الهيئة السعودية للمقيّمين المعتمدين
Saudi Authority for Accredited Valuers

تقييم
TAQEEM

BUSINESS VALUATION COMPETENCIES

200

BV 200:

BUSINESS VALUATION COMPETENCIES

PARTICIPANT COURSE MANUAL

About This Course

The iiBV program of professional courses assumes a high-level of knowledge in three core underlying knowledge areas: (i) macro-economics, (ii) corporate finance, and (iii) financial reporting. As well, participants in the iiBV program of courses are expected to understand the legal organization of businesses and business strategy.

The purpose of this course and the main overall learning objective is to give the student the concepts, vocabulary and analytical tools to successfully complete the training provided in iiBV's and Taqeem's subsequent five core courses.

Generally, students will be looking to establish a base of knowledge sufficient to enable them to take the five Principles of Valuation (POV) courses leading to the Taqeem designation. For many students this will be a much-needed refresher of past finance and economic theory courses. For some, this will be new material, requiring additional self-study. The exams will be set to determine that candidates have the knowledge to proceed to Taqeem BV 201, 202, 203, 204 and 205..

Specifically, this course will start with an overview of the capital markets and the impact of macro-economic factors on the capital markets and continue with micro-economic analysis of companies based on understanding accounting and financial reporting. The course will conclude by linking the capital markets and financial reporting concepts to the practice of business valuations and corporate finance (including a brief overview of financial modelling).

The International Institute of Business Valuers emphasizes that these course materials are not authoritative. They are intended to be used as a foundation for lectures and discussions, in conjunction with observations by the course instructors.

The valuation process and approaches presented in this course are:

- Not the only valuation process and approaches used by competent valuers;
- Not the only way that individual valuation methods could or should be done; and
- Not to be taken as a "cookbook" process or approach that may be applied to any valuation situation.

Valuations must be based on full knowledge of the facts and circumstances of the subject company, its industry and the economic environment. A particular valuation process or approach that is relevant for one company at a particular point in time may not be appropriate for another company or a different point in time.

The terminology and standards in this course are based on the International Valuation Standards 2022 ("IVS") published by the International Valuation Standards Council ("IVSC"). The IVSC is an independent organization committed to building the public's trust in the valuation profession by issuing universal standards and seeking their adoption around the world.

The IVS are referenced from the publication, International Valuation Standards 2022, Copyright @ 2021 International Valuation Standards Council. Copies of the publication can be purchased from the following website: https://www.ivsc.org. In contexts where the IVS does not specifically address a valuation topic, references to other standards and sources will be made, especially the Taqeem Business Valuation Manual. The terms used on this course are consistent with the Glossary in the Taqeem Business Valuation Manual. The Taqeem Glossary is included at the end of this Manual as Chapter 12.

The course also includes some of the accounting rules as set out in International Financial Reporting Standards or IFRS.

Business valuation, as with many other areas of professional knowledge, is a changing discipline: it is subject to constant evolution, based on analysis of the capital markets, the results of academic research and developing professional best practice. Continuing professional education is an essential component of the professional responsibilities of those engaged in business valuation.

Section A. Course Overview – Purpose of BV 200

This manual supports a five-day course provided to students who need to familiarize themselves with some of the basic competencies and vocabulary that form the foundation of business valuation analysis.

The course assumes that the student has had only limited prior formal training in business, accounting, economics and finance theory. The course is not, and should not be interpreted as, a substitute for a full education in the above subjects.

These subjects are introduced in their most basic form and then developed to the point of the student being able to apply the knowledge to business valuations. The purpose of this course and the main overall learning objective is to give the student the concepts, vocabulary and analytical tools with which to successfully complete the training provided in iiBV's and Taqeem's subsequent five core courses.

Section B. Format

The course is presented in chapters, dealing with different subjects. The greatest value is obtained by participating in this course. That involves attempting the various examples that are provided throughout the manual. Some of the material is focused on business valuation. This is based on valuation tools and techniques which comprise current best practices as of 2021.

Each chapter includes examples which are intended to test the student on material presented in the preceding paragraphs. These examples will be handled in class, time permitting. It is important that the student understands the solutions/answers to these examples. These questions mimic the type of questions that the student will see in the exam.

Ask questions if the discussion covers unfamiliar material. It is unlikely that you are the only one who has questions. More than other lecture courses, this course offers you the opportunity to learn from the experience of other practitioners. Students come from different backgrounds and have varying experiences and viewpoints. It is probable that your viewpoint will enhance the understanding of another student.

There is a lot of material in this manual. We hope that you will find this a useful reference source to support further learning.

Section C. Exam

After the fifth day of the course, you will take a three-hour multiple-choice exam, consisting of 100 questions, each worth one point. Chapter 11 of this manual summarizes the main points raised during this course and is a good review for the exam.

Table of Contents

Chapter 1 Fundamental Concepts

Section A The Language of Business Valuation

1. Business valuation has its own defined terms. They have specific meanings. The same applies to other professions. It is important that a business valuer uses these terms in the right way. The benefits are:

   A. The business valuer is using an intellectual framework which is explained through the defined terms;

   B. The credibility of the business valuer is increased as the valuer is using terms in the right way;

   C. In any discussions with fellow business valuers, misunderstandings are reduced if common terms are used for the same meaning.

2. There is a Glossary in the Taqeem Business Valuation Manual. This Glossary is included at the end of this manual as Chapter 12. Throughout this manual we will refer to the Glossary at appropriate points.

3. The Taqeem Business Valuation Glossary is very comprehensive and covers many different aspects of business valuation. It includes more definitions than are in the International Glossary of Business Valuation Terms. We will only be introducing a small number of the valuation terms within this introductory course. The Glossary gives an insight into the depth and breadth of business valuation knowledge.

Section B Equity Markets

1. In many countries of the world, including the Kingdom of Saudi Arabia (KSA), there are active stock markets. These markets trade in the shares of public companies. In KSA the stock market is the Tadawul.

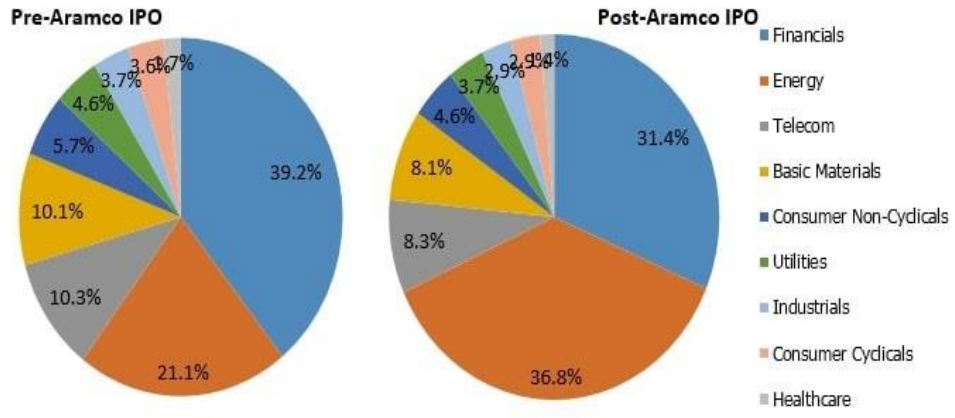
2. The value of all the shares of the companies traded on the markets is known as the market capitalization of the relevant market. The market capitalization of the Tadawul was some SAR 9.291 trillion in March 2021. This is equivalent to USD$2.477 trillion.

   A. The largest and most diverse market in the world is the USA stock market which has a market capitalization of some USD$36 trillion.

   B. The largest European market is the UK stock market. This has a value of only some USD$1.5 trillion. The Chinese stock market is rapidly increasing in size.

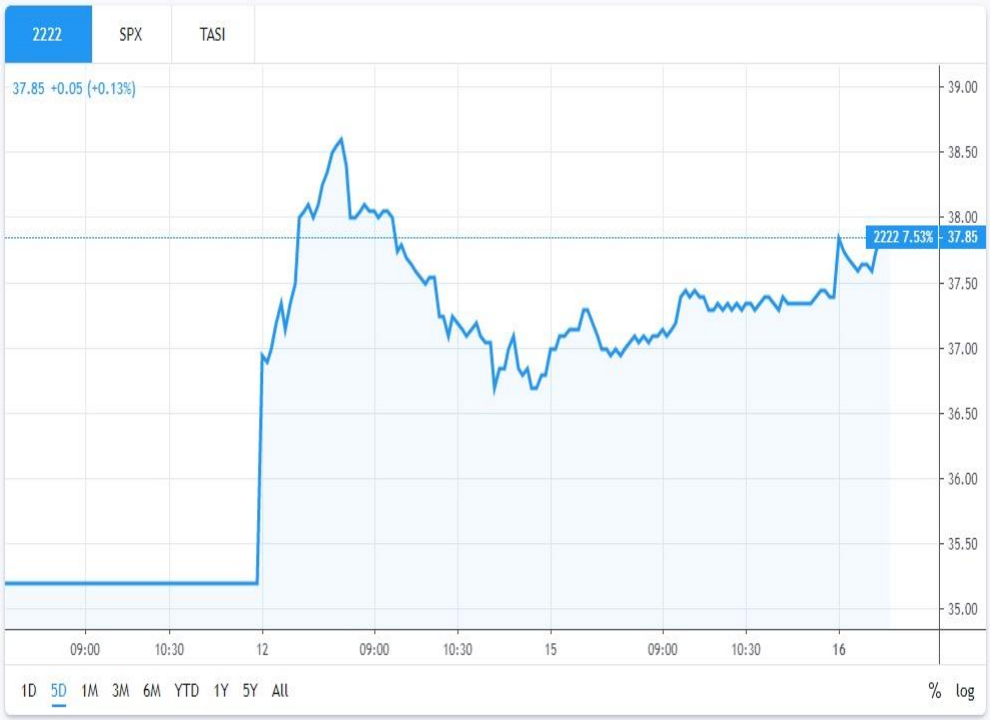
   C. The total value of the stocks listed on the Tadawul increased dramatically on the listing of Saudi Aramco in December 2019. The weightings of the market also moved in consequence.

Figure: Tadawul Sectorial Weightings, Pre- & Post-Aramco IPO



Source: Reuters, Marmore Research

D. The float of Aramco had a very material effect on the value of the total Tadawul market:



3. Stock markets are primary markets. They are also secondary markets.

4. The primary market is the issue by a public company of shares to Market Participants in order to raise additional funds. Market Participants are defined in the Taqeem Glossary as all individuals or other entities that are potential buyers of the asset.

   A. The market participants pay the money to the company which is able to invest the proceeds. They become stockholders in the company.

(1) A major justification of the stock markets is to provide funds to large companies.

5. The stockholders can then trade those shares with other investors in the relevant secondary market.

   A. Those trading transactions are between stockholders. The company does not receive any part of these proceeds.

      (1) A second major justification of the stock markets is to allow trading in the stock of listed companies.

6. In Saudi Arabia the companies on the Tadawul are known as Joint Stock Companies or JSCs.

   A. Example 1.1

      (1) B Public Joint Stock Company (B JSC) has 10,000,000 shares, held by a small group of investors. They subscribed SAR 1 per share.

      (2) B JSC is listed on the Tadawul Stock Exchange in 2018. At the time of listing it issued 9,000,000 shares at a price of SAR 20 per share. Various banks and other market participants subscribed for these shares.

      (3) Over the following two years B JSC made profits and the business grew. One of the investors, Abdulrahman, decided to sell 10,000 of his shares held in December 2020. The price quoted on the market at the time of sale was SAR 25. The transaction took place at that price.

         (a) What were the amounts received by B JSC?

         (b) What were the amounts received by Abdulrahman?

         (c) What was the value of all of the shares of B JSC in December 2020? (This is known as the Market Capitalization.)

         (d) The Market Capitalization is defined in the Glossary as the total Equity value of a public company, calculated as the share price multiplied by the number of shares outstanding.

7. Stock markets have a large number of market participants. Buyers and sellers are brought together through Market Makers.

   A. Market Makers are institutions that hold an inventory of shares in various public companies. Other market participants transact with the market makers.

B. The market makers trade in shares. The buying price is not the same as the selling price. For B JSC above, the market maker was prepared to buy for SAR 25. He set the selling price at SAR 25.20.

C. The difference between the lower buying price and the higher selling price is known as the Bid Ask Spread or the Bid Offer Spread.

D. The bid ask spread in the case of B JSC is SAR 0.20. In this example it is 0.8% of the price at which the market maker will sell the shares.

E. The bid ask spread will reduce for larger, more liquid stocks. For the very largest companies on each market there are likely to be several market makers. For smaller companies there may be only one.

(1) The spread will reduce for very liquid stocks for the following reasons:

(a) Competition between market makers;

(b) The lower risk for the market makers. This lower risk is because the most liquid stocks will be very well researched. This then means that the risk of losses on the inventory of shares held is much reduced.

F. For some very small companies it is possible that the market maker will not hold any inventory of shares.

(1) In such a situation transactions can only take place on a matched bargain basis. This means that a buyer and a seller have to be brought together by the market maker.

Section C Interest, Simple Interest and Compound Interest

1. The financial markets of the world work on the basis of making a return on the capital that is loaned or invested .

2. The most basic form of return is interest on funds provided. There are two types of interest:

A. Simple interest is charged on the amount that has been loaned.

(1) If SAR 1,000 is loaned at an annual interest rate of 6% a year, the simple interest is SAR 60 a year. If the money is outstanding for three years, the simple interest is SAR 180.

B. Compound interest is charged on two amounts:

(1) The amount that has been loaned;

(2) The interest that has been charged and not paid.

3. If we continue with the above example, the compound interest and simple interest would be computed as follows:

Annual Interest Example	**Compound**	**Simple**
Amount loaned	1,000.00	1,000.00
Interest year 1 at 6%	60.00	60.00
Amount owing at end of year 1	1,060.00	1,060.00
Interest year 2 at 6%	63.60	60.00
Amount owing at end of year 2	1,123.60	1,120.00
Interest year 3 at 6%	67.42	60.00
Amount owing at end of year 3	1,191.02	1,180.00

4. If the annual interest is paid at the end of every year, there is no difference in these examples between compound interest and simple interest.

5. If the annual interest is not paid at the end of every year, it is treated as part of the money that has been loaned.

6. Albert Einstein described compound interest as the most powerful force in the universe.

7. There is a mathematical formula for the compounding of interest:

$$loan\ x\ (1 + r)^n$$

$$r = rate\ of\ interest$$

$$n = number\ of\ periods$$

8. We do not have to calculate the compound interest, year by year, as it has been calculated above.

   A. If we continue with the above example, the amount owing at the end of year 7, if the interest is being compounded, is SAR 1,503.63. The total compound interest is SAR 503.63.

$$SAR\ 1{,}000\ x(1 + 0.06)^7 = SAR\ 1{,}000\ x\ 1.50363$$

   B. With simple interest the amount owing would SAR 1,420.00.

   C. Example 1.2

   (1) Layla loaned SAR 20,000 for 8 years at an annual interest rate of 4.5% compounded. No interest is paid to Layla. What is the total of the amount loaned and the interest charged to date at the end of year 5?

(2) Akeem loaned SAR 50,000 at an annual interest rate of 5% compounded, with the interest being charged every 6 months. What is total of the amount loaned and the interest charged at the end of year 4?

(3) Bashar made a loan and charged annual interest of 4% compounded. At the end of year 3 the amount owing was SAR 11,248.64. What was the amount of the loan that Bashir made?

D. The example of Bashar above was especially challenging. It was included as it is central to business valuation. We will therefore be covering the concept involved in greater detail later in this course.

Section D Debt Markets

1. Companies like B JSC can raise equity funds on the stock markets.
2. They can also raise funds in the form of borrowings in the debt markets. These are known as corporate bonds.

   A. B JSC required additional cash for a period of five years in order to fund a large project. It decided to issue a corporate bond for SAR 200 million, repayable at the end of five years, with interest payable every 6 months to investors.

3. In addition to corporate bonds, governments in many countries raise funds in the debt markets through the issuance of government bonds.

   A. If a government has control of its own currency, it controls the creation of money. The government is therefore normally considered to be the lowest risk in that currency.

   B. The rate of interest that the market requires from corporate entities will be higher than the rate that it requires from the government.

4. The global debt markets in August 2020 were estimated to be USD$128 trillion. Just over two thirds of this market were government bonds. The remaining one third were corporate bonds. The debt markets are far larger than the (equity) stock markets.

   A. The largest and most liquid component of the global debt markets is US Treasury debt of over USD$14 trillion. There are US corporate bonds of some USD$9 trillion.

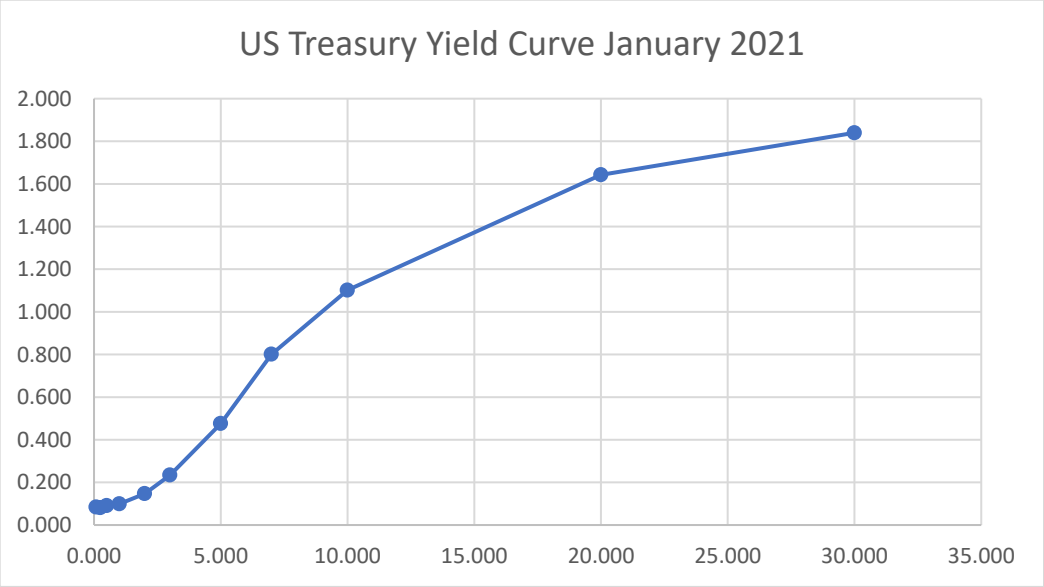
5. Most of the debt instruments in the debt markets have a stated date for repayment. This was the case with the example of B JSC above.

   A. There are some bonds which do not have a set repayment date. These are known as perpetual bonds.

6. The debt markets produce a schedule of interest rates relating to the government debt of each country. These rates are formed into what is known as the yield curve. The yield curve demonstrates that investors in the debt markets normally seek a lower return for those government bonds that are to be repaid in the near future. These are known as shorter dated bonds. The longer-dated government bonds normally require a higher return.

7. The yield curve relating to US Treasuries in January 2021 is given by the yields to redemption in the following table.

		Rate %
1	month	0.084
3	months	0.081
6	months	0.091
1	year	0.099
2	years	0.147
3	years	0.234
5	years	0.476
7	years	0.801
10	years	1.102
20	years	1.643
30	years	1.840



8. There are periods when the interest rates on shorter dated bonds are higher than those on longer dated bonds. This can happen when the market expects interest rates to fall in the future.

9. This is known as an inverted yield curve.

Section E The Valuation of Bonds

1. The valuation of bonds, equities and financial instruments reflects the present value of future cash flows. This is a very important point to remember for business valuation.

2. Over the next few days we will be looking at the way that bonds are valued. The cash flows of bonds are relatively certain.

3. We will also then consider how equities are valued. The cash flows of equities are far less certain than those of bonds.

Section F Other Sources of Funding - Bank Borrowings

1. Many businesses are not public joint stock companies. In the KSA there were approximately 614,000 registered small and medium-sized enterprises (SMEs) in 2020. This was an increase from 447,000 in 2015.[1] SMEs comprise about 90% of the KSA private sector and employ about 60% of the country's labor force.

2. Some of these businesses will be in the form of limited liability companies (LLCs) in the KSA.

3. A great many SMEs throughout the world are funded largely by individuals or families. That funding can be investment in shares of SMEs. Alternatively, it can be loans made to the SMEs.

   A. In addition to funds for shares and loans, SMEs will be funded by profits made in earlier years. Profits left in the business are a major source of funding for many companies.

4. Other main sources of finance for SMEs are loans from banks, from governmental funds that help businesses and from other financial institutions. Relatively common forms of lending are:

   A. Lending by term loan. An example is a 15-year bank loan to fund the purchase of real estate by the SME.

      (1) Such funding will often be secured. For as long as the bank loan remains in place, the bank may have what is known as a "charge" over the relevant real estate. The nature of this charge will vary in different countries. The charge will mean that the bank will have first priority to the proceeds of sale of the asset. Once the bank has been repaid, the real estate owner is then entitled to the balance.

[1] Mena Intelligence Article: https://www.marmoremena.com/saudi-arabia-eases-regulation-to-support-smes-and-entrepreneurs/

B. Another form of secured lending is sometimes called asset-backed lending. An example is a bank loan for the purchase of trucks or other pieces of equipment. There are different security structures in different countries. The bank will have first priority to the proceeds of sale up to the amount owing to them.

C. Receivables' financing is another form of secured lending. In some countries banks will prefer this form of lending. The most valuable and liquid of the assets on the balance sheet of almost all SMEs are the trade receivables.

(1) This form of lending is short-term lending. However it can remain in place over the medium term or long term as it is constantly rolled over.

D. Unsecured lending is where banks will often lend without formal security. The borrowers are typically large companies. The banks are prepared to rely on the strong financial position of the borrower to repay the debt.

E. Crowdfunding platforms have recently been allowed in Saudi Arabia. These platforms enable businesses to receive funds from many investors.

Section G Private Equity and Venture Capital

1. Most SMEs will use family wealth or conventional bank borrowings. They will also retain profits from past years in the business. Other forms of funding are likely to be far more costly.

2. There are a small percentage of SMEs that are able to obtain funds from alternative sources.

A. They may be start-up businesses. In this case they may not have many assets on their balance sheets. This can mean that secured borrowing is not available.

B. They may be businesses growing very quickly who require a lot of cash. Such businesses may have most of their value in assets of uncertain value. Examples are

(1) computer software being developed by the business;

(2) intangible assets to be bought as part of the purchase of a business.

C. Such assets do not offer enough security for banks and other conventional lenders. This is due to various factors:

(1) The uncertainty as to the value;

(2) The uncertainty as to the ability to sell the asset and realize the proceeds;

(3) The recognition that some intangible assets can reduce in value extremely quickly.

3. Some private equity is provided by individuals. There are also various other private equity entities. In the KSA they will likely be members of the Saudi Venture Capital and Private Equity Association (SVCPEA).[2]

4. In quarter 2 of 2020 there were 63 Saudi, international and regional firms operating in the KSA.

5. There is valuation guidance issued by the International Private Equity Valuation Guidelines (IPEV Guidelines). These relate to the special challenges of valuing many private equity investments. The link to the website is: www.privateequityvaluation.com/valuation-guidelines/4588034291

6. As stated above, a business is worth the present value of future cash flows. For start-up businesses there will be no historic cash flows to use as a reference.

7. Projected growth rates will be very uncertain. The projected profit margins that might be made on sales in the future can also be very uncertain.

8. If projections of future cash flows are prepared, it is possible that positive cash flows may be several years away. It is then very difficult to establish the risk that is present within those cash flows.

9. This means that standard valuation tools are only of limited use when valuing start-up businesses. Venture capital firms will use factors such as their view of the business model and the abilities of the management team. They do this to assess the risk of the cash flows.

[2] SVCPEA was established by a resolution of the Council of Ministers and is based in Riyadh.

Section H Derivative Markets

1. Financial markets are complex. The most common form of ownership is the direct ownership of shares or bonds. There are other investment products that are based on the shares that are publicly traded in the markets. We give a brief summary of some of these derivatives. We then look at them in more detail later.

2. A very simple derivative is what is known as "shorting" the stock. This can be considered as being the opposite of owning the stock. An investor sells stock that he does not own, with the intention of buying it back later at a lower cost.[3] This can be a difficult idea to understand. We therefore look at this in more detail below.

3. An index fund or tracker fund is a common form of investment. Instead of a retail investor having direct investments in all of the companies in a stock market, she can make one investment in a tracker fund. That tracker fund then delivers close to the same return as the underlying companies being tracked.

4. Another common form of derivative is an option. Financial institutions may be prepared to issue options to market participants.

   A. A market participant can buy a call option. This contract gives the market participant the choice to buy the shares in the relevant company at a future date for a predetermined price. A call option is an option to buy the shares at a stated price. The buyer of a call option is not forced to buy the shares. He has a choice.

   B. A put option is an option to sell the shares at a stated price.

5. We look in detail at these derivatives below.

Section I Foreign Exchange Markets

1. There are many different currencies in the world. Transactions in different currencies take place as goods and services flow between countries.

2. As an example, Abdul is an Egyptian national who works in KSA. Each month he sends SAR 1,000 home to his family in Cairo. His family converts the money into Egyptian pounds.

   A. In January SAR 1 equals 4.17 Egyptian pounds.

      (1) Abdul's family receive 4,170 Egyptian pounts.

   B. In February SAR 1 equals 4.34 Egyptian pounds.

[3] Short-selling (or “shorting”) was introduced and allowed in the Tadawul in 2020.

(1) Abdul's family receive 4,340 Egyptian pounds.

3. These are known as "spot" transactions. A spot transaction is one that is made at a moment in time. The rate of exchange is the market rate at that point in time.

4. In addition to these spot transactions, there are forward transactions:

   A. A car importer in KSA buys cars from Germany in Euros. The importer has liabilities for those goods of 4 million Euros. This liability is payable in 30 days.

   B. The importer arranges for his bank to buy the Euros forward. He then knows the cost in SAR terms. The importer has removed the risk of a change in the exchange rate between the Euro and the SAR in that 30 day period.

5. In addition to currency transactions reflecting transfers of value between countries, there are extremely large volumes of trading in various currencies.

   A. The aim of such trading is to make a profit on foreign exchange movements. Such trades are not made in order to settle underlying transactions.

   B. The foreign exchange market is the largest financial market in the world. The trading volumes are some USD$6 trillion to USD$7 trillion per day.

   C. The largest centres for trading in foreign exchange are London, New York, Tokyo and Sydney. The use of these various centres means that trading can take place 24 hours per day.

Section J Commodity Markets

1. There are markets for many different commodities in different financial markets.

   A. Crude oil and various oil products are the most actively traded commodities in the world. The New York-based NYMEX is a large trading centre.

   B. There are markets for trading in various metals. The largest of these markets is the London Metal Exchange. These are mainly the industrial metals.

   C. There are also markets, and stated prices, for precious metals such as gold, silver and platinum.

D. Gold is considered to be a very safe asset: in times of great turmoil in the financial markets, investors may seek the security of gold; the world price of gold (expressed in US dollars an ounce) will likely increase in times of great uncertainty.

E. There are markets for what are known as the soft commodities. The Chicago Mercantile Exchange is a major centre for trading in various agricultural products:

(1) Wheat and barley;

(2) Rice;

(3) Sugar;

(4) Coffee.

2. There are various uses for such commodity markets:

A. the direct purpose of buying the relevant commodities for use;

B. the protection of future prices - producers can sell their products into the markets at future dates for known prices;

(1) a farmer growing wheat in India may decide to sell the crop at the time of harvest in April;

(2) he may alternatively sell it for delivery to the customer in October at an agreed price;

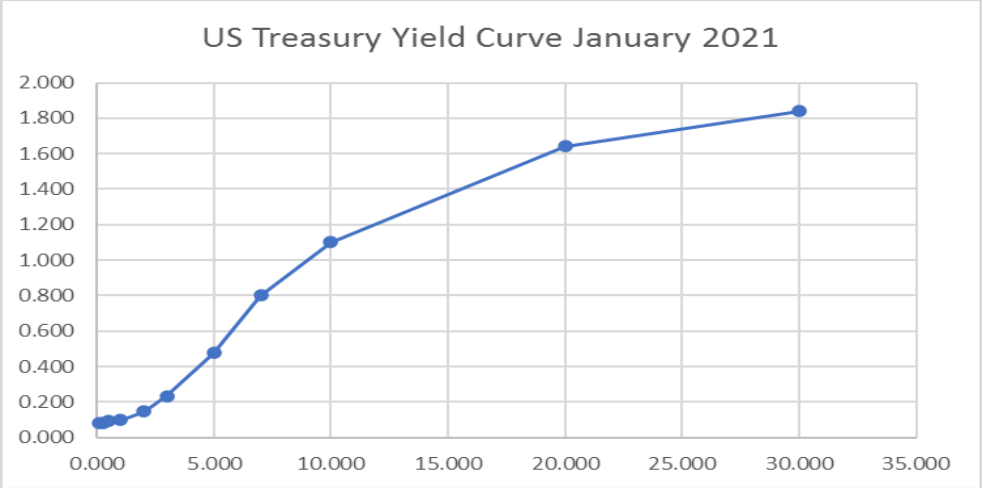
(3) he may alternatively store the wheat. He can then sell it on the market at any time in the 11 months after harvest. He may do this if he considers that the price of wheat will increase following harvest.

C. the protection of future prices - consumers, such as food processing businesses or specialist manufacturers, can buy their products in future for known prices;

D. Trading in the products in anticipation of the prices of the commodities changing over time.

Section K Fundamentals of Fixed Income Instruments

1. We introduced the US Treasury yield curve above.



2. There are yield curves for those currencies that have significant government debt. The yield curve can be drawn if the debt is repayable at a range of set dates in the future.

3. The yield curve has several uses:

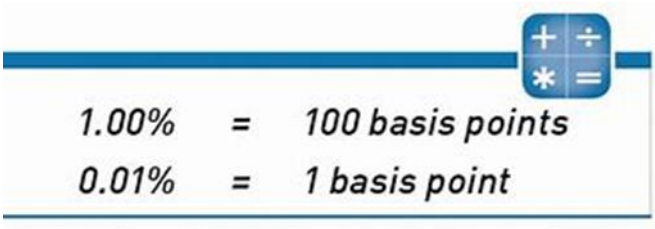
   A. The smoothed yield curve can be used to give expected yields for all periods within the graph. As an example the yield that is anticipated for a period of 9 years is just under 1% a year.

   B. The yield curve gives a picture, in the form of a graph, of the market's expectations of interest rates in the future. The yield curve is therefore used by government agencies as an input into their financial planning.

   C. The yield curve of government debt can be used to give the expected yields on corporate debt.

      (1) If a large profitable corporation has issued debt which is repayable in six years' time and is publicly traded, that debt may trade at a premium of 0.4% over government debt. If it also has some 10 year debt that is not publicly traded, the yield curve can provide a good estimate of the market value of that 10 year debt.

   D. We referred above to a premium of 0.4%. When considering the value of bonds it is conventional to use the term "basis points". Each 1% is broken down into 100 basis points. This means that a premium of 0.4% can be stated to be a premium of 40 basis points. Basis points are commonly known as "bips".



4. A fundamental principle of business valuation is that there is a risk-free investment in each relevant currency. This risk-free investment is lending to the government that is responsible for the control of the relevant currency.

5. Investors lend money to other people apart from central government. The investments are riskier; therefore, the investors require a higher return.

6. The reason why central government in any currency is considered to be risk free is due to the ability of a government to print money in order to meet its obligations. No private corporation, no matter how profitable, can provide that same certainty.

7. It is possible for a corporation to have several different bonds in issue. If that corporation makes significant losses it may not be able to repay all of its obligations. There are various ways that bondholders and other lenders can protect their position. We can consider the way that various forms of debt finance are ranked in the market.

   A. Senior debt is secured lending, normally from a bank. The lending will have the security of the assets on the balance sheet. This will be through a loan agreement. The bank will have some form of security over real estate, other fixed assets, trade receivables and inventories. If the business is not able to repay the senior debt, the bank can take control of the security assets and can enforce payment;

   B. With larger businesses there may be loans that are not secured. This may be because the bank has confidence in the cash flows of the business. There may be a "negative pledge". That is an undertaking that the business will not borrow other amounts that have security over the assets.

   C. With newer businesses that have inadequate security to support the lending, there may be subordinated debt or mezzanine finance. This is borrowing that is not secured and that has far higher interest charges: if the interest charges on the secured lending are at 3% or 4%, the rate of interest on subordinated debt (mezzanine loans) may be 10% or more.

      (1) Mezzanine finance is commonly used in some private equity and venture capital transactions: the provider of the funding may provide some finance in the form of equity and some in the form of mezzanine finance. This may also be called subordinated debt – this is because it ranks behind the senior debt.

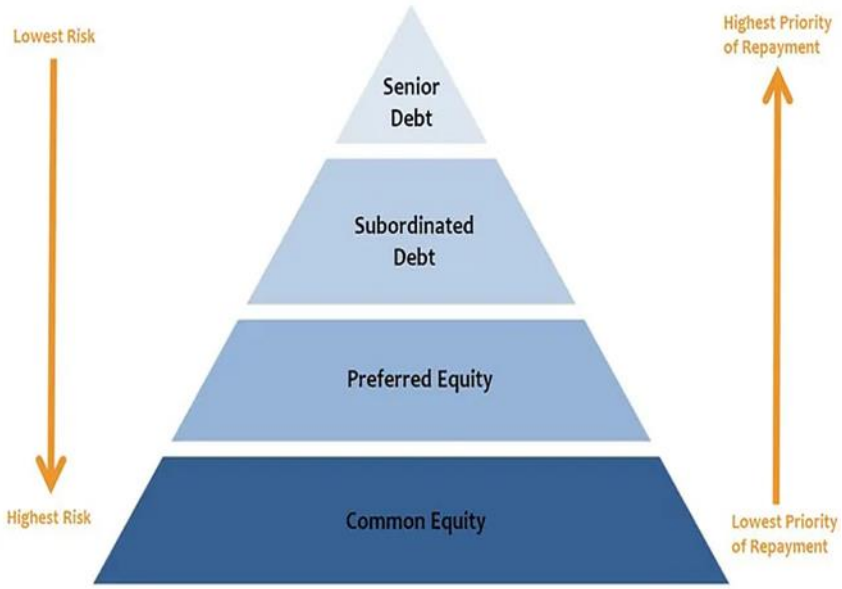
D. If there are several layers of mezzanine loans in place it will be common for there to be agreements as to the order of priority for repayment of such loans.

