Business Valuations
Seminar – August 2017
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Business Valuation - Concept

Valuation is the process of determining the "economic worth" of an asset or company under certain assumptions and limiting conditions and subject to the data available at the valuation date.
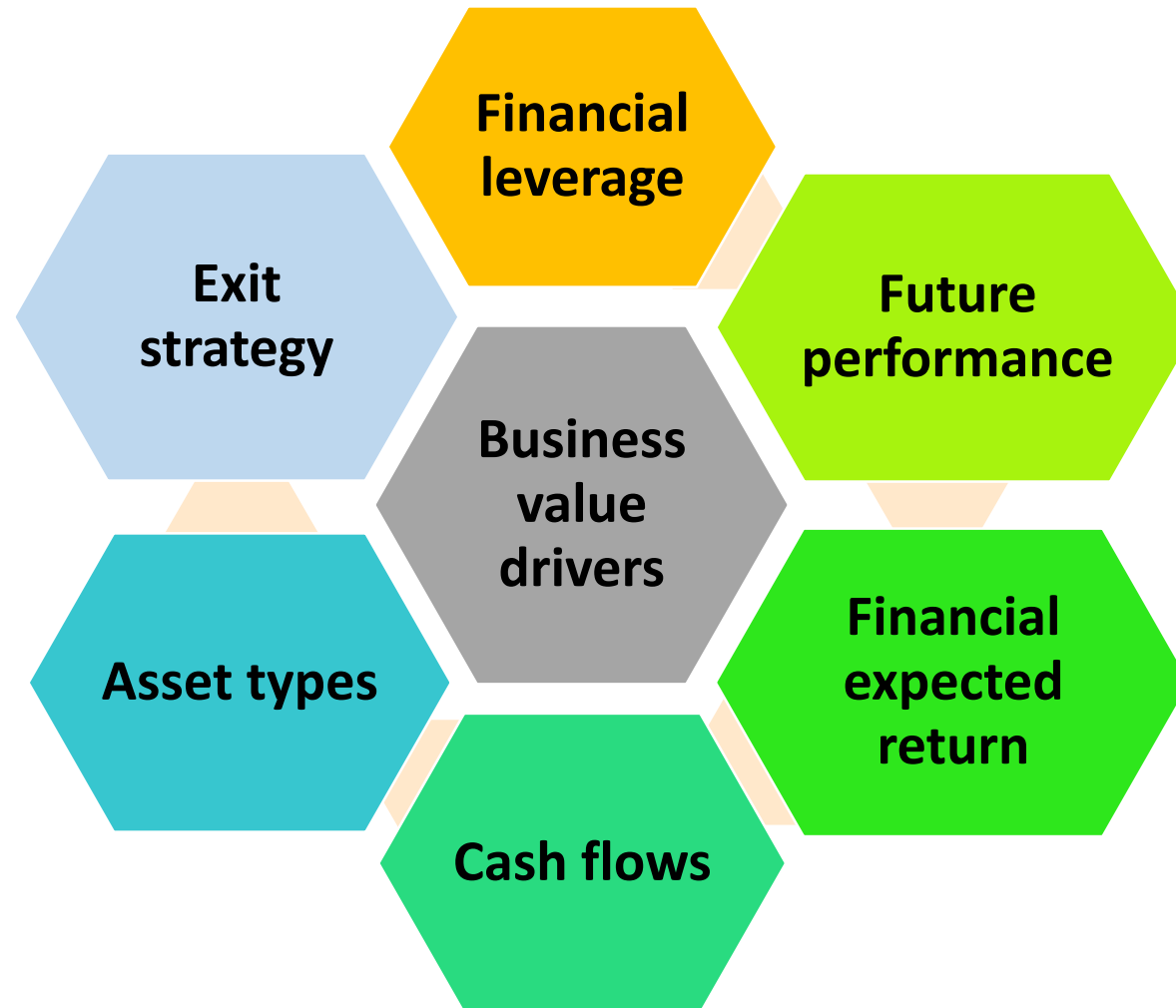[International Valuation Standard Council]

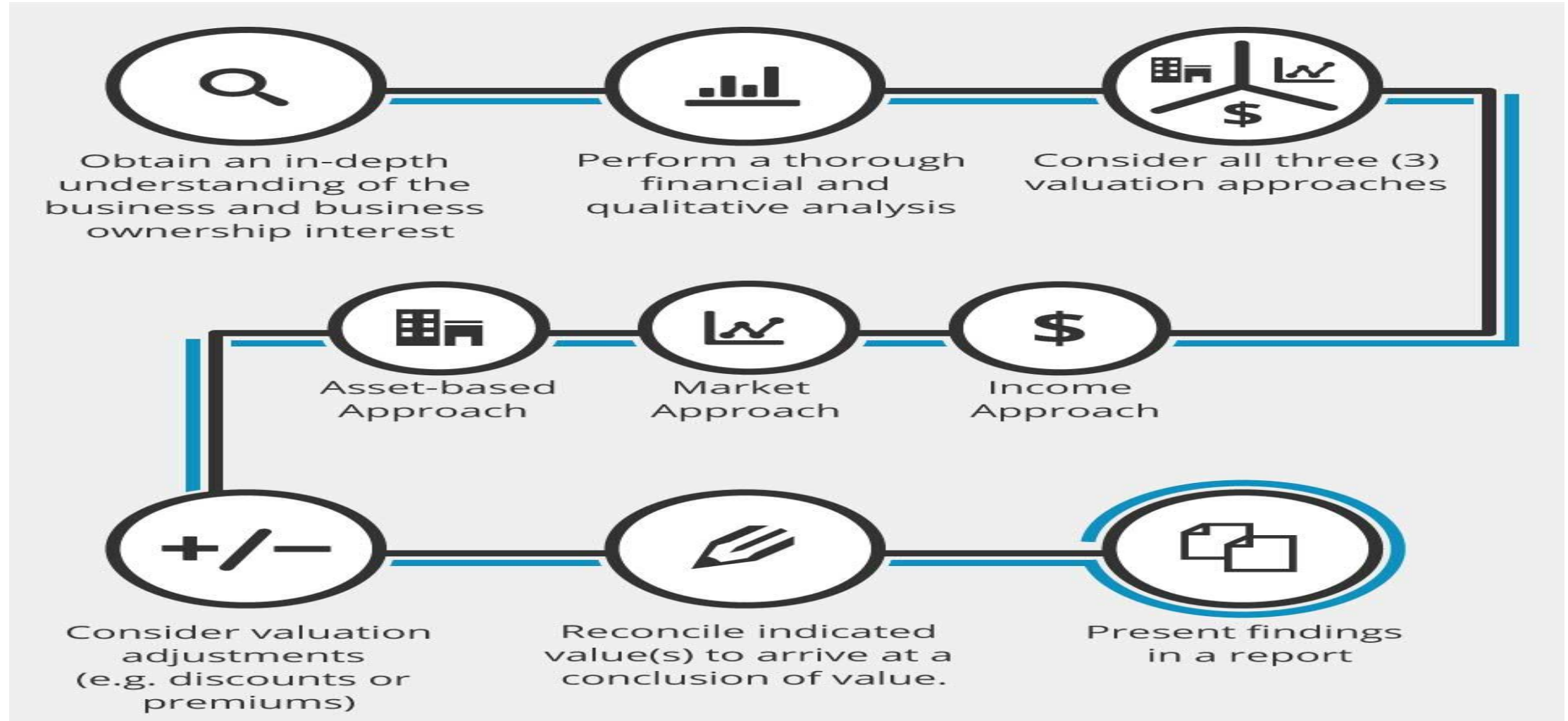Business valuation is a process and a set of procedures used to estimate the economic value of an owner's interest in a business. Valuation is used by financial market participants to determine the price they are willing to pay or receive to affect a sale of a business.

Business Valuation - Drivers

Business Valuation Process

Obtain an in-depth understanding of the business and business ownership interest

Perform a thorough financial and qualitative analysis

Consider all three (3) valuation approaches

Asset-based Approach

Market Approach

Income Approach

Consider valuation adjustments (e.g. discounts or premiums)

Reconcile indicated value(s) to arrive at a conclusion of value.

