issued by large companies to meet their short-term borrowing needs



Money Market Instruments – Advantages & Disadvantages

Advantages and Disadvantages:

- Provide a low risk way to generate an income or capital return
- Preserve the nominal value of the amount invested.
- They also provide a valuable role in times of market uncertainty

Disadvantages:

- Unsuitable for anything other than the short term as, historically, they have underperformed most other asset types over the medium to long term.
- In the long term, the post-tax real return from cash has barely been positive



Money Market Funds

- Different types reflecting differing strategies and underlying investments

In 2008 some funds 'broke the buck' i.e. when the net asset value dropped below \$1 per share

Uses

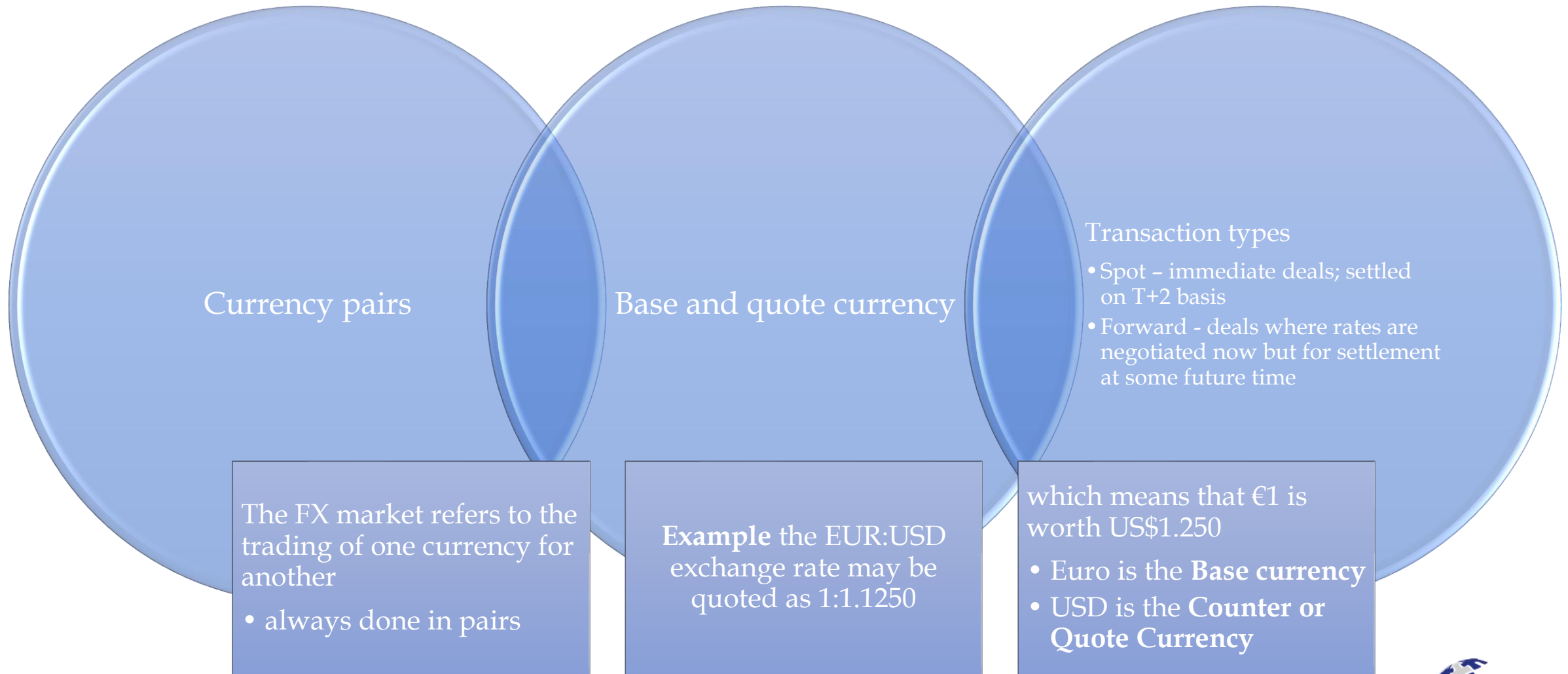
- Short term home of cash
- Alternative to cash deposits
- Asset allocation use
- High investment levels



Returns

Instruments quoted on a yield basis	<ul style="list-style-type: none">• These are interest-bearing instruments.• They are issued at their full-face value and the investor's return is the yield or interest.• Types include – money market deposits, loans, CDs and some commercial paper (CP).
Instruments quoted on a discount basis	<ul style="list-style-type: none">• These are discount instruments or zero-coupon bonds (ZCBs).• They are Issued at a discount to their face value and repaid at face value at maturity.• The investor's return is the difference between the discounted purchase price and the face value of the security.• Types include – Treasury bills and most CP.

Foreign Exchange Market



Features of FX trading:-

- FX is not traded on an exchange
- FX traders deal directly with each other using screen-based pricing systems and transacting by phone (**OTC market**)
- Two-thirds of FX transactions are bank-to-bank, with the remainder made up from brokers, central banks and customers

Settlement of FX trades:-

- As no central dealing exchange, traditionally involved settlement between counterparty banks
- Risk that one party to the trade may default before both counterparties have met their settlement obligations



Calculating the Forward Exchange Rate

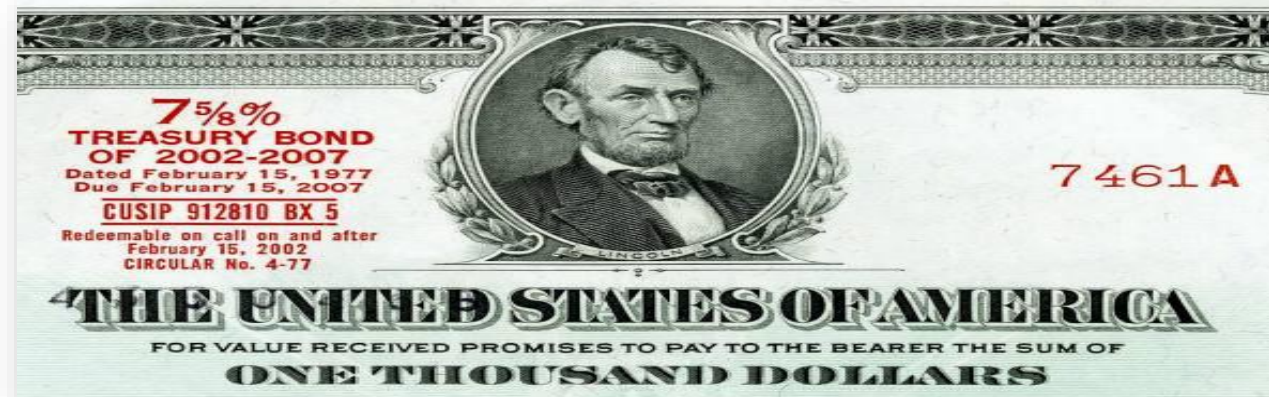
$$\text{Forward rate} = \text{Spot rate} \times \frac{(1 + \text{quote currency short-term rate})}{(1 + \text{base currency short-term rate})}$$

Example:

- The USD/JPY rate is 102.20. The 12 month Japanese interest rate is 0.2%, and the 12 month US interest rate is 0.8%. Calculate the 12 month forward rate.



A bond is a loan – a loan which is tradeable



Bonds: Are IOUs – the issuer of the bond receives money from the initial buyer of the bond and undertakes to pay the holder of the bond regular interest, and then return the money (the capital) at a particular future date.

- **Government bonds** are issued by national governments
- **Supranational bonds** are issued by agencies, such as the European Investment Bank and the World Bank.
- **Corporate bonds** are issued by companies, such as large banks and other large listed companies



Bond Characteristics & Terminology

The Principal or Nominal Value -Is the face or par value. The sum of money to be repaid by the borrower at maturity

Stock - the name given to identify the stock and the borrower

Coupon - The level of income paid to the holder of the bond, stated as a % of the nominal value. Can be paid once or twice per year. Can also be ZCB.

Maturity or Redemption Date - Date at which the borrower will redeem the bond and repay the capital to the holder

Price - Price at which bond can be bought in market (quote per US\$100 nominal of stock)

Value- the value of the stock is calculated by multiplying the nominal amount of stock by the current price.