8. All debt and other liabilities that a business owes to third parties take priority over the repayment of shares in the business.

   A. Preferred stock will normally be paid out before common stock;[4]

   B. Common stock or common equity is the last to be paid out. But common stock normally obtains the whole of any surplus in the company.

9. Here is a representation of the risk and rights of repayment:



Section L Equity Instrument Fundamentals

1. We have been looking at the returns on various forms of debt and the valuation of that debt. We now consider the nature of equity.

2. Equity Financing

   A. This refers to the funds initially put into the business by the business owners. As profits are made, some or all of those profits may be left in the business. These are also part of the equity capital. Equity capital can be thought of as the funds that the business "owes" to the owner. It is important to remember the two components of equity financing:

      (1) The initial sums invested by owners and any further sums that they pay into the company at a later date;

[4] Preferred stock is not yet permitted in KSA.

(2) The profits that the business makes and which it retains.

B. The financial reward for equity capital takes two forms - dividends paid to stockholders and capital growth in the value of the investment.

C. The Taqeem Glossary describes Equity as the owner's interest in a business after deducting all liabilities.

3. We can do a comparison of debt and equity to show the differences:

	Debt	**Equity**
Income return	Interest- amounts that must be paid	Dividends – variable amounts payable at choice of company
Amount of income	Fixed	Variable
Capital	Must be repaid at due date	Not repayable
Capital growth	No	Possible and expected
Security	May be secured	Not secured

4. The most common types of equity securities are known as common stock or ordinary shares. There are however endless variations in the rights of different classes of stock:

A. Some stock may have voting rights and some may be non-voting;

B. There may be different rights to dividends;

(1) Some preferred stock may have a fixed dividend of say 5% a year. Under International Financial Reporting Standards the stock is treated for accounting purposes only as a form of debt. Although it takes the form of a share in the company for legal purposes, its economic benefits are similar to debt;

(2) Some preferred stock may have a fixed first dividend. The stock may then be entitled to participate in any further dividends that are paid. Such participating preferred stock may be classed as either debt or equity for financial reporting purposes. This will depend upon the precise rights in each case.

C. Preferred stock, as described above, may rank ahead of common stock if the company is closed down. In such a case it may be entitled only to repayment of face value per share. Alternatively it may participate in any surplus.

5. A company will receive its initial equity before it begins to trade. If it trades profitably and leaves some or all of the profits in the company, this will increase the amount of equity. It is very possible that the company needs further funding at a later stage: this may be to fund internal growth; it may be to finance an acquisition.

   A. Many start-up high-tech businesses are not able to raise all of the equity capital required at the start of trading. Investor confidence may be increased if the business succeeds in developing its activities in accordance with a business plan. This may then lead to further equity funding being obtained.

6. As we have seen from the information above, equity is far less certain than debt. There is more risk with equity than there is with debt:

   A. Dividends are only payable if the company decides to pay them;

   B. Equity is unsecured and ranks after all other claims on the assets of the company;

   C. There are no fixed dates for repayment of the funds invested;

   D. However there is the prospect of growth in the value of equity.

      (1) Growth in the value of debt only occurs if the debt is fixed interest and if interest rates fall.

7. An equity share represents a percentage interest in a business. If the business makes profits, some dividends may be paid out to stockholders. The remaining profits are retained in the business.

   A. All else being equal a company should increase in value. That increase in value should partly be the result of the profits that have been left in the business in order for it to grow. That increase in value should be realized when the shares are sold to another Market Participant.

Section M The Relevance of Growth to Business Interests

1. Most businesses and business interests are deemed to continue into the future. There is normally no known date when they will cease.

2. The neutral assumption to make for most businesses (but not all) is that they will increase their profits and cash flows over the long-term. This is due to inflation in the economy. There may also be growth as a result of increases in the size of the economy in which it operates.

3. We can consider this in the context of various companies:

   A. A small restaurant business may be expected to continue to operate at a constant level in terms of meals provided each week. If there is local inflation of 2%, the valuer would normally anticipate that the sales and costs would all increase in line with inflation at that rate.

      (1) Businesses deal with uncertainties. It is not certain that the number of meals served will remain the same; it is not certain that prices will increase in line with inflation. The reason why those two assumptions are made are that those are the two best assumptions that can be made on the information available.

   B. A new start-up will be expected to reach the stage of revenue generation. If the software is successful there is likely to be a period of very high rates of growth. However, at some stage the growth will start to revert to the growth in the economy in which it operates. No business can increase in size at a faster rate than the economy over the longer term:

      (1) If it grew at a faster rate than the economy for ever it would, over the long term, absorb the whole economy.

   C. A business that has ceased and is at the asset realization stage is one of the exceptions to this general rule. There are no continuing cash flows to project into the future.

   D. A public water company will normally anticipate that its charges will increase with inflation. It will also normally anticipate that water usage will increase in line with population growth.

4. As there is a general assumption of a growth in cash flows that relate to equity investments, we need to be aware of the prospect of growth when comparing a bond with equity stock.

   A. This is another fundamental point regarding valuation. We will address this further during this course.

Section N Invested Capital

1. A business uses invested capital to provide the funds for the business. There are various types of invested capital. We will consider the two main sources:

   A. Equity Financing

      (1) Refers to funds provided by stockholders; and

      (2) profits retained in the business.

   B. Debt Financing

      (1) refers to the funds borrowed from various lenders – governmental funds, banks and other financial institutions. Interest is payable to those lenders on the funds borrowed and the lenders also require repayment of those funds.

      (2) The financial reward for lenders is interest payable on the borrowed funds.

         (a) The interest on the borrowed funds represents the return on the investment;

         (b) The loan repayment represents the return of the investment.

      (3) The Glossary explains that in business valuation Debt conventionally relates to interest-bearing Debt or long-term Interest-Bearing Debt.

2. The combination of Equity and Debt is known as the Capital Structure. The Taqeem Glossary defines Capital Structure as the composition of the Equity financing and the Debt financing of a business.

3. The Capital Structure of Equity and Debt funds the operating net assets of the business. These operating net assets comprise:

   A. The fixed assets – machinery, vehicles, equipment, intangible assets;

   B. The working capital – the inventories and trade receivables less the trade payables and other payables apart from Debt

4. Debt financing is normally a lower risk form of funding. This is for the reasons already given. As it is lower risk:

   A. The interest rate is relatively low;

   B. This rate is set by the market;

   C. The rate set by the market for equities is higher.

D. The lower cost of Debt or loan capital is then reduced further. Interest on Debt is an expense in the income statement of businesses. As it is an expense, it reduces taxable profits in most countries. There is no such deduction for equity dividends.

5. Because of the above advantages, the market normally requires a far lower return on debt financing than on equity financing. As an example, the interest rate on debt may be 4%. If the rate of corporation tax is 25%, then the cost of debt, after taxation is 3% (4% x (1 - 0.25)). The cost of equity may be 17%. This is due to the greater risks and uncertainties of equity financing.

6. We have addressed two major advantages of Debt financing above:

   A. A lower cost of capital than equity;

   B. A deduction in taxable profits in respect of interest expense.

7. There are however some major disadvantages with too much Debt in the Capital Structure:

   A. Interest has to be paid on Debt financing in good times and bad times. Dividends on Equity can be reduced or stopped if trading conditions are difficult;

   B. If there is too much Debt in the Capital Structure, the cost of Debt will start to increase: lenders will be more concerned about the risks involved in the Capital Structure and may decide to charge higher rates of interest.

8. The relationship between Debt and Equity financing in the Capital Structure is known as leverage. This is a concept that we will return to during this course.

9. We have shown below two different capital structures: in the one on the left the debt is 25% of the equity. On the right, the debt is four times the equity. In both cases the Assets comprise the fixed assets and the working capital.

Section O Derivative Instruments

1. For shares that are traded in public markets, there are various other securities created and traded that relate to the value of those shares. These are known as derivatives. The reason for this term is that they derive from other securities.

2. A very simple form of derivative contract is what is called "selling short" or "shorting" the stock.

   A. Ibrahim considers that the shares of D JSC are over-priced. He borrows 1,000 shares from a stockholder, for a fee, and sells them in the market. Two weeks later he buys the shares in the market and returns them to the stockholder. If the price has fallen he has made a profit. If the price has increased he has made a loss.

      (1) Shorting has been seen by some as creating disruption in the market. In times of sharp market falls shorting has been blamed by some commentators as making a bad situation worse.

      (2) Other market commentators state that shorting brings added liquidity to a market and that this is part of ensuring that a market remains efficient.

   B. We can consider the potential positive effects of shorting by considering the case of Chipotle Mexican Grills Inc. This is a USA public company that was originally within the McDonalds group.

      (1) Chipotle had two classes of shares:

         (a) The A shares had one vote per share;

         (b) The B shares had ten votes per share.[5]

      (2) Apart from the differing voting rights, the shares were identical in every way.

[5] It is recognized that only one class of shares is currently permitted in the Kingdom.

(3) The normal expectation is that the B shares would trade at a small premium of 1% or 2% or so above the price of the A shares. (As the B shares had more votes per share.)

(a) In fact, the A shares traded at a price that was above the price of the B shares.

- This may have been caused by confusion amongst investors as to the relative rights of the two classes;

(b) The efficiency of the market in this case would have been increased if investors bought the B shares and shorted the same number of A shares;

(c) If investors had done this, they would have been protected from price rises and falls in the value of the company. Their only interest would have been in the relative value of the two classes of shares.

3. In the case of Chipotle Mexican Grills, the A shares and B shares were identical in every way except:

   A. There were differences in voting rights

   B. They were trading at different prices.

4. If an investor bought 100 B shares and sold 100 A shares by shorting the stock (that is borrowing the stock from an A shareholder) he had a perfect hedge:

   A. Higher profits or lower profits made by Chipotle should have the same effect on the A shares and the B shares;

   B. Any reasonable expectation would be that the B shares would change in price to become worth slightly more than the A shares.

   C. This would happen as soon as the market realized that the pricing was wrong.

5. It is unusual to have a perfect hedge with two extremely similar instruments at different market prices.

6. A derivative that is designed to act as a hedge is an option on shares in public companies. An option is a contract between the financial institution selling the option and a market participant.

   A. A call option gives the option holder the choice to buy shares in a particular public company at a stated price at some point in the future;

   B. A put option gives the option holder the choice to sell shares in a particular public company at a stated price at some point in the future.

C. A European option can be exercised at one particular date in the future.

(1) A European call option on 1,000 shares in E JSC for a period of 6 months means that the option holder can choose to buy the shares at a price of say SAR 50 on a particular date 6 months after the purchase of the option;

D. An American option can be exercised at any point between the date of purchase and an end date. An American option therefore offers greater flexibility than a European option;

(1) Continuing the above example of E JSC, the holder of an American option can choose to buy the shares at any time within the 6 months between the date of purchase and the end date;

E. An Asian option is an option in which the share price is calculated as the average of the share prices over the length of the option contract.

7. This means that the purchaser of the option is not forced to transact in the future. If the share price changes sufficiently the option will be exercised. If not, the option will not be exercised; it ceases to have any value.

8. We will use a simple example. We will continue with the earlier case of B JSC. As a reminder, in Example 1.1 the shares were trading at SAR 25 a share.

9. A financial institution sells a call option to Jawad, over 1,000 shares in B JSC for a period of one year. The cost that Jawad pays for the option is SAR 1.10 per share. Jawad therefore pays the financial institution SAR 1,100 for the call option.

A. The option gives Jawad the choice to buy 1,000 shares in B JSC at a price of SAR 27 in one year's time.

B. If the price is greater than SAR 27 Jawad will exercise the option. This means that he will require the financial institution to sell him 1,000 shares in B JSC for SAR 27,000.

C. Jawad only gains if the share price has increased above SAR 28.10. If the share price has increased to SAR 29, Jawad will make a profit of SAR 0.90 per share.

(1) This is because his payments are SAR 1.10 per share for the option and SAR 27 for the price to exercise the option. He receives shares worth SAR 29, so his profit is SAR 0.90 per share.

D. If the price is SAR 27 or less Jawad will not exercise the option. He will have lost SAR 1.10 per share, that is the price that he paid to buy the option. The option has no value.

E. If the price is SAR 27.01 or more he will exercise the option. If the price is SAR 27.50, Jawad will make a profit of SAR 500 on the shares. The option cost him SAR 1,100 so he will have lost SAR 600 in total.

F. Example 1.3

(1) In the above example what are the events that happen if the price of the shares in one year's time is SAR 28 and what is the profit or loss to Jawad?

(2) Tariq bought a 6 months' put option over 1,000 shares in B JSC. At that time the price of the shares was SAR 26. The put option has an exercise price of SAR 25 and the cost per share of the option was SAR 0.30. The price of the shares of B JSC was SAR 24.20 6 months later. What are the events and what is the profit or loss to Tariq?

10. The inputs into the valuation of an option contract are:

A. The current share price - in the example of B JSC above that is SAR 25 per share;

B. The strike price - this is the price payable on the exercise of the option. In the example above the strike price is SAR 27.

(1) The higher the strike price is above the current share price, the lower the cost of a call option;

(2) The higher the strike price is above the current share price, the higher the cost of the put option;

C. Volatility. This is the extent to which a share price increases and decreases in value due to market forces.

D. The risk free rate - as addressed above.

E. The time period expressed in years. The option above has a time period of 1 year. An option for three months would have a time period value of 0.25 years.

F. The rate of dividend being paid.

11. There is a saying in the financial markets that "there is no such thing as a free lunch". What this means is that it should not be possible, in efficient markets, to make a risk-free gain.

A. If the risk has been completely removed by hedging in some form, the investor should only make a return at the risk-free rate.

12. Therefore, hedging can be used to reduce risk; if it is used to remove risk entirely, economic theory states that there should be no return over the risk free rate.

13. Continuing the example above, of Jawad:

A. He bought 1,000 shares in B JSC at SAR 25 per share;

B. On the same date he entered into a put option to sell the shares for SAR one year later for SAR 27;

C. It appears as if Jawad has created a guaranteed profit:

(1) if the share price is below SAR 27 in one year's time he can exercise the put option and sell the shares and make a profit of SAR 2 per share;

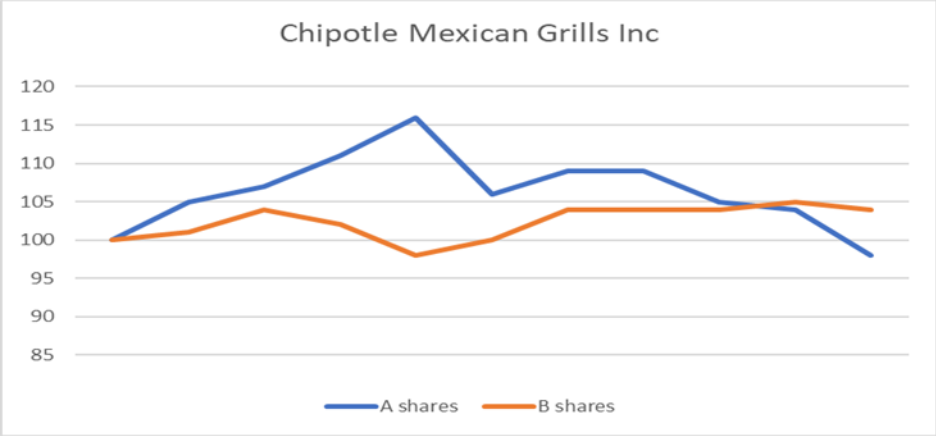
(2) if the share price is above SAR 27 in one year's time he can sell the shares at that higher price and not exercise the put option.

D. The working of perfectly efficient markets would mean that the cost of the option would be such that Jawad only made a return at the risk free rate. The pricing of options in the market place results in the above outcome.

14. We looked at the case of Chipotle Mexican Grills Inc above. In that case the markets were not efficient. There was the potential for a market participant to make a gain through the process of what is called arbitrage. This is the term used for making profits from pricing inconsistencies in the markets.

A. John Maynard Keynes was a very famous economist in the 1920's. He made a very well known statement: "the markets can remain irrational longer than you can remain solvent".

B. We can see the truth of that statement by seeing what happened to the price of the A shares and B shares in Chipotle Mexican Grills as illustrated below:



C. Instead of the A shares reducing in value, they continued to increase in value. The gap between the value of the A shares and the B shares got bigger and bigger.

D. An investor seeking to make an arbitrage gain on the A and B shares in Chipotle would have required two things:

(1) Patience;

(2) Strong nerves.

E. This is because for a period of over a year the premium of the A shares over the B shares kept increasing. The potential loss for the investor kept increasing.

15. Although the Chipotle example is a most unusual one, there are market participants who engage in arbitrage on a regular basis.

A. Such market participants will look for very small differences in the pricing of financial instruments. They will then seek to profit from these differences.

16. Hedge funds are funds that have three attributes:

A. They reduce risk by hedging;

B. They borrow funds in order to increase market exposure;

C. They charge very high fees.

17. Hedge funds have many different trading styles: their offering to investors is to provide absolute returns, regardless of the state of the equity and bond markets. One of their techniques for achieving this is by arbitrage, identifying small pricing differences and exploiting them.

18. In the last three to four years they have not been delivering good returns to shareholders and they have fallen out of favor with some investors.

Section P Are Markets Efficient?

1. The term "efficient markets" is used to describe markets that allocate capital most efficiently. This is achieved if the assets being traded in the market are correctly priced.

2. The efficient markets hypothesis is a theory that states that all securities are fairly priced. The price reflects all of the information available in the market.

3. The strongest evidence that the world's stock markets are generally efficient is given by the performance of fund managers. These managers invest funds in the stock markets on behalf of clients.

   A. Discretionary fund managers receive funds from wealthy individuals and other entities wishing to invest funds.

      (1) The discretionary fund managers choose which investments in the market are best suited to their clients;

      (2) They seek the investments that they consider are under-priced by the market. They sell them when they consider that they are over-priced.

      (3) They therefore aim to use their investment expertise in order to generate higher returns for their clients.

4. Despite this aim the evidence shows that most fund managers under-perform the market.

   A. The 20% who outperform the market in one year are likely to underperform the market in the following year.

   B. This suggests that it may have been just luck that led to their over-performance: they invested heavily into a particular market sector that over-performed in that year.

5. This illustrates how difficult it can be to have better information than the information that is available in the market.

6. Although there are occasions when the stock market does not price shares correctly, as we saw above in the Chipotle Mexican Grills Inc. example, most of the time the markets are efficient.

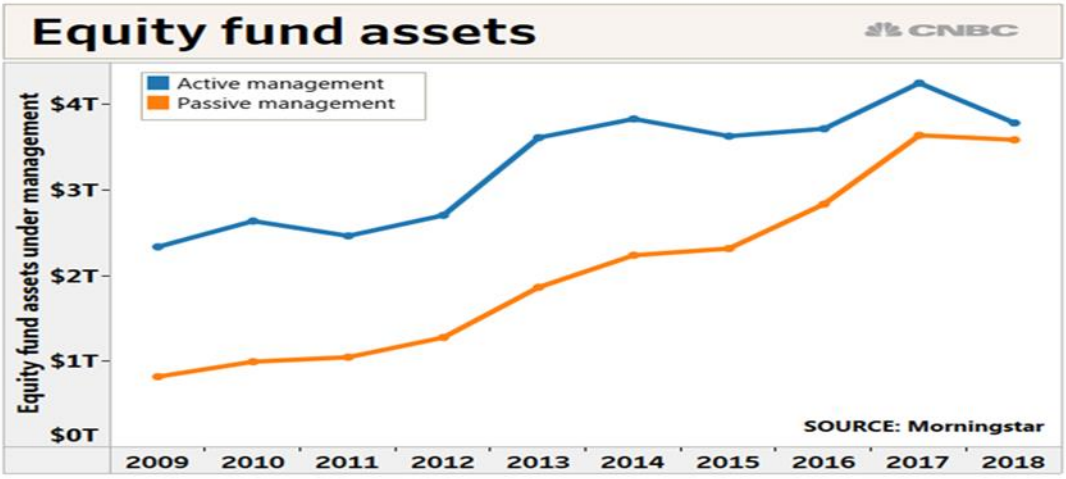
7. The challenges faced by the discretionary fund management sector are shown below:

8. Due to this factor, there are now two types of investment into the stock markets:

   A. Active fund management is undertaken by discretionary fund managers who select individual companies in which to invest: they will decide that particular sectors and particular companies are relatively underpriced; they will make active decisions to invest in those companies. If they consider that the stocks become overpriced, they will sell.

   B. Passive investments are funds that invest in all companies in a particular index, in accordance with the relative size of those companies. These are otherwise known as index funds or tracker funds.

9. You will see from the graph below that passive funds have been taking a larger share of the funds invested in the USA markets over the ten years to 2018.



Section Q Passive Funds, Index Funds or Tracker Funds

1. Such funds are used to invest into the stock markets, but without the costs involved in discretionary fund management.

2. As it has become increasingly difficult for discretionary fund managers to add value by what is called active investment, tracker funds have increased in popularity.

3. The difficulty in beating the market increases as the market is more liquid and the companies more fully researched.

4. Such index funds will give investors a return equivalent to a return on an Index.

   A. Two well-known indexes are the S&P 500 in the USA and the FTSE 100 in the UK. The S&P 500 index provides an overall index of the value of the 500 largest public companies in the USA. The index is weighted according to the relative size of those 500 companies. The largest company will have a weighting that is far greater than the smallest company in the index.

   B. Investors in such an index or tracker fund will receive a return that is extremely close to the total return of the 500 companies in the index.

      (1) There will be some slight differences called tracking error. This will relate to the costs of managing the fund less other income received.

         (a) Some of the other income will be received from lending stock to short sellers.

   C. Some of these funds are "real" funds, as the amounts paid by investors are used to buy the stocks in the 500 companies in proportion to their size;

   D. Some of these funds are known as "synthetic" funds: the assets in the fund are not the stocks in the 500 companies; a large financial institution has received the investors' funds and has contracted to deliver the same return as the S&P 500 to investors.

5. It is possible to beat the markets if there is privileged information that is not available to all market participants.

   A. We will imagine an oil company prospecting off the coast of West Africa. There is great uncertainty as to the chance of success and this affects the price at which the shares are traded;

   B. The main board directors are given highly confidential information that the company has succeeded in locating a large oilfield.

   C. Those directors know that this information will lead to a large increase in the value of the shares in the company as soon as it is announced to the market.

D. This is known as insider information; if any of the directors decide to buy shares before the market announcement, this would be insider trading.

E. In many countries of the world insider trading is a criminal offence.

F. Example 1.4

(1) A specialist in the gold market is aware of the growing Covid pandemic in January and February 2020. He considers that gold prices will rise as investors sell riskier assets. Is this insider trading?

(2) A partner in a large firm of Accountants works on initial public offerings for clients in the USA. He discusses this information with his wife, Annie. His wife tells her sister, Fiona, who is based in the UK. Fiona uses the information in her share dealing. Is this insider trading?

Section R Futures Contracts

1. Such contracts are very common in the commodity markets.

A. A farmer who grows wheat wants certainty as to the price per tonne that he will be paid;

(1) He will harvest the crop in August. In the previous February he sold the wheat on a forward contract for September delivery at a price of USD$250 per tonne.

B. A large flour producer agrees a contract to supply a large baker with flour for a period of a year at set prices.

(1) In order to have certainty as to the price of the wheat that will be milled into flour, the miller contracts to buy the wheat forward with delivery over the next 12 months.

2. In addition to the producers and end users of the commodity, there will be other market participants who will trade in wheat futures without any wheat changing hands between them:

A. Contracts will be signed for the sale of 1,000 tonnes of wheat in 6 months' time at USD$260 per tonne;

(1) If the price on the spot market at that date is USD$250 per tonne, the buyer will buy on the spot market if they wish to purchase the grain; the forward contract will be closed by the buyer paying the seller USD$10,000 (USD$10 per tonne);

(2) If the price was USD$270 per tonne on the spot market at the delivery date, the seller will pay the buyer USD$10,000 (USD$10 per tonne) in order to close the contract.

Section S Pricing in the Equity Markets

1. The main valuation metric that is monitored and published in the equity markets is the P/E ratio.

2. The P/E ratio (P/E ratio) states the price of a share by reference to the net income after tax made in the latest 12 months.

3. We will use the example of E JSC.

   A. Its net income after tax ("NIAT") for the last 12 months is SAR 200 million.

   B. There are 50 million shares issued to stockholders.

   C. The net income after tax, also known as earnings, are therefore SAR 4 per share.

   D. The price of the shares on the market is SAR 68. The P/E ratio or P/E ratio is therefore 68/4 = 17. This is normally written as 17x to show that it is a multiplier.

   E. Example 1.5

   (1) F JSC has 5 million shares in issue and earnings of SAR 5 per share. The P/E ratio is 15x. What is the price per share?

   (2) G JSC has net income after tax of SAR 2,000,000. The P/E ratio is 14x. What is the market capitalisation?

   (3) H JSC has a market capitalisation of SAR 40,000,000. There are 800,000 shares in issue. The P/E ratio is 12.5x. What is the value of each share and what are the earnings per share?

4. The P/E ratio expresses the price of each share as a multiple of the latest earnings per share.

   A. This is a very simple and unsophisticated measure. Any business is a very complex entity with a wide variety of assets; it may have several different income streams.

   B. Therefore any valuation metric that tries to express value as a single number must be used carefully. It is important to understand what lies behind each company. It is then easier to understand why the market values different companies at different P/E ratios.

(1) Company A has net income after tax of SAR 5 million. It trades on a P/E ratio of 17x.

(2) Company B also has net income after tax of SAR 5 million. It trades on a P/E ratio of 13x.

(3) You review the financial statements of the two companies. Company A has surplus cash on its balance sheet of SAR 20 million. There is no surplus cash in Company B.

(4) The higher P/E ratio of Company A is caused almost entirely by the surplus cash of SAR 20 million.

5. Analysts research public companies on the stock markets of the world; the larger the company, the greater the number of analysts. They will be looking at the companies in great detail.

6. Analysts publish research papers that give projections of future earnings. These research papers are part of the information on which market participants make investment decisions.

7. We will look at two UK companies, both of which are advertising agencies, namely S4C plc and WPP plc.

   A. WPP is the largest advertising agency in the world. Its shares were trading on a P/E ratio of 9x in 2020. It has a very large client list and it provides traditional print and other media advertising services.

   B. S4C was set up in 2018. It has been growing very rapidly: in the second half of 2020 its share price doubled. It was trading on a P/E ratio of 64x at the end of 2020.

   C. The profits of WPP have been falling: the heritage business, based on traditional print and other media, is having to change. More of the current advertising expenditure in the market is focused on the internet and the analysis of data. The process of change of the business model will be costly and will take some years to achieve.

   D. S4C has started without any heritage business. It has made a series of large acquisitions, each of which is focused on the world of digital advertising and data analysis. The Covid 19 epidemic speeded up the rate of change from traditional to digital media. The analysts consider that its profits will increase dramatically in the future.

8. The above example shows how valuing shares by reference solely to their latest 12 months' profits and the P/E ratio has to be treated with very considerable caution.

9. It is also important to understand the nature of the P/E ratio that is being used:

A. If a company has a P/E ratio of 15x on the latest 12 months' earnings, that may be a P/E ratio of 14x on next year's earnings and 13x on the average earnings expected over the next 3 years.

B. When undertaking business valuation work it is important to make sure that the valuation measure being applied is consistent with the source of that measure.

10. Another commonly used valuation metric in the financial press is the dividend yield. The values of some companies are described by reference to their dividends as well as by reference to their past net income after tax.

A. If we continue with the example of G JSC (from Example 1.5 above), we will assume that it had 1,600,000 shares in issue and that it paid a dividend of SAR 800,000.

(1) The earnings per share were therefore SAR 1.25 (Net income after tax of SAR 2,000,000 divided by 1,600,000).

(2) The value per share was SAR 17.50 (SAR 1.25 times 14.0x)

(3) The dividend per share was SAR 0.50 (SAR 800,000 divided by 1,600,000 shares).

(4) The dividend yield was 2.86% (SAR 0.50 divided by SAR 17.50).

B. This is just an alternative means of describing the same value of G JSC.

C. In order to relate the P/E ratio to the dividend yield it is necessary to know the dividend cover.

(1) The dividend cover states how many times the dividend could be paid from the net income after tax.

(2) The dividend cover was 2.5 times (SAR 1.25 divided by SAR 0.50).

D. Companies in different sectors have different levels of dividend cover:

(1) a real estate investment trust will have a dividend cover of close to 1.0. This means that substantially all of the net income after tax is paid out in dividends.

(2) A company experiencing very high rates of growth will need to retain most of its cash to help to fund that expansion. Its dividend cover may be very low or there may be no dividend payments.

Section T Value Stocks and Growth Stocks

1. "Value stocks" is a term used to describe stocks in companies that have:
   A. Relatively high tangible net asset backing;
   B. Strong cash flows;
   C. High dividends due to modest reinvestment in the business.
2. Oil companies and banks are two examples of value stocks.
3. "Growth stocks" is a term used to describe stocks in companies that have:
   A. Relatively low tangible net asset backing;
   B. Relatively weak cash flows;
   C. Low dividends or no dividends as the cash is being reinvested in the growth in the business.
4. Many technology companies at an early stage of development are growth stocks.
5. Value stocks and growth stocks will perform differently in different phases of the economic cycle and in different market conditions.

Section U Investment Banking

1. Investment banks carry out a number of different roles in the financial markets.
   A. They provide loans to large entities;
   B. They are financial advisors to large corporations;
   C. They advise companies that seek to have their shares traded in the public market;
      (1) These are called Initial Public Offerings or IPOs;
         (a) An IPO will normally involve the ability to trade existing shares in the market and also the issue of new shares in order to raise further finance for the company;
      (2) They advise on the launch price;
         (a) They may underwrite an issue of new shares;
         (b) This involves buying any shares that are not bought by other market participants;

(c) Underwriters charge a fee for agreeing to buy shares that are not bought by other market participants.

D. They identify investors for share placings.

(1) Share placings are large blocks of shares that are transacted;

(a) If a company has bought another company and has issued shares to the sellers, those sellers may wish to realize cash by selling some or all of their shares;

(b) This is done by a placing, if the block is of too large a size to transact in the normal markets;

(c) Alternatively there may be regulatory reasons why shares are not issued to the open market.

E. They advise on corporate sales and acquisitions;

(1) If a company wishes to buy another company they may assist with the negotiating of the transaction;

(2) They may also arrange the financing of the transaction.

2. One of the areas of specialism of investment banks is a detailed knowledge of the regulatory requirements of the public company markets in their home territories.

3. The largest and best-known investment banks are:

A. JP Morgan, Goldman Sachs, Citigroup, Morgan Stanley, Deutsche Bank, Barclays and UBS.

4. There are many occasions in the world of investment banking when business valuation skills are required:

A. If a public company is planning growth by acquisition it will take advice from its investment bankers on the price that should be paid;

B. If the acquisition is of another public company it is likely that the price offered will need to exceed the prevailing market price by some 30% or 40%.

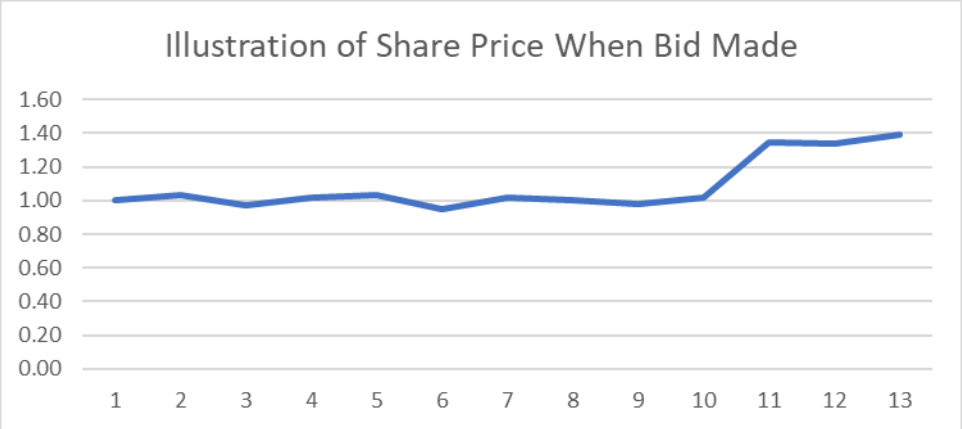
(1) It is likely that this level of acquisition premium will be payable to gain the support of a sufficient percentage (normally 90%) of the existing stockholders.

(2) Approximately 90% to 92% of takeovers of public companies involve the payment of some sort of acquisition premium over the previous market price.

(3) The graph below illustrates the possible movements in the price of the stock of a public company when a bid is made.

C. When an acquisition of a private company by a public company is planned, the investment bankers will advise on the offer price.

(1) The public company will obtain an independent "Fairness Opinion" from a suitably experienced Taqeem-licensed firm. This is part of good governance of public companies.



D. If an initial public offering or IPO is being planned, the investment banks will monitor the prices at which the stock of companies which are similar to the company are being traded.

(1) As the issue will normally be underwritten, the price at the IPO launch date will need to be agreed between various parties. This will require a close monitoring of market prices by the investment banks.

Section V Capital Markets Behavior in Crises

1. Capital markets are generally efficient in terms of allocating capital to the right entities. However, there can be failings in that capital allocation. Markets can also respond in strange ways in times of financial crisis.

2. One of the reasons for bubbles developing is due to the nature of investment assets:

A. It is a feature of financial instruments and some other asset classes that they are prone to bubbles developing.

(1) One of the earliest recorded asset- pricing bubbles was the tulip bulb bubble in the Netherlands in the seventeenth century. At the height of the bubble the rarest bulbs traded for as much as six times average annual earnings.

B. With normal consumer goods the customer is attracted by a low price. The normal economic forces of supply and demand work as expected:

(1) An increase in the price of a product will reduce demand;

(2) This will lead to an increase in supply;

(3) A reduction in the price will increase demand;

(4) This will lead to a reduction in supply.

C. With financial assets the normal economic balances as given above do not apply:

(1) A reduction in price does not lead to more demand;

(2) An increase in price leads to more demand.