Present findings in a report

Business Valuation Process

VALUATION PROCESS

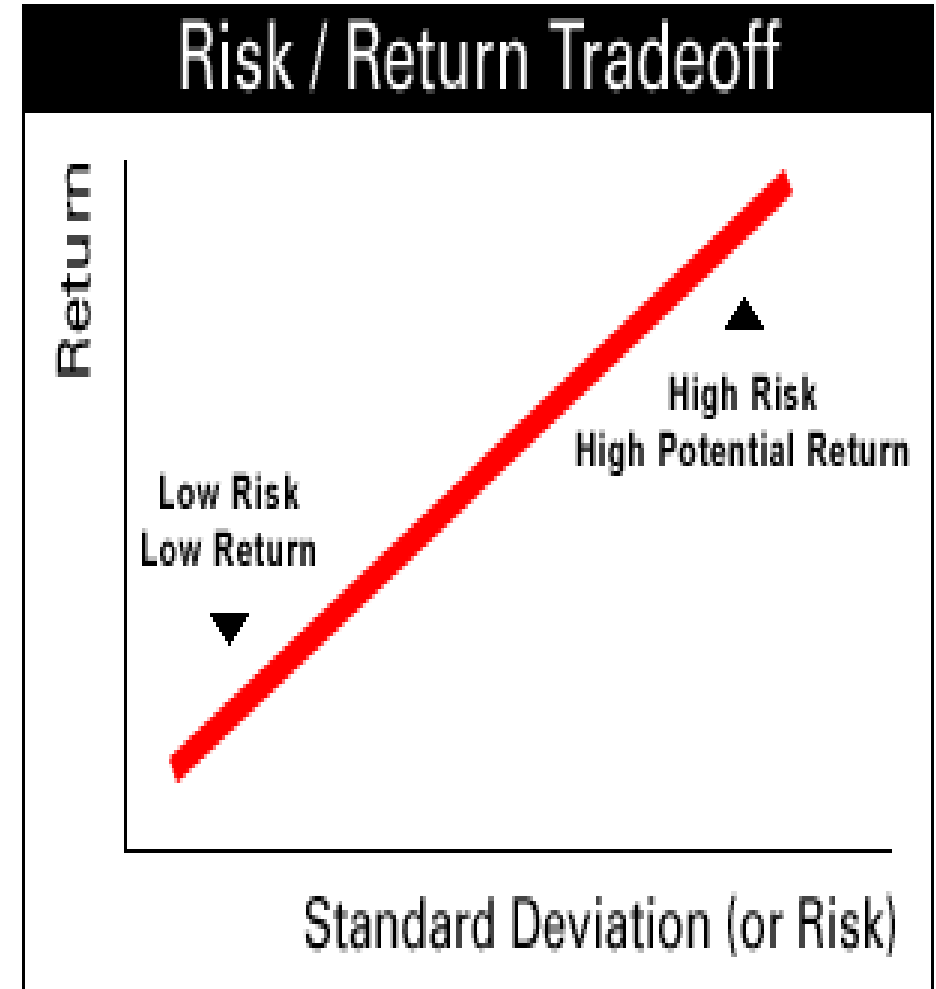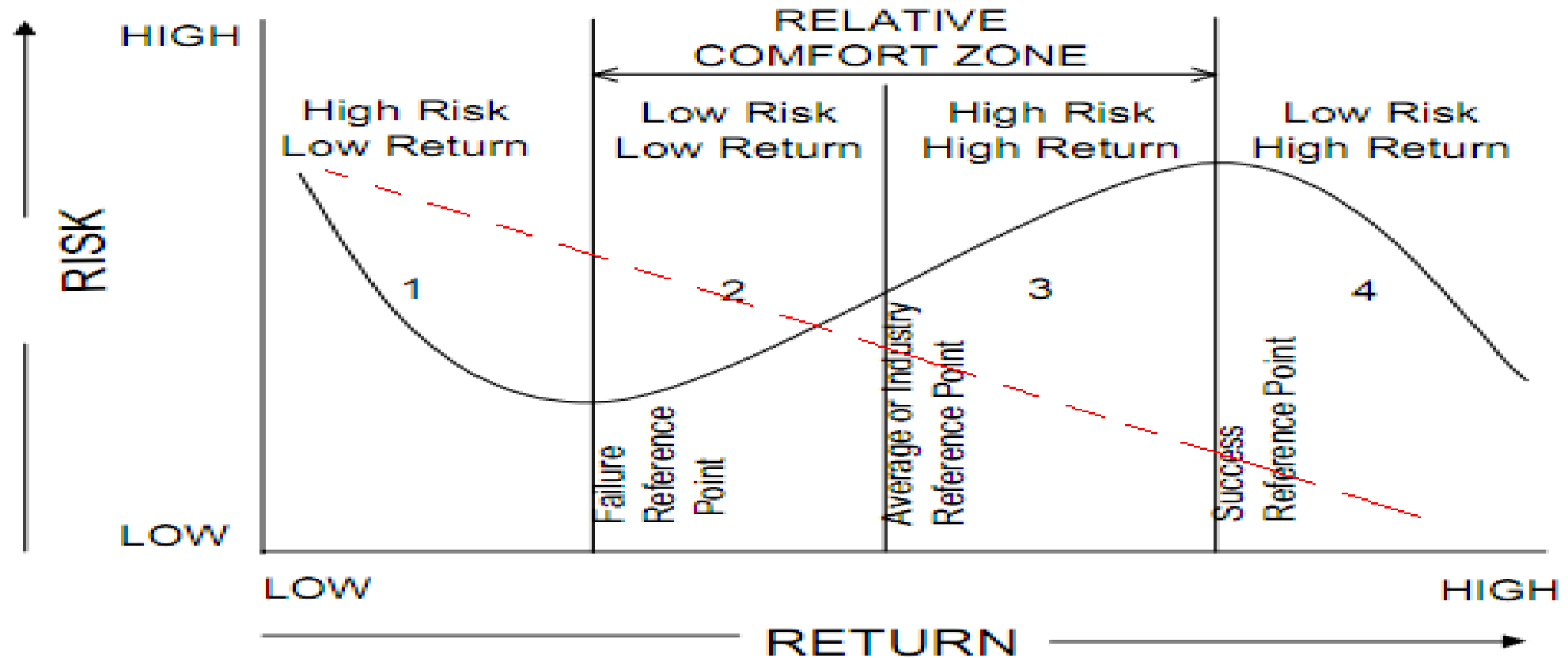| Understanding what is being valued | Understanding broad overview of valuation requirements |
	Industry Analysis — Market Conditions
Valuation Methodology Assessment	Discounted Cash Flow — Capitalization of Earnings
	Net Tangible Assets — Quoted Market Price
Valuation Adjustments	Discount for lack of marketability — Discount for minority interests
	Premium for control — Any other case specific considerations
Valuation Calculations and Report	Valuation Prepared
	Documentation in report consistent with ATO guidelines /audit requirements
Review Process	Chessy quality review conducted by qualified concurring valuation partners
	Assessment of market transactions to support valuations
Presentation of Results	Final Report Produced
	Discussions of major assumptions and valuation findings

Business Valuation – Risk & Return

A direct correlation exists between risk and return – the greater the risk the greater is the potential return. However, investments with the highest returns often bears the greatest risk which can lead to financial ruins.

The risk an investor is willing to accept to maximize returns will depend on his/her risk appetite and risk tolerance levels.
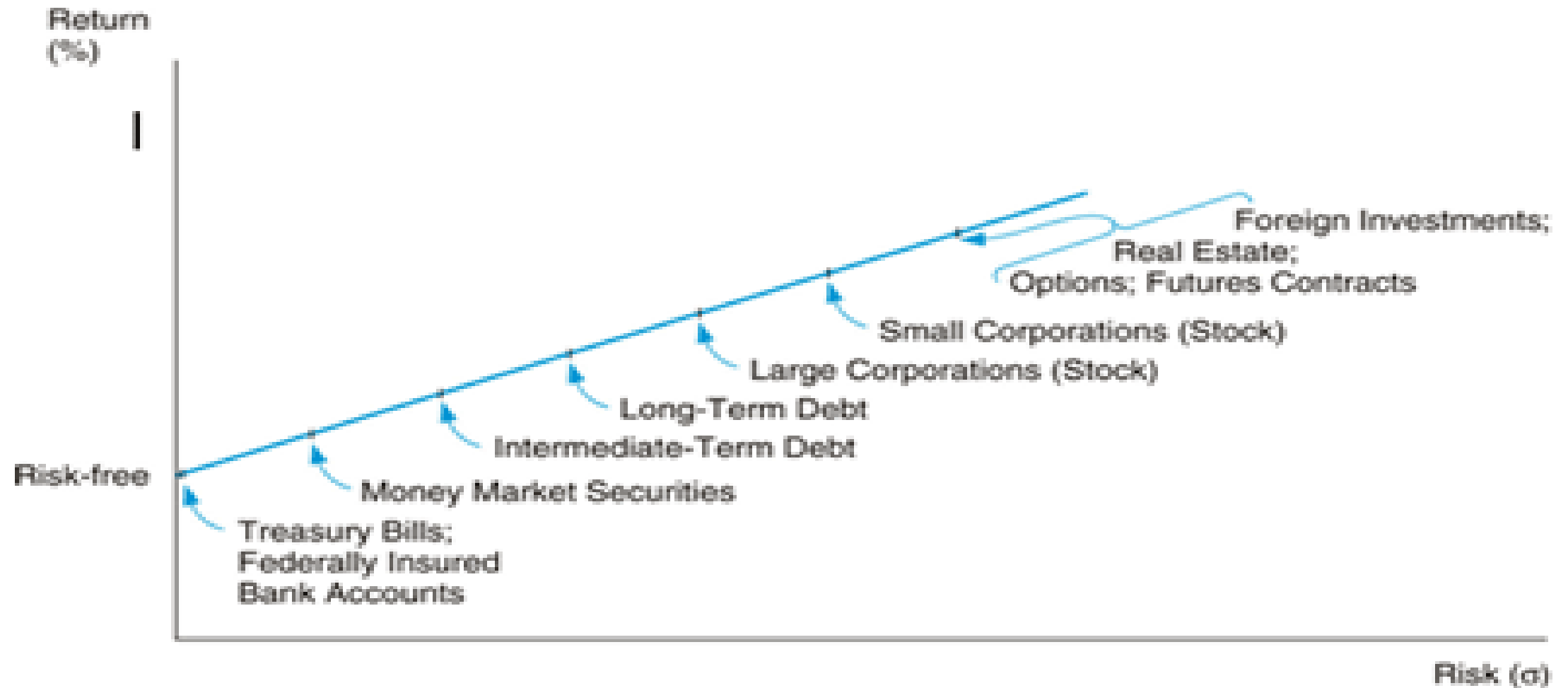

Risk / Return Tradeoff

Return

Standard Deviation (or Risk)

High Risk
High Potential Return

Low Risk
Low Return

Business Valuation – Risk & Return

risk-return relationship model

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Business Valuation – Risk & Return

Business Valuation – Risk & Return

Increasing potential for high returns
Increasing risk

Speculation

Growth

Safety and income

Financial Security

High risk investment: futures, stock options, junk bonds, precious metals, collectibles, small-cap stocks, undeveloped land

Moderate risk investment: blue chip stocks, growth stocks, real estate, mutual funds, royalty trusts

Low risk investment: corporate bonds, government bonds, treasury securities

Cash and cash equivalents: savings accounts, certificates of deposit, treasury bills, insurance

Business Valuation – Measuring Return

CAPM Formula

CAPM

$$R_s = R_f + \beta (R_m - R_f)$$

R_s = Expected Return/ Return required on the investment

R_f = Risk-Free Return/ Return that can be earned on a risk-free investment

R_m = Average return on all securities

β = The securities beta (systematic) risk factor.