➤ Nominal	US\$10,000
➤ Stock	Treasury bond
➤ Coupon	7.5%
➤ Redemption date	2024
➤ Price	US\$146.80
➤ Value	US\$14,680



Classification of Bonds

Issuer

- Governments, supranational organisations and companies

Structures

- Conventional or straight issues or ones that are unique
- Index-linked bonds
- ZCBs
- Convertible bonds
- Floating rate notes
- Callable bond

Where issued

- Domestic bond market
- International bond/debt market



Government bonds

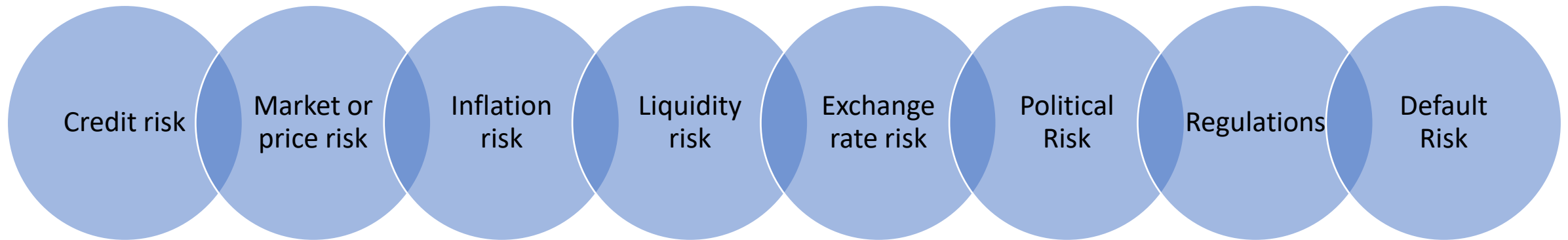
- Treasury bills
- Treasury notes
- Treasury bonds
- TIPS

Corporate Bonds

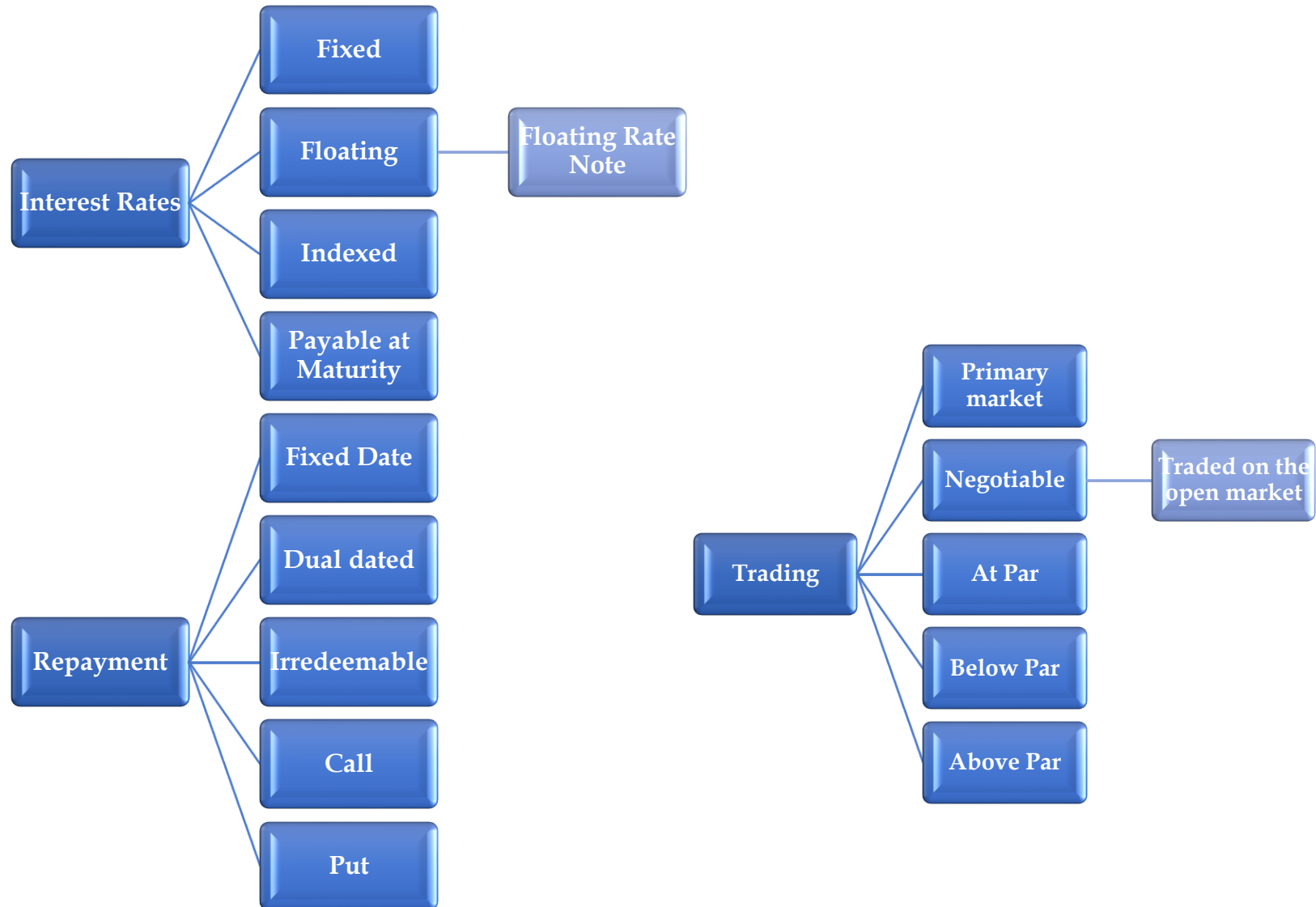
- MTNs
- Fixed-rate bonds
- FRNs
- Convertible bonds
- ZCBs



Risks Associated with Bonds



Features of Bonds



Ratings Agencies

	Standard & Poor's	Moody's	Fitch
Investment Grade	AAA to BBB-	Aaa to Baa3	AAA to BBB-
Non-Investment Grade	BB+ to C	Ba1 to C	BB+ to C
Already in Default	D		DDD to D



Investment Returns on Bonds – Running Yield

Investment returns on bonds

- Income +/- any capital gain or loss

Running Yields

- Also known as the interest yield or flat yield
- Annual interest rate expressed as a % of the current market value (clean price)
- Formula -
- 7.5% Treasury Bond 2024 - priced at 146.80 - so running yield is

$$(7.5/146.80) * 100 = 5.11\%$$

$$\text{Interest Yield} = \left(\frac{\text{Coupon}}{\text{Price}} \right) \times 100$$



Investment Returns on Bonds – Gross Redemption Yield

- Capital Returns - the gain or loss to redemption

$$GRY = \text{Running yield} + \left(\frac{(\text{Par} - \text{Market price}) \div \text{Number of years to redemption}}{\text{Market price}} \right) \times 100$$

- Gross Redemption Yield (GRY)

- Running yield +/- gain/loss if held to redemption
- Can be quoted on a gross or net basis
- Provide method of comparing total return between different types of bonds
- Quoted GRY yields discount cash flows but reinvestment risk



Gross Redemption Example

US government bond that will be repaid in exactly five years' time, with a 5% coupon.

Its current price is 115

Investor buys \$10,000 nominal of the stock. **How much will the investor pay?**

\$11,500

How much are the annual interest payments?

\$500

What is the flat yield?

$500/11500 = 0.04347 = 4.35\%$.

When it is redeemed in 5 years time how much loss will the investor make?

\$1,500

Calculate GRY?

$GRY = 4.35\% + [(10,000 - 11,500)/ 5]/11,500$

$= 4.35\% + [-1,500/5]/11,500$

$= 4.35\% - 2.61\% = \mathbf{1.74\%}$



GRY Example 2

Stock Name	Redemption	Price	Flat Yield	GRY
7.625% Treasury	2025	148.72	5.127%	3.356%
6.875% Treasury	2025	140.44	4.895%	3.410%

Assuming both bonds are held until maturity, which produces the best overall return?