D. This can lead to what is called herd behaviour: investors are more likely to be attracted to invest in assets that are increasing in value. As prices rise there is a risk that the demand will increase and that will increase the price still further.

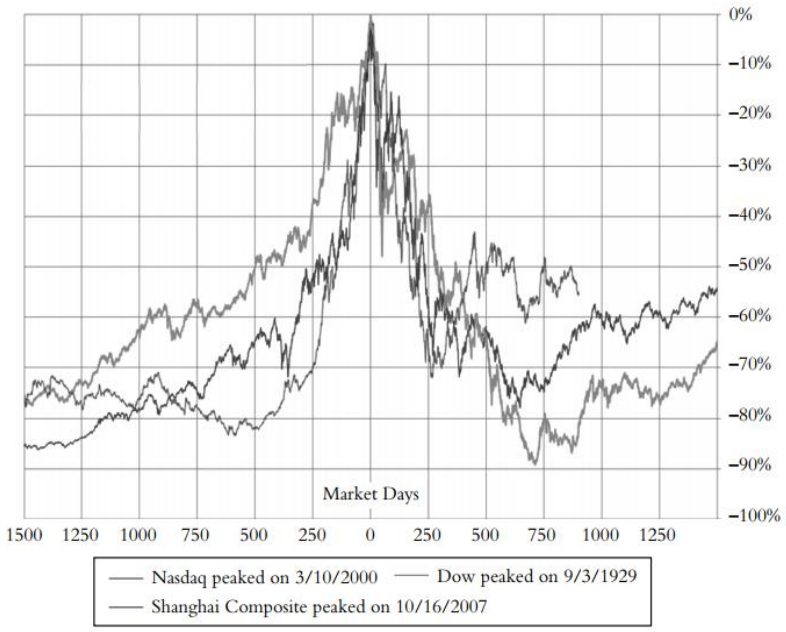
E. Below are three graphs:

(1) the USA Dow Jones index that peaked on September 3, 1929;

(2) the USA NASDAQ index that peaked on March 10, 2000;

(3) the Chinese Shanghai Composite Index that peaked on October 16, 2007.

F. You will see that the shape of those three stock market bubbles were very similar.



G. The relationship of the price to the valuation fundamentals no longer applies. It is now herd behaviour that pushes the price even higher.

H. Increasing numbers of market participants then realize that the prices cannot be sustained. The bubble bursts and the prices fall rapidly.

3. We will start with the run up to the year 2000 and what became called the dot.com bubble.

   A. In the period from 1995 to 2001 it was believed that a new economy was being developed, based almost entirely on the internet. It was believed that businesses in the old economy would suffer in the future as more and more business was undertaken on-line.

   B. This meant that many companies based on internet trading became valued very highly in the markets;

      (1) Many of these companies were loss-making or were making only very small profits;

      (2) This meant that different valuation metrics were devised: these were based on non-financial metrics such as the number of subscribers or the amount of internet traffic on the relevant websites;

      (3) These valuation metrics had little connection with the fundamentals such as cash flows.

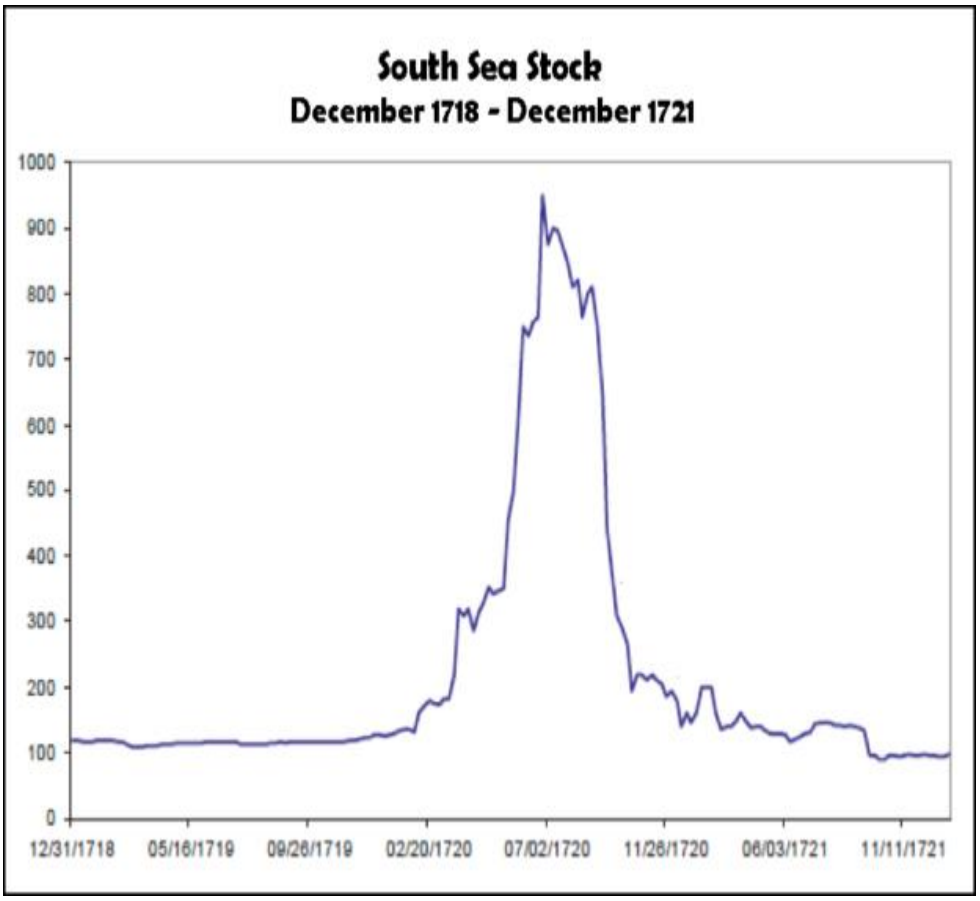
   C. The belief in internet companies was very strong in the USA. However it affected many other stock markets at the same time.

D. The graph above shows the Nasdaq Index in the relevant period: the scale of the increase in prices and the size of the fall can be seen on this graph.

E. The Dot.com boom was based on a rational view that the internet would change economies very considerably. It predicted, correctly, that retail and other activity would move increasingly on-line. That rational outlook was pushed beyond realistic limits and led to the creation of the bubble.

4. An earlier bubble occurred in England in 1719 to 1721. The South Sea Bubble was probably the first stock market bubble. It related to a company set up with a monopoly on the trade between England and South America.

   A. Here is the graph.



   B. As can be seen, bubbles in the stock markets are nothing new.

5. The 2008 financial crisis was a crisis with its origins in the banking sector.

   A. Many banks throughout the world operated with relatively small amounts of stockholders' equity and large amounts of debt.

B. This meant that only modest losses on the assets of the banks would be greater than the stockholders' funds and the banks would be insolvent.

C. At the same time, financial institutions were making loans on residential properties in the USA. These loans were then sold on to other financial institutions.

D. Some of these financial institutions then divided the loans into new financial products called collateralized debt obligations (CDOs).

(1) A single mortgage would be sliced into assets of different quality, with different priorities as to repayment;

(2) The interest rate on the part of the mortgage ranking first for repayment was lower than those with a lower ranking;

(3) These products were then sold throughout the world's banking system.

(4) One of the great uncertainties of the 2008 financial crisis was that there was uncertainty as to where within the financial system the risks were held.

E. The combination of repackaging of poor quality loans with a banking system operating with insufficient equity led to the near collapse of the North American and European banking systems.

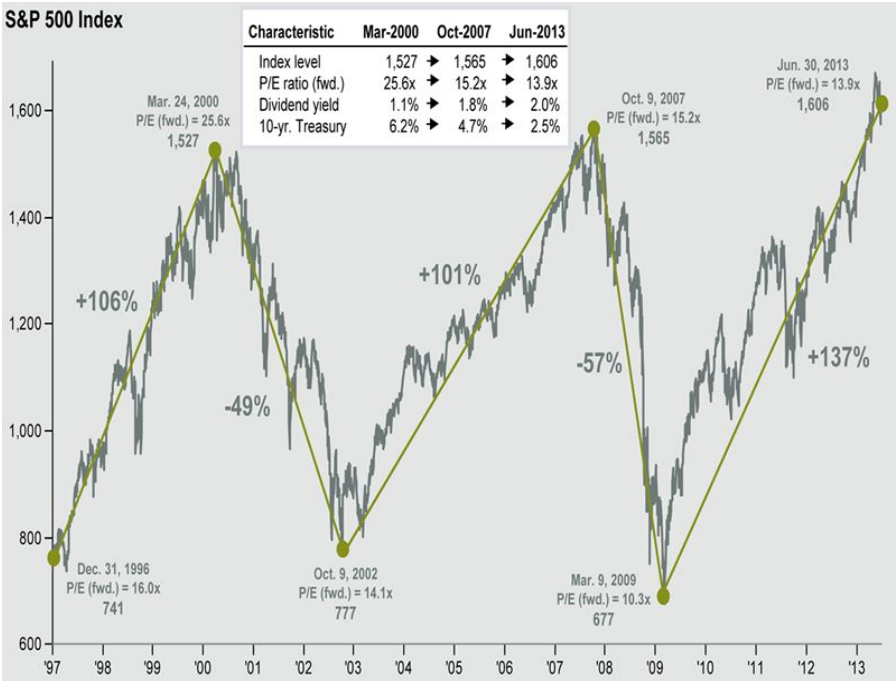
F. The amounts that banks had lent to one another and borrowed from one another meant that the risks could not be isolated: the collapse of one bank would have the effect of causing insolvency in others.

G. Share prices fell sharply due to the financial uncertainties created. This put further pressures on the balance sheets of many financial institutions such as some insurance companies.

H. These concerns led to significant government action: the financial markets were flooded with liquidity; the base rates of the main central banks were reduced to the lowest levels in history. Governments gave direct support to the most vulnerable banks. This helped to protect the financial system.

I. There was a steady rebound in the values of equities in the markets. Investors who put money in the markets in 2010 enjoyed very good compound returns for the next 10 years.

J. The extent of the market changes in the period from 1997 to 2013 are shown in the graph below:



6. The Covid 19 pandemic has been very different to other financial crises. As major economies went into lockdown, economic activity plummeted. Stock prices fell very sharply in mid-March 2020, with some slight recovery by the end of the month. Despite the continuing reduced levels of economic activity, the world stock markets have remained surprisingly resilient. The recovery in values by the end of 2020 is not consistent with the reductions in the levels of trade.

   A. There are various reason for this:

      (1) One of the reasons is that markets look forward to future trading and future profits rather than past results.

   B. There has been unprecedented intervention by governments throughout the world in response to the lockdowns. These actions have included:

      (1) Employment support for the businesses that have not been able to operate;

      (2) Large expenditure on health systems;

      (3) Putting very large amounts of liquidity into the markets.

   C. The result has been that the levels of government debt as a proportion of the size of the whole economy have increased dramatically in many countries of the world.

(1) The governments have been funding the economic inactivity with borrowings rather than with current tax receipts.

D. Companies that have prospered during the pandemic include those whose retail activities are largely on-line and the large grocery multiples.

E. Companies that have suffered during the pandemic include airlines, oil companies, other travel companies and banks (due to fears over bad debts).

F. The markets fell very sharply, and reached the bottom on 23 March 2020. Since then there has been a very strong recovery. The S&P 500 is an index of the 500 largest companies on the USA markets.

(1) The S&P 500 fell by 33.8% from peak to trough in March 2020;

(2) By 31 December 2020 it had increased in value by 55%.

(3) At December 2020 it was 23% higher than it had been one year earlier.

7. In the next chapter we consider some aspects of economics as they affect various aspects of business operations.

Chapter 2 Economic Environment

Section A Historic Background

1. In most societies in most of the world, most of the employment was in agriculture until some 200 years ago.

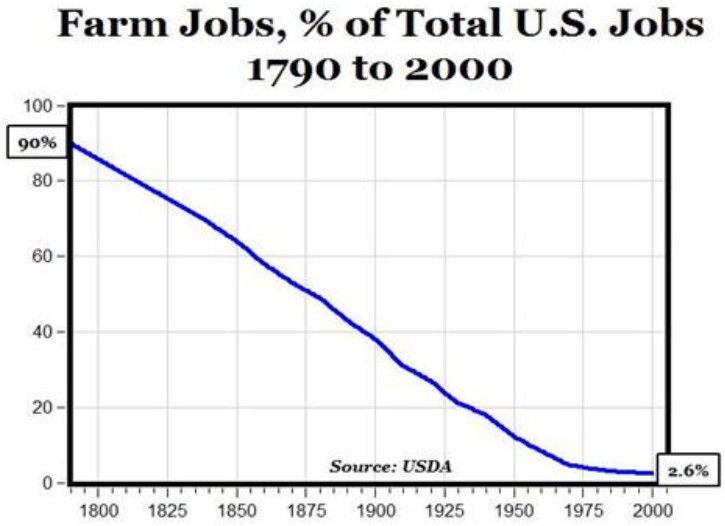
   A. The initial stages of agricultural production were those of self-sufficiency: the people working on the land grew crops mainly for their own consumption.

   B. There was then some increasing mechanisation and improving agricultural techniques. This created two changes:

      (1) Surpluses of agricultural products; the people working the land produced much more food than was needed for their own families' consumption;

      (2) The availability of labor to increase other economic activities such as the production of manufactured goods.

   C. This can be seen clearly in the graph below showing the agricultural workforce as a percentage of the total workforce in the USA:



2. The above workforce was engaged in far more than subsistence agriculture in 1790: there was a large workforce employed in growing cash crops of tobacco and cotton.

3. There was an agricultural revolution that enabled the agricultural workforce to be reduced.

4. This then led to an industrial revolution. The industrial revolution took place in England from about 1760. It was based on various industries:

A. Iron production

B. Coal mining

C. Spinning and weaving cotton and wool

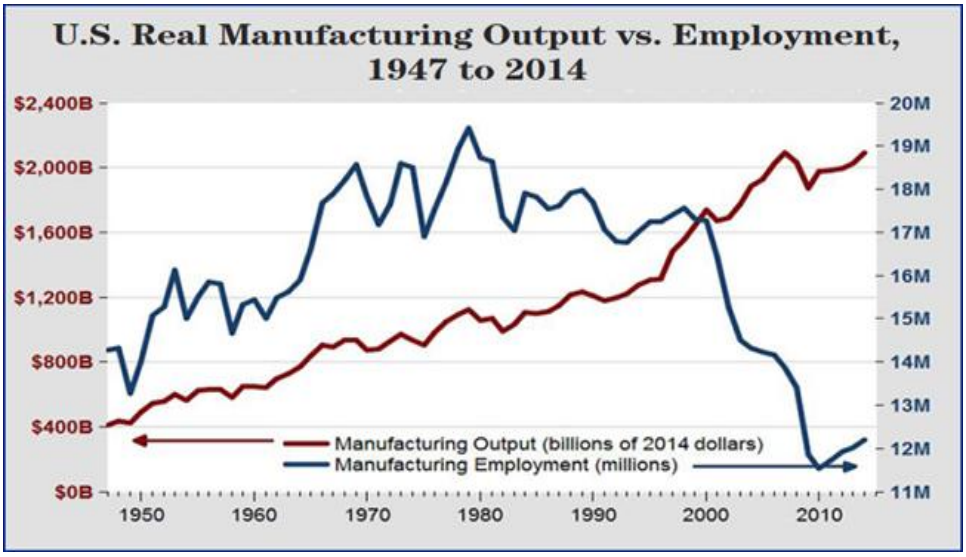
5. The power for the industrial revolution came largely from water wheels. This was then replaced by power from steam engines.

   A. Before the industrial revolution, power was largely provided by animals and man. This was with the exception of windmills and water wheels.

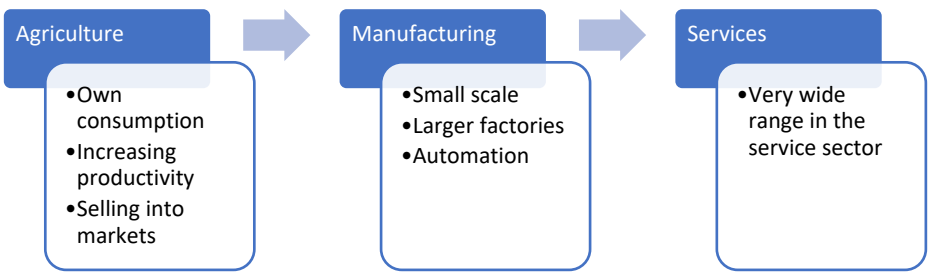
   B. The use of steam power created a large increase in the productivity of the industrial workforce: for the first time there was power available as needed. Factories were not reliant on wind or water. They could operate throughout the year.

6. Over the years the manufacture of goods has become more automated. The manufacturing workforce has also declined. This has led to a large increase in the workforce engaged in the service sector.

7. The change in the manufacturing workforce in the USA since 1950 is shown in the graph below.



8. We can illustrate the changes to the workforce of many economies as follows:



Section B Economic Theory

1. The first well known theory of economics was developed by Scot, Adam Smith in a book called "The Wealth of Nations" some 200 years ago.

2. This book described a free marketplace as guided by what he described as "the invisible hand of the market".

3. His idea was that a free market would be ruled by the laws of supply and demand:

   A. If there was a shortage of goods, this would lead to an increase in the price of those goods. The price increase would be caused by the shortage. There would be a competition by consumers to obtain the goods that were available.

   B. This price increase would result in increased production. Existing producers would increase their output. New producers would enter the market due to the profits that could be made.

   C. The producers would increase production in order to meet the increased demand. This increase in supply would be bought by consumers.

   D. The increased supply would reduce the competition between consumers. As a result the price of the goods would fall.

   E. If demand from consumers fell, this would reduce prices due to competition between suppliers.

   F. This reduction in price would lead to a reduction in supply: some suppliers would reduce production. Other suppliers would leave the market due to low prices. The lower prices may attract more consumers to the market.

   G. The constant interaction between supply and demand, happening on a daily basis, would result in the production of goods being directed to the demand in the market. This is known as market equilibrium.

Section C Elasticity of Demand

1. The balance of supply and demand explained above relates to goods for which there is some elasticity in demand.

   A. Goods which are essential, such as food and toiletries, are called non-discretionary consumer goods.

      (1) The business sector that sells such goods to the consumer is non-discretionary retail.

   B. Goods which are not essential, such as a new car or new kitchen goods are called discretionary consumer goods.

      (1) The business sector that sells such goods to the consumer is discretionary retail.

   C. During 2020 the large grocery chains, supplying non-discretionary consumer goods, performed well despite the lockdowns.

      (1) The demand was largely inelastic;

      (2) customers needed to buy food and other household consumables.

2. Price elasticity can be described as the change in the demand for goods in proportion to the change in the price of those goods. The formula is:

$$\frac{percentage\ change\ in\ quantity\ of\ demand}{percentage\ change\ in\ the\ price}$$

3. If a small reduction in price will lead to a large increase in demand, that reflects high elasticity. Perfect price elasticity occurs when:

   A. the demand drops to zero with the smallest increase in price;

   B. The demand increases to an infinite amount with the smallest reduction in price.

4. I have referred above to price elasticity in respect of demand. The same concept applies in respect of the supply.

Section D Imperfect Markets

1. Cartels

   A. Adam Smith in his book advocated a free market economy. He did however recognize the dangers that could arise from attempts by producers to fix prices:

"People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices."

B. He saw the risk of suppliers agreeing between themselves. This would mean that the normal rules of supply and demand and the invisible hand of the market, would cease to apply.

C. This remains a concern to this day. Such agreements are now described as cartels. In many countries, engaging in price fixing is a criminal activity.

2. Natural Monopolies

A. There are some aspects of modern society that lead to what are called natural monopolies. Most of the utilities such as electricity, water and communication networks are natural monopolies.

(1) A natural monopoly is one in which costs and geography make it practical for there to be only one source of supply. This could be a road, an electricity grid or water supply.

B. This means that some form of regulation is required so that the holder of the monopoly is not able to exploit their market position.

(1) That regulation may be in the form of ownership by the state of some or all of these monopolies. Most road networks are in this category;

(2) Alternatively there may be a government body which regulates and controls the prices that such utilities can charge consumers.

3. Monopoly and Oligopoly Power

A. There have been occasions when one entity has had control of one part of the economy. That is a powerful position and can lead to market abuse, such as overcharging;

B. If a small number of entities share control of supply between them and agree on the pricing of the supplies, that is described as an oligopoly.

(1) It is also possible for a small number of entities to share control of demand;

(a) This can happen if there are many suppliers of goods but only a small number of purchasers.

(b) We will consider this when examining Porter's Five Forces below.

C. Governments in many countries have concerns about oligopoly or monopoly power. Some governments take action in order to reduce the risks of this happening:

(1) In some countries takeovers of businesses in the same sector are monitored. They will be blocked if the number of competitors is reduced to a level considered unsafe.

(2) In other countries anti-trust action will be taken by governments to break up businesses that have become too dominant in an economic sector.

4. Externalities

A. Externalities are the technical economic term for the effects of production and consumption which affect other people.

(1) The cheapest means of manufacture may involve significant pollution. Regulation is required in order to stop such polluting behavior.

(2) There is market failure if the pricing mechanism does not take account of the social costs or the social benefits arising from certain forms of activity.

5. Asymmetric Information

A. This means that one party to a transaction has more information than is held by the other party. This then means that the free market is not operating as envisaged.

B. This has been addressed in the market abuse known as insider trading:

(1) A person with more knowledge than other market participants is able to take advantage of that information.

C. The purchase and sale of second hand vehicles can involve asymmetric information: the seller knows whether or not the vehicle is reliable but this is not known by the buyer.

D. If a business seeks a loan from a financial institution, the business managers know far more about the financial position of the business than the financial institution.

(1) The financial institution will therefore seek information from the business managers regarding the financial position of the business.

E. The information available is a major concern when buying and selling businesses. A business is a far more complex asset than a vehicle or some real estate. The buyer is always concerned as to his relative lack of knowledge.

(1) This results in a process known as "due diligence". This can take many forms:

(a) Legal due diligence involves requesting copies of all important contracts relating to the business;

(b) Tax due diligence is the review of tax returns of past years, correspondence with the relevant tax authorities and completion of checklists relating to possible tax problem areas;

(c) Accounting due diligence is the review of the financial statements and management information of previous years, a detailed review of the latest balance sheet and a review of the accounting policies relating to important matters such as income and cost recognition.

(2) The legal documentation relating to the sale of a business is normally complex. This is so that the buyer can reduce the risk that he suffers from a relative lack of information.

6. Ethical Considerations

A. No market is a perfectly free market:

(1) nearly all countries will have laws banning the purchase and sale of dangerously addictive drugs;

(2) some countries ban the sale of other products such as alcohol;

(3) many countries charge additional taxes on certain goods, such as tobacco or road fuel.

(a) The aim is to increase retail prices and to reduce demand;

(b) With tobacco this is for health reasons;

(c) With road fuel this is for environmental and congestion reasons.

(4) Many countries charge a form of value added tax on the sale of all or most products and services. There are sometimes different tax rates for different goods and services. These act as a distortion to a completely free market.

(5) Some taxes create what is called friction in the markets: this is the effect of costs on various market transactions.

7. Wage Levels

A. It has become increasingly common for governments to set minimum wage levels in the economy.

(1) Classic economic thinking was that the rules of the market would apply and that minimum wage levels would lead to higher levels of unemployment.

(2) It has been found that this is not the case: there is not complete free movement in the labor market; employee loyalty and other factors mean that the labor market can be subject to reasonable minimum wage levels without an adverse effect on employment levels.

B. Many consider that setting a minimum wage level is part of ensuring greater fairness in the economy.

8. Government Intervention and International Trade

A. With completely free markets goods and services would be provided throughout the world regardless of international borders.

B. This does not happen in much of the world:

(1) Many countries put restrictions on the import of food, to protect local producers.

(a) These restrictions can be in the form of quotas, that is a limit on the quantities that can be imported each year;

(b) They may be in the form of tariffs, that is duties that are payable when goods are imported.

(2) There are some restrictions on the import of certain manufactured goods. This is done to protect local manufacturers from external competition and to support local employment.

(3) Some governments provide specific incentives or subsidies to aid the export of certain goods.

(a) This can amount to what is known as “dumping” product onto other countries at artificially low prices.

(4) Some governments manage the exchange rates of their currency to keep their manufactured goods competitive in other markets.

C. Disputes between countries can result in a major trade dispute: the disagreement between the USA and China regarding the imbalance in the trade in manufactured goods is an example of this.

Section E Factors of Production

1. The classic main factors in an economy are land, capital and labor.
2. On the slide the factors are related to forestry and wood products.
3. Land relates to the use of land for agriculture but also for mineral extraction, forestry, development of cities and other uses.
4. Labor is the effort expended by people in farming land, in industrial production and in provision of services.
5. Capital can be considered as stored labor and land inputs: many people consider that capital is largely stored up labor.
   A. A machine used in a manufacturing or transport process has required iron ore;
   B. that iron ore has been smelted to make steel and this has required labor and other mineral inputs;
   C. labor has been required in the design and manufacture of the machine;
   D. further labor has been required in the development of software that is used for operating the machine;
   E. if that machine is sold, the proceeds in the bank still represent that store of land and labor.
6. Some argue that entrepreneurship is another primary input: this is the development of the ideas and the acceptance of the risks in order to begin a new business activity.

Section F Governments and the Economy

1. Free market economies take many different forms: however, in all countries there is significant government intervention.
2. Some governments play a greater role in the economy than others. However the governments of all countries are major participants in the free market:
   A. Governments raise taxes based on profits generated or by taxing transactions that take place within the economy;
   B. These taxes are used for various purposes:

(1) The provision of certain services such as education;

(2) Maintenance of armed forces;

(3) Police;

(4) Certain utilities such as garbage collection, road maintenance;

(5) Healthcare.

3. The size of the state and the nature of its involvement in the economy can be viewed very differently by different political groupings. Despite these differences the state will tend to be a very large economic actor:

   A. It will raise very large revenues in taxes;

   B. It will be a very large employer;

   C. It will be a large purchaser of goods and services.

4. Governments and central banks can have a major influence on the economy:

   A. If there is insufficient demand in an economy, governments can create demand by the following policies:

      (1) Operate with a budget deficit (so that the government expenditure exceeds the income);

      (2) This requires the governments and central banks to take on additional government borrowings by issuing more debt to lenders;

      (3) The government can then stimulate economic activity by spending funds on building roads or other infrastructure;

      (4) This increases employment; that in turn increases the spending by employees on goods and services within the economy.

   B. A government can have the opposite effect if they are concerned that the economy is growing too quickly:

      (1) They can increase taxes and reduce government spending;

      (2) They then operate with a budget surplus;

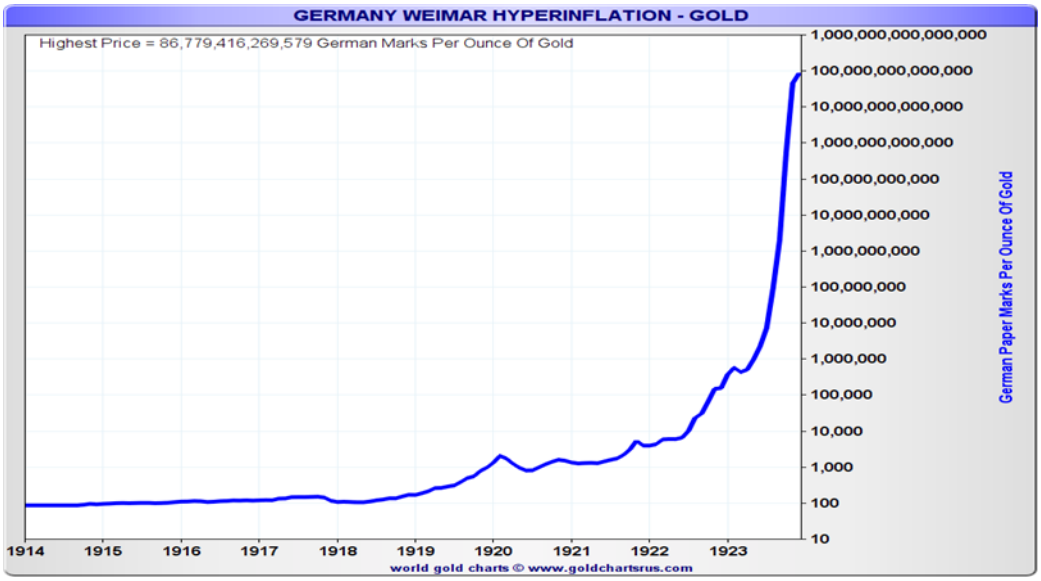
      (3) These steps have the effect of reducing demand in the economy.

C. In times of major economic problems (such as the financial crisis of 2008-2010, and the Covid 19 pandemic) Governments can engage in what is known as quantitative easing. This involves increasing the money supply by the central bank purchasing the government debt in the markets.

5. Throughout modern history economies have operated on the basis of there being some inflation in the prices of goods and services. If there is too much demand in an economy this can bring inflationary pressures as the demand for goods may exceed the supply.

6. Inflation can become very high if the supply of money in the economy increases beyond healthy levels.

   A. In Germany in the 1920's the government tried to repay the debts arising from the First World War by printing money. The graph below shows the value of the German Mark as measured against the value of gold:



   B. In more recent times Zimbabwe has been affected by similar hyper-inflation as a result of printing money. This has also affected various economies in South America.

7. Relatively modest levels of inflation are widely accepted as a consequence of economic growth and improving living standards.

8. If governments and central banks take the wrong action, this can lead to deflation.

   A. Deflation is seen as a greater problem than inflation. There have been periods of deflation in various economies. This has often happened at the same time as significant economic contraction and high levels of unemployment.

B. Japan experienced a period of deflation for about 30 years from the mid 1980's. This was the result of reducing demand in the economy: a population of increasing age preferred saving to spending. The excess in savings led to falling prices. As prices fall there is a preference for delaying expenditure in the expectation that prices will fall further.

9. Control of the money supply is a main part of government's and central bank's economic planning. The money supply is one major factor in the operations of a modern economy.

Section G Gross Domestic Product

1. Gross Domestic Product or GDP is a major economic indicator used in most of the world.

2. It is a measure of the size and health of an economy.

   A. It seeks to represent the value of all of the transactions taking place within an economy.

   B. The USA and China are the two largest economies in the world. That size is measured by reference to the Gross Domestic Product.

   C. There are several ways of measuring GDP. In theory they should all be the same:

      (1) The income of everyone in the economy;

      (2) The expenditure of everyone in the economy;

(3) The output of goods and services in the economy.

3. An analysis of expenditure in the economy (the second method above) has the following components:

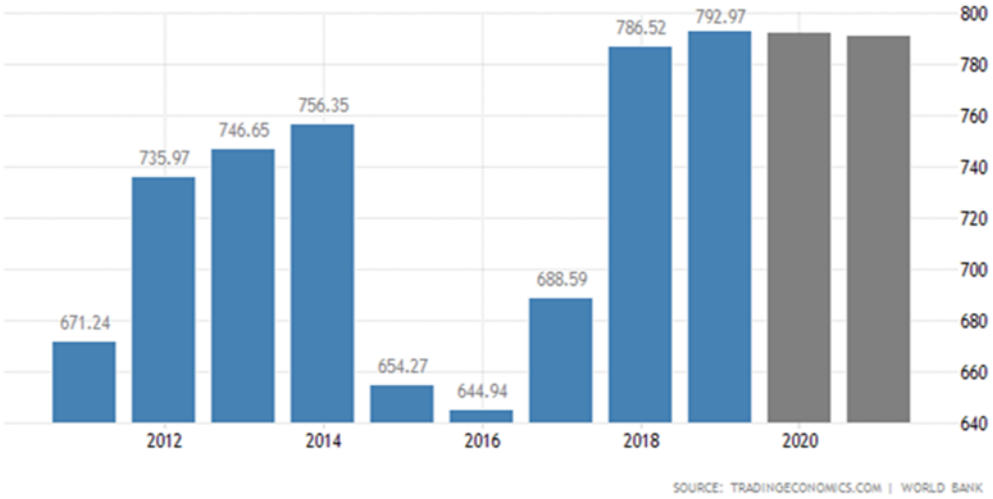
   A. Household spending - this is normally the largest component of GDP based on expenditure or income;

   B. Investments by businesses in buildings and plant;

   C. Government spending;

   D. Net exports.

4. The GDP of Saudi Arabia was USD$793 billion in 2019. The movements in GDP over recent years have been as follows:



5. Changes in GDP provide information about the overall economy.

   A. If GDP has increased by 2%, this means that total expenditure, as defined above, has increased by that amount;

   B. This does not mean that everyone is better off:

      (1) If population growth has been 4%, the GDP per head has reduced;

      (2) An increase in GDP may not be reflected evenly throughout society: a small group may have become far wealthier.

6. Growth is a major consideration when doing business valuation. The GDP growth is one factor to consider when considering the potential growth of a business.

   A. GDP growth per head is considered a better measure of potential business growth than GDP growth for many businesses;

B. A business can grow faster than the growth in the economy for a limited period. However no business can be assumed to grow at a rate faster than the economy in which it operates over the long-term;

C. GDP growth is real growth rather than nominal growth. This is an important point and is considered further below.

Section H The National Economy

1. A national economy can be considered as comprising four factors:

   A. Households

   B. Businesses

   C. Government

   D. External Account

2. These four factors must be in balance: surpluses and deficits must cancel one another out:

   A. It is possible that households operate at a surplus through making net savings;

   B. It is also possible that businesses operate at a surplus through building up cash reserves;

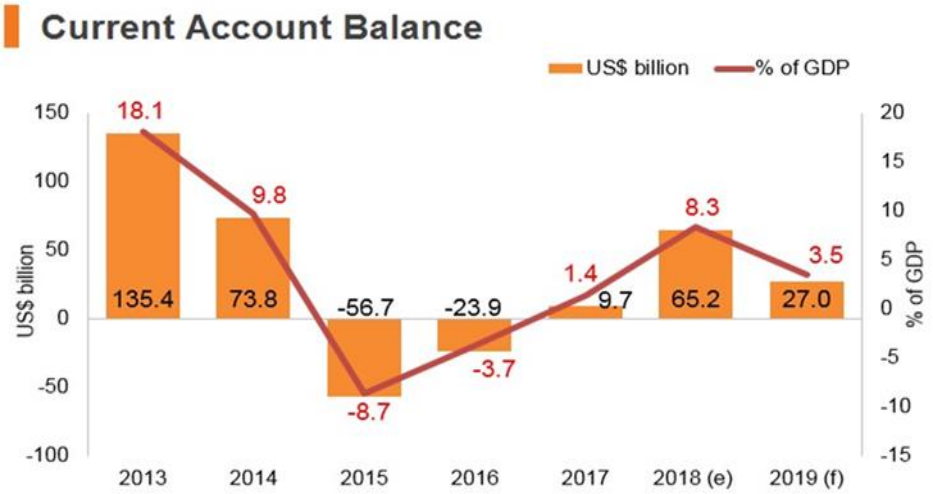
   C. This then means that there must be deficits elsewhere:

      (1) those deficits can be the rest of the world, if there is a trading surplus;

      (2) it can be central government, if the government has revenues that are less than expenditure.