$$\text{CAPM} = \text{Risk Free Rate} + \beta \times \text{Excess Market Return}$$

$$\text{Excess Market Return} = \text{Market Return} - \text{Risk Free Rate}$$

Business Valuation – Measuring Returns

Assumption of CAPM

- All investors aim to maximise economic returns
- All investors make decisions based on risks and returns
- Investors are rational and risk-averse
- Investors cannot influence prices – price takers
- All investors have the same expectations towards input factors for investment decisions
- All investors has access to unlimited funds
- All investments as liquid and be sold at market prices
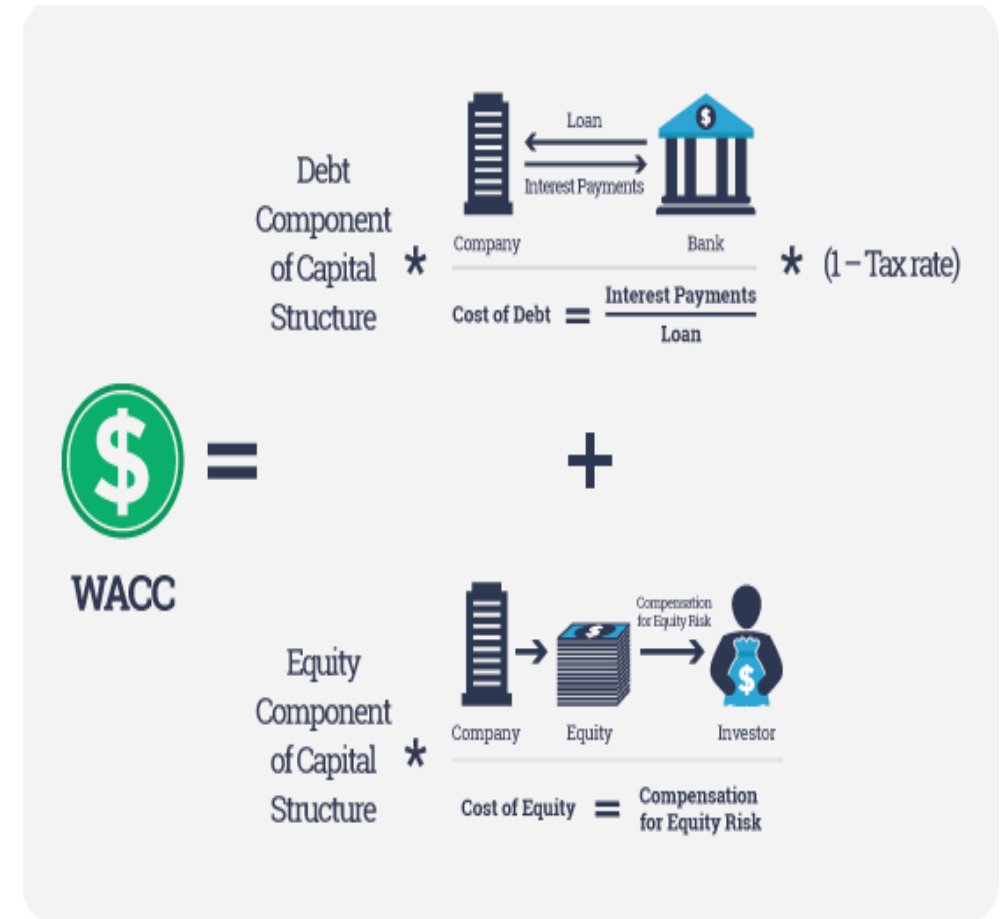- No or insignificant transaction costs

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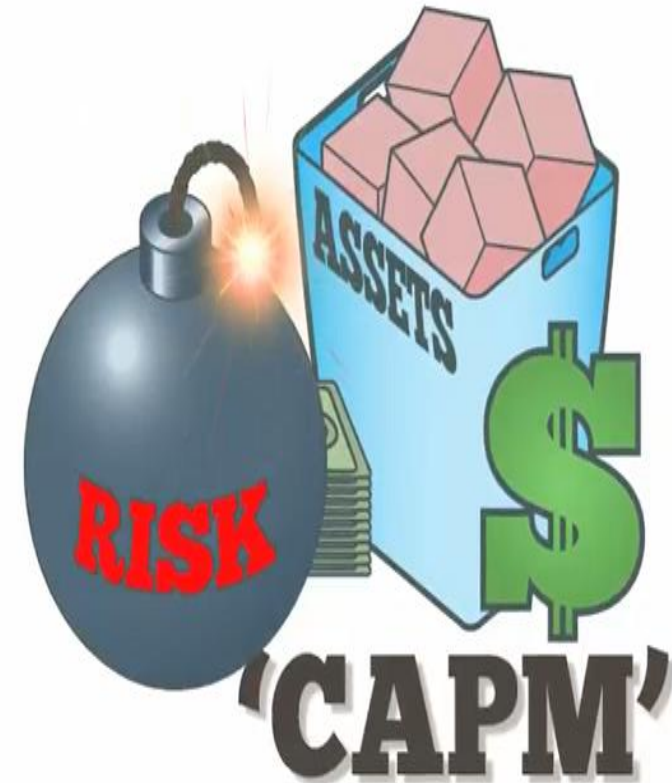
Business Valuation – Measuring Returns

Weighted Average Cost of Capital

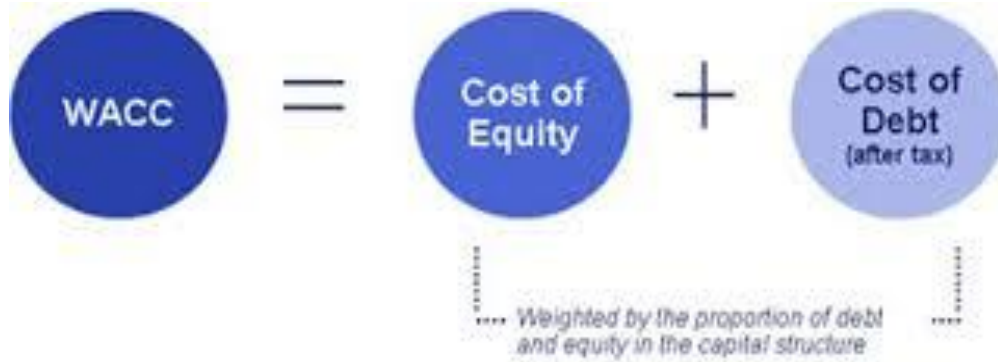**Measure the average cost of capital of the business based on its capital structure – represent the expected return for the business**

WACC = Cost of Equity + Cost of Debt (after tax)

Weighted by the proportion of debt and equity in the capital structure

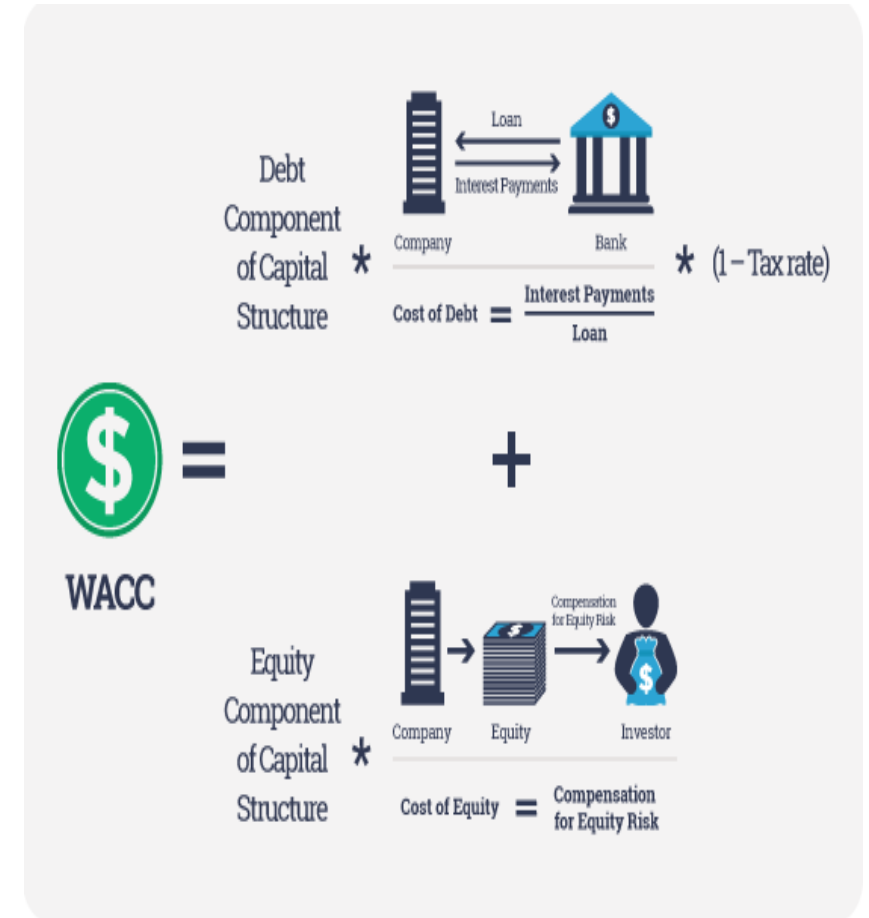$$WACC = (E/(D+E)) K_E + (D/(D+E)) K_D (1 - t)$$