Volatility and Yield Curve

- **Volatility:-**

- Inverse movement of bond prices to changes in interest rates

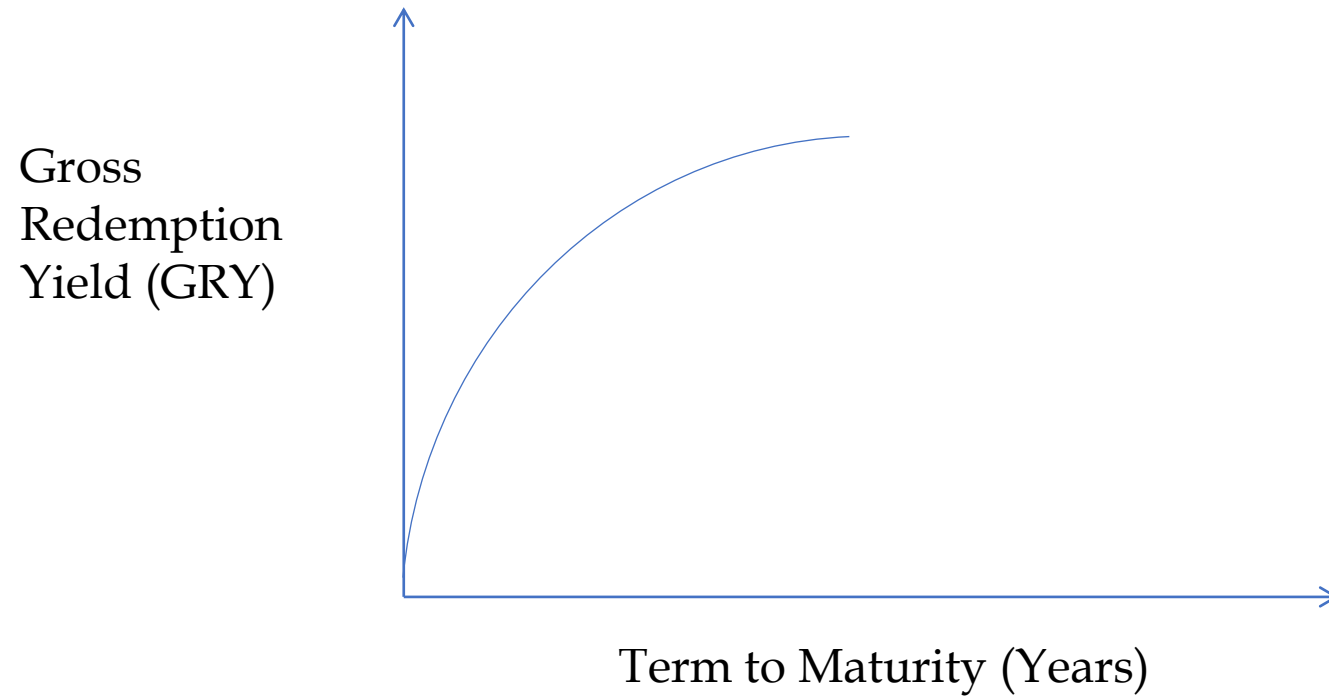


- **Yield curves:-**

- Term structure of interest rates
- Normal yield curve is upward sloping
- Based on GRY
- Yields on longer dated stocks are greater than shorter dated
- Other types - inverted



Yield Curve





Characteristics of Direct Property

- Each individual property is unique in terms of location, structure and design,
- Valuation is subjective as property is not traded in a centralised market place and continuous and reliable price data is not available.
- It is subject to complex legal considerations and high transactions costs upon transfer.
- It is highly illiquid as a result of not being instantly tradable.
- Investor has to sell all of the property, or nothing at all
- Diversification is difficult.
- The supply of land is finite..



Types of Direct Property Investment

	Residential Property	Commercial Property
Direct Investment	<ul style="list-style-type: none">▪ Range of investment opportunities including second homes, holiday homes and buy to let	<ul style="list-style-type: none">▪ Size of investment required means direct investment in commercial property is limited to property companies and institutional investors
Tenancies	<ul style="list-style-type: none">▪ Typically short renewable leases	<ul style="list-style-type: none">▪ Long term contracts with periods commonly in excess of 10 years
Repairs	<ul style="list-style-type: none">▪ Landlord is responsible	<ul style="list-style-type: none">▪ Tenant is usually responsible
Returns	<ul style="list-style-type: none">▪ Largely linked to increase in house prices	<ul style="list-style-type: none">▪ Significant component is income return from rental income



Direct Property Advantages & Disadvantages

Advantages:

- Positive long term real returns
- Largest investors can build a diversified portfolio
- Diversification can include residential property, commercial property, industrial property and farmland
- Smaller investors can gain indirect exposure
- Indirect investment media makes property a more accessible asset class to those running smaller diversified portfolios

Disadvantages:

- Only the largest investors, can purchase sufficient properties to build a diversified portfolio
- Can be subject to prolonged downturns
- Lack of liquidity
- Significant maintenance costs
- High transactions costs on transfer
- Risk of having property with no tenant
- Commercial property only really suitable for long term investing institutions such as pension funds



Risks Associated with Property Investment



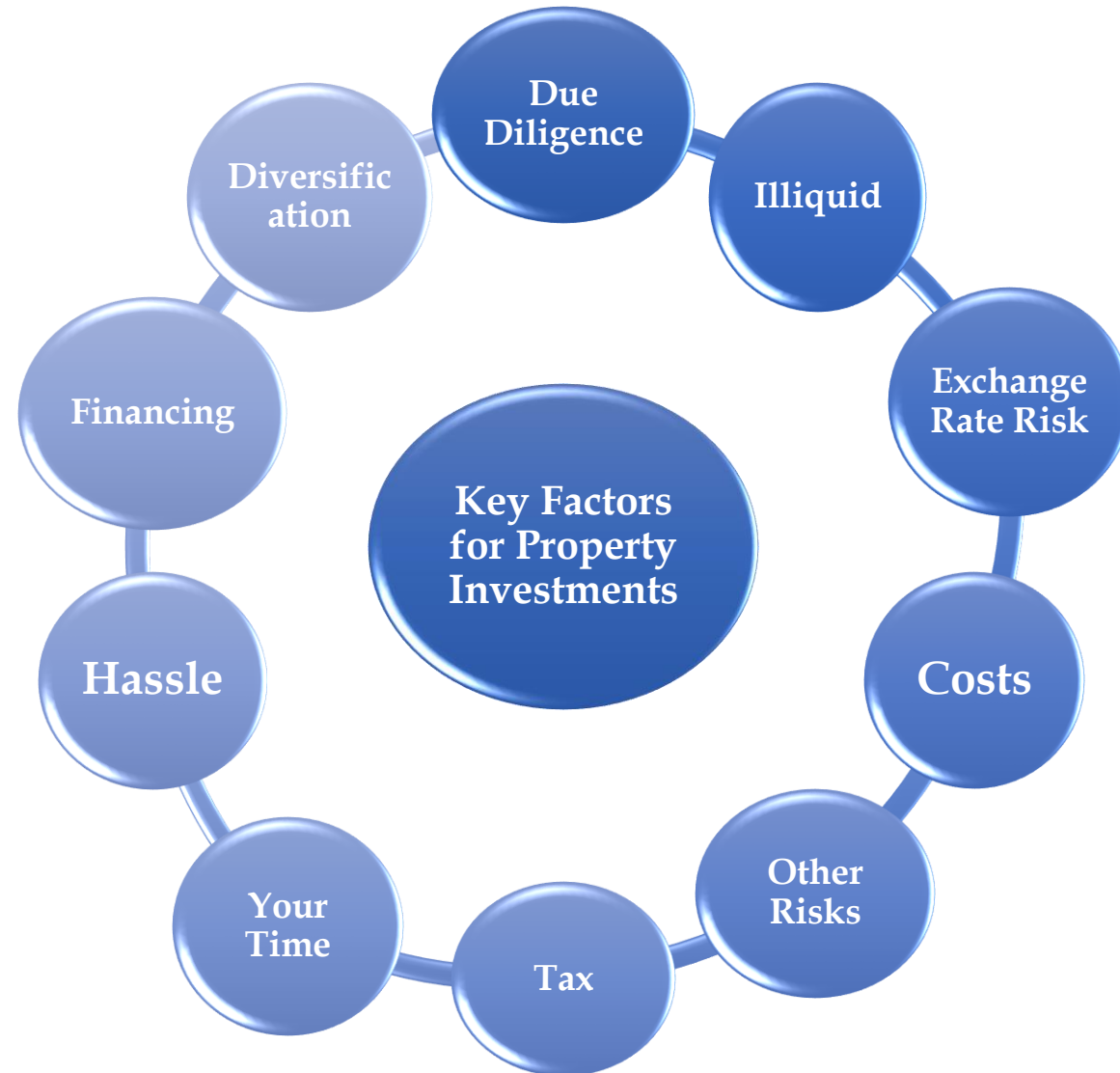
- location of the property;
- the effect of the use of the property on its value;
- the credit quality of the tenants;
- the length of the lease.