3. The balance with the rest of the world has two major components: the current account and the capital account.

   A. The current account relates to the balance of trade. That is the relationship between imports and exports of goods and services. Here is the current account balance for Saudi Arabia:



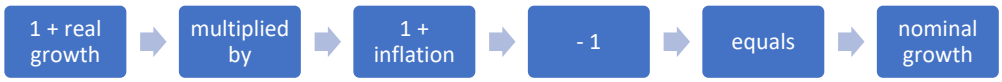
B. The capital account reflects:

(1) borrowings from abroad, returns on overseas investments and capital investments into the economy from other countries in one direction;

(2) Investments made in businesses in other countries, the payment of returns on investments to other countries and funds loaned to entities in other countries.

Section I Real and Nominal Growth

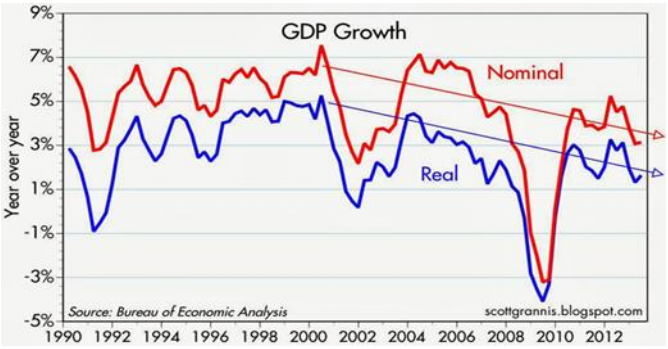
1. If GDP has grown by 2% and if there is inflation in the economy of 3%, the overall growth has been 5.06%. (This is (1.03 x 1.02) - 1.) These two factors have to be multiplied rather than added.



2. The rate of growth of 5.06% above is the "nominal growth". It is the percentage increase of the income or expenditure in the economy including the impact of inflation.

3. The GDP growth of 2% is the "real growth". This means that the components of GDP are measured at a constant purchasing power. It is growth excluding the impact of inflation.

4. We can see an illustration of nominal and real GDP growth below:



5. Historic financial statements are expressed in nominal terms.

   A. As an example, we can consider the sales revenues of a business selling trucks. The sales revenues from the financial statements were

   B. Years to December 31 2017 2018 2019 2020

Sales revenues (SAR '000) 130,000 132,600 136,000 140,000

   C. In each of the years the business sold exactly the same number of trucks. The difference in the sales revenues is due only to the increase in prices due to inflation.

6. The normal expectations when preparing projections of future revenues and costs are that the figures will include the effect of future inflation. The projections will therefore normally be stated in nominal terms:

   A. If the figures are not included in nominal terms, it would be difficult to compare actual future results with the projections.

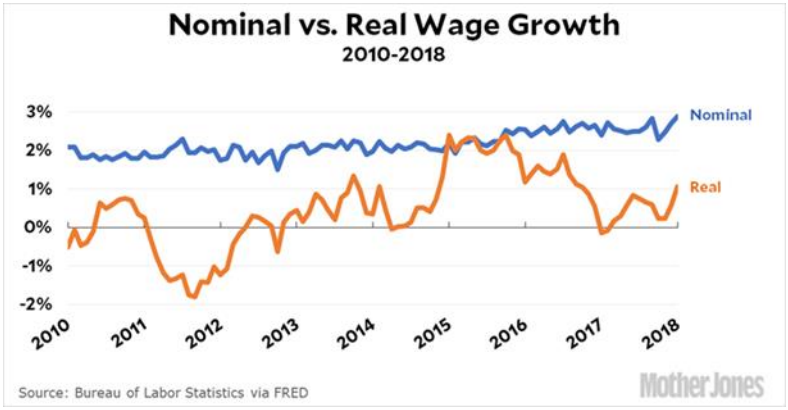
      (1) The actual results in the future will be nominal figures;

      (2) If the projections are in real rather than nominal terms, it would be necessary to adjust the projections for inflation in order to make a true comparison;

      (3) The alternative would be to adjust the actual figures onto a real basis by reducing them by the impact of inflation;

      (4) This would lead to significant potential confusion.

   B. Assumptions, such as expected pay increases for employees, would normally be stated in nominal terms. The difference between real and nominal growth in wages is shown below:



Section J The Economic Cycle

1. The economic cycle has been a feature of economic activity for many centuries. However it is still not fully understood.

2. The economic cycle refers to an economy going through phases of expansion and contraction.

3. Some businesses are more affected by the economic cycle than others:

   A. The construction sector is considered to be more affected by the economic cycle than other sectors: the effects of the economic cycle are exaggerated in construction:

      (1) As the economy slows, the levels of activity in construction will reduce very significantly;

      (2) As the economy begins a period of expansion there will be a rapid increase in construction activity levels.

   B. Non-discretionary sectors, such as food production and non-discretionary retail, will be less affected by the economic cycle.

Section K The Effects of the Economy on Business Valuation

1. All businesses operate within the economies in which they are based. This means that the business valuer has to have an understanding of economic influences upon businesses. These affect their growth and contraction.

2. This is complex:

   A. It is quite possible for an economy to be growing successfully but for certain sectors not to benefit.

      (1) Certain sectors are less affected by economic changes than others:

(a) Non-discretionary retail activities, such as food and toiletries, will be relatively stable;

(b) The same normally applies to low-end dining (fast food);

(c) The utilities of water, telephone, electricity etc are normally relatively stable in all economic stages.

(2) Some sectors will be more affected by economic changes:

(a) Some discretionary retail activities, such as fashion and luxury items ("nice to have" rather than "must have") may be more affected by economic changes;

(b) The same may apply to high end dining;

(c) The same applies to relatively expensive items such as motor vehicles and some kitchen equipment;

(d) Construction is normally very strongly affected by the changes in an economy.

B. In a strong economy there will be some sectors that are contracting:

(1) In many economies of the world there are traditional printing businesses. They supply office stationery, brochures, business cards and other products;

(2) These businesses are very often experiencing a continuing reduction in demand:

(a) Office printers and modern software means that businesses can produce stationery in-house;

(b) There is a continuing decline in much of print media.

C. There will be different companies in the same economic sector who have totally different experiences:

(1) The examples of S4C plc and WPP plc relate to two companies which are very similar:

(a) They are headquartered in the same country;

(b) They are both international in their operations;

(c) They are both acting as advertising agents for international clients.

(2) Despite these differences, the effects of the Covid 19 pandemic and the shut-downs of economies throughout the world have been very different:

(a) S4C plc is a new company with a focus on digital delivery. The pandemic has accelerated its growth. It has made a series of acquisitions of digital and data companies.

(b) Its share price doubled in the second half of 2020. This was due to the way that the market viewed its potential;

(c) WPP plc still has significant revenues in print and other more traditional media. It has incurred significant losses on various investments that it has made in businesses in the past. It has seen a marked drop in revenues in 2020.

3. This means that any economic analysis must be undertaken with considerable care. Different sectors and different companies will be affected in very different ways by the economy in which the companies operate.

4. In the next chapter we will be looking at some of the tools that can be used to consider the qualities of businesses and the forces that affect them.

Chapter 3 Important Frameworks for Strategic Analysis

Section A Introduction to Strategic Analysis

1. Since the growth rate of a business is an important consideration in determining the value of a business, the valuer must understand the strategic fundamentals of a business, including its:

   A. Strengths, weaknesses, opportunities and threats.

   B. Company specific value drivers.

   C. Competitive position in the market.

   D. Unique sustainable competitive advantage.

2. The analysis should cover all aspects of the business including:

   A. Marketing, communication, branding, market size and position and sales channels.

   B. Product / service mix and quality and innovation for each product / service.

   C. Human resources, including recruiting, retention, training, compensation, development and culture.

   D. Financial resources and results of operation.

   E. Mission, vision and purpose of the business.

3. The following frameworks assist the valuer gain a strategic understanding of the business and develop an opinion of the growth prospects of the business.

4. The financial and the strategic analysis should complement each other, with the output of the strategic analysis supporting the financial analysis.

Section B SWOT Analysis

1. SWOT analysis refers to an analysis of a business by reference to:

   A. Strengths

   B. Weaknesses

   C. Opportunities

   D. Threats

2. Strengths and weaknesses are internal to the business:

   A. They are an analysis of the qualities of the business. They also analyze where the business is weak.

3. Opportunities and Threats are external and are largely outside the business.

   A. It is necessary to look outwards and consider competitors, the wider economy and the relevant business sector.

      (1) The SWOT analysis identifies how the business can use its strengths; and

      (2) How it can reduce the effect of its weaknesses.

4. A SWOT analysis can be used for the following purposes:

   A. To gain understanding of a company's current situation

   B. For strategic planning

   C. As a problem-solving tool

   D. As a decision-making tool

   E. As a resource allocation tool.

5. Questions that might be asked as part of a SWOT analysis are:

   A. Strengths and weaknesses (internal).

      (1) Consider all areas of business organization, including the four quadrants of:

         (a) Marketing, communication and brand (including mission, vision and purpose).

(b) Human resources, team and culture (including retention, recruitment, compensation, training and development).

(c) Financial position and resources.

(d) Product / service quality and innovation.

(2) For each area / quadrant, ask the following questions:

(a) What do you do better than your competitors?

(b) What unique resources or property do you own?

(c) How strong is the company in the market?

(d) What is its market position in this area?

(e) Does the company have a clear communicable vision or direction?

B. Opportunities and Threats (external).

(1) Consider the competitive marketplace and forces that define the behaviours of the various participants in the marketplace:

(a) What changes are occurring in the industry or in customer demands of which you can take advantage or are at risk of being overtaken?

(b) How are you innovating and what resources are being devoted to research and innovation?

(c) What are the limiting factors on your growth?

(d) What weaknesses of your competitors can you take advantage of?

(e) Are new companies entering the market? Is your product / service at risk of being disrupted?

(f) Can the company upgrade its technology to lower costs?

(g) Can the company expand its geographic coverage?

(h) What are your competitors doing to attract your customers?

(i) What obstacles/challenges is the company facing?

(j) Are regulations or customer demands forcing a change in your products or services?

(k) Is technology threatening your market position?

(l) If there is pressure on your profit margins, what is its source?

6. Seeking third party experience and researching the industry helps the valuer understand the SWOT of a business. Asking management “why” 5 times helps move the discussion toward a deeper understanding of the business’s SWOTs.

7. Stages in a formal SWOT analysis:

   A. Stage 1 - collect input from the management team and tally the results to determine similarities and differences amongst management's opinions.

   B. Stage 2 – perform industry research on the competitive forces that are at play in an industry.

   C. Stage 3 - identify and understand the implications of management's collective input and compare to industry norms.

      (1) For example, the management team may state that financial resources are their primary strength. The question to ask is:

         (a) "What specifically about your financial resources are strengths?" It may be the cash reserves, the borrowing capacity, etc.

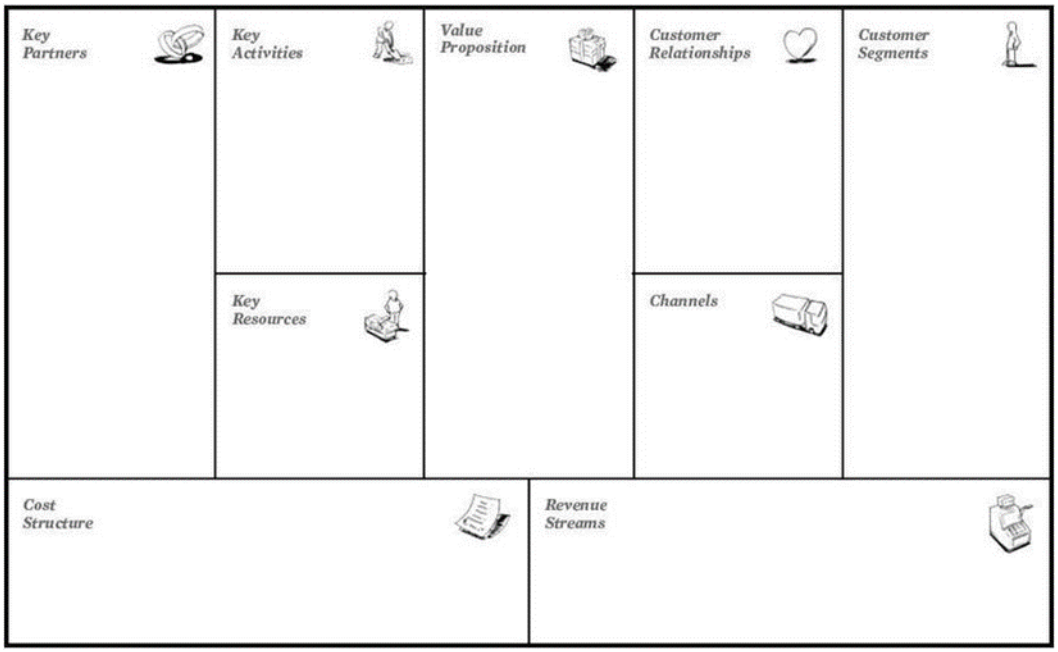
   D. Stage 4 - explore with management what implications these strengths, weaknesses, opportunities or threats have on the company's strategy, risks, future growth potential, and financial performance.

Section C Company-Specific Value Drivers (Operational and Financial)

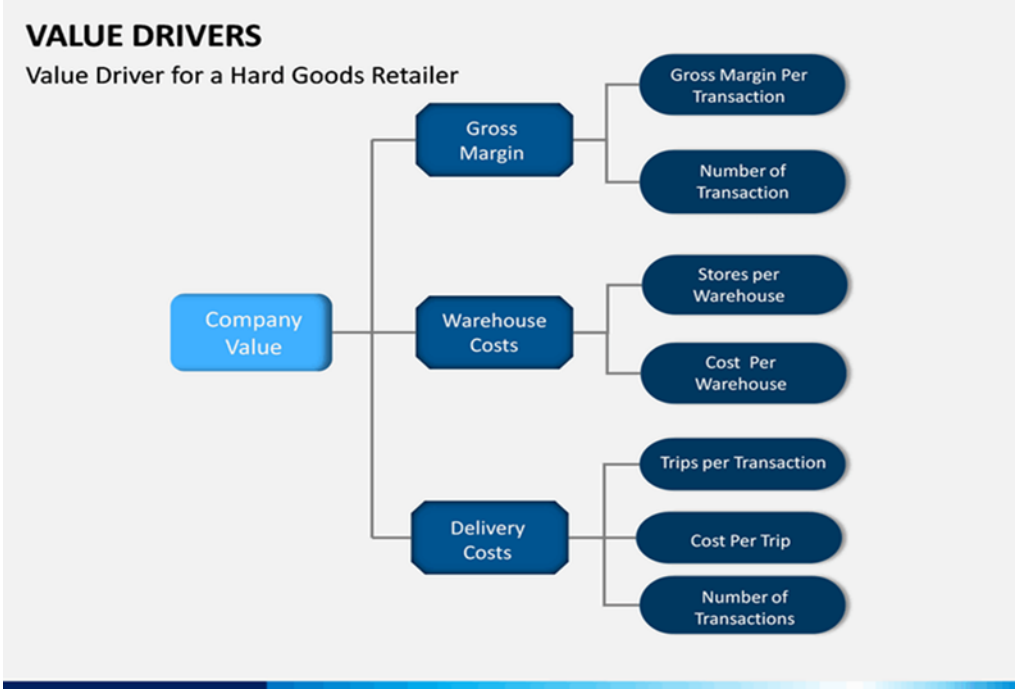
1. Every company has specific operational and financial value drivers.

2. Generally, these value drivers are related to the industry and to the company's critical success factors.

3. Many valuers use the business model canvas to look at the specific value drivers of a business. This is shown in the graphic below.



4. We are showing below the financial value drivers for a retailer:



A. In the above example value is driven by the profitability of the business.

B. The main impacts on profitability are stated as:

(1) The gross margin, that is the difference between the price at which goods are sold and the price that they are purchased;

(a) We will consider the gross margin more fully later in this course. It is a very important measure for most businesses.

(2) The costs of storing the goods until they are sold to customers and the costs of selecting the goods and preparing them for delivery;

(3) The costs of delivering the goods to the customer.

C. For many businesses the increase in the number of customers and the amounts sold would be a value driver of at least equal importance to the above.

(1) This factor is included but only as a secondary factor as part of gross margin analysis

D. We can see from the above chart that each of the main drivers is further divided:

(1) The management of delivery costs may aim to increase the values of deliveries made by each vehicle each day by careful route planning.

5. Value drivers are very specific. They will be different for every business. The above is an example of how the financial value drivers can be analyzed for one business.

6. Unless the valuer can identify the company's specific value drivers, it will be impossible to select the appropriate comparable companies.

7. Financial value drivers influence return on equity, enterprise value, and cash flows.

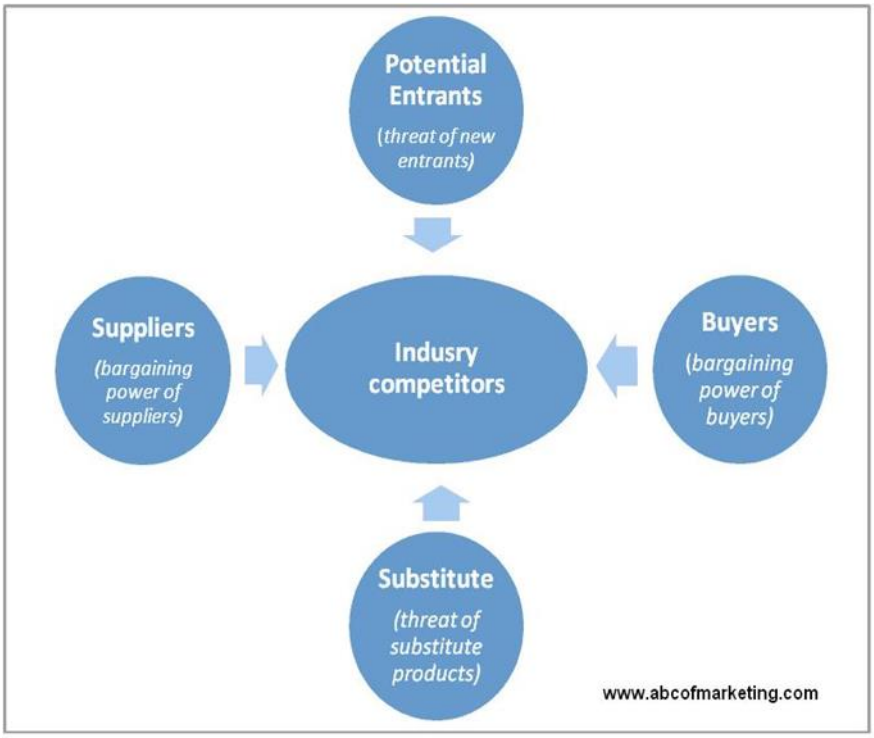
8. Operating value drivers are the operational procedures that allow the company to:

A. Provide high-quality products and services

B. Sell its products and services at a price that provides the company with a sufficient return on equity and is acceptable to the paying customer

Section D Porter's Five Forces

1. Porter's Five Forces model is utilized to understand an industry and the forces that influence a company and its strategies.



2. Porter's model should only be the foundation of an analysis.
3. It provides a useful framework for analyzing the pressures on a business and its profits.
4. Five Forces Analysis.

   A. Threat of new entrants.

      (1) Profitable markets that yield high returns will attract new competitors

      (2) Barriers to entry are characteristics that reduce the rate of entry of new firms.

         (a) Can be created or exploited to enhance a firm's competitive advantage.

         (b) Can arise from several sources:

            - Governments (e.g., laws regarding competition and monopolies, regulations).
            - Proprietary knowledge and patents.
            - Asset requirements (special/difficult; low resale value; high initial costs).
            - Organizational economies of scale (level of maximum cost-efficiency).

B. Example 3.1

(1) List the following activities in terms of barriers to entry. The list should be from the lowest barriers to entry to the highest.

(a) Nuclear power plant;

(b) Van driver delivering goods;

(c) Trucking company with national network;

(d) Firm of lawyers;

(e) Real estate agency with one office;

(f) Pharmaceutical company.

C. Threat of substitute products or services.

D. Bargaining power of customers of the business.

E. Bargaining power of suppliers to the company.

(1) The ability of suppliers to put a company under pressure.

(a) End customers are concentrated (e.g., garment industry relationship to major department stores);

(b) End customers are weak (e.g., travel agent relationship with airlines).

F. Competitive rivalry among existing firms.

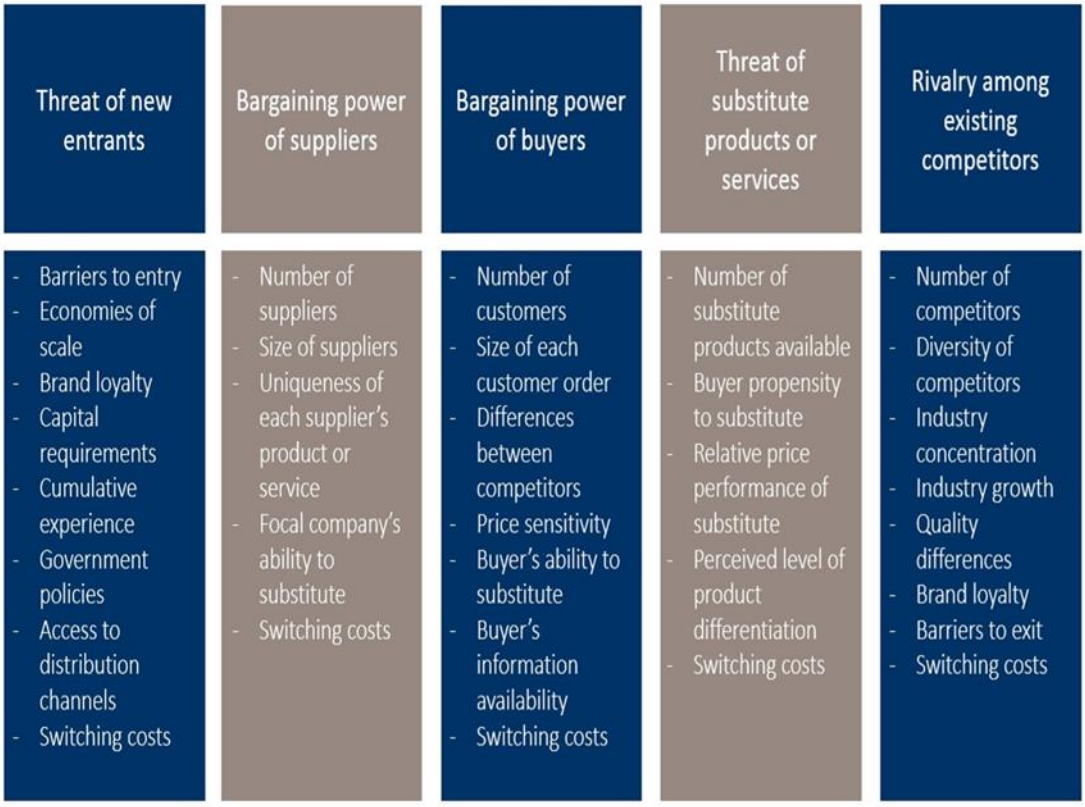
(a) Slow market growth;

(b) High fixed costs (when total costs are mostly fixed costs, the firm must produce near capacity to attain the lowest unit costs, and high levels of production lead to a fight for market share);

(c) High storage costs or highly perishable products;

(d) When competitors are diverse in terms of culture, history and philosophies.

5. The various factors to consider are given in the table below:



6. General strategies for effectively competing considering the five forces.

   A. Cost leadership.

      (1) A focus on low costs.

   B. Differentiation

      (1) Product uniqueness in terms of:

         (a) Design or brand image;

         (b) Strong marketing of brand;

         (c) Technological leadership;

         (d) Product/service features or quality;

         (e) Strong dealer network.

      (2) Highly successful product innovators generally differentiate themselves by using more than one approach. Commonly required skills and resources include:

         (a) High-quality marketing skills;

(b) Strong product-engineering capabilities;

(c) A creative flair;

(d) A highly competent basic research team;

(e) A reputation for technological or quality leadership;

(f) A unique combination of skills drawn from related industries;

(g) A high level of cooperation amongst channels of distribution.

C. Focus on a particular customer group.

(1) Providing the most effective or efficient services to a highly focused target group (customer group, segment of the product line, or geographic area).

(2) Requires a combination of the same skills and resources as the differentiation strategy.

7. In the next chapter we look at accounting, the language of business. It is important that you are able to understand financial statements and how they are prepared.

Chapter 4 Financial Statement Reporting and Analysis

Section A Accounting Basics

1. Accounting can be thought of as the language of business.
2. Accounting is based on what is known as double-entry:
   A. There are debits and there are credits;
   B. The debits must always equal the credits;
   C. This is achieved by every transaction being entered twice - once as a debit or debits and once as a credit or credits.
3. Here is an example of double entry:

Double Entry Bookkeeping

General Journal				#1001
Date	Details	A/C #	Debit (Dr)	Credit (Cr)
1 May 2018	Cash	301	10,000	
	Sales	401		10,000
Sale of Inventory				

   A. Debits are assets or expenses;
   B. Credits are liabilities, equity or revenues;

   C. Assets and expenses increase with a debit entry to that asset or expense. Assets and expenses reduce with a credit entry to that asset or expense;

D. Liabilities and income increase with a credit entry to that liability or income. Liabilities and income reduce with a debit entry to that liability or income.

4. We can see the principles applied by looking at a very simple business:

A. Jawad has cash of 1,000 and he opens a market stall selling fruit;

(1) The first entries are a debit of 1,000 to his cash account (this is an asset) and a credit of 1,000 to Jawad's capital account (this is a liability - an amount that the business owes Jawad);

(a) His capital account just records how much he has put into the business.

B. He spends 800 on fruit (an expense or an asset) and 200 on a stall for the fruit (a fixed asset);

(1) The entries are a debit of 800 to purchases of fruit, a debit of 200 for the stand and a credit of 1,000 to cash;

(a) He has now invested all of the cash into the fixed assets and inventories of the business.

C. He sells all of the fruit for 1,200 on his first day of trading;

(1) The entries are a debit (an increase) to cash of 1,200 and a credit (an increase) to sales of 1,200.

D. Jawad has made a profit of 400 (revenues of 1,200 less costs of 800). At the end of that first day's trading his balance sheet is:

Jawad's Fruit Stall		
		Day 1
Cash		1,200
Inventories		
Stall		200
		1,400
Capital introduced		1,000
Profit made day 1		400
		1,400

E. We will continue with this example: on the second day, Jawad buys fruit costing 1,500 (an asset). He pays his supplier 1,200 (reduction in cash asset) and promises to pay the balance of 300 (increase in liability) on the following day.

F. His brother agrees to help him on the stall and he pays his brother 180 (expense (debit) and reduction in cash (credit) at the end of day 2.

G. He sells most of the fruit for 2,000 (increase in income, increase in cash) but 10% of the fruit remains unsold. It is in good condition and Jawad thinks that he can sell it on day 3.

H. Example 4.1

(1) What are the debit and credit transactions for the above?

(2) What are the income statement revenues, costs and profit?

(3) What is Jawad's balance sheet at the end of day 2?

I. In the above example Jawad has a capital account at the end of day 2. It is important to recognise that the capital account is represented by the net assets in the business.

J. In the figures that we have looked at, we can see that it is all as we might expect – Jawad has revenues and costs, he has assets and he owes some money to his supplier. The part of financial statements that causes the difficulty is the bottom half of the balance sheet:

(1) What is that total figure?

K. The answer is very simple: it just represents the total that Jawad now has in the business: we can think of the SAR 1,870 as the amount that the business "owes" Jawad. It represents his interest in the business.

(1) He invested 1,000 in the business. The business made a profit of 400 on day one and 470 on day 2. Those profits belong to Jawad.

L. In day 2 of Jawad's stall we also see that accounting does not just deal with cash received and cash paid:

(1) Costs are recognised when they arise, not when they are paid;

(2) Income is also recognised when it arises, not when the cash is received.

Section B The Primary Statements

1. There are three primary statements within a set of financial statements:

   A. The profit and loss account or income statement, setting out the revenues and costs of a business for a specific period, usually one year;

   B. The balance sheet or net assets statement, setting out the assets and liabilities at a specific point in time, usually the end of an accounting year;

   C. The cash flow statement, setting out the cash inflows and outflows from the perspective of the equity investor.

2. These are closely connected:

3. The three primary statements all relate to one another. They are prepared on a consistent basis from the same basic set of data, known as the accounting records.

4. We are going to review these primary statements and consider some of the business valuation points arising by looking at another example.

Section C The Income Statement

1. We will start with the income statement or profit and loss account. This is the easiest of the primary statements to understand. Here is the income statement for Omar's Kitchens, an up-market kitchen supply and fitting business:

OMAR'S KITCHENS				
Years ended December 31	This year	Last year	This year	Last year
Sales	3,254,419	3,166,831	100.0%	100.0%
Cost of sales	(2,029,322)	(1,996,243)	(62.4%)	(63.0%)
Gross profit	1,225,097	1,170,588	37.6%	37.0%
Administrative costs	(782,608)	(723,033)	(24.0%)	(22.8%)
Earnings Before Interest, Taxation, depreciation and amortization (EBITDA)	442,489	447,555	13.6%	14.1%
Depreciation, amortization etc.	(96,657)	(78,045)	(3.0%)	(2.5%)
Operating profits (EBIT)	345,832	369,510	10.6%	11.7%
Interest	(52,765)	(53,526)	(1.6%)	(1.7%)
Profit before tax	293,067	315,984	9.0%	10.0%
Taxation / Zakat	(59,354)	(53,180)	(1.8%)	(1.7%)
Net income after tax	233,713	262,804	7.2%	8.3%
Dividends	(210,942)	(114,791)		
Brought forward	516,809	368,796		
Carried forward	539,580	516,809		

2. The first point to make is that financial statements conventionally include figures for the current year and the previous year. This enables an immediate comparison of the performance of the business. In this case we can see that the revenues have increased but that the profits after administrative costs have reduced.

3. We can also see that the income statement includes various sub-totals of performance. These sub-totals are used in different ways for the purposes of business valuation.

4. The revenues generated by the business are shown as the sales.

5. The business also pays out money for costs. These costs are shown as one of the following:

   A. The costs that relate directly to the revenues that have been generated are shown as cost of sales.

      (1) For Omar's Kitchens these costs include:

         (a) the kitchen white goods purchased,

         (b) the timber and other materials used for making the cabinets,

         (c) the worktops, and

         (d) the costs of those employees who manufacture and fit the completed kitchens in customers' homes.

6. The gross profit is the sales revenues less the direct cost of sales relating to those revenues.

   A. The gross profit percentage is the gross profit expressed as a percentage of sales revenues. In the case of Omar's Kitchens the gross profit percentages are 37.6% for this year (1,225,097 divided by 3,254,419 and multiplied by 100) and 37.0% (1,170,588 divided by 3,166,831 and multiplied by 100) for last year.

      (1) For many businesses the gross profit percentage is closely monitored; it is rightly considered as important management information.

   B. Example 4.2:

      (1) Last year the sales of company B were 2,349,784, and the costs of sales were 1,409,870. This year the sales were 2,725,749 and the costs of sales were 1,771,737. Compute the following for both years:

         (a) The gross profit;

         (b) The gross profit percentage;

         (c) The increase in sales as a percentage.

      (2) Which of the following explanations fits with the above facts:

         (a) The business has focussed on improving its profitability;

         (b) There is less competition in the market leading to increased profits;

         (c) The business has focussed on increasing its market share by reducing sales prices;

         (d) The costs of major supplies to the business have reduced.

   C. Other business costs that cannot be related directly to the sales to customers, apart from interest costs, are shown as administrative costs. These costs are also known as Sales, General and Administration or SG&A costs.

      (1) For Omar's Kitchens these costs include:

         (a) the advertising expenditure,

         (b) the costs relating to the main premises and the two showrooms,

(c) the costs of those employees engaged in selling to new customers, and

(d) those employees engaged in the design, administrative and finance tasks in the office.

D. The next subtotal in the figures above is EBITDA, that is **E**arnings **B**efore **I**nterest, **T**ax, **D**epreciation and **A**mortization. This is therefore a sub-total before the profits have been charged with depreciation and amortization.

E. In order to understand why EBITDA is stated, we need to consider the charges of depreciation and amortization. This is of sufficient importance that we explain this in a separate section below.

F. Depreciation and amortization are deducted in order to give the operating profits or EBIT: **E**arnings **B**efore **I**nterest and **T**axation.

G. Interest expense is separated from other costs and is shown separately as it relates to the invested capital of the business.

7. The operating profits or EBIT are the profits after the costs of sales and the administrative costs.

A. The operating profits are the profits before any financing costs.

B. As mentioned previously, for most businesses the two main sources of funding for a business are Equity funding and Debt funding. The combination of equity funding and debt funding gives the invested capital.

C. The operating profits provide the returns on those two forms of capital:

(1) The return on the Debt is interest payable to the lenders;

(2) The returns on the Equity capital are:

(a) Dividends to stockholders;

(b) Increase in the market value of the equity capital.

D. The operating profits are therefore the source for the returns on all of the invested capital that is used in the business, both the Debt capital and the Equity capital.