Weighted Average Cost of Capital
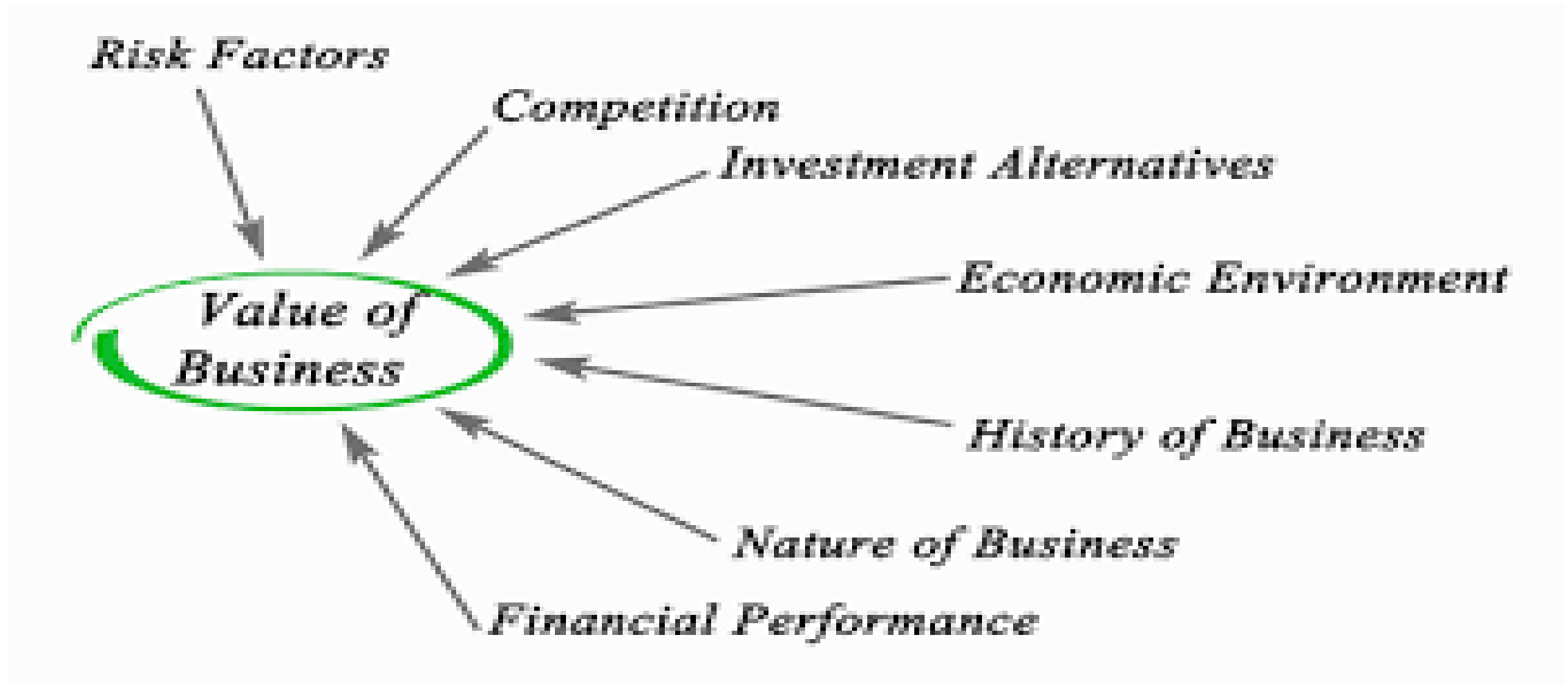

$$WACC = (E/(D+E)) K_E + (D/(D+E)) K_D (1-t)$$

WACC
Measure the average cost of capital of the business based on its capital structure

Weighted Average Cost of Capital

	Capital	Return	Ratio	After tax return	WACC
Equity	400,000	22%	67%	22%	14.7%
Debt financing	150,000	15%	25%	10.8%	2.7%
Loans	50,000	12%	8%	8.6%	0.7%1
Total	600,000				
Weighted cost of capital					18.1%

Factors affecting Business Value

Value of Business

- Risk Factors
- Competition
- Investment Alternatives
- Economic Environment
- History of Business
- Nature of Business
- Financial Performance

Business Valuation - Risk Factors

External

- Expectations of the economy
- Existing conditions in the economy
- Expectation of the industry
- Existing conditions in the industry
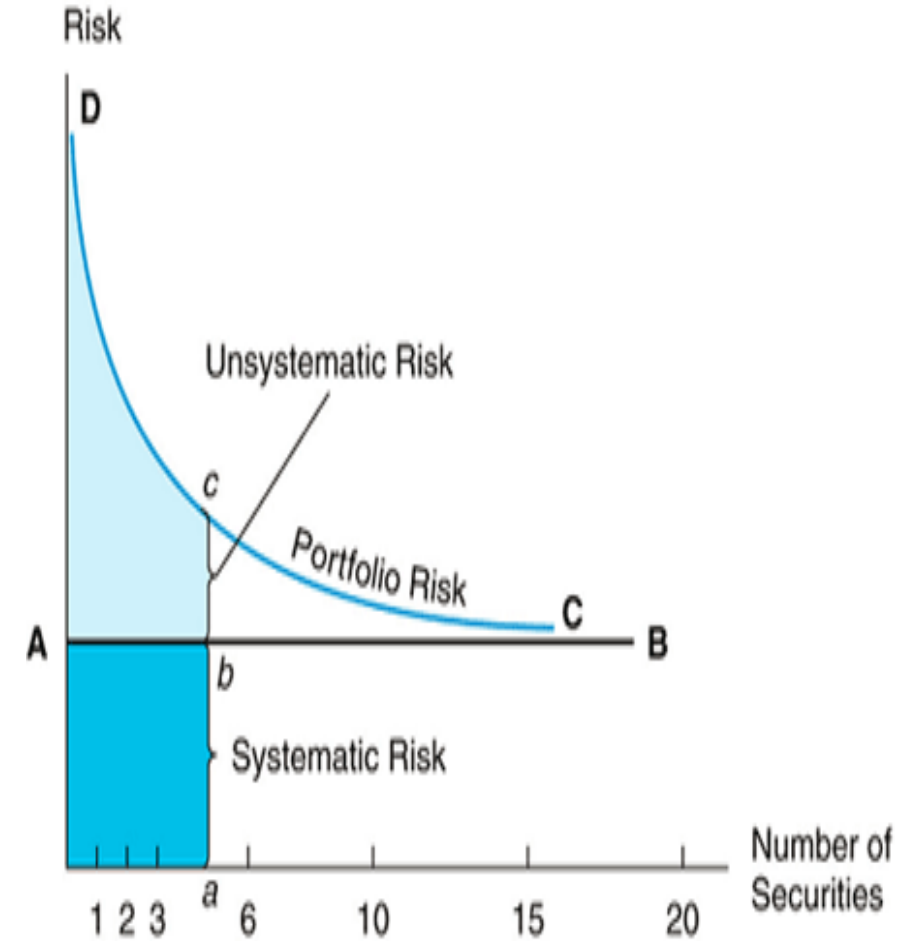- Competitive environment

Internal
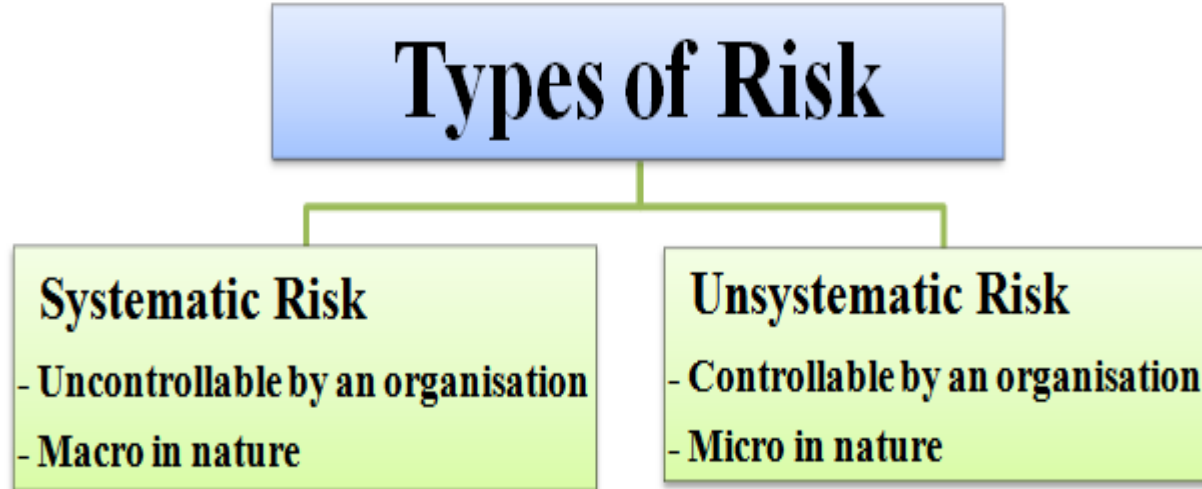
- Expectation of the business
- Financial position / conditions of the business
- Competitive position of the business
- Nature and size of the business
- Quality and depth of management

Investment
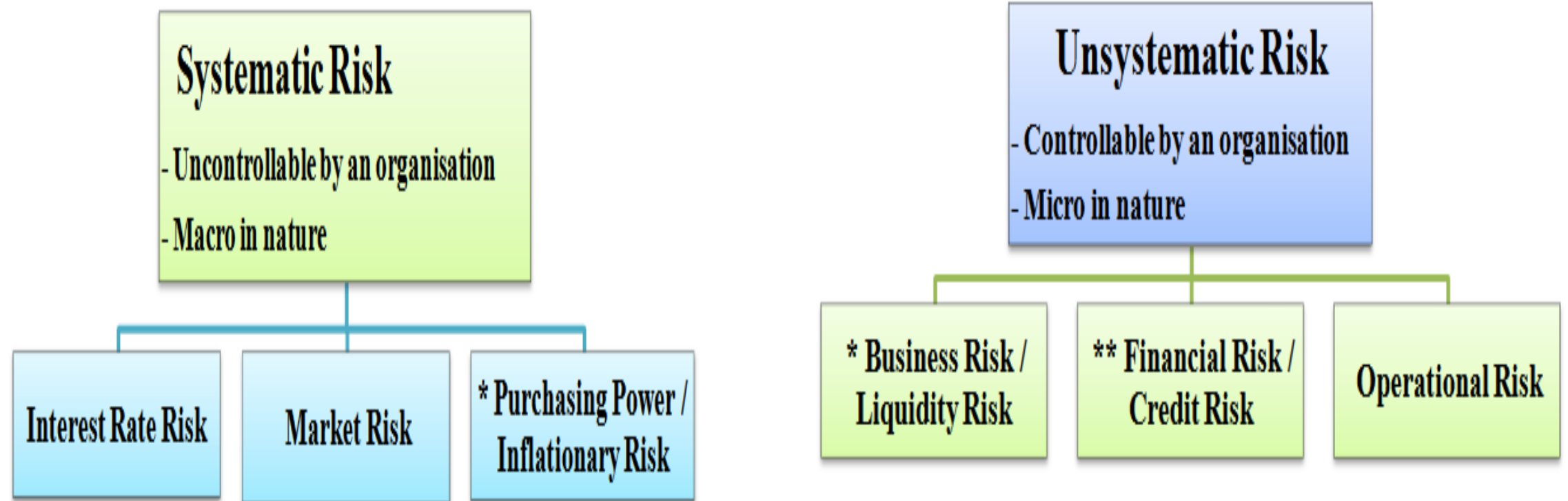
- Risk factors of the investment
- Amount invested in the business
- Expectation in capital appreciation
- Expectation in liquidity of the investment
- Level of expected management burden

Business Valuation - Risk Factors

Types of Risk

Systematic Risk
- Uncontrollable by an organisation
- Macro in nature

Unsystematic Risk
- Controllable by an organisation
- Micro in nature

Business Valuation - Risk Factors

Systematic Risk

- Uncontrollable by an organisation

- Macro in nature

Interest Rate Risk

Market Risk

* Purchasing Power / Inflationary Risk

*Note: In context of types of risk in finance, purchasing power risk and inflationary risk are same.