- effect of changes in interest rates on valuations;
- performance of individual property sectors;
- prospects for rental income growth.

- liquidity of indirect investment vehicles;
- diversification of the underlying portfolios;
- level of gearing



Key Factors to Consider for Property Investment (E)



Property Funds

Property funds offer a way to gain exposure to property as an asset class

Main categories of funds

- Core funds
- Core plus and value added
- Opportunistic funds

Types of funds

- Property unit trusts
- Exchange traded funds
- REITs
- Limited partnerships

4 Key Areas

Volatility
Diversification
Liquidity
Gearing



Real Estate Investment Trusts (REITs)

Investment trust that pools investors funds to invest in commercial and residential property



Enables access to differing types of property and can provide some diversification through pooling

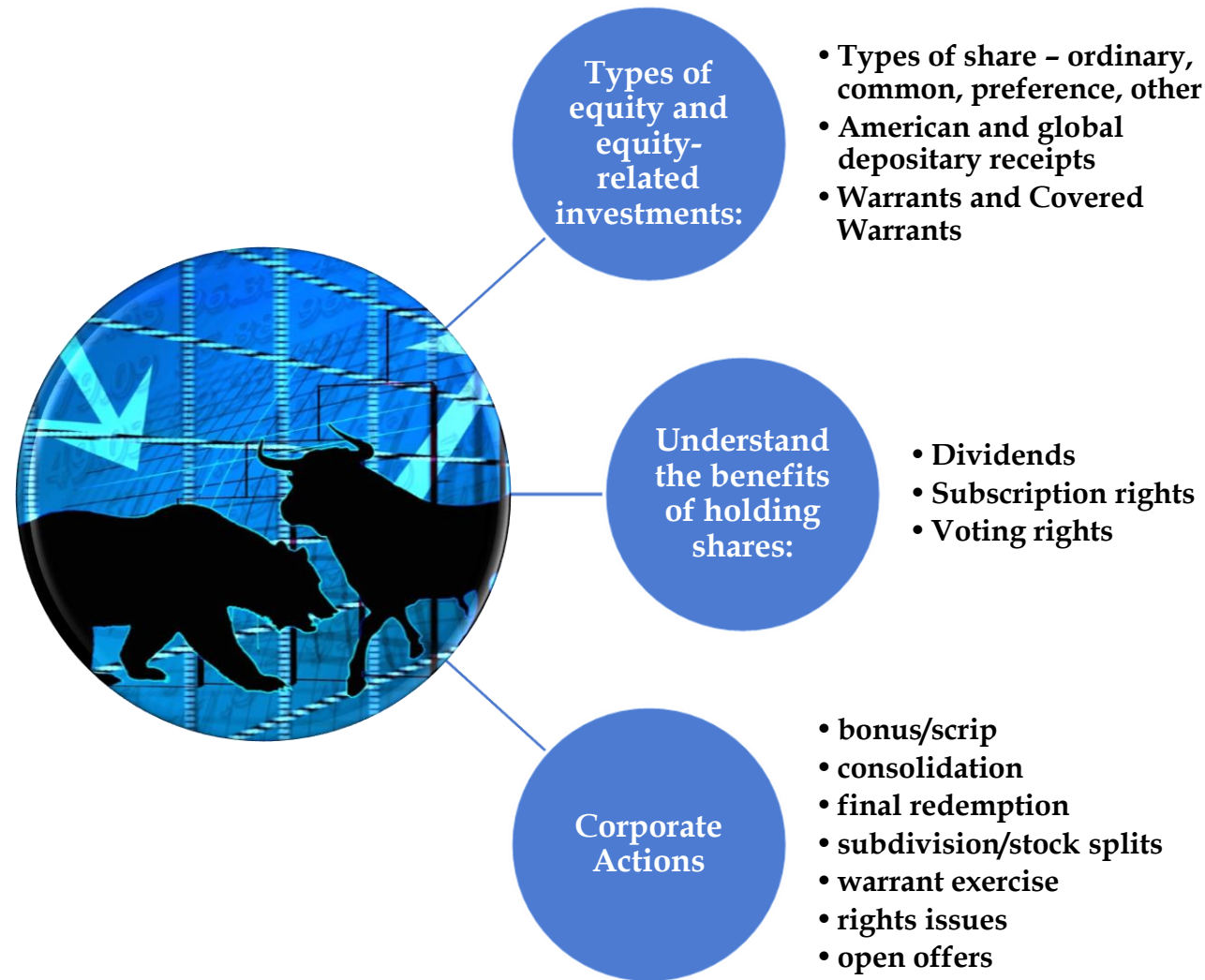


No corporation tax if structured so that underlying income and gains are paid to investors (dividend payout ratios of at least 90%)

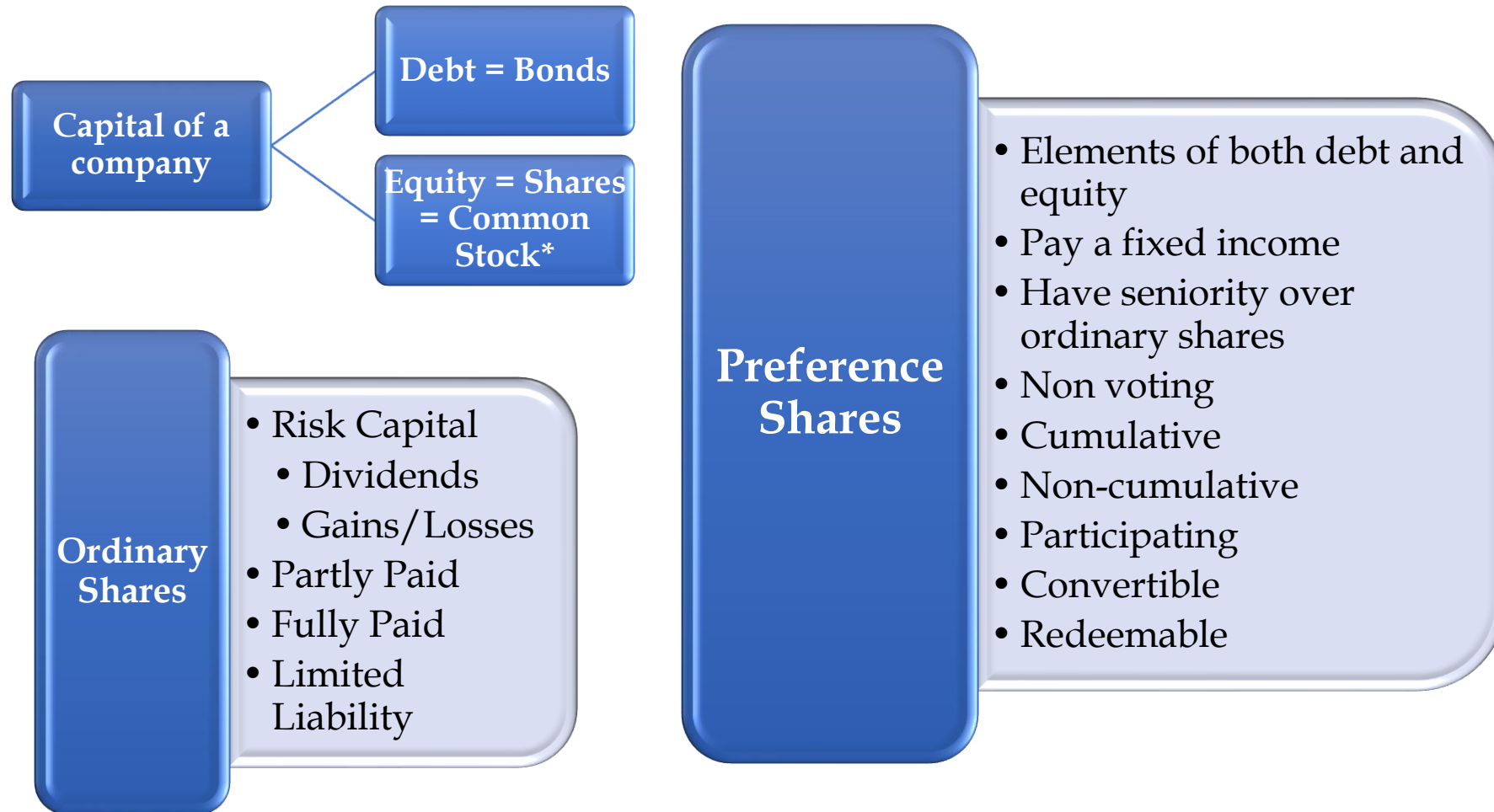


Property markets are cyclical and whilst pooling enables diversification still exposed to property market cycles





Features of Shares & Types of Shares



*No nominal value e.g. shares in US, Dubai, Egypt, Greece and Japan.