8. The interest expense is the financing cost of the Debt. It is the interest return to the loan note holders.

A. One measure of the financial health of a business is known as “times interest earned” or “interest cover”. It expresses the operating profits as a multiple of the interest expense.

B. For Omar’s Kitchens the times interest earned is 6.6 times (345,832 divided by 52,765) this year and 6.9 times (369,510 divided by 53,526) last year.

C. If the interest cover is too low, this is a risk. The business may not be able to pay the debt interest. It may not be able to repay the debt capital. it means that:

(1) The business has too high a level of Debt; or

(2) The business is not generating sufficient returns on the invested capital used in the business; or

(3) A combination of the above two factors.

D. In the current environment of relatively low interest rates, many lenders would consider times interest earned below 4 times for a trading business as indicating some financial stress.

E. Example 4.3

(1) Last year the operating profits of company B were 524,980 and the interest expense was 131,245. This year the operating profits were 531,050 and the interest expense was 152,690. What is the times interest earned for both years?

(2) This example continues the previous example of Company B. What has caused the change in the times interest earned?

9. The earnings before tax is the profit after the return on the loan capital. It is therefore the return before tax to the equity capital.

A. One way of measuring the earnings before tax is as a percentage of sales revenues. For Omar’s Kitchens the earnings before tax were 9.0% of sales revenues this year and 10.0% last year.

B. The gross profit margin had improved in the year. The reason for the reduction in earnings before tax as a percentage of sales was due to the greater administrative expenditure and the greater depreciation charge.

10. The taxation or Zakat is the charge made on the company by government or other external bodies.

    A. The Zakat is a religious obligation charged on the company's zakat base.

    B. In many other countries the taxation is known as income tax or corporate tax and is charged on the profits before tax of the company, as adjusted for various factors.

    C. We consider taxation in more detail below.

11. The net income is the profit that is available to the stockholders. There are two main uses for this profit:

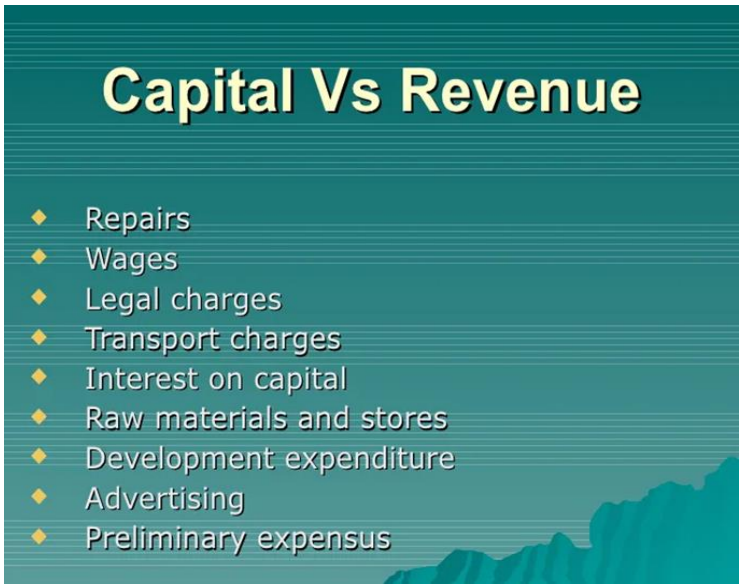
    A. It is paid out to stockholders as a cash dividend;

    B. It is retained in the business to provide additional capital. Profits retained are added to the stockholders' funds on the balance sheet.

Section D Depreciation, Amortization and EBITDA

1. If a business buys vehicles or office equipment, it is aware that this expenditure will provide benefits to the business over several years. The vehicles may last 5 to 7 years and other equipment may have a useful life of 10 years or more. Computers will be likely to have a rather shorter life.

2. Types of revenue expenditure are:



3. Amounts spent on real estate, machinery, equipment, vehicles, computers and office furniture is known as capital expenditure. It relates to the purchase of what are called tangible fixed assets.

   A. If the business charged that expenditure to the income statement in the year of purchase the profits of that year would bear the full cost.

   B. Profits of later years would then have the use of the vehicles and equipment without charge.

   C. This would lead to a distortion in the profits of the business. It would be difficult to see the underlying trends. The profits would depend, in part, on whether or not there had been capital expenditure in any particular year.

4. The way that financial statements deal with this issue is:

   A. The capital expenditure is not charged initially to the income statement. The costs are instead added to the other fixed assets already on the balance sheet.

   B. There is then an annual charge to the income statement. This spreads the cost of the fixed assets over their estimated period of use to the business. This period is known as the economic life.

   C. This charge is known as depreciation.

   D. In the example below a business has bought a vehicle with an expected life of 5 years and a cost of 10,000. It bought the vehicle at the start of year 1. We can see how this is treated in terms of cash, the income statement and the balance sheet over the five year life of the vehicle.

Year	1	2	3	4	5
Cash					
Purchase vehicle	10,000				
Income Statement					
Depreciation	(2,000)	(2,000)	(2,000)	(2,000)	(2,000)
Balance sheet					
Cost	10,000	10,000	10,000	10,000	10,000
Less: depreciation	(2,000)	(4,000)	(6,000)	(8,000)	(10,000)
Net book value	8,000	6,000	4,000	2,000	0

   E. Depreciation is a cost in the income statement. But it is not a cash cost. There is an initial cash outflow of 10,000; there is no cash involved in respect of the charges of 2,000 a year.

F. We have referred above to the cash, the income statement and the balance sheet. This shows the different effects of capital expenditures and depreciation on the three primary statements.

G. Example 4.4

(1) Some office equipment cost 192,000 and was bought at the start of the year. It is to be depreciated to nil over 8 years at an equal rate per year.

(a) Calculate the depreciation charge in the income statement each year;

(b) What is the net book value of the equipment at the end of year 6?

(2) As above, office equipment cost 192,000 and was bought at the start of the year. The business anticipates that the equipment can be sold in the second hand market at the end of year 7 for 47,800.

(a) Calculate the depreciation charge in the income statement each year;

(b) What is the net book value of the equipment at the end of year 6?

5. We can see from these two examples that any tangible fixed asset that has a limited life is depreciated. There is an annual charge in the income statement as the asset is used. That means that the fixed asset gradually reduces in value on the balance sheet:

6. Depreciation demonstrates one of the fundamental accounting concepts: income and expenditure must be matched. This concept is rigorously applied in financial accounting. Revenues and costs must be:

A. recognized in the correct accounting period; and

B. matched with one another.

7. We have seen that the underlying principle with depreciation is that the business should charge the correct depreciation to those periods expected to benefit from the use of the asset. We have also seen that depreciation is described as a non-cash cost:

   A. there is no cash outflow linked to those annual charges.

   B. the cash outflow happened at the date of purchase of the fixed asset.

8. The first reason for showing EBITDA in the income statement as a sub-total is therefore that:

   A. EBITDA (Earnings Before Interest, Tax, Depreciation and Amortization) is the profit before a significant non-cash expense. It is therefore closer to the cash flows generated for the Debt and Equity from trading;

      (1) EBITDA less capital expenditure is closer still to the cash flows.

   B. The operating profits or EBIT (Earnings Before Interest and Tax) are the profits after the charge for depreciation and amortization. They are therefore not as close to the cash flows generated from trading.

9. We next need to consider **amortization**. This is a term that is applied to the depreciation of intangible assets.

   A. Intangible assets and the related amortization charges have become an increasing feature of the income statements of many businesses. We need to explain why.

10. Economies in a great many countries in the world have changed very significantly over the last 70 years:

    A. Asian economies, such as India and China, have taken over many of the manufacturing activities that were formerly undertaken in Europe and North America, and then in countries such as Japan and Korea. This has involved heavy industry such as steel manufacture and also the assembly of complex electronic equipment and other manufacturing activities.

    B. Many European and North American companies have become far more focussed on the knowledge economy.

       (1) The balance sheets of such companies no longer have large amounts of tangible fixed assets in the form of manufacturing plant and similar assets.

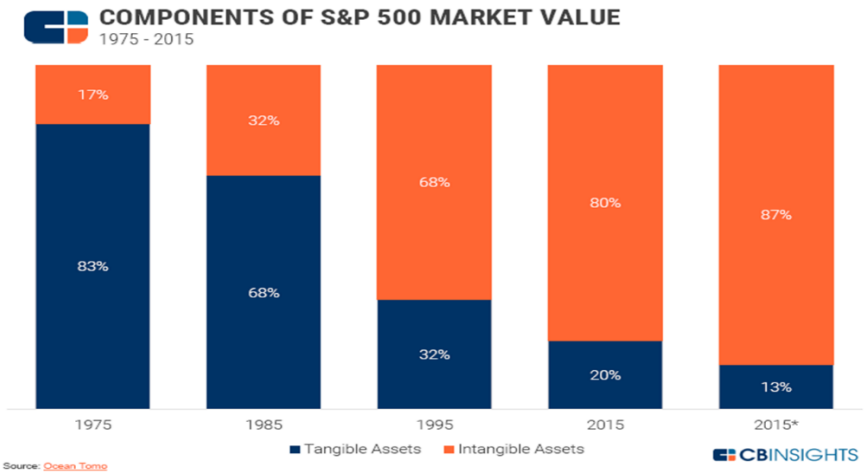
       (2) Instead the values are represented very largely by intangible assets. These are also known as intellectual property.

C. Intangible Assets are defined in the Glossary as a non-monetary asset that manifests itself by its economic properties. It does not have physical substance but grants rights and/or economic benefits to its owner.

(1) Intellectual Property or IP are defined in the Glossary as Intangible Assets that enjoy special legal recognition and protection.

(2) The Market Capitalization is defined in the Glossary as the total Equity value of a public company, calculated as the share price multiplied by the number of shares outstanding.

D. By 2015 the Market Capitalizations of all of the stocks on the USA S&P 500 Index was represented to the extent of 87% by Intangible Assets. This compared with only 17% in 1975.



11. The 2020 report from Brand Finance stated that total intangible asset value had risen to an all-time high of USD$65.7 trillion. This represents 54% of overall listed global value.

A. The report is available at www.brandirectory.com

12. The income statements of many companies now contain large amortization charges relating to intangibles that they have acquired.

A. As with depreciation, amortization is a non-cash expense.

B. In addition the amortization charge is very uneven between companies. This is due to the standard international accounting rules, known as International Financial Reporting Standards (“IFRS”). This can be demonstrated by considering two companies, A and B which are identical apart from one difference:

(1) Company A has developed its own Intangible Assets in earlier years. The expenditure on their development has been charged against income as incurred.

(a) IFRS does not allow such costs to be capitalized into Intangible Assets. This because of concerns that the costs cannot be accurately and consistently measured.

(2) Company B has acquired Intangible Assets that are very similar to those of Company A for a price of 200,000. These Intangible Assets are charged to the income statement through amortization of 40,000 a year for a period of five years.

(3) The underlying businesses of the two companies are identical.

(4) Company A has incurred no costs in intangible asset creation in the year. It therefore reports an operating profit that is 40,000 higher than that of Company B.

(5) When their EBITDA is compared, they are the same.

13. There are increasing Intangible Asset amortization charges in financial statements;

A. Many analysts prefer to compare results of businesses at the EBITDA level.

B. This can be a better way to understand underlying commercial performance.

14. This is the second main reason for the use of EBITDA in business valuation.

Section E Taxation

1. In many economies there is a tax charge that is based on the profits made by limited companies.

2. The tax charges are based on the profits made by companies. They are not the same as those profits. There are various possible differences:

A. Some countries give incentives through the tax system:

(1) These may be for research and development expenditure;

(2) They may be for certain types of capital expenditure;

(3) These incentives may take the form of additional allowances for tax purposes.

B. Other countries decide that certain forms of expenditure should not be deductible for tax purposes.

(1) Such expenditure may include entertaining clients;

(2) There may be other expenditure that is considered to be socially undesirable.

3. This means that there will be differences between the profits as recorded in the financial statements and the profits that are taxable.

4. The formula for the effective tax rate percentage is:

$$\frac{Income\ tax\ expense}{Earnings\ Before\ Tax} x\ 100\%$$

5. This can be shown by a simple example:

Earnings before tax in financial statements			300,000
Entertaining expenditures			29,000
Penalty for tax irregularities			3,000
Legal costs disallowed			16,000
Research and Development credit			(14,000)
Taxable profits			334,000
Tax at	24.0%		(80,160)
Effective tax rate	26.7%		
(80,160/300,000)			

6. The financial statements record accounting profits. The amounts that are subject to the taxation of the relevant country are adjusted profits as shown above.

7. The tax rate on the taxable profits is 24% in accordance with the tax rules of the country. However the effective tax rate is the tax that is payable as a percentage of the earnings before tax in the financial statements. This is a rate of 26.7% (80,160/300,000). This tax rate is higher than 24% as certain costs have not been allowed as deductible for tax purposes.

Section F Directly Variable Costs and Other Costs

1. There are some costs that are variable in nature: this means that they go up and down in proportion to the sales revenues of a business.

2. For Omar's Kitchens the following are examples of variable costs:

A. the white goods purchased;

B. the costs of cabinets and worktops;

C. the costs of fitting the kitchens in customers' houses;

D. the sales' commissions paid.

3. The other costs are not directly variable. They include:

A. the rental and other costs of the main premises and the two showrooms;

B. the employment costs of those working on design, administration and finance;

C. the advertising costs.

4. If costs are analyzed between directly variable costs and other costs, it is possible to calculate the minimum sales needed to avoid a loss.

A. This is known as the breakeven point. This is covered more fully later in this chapter.

5. The concept of fixed and variable costs is given in the illustration below:

6. Directly variable and other costs are sometimes described as variable costs and fixed costs. In reality, there are virtually no costs that are truly fixed. All costs will tend to increase.

A. The increases take place over different time periods. These are sometimes described as stepped increases:

(1) A business will have a team of administrative support people. As a business grows that team will tend to increase in size:

(a) More people will be needed for the accounts function as the numbers of transactions increase and the business grows in complexity;

(b) More people will be needed for supporting the sales and marketing efforts as the business grows in size;

(c) This then means that more people will be needed to provide the computer support systems for the larger team.

(2) The increasing team of people may be located in the same offices as when the business is smaller. However at some stage it will be necessary to move to larger offices. It is likely that the move will be to considerably larger offices, if continuing growth is expected.

Section G Some Accounting Concepts: Matching

1. The matching basis applies for accounts purposes. We know that the amounts shown in the financial statements are not simply the amounts of cash that has been received and paid.

   A. Sales are recognised when the goods or services are delivered to customers. They are not recognised when the customer has paid.

   B. Costs or assets are recognised when the goods or services are delivered by suppliers. They are not recognised when the supplier has been paid.

2. Depreciation is a cost that is described as a non-cash expense. Amortization is also a non-cash expense.

3. Financial statements drawn up in accordance with IFRS are based on a principle that revenues and costs should be allocated to the correct accounting periods. The costs directly related to the supply of the goods or services are matched to that supply.

4. For other costs, such as administrative costs and interest expense, this principle means that the costs should be allocated to the correct periods in which the costs were consumed.

5. As an example, sales revenues normally represent the goods or services delivered to customers in the period. The differences between the sales revenues in the financial statements and the amounts received from customers will include the following:

   A. At the end of the period there will be amounts that have been invoiced to customers for goods or services delivered, but which have not yet been paid. Those are shown as trade receivables on the balance sheet; the customers are expected to pay in the following accounting period.

B. There was the same situation at the previous period end. The amounts outstanding were the opening balance of trade receivables. The amounts owing should have been received in the current accounting period.

C. There may be some customers who do not pay amounts that are owing.

(1) If the business is unable to collect the amounts owing, the decision will have to be taken at some point that the trade receivable is not recoverable.

(a) This then results in a charge for the bad debt suffered.

D. We can demonstrate the above with the figures relating to Omar's Kitchens. To keep things simple, we ignore payments in advance from customers in the analysis below:

Omar's Kitchens - Sales revenues and cash received	
Sales revenues in year	3,254,419
Add: amount owing at start of year	591,542
Less: amount owing at end of year	(581,644)
Bad debt suffered in the year	(2,220)
Cash received in year	3,262,097

E. In the above example the cash received in the year is slightly greater than the amount recognised as sales revenues in the year.

(1) The accounting entries relating to the above are:

	Debit	Credit
Debit cash (increase)	3,262,097	
Credit trade receivables (decrease)		3,262,097
Debit trade receivables (increase)	3,254,419	
Credit sales (increase)		3,254,419
Debit bad debt expense (increase)	2,220	
Credit trade receivables (decrease)		2,220

F. Example 4.5

(1) Company D services trucks and also carries out repairs. At the end of last year the trade receivables were SAR 2,900,000. At the end of this year they were SAR 3,420,000. Last year the sales were SAR 18,250,000. This year the sales were SAR 18,410,000. The company has recognised no bad debts in the year. What was the cash received this year?

(2) Look at the year-end trade receivables and the sales. Is Company D collecting the outstanding trade receivables more quickly than last year or more slowly than last year?

6. We will be looking at various ways of considering the relative levels of trade receivables later in this manual.

7. At the end of the period there will be certain costs that have been incurred but that have not been paid. Examples of such costs include:

   A. Materials and services from suppliers.

      (1) Some of these will have been invoiced to the business but have not yet been paid;

      (2) Others will represent costs yet to be invoiced such as charges for utilities such as electricity and water.

8. There may also be sums that have been paid for services in advance of those services being used. As an example, the business may have paid rent for the two showrooms in December, covering the first three months of the following year. These are described as prepaid expenses:

   A. It would not be consistent with the matching concept to recognise these costs as they are paid. The rent that has been paid is for the 3 months after the year end. Therefore it is that period that should bear the charge.

Section H The Balance Sheet

1. We will continue with the example of Omar's Kitchens. Here is the balance sheet presented in a relatively standard IFRS format:

Omar's Kitchens Balance Sheet		
At 31 December	This year	Last year
Assets		
Cash	5,004	1,086
Trade receivables	581,644	591,542
Inventories	336,107	316,433
Other receivables	25,907	52,866
Total current assets	948,662	961,927
Tangible fixed assets	890,377	914,061
Total assets (debits)	1,839,039	1,875,988
Liabilities		
Asset-backed lending	17,752	17,752
Bank loan current liability	100,000	100,000
Trade payables	215,468	163,794
Other taxation	63,351	69,811
Corporate income taxes	59,354	53,180
Other payables	21,376	9,177
Payments received on account	76,282	81,835
Total current liabilities	553,583	495,549
Asset-backed lending	40,876	58,630
Bank loan	695,000	795,000
Total non- current liabilities	735,876	853,630
Total liabilities	1,289,459	1,349,179
Stockholders' Equity		
Common stock	10,000	10,000
Profit and loss	539,580	516,809
Total stockholders' equity	549,580	526,809
Total liabilities and equity (credits)	1,839,039	1,875,988

2. For those without a detailed financial background, the balance sheet can be rather more difficult to understand than the income statement. We will therefore look at the various figures on each line.

3. The cash balances are modest; they relate to the funds held in the business' bank operating account.

4. The trade receivables are the total amounts owing by customers for kitchens that have been fitted and which have not been paid. The total trade receivables of 581,644 would be made up of a list of those customers whose invoices were outstanding at the year end.

A. There has been a slight decline of 1.7% in trade receivables in the year. As the revenues of the business had increased in the year, an increase in the trade receivables would be consistent with the higher revenues.

B. As noted above, we will later the way that the trade receivables are normally measured as part of a business valuation exercise.

5. The next line relates to the inventories held by the business at the end of the period. These will be raw materials, completed cabinets, work surfaces and related white goods. We can see that the inventories were 336,107 at the end of the year compared to 316,433 at the end of the previous year. The inventories have therefore increased by just over 6.2% in the year.

6. Other receivables of 25,907 may include various miscellaneous balances. These may include:

   A. Amounts paid in advance, known as prepaid expenses. The example above was the property rental cost for the first three months of the following year;

   B. Amounts owing to the business that are not trade receivables, such as loans to employees or officers, insurance claims receivable, and similar balances.

7. The assets above are all known as current assets. They should turn into cash within 12 months of the balance sheet date.

8. We have already discussed fixed assets in relation to the depreciation charge. This line of the balance sheet is the tangible fixed assets used by the business. There is more detail behind this one line:

Omar's Kitchens Fixed Assets		
	This year	Last year
Tangible fixed assets		
Opening cost	1,400,903	1,377,561
Additions	72,973	108,045
Disposals	0	(84,703)
Closing cost	1,473,876	1,400,903
Opening depreciation	486,842	463,500
Charge for year	96,657	94,013
Released on disposal		(70,671)
Closing depreciation	583,499	486,842
Closing net book value	890,377	914,061

9. At the start of the year the total cost of the fixed assets used by the company was 1,400,903. Those assets had been depreciated by a total of 486,842 in previous years.

10. There had been purchases of new fixed assets costing 72,973 in the year.

11. The depreciation charge in the year was 96,657. This is the amount that is shown in the income statement. At the end of the year the revised totals are costs of 1,473,876, depreciation to date of 583,499 and net book value of 890,377.

12. In the previous year one or more of the fixed assets were sold. This means that the costs of those fixed assets were removed and the depreciation relating to those assets was also removed. The proceeds received for the fixed assets were 30,000. The calculations relating to the disposal are therefore:

Omar's Kitchens -Disposal of fixed assets		
Proceeds		30,000
Less: cost of assets sold	(84,703)	
Less: depreciation to date	70,671	
Less: net book value		(14,032)
Gain on disposal		15,968

A. The accounting entries relating to the sale of the fixed asset are:

	Debit	Credit
Debit cash (increase)	30,000	
Debit depreciation to date (decrease)	70,671	
Credit fixed asset cost (decrease)		84,703
Credit gain (profit) on disposal (increase)		15,968

B. Example 4.6

(1) A trucking company sold 12 trucks last year. They had an original cost of SAR 4,580,000 and the depreciation on the trucks totalled SAR 3,290,000. The trucks were sold for a total of SAR 1,870,000. What was the profit or loss on disposal of the trucks?

(2) What were the accounting entries?

(3) The company depreciated its trucks at a rate of 20% a year on original cost. It normally made a good profit on disposal. What are your conclusions?

13. The first 7 lines on the balance sheet refer to the assets of the business.

A. Assets are described in the Glossary as a resource controlled by an entity as a result of past events and from which future economic benefits are expected to flow to the entity.

14. We need to analyze this definition:

A. "A resource controlled by an entity": this means that the entity does not have to have legal ownership of the asset but it does have to have control:

(1) A fixed asset that is owned by one business (the lessor) but is used by another (the lessee) is a fixed asset of the lessee, not the lessor.

(a) A small business has leased a fork-lift truck for seven years from a leasing company; the leasing company owns the asset; the small business uses the asset.

(b) The fork lift truck is a fixed asset of the small business. It pays lease rentals and has control of the fork-lift truck.

(c) The leasing company has the rights to the future payments due under the 7 year leasing agreement.

B. "As a result of a past event". Examples of past events:

(1) Supplying and fitting a kitchen for a customer;

(2) Signing a lease agreement for a fork-lift truck;

(3) The purchase of inventories;

(4) The purchase of a computer.

C. "And from which future economic benefits are expected to flow to the entity": Examples of such economic benefits:

(1) The customer pays for the kitchen;

(2) The fork-lift truck is used by the business for loading and unloading materials from trucks;

(3) The inventories purchased will be sold as part of complete kitchens;

(4) The computer will be used for the accounting operations and design operations of the company.

D. If there are no economic benefits, then the asset may still exist. However it no longer meets the definition of an asset in accounting terms and it will need to be impaired. An example is:

(1) Omar's Kitchens used a specialist machine for some years for the manufacture of kitchen cabinets. It was then replaced by a newer machine that produces better quality cabinets and which operates more quickly.

(2) The old machine has been retained. However there is no expected use for the machine. It has no value as scrap metal.

(3) The remaining net book value of the machine will be written off as there is no economic value. This is known in accounting terms as impairment.

E. The fixed assets and inventories are non-monetary assets that have a physical form.

F. The trade receivables, other receivables and cash do not have a physical form but they are still assets: they are monetary assets as they are represented by precise amounts owing to the business or cash paid in advance. The cash is owing to the business by the bank.

G. The figure for total assets is used as part of financial analysis by business valuers.

H. Example 4.7

(1) Company E supplies office equipment. It has the following amounts on its balance sheet:

Fixed assets	249.854
Trade payables	58,281
Inventories	55,242
Long term debt payable	60,141
Common stock	10,000
Profit and loss account	367,069
Loss for year	20,298
Other payables	13,631
Cash	1,879
Trade receivables	174,113
Other receivables	7,736

What are the total assets of Company E?

(2) Can you prepare a balance sheet for company E showing the net assets agreeing to the stockholders' funds?

15. We will now go back to Omar's Kitchens. The next figures on the balance sheet are amounts owing to various parties by the business. These are Liabilities. A Liability is defined in the Glossary as a present obligation of the entity arising from past events, the settlement of which is expected to result in an outflow from the entity of resources embodying economic benefits.

16. What does all that mean?

    A. It is a present obligation, in other words there is some amount owing;

    B. It is an obligation of the company, not of some other party;

    C. It is caused by things that have happened in the past. Examples are:

        (1) The provision of goods or services, to the business; or

        (2) An employee was injured in an accident at work and he is making a claim; or

        (3) A customer made a payment on account for goods and services to be provided in the future;

        (4) Money was borrowed from a bank; or

        (5) The business has made profits and tax or zakat will be payable in consequence.

    D. The business will need to make payment in cash or in some other way:

        (1) For most liabilities the economic benefits are in the form of cash;

        (2) For a payment on account received from a customer, the liability will be settled by providing the goods or services;

        (3) If a claim is made for damaged goods or faulty services, the business may need to replace the goods or to repair them.

17. The first Liability is asset-backed lending; This is shown in two places on the balance sheet: the part that is repayable within the next 12 months is 17,752. The part that is payable in more than 12 months is 40,876. There is a total of 58,628 owing to the lenders; this is split into two for presentation purposes only.

    A. Current assets are assets that can be turned into cash within 12 months. Current liabilities are liabilities that will need to be paid in the next 12 months.

B. Asset backed lending is finance from banks that is based on the purchase of particular fixed assets, such as individual vehicles or equipment. The lending is normally secured on the assets purchased.

18. Next are the instalments of the bank loan that are repayable in the next 12 months. The amounts that are repayable after 12 months are non-current liabilities. We can see from these figures that the bank loan seems to be payable over the next 8 years.

19. Trade payables are the amounts owing to suppliers. These amounts will relate to raw materials, work surfaces and kitchen white goods. There may also be sums owing in respect of administrative costs, such as marketing costs and motor expenses, but these will be relatively small. The trade payables have increased by 32% compared to the previous year.

20. Other taxation balances relate to taxes that the business has collected on behalf of government authorities. Examples are payroll deductions and value added tax or some other form of sales tax.

A. Example 4.8

(1) Company E pays its employees at the end of every month. The total payroll for August is 383,000. The company also has to pay employer's social security on the payroll of 40,000. The company has to deduct taxes from employees of 68,000. It also has to deduct social security payments from them of 34,000. The employees' taxes and the total security payments have to be paid to the government by the 15th day of the following month. What are the accounting entries required for this month?

(2) What are the accounting entries in the following month for the payments that are made to the government?

21. The next line is the corporate income taxes that are payable to the government authorities.

A. In this example it can be seen that the tax liabilities are based on the profits for the relevant year. The whole of the tax liability is payable after the end of the year.

(1) The tax charge in the income statement based on the profits for the year is 59,354.

(2) The liability on the balance sheet as a liability is 59,354.

(3) The accounting entry that was made for this was very simple:

Debit taxation cost in income statement	59,354
Credit taxation liability in balance sheet	59,354

B. Some countries require companies to make payments on account of their tax liabilities in the current year. As an example payments on account may be required every three months.

22. Other payables are made up of various miscellaneous balances:

A. Estimates of invoices from suppliers that have not yet been received;

B. Sums owing to officers.

23. The next Liability, Payments received on account, relates to amounts paid by customers at the time of placing orders for new kitchen equipment.

A. The deposits received are banked. This is not income that can be recognized in the income statement. The goods have not yet been supplied to the customer.

B. The accounting entries are to debit cash with the amounts received from customers and to credit payments received on account.

(1) When the kitchen is fitted the customer pays the total amount less the amount that he had already paid on account.

C. Example 4.9

(1) Mr Khan ordered a kitchen at a total price of 93,420. He paid an amount on account of 20,000 when the order was placed. The kitchen was fitted and installed. A sales invoice was sent to the customer. What are the accounting entries?

(2) There was slight damage to one of the kitchen appliances. Mr Khan complained. It was agreed that there would be a price reduction of 2,000. Mr Khan then agreed to pay the balance owing. What are the accounting entries?

D. These amounts are therefore revenues that will be recognized in the future. This will be when the customers have received the new kitchen equipment. The contract is then completed.

24. As noted above, balance sheets presented under IFRS (and most other accounting conventions throughout the world) require liabilities that are payable more than 12 months after the period end to be disclosed separately. These are non-current Liabilities.

25. We have addressed the balance in respect of asset-backed lending above.

26. The bank loan is conventional Debt and part of the funding of the business.

    A. It may be secured on various assets such as trade receivables or it may be unsecured.

    B. The bank loan would be subject to a schedule of repayments.

27. The shares are the common stock of the business as originally invested.

    A. If the common stock is sold between stockholders this has no impact on the financial statements of the business.

28. The profit and loss account balance represents all of the profits of the business since it began, less the amounts paid out to stockholders in the form of dividends.

29. The link between the income statement and the balance sheet is given at the bottom of the income statement and is:

Net income after tax	233,713
Dividends to stockholders	(210,942)
Retained in the year	22,771
Retained earnings brought forward	516,809
Retained earnings carried forward	539,580

30. The balance brought forward of 516,809 represents the profits made by Omar's Kitchens since the day that it started to the beginning of the current year, less the dividends paid to stockholders. This figure should be the same as the figure on the balance sheet for the previous year.

31. The Retained earnings carried forward should be the same as the figure on the balance sheet for the current year.

32. It is very important to make sure that the income statement figures agree to the balance sheet.

    A. It is a surprisingly common problem to find that the figures do not agree.

    B. Any such disagreement must be investigated and resolved.

Section I Working Capital Cycle

1. Working capital is a term used to describe cash, trade receivables and inventories less trade payables and other short term liabilities.

2. We use the term "working capital cycle" to describe the stages involved in the production of goods for sale. It can also apply to the provision of services.

A. Raw materials are purchased from suppliers. The amounts owing to the suppliers are shown in trade payables;

B. The raw materials are processed into work in progress and then into finished goods. The materials and finished goods are shown in inventory;

C. The suppliers are paid for the raw materials. This reduces the cash and the trade payables; employees are paid for the work done;

D. The goods are sold to customers. The amounts owing by customers are shown in trade receivables;

E. The customers pay for the goods purchased. This increases the cash and reduces the trade receivables.

3. This is described as a cycle. This is because there is a circular movement of the cash.

   A. If the company is profitable, each time that the cash goes around, there is an increase in the amount of the working capital:

      (1) Such an increase may not be cash as the increase may be in the form of greater inventories and trade receivables.

   B. The relationship between the levels of inventories, trade receivables and trade payables is important:

      (1) Some companies have a long working capital cycle. This means that they can have large amounts invested in inventories and trade receivables:

         (a) A company manufactures engines for airplanes. The production process is long. Each engine takes six months to manufacture, assemble and test. The engines are then delivered to customers and the sales invoices raised.

            - There are very large amounts invested in each stage of the production process.
            - The specialist metals are bought on credit. This means that a small part of the inventories are financed by the trade payables.
            - There are large amounts invested by the company in funding inventories and trade receivables.

      (2) Other companies have a low working capital requirement:

(a) An office cleaning company produces sales invoices to customers at the end of every month;

- Its main costs are costs of employees: the net salaries are paid to employees at the end of every month; the deductions are paid to the government agency on the 15th day of the following month;
- Customers normally pay 30 days after receiving the invoice.

(3) In some cases the working capital requirement can be negative:

(a) A large grocery business with many different shops buys canned and packaged goods from suppliers. The goods are sold through a chain of retail stores

- Payments to the suppliers are made 60 days from delivery.
- The goods supplied are put on the shelves of the grocery multiple's outlets very soon after delivery.
- All sales are for cash.
- The grocery business receives the cash from customers before making payment to suppliers.
- The inventories are relatively low. There are no trade receivables. The inventories are entirely funded by the trade payables. The grocery multiple has a negative working capital requirement.

C. With the above businesses the cash goes around in a circle in the working capital cycle. With the businesses, if they are profitable, each time that the cash goes around the cycle the working capital should increase.

D. The cycle takes many months to complete for the airplane engine manufacturer. The office cleaning company works on a monthly cycle. The cycle completes very quickly for the grocery multiple.

4. There are various tests of financial health. One of these tests is the calculation of the working capital.

5. The working capital represents the current assets less the current liabilities. For Omar's Kitchens the figures are as follows:

Omar's Kitchens Working Capital		
	This year	Last year
Current assets:		
Cash	5,004	1,086
Trade receivables	581,644	591,542
Inventories	336,107	316,433
Other receivables	25,907	52,866
Total current assets	948,662	961,927
Current liabilities		
Asset-backed lending	17,752	17,752
Bank loan current liability	100,000	100,000
Trade payables	215,468	163,794
Other taxation	63,351	69,811
Corporate income taxes	59,354	53,180
Other payables	21,376	9,177
Payments received on account	76,282	81,835
Total current liabilities	553,583	495,549
Working capital		
Current assets	948,662	961,927
Current liabilities	(553,583)	(495,549)
Net current assets	395,079	466,378

6. The first test is a simple one: the current assets are greater than the current liabilities.

   A. Current assets can be turned into cash relatively quickly: inventories are turned into finished kitchens and sold; trade receivables pay amounts owing.

   B. Current liabilities are the amounts payable within the next 12 months: trade creditors have to be paid; there are 12 monthly payments on the asset-backed finance and the bank loan; the other taxation liabilities have to be paid to the government 15 days after each month end.

   C. If the current assets are greater than the current liabilities, this tells us that the cash should be available to pay the liabilities.

7. The second test is to express the relationship of the current assets and the current liabilities as the current ratio.