Unsystematic Risk

- Controllable by an organisation

- Micro in nature

* Business Risk / Liquidity Risk
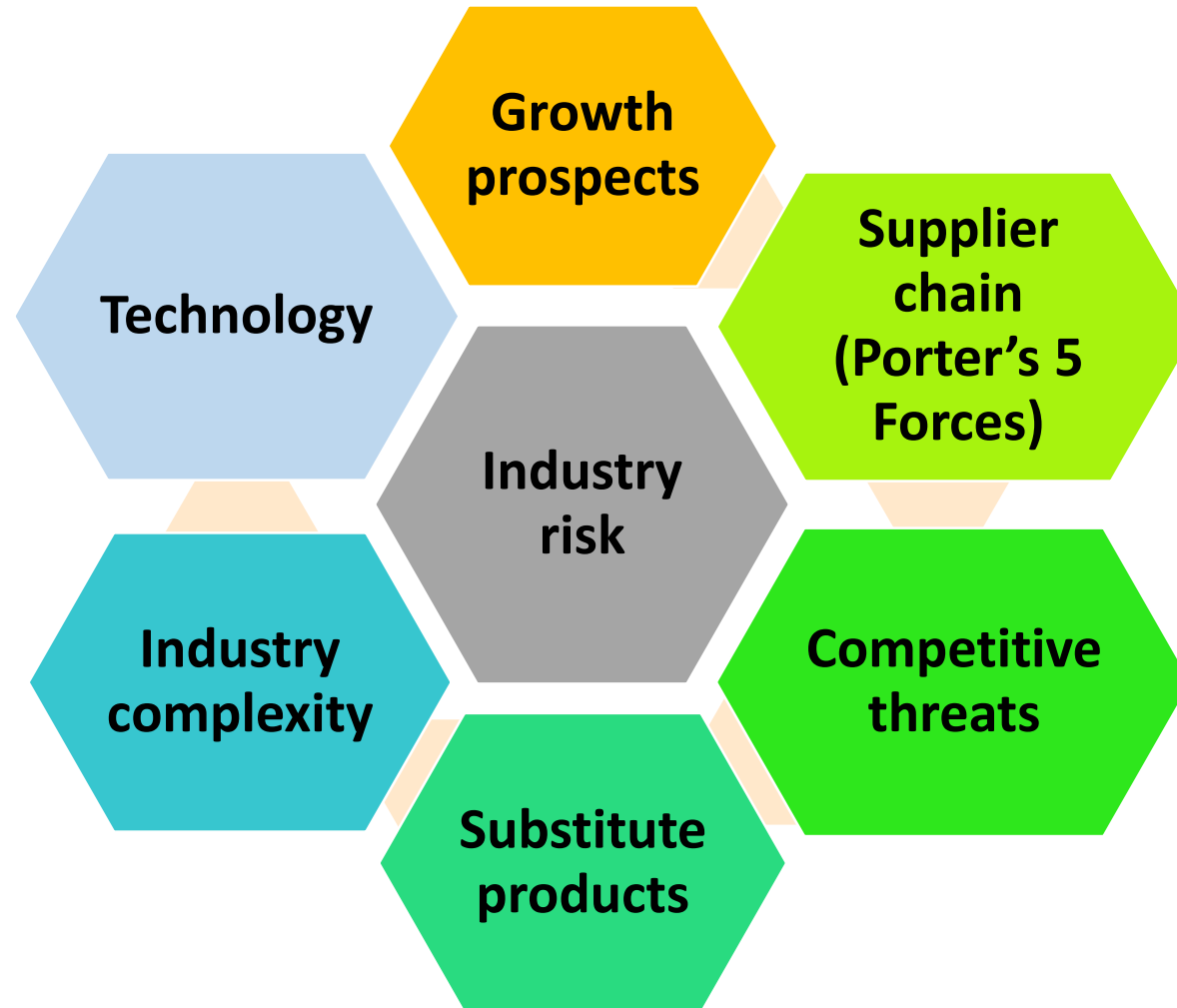
** Financial Risk / Credit Risk

Operational Risk

* Note: In context of types of risk in finance, business risk and liquidity risk are same.

** Note: In context of types of risk in finance, financial risk and credit risk are same.

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Business Valuation – Industry Risk

Business Valuation – General Factors

What affects value?

customer loyalty · trading history · value of fixtures / fittings · quality of staff · trading location · condition of property · strength of brand · lease / rent conditions · sector demand · future potential · opening hours · online presence · financial performance · suppliers

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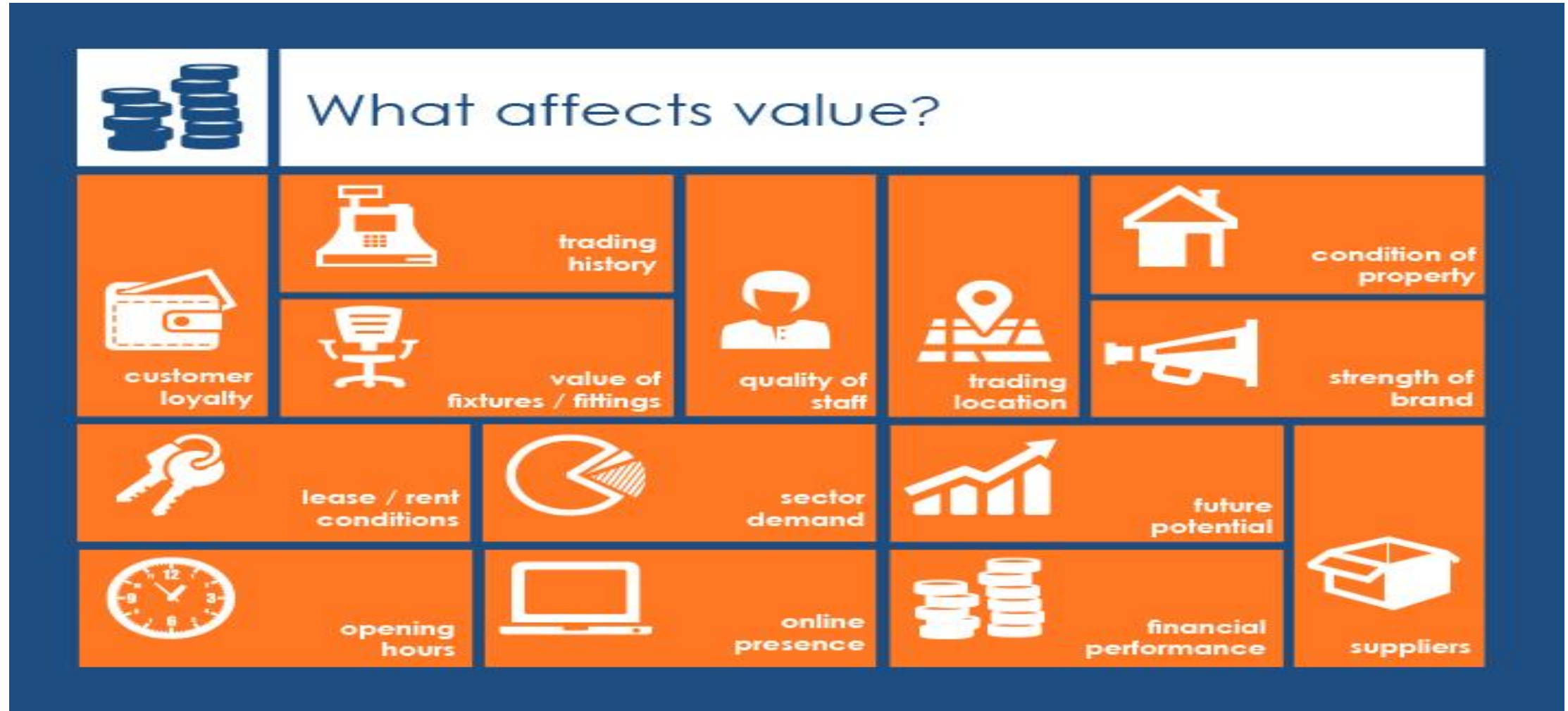
Business Valuation – Methods