Depository Receipts

American depository receipts (ADRs) were originally designed to enable

US investors to hold overseas shares without the high dealing costs and settlement delays associated with overseas equity transactions.

- Is dollar-denominated and issued in bearer form, with a depository bank as the registered shareholder.
- They confer the same shareholder rights as if the shares had been purchased directly.
- The beneficial owner of the underlying shares may cancel the ADR at any time and become the registered owner of the shares.
- ADRs enable non-US companies to attract US investors to raise funds.
- Listed and freely traded on the NYSE, NASDAQ and LSE
- Well-known companies, such as BP, Nokia, Royal Dutch and Vodafone, have issued ADRs

Those issued outside the US are termed **global depository receipts (GDRs)**

- GDR holders are not able to take up rights issues and instead these are sold and the cash distributed

Up to 20% of a company's voting share capital may be converted into depository receipts.



Warrants are negotiable securities issued by companies which confer a right on the holder to buy a certain number of the company's ordinary shares at a preset price on or before a predetermined date i.e. long-dated **call options**.

A **covered warrant** is a securitised derivative, issued by someone other than the company whose shares it relates to.

- Can be based on individual stocks, indices, currencies or commodities.
- Can be leveraged
- There are both call and put warrants available
- Can be traded on the stock exchange



Benefits of Owning Shares

Dividend: is the return that an investor gets for providing the risk capital for a business. Paid out of their profits, which form part of their **distributable reserves** - post-tax profits made over the life of a company, in excess of dividends paid.

See example page 104

Naked or Uncovered dividend: where the current year's profits are insufficient to fully cover the dividend payment

Dividend Yield: Allows potential shareholders to compare the dividend paid on a company's shares with alternative investments

Example

ABC plc has 20 million ordinary shares, each trading at US\$2.50. It pays out a total of US\$1 million in dividends. What is its dividend yield?

Dividend Yield = Dividend/Market Capitalisation x 100

$$\bullet = \text{USD } 1,000,000 / (20,000,000 \times \text{USD } 2.50) \times 100 = 2\%$$

Why do some companies have high or low dividend yields?



Benefits of Owning Shares

Capital Gains: Can be made on shares if their prices increase over the purchase price.

- If not sold, then the gain is described as being **unrealised**
- Need to be aware of CGT

Pre-Emptive Rights: Right to Subscribe for New Shares

- Shareholders have the option to subscribe for any new share offering before it is offered to the wider public.
- In many cases they receive some compensation if they decide not to do so.
- A **rights issue** is one method by which a company can raise additional capital, complying with pre-emptive rights

Right to Vote on matters presented to them at company meetings – e.g. on proposed dividends appointment of directors, resolutions etc.

- The votes are normally allocated on the basis of one share = one vote.
- Can attend the meeting or appoint a proxy.



Corporate Actions

A corporate action occurs when a company does something that affects its **share capital** or its bonds.

More than 150 types of corporate action events that can be classified into 3 broad categories:

Mandatory events

- Must be applied by companies across all shareholders of a particular class
- E.g. Payment of Dividend

Mandatory events with options

- One where shareholders have a range of options prior to default event occurring
- E.g. A Rights Issue

Voluntary events

- One where some shareholders may choose to proceed but others may not
- E.g. voting on a takeover bid

About a million corporate actions take place every year worldwide over and above the three million fixed-rate interest payments and redemptions.



Mandatory event with options

- Offer to existing shareholders of rights to purchase additional shares at a discounted price to raise additional finance
- Legal requirement of pre-emptive rights protects existing shareholders against dilution of holding

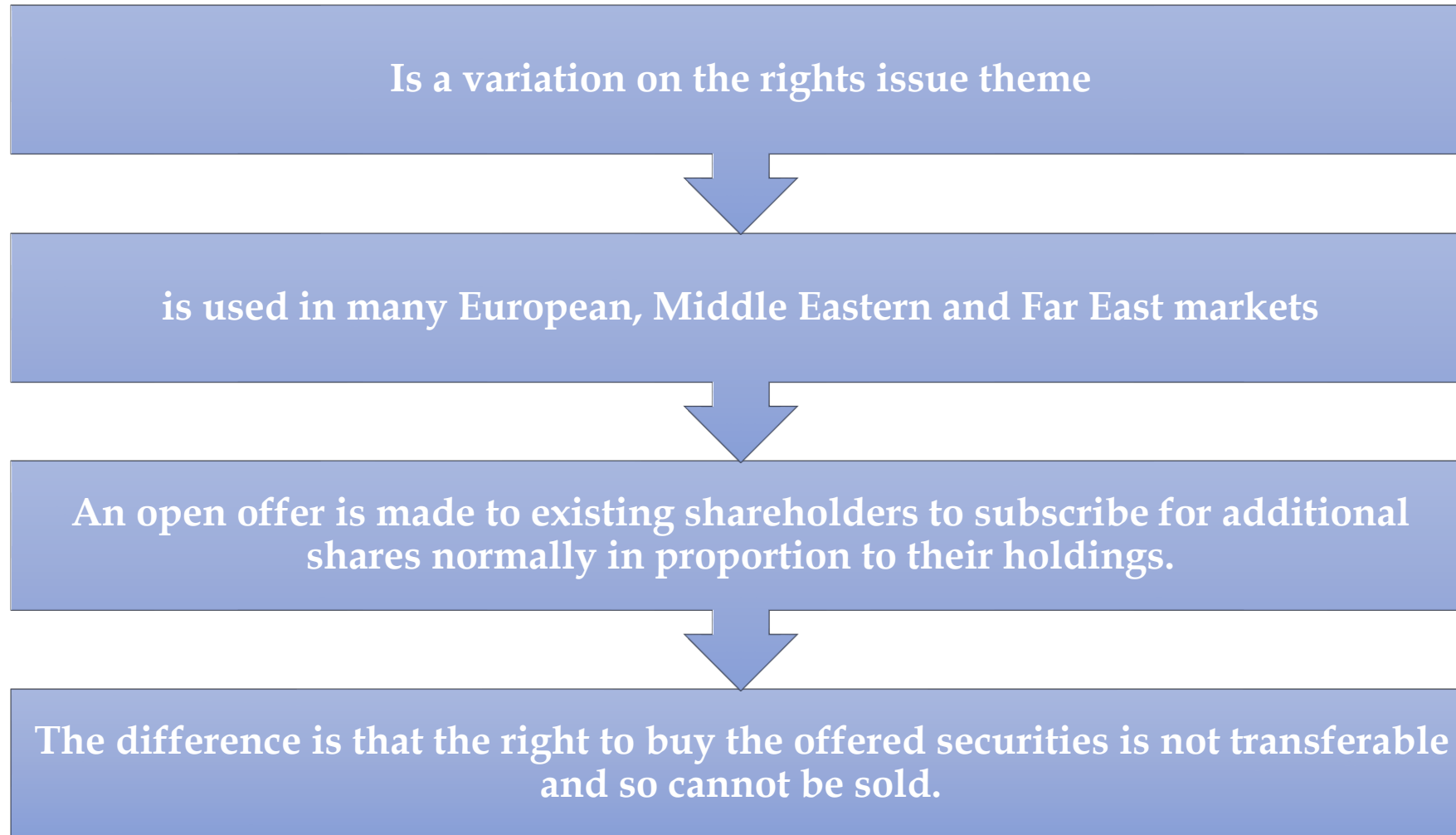
Terms

Options

- Take up the rights
- Sell the rights
- Do nothing and allow to lapse
- Sell sufficient to take up the balance



Open Offers



Why do it?

Issue of new, free, shares to existing shareholders in proportion to existing holding e.g. 1:3

- Brings share capital in line with business needs
- Reduces share price so shares more marketable
- May be used in place of issuing cash dividend

Also known as capitalisation issue or scrip issue



Involves splitting the existing shares into new ones that have a lower nominal value - e.g.

- 2:1 subdivision of ordinary €2 shares into ordinary €1 shares - receive 2 ordinary €1 shares for each existing 1 ordinary €2 shares held
- 10:1 subdivision of ordinary €10 shares into ordinary €1 shares - receive 10 ordinary €1 shares for each existing 1 ordinary €10 shares held

Also known as a share split

Comparison with a bonus issue -

- Alternative way to reduce the share price
- Often used as part of a capital reorganisation
- Key difference to a bonus issue - a bonus issue does not affect the nominal value of the shares



Consolidation or Reverse Stock Split

A capital reorganisation where shares are consolidated into a new holding with a higher nominal value - e.g.