   A. The current ratio is:

$$\frac{Current\ assets}{Current\ liabilities}$$

B. For the current year and the previous year we have:

$$\frac{948{,}662}{553{,}583}\ and\ \frac{961{,}927}{495{,}549} = 1.71\ and\ 1.94$$

8. The third test is to remove the inventories from current assets. The reason for doing this is that the inventories take longer to turn into cash than trade receivables and other current assets. This gives the quick ratio.

   A. The quick ratio is:

$$\frac{Current\ assets\ less\ inventories}{Current\ liabilities}$$

   B. For the current year and the previous year we have:

$$\frac{612{,}555}{553{,}583}\ and\ \frac{645{,}494}{495{,}549} = 1.11\ and\ 1.30$$

9. The current ratio and the quick ratio are very commonly used in financial analysis. They should both be greater than one for most businesses.

Section J A Different Balance Sheet Presentation

1. It is an aspect of the double entry accounting system that balance sheets balance. However, they can be presented in a great many different ways and still balance. All of the debits less all of the credits will come to zero.

2. We have already spoken of the invested capital of a business. The invested capital comprises equity and debt.

3. The balance sheet as shown above is presented to meet the needs of stockholders. The income statement is also presented to meet the needs of stockholders.

   A. The net income after tax is the return to stockholders. The book value of the stockholders' funds is a main focus of the balance sheet.

4. In business valuation it is very common to present financial statements in different ways. There are two main ways to consider the value of many businesses:

   A. A direct valuation of the equity;

   B. A valuation of the invested capital. The market value of the debt is then deducted. The net value is the value of the equity.

5. These two different ways of valuation mean that we can look at financial statements in these different ways.

6. Here is a presentation which provides the same information as before, but with a focus on the funding of the business in the form of the Debt and the Equity:

Omar's Kitchens		
	This year	Last year
Cash	5,004	1,086
Trade receivables	581,644	591,542
Inventories	336,107	316,433
Other receivables	25,907	52,866
	948,662	961,927
Tangible fixed assets	890,377	914,061
Trade payables	215,468	163,794
Other taxation	63,351	69,811
Corporate income taxes	59,354	53,180
Other payables	21,376	9,177
Payments received on account	76,282	81,835
	435,831	377,797
Fixed and operating working capital	1,403,208	1,498,191
Financed by:		
Asset-backed lending current	17,752	17,752
Asset-backed lending - non-current	40,876	58,630
Bank loan - current	100,000	100,000
Bank loan - non-current	695,000	795,000
Total Debt	853,628	971,382
Common stock	10,000	10,000
Profit and loss	539,580	516,809
Total Equity	549,580	526,809
Invested capital Debt and Equity	1,403,208	1,498,191

Section K Operating Working Capital

1. We looked at current assets and current liabilities above. The current ratios and quick ratios were calculated.

2. These figures presented the figures from the viewpoint of the equity stockholder.

3. If the figures are presented on the basis of the total invested capital, the figures of relevance are the operating working capital. The operating working capital does not include the current liabilities relating to the financing debt.

4. In the case of Omar's Kitchens the next 12 month's payments on the asset-backed lending are included in current liabilities. These payments are not included as current liabilities for the purpose of the operating working capital. The same applies to the current repayments on the bank loan

5. The operating working capital is therefore:

Omar's Kitchens Operating Working Capital		
	This year	Last year
Current assets	948,662	961,927
Current operating liabilities	338,173	286,785
Current operating assets	1,286,835	1,248,712
Current liabilities	(553,583)	(495,549)
Less: asset banked finance	17,752	17,752
Less: bank loan	100,000	100,000
Current operating liabilities	(435,831)	(377,797)

Section L Different Income Statement Presentations

1. As noted above, the conventional income statement presentation is for stockholders. If the business valuation is a valuation of the financial capital, the presentation changes:

Omar's Kitchens Income Statements		
	Invested Capital "Enterprise"	Equity Capital "Equity"
Sales	3,254,419	3,254,419
Cost of sales	(2,029,322)	(2,029,322)
Gross profit	1,225,097	1,225,097
Administrative costs	(782,608)	(782,608)
Earnings Before Interest, Taxation, depreciation and amortization (EBITDA	442,489	442,489
Depreciation, amortization etc.	(96,657)	(96,657)
Operating profits (EBIT)	345,832	345,832
Interest payable		(52,765)
	345,832	293,067
Taxation at 20.3%	(70,040)	(59,354)
Net operating profit after tax (NOPAT)	275,792	
Net income after tax		233,713

2. The presentation is the same to the operating profits (EBIT) line. Then the figures change:

   A. A tax charge is calculated. This is based on the operating profits. The rate of tax is the effective rate of tax on the profits before tax.

      (1) This effective rate is $\frac{59,354}{293,067}$. This is an effective rate of 20.3%.

      (2) This rate of 20.3% is applied to the operating profits.

   B. This presentation shows the figures as if there was no debt and no interest charge on that debt.

      (1) The difference between the NOPAT and the Net Income After Tax is 42,079. This is the interest expense of 52,765 reduced by the tax relief on the interest at a rate of 20.3%.

3. This can be confusing. There are various figures in the income statement that can be used for the purpose of valuation. The figures that apply to enterprise value and to equity value are summarized below:

Enterprise	**Equity**
Sales	
Gross profit	
EBITDA	
EBIT	
	Earnings before tax
Net operating profit after tax	Net income after tax

4. Another way of remembering which figure in the income statements relate to the enterprise value and which related to the direct equity value is the following presentation: the blue figures relate to enterprise and the red to equity.

- Revenues
- *less:* Cost of Goods Sold
- *equals:* Gross Profit
- *less :* SGA Expenses
- *equals :* EBITDA
- *less :* Depreciation
- *equals :* EBITA
- *less :* Amortisation
- *equals :* EBIT
- *less :* Interest Expense
- *equals :* EBT
- *less :* Corporate Income Tax
- *equals :* Net Income after tax

Section M The Cash Flow Statement

1. The conventional way for a cash flow statement in financial statements to be prepared is by use of the first two primary statements – the income statement and the balance sheet.

2. Here is the cash flow statement for Omar's Kitchens for the current year:

Omar's Kitchens Cash Flow Statement		
Net income after tax		233,713
Add tax charge		59,354
Add interest expense		52,765
Operating profit		345,832
Depreciation / amortization		96,657
EBITDA		442,489
Increase in inventories	(19,674)	
Decrease in trade and other receivables	36,857	
Decrease in payments on account	(5,553)	
Increase in trade and other payables	57,413	
Decrease in working capital		69,043
Cash flow from operations		511,532
Income taxes paid		(53,180)
Net cash flows from operating activities		**458,352**
Cash flows from investing activities		
Purchase of property, plant and equipment		**(72,973)**
Cash flows from financing activities		
Repayments of loans and borrowings		(117,754)
Interest paid		(52,765)
Dividends paid		(210,942)
Cash flows from financing activities		**(381,461)**
Net movement in cash and cash equivalents		**3,918**
Cash and cash equivalents at beginning of period		1,086
Cash and cash equivalents at end of period		5,004

3. The cash flow starts with the net income after tax. The tax charge in the income statement and the interest expense is added back. This gives the operating profits or EBIT: the depreciation and amortization are then added as they are non-cash expenses. This gives the EBITDA.

   A. The EBITDA is therefore the starting point for considering the cash generated by the activities in the year.

   B. The cash then increases if the operating working capital reduces in the year; the cash reduces if the operating working capital increases.

      (1) This is because a greater investment in inventories and trade receivables uses up part of the cash from profitable trading. The same thing happens if trade payables are paid more quickly;

   C. The EBITDA, as adjusted by the movement in the working capital, gives the cash flow from operations.

   D. The corporate income taxes paid in the year reduce the available cash.

E. The amounts paid to purchase fixed assets in the year also reduce the available cash. These are described as investing activities.

F. The various financing transactions are then on the cash flow statement:

(1) New funds borrowed will increase the cash;

(2) Funds repaid to lenders will reduce the cash;

(3) Interest paid to lenders will reduce the cash;

(4) Dividends paid to stockholders will reduce the cash.

4. The above cash flow statement is calculated from the movements in the balance sheet and the income statement: by analyzing the differences between the opening and the closing balance sheets, the cash flow effects can be calculated.

5. As an example the inventories increased in the year by 19,674:

Omar's Kitchens Change in Inventories		
Opening inventories		316,433
Closing inventories		336,107
Increase in inventories		(19,674)

6. The increase in inventories reduced the cash: if there were no changes at all to the rest of the balance sheet, the profits made in a year would all result in additional cash balances. That is not the case in practice due to various factors. The cash will reduce due to the following:

A. Some of the cash may be used to purchase fixed assets;

B. Some of the cash may be used for higher inventories or receivables;

C. Some of the cash may be used to reduce the amounts owing to trade payables;

D. Some of the cash may be used for repaying debt.

7. There are factors which lead to an increase in the cash. These include:

A. Depreciation is a non-cash expense;

B. If inventories and trade receivables reduce, this increases cash balances;

C. If trade payables increase, this increases the cash balances;

D. The cash balances may be increased by increased debt.

8. The workings relating to the above cash flow statement are given on the Excel file relating to this course, on the tab “Omar cf”.

9. The steps in preparing the cash flow statement are:

   A. Deduct this year's balance sheet from last year's balance sheet.

      (1) In order to do this the balances have each to be stated as either debits (assets) or credits (liabilities, debt and stockholders' funds).

      (2) The net of the differences should be nil.

      (3) These differences are the first draft of the cash inflows and cash (outflows).

      (4) As an example the profit and loss movement is:

Omar's Kitchens - Movement in Profit and Loss Account			
	Last year	This year	Difference
Profit and loss account	(516,809)	(539,580)	22,771

      (a) The difference of 22,771 means that the profit and loss movement has generated cash of 22,771.

      (b) This is then further analyzed in order to provide more information.

   B. Analyse the following movements:

      (1) Fixed assets;

      (2) Corporate income tax;

      (3) Reserves.

   C. As an example, the fixed assets movement is cash generation of 23,684. This is analyzed into:

      (1) purchase of fixed assets;

      (2) depreciation;

      (3) sales proceeds of fixed assets;

      (4) losses/(profits) on disposal of fixed assets.

   D. This is summarised below:

Omar's Kitchens - Movements in Fixed Assets				
	Last year	This year	Difference	Analyze
Fixed assets	914,061	890,377	23,684	(23,684)
Additions				(72,973)
Disposal proceeds				0
Losses/(profits) on disposal				0
Depreciation				96,657
				0

E. Example 4.10

(1) F Limited had fixed assets at book value of 899,459 last year. The charge for depreciation this year was 64,104 and there were proceeds of sale of fixed assets of 22,000. The fixed assets this year were 914,061 at book value. There were fixed asset additions of 84,648 this year and a profit on disposal of 15,968. Show the various figures for the cash flow statement.

F. The movement in the profit and loss account needs to start with the net income. The adjustment that is needed is for the dividends to stockholders of 210,942.

G. The analysis is below:

Omar's Kitchens - Movements in Profit and Loss Account				
	Last year	This year	Difference	Analyse
Profit and loss account	(516,809)	(539,580)	22,771	(22,771)
Dividends				(210,942)
Net income				233,713
				0

H. The net movement is broken down into its component figures above.

I. The final stage is to collect the figures into the correct groups and to present the cash flow statement.

10. Production of a cash flow statement that is part of the financial statements needs the balance sheets and the income statement. The financial statements may be very complex. The approach demonstrated above will result in a compliant cash flow statement.

Section N Making the Numbers Talk

1. Financial analysis provides more information from the figures in the financial statements.

2. There are various forms of financial analysis. They include:

A. Horizontal analysis:

(1) comparing the results of the business over time.

B. Vertical analysis – known as common size or one size financial statements.

(1) All of the figures in the income statement are stated as a percentage of sales.

(2) All of the figures in the balance sheet are stated as a percentage of total assets.

C. Ratio analysis:

(1) Comparing a figure in the income statement with a figure in the balance sheet.

(2) Examples are:

(a) sales to trade receivables;

(b) interest expense to debt;

(c) operating profit to equity and debt.

3. There are many types of financial ratios; they have been grouped as follows:

A. Growth ratios – most often concentrated on the growth of revenue.

(1) the growth of assets and cash flow depends upon the growth of revenue – if constant profit margins are maintained.

(2) A comparison of the growth rates of revenues with the growth rates of total assets can provide useful information about the use of assets.

B. Profitability ratios – controlling costs relative to the enterprise's revenue stream.

C. Asset utilization – measures the efficiency with which the firm employs its assets to generate revenue, a key consideration when estimating future requirements to invest in the productive asset base.

D. Financial leverage – measures the amount of "other people's money" used to fund the productive asset base.

E. Returns on investment – measures the returns produced by the productive asset base to the financial capital employed resulting from the interaction of profitability, asset utilization and financial leverage.

F. Measures of business and financial risk – these ratios help to determine the overall investment risk in an enterprise by providing various measurements of business or operating risk (e.g., the volatility of sales growth or profit margins) and enterprise financial risk (e.g., the degree of firm financial liquidity and the amount of debt capital or "financial leverage" employed).

4. We look at each of these groups of ratios in turn.

5. We will consider horizontal analysis first: the point was made that financial statements normally show figures for the current year and for the previous year. This is to allow a simple horizontal analysis to be undertaken.

6. Many public companies will produce figures for the last five years. This also allows horizontal analysis over a longer time period.

7. We will look at the change in sales and gross profits over time:

Comparing Results over time					
	5	4	3	2	1
Sales revenues	3,254,419	3,166,831	2,857,046	2,764,376	2,439,146
Cost of sales	(2,029,322)	(1,996,243)	(1,943,171)	(1,743,841)	(1,551,297)
Gross profit	1,225,097	1,170,588	913,875	1,020,535	887,849

8. These show that Omar's Kitchens has been growing over the last five years. Sales have been increasing and the Gross profit has been increasing.

A. We can consider the rate of growth in sales in a year: the formula is simple:

$$\left(\frac{Sales\ this\ year}{sales\ last\ year}\right) - 1$$

B. The growth between year 2 and year 1 is therefore:

$$\left(\frac{2{,}764{,}376}{2{,}439{,}146}\right) - 1 = 0.133 = \ 13.3\%$$

C. Example 4.11

(1) Calculate the annual growth for years 5, 4 and 3.

D. We now have growth for each year. We can obtain more information by calculating the Compound Annual Growth Rate. This is known as CAGR.

E. The formula is similar to the above:

$$\left(\frac{sales\ this\ year}{Sales\ earliest\ year}\right)^{\frac{1}{(n-1)}} - 1$$

F. The CAGR is therefore $\left(\frac{3,254,419}{2,439,146}\right)^{\frac{1}{(5-1)}} - 1 = 1.3342^{\frac{1}{4}} - 1 = 7.48\%$

G. Example 4.12

(1) Calculate the CAGR for the years 1 to 4.

H. The CAGR is a way of obtaining information about rates of growth over more than one year.

(1) A disadvantage of CAGR is that it is calculated only on the latest year and the earliest year. It tells us nothing about the performance in between.

9. We will now consider vertical analysis. We will continue with the example above. We will state the gross profit as a percentage of sales. Here are the figures:

Comparing Results over time					
	5	4	3	2	1
Sales revenues	3,254,419	3,166,831	2,857,046	2,764,376	2,439,146
Cost of sales	(2,029,322)	(1,996,243)	(1,943,171)	(1,743,841)	(1,551,297)
Gross profit	1,225,097	1,170,588	913,875	1,020,535	887,849
Gross profit percent	37.6%	37.0%	32.0%	36.9%	36.4%

A. The gross profit percent is a very important measure in many businesses:

(1) It is possible that sales increase strongly: if sales are won by reducing prices, the gross profit percent will reduce.

(2) A business that increases sales and does not reduce the gross profit percent is normally in a strong position.

(3) A business may be just as profitable by keeping sales constant and maintaining or increasing its gross profit percent.

B. The above figures show that the growth in sales has not been achieved by reducing prices. Year 3 is the exception: in that year the gross profit percent reduced by 4.9%. In all other years the business has increased its gross profit percent. There is a clear trend of increasing the gross profit percent.

(1) There is an obvious question to ask management: what happened in year 3?

(2) We can combine the above information: the sales only grew by 3.4% in year 3; the gross profit percent fell. What went wrong in year 3?

(a) It does not appear that the gross profit fell due to a policy of cutting prices – as the increase in sales was small.

10. As noted above the fullest form of vertical analysis is:

A. Express all figures in the income statement as a percentage of sales revenues;

B. Express all figures on the balance sheet as a percentage of total assets.

11. These are sometimes called one-size financial statements.

12. Here is the income statement presented as one-size financial statements:

OMAR'S KITCHENS				
Years ended December 31	This year	Last year	This year	Last year
Sales	3,254,419	3,166,831	100.0%	100.0%
Cost of sales	(2,029,322)	(1,996,243)	(62.4%)	(63.0%)
Gross profit	1,225,097	1,170,588	37.6%	37.0%
Administrative costs	(782,608)	(723,033)	(24.0%)	(22.8%)
Earnings Before Interest, Taxation, depreciation and amortization (EBITDA)	442,489	447,555	13.6%	14.1%
Depreciation, amortization etc.	(96,657)	(78,045)	(3.0%)	(2.5%)
Operating profits (EBIT)	345,832	369,510	10.6%	11.7%
Interest	(52,765)	(53,526)	(1.6%)	(1.7%)
Profit before tax	293,067	315,984	9.0%	10.0%
Taxation / Zakat	(59,354)	(53,180)	(1.8%)	(1.7%)
Net income after tax	233,713	262,804	7.2%	8.3%

13. Growth Ratios:

A. As noted above, the formula for the growth of sales revenues between this year and last year is:

$$\left(\frac{Sales\ this\ year}{Sales\ last\ year}\right) - 1$$

B. The formula for calculating the compound average growth rate is:

$$\left(\frac{Sales\ this\ year}{Sales\ earliest\ year}\right)^{\frac{1}{(n-1)}} - 1$$

C. We have looked at the growth in sales revenues in the above examples. The formulas can also be used for other amounts, such as the growth in profits or total assets.

D. Example 4.13

(1) In Year 6 the sales revenues are 3,514,773. In year 1 the sales revenues are 2,439,146. At the end of year 6 the total assets are 2,423,762. At the end of year 1 the total assets are 1,573,637.

(a) What is the CAGR of sales revenues for years 1 to 6?

(b) What is the CAGR of total assets for years 1 to 6?

(c) What are possible reasons for the difference in the two rates of growth?

- Trade receivables are being collected more quickly;
- The inventories are held at a lower level;
- Trade payables are being settled more slowly;
- The company was renting its office accommodation and has now bought the property;
- The company has been paying down debt;
- The company has sold its office accommodation and is now renting the same property;
- The company has been increasing the levels of cash held.

14. Profitability Ratios

A. We have already considered one of the most important of the profitability ratios. That is the gross profit percent.

B. The profitability ratios are vertical ratios: each level of profit is stated as a percentage of the sales revenues for that year.

C. As a reminder here are the profitability ratios that we calculated above:

OMAR'S KITCHENS		
Years ended December 31	This year	Last year
Sales	100.0%	100.0%
Cost of sales	(62.4%)	(63.0%)
Gross profit	37.6%	37.0%
Administrative costs	(24.0%)	(22.8%)
Earnings Before Interest, Taxation, depreciation and amortization (EBITDA)	13.6%	14.1%
Depreciation, amortization etc.	(3.0%)	(2.5%)
Operating profits (EBIT)	10.6%	11.7%
Interest	(1.6%)	(1.7%)
Profit before tax	9.0%	10.0%
Taxation / Zakat	(1.8%)	(1.7%)
Net income after tax	7.2%	8.3%

D. Different types of business will have very different profitability ratios:

(1) One business may focus on cost leadership (this means offering the lowest price in the market) :

(a) The sales volumes will be higher;

(b) The gross profit percent will be lower;

(c) The administrative costs will be a lower percentage of sales revenue.

(2) Another business may focus on product differentiation (this means a focus on the quality of the product or a brand name):

(a) The sales volumes will be lower;

(b) The gross profit percent will be higher;

(c) The administrative costs will be a higher percentage of sales revenue. Part of the increase will be due to marketing costs or technical costs relating to the product.

15. Asset Utilization Ratios

A. These ratios compare a figure in the income statement with another figure in the balance sheet. They are a means of measuring:

(1) The net book value of fixed assets compared to the income statement;

(2) The working capital compared to the income statement.

B. For fixed assets the formula is:

$$\frac{Sales\ revenue}{Fixed\ assets\ at\ book\ value}$$

C. Example 4.14

(1) The sales revenues and book values of fixed assets are:

Year	4	3	2	1
Sales	3,254,419	3,166,831	2,857,046	2,764,376
Fixed assets	890,377	914,061	899,459	949,854

(2) What are the ratios of sales over fixed assets for each of years 1 to 4?

(3) What are the possible explanations for the changes in the figures?

(a) The business has been buying its delivery vans. They were previously on short-term hire contracts.

(b) The business has not been buying delivery vans. They are now using vans on short term hire.

(c) The business has bought expensive capital equipment.

(d) The business has not been reinvesting in its capital equipment and replacement expenditure will be required shortly.

D. A very common asset utilization ratio is the comparison of trade receivables to sales revenues.

E. The ratio can be expressed in two different ways:

(1) The number of days sales that are uncollected and are owing by customers:

$$\frac{Trade\ receivables\ x\ 365}{Sales\ revenue\ for\ year};$$

or

$$\frac{Trade\ receivables}{Sales\ per\ day}$$

(2) The receivables turnover ratio:

$$\frac{Sales\ revenue\ for\ year}{Trade\ receivables}$$

F. Example 4.15

(1) Trade receivables at the yearend are 579,037. The sales in the year are 3,642,126.

(a) What are the number of days' sales in trade receivables?

(b) What is the receivables turnover ratio?

(2) At the previous year end the trade receivables were 75.6 days. What are possible explanations for the change?

(a) In the previous year the business had one very large customer who paid 90 days after receiving the sales invoice. The business no longer supplies this customer.

(b) During the year the business gained one very large customer who paid 90 days after the sales invoice.

(c) A person responsible for chasing customers for payment was recruited during the year.

(d) A person responsible for chasing customers for payment stopped working for the company during the year and has not been replaced.

G. A similar method of calculation can be applied to inventories:

(1) Inventory days:

$$\frac{Inventories\ x\ 365}{costs\ of\ goods\ sold\ in\ year},$$

$$or$$

$$\frac{Inventories}{Costs\ of\ goods\ sold\ per\ day}$$

(2) Inventory turnover ratio:

$$\frac{costs\ of\ goods\ sold\ in\ year}{inventories}$$

H. For trade payables the comparison is with the credit purchases. These are likely to be the materials included in costs of sales and certain of the administrative costs.

I. The formulas for trade payables follow the same pattern as those above:

(1) Payable days (credit taken from suppliers):

$$\frac{Trade\ payables\ x\ 365}{Credit\ purchases}$$

Or

$$\frac{Trade\ payables}{Credit\ purchases\ per\ day}$$

(2) Trade payables turnover ratio:

$$\frac{Credit\ purchases\ per\ day}{Trade\ payables}$$

J. It is possible to combine the various outputs above. This means that the net amounts invested in working capital can be stated. The working capital can be stated in terms of the net number of days.

K. This is a measure that needs to be treated with some care: this is because the lower part of the formula (the denominator) is not the same in the three figures. The formula is:

$$days\ in\ inventory + days\ in\ receivables - days\ in\ trade\ payables$$

$$= working\ capital\ days$$

L. As an illustration, we can assume that there are 64 days in inventory, 58 days in trade receivables and 46 days in trade payables.

(1) The working capital days are then $64 + 58 - 46 = 76\ days$

M. Example 4.16

(1) A business has 20 days in inventories, no days in trade receivables and 44 days in trade payables.

(a) What are the days in working capital?

(b) Which type of business, previously discussed, would this be?

16. Financial Leverage.

A. These ratios provide information on:

(1) The financing structure of the business;

(2) The ability of the business to pay the interest and to repay the debt.

B. We have already looked at the working capital ratios above:

(1) The current ratio:

$$\frac{current\ assets}{current\ liabilities}$$

(2) The quick ratio:

$$\frac{current\ assets\ less\ inventories}{current\ liabilities}$$

C. The next ratio compares the operating profits or EBIT with the interest expense. It is called times interest earned.

$$\frac{operating\ income}{Interest\ expense}$$

D. Example 4.17

(1) A company has the following figures in respect of operating profits and interest expenses. Please calculate the times interest earned for each of the years.

Year	4	3	2	1
Operating income	295,832	319,510	69,309	204,094
Interest expense	(75,368)	(73,417)	(36,412)	(39,761)

E. The balance sheet leverage is a means of expressing the structure of the financing capital.

F. With any balance sheet measure of leverage it is important to define the measure being used. Two common ratios of balance sheet leverage are:

$$\frac{Interest-bearing\ debt}{Equity}$$

and

$$\frac{Interest-bearing\ debt}{Interest-bearing\ debt\ and\ equity}$$

G. A company with high leverage has more risk in the invested capital structure.

H. Example 4.18

A company has the following levels of debt and equity. State the leverage using both of the above formulas:

Year	4	3	2	1
Debt	241,745	237,982	114,321	119,692
Equity	424,684	371,913	223,897	247,170

I. We can expect a relationship between the times interest earned ratio and the balance sheet leverage. They both measure the debt and equity in the capital structure of the company:

(1) The times interest earned ratio considers the division of the profits between paying interest on debt and rewards to equity;

(2) The balance sheet leverage compares the amounts of debt and equity directly.

J. If a business has a low times interest earned ratio it means that:

(1) It has too much debt and not enough equity in its capital structure; or

(2) It is not making adequate profits.

K. We can therefore consider four possible relationships of times interest earned and leverage:

(1) Low times interest earned and low leverage:

(a) The business is making low returns on invested capital.

(2) High times interest earned and low leverage:

(a) The business is making medium or high returns on invested capital.

(3) Low times interest earned and high leverage:

(a) The business is making low or medium returns on invested capital.

(4) High times interest earned and high leverage:

(a) The business is making high returns on invested capital.

L. You will remember that we discussed the advantages and disadvantages of debt in the invested capital structure previously.

M. We generally assume that the public companies in the markets have the optimum mix of equity and debt.

N. The leverage that is optimum will vary from sector to sector:

(1) A construction company is in a very cyclical industry. There may be large balances in construction work in progress and trade receivables. There may be some asset-based finance of some of the plant. However the business may be funded largely by equity.

(2) A company with a fleet of trucks may purchase those trucks using asset-backed finance. This may result in high leverage. This may be acceptable in the sector: in the event of problems the fleet of trucks can reduce and the debt can be repaid;

17. Returns on Investment

A. The simplest measure of returns on investment for an equity interest is given by the following formula:

$$\frac{Net\ income\ after\ tax}{Average\ opening\ and\ closing\ stockholders'\ funds}$$

B. The above ratio provides information on the profits as a percentage of the book value of the equity. It does not provide any further information.

C. Using the figures for Omar's Kitchens these are the returns on the average book values of equity:

Omar's Kitchens - Return on Equity at Book Value			
	This year	Last year	Year before
Net income after tax	233,713	262,804	
Equity	549,580	526,809	403,536
Return on average equity	43.4%	56.5%	

D. We can increase our understanding of the return on stockholders' funds: we can consider if the return to stockholders includes a margin on the debt within the invested capital. To do this, we need to compute the effective cost of debt.

E. The cost of debt before tax can be derived from the following formulas:

$$\frac{Interest\ expense}{closing\ debt}\ or\ \frac{Interest\ expense}{average\ of\ opening\ and\ closing\ debt}$$

F. The second formula is preferable if there are large changes in debt levels and if the information is available.

G. In order to make further comparison, the cost of debt should then be stated on an after-tax basis. In order to do this we apply the effective tax rate to the interest cost.

H. We see this in the example below.

I. An alternative measure is the use of the Net Operating Profits After Tax or NOPAT. When using NOPAT it must be related to the invested capital, not the stockholders' funds. The formula is:

$$\frac{NOPAT}{Average\ opening\ and\ closing\ invested\ capital}$$

J. NOPAT is calculated as follows:

(1) Calculate the effective percentage tax rate on the profits of the business;

(2) Deduct tax at that effective rate from the Operating Profits or EBIT.

K. We can illustrate with an example. We are using the same figures as we have used above for Omar's Kitchens:

Years ended December 31	This year	Last year
Sales	3,254,419	3,166,831
Cost of sales	(2,029,322)	(1,996,243)
Gross profit	1,225,097	1,170,588
Administrative costs	(782,608)	(723,033)
Earnings Before Interest, Taxation, depreciation and amortization (EBITDA)	442,489	447,555
Depreciation, amortization etc.	(96,657)	(78,045)
Operating profits (EBIT)	345,832	369,510
Interest	(52,765)	(53,526)
Profit before tax	293,067	315,984
Taxation / Zakat	(59,354)	(53,180)
Net income after tax	233,713	262,804

L. The effective tax rate is given by stating the actual tax charge as a percentage of the profit before tax:

$$\frac{59{,}354}{293{,}067}\ and\ \frac{53{,}180}{315{,}984} = 20.3\%\ and\ 16.8\%$$

M. Tax at the effective rates is then deducted from operating profits:

Years ended December 31	This year	Last year
Operating profits	345,832	369,510
Less tax at effective rate	(70,040)	(62,188)
Net operating profit after tax	275,792	307,322
Effective rate	20.3%	16.8%

N. The net operating profits relate to the equity and debt:

	This year	Last year	Before Last
Asset-backed lending current	17,752	17,752	17,752
Asset-backed lending - non-current	40,876	58,630	76,382
Bank loan - current	100,000	100,000	100,000
Bank loan - non-current	695,000	795,000	895,000
Total Debt	853,628	971,382	1,089,134
Common stock	10,000	10,000	10,000
Profit and loss	539,580	516,809	393,536
Total Equity	549,580	526,809	403,536
Invested capital Debt and Equity	1,403,208	1,498,191	1,492,670

O. The NOPAT can then be stated as the return on the total debt and equity:

	This year	Last year	Before Last
Invested capital Debt and Equity	1,403,208	1,498,191	1,492,670
NOPAT	275,792	307,322	
NOPAT/Invested capital	19.0%	20.6%	

P. The above figures are the same as the figures that we looked at above: we have earlier considered two different formats of the income statement – one for equity and the other for invested capital.

Q. The returns are measured by reference to NOPAT for the following reasons:

(1) In most countries the interest on debt is deductible for tax purposes. There is no tax deduction available for returns on equity;

(2) The use of NOPAT tells us about the returns on the total financing of the business;

(3) This can be related to a valuation concept called the Weighted Average Cost of Capital or WACC.

R. NOPAT is also known as NOPLAT (Net Operating Profit Less Adjusted Taxes). NOPAT and NOPLAT are different terms for the same figure.

S. Example 4.19

(1) This is a longer example. The aim is to bring together points relating to the returns made on invested capital.

(2) We have summarised above the invested capital for Omar's Kitchens for this year and last year. The relevant figures are:

Omar's Kitchens - Returns on Invested Capital			
	This year	Last year	Year before
Equity	549,580	526,809	403,536
Debt	853,628	971,382	1,089,134
Invested capital	1,403,208	1,498,191	1,492,670
Operating profits	345,832	369,510	
Interest expense	(52,765)	(53,526)	
Effective tax rates	20.3%	16.8%	

(a) Please calculate the times interest earned ratio for this year and last year.

(b) Please calculate the effective cost of the debt before tax using the average of the opening and closing debt figures;

(c) Please state the cost of debt on an after-tax basis, using the effective tax rate;

(d) Please calculate the balance sheet leverage for this year and last year.

(e) What are your conclusions based on this information?

- Compare the times interest earned to the leverage;
- Compare the cost of debt to the NOPAT/invested capital return;
- What is the effect of the above on the returns on equity?

18. Measures of Business and Financial Risk

A. There are various measures used by banks and other financial institutions. These measures form part of the lending review:

(1) will the business be able to pay the interest on the sums advanced?

(2) Will the business be able to repay the sums advanced on time?

B. These measures are often included as a contract term in a lending agreement.

C. Such measures are often based on EBITDA. This is because EBITDA is closer to the underlying operating cash flows than other measures in the income statement.

D. There are three such measures below. These include illustrations of the figures that might apply. These figures are for illustration only.

$$\frac{EBITDA}{Debt} \; must\ be\ more\ than\ 0.5x$$

$$\frac{EBITDA}{Interest\ expense} \; must\ be\ more\ than\ 5x$$

$$\frac{Cash\ flows}{Interest\ and\ principal\ repayments} \; must\ be\ more\ than\ 1.35x$$

E. If the conditions are not met, the company will have broken the contract terms for the lending. The bank may then require the repayment of the debt.

F. Example 4.20

(1) Does Omar's Kitchens meet the above conditions for this year?

19. In the next chapter we look at how budgets and projections are prepared, using the accounting skills covered above.

Chapter 5 Fundamentals of Financial Management

Section A Projections - Introduction

1. One essential task undertaken by many businesses is the preparation of budgets for the next year.

2. In addition to the budget for the next year, projections may be prepared covering several years into the future.

3. The previous revenues and costs of most mature businesses are very important information. They tell us about:

   A. the pattern of costs;

   B. the rates of growth achieved;

   C. the range of gross margins;

   D. the range of operating margins;

   E. the way that administrative costs have moved with the changes in size of the business;

   F. the way that the fixed assets and working capital have changed with the changes in size of the business.

4. As an example: a business has sales revenues of 2,000,000 a year and operating profits of 100,000 a year. It has been growing over the last five years at a rate of no more than 3% a year. The normal starting point would be to assume that the sales revenues in the following year would be budgeted at a little above 2,000,000 a year.

   A. If the budget is for sales of 3,000,000 and profits of 200,000, there would need to be a clear explanation. Why is the performance of the business going to get so much better? We would need to understand how such growth in sales revenues and operating profits was to be achieved.

   B. There may be an entirely valid reason, such as the acquisition of another business or expansion into a new location or product or service line. Whatever the reason, the change is very significant when compared with past performance.

      (1) Any review of such a budget would focus on the exceptional features that are causing the break from the trends of the past.

5. Past results are far less important as a guide for a business that is still in a development stage. Such a business may be loss-making. Its sales revenues and costs may be growing very rapidly.