Income based Approach

- Perfect to explore the intrinsic value of any busiess by evaluating the cash flows, NPV, equity method and economic profit model.
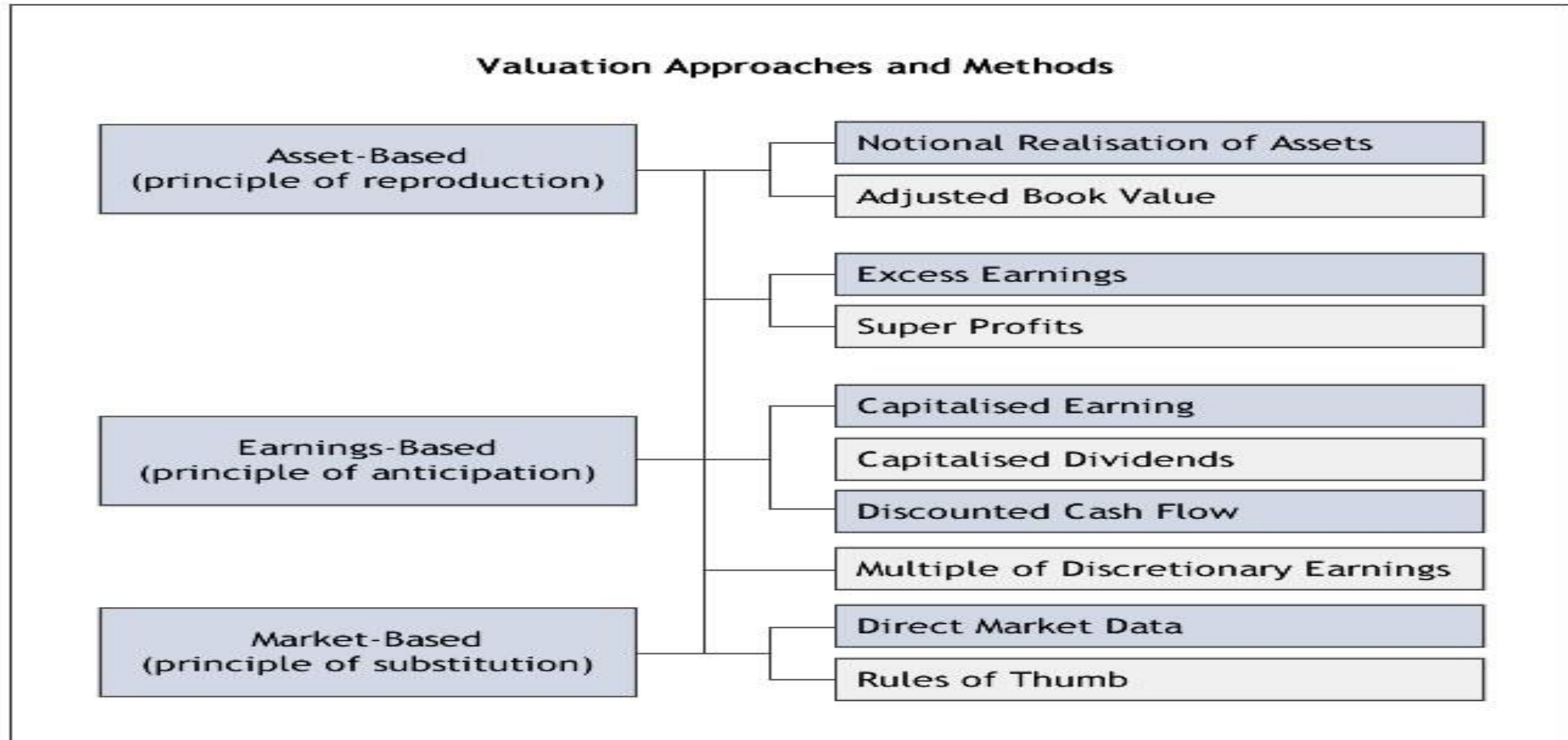
Asset Based Approch

- Value the business based on the market value of assets, replacement costs, and liquidation value of the assets.

Market Based Approach

- This approach comes in handy when capturing the market sentiment, considering the peers. e.g. trading comparables.

Business Valuation – Methods

Valuation Approaches and Methods

| Asset-Based (principle of reproduction) | Notional Realisation of Assets |
| | Adjusted Book Value |

| Excess Earnings |
| Super Profits |

Earnings-Based (principle of anticipation)	Capitalised Earning
	Capitalised Dividends
	Discounted Cash Flow

| | Multiple of Discretionary Earnings |

| Market-Based (principle of substitution) | Direct Market Data |
| | Rules of Thumb |

Business Valuation – Asset-Based Methods

Book Value Method

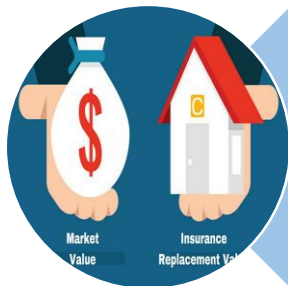**Method represents the book value of the business (assets – liabilities) based on their market values – going concern**

Liquidation Value Method

Method represents the book value of the business based on the liquidation values – disposal values

Replacement Value Method

Method represents the book value of the business based on the replacement values of the assets – start-up business

Business Valuation – Asset-Based Methods

The following information is the summaries statement of financial position:		
	Book value	**Market value**
Non-current assets	**240 000**	**320 000**
Intangible assets	**90 000**	**50 000**
Inventory	**180 000**	**160 000**
Other assets	**370 000**	**370 000**
Equity	**320 000**	
Non-current liabilities	**250 000**	**250 000**
Current liabilities	**310000**	**370 000**

Business Valuation – Asset-Based Methods

The following information is the summaries statement of financial position:		
	Book value	**Market value**
Non-current assets	240 000	320 000
Intangible assets	90 000	50 000
Inventory	180 000	160 000
Other assets	370 000	370 000
Equity	320 000	
Non-current liabilities	250 000	250 000
Current liabilities	310000	370 000
Net asset value	320 000	380 000
The book value of the business is R 320,000 (minimum going concern value) will the net asset value (market value of business) is R 380,000 – estimated selling value.		

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Business Valuation – Net Asset Value Method

Advantages	Disadvantages
Asset Accumulation Method is very useful when allocating the purchase price among the individual business assets.	Value of individual assets may vary significantly depending the basis used value the assets
Useful to value asset-based or property investment companies	May be difficult in valuing individual assets as the assets may inter-dependent
	Method ignores "off-balance sheet" asset and liabilities

LEASING AND OFF-BALANCE-SHEET FINANCING

01 The Balance Sheet

02 Operating lease and Off-Balance Sheet Financing

03 Off-Balance Sheet Expenses and the Enron Scandal

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Business Valuation – Net Asset Value Method

Off-balance sheet	
Assets	**Liabilities**
• Intellectual property items, such as internally developed products and services. • Key distribution and customer contracts. • Strategic partnership agreements.	• Pending legal judgments. • Property and income tax obligations. • Environmental compliance costs.

Business Valuation – Asset-Based Methods

	Book value	Market value
The following information is the summaries statement of financial position:3;1oq		
Non-current assets	**640 000**	**Property will a carrying amount of R 120,000 generates rental income of R 30,000 per annum and the fair return is considered to be 11%.**
Current assets	**570 000**	**Market value of current assets is estimated to be R 550,000**
Non-current liabilities	**300 000**	**The loan is repayable in 5 years and bears interest at a rate of 10%. The market interest rate is 12%.**
Current liabilities	**390 000**	**Market value of the current liabilities amount to R 430,000**

Business Valuation – Intangible Assets

**Valuation of Intangible Assets**

Intangible assets can be valued using the following methods:

- Market value: based on market prices for similar transaction concluded recently
- Capitalised income: used for intangible assets that generate cash or income – capitalised at fair return or discounted cash flow
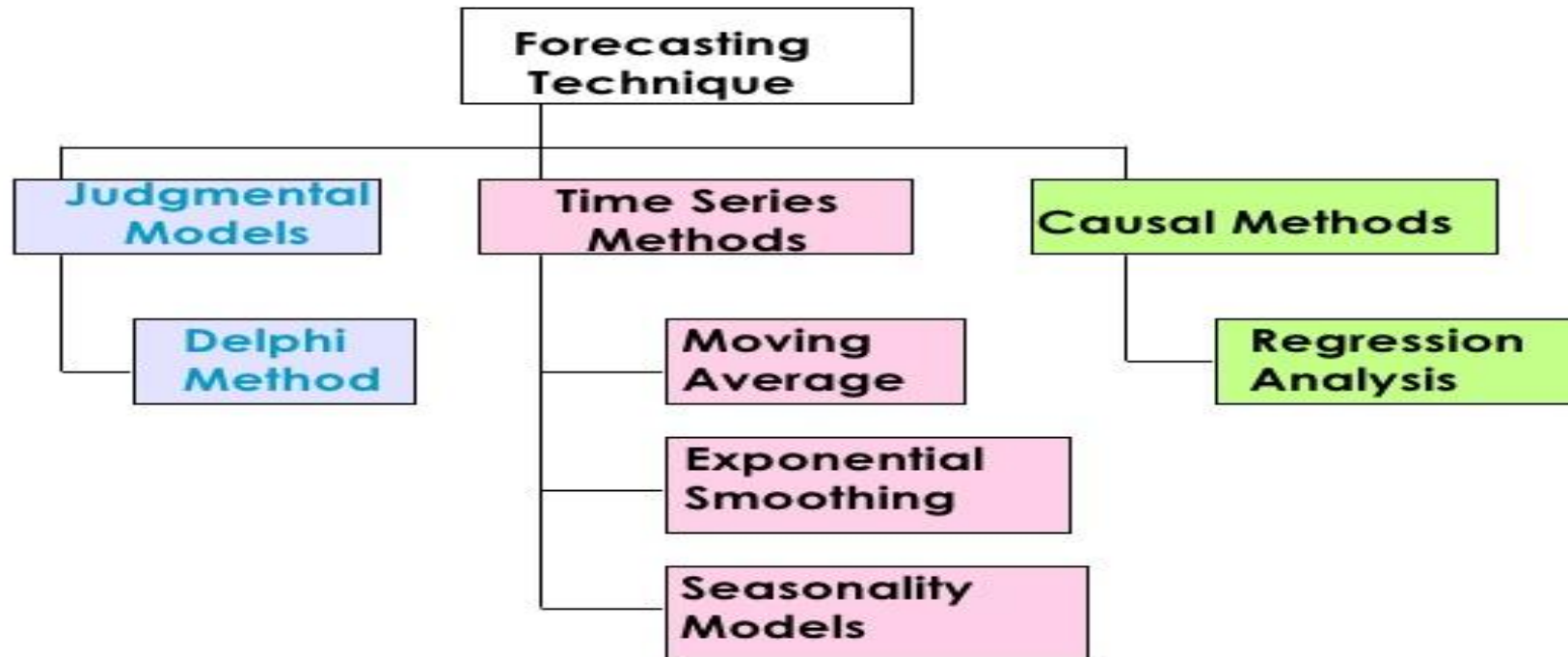- Cost based: estimation of the cost to reproduce the intangible asset
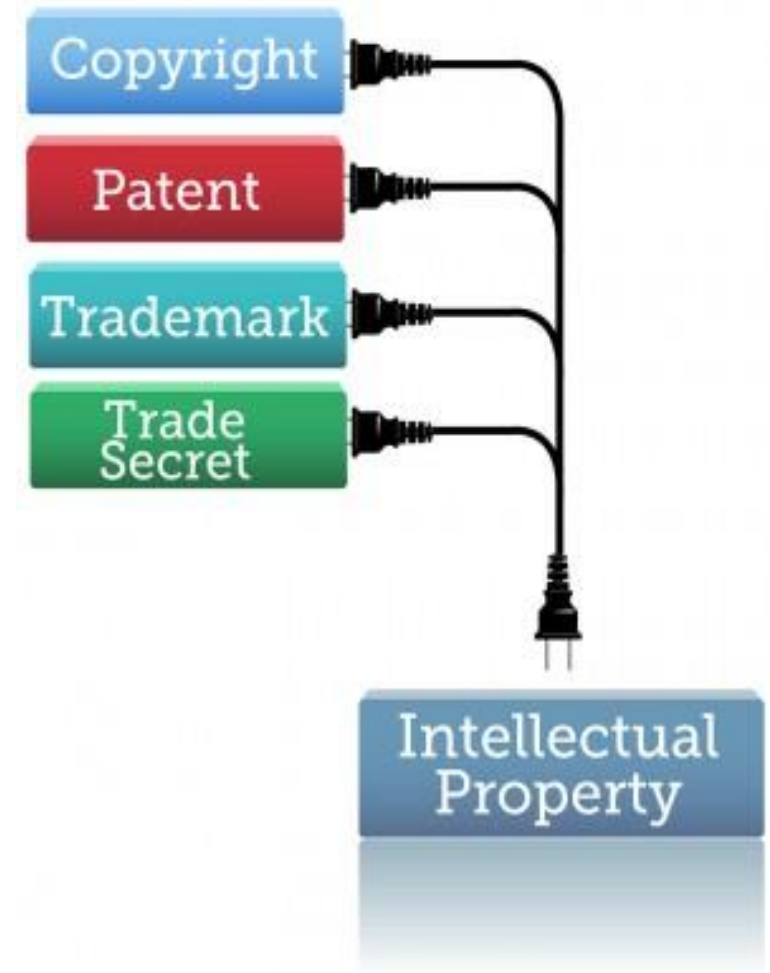
Forecasting - Methods
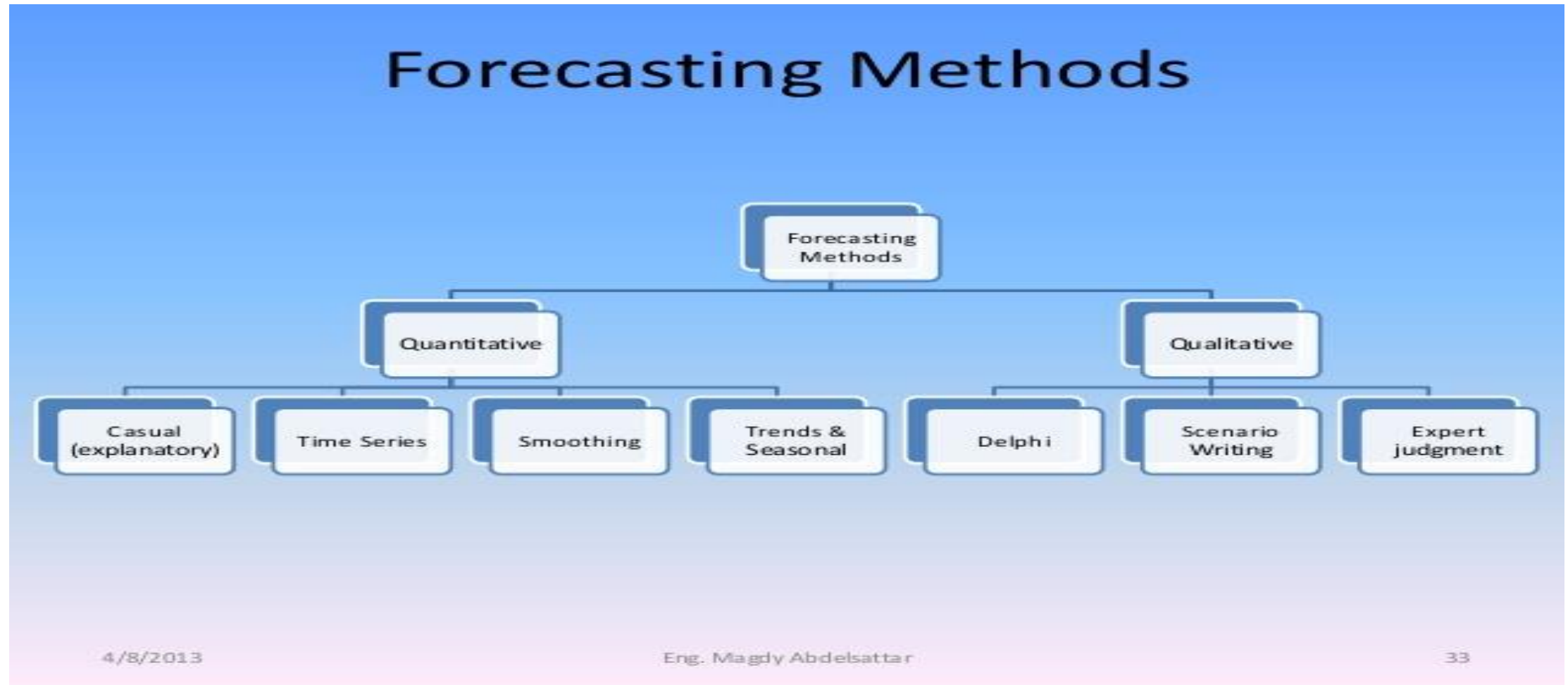
Forecasting - Methods

Forecasting Techniques

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                    │   Forecasting    │
                    │    Technique     │
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│   Judgmental    │  │   Time Series   │      │ Causal Methods  │
│     Models      │  │     Methods     │      └─────────────────┘
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  │   Delphi    │      │   Moving    │          │   Regression    │
  │   Method    │      │   Average   │          │    Analysis     │
  └─────────────┘      └─────────────┘          └─────────────────┘
                       ┌─────────────┐
                       │ Exponential │
                       │  Smoothing  │
                       └─────────────┘
                       ┌─────────────┐
                       │ Seasonality │
                       │   Models    │
                       └─────────────┘
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Forecasting - Methods

Seven Steps in Forecasting

| Determine the use of the forecast | Select the items to be forecast | Determine the time horizon of the forecast | Select the forecasting model(s) | Gather the data | Make the forecast | Validate and implement results |
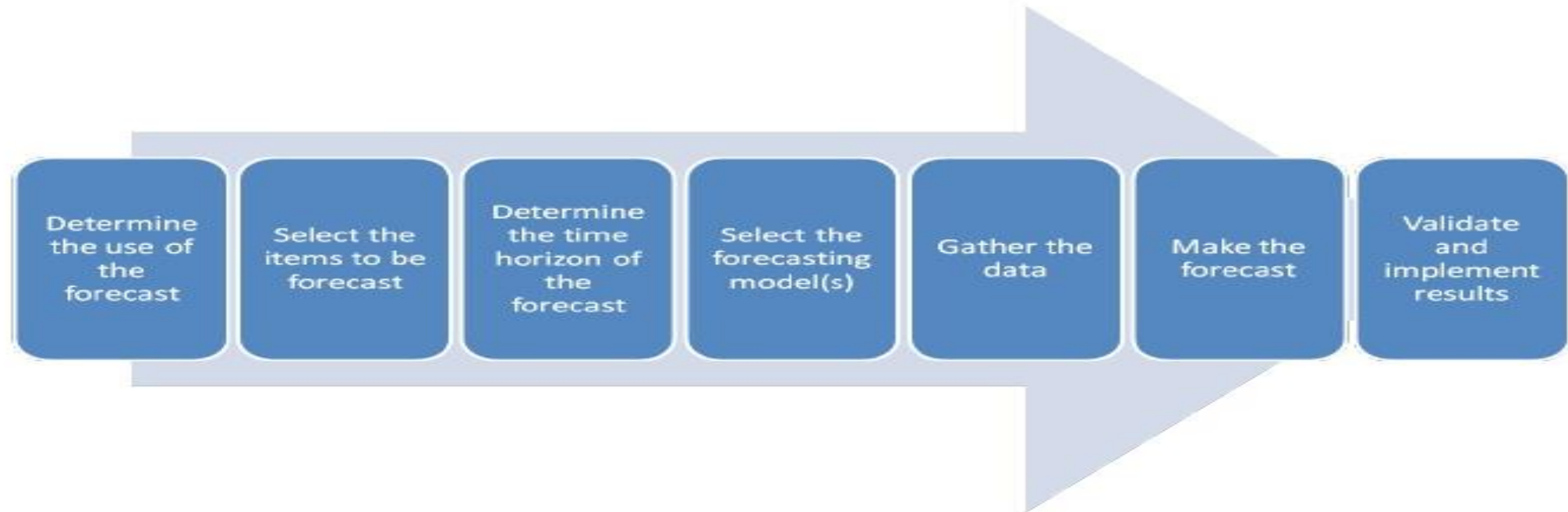
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Business Valuation – Capitalised Earnings

Factors to consider when estimating earnings:

- **Business model**
- **Market position**
- **Competitive advantage**
- **Product position**
- **Cost structure**
- **Strength of management**
- **Operating strength/weakness**
- **Location and accessibility**
- **Customer base**
- **Asset base**
- **Barriers to entry**
- **Supply chain**

Capitalization Rate

Cap Rate = Discount Rate - Growth Rate

Discount Rate (Weighted Average Cost of Capital)
Growth Rate (Between 1-5%)

Enterprise Value

$$\frac{Average\ Earnings}{Cap\ Rate}$$

Business Valuation – Capitalised Earnings

The following information related to two unrelated businesses:			
Company A: fair earnings yield is 15%			
	20X4	**20X5**	**20X6**	**20X7**
Earnings	**450,000**	**480,000**	**550,000**	**630,000**
Company B: fair earnings yield is 13%			
	20X7	**20X8**	**20X9 & after**	
Earnings	**230,000**	**290,000**	**350,000**	

Business Valuation – Capitalised Earnings

The following information related to two unrelated businesses:			
Company A: fair earnings yield is 15%			
	20X4	**20X5**	**20X6**	**20X7**
Earnings	450,000	480,000	550,000	630,000

The value at the end of 20X7: based on the historical trend in profits which indicates an increasing trend, the estimated future earnings is deemed to be a minimum of R 630,000. Value of the business based on the capitalisation of earnings amounts to R 4,300,000 [630,000/15%].