- 1:10 consolidation of ordinary €0.1 shares into ordinary €1 shares - receive 1 ordinary €1 share for each existing 10 ordinary €0.1 shares held

Opposite of a share split - so also known as a reverse split

Used when share price falls to such a level that company wants to make shares more marketable or as part of a capital reorganisation



Other Types of Corporate Actions

Final Redemption

- Involves the repayment in full of a debt security at the maturity date stated in the terms and conditions of an issue.

Warrant Exercise

- It gives a holder the right to buy a prespecified number of a company's ordinary shares at a preset price on or before a predetermined date.
- It relates to the act of exercising, or buying, the shares over which the warrant confers a right.

Placings

- A company may undertake a placing as part of an initial public offering (IPO) or to raise additional finance by placing new shares in the market rather than by making a rights issue.
- It requires the shareholders to pass a special resolution first to forgo their pre-emption rights.



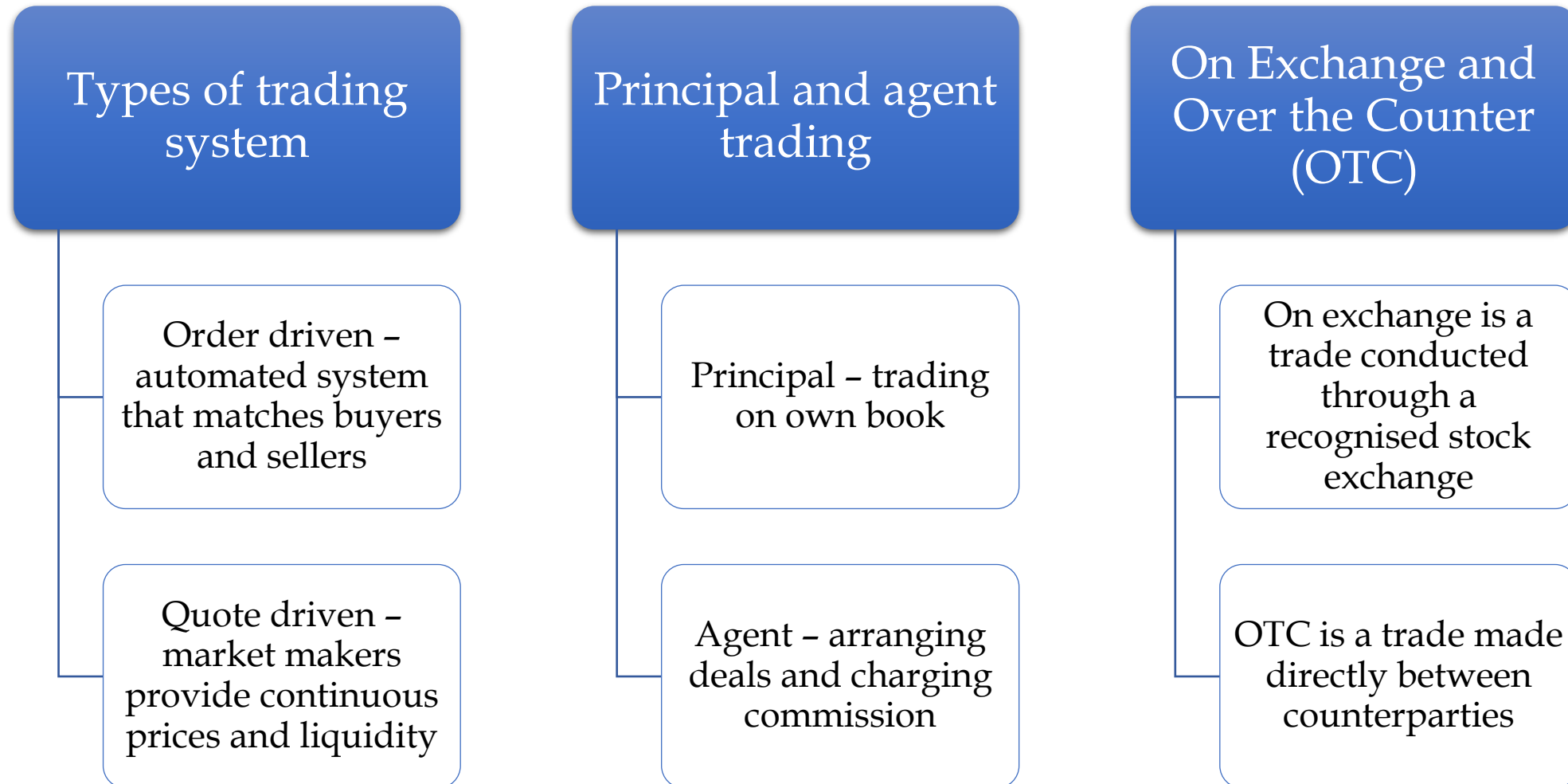
Role of financial markets

- Channelling savings into long term investments
- Manage risk
- Efficient allocation of capital

Role of a stock exchange

- Primary market to help companies raise funds
- Secondary market for subsequent trading of shares





Features of Order and Quote Driven Trading Systems

Order-driven trading system employs either an electronic order book, such as the **London Stock Exchange (LSE)**'s SETS, or an auction process, such as that on the NYSE floor, to match buyers with sellers.

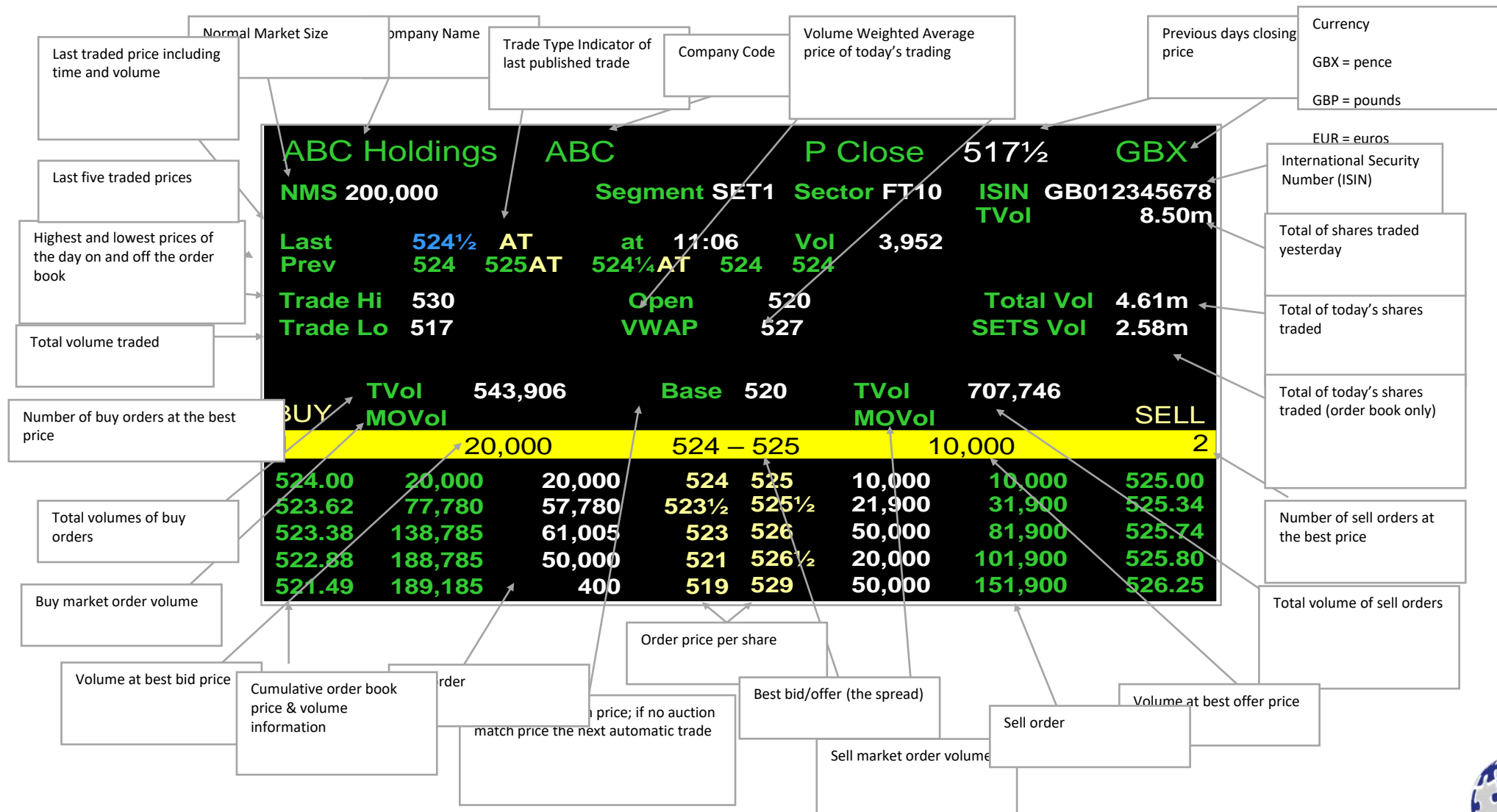
In both cases, buyers and sellers are matched in strict chronological order by price and the quantity of shares being traded and do not require **market makers**

Quote-driven trading systems employ **market makers**, to provide continuous two-way, or bid and offer (buy and sell) prices during the trading day, regardless of market conditions. Market makers make a profit, or turn, via this price **spread**.