A. For such a business the budget is more difficult to prepare. There are far more uncertainties.

B. The rate of growth of sales may be the most difficult single factor to predict.

C. If the business is not yet generating sales revenues, things are simpler. It is then very likely that the budget will begin with a headcount of the expected employees.

Section B The Budgeting Culture

1. Different businesses have various approaches to the preparation of budgets:

   A. Some businesses set budgets that are very challenging and are almost certainly not achievable:

      (1) They may be put in place as part of setting challenging targets for the sales force and the management team;

      (2) They may be unduly optimistic due to external factors. These are addressed below;

      (3) They may just reflect a management style based on optimism.

   B. Other businesses can prepare budgets that are almost certain to be exceeded.

      (1) This can reflect a defensive attitude: managers may be concerned about not achieving the budgets. If there is a negative “blame” culture in the business, this can result in defensive budgeting;

      (2) Other businesses may be subject to external pressures. The budgets and management accounts may be monitored by the bank. In that case the managers may decide that they would rather be seen to exceed the expectations in the budgets. This may be preferable to always reporting results below budget.

         (a) Alternatively the bank lending may have been based on budgets that were too high.

   C. Other external factors may distort budgets that are prepared:

      (1) If a business is in a negotiation for a sale, it is very possible that the budget will be prepared on a very optimistic basis. It may be unrealistic;

      (2) If a business partner is leaving, or one of the owners is getting divorced, the budget may be prepared on a very pessimistic basis.

Section C Testing Budgeting Ability

1. A comparison of the actual results of earlier years with the budgets that were prepared for those years is an important part of budget setting:

   A. The people preparing budgets can see how close to reality their budgets have been in the past:

      (1) This may highlight an internal bias. An example is failing to allow for an increase in administrative costs when sales increase significantly.

      (2) The budget setter may make allowance for winning new customers. However there may be insufficient allowance for customers being lost.

      (3) Alternatively there may be insufficient allowance for additional revenues from existing customers.

      (4) The budget setter may assume that production wastage, non-recoverable receivables or inventory losses are exceptional events. In reality they may occur every year.

   B. Those reviewing budgets can identify any patterns in the budget setting culture as detailed above.

Section D Budget Preparation

1. Such budgets and projections normally begin with the expected levels of sales revenues. Once the sales revenues have been budgeted, the costs of sales are then budgeted. This then gives the gross profit. For a mature business the gross profit percentage achieved in the past will normally provide a guide as to what is likely to be achievable in the future.

2. The amount of detail will depend upon the complexity of the business. If there are various products or service lines, the budget may be calculated by looking at the potential gross profit margins expected from the separate products or services. The overall gross margin percentage can change if there is a change in the mix of products or services sold.

3. It is then necessary to budget for the administrative costs. Each line should be budgeted separately. All known factors should be taken into account.

4. This then results in the EBITDA being calculated.

5. There is no direct relationship between sales revenues and many administrative expenses. However, administrative support services will need to increase over time as the size of the business increases.

A. We have previously discussed variable costs and other costs. With some of the other costs the increases can be described as stepped:

(1) It is likely that additional people will be added to the finance and marketing functions one by one on a full time basis;

(2) The same will be likely to apply to the people who provide the computer network support;

(3) At some stage the company's production and office accommodation will be too small.

(a) If the business anticipates continuing growth, it will be likely to move to a larger site that is too large for its immediate needs. This is likely to be preferable to moving offices on a frequent basis.

B. The preparation of a budget will need to consider each of the administrative costs. They will not be expected to increase in direct proportion to the increase in sales revenues. However there will be increases in such costs as the business increases in size.

C. One of the most common budgeting mistakes is to keep administrative costs the same as the business increases in size.

6. The next stage is to consider the effect of the budgeted sales and costs on the balance sheet of the company:

A. Increases in sales will be likely to lead to increases in the fixed assets and to changes to the working capital.

B. The changes to the fixed assets then means that the depreciation charge can be calculated. This then results in the budgeting of the operating profits or EBIT.

C. The working capital will be expected to change in line with the growth of the business:

(1) If the trade receivables have been equivalent to 51 days sales in the past, the best estimation is likely to be that this will continue.

D. The next stage in the budgeting process is to prepare the cash flow forecast.

(1) The cash flow forecast will be calculated using two sources:

(a) The income statement revenues and costs;

(b) The changes to the balance sheet.

7. We will continue with the example of Omar's Kitchens. We have the results for this year and last year. We also have the results for the three previous years. These are on the tab "Omar pl".

8. What information can we obtain from these figures? We will use the figures on the tab "Omar pl". This is reproduced below. We will also use the following information:

Years ended December 31	This year	Last year	Year before	Year before -1	Year before - 2
Sales	3,254,419	3,166,831	2,857,046	2,764,376	2,439,146
Cost of sales:					
Purchases	(1,501,939)	(1,303,203)	(1,290,682)	(1,210,946)	(1,059,342)
Wages	(368,743)	(403,474)	(411,289)	(323,700)	(309,753)
Installation and other	(158,640)	(289,566)	(241,200)	(209,195)	(182,202)
	(2,029,322)	(1,996,243)	(1,943,171)	(1,743,841)	(1,551,297)
Gross profit	1,225,097	1,170,588	913,875	1,020,535	887,849
Administrative costs					
Rent and rates	(53,662)	(51,692)	(51,075)	(102,034)	(100,492)
Directors' salaries	(49,253)	(30,150)	(54,929)	(9,900)	(8,900)
Directors' NIC	(3,683)	(1,899)	(5,222)		
Director's pension con'b'ns	(64,653)	(19,450)		(15,000)	
Wages and social security	(365,538)	(393,690)	(391,488)	(347,429)	(301,237)
Marketing costs	(52,915)	(55,657)	(58,982)	(94,696)	(82,931)
Motor expenses	(82,059)	(86,792)	(71,902)	(65,312)	(50,621)
Consultancy fees	(14,908)	(12,943)	(12,633)	(13,775)	(12,508)
Depreciation	(96,657)	(78,045)	(56,848)	(67,438)	(58,571)
Bad debts	(2,220)		(19,249)	(2,970)	(17,432)
Profit on disposal		15,968		26,178	
Other	(93,717)	(86,728)	(122,238)	(124,065)	(110,491)
	(879,265)	(801,078)	(844,566)	(816,441)	(743,183)
Operating profit	345,832	369,510	69,309	204,094	144,666
Interest net	(52,765)	(53,526)	(3,776)	(10,459)	(7,738)
Profit before tax	293,067	315,984	65,533	193,635	136,928
Taxation	(59,354)	(53,180)	10,135	(64,364)	(26,016)
Profit after tax	233,713	262,804	75,668	129,271	110,912
Dividends	(210,942)	(114,791)	(98,941)	(85,901)	(76,349)
Brought forward	516,809	368,796	392,069	348,699	314,136
Carried forward	539,580	516,809	368,796	392,069	348,699

A. We have learnt that Omar's Kitchens has two types of customers: it has individual customers who want to improve their own homes; it also has some real estate construction customers. These customers are building new homes and Omar's Kitchens supplies and fits kitchens for these new properties.

B. The business is planning to employ another salesman. He is joining them from a rival company.

C. The managers are aware that the costs of white goods and other materials are increasing by 3%. They plan to increase prices of kitchens by 4%.

D. The managers have budgeted sales of 3,385,000 for next year.

E. Example 5.1

(1) Calculate the growth rate of sales revenue for each of the years on the tab.

(2) Calculate the Compound Average Growth Rate (CAGR) of the sales revenues.

(3) Prepare common size figures for each of the figures in the income statement.

(a) Remember, this requires each of the figures in the income statements to be stated as a percentage of sales for the year.

(4) Do you consider 3,385,000 to be a realistic budget for sales revenues?

(5) What are your conclusions on the gross profit percentages in previous years?

(6) Consider some possible explanations for the trend in marketing costs.

9. It is very likely that the budget for sales will be complex. Omar's Kitchens is a simple example. The analysis for other businesses will be likely to include:

A. An analysis of past sales over product or service lines;

B. For larger customers, budgets for sales revenues from each customer;

C. An expected loss of existing customers in percentage terms. This is called Attrition.

(1) Attrition is described in the Taqeem Glossary as: the rate of loss of existing customers, a group of contracts, workforce or other Assets or the rate of decay of existing technology. The rate of attrition of customers varies according to any inherent advantage of the company, customer loyalty, switching costs and also the length of its contractual arrangements.

D. Omar's Kitchens has two types of customers:

(1) Retail customers who plan to improve their homes by having a new kitchen fitted; and

(2) Trade customers: these are construction companies building new homes. Customers of the construction companies are able to choose a kitchen from the Omar's Kitchen range. This is included in the price of the new property.

E. When preparing the budget for Omar's Kitchens, the sales should be analyzed between retail and trade customers.

(1) The margins made on sales to retail customers are normally higher than sales to trade customers;

(2) Retail customers normally provide a cash deposit when placing the order;

(3) Trade customers provide a steady stream of work to the company;

(4) The installation of kitchens for trade customers is easier: the kitchens are being fitted into a newly built property;

(5) Trade customers take 60 days to 75 days credit before paying the invoices raised by Omar's Kitchens.

10. The two largest figures in costs of sales are purchases and production wages. We will consider these two costs.

A. The purchases comprise the work tops, the materials for the cabinets and doors, and the white goods – dishwashers, fridges and other kitchen equipment.

(1) In the last five years these costs have been in the range 41.2% to 46.2% of sales revenues.

(2) A reasonable starting point is to assume that these costs will be within that range.

(3) The business anticipates an inflationary increase of 3% in these costs. It is planning to increase its own sales prices by 4%.

(a) In preparing the budget for the following year, these two assumptions will need to be built into the forecasts;

(b) The management may be aware that the aim to increase sales prices by 4% may not always be achieved in practice due to market pressures. The budget may therefore allow for the actual increase achieved being less than 4%.

B. The production wages have been in the range 11.3% to 14.4% of sales revenues. See Example 5.2 below for the most recent 3 years. If the outlier year is excluded, the range is a narrow one of 11.3% to 12.7% of sales revenues.

(1) It should be possible to calculate the wages of the employees engaged in production, based on the numbers employed and their wage levels.

(2) Although these costs are included in costs of sales, the production wages do not vary directly with the level of sales in the short term. The production workforce is employed on the assumption of certain amounts of work being required.

(a) It is obviously important to allow for the impact of inflation and other known factors in budgeting the cost.

(3) The budget for sales revenues indicates that no volume increase in production is anticipated. The number of people employed in production is therefore likely to remain the same.

C. Example 5.2

(1) In the year before last year the gross profit percentage was low at only 32.0%. The figures follow:

	Year before last year
Sales	100.0%
Cost of sales:	
Purchases	(45.2%)
Wages	(14.4%)
Installation and other	(8.4%)
	(68.0%)
Gross profit	32.0%

(2) The figures for production wage costs over the five years are:

Production wages	(368,743)	(403,474)	(411,289)	(323,700)	(309,753)
Production wages percent	(11.3%)	(12.7%)	(14.4%)	(11.7%)	(12.7%)

(3) You discuss this year with management. They explain that a new computer aided design system was introduced during the year before last. This system was designed to provide details of the sizes of cabinets based on the size of the kitchen.

(a) There were major difficulties with this system initially. There were losses of some materials as the measurements from the system were wrong. There were delays in completing some of the orders and some sales were lost in consequence.

(b) The greatest impact was on the productivity of the production workforce: the management have stated that about 7 weeks' production was lost during this period. Therefore instead of the workforce being productive for 46 weeks per year, the production in that year represented only 39 weeks.

(4) Consider the above information. Do you consider that the above explanation is likely to be an accurate explanation for the unusually high cost of production wages in that year?

Section E Building the Model

1. When preparing a budget it is very important that the income statement, balance sheet and cash flow forecast are consistent.

A. This can be complex. The level of complexity will depend on the assumptions within the model.

(1) Jawad's fruit stall is largely a cash-based business. There will be a close relationship between the income statement and the cash flows:

(a) The sales revenues in the income statement will be the same in the cash flows;

(b) Some of the fruit purchased from the fruit suppliers will be paid for after the fruit is delivered;

(c) Some of the expenses may be paid after the costs have been incurred:

- If Jawad's brother works full time on the stall he may be paid at the end of every month;
- At some stage there will need to be a depreciation charge on the stall. This will be a non-cash expense.

B. We can compare this with Omar's Kitchens:

(1) Retail customers normally pay a deposit when ordering their kitchen;

(2) They then pay the balance after the installation is complete;

(3) Trade customers do not pay a deposit. They take 60 to 75 days credit after each kitchen is fitted and invoiced;

(4) Some allowance needs to be made for customers who do not pay;

(5) Omar's Kitchens buys the white goods and other materials on credit;

(6) The employees are all paid at the end of each month. The taxation and other government deductions are paid some 15 days later;

(7) Some of the administrative costs, such as rental charges, are paid in advance;

(8) Corporate income taxes are paid after the end of the year;

(9) There are depreciation costs. These are a non-cash expense;

(10) There is capital expenditures. These are not a revenue expense but they do result in cash outflows.

2. It is normal for a budget to be prepared on a month by month basis.

   A. This means that the budget for a year will have:

      (1) 12 income statements;

      (2) an opening balance sheet and 12 more balance sheets;

      (3) 12 cash flow statements.

   B. These are conventionally prepared on a spreadsheet with the required number of columns.

3. We need to consider the relationships between these three primary statements. We can recognize that:

   A. The income statement will include a budget for sales revenues;

   B. The balance sheet will include a budget for the trade receivables;

   C. The income statement and the balance sheet will be linked together by the trading receipts in the cash flow statement.

4. You will recall that we looked at a simplified version of the workings in respect of trade receivables:

Sales revenues, trade receivables and cash				
			This year	Last year
Opening trade receivables			2,900,000	2,750,000
Sales revenues			17,570,000	18,250,000
Closing trade receivables			(3,420,000)	(2,900,000)
Cash			17,050,000	18,100,000

A. The opening and closing trade receivables are shown on the opening and closing balance sheets.

(1) The difference is that, with a budget, the closing trade receivables will be budgeted figures and not actual ones.

(a) This budget for trade receivables will be calculated using assumptions. As an example, if the trade receivables have represented 55 days' sales in the past, the assumption will normally be that this will remain the case.

B. The sales revenues are shown on the income statement.

(1) These will be the budgeted sales revenues.

C. The cash received from trade receivables is shown on the cash flow statement.

(1) This figure will be calculated as illustrated above.

5. For a budgeting and forecasting model to work as intended, there will need to be a series of calculations as shown above for trade receivables.

A. Example 5.3

(1) This year the credit purchases were 7,230,942. The closing trade payables this year were 871,675.

(2) The budget for next year includes credit purchases of 7,809,420.

(a) How many days of credit purchases were in trade payables at the end of this year?

(b) If the credit purchases are the same every month, what is a reasonable estimate for the trade payables at the end of each month in the budget?

(c) How much cash is budgeted to be paid out on credit purchases during the year?

(d) The credit purchases total 7,809,420 for the year. We now assume that there are different amounts for each month.

- In month 3 the credit purchases are 813,481.
- In month 4 they are 553,167.
- In month 5 they are 715,863
- In month 6 they are 585,707

What is a reasonable estimate of the trade payables at the end of month 4?

6. One of the hardest parts of preparing an integrated budget for one year is the analysis of the opening balance sheet:

A. The opening inventories have to be transferred to cost of sales in the income statement, or remain on the balance sheet if not used.

B. The opening trade receivables have to be shown as cash receipts in the first few months of the budget.

C. The opening trade payables have to be shown as cash payments in the first few months of the budget.

D. The other components on the balance sheet need to be reviewed. There are various choices:

(1) They remain on the balance sheet:

(a) Examples are:

- the cost of fixed assets and
- receivables not to be collected in the period;

(2) They are transferred or entered onto the income statement:

(a) Examples are:

- opening inventories if used in sales made in the period;
- prepaid expenses, such as rent paid in advance;
- monthly depreciation and amortization, charged to the income statement and credited to the balance sheet.

(3) They are transferred to the cash flow statement.

(a) Examples are:

- Trade receivables as they are collected;
- Trade payables as they are paid;
- Corporate income tax liabilities at the point of payment;
- Payroll deductions as paid to the government.

7. The three primary statements – income statement, balance sheet and cash flow statement – have to be based on consistent data.

   A. If there are any errors then the three statements will not be in balance.

   B. Common errors include:

      (1) Different assumptions between income statement and balance sheet;

      (2) Missing some of the minor cash inflow effects, such as proceeds on the sale of fixed assets, other miscellaneous receipts;

      (3) Not including all relevant expenses in the cash flow statement.

      Not identifying all of the factors that are present in the opening balance sheet.

Section F Projections Over Longer Time Periods – Growth

1. Projections over several years are based on assumptions. One of the most important assumptions is the rate of growth. Various questions have to be addressed when considering the rate of growth for the future:

   A. Is the rate of sales growth consistent with the past?

      (1) If not, are there good reasons for the growth to differ from the past?

   B. Are the assumptions of the gross margin realistic?

      (1) Does growth require increasing market share by reducing sales prices?

   C. Has adequate allowance been made for all of the effects of growth? These effects are extra costs and increased balance sheet balances.

      (1) The growth may require a significant increase in marketing and advertising costs;

(2) We have previously discussed variable costs and other costs. It is important that the impact on the administrative costs of growth in the size of the business is considered.

2. The conventional view of growth is that businesses can only grow if they retain all or part of the cash flows. This means that the cash flows are not paid out to stockholders as dividends.

A. It is also a conventional view that cash is needed to fund the large increases in capital equipment and working capital that are required by a growing business.

B. This is still the case for manufacturing and certain other sectors.

(1) For such capital-intensive sectors a period of high growth can require very significant cash to fund that growth.

(a) Profits may be generated, but the business may run out of cash.

(2) The management need to consider if adequate allowance has been made for the increase in fixed assets and working capital.

C. For some other businesses the situation is rather more complex: the expenditure which enables growth to take place is largely comprised of revenue expenditure. This is in the form of creating new intangible assets.

(1) There is not the same need for cash to fund tangible capital expenditures and increases in working capital:

(a) The cash is spent but is charged to the income statement. It is not added to the balance sheet values.

(2) As an example, an advertising agency business seeks to grow by means other than acquisition. It hires a specialist in advertising to the automobile sector, who builds a team around herself. The team target clients in the motor trade; losses are incurred in years 1 and 2; the new team breaks even in year 3 and is profitable in year 4.

(a) In these circumstances these costs are all recognised as revenue expenditure; they represent costs incurred in order to increase the total value of the business as new intangible assets are being created. However these costs cannot be reliably measured and are therefore expensed through the income statement.

(b) An alternative to the above would have been the acquisition of a business in which the automobile advertising specialist and a team which she headed worked. In that circumstance the cost would be capitalised and intangible assets recognized.

(3) We previously looked at two public companies in the advertising agency business. One of these was S4C plc.

(a) S4C has been buying many existing businesses. It has therefore paid significant amounts for intangible assets;

(b) It has also been growing its sales by internal investment.

(c) S4C has therefore been engaged in organic growth and also growth by acquisition.

- It shows its sales revenues and growth as two types: sales from existing businesses and sales from acquired businesses.

(d) Intangible assets are only recognized in respect of the businesses that have been acquired.

3. Where is the growth coming from? - Summary

A. Growth can vary greatly across industries and across firms within industries. There are typically three ways to achieve growth:

(1) Product portfolio: Companies can create additional value through what is called organic growth. This means expanding the existing business through internal expansion:

(a) developing new products and services;

(b) persuading customers to use more of the existing products and services; and

(c) attracting new customers.

(2) Merger and Acquisitions: This is probably the fastest value-creating strategy. This can involve entering fast growing markets and taking revenue from those markets.

(3) Market share performance: This is probably the most difficult way to achieve growth, especially in mature markets. It often requires the use of one of Porter's strategies:

(a) Cost leadership – offering the lowest prices;

(b) Product differentiation – offering the most attractive products or services;

- The most attractive products or services are not necessarily the best products or services.

(c) Focus – becoming a specialist serving a narrow market segment.

Section G Projections Over Longer Periods - General

1. As noted above, projections for the future are built on assumptions.
2. The most important assumption is nearly always the level of sales revenues.
3. For stable and mature businesses it is likely that the projections of sales revenues for future years will be determined by:
   A. The rate of inflation;
   B. The growth in the market in which the business operates;
   C. Other factors special to the business.
4. For early stage companies the rate of sales growth will need to take account of both inflation and the market place. However the other factors (C above) are likely to be dominant:
   A. A company that is disrupting an existing market may achieve very rapid growth if its business model is successful;
   B. A company with a new technology may achieve very rapid growth if the new technology is successful.
5. Projections over longer time periods involve the same technical skills and disciplines as are required for a one year budget.

Section H Projecting Cash Flows for Appraisal Purposes

1. For individual projects it is possible to project cash flows for a finite period. As an example:
   A. A new plant is being planned to carry out a chemical process. The chemicals produced are fragrances that will be sold to businesses that manufacture shampoo, soaps and other toiletries.
   B. The plant is designed to have a useful life of 20 years.

(1) During those twenty years it should generate net cash inflows. These will equate to:

(a) The cash outflows at the start of the project buying the plant and having it commissioned. This will include running the plant on a test basis;

(b) the cash inflows from the sale of the fragrances less the various cash outflows from operating the plant over a period of 20 years;

(2) At the end of the 20 years there will be cash inflows from the sale of the dismantled plant. There will be cash outflows from closing the activity and clearing the site.

2. For this type of project the value of the project can be appraised over the whole of its life:

A. The cash outflows on buying and commissioning the plant at the start will be discounted back to net present values;

B. The 20 year period of cash inflows can be discounted to net present value year by year.

(1) It is a feature of the cost of capital that cash inflows in the future have a lower value than cash inflows in the present. The cash flows for each year will therefore be discounted using lower discount factors for the later years.

(a) As an example a discount factor for cash inflows in year 5 will be 0.567 if using an annual discount rate of 12%. The formula is: $\frac{1}{(1+0.12)^5}$

(b) The discount factor for cash inflows in year 15 will be 0.183 on the same basis. $[\frac{1}{(1+0.12))^{15}}]$

(2) We will demonstrate how these figures are calculated in the next session.

3. A business is different from an individual project appraisal.

A. A project will normally be for a set period.

B. A business will normally be assumed to continue, with no set end date.

4. We deal with this by assuming that a business will normally continue with no end. This requires the following steps:

A. For a stable business that is growing at a constant rate, we can use a single period multiplier.

(1) There are limits on rates of growth that we can assume will continue forever;

(2) The rates of growth are normally inflation with a possible addition for economic growth.

(a) Any higher rate of growth cannot be maintained in perpetuity.

B. For a business that is growing at a faster rate, projections will be prepared for several years. These are known as discrete periods.

(1) The number of discrete periods will vary: it is until the business has reached a stage of sustainable long-term growth.

(a) The number of years may be as few as 3; it may extend for 7 or more years.

(2) It will then be necessary to calculate a terminal value. That terminal value is the value of the business at the end of the discrete period of projections.

(a) The terminal value may include a factor for the long-term growth;

(b) It may alternatively be the estimated market value of that business at the end of the above period.

(3) The various years of the projections and the terminal value are then discounted back to net present value using a discount factor.

5. In the next chapter we look at financial mathematics. We develop some of the matters that we have described above.

Chapter 6 Financial Mathematics

Section A The Valuation of Bonds

1. Bonds and shares are valued as the present value of future cash flows. This is a very important point.

   A. If there are no future cash flows there can be no value.

   B. If there are future cash flows, the value will be equivalent to the present value of those future cash flows.

2. We can now consider how future cash flows are valued. We will begin with a simple financial instrument, that is a fixed rate bond. The bond has a face value of 1,000 and pays interest at an annual rate of 5% at the end of each year. The amount of 1,000 is repayable at the end of year 5.

3. The rate of return in the market reflecting the risk in the bond is also 5%. This is the discount rate.

   A. The holder of the bond therefore has to value the future cash flows: these are:

      (1) Interest received of 50 at the end of years 1 to 5;

      (2) Capital received of 1,000 at the end of year 5.

   B. The formula for compounding interest is:

$$loan\ x\ (1+r)^n$$

$$r = rate\ of\ required\ return$$

$$n = number\ of\ years$$

   C. The method of valuing bonds is the reverse of the compounding of interest. With the example of Bashar in chapter 1, it was necessary to reverse the compounding effect in order to calculate the original loan. This reverse of compounding is known as discounting.

   D. Discounting is a very important principle in business valuation. It applies to the valuation of bonds. It also applies to the valuation of equities and nearly all other financial instruments.

   E. The first amount of interest will be received in 1 year: It is valued by the following formula:

$$\frac{50}{(1+0.05)^1} = \frac{50}{1.05}\ .$$

F. The present value of the first interest payment is therefore 47.62.

(1) This can be explained in simple terms: if 47.62 was put in a bank account that paid interest each year of 5%, the balance in the bank account would increase to 50 at the end of one year. The formula is:

$$47.62\ x\ 1.05 = 50.00$$

The interest amounts received in the later years are calculated in the same way. The generalised formula that is applied is:

$$\frac{CF}{(1+r)^n}$$

$CF = cash\ flow$

$r = rate\ of\ return\ required\ (discount\ rate)$

$n = number\ of\ years\ to\ be\ discounted$

G. The present value of the five amounts of interest received and the capital returned is therefore:

$$\frac{50}{1.05} + \frac{50}{1.05^2} + \frac{50}{1.05^3} + \frac{50}{1.05^4} + \frac{50}{1{,}05^5} + \frac{1{,}000}{1{,}05^5}$$

$$= 47.62 + \frac{50}{1.102} + \frac{50}{1.158} + \frac{50}{1.216} + \frac{50}{1.276} + \frac{1{,}000}{1.276}$$

$$= 47.62 + 45.35 + 43.19 + 41.13 + 39.18 + 783.53 = 1{,}000.00$$

H. It is no surprise that the present value of the bond is 1,000. This arises because the rate of return on the bond is the same as the rate of return required by the market.

I. The market places the price of the bond at 1,000 because the rate of return required is the same as the interest rate on the bond.

J. The valuation reality in that simple statement is as set out above.

4. We will continue with the above example. The interest rates in the market had changed. The rate required by the market was 4%. The bond was still required to pay 5% for 5 years. The change in the market had no impact on the amounts payable on the bond. It did however affect the market value of that bond. The bond would be valued as follows:

$$\frac{50}{1.04} + \frac{50}{1.04^2} + \frac{50}{1.04^3} + \frac{50}{1.04^4} + \frac{50}{1.04^5} + \frac{1{,}000}{1{,}04^5}$$

A. The bond would have a value of:

$$48.07 + 46.23 + 44.45 + 42.74 + 41.10 + 821.93 = 1{,}044.52$$

B. The bond has increased in value from 1,000.00 to 1,044.52. This increase is due to the market requiring a lower return.

(1) This is nothing to do with the issuer of the bond. It is entirely due to market forces.

C. There is no change as far as the company is concerned. The company will still pay interest at a rate of 5% on the bond. It will still pay 1,000 at the end of five years in repayment.

D. The investor now has an investment that has increased in value by 44.52. That is an increase of 4.45%.

E. This shows us a feature of the pricing in the bond markets:

(1) If interest rates reduce, bonds increase in value;

(2) If interest rates increase, bonds reduce in value.

5. These calculations give the "yield to maturity" of the various bonds in the market. The yield to maturity has nothing to do with the rate of interest payable on the bond. It reflects the market pricing of the bond.

6. We can demonstrate this with an extreme example: a bond that is redeemable in 3 years' time pays annual interest at 12%. The rate required by the market is 2%. Using the tools that we have used above, we can say that the market value of the bond is 128.84 for every 100 of face value of the bond. A Market Participant buying the bond at that price would obtain a yield to maturity of 2%.

A. Here are the calculations:

12% bond, 3 years to redemption			
1	2	3	3
2%	2%	2%	2%
0.980392	0.961169	0.942322	0.942322
12	12	12	100
11.76	11.53	11.31	94.23
128.84			

7. In the previous chapter we looked at an example in which the discount factors for 5 years and 15 years were considered, both using a discount rate of 12%. We can now explain the figures.

8. The calculations are then:

   A. 12% discount for 5 years = $\frac{1}{1+0.12^5} = 0.5674$

   B. 12% discount for 15 years = $\frac{1}{(1+0.12)^{15}} = 0.1827$

9. Now it is over to you

   A. Example 6.1

   (1) What is the value of a 4-year bond with a face value of SAR 500, which pays interest at 3% a year, when the rate required by the market is 4.5% at the end of each year?

   (2) What is the value if the above bond pays annual interest of 3% but at half-yearly intervals? The rate required by the market is 4.5% at half-yearly intervals?

10. There are some bonds that have no set repayment date. The cash flows that have to be valued are the amounts of interest received each year. The cash flows continue over the long term.

    A. We will consider the value of a permanent bond of 1,200 that has an interest rate of 5%. The interest received each year is therefore 60. This is also the rate required by the market for the risk within the bond. How do we value such a bond?

    (1) Instead of calculating the present value of the interest payment at the end of each year, we can use the formula for an annuity. An annuity is a series of amounts received in accordance with a contract. Using the above inputs we can use the annuity formula to value the amounts received. The general form of the level annuity formula is:

$$\frac{1 - \frac{1}{(1+r)^n}}{r}$$

    (2) We can use the above formula to consider the value of the receipts. We have shown below receipts of 60 for periods of 25 years, 40 years and 50 years.

$$25\ years: 60\ x\ \frac{1-\frac{1}{(1.05)^{25}}}{.05} = 60\ x\ \frac{1-0.295}{.05} = 846 = 70\%$$

$$40\ years: 60\ x\ \frac{1-\frac{1}{(1.05)^{40}}}{.05} = 60\ x\ \frac{1-0.142}{.05} = 1{,}029 = 86\%$$

$$50\ years: 60\ x\ \frac{1-\frac{1}{(1.05)^{50}}}{.05} = 60\ x\ \frac{1-0.087}{.05} = 1{,}095 = 91\%$$

(3) The above formula simplifies very considerably as n, the number of years, increases. The part of the formula above that is highlighted in yellow gets ever close to 0 as the number of years increase. (We can see that from the 3 examples above.) This is known as the mathematical law of limits. As the number of years increase, the formula becomes very simple. It is:

$$\frac{1}{r}$$

(4) This then means that the receipt of 60 for an indefinite but long period has a value of 60/0.05 = 1,200.

(5) The figures above of 70% (1 – 0.295), 86% (1 – 0.142) and 91% (1 – 0.087) are the percentages of the total value for the relevant periods.

(6) The above formula is the simplest, and one of the most important, in all of business valuation.

B. Example 6.2

(1) Use the annuity formula to calculate the value of cash flows of 640 that continue for a period of 93 years assuming that r = 6%.

(2) What is the value of 640 that is to be received in perpetuity if r = 6%?

(3) A perpetual bond of 1,600 pays interest of 6.5% a year. The market discount rate is 4%. What is the value of that bond?

(4) Raghed has a short leasehold interest in some real estate. She is due to receive 20,000 rental income on that property for 8 years. She has to pay rent to the real estate owner of 8,000 a year for 8 years. The lease then comes to an end and she has no further interest in the property. If the required return is 7%, what is the value of the lease?

Section B Increasing Cash flows

1. For most equity instruments there is a requirement to make allowance for growth. Most bonds pay a level return that does not change over the life of the bond. (Some governments do issue bonds that are indexed. This means that the bonds adjust for inflation).

2. For ordinary stock in a limited company, there is far less certainty about the returns when compared to bonds. However there is the prospect of growth in value. There are two components to the growth:

   A. For most businesses that are not increasing in size, the best assumption to make is that the revenues and costs should increase over time in line with inflation. This means that the profits available to stockholders should also increase in line with inflation.

   B. There will be many businesses that grow at a greater rate than the rate of inflation. Many service businesses may plan to grow at a rate equivalent to inflation as increased by the growth in gross domestic product per head of the population.

3. This therefore means that including the value of growth in cash flows is required in the valuation of ordinary stocks.

   A. There may be some businesses that are becoming smaller: this may be due to the business sector being in decline or for other reasons.

      (1) The tools that we use for valuing growth can also be used to adjust for negative growth, that is a steady decline in cash flows.

4. We will start by considering a financial instrument that gives an increasing return each year. Again, we can consider the value of such an instrument by starting with the formula for an annuity. We want an annuity that increases at a constant rate. The relevant formula is:

$$CF_1 \; x \frac{1 - \left(\frac{1+g}{1+r}\right)^n}{r - g}$$

$g = rate\ of\ growth$

$CF_1 = the\ first\ receipt = \; CF_0 \; x \; (1 + g)$

$CF_0 = the\ previous\ receipt$

   A. Note that in the above formula CF_1 is the cash flow in the next period. As we are dealing with an amount that is growing at a constant rate, this is calculated as:

$$CF_0 \; x \; (1 + g)$$

   B. If the cash flow in the last period (CF_0) was 100, and if the growth is 3%, the cash flow in the next period (CF_1) is 100 x 1.03 which equals 103.

C. We will again apply this formula to determine the value of such a cash flow stream. The first receipt (CF_1) is 40 and this amount grows at a rate of 2% a year. This means that g is 0.02. The discount rate (r) that we are going to apply is 10%. The values for 25, 40 and 50 years are:

$$25\ years: 40\ x\ \frac{1-\left(\frac{1.02}{1.1}\right)^{25}}{0.1-.02} = 40\ x\ \frac{1-0.15}{.08} = 424.29 = 85\%$$

$$40\ years: 40\ x\ \frac{1-\left(\frac{1.02}{1.1}\right)^{40}}{0.1-.02} = 40\ x\ \frac{1-0.05}{.08} = 475.61 = 95\%$$

$$50\ years: 40\ x\ \frac{1-\left(\frac{1.02}{1.1}\right)^{50}}{0.1-.02} = 40\ x\ \frac{1-0.02}{.08} = 488.54 = 98\%$$

(1) The above percentages show the proportion of the total value that is within the first 25, 40 and 50 years respectively.

(2) This formula also simplifies as the number of years approaches infinity. The highlighted part of the formula approaches 0 as n, the number of years, increases. This trend can be seen in the three formulas above. Again, this is the mathematical rule of limits.