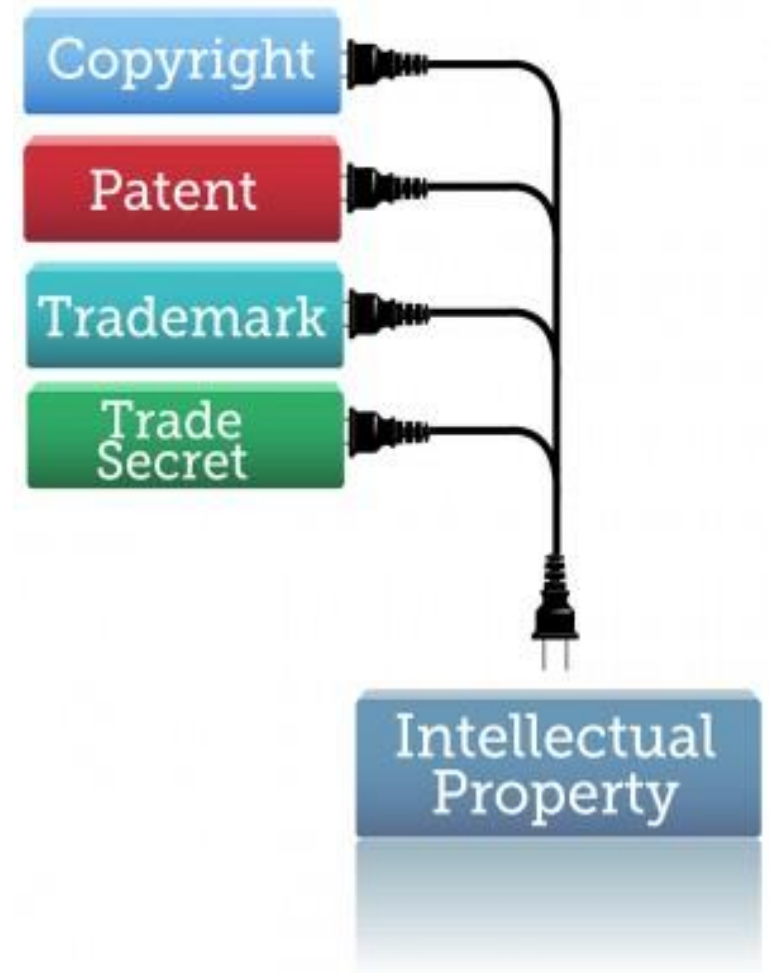| **Company B: fair earnings yield is 13%**			
	20X7	**20X8**	**20X9 & after**	
Earnings	230,000	290,000	350,000	

Business Valuation – Super Profits Method

Supper Profits method

The supper profits method is used to reflect the value of the goodwill associated with the business.

The supper profits represents the additional profit the business generates over its competitors in the market. The value of the profits capitalised for a specified period (usually a maximum of 5 years) represents the value of goodwill.

Business Valuation – Capitalised Earnings

The following information related to two unrelated businesses:				
Company B: fair earnings yield is 13%				
	20X7	**20X8**	**20X9 & after**	
Earnings	230,000	290,000	350,000	
Discounted value	203,540	227,113	2,108,472	2,539,125
The earnings represents the forecasted earnings, therefore the value of the business should be based on the discounted value. The value of the business is estimated at R 2,539,125 based on the discounted earnings.				

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Business Valuation – Super Profits Method

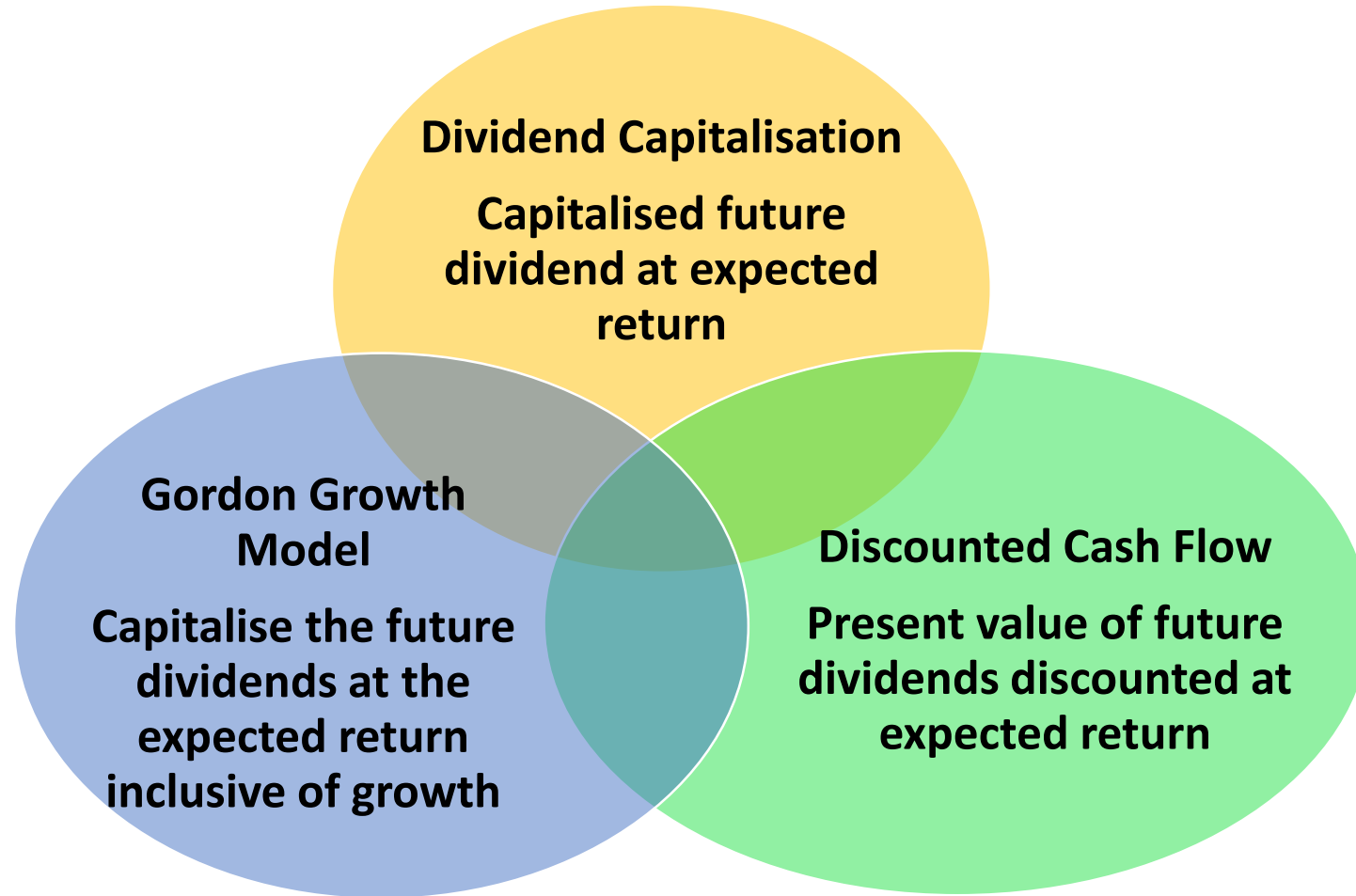|	
The estimated future profit of the business amounts to R 500,000 while the expected earnings yield is considered to be 18%. The average profit for the industry is considered to be R 400,000.	
The maintainable earnings of the company is considered to be the average earnings for the industry and therefore the company generates super profits of R 100,000. Without any barriers to entry the company will not be able to maintain its competitive advantage indefinitely.	
Capitalised earnings [400,000/18%]	**2,222,222**
Super profits – goodwill [100,000 @ 18% for 5 years]	**312,717**
Business value	**2,534,939**

Business Valuation – Capitalised Dividends

Dividend Valuation Methods

- **Dividends represent a distribution of profits in cash or equivalents – cash flow to shareholders**
- **Methods that can be used:**
  - **Dividend capitalisation**
  - **Discounted cash flow**
  - **Gordon Growth Model**

Business Valuation – Capitalised Dividends

Dividend Capitalisation

Capitalised future dividend at expected return

Gordon Growth Model

Capitalise the future dividends at the expected return inclusive of growth

Discounted Cash Flow

Present value of future dividends discounted at expected return

Business Valuation – Gordon Growth Model

Gordon Growth Model

Value of the business is based on capitalisation of future dividend incorporating the estimated growth in dividend distribution.

The following a key assumptions:

- **Business is stable – no significant change in its business model and operations**
- **Constant growth – the dividends distributed will growth constantly**
- **Stable financial leverage – capital structure will not change significantly to affect the expected returns of equity holders**
- **Sufficient cash flow – cash flow of the business will be sufficient to maintain its dividends policy**

$$\text{Valuation} = \frac{D_1}{(r - g)}$$

D_1 = dividend at the end of the current year

g = growth rate on dividends

r = discount rate

Business Valuation – Free Cash Flow Method

Defining Free Cash Flow

> **Free cash flow to the firm (FCFF)** is the cash flow available to the firm's suppliers of capital after all operating expenses have been paid and necessary investments in working capital and fixed capital have been made.

- **FCFF is the cash flow from operations minus capital expenditures. To calculate FCFF, differing equations may be used depending on what accounting information is available. The firm's suppliers of capital include common stockholders, bondholders, and, sometimes, preferred stockholders.**

Defining free cash flow

Total Revenue				
Gross Profit				Cost of Sales
Operating Profit or EBITDA			Operational Expenditure	Cost of Sales
Free Cash Flow	Cash Taxes	Capex	Operational Expenditure	Cost of Sales

Free cash flow is not the same as profit

Capital expenditure does not hit the P&L

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Business Valuation – Free Cash Flow Method

VALUE OF A FIRM USING FREE CASH FLOWS

FORECAST FUTURE FREE CASH FLOWS

1 DURING THE PLANNING HORIZON

2 BEYOND THE PLANNING HORIZON – CONTINUING/ TERMINAL VALUE

DISCOUNT FREE CASH FLOWS FOR THE PERIOD AT THE WACC

FIND THE PV OF THE FLOWS BY MAKING ALTERNATIVE ASSUMPTIONS ABOUT TIME HORIZONS AND GROWTH RATES

ADD SHORT-TERM INVESTMENTS

= VALUE OF THE FIRM

LESS VALUE OF DEBT

= VALUE OF EQUITY

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