In both systems Buyers and Sellers will use a broker, who will act as their agent.



Stock Markets – Order Driven



Stock Markets – Quote Driven



Stock Exchanges

Exchange	Country	Trading Systems	Trading Type
New York Stock Exchange	US		Open outcry
NASDAQ	US	NASDAQ	Quote driven
London Stock Exchange	UK	SETS	Order driven
Euronext	Belgium; France; Netherlands; Portugal	Euronext	Order driven
Deutsche Borse	Germany	Xetra	Order driven
BME	Spain	SIBE	Order driven
Tokyo Stock Exchange	Japan	CORES	Order driven
Hong Kong Stock Exchange	Hong Kong	AMS/3	Order driven



Derivatives - Definition and Overview

A **derivative** is a financial instrument whose price is based on the price of another asset, known as the '**underlying**'.

The **underlying** could be a financial asset, a commodity, a currency or an index.

Financial assets include:

- bonds and shares
- commodities such as oil, gold, silver, corn and wheat.

Their **origins** can be traced back to agricultural markets, where farmers needed a mechanism to guard against price fluctuations caused by gluts of produce and merchants wanted to guard against shortages that might arise from periods of drought.

Exchange Traded

OTC



Use of Derivatives

Hedging

- Used to reduce portfolio risk, such as the impact of adverse price movements. Usually achieved by buying/selling futures contracts, buying put options or selling call options.

Anticipating future cash flows

- When a portfolio manager expects to receive a large inflow of cash to be invested in a particular asset, then futures can be used to fix the price at which it will be bought and offset the risk that prices will have risen by the time the cash flow is received.

Asset allocation changes

- Used to take advantage of anticipated short-term directional market movements or to implement a change in strategy - can be made more swiftly and less expensively using derivatives

Arbitrage

- The process of deriving a risk-free profit from simultaneously buying and selling the same asset in two different markets, when a price difference between the two exists

Speculation

- Betting on the future direction of prices

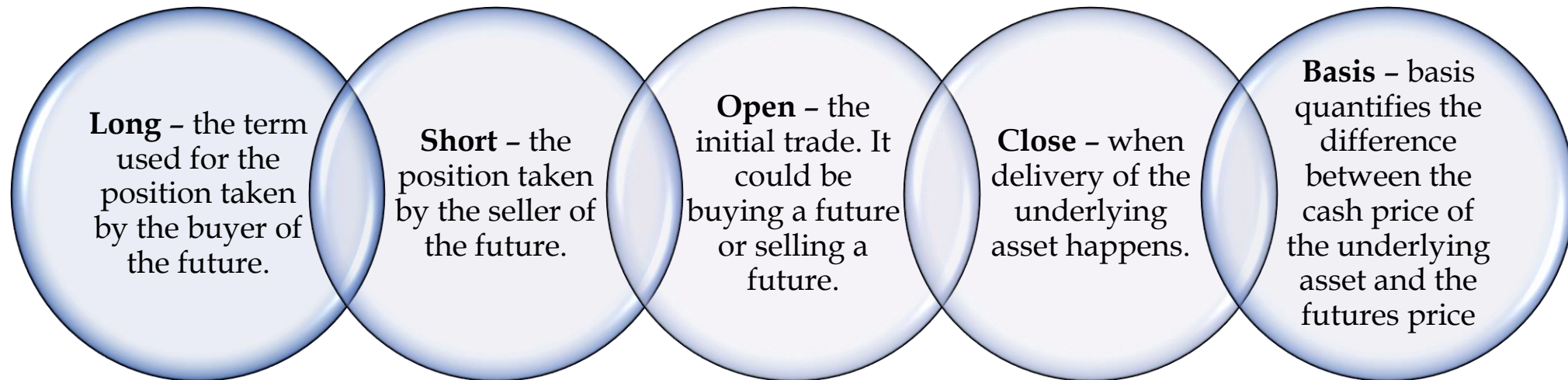
The vast majority of derivatives take one of four forms: **forwards, futures, options and swaps.**



- A **future** is a legally binding agreement between a **buyer** and a **seller**.
- The **buyer** agrees to pay a pre-specified amount for the delivery of a particular pre-specified quantity of an asset at a pre-specified future date.
- The **seller** agrees to deliver the asset at the future date, in exchange for the pre-specified amount of money.
- **Effectively a forward sale/purchase**
- **Example**
- A buyer might agree with a seller to pay US\$50 per barrel for 1,000 barrels of crude oil in three months' time. The buyer might be an electricity-generating company wanting to fix the price it will have to pay for the oil to use in its oil-fired power stations, and the seller might be an oil company wanting to fix the sales price of some of its future oil production.
- **2 Distinct Features:**
 - It is **exchange-traded** – e.g. ICE Europe in London or the CME in the US.
 - It is dealt on **standardised terms** – the exchange specifies the quality of the underlying asset, the quantity underlying each contract, the future date and the delivery location.



Futures Terminology

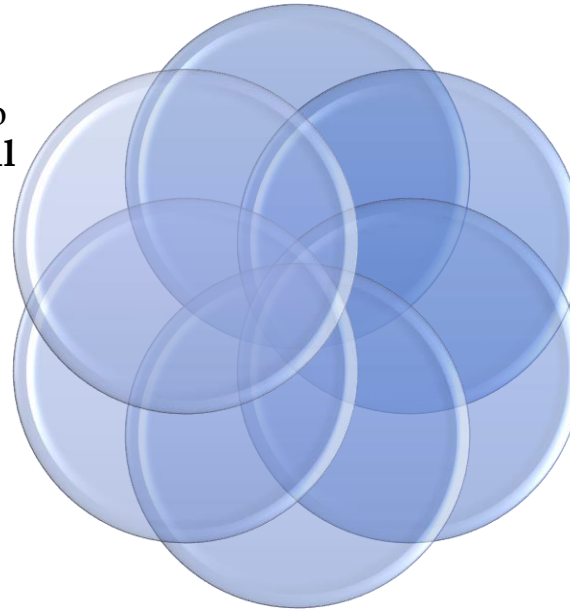


Options

An **option** gives a buyer the right, but not the obligation, to buy or sell a specified quantity of an underlying asset at a pre-agreed **exercise price**, on or before a pre-specified future date or between two specified dates.

The **sellers** of options are referred to as the **writers** of those options. Their sale is also referred to as **taking for the call** or **taking for the put**.

The **buyers** of options are the **owners** of those options. They are also referred to as **holders**.



The seller, in exchange for the payment of a **premium**, grants the option to the buyer.

A **call option** is when the buyer has the right to buy the asset at the exercise price, if they choose to. The seller is obliged to deliver if the buyer exercises the option.

A **put option** is when the buyer has the right to sell the underlying asset at the exercise price. The seller of the put option is obliged to take delivery and pay the exercise price, if the buyer exercises the option.



Options Example

Suppose shares in Jersey plc are trading at US\$3.24 and an investor Frank buys a US\$3.50 call for three months from Steve.

If Jersey shares are below US\$3.50 three months later (upon expiry) – what will Frank do?

Will abandon the option and Steve will keep the premium Frank paid him.

If they rise to, say, US\$6.00 – what will Frank do?

- exercise the option (buy the shares at US\$3.50 each and keep them, or sell them at US\$6.00 per share) or
- persuade Steve to give him $US\$6.00 - US\$3.50 = US\$2.50$ per share to settle the transaction.

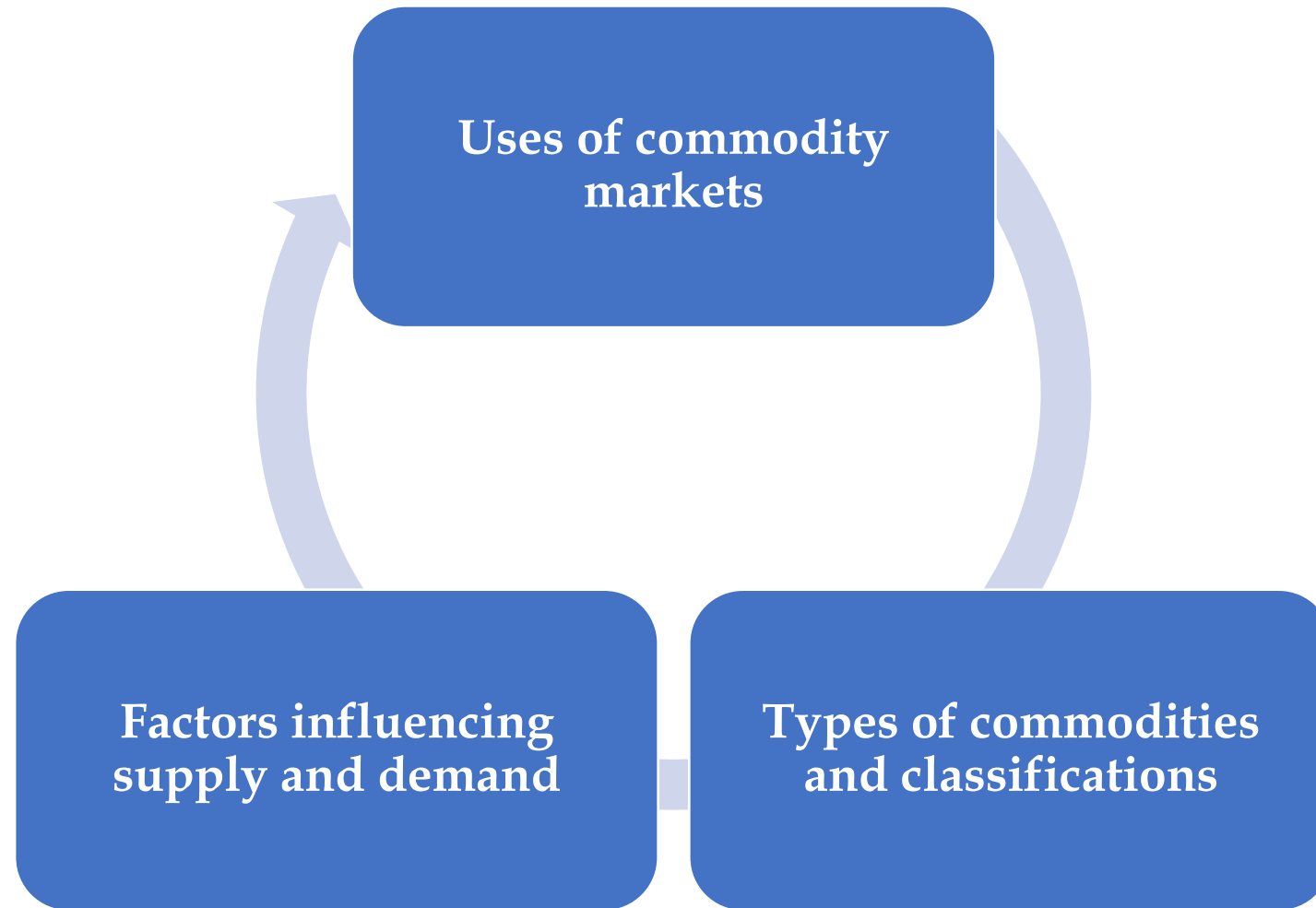
If Frank paid a premium of 42 cents to Steve, **what is Frank's maximum loss and what level does Jersey plc have to reach for Frank to make a profit?**

Max loss is 42 cents. To make a profit US\$3.92.

What is max gain or loss for Steve?

Gain is 42 cents. Loss depends on whether 'covered' or 'naked' – if the latter unlimited





Agricultural Markets (Soft Commodities)

Grouping	Products
Agricultural	Corn, wheat, rice, soybeans, wool, etc.
Dairy	Butter, milk, etc.
Livestock	Cattle, pork, etc.
Softs	Cocoa, coffee, sugar, juice, etc.

Agricultural commodities prices are influenced by demand and supply.

Factors that affect supply include: weather, land availability, disease, insects and technology.

Factors that affect demand include: wealth, consumer taste and habits, tax, etc.



Base & Precious Metals (Hard Commodities)

Base Metals	Major Uses
Copper	Electrics, electronics and buildings
Aluminium	Kitchen equipment, cars, packaging, windows, etc.
Lead	Batteries, buildings, etc
Precious Metals	Major Uses
Gold	Jewellery, computers, electronics, investments, etc.
Silver	Jewellery, computers, electronics, investments, etc.

Metal prices are influenced by demand and supply.

Factors that affect demand include: growing demand of industrial nations like China and India.

Factors that affect supply include: cost of extraction, production, environmental laws, political instability.



Oil

Demand is driven by consumption and energy needs

Prices react sharply to political crises, especially in regions like the Middle East.

Includes crude oil, petrol, heating gas, kerosene, etc.

Crude Oil is defined by three factors:

- Field of origin: Brent, Texas, Dubai
- Density: low density (light), high density (heavy)
- Sulphur content: low sulphur (sweet), high sulphur (sour)

Bio-fuel

Ethanol and Methanol, also known as clean energy

Recently seen increase demand and production

Coal

Has reputation of the most polluting source of energy

Widely available and used in many energy-producing methods.



Petroleum refiners are caught between 2 markets:

Raw Materials Market: where they buy crude oil and then refine it

Finished Products Market: where they sell heating oil, gasoline, etc.

The difference in the prices is called **crack spread (inter-commodity spread)**

These 2 markets are influenced by different factors of demand and supply.

This brings huge risk to refiners when raw materials prices rise and finished products prices drop.

Traders have been trading crack spreads for over a decade on major exchanges such as CME NYMEX

Factors such as extreme weather, political crises and other world events have allowed refiners and traders to make high returns at times, and severely squeezed their profits at other times.



Cryptocurrencies

- Assets that have been created digitally to serve as a store of value and which can be used as a medium of exchange for goods and services.
- Referred to as virtual currencies to indicate they are not issued or guaranteed by central banks and so are not fiat money.

Stablecoins

- A form of cryptocurrency and unlike speculative cryptocurrencies, such as Bitcoin, their value is normally pegged to underlying assets to limit price fluctuations.
- Customers buy stablecoins from exchanges and some of their money is used as reserves to provide asset backing for the coins.

Tokens

- Tokens are digital versions of a crypto asset and there are two main types: security tokens and utility tokens.
- Security tokens are designed as investment opportunities with characteristics similar to traditional financial instruments.
- Utility tokens grant their holder future access to specific products or services.

CBDCs

- Central banks are in the process of investigating the technology behind cryptocurrencies to introduce CBDCs.
- Proponents suggest this would offer the benefits attributed to stablecoins including lower costs and faster payment settlement.



Investment operations, also known as securities processing, is the management of client assets. It includes a variety of activities such as holding assets in safekeeping, processing interest and dividend payments, applying corporate actions to client holdings, and settling trades.

Holding Title

Registered Form

- The investor's name is recorded on the share register and, sometimes, a share certificate is issued to reflect their ownership.
- Common for registered shares to be issued on a non-certificated basis, so that ownership is reflected in an electronic record.

Bearer

- Whoever holds the shares is considered the owner and ownership is passed by transferring the share certificate to the new owner.
- The loss of the certificate would mean the loss of the person's investment.
- Holding bearer shares is relatively rare.
- Bearer shares are viewed unfavorably by regulators because of the potential for money laundering.
- As a result, they are typically immobilized in depositories or by local country registries.



Key Features - DvP – delivery versus payment and standard settlement periods

Country	CSD	Settlement Period
Euronext	Euroclear	☐T+2
Germany	Clearstream	☐T+2
Hong Kong	Hong Kong Securities Clearing Company	☐T+2
Japan	JASDEC	☐T+3
Spain	Iberclear	☐T+2
UK	Crest	☐Equities - T+2
US	DTCC	☐Equities - T+3



Settlement Systems