(3) The formula simplifies for a perpetuity period:

$$\frac{CF_1}{r-g}$$

(4) The above formula can be related to the last amount received (CF_0), as follows:

$$\frac{CF_0\ x\ (1+g)}{r-g}$$

(5) In this case the value of this series of cash receipts for a long indeterminate period is 500.00.

(6) The above formula is known in the world of valuation as the Gordon Growth Model.

(7) When dealing with equities, rather than bonds, there is a slight change in terminology. The term K_e is used for the cost of equity. The Gordon Growth formula is then:

$$\frac{CF_0 \; x \; (1+g)}{K_e - g}$$

(a) This is just a change in a symbol – it has no effect on the outputs of the formula.

D. Example 6.3

(1) CF_1 equals 110. K_e equals 13% and g equals 4%. Use the Gordon Growth model to give the value of the equity.

(2) CF_0 equals 90. K_e equals 9% and g equals 2%. Use the Gordon Growth model to give the value of the equity.

Section C What is a business worth

1. For many people, the answer to that question is that a business is worth what a Market Participant is prepared to pay for it in the market place. To be more precise we can say that it is the highest price that one of the Market Participant is prepared to pay – the market price is the best price.

   A. Market Participants are defined in the Taqeem Glossary as all individuals or other entities that are potential buyers of the asset.

2. The profession of business valuation seeks to arrive at a notional value for assets without those assets being offered for sale in the market place. The business valuer therefore has to assume that Market Participants act in a way that is rational from an economic viewpoint.

3. For a business valuer, the answer to the above question at the highest level is therefore very simple: any business is worth the present value of its future cash flows. If there are no future cash flows, there is no value in the present.

4. We can see the application of this simple truth in a series of examples:

   A. A small restaurant business is well established and is generating profits; those profits are very close to the cash generation by the business. Those profits are anticipated to continue into the foreseeable future. The value of the assets used to generate those profits and cash flows equal the value of that profits stream.

B. A new start-up business is developing specialist software. It has just completed a funding round for the estimated costs for the next two years. The business plan anticipates that the software will then be completed and will be ready to be launched onto the market. There is significant uncertainty with this business. The providers of the funding recognise the high risks involved in this project. They therefore anticipate high returns on the funds provided. These returns will be likely to come from a disposal of their investment in the company sometime in the next five years. The valuation at disposal will be the present value of its future cash flows.

C. A former trading company has ceased operations. Its only assets are the warehouse from which it previously traded, some vehicles and other plant and equipment. The warehouse has been valued at 10 million. It is a specialist building and it is estimated that it will take 2 years to achieve a sale. The vehicles, plant and equipment will be sold rather more quickly. The cash proceeds will be distributed to the stockholders as they are received by the company.

D. A public water company generates profits on a relatively consistent basis. Its stock price is expressed by reference to its profits after tax and by reference to the dividends paid to stockholders. The market value of the stock will reflect the cash generating potential of the company in the future.

Section D Discounted Cash Flows and the Terminal Value

1. In the previous chapter we considered a project with an expected 20 year life. The valuation of that project can be done by:

   A. Calculating the likely cash flows for each of the 20 years;

   B. Discounting those cash flows back to net present value using a suitable discount rate.

2. That is a means of valuing on a consistent basis.

   A. The initial cash outflows in construction and commissioning will in years 1 and 2.

   B. The cash inflows from trading are received in years 3 to 20.

   C. Lastly there are the sale proceeds of the plant and the clean-up costs in year 21.

3. When dealing with a business which is assumed to operate in perpetuity, the Gordon growth model can be used in order to deal with cash flows growing at a constant rate.

4. We will look at another example:

A. Example 6.4

(1) The cash flows for the last year for a long-established business in the medical care sector, Dammam Care, were 439,274. Its long-term rate of growth has been 2.5% a year and this is expected to continue.

(2) The cost of equity (that is the return required by the market) is 13%.

(3) Using the Gordon Growth model, please calculate the value of the ordinary stock.

5. We next need to consider what happens if the cash flows are not increasing at a constant rate. We then have to combine discounted cash flow techniques with the Gordon Growth model.

A. We will look at a business, New Technologies, with the following cash flows:

New Technologies				
Year	1	2	3	4
Cash flows	(110,000)	(23,000)	121,000	124,630

B. The discount rate (the rate that the market requires on the equity) is 19%.

C. We can therefore calculate the net present value of the first four years' cash flows for New Technologies:

New Technologies				
Year	1	2	3	4
Cash flows	(110,000)	(23,000)	121,000	124,630
Discount rate (Ke)	19%	19%	19%	19%
Gordon growth model				
Discount factor	0.840	0.706	0.593	0.499
Net present value	(92,437)	(16,242)	71,803	62,149

D. The net present value of the first four years' cash flows is therefore 25,273. New Technologies has achieved a stable state. It is anticipated that from year 4 onwards it will grow at a sustainable rate of 4% a year.

E. We therefore now use the Gordon growth model to value the equity of New Technologies as at the end of year 4. The cash flows for year 4 of 124,630 represent CF_0. They represent CF_0 as we are using the Gordon growth model to value at the end of year 4.

F. As the rate of growth is 4%, this means that CF_1 is 129,615 (124,630 x 1.04).

G. We use the Gordon growth model. As a reminder this is

$$\frac{CF_0 \; x \; (1+g)}{k-g} = \frac{CF_1}{k-g}$$

H. We have the relevant figures. The formula is:

$$\frac{129{,}615}{0.19-0.04} = 864{,}101$$

I. The value of 864,101 is not the present value of New Technologies: it is the present value at the end of year 4. We therefore need to discount the above value to the net present value. We use the same discount factor that we used for the year 4 cash flows of 0.499. The net present value is therefore 430,900.

J. This then means that the total value of New Technologies is 456,174, as shown below:

New Technologies					
Year	1	2	3	4	Terminal
Cash flows	(110,000)	(23,000)	121,000	124,630	129,615
Discount rate (Ke)	19%	19%	19%	19%	
Gordon growth model					864,101
Discount factor	0.840	0.706	0.593	0.499	0.499
Net present value	(92,437)	(16,242)	71,803	62,149	430,900
Total	456,174				

6. The above use of the Gordon growth model at a date in the future is entirely consistent with the single period capitalization method. We can demonstrate this by looking in more detail at Dammam Care – we looked at this company in Example 6.4.

A. We use the same structure as used above for New Technologies. The cash flows increase at a constant rate of 2.5%. We derive exactly the same value as we did by using the Gordon growth model at the valuation date:

B. Dammam Care

Dammam Care					
Year	1	2	3	4	Terminal
Cash flows	450,256	461,512	473,050	484,876	496,998
Discount rate (Ke)	13%	13%	13%	13%	13%
Gordon growth model					4,733,316
Discount factor	0.885	0.783	0.693	0.613	0.613
Net present value	398,457	361,432	327,847	297,384	2,903,032
Total	4,288,151				
Value using year 1	4,288,151				

Section E Statistical Analysis- Range and Central Tendency

1. Statistical tools can be very useful in business. They are a means of making some sense of a lot of information.

2. In the following examples, we will assume that we have some data on P/E ratios. As a reminder, a P/E multiple expresses the value of shares as a multiple of the net income after tax.

   A. A company with a total value of 1,700,000 and net income after tax in its latest year of 120,000, has a P/E multiple of 14.2 (1,700,000/120,000).

3. We are looking at 11 public companies, all of whom are in the healthcare sector. The companies are named as A to K.

4. The P/E multiples of the 11 companies are:

P/E Ratios	
A	33.9
B	32.4
C	22.3
D	18.9
E	18.5
F	17.9
G	16.8
H	14.2
I	13.7
J	12.1
K	11.6
Total	212.3

5. The first statistical term is that of population. The population that we are looking at is made up of the 11 companies.

6. The next term is “range”. The range is the largest number less the smallest number. In this case the range of P/E multiples is 33.9 less 11.6. That is a range of 22.3.

7. Next we have a simple measure of what is called central tendency. This is the arithmetic average or the mean. This is the total of all of the values divided by the number in the population.

   A. The average or arithmetic mean is therefore 212.3/11 which is 19.3.

8. When dealing with profit multiples such as P/E multiples, there are technical issues in using the arithmetic mean. An alternative measure, called the harmonic mean, should ideally be used.

9. A second measure of central tendency is the median. The median is the value that is in the middle of the population: we want the value that is the 6th in order of size.

   A. There are then 5 values that are higher and 5 values that are lower than the median.

   B. In this case the median is company F with a P/E multiple of 17.9.

10. If the population is an even number, the median is the average of the two middle values.

11. A third measure of central tendency is relevant for large populations: this is the mode. The mode can best be explained by example: the heights of a group of adult males was measured and the results were as follows:

Height of Men	
Height metres &cm	Number of men
1.75	80
1.77	99
1.79	115
1.81	121
1.83	115
1.85	99
1.87	80
	709

12. In this sample of 709 men, the mode is the most common height. 121 of the men had a height of 1.81 metres. This is therefore the mode.

13. The mode can be compared with the mean and the median of this population. The mean is also 1.81 metres. The median is the 355th person ranked in order of height. This is also 1.81 metres.

14. In the case of the men's height, we have the three measures of central tendency, the mean, the median and the mode, all at the same point. This is a relatively common feature of larger statistical populations.

15. In business, especially in business valuation, we are normally dealing with far smaller populations: we have only 11 companies in our population. In this situation the mode is not normally relevant or reliable as a measure of central tendency. The mean will be affected by what are known as outliers: these are the largest and the smallest values. In our population of 11 companies, Company A and Company B are outliers as they are much larger than the rest of the population.

16. The preferred measure of central tendency in business, especially business valuation, is the median. This is considered to be a more reliable measure of the mid-point of the population.

17. We can see the impact of Company A and Company B on the mean when we compare it to the median:

    A. Mean 19.3; median 17.9.

    B. The mean is 1.4 more than the median. This is due to the high values of Company A and Company B.

Section F Median, Interquartile Range and Percentiles

1. As noted above the median is the middle value in a population, once the population has been ranked in relative size.

2. This concept has been further developed:

    A. The figure that is mid-way between the median and the lowest value is known as the lower quartile.

        (1) This means that 25% of the population is below the lower quartile and 75% above it.

    B. The figure that is mid-way between the median and the highest value is known as the upper quartile.

        (1) This means that 75% of the population is below the upper quartile and 25% is above it.

    C. The interquartile range is the range from the lower quartile to the upper quartile.

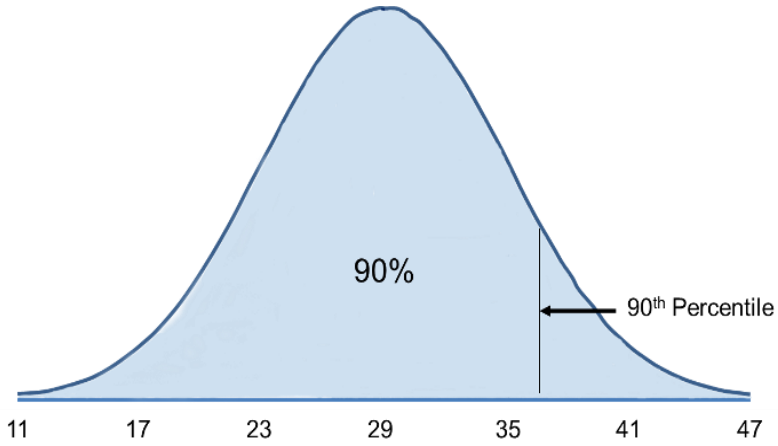
(1) It is therefore the 50% of the population that is either side of the median.

D. Large populations are sometimes divided into deciles or percentiles:

(1) A decile is the population divided into ten groups from the lowest 10% to the highest 10%.

(2) A percentile is the population divided into 100 groups from the lowest 1% to the highest 1%.

E. We have an illustration of the 90th percentile below:

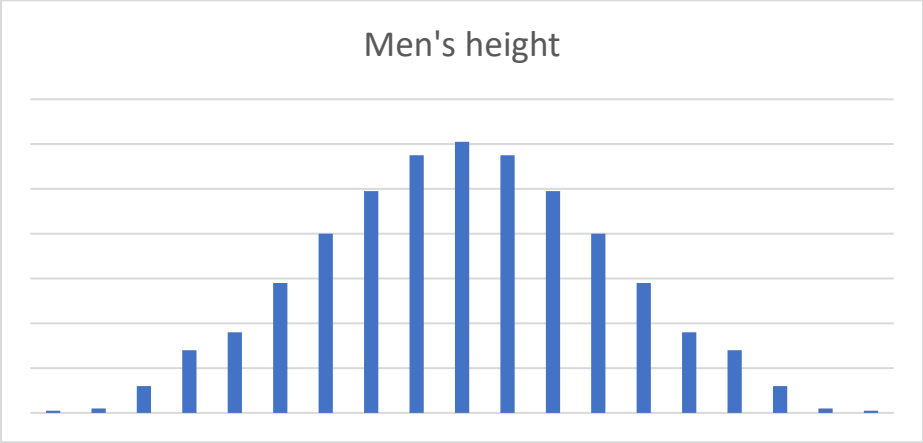


F. The 90th percentile is another way of saying the 9th decile.

(a) An exceptionally tall person may be described in these terms as being above the 99th percentile in the population.

Section G The Normal Distribution

1. A very common feature of large populations is what is known as the normal distribution. We can illustrate the normal distribution by extending the population of men's height to a total of 1,000 men. In the previous population the tallest and shortest men had been excluded. The full population is illustrated below:



2. The features of normal distributions are:

   A. They are symmetrical;

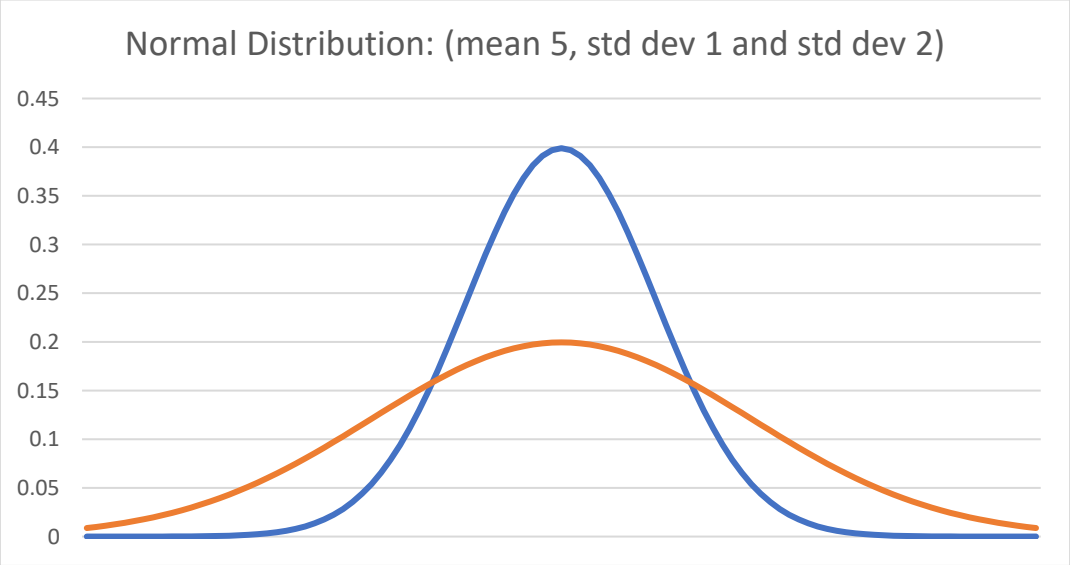
   B. They have bell-shape curves as shown above;

   C. Most of the population is relatively close to the mid point;

   D. The numbers of the population either side of the mean reduce as they are further away from the mean;

   E. With a perfect normal distribution the mean, median and mode are the same.

3. There are two normal distributions below. We can see that one is far more closely grouped around the mean than the other. We need a way of describing these two normal distributions. We need a better description than just referring to the range.



4. The description that is used is the standard deviation: the standard deviation appears complex, but it is relatively easy with practice. The steps are:

A. Total the values and calculate the mean;

B. Deduct the mean from each of the values;

C. Square the difference (that is multiply the result by itself);

(1) This squaring then means that all of the values are positive.

D. Total these squared numbers;

E. Divide by the size of the population;

F. Take the square root of this figure (or raise to the power of 0.5).

5. The way that this is presented mathematically seems complex, but it is relatively simple, as described above:

$$\sqrt{\frac{\sum(x-\bar{x})^2}{n}}$$

In the above, the symbol $\sum$ means total.

$(x-\bar{x})$ means the value of each member of the population less the average.

n is the number in the population.

6. We will see how this works with examples:

A. Example 6.5

(1) Calculate the standard deviation of the numbers 1,2, 3, 4, 5, 6 and 7.

(2) Calculate the standard deviation of the numbers 1, 3, 5, 7, 9, 11 and 13.

(3) Calculate the standard deviation of the numbers 101, 102, 103, 104, 105, 106 and 107.

7. It is useful to do the calculations so that we can see how the figures are derived. In practice there are simple excel functions that can be used, rather than doing the detailed calculations.

A. The function for a population is STDEV.P(relevant cells). The function for a sample of a population is STDEV.S(relevant cells.).

B. The functions are different: when dealing with a population the formula used is the same as above. When dealing with a sample of a population the term “n” is replaced by “n-1”.

8. The standard deviations for the figures 1 to 7 and 101 to 107 reflect the spacing between the various items in the population: the range is 6 in both cases and the 7 items in the population are evenly spaced.

9. The standard deviation for the figures 1, 3, 5, …13 reflect the wider spacing between the various items in the population. The range is 12 and the 7 items are evenly spread.

   A. If the figures were more widely spread, such as 1, 5, 9, 13…..25, the standard deviation would be 8.

10. We can recognize that in other ways the numbers 1 to 7 are very different from 101 to 107.

    A. In the first population the highest figure is 7 times as large as the value of the lowest (7/1).

    B. In the second population the highest figure is only 1.06 times as large as the value of the lowest (107/101).

    C. There is a powerful tool that can be used to deal with this difference. This is called the coefficient of variation. The formula for the coefficient of variation is:

$$\frac{Standard\ deviation}{mean}$$

       (1) The coefficient of variation of the population 1 to 7 is therefore $\frac{2}{4} = 0.5$.

       (2) The coefficient of variation of the population 101 to 107 is therefore $\frac{2}{104} = 0.019$.

       (3) The coefficient of variation allows for entirely different populations to be compared. The population with the lowest coefficient of variation normally provides the best quality evidence as the data is close together.

       (4) The coefficient of variation is often expressed in percentage terms. The two figures above are then 50% and 1.9%.

11. We can illustrate the power of the coefficient of variation with the following example:

    A. We are valuing a business. We are using 7 guideline public companies. We have calculated 7 different possible valuation metrics. The metrics and the coefficients of variation are as follows:

	Coefficient of Variation
Enterprise value to sales	25.8%
Enterprise value to gross profits	21.1%
Enterprise value to EBITDA	18.8%
Enterprise value to EBITA	13.2%
Enterprise value to EBIT	17.0%
Equity to profit before tax	17.8%
Equity to Net Income	19.5%

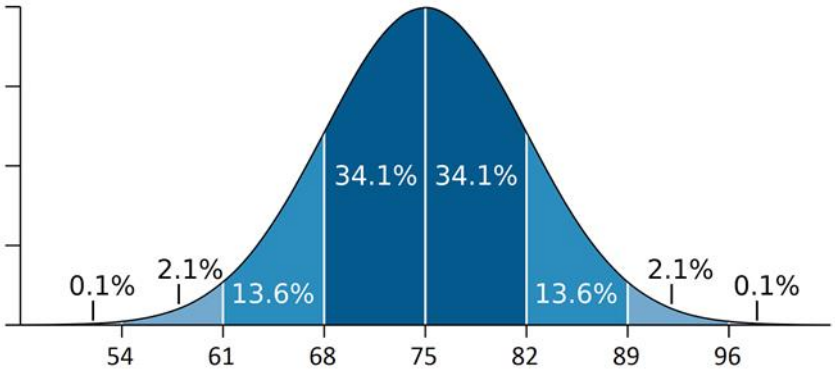
B. The most reliable valuation metric to use in the valuation assignment involving the guideline companies is therefore the enterprise value to Earnings Before Interest, Tax and Amortisation or EBITA.

12. With larger populations, the following rules generally apply:

A. 68% of the population is within one standard deviation to the left of the mean and one standard deviation to the right of the mean;

B. 95% of the population is within two such standard deviations;

C. 99.7% of the population is within three such standard deviations.



Section H A Final Point

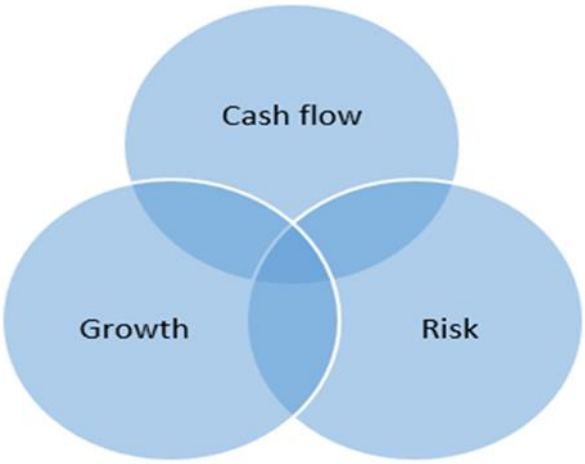
1. We must never focus too much on the calculations. It is important to get the calculations right and to think about them. However, we must never lose sight of the fundamentals of valuation:

A. The value of a business is the present value of future cash flows;

B. The value is determined by:

(1) the rate of increase of cash flows, and

(2) the risks of not achieving those cash flows.



Chapter 7 Finance Theory

Section A The Time Value of Money

1. We have addressed in this course the concept of the time value of money. This initial section is a quick recap on what we have already covered.

   A. When looking at bonds we normally consider the interest rate required by market participants.

      (1) That interest rate will increase in line with:

         (a) the market interest rate;

         (b) the risk involved.

      (2) The expectation of the market is that returns will increase as risk increases. This is what we would all expect. A market participant will only invest in a riskier asset if there is a higher return.

   B. Lending money to a government that controls its own currency is normally considered to be a risk-free investment.

      (1) The government can raise sufficient tax revenues to pay its costs and to repay the borrowings;

      (2) Alternatively, the government should be able to take on further borrowings to repay the money borrowed;

         (a) Many governments have large debts. These are being constantly repaid by taking out further borrowings.

      (3) The final option is that the government has the ultimate power to print money to repay the borrowings.

2. This means that the market rate on government debt is considered to be the risk-free rate of return in that economy.

3. This rate is set by the market and not by the government.

   A. We have seen that the rate of interest payable on a government bond is not the same as the market rate:

      (1) As an example, a bond of 1,000 pays interest at 3% and is repayable in 10 years' time. The rate demanded by the market is 4%. This means that the value of the bond in the market is 919.

      (2) If the government wanted to raise further funds with a new bond, it would offer that bond at a rate of 4%.

B. Example 7.1

(1) The government's next bond issue was 100,000 for 5 years with interest payable at 4%.

(2) The market rate of interest reduced to 3.5% after 2 years. There were 3 years left on the 100,000 bond.

(3) What would that bond be priced at by the market when the market interest rate reduced?

4. The market rate of interest for government bonds follows the yield curve. In simple terms the yield curve reflects the market's expectations of future interest rates.

   A. The yield curve typically curves upwards to reflect the extra returns that market participants require on longer dated bonds.

      (1) This reflects both expectations of interest rate rises and also the higher returns required when fixing interest income for a longer period.

   B. There are times when the yield curve is inverted – this reflects the expectation of interest rates falling in future.

5. In economics and business valuation we recognize that the lowest return in the market should be obtained on lending to the government. This is for the reasons already given.

6. In theory the interest income received from government should reflect the cost of renting the money. This is a charge with no adjustment for risk, as the lending is considered to be risk-free.

   A. That rental cost will change in line with expectations of future inflation.

      (1) In a perfect economy the expectation would be that there would be a constant rental charge. The actual rate of interest would then move up and down in accordance with inflation expectations.

      (2) In reality there are many periods in recent history when this has not been the case.

7. In order to move funds from lending to the government to other investments, economic theory states that the investor expects an additional return to reflect the risk involved. The amount of that extra return will increase in line with the risk in the investment.

8. An economy may therefore have a market rate of interest for five year government debt of 3%. If a bank in that economy wishes to raise capital by issuing a 5 year corporate bond it would need to offer a slightly higher rate of interest. If the rate of interest on the bond was 3.2%, the additional 0.2% a year return would be a premium return to reflect that risk.

Section B The Grading of Bonds

1. There are various gradings of bonds in the market place. The gradings reflect the quality of the bond. By quality we mean the amount of risk considered to be present.

2. Two very well regarded ratings agencies are Standard and Poors and Moody's. Here is an example of the ratings applied:

The Grading of Bonds		
Rating	Grade	Risk
AAA	Investment grade	Highest quality
AAA	Investment grade	High quality
AAA	Investment grade	Strong
BBB	Investment grade	Medium
BB	Investment grade	Speculative
B	High yield	Speculative
CCC, CC, C	High yield	Highly speculative
D	High yield	Default

3. The whole of the bond market works on the basis of a higher risk demanding a higher return. The expectation is that the increase over the risk free rate will be very small for AAA rated bonds. For bonds rated BB, these are still considered to be investment grade, but a higher return would be expected for the additional risk within the rating.

4. If the bond issuer of a C grade bond makes all of the interest payments and repays the capital, then the investor has made a higher return than that on a AAA rated bond. However he has been subject to greater risk of default as long as the bond has been outstanding.

5. In the financial and banking crisis of 2008-2010 it was discovered that many of the bonds in the market price had not been properly graded for the risk within the bonds.

Section C Shares in Companies

1. There are some shares in some markets which are known as preference shares or preferred shares.[6] A relatively standard preferred share may have the following rights:

[6] Preference or preferred shares are not currently permitted in Saudi Arabia

A. To receive a fixed dividend of say 4% a year;

B. That dividend to have preference over common stock:

(1) This means that no dividends can be paid on common stock if the dividend on the preferred stock has not been paid.

C. To be repaid at a set date in the future at face value;

D. In the event of the company being wound up, to have the face value paid out before any distributions are made to the common stockholders.

2. Such preferred shares differ from bonds in the following ways:

A. They are legally stock, not debt;

B. The dividends may be subject to different levels of tax when received;

C. They have a greater credit risk than bonds.

3. However they are very similar to bonds in that the annual income is fixed. They do not have the same uncertainties as common stock.

4. Such preferred stock are now accounted for as debt under IFRS and most other forms of generally accepted accounting practice.

A. Although they are legally stock, the dividends are classes as a form of interest expense. The face value of the preferred stock is classed as a liability on the balance sheet and not as part of equity.

5. Common stock are different from bonds:

Common stock	Bonds
Amount of dividend not known	
No dividend certainty	Income known
Dividends may increase over time	No income uncertainty
No set date for repayment	Income does not increase over time
Last in priority in a winding up	Set date for repayment for most bonds
Prospect of capital growth	Early in priority in a winding up
	No prospect of capital growth

A. The amount of the dividend is not known;

B. There may be no dividend at all if the company makes losses or requires the cash for operational purposes;

C. If the company is successful there is an expectation that dividends will increase over time;

D. There is no set date for repayment of the amount invested;

E. In the winding up of a company, payments are only made to common stockholders once all other claims on the assets have been met in full.

F. There is an expectation that the common stock will increase in value over time if the company is successful.

6. The above differences mean that the risks involved in equities are far higher than those with bonds issued by the same company.

   A. Due to these higher risks there is an expectation of higher returns over a number of years when compared with bonds.

Section D Volatility, Risk and Returns

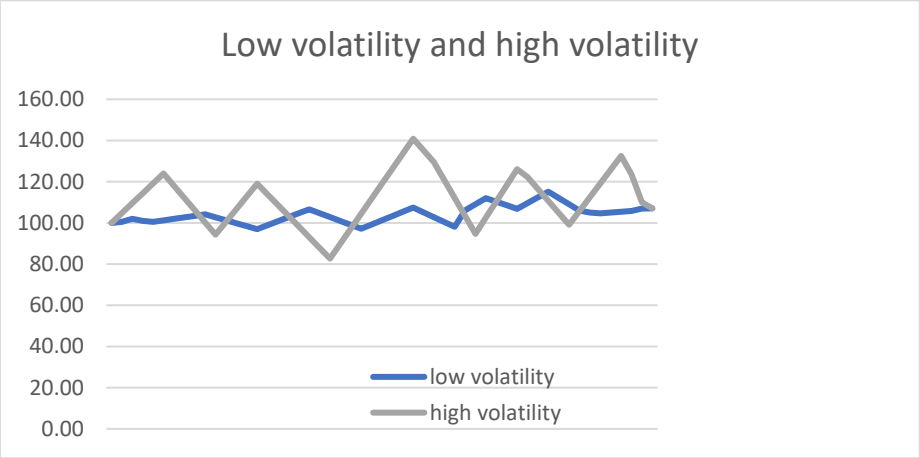
1. The risk involved with equities can be thought of in various ways:

   A. There is a greater risk of a total loss if the company does not succeed.

   B. If the company does succeed, there will almost certainly be good periods and bad periods. This means that the value of common stock will go up and down as a result.

   C. As the stock markets react to news on every trading day, the prices of equities in markets are constantly changing.

2. The movement up and down in the value of common stock is known as volatility. On the graph below we show the volatility of the stocks of two collective funds that are invested in public companies. The values of the two funds are stated on a weekly basis. There are 53 data points below. One of the funds has low volatility and the other has high volatility:



A. The first risk with equities is of a total loss: the company does not succeed and the stock has no value.

B. The second risk can be seen with the illustration of volatility above: with high volatility there is a risk of loss if the stock is bought at the top of the market and then sold at the bottom of the market.

(1) At the time that the transactions happen it is not known if the stock is at the top of the market or near the bottom of the market.

(2) With the low volatility stocks that risk is reduced.

3. In theory the higher volatility is of less concern if the stocks are held for a long period.

4. Volatility is one of the factors in the pricing of stocks in the markets: low volatility stocks normally deliver a lower return. That return is more predictable. We can say that there is a lower cost of equity capital with low volatility stocks. High volatility stocks have a higher cost of equity capital. Over the medium term to longer term they should deliver higher returns. This is to compensate for the risk involved with the volatility.

5. Low volatility stocks include the utilities:

A. Water;

B. Electricity;

C. Telephone networks.

(1) With companies in these sectors the demand is relatively predictable: utility services are normally required by all of us, all of the time.

6. High volatility stocks are companies engaged in more speculative activities.

A. An example would be a company prospecting for off-shore oil reserves;

B. The greater the uncertainty relating to future cash flows, the higher the risk. This uncertainty normally leads to higher volatility.

7. In business valuation there is a an adjustment called Beta. This is a Greek letter and is written as β. Beta is a measure of comparative volatility: the entire market is given a Beta of 1: companies that are more volatile than the entire market have a Beta of more than 1. Low volatility companies have a Beta of less than 1. Beta measures the relative volatility.

   A. It also measures the correlation of the shares with the market as well as relative volatility.

Section E Diversification to Reduce Risk

1. The risk of investing in equities can be reduced by diversification: risk is greater if a market participant invests in one stock. That risk is reduced if the market participant invests in a number of different stocks.[7]

   A. The pricing of stocks in the market is based on the risks to a diversified market participant;

   B. Even the smallest investor can invest in collective funds and achieve diversification.

2. If a market participant invests in only one stock, he may be lucky: the company may increase its profits. Its share price may increase by considerably more than the increase in the overall market.

   A. The downside risk is if the market participant is not lucky: the company chosen may underperform the market. In a worst case the company's business may fail and the common stock becomes worthless.

   B. The investor who holds only one stock is exposed to two types of risk:

      (1) The risk associated with the entire stock market.

      (2) The risk within the single company.

      (3) This focus on one company means that the market participant is taking additional risk. He takes this risk in the hope of making higher returns.

[7] This assumes that the different stocks are not perfectly correlated.

C. Diversification therefore means that the larger possible profits from investing in one company are not obtained.

D. With full diversification the market participant obtains the market return.

3. There are two concepts that relate to these two types of investors:

A. The fully diversified investor is protected from the risks associated with individual companies. This is known as unsystematic risk. He still takes systematic risk that is present in the market.

B. The investor who holds stock in only one company is not protected from unsystematic risk. He still takes systematic risk that is present in the market.

(1) The Taqeem Glossary defines unsystematic risk as: “the risk specific to an individual security that can be minimized through diversification.”

C. Both of these investors are investing in the equity markets. They are therefore subject to systematic risk.

(1) Systematic risk is the risk that applies to the whole of the equity market.

(2) The Taqeem Glossary defines systematic risk as: “The risk that is common to all securities in the market that cannot be diversified. Also known as Market Risk or Undiversifiable Risk. The extent of the systematic risk between different sectors is measured by Beta.”

4. A portfolio of investments is a means of achieving diversification. This then reduces or removes the unsystemic or unsystematic risk. The systemic or systematic risk remains and cannot be removed by diversification.

5. It is generally accepted that the returns in the market provide reward for the systematic risk. The returns do not provide reward for unsystematic risk as marginal investor is able to diversify that risk away.

Section F Invested Capital

1. We have used the term “cost of equity capital” above. This is the return that the market requires for investing in common stock.

2. We have also considered the cost of debt.

3. In many countries there is a tax deduction for interest on debt. There is no such deduction for dividends on common stock.

4. The invested capital of many companies comprises a mixture of equity and debt.

5. The relationship of the debt and the equity is known as leverage.

   A. A highly leveraged business may give higher returns to the equity holders.

   B. It will also increase the amount of risk within the invested capital structure.

   C. Example 7.2

   (1) The market value of invested capital of five public companies is given below (in thousands in various currencies):

Invested Capital Structures of Five Guideline Companies					
	A	B	C	D	E
Equity	36,295,000	706,802	18,804,000	39,270,441	3,677,649
Debt	4,234,541	12,267	2,016,966	4,735,000	531,422

   (2) What are the percentages of equity and debt in the invested capital of each of the five companies?

   (3) What is the arithmetic average (mean) percentage of the debt in the invested capital?

   (4) What is the median percentage of the debt in the invested capital?

   (5) What is the main reason for the difference?

6. The cost of invested capital is known as the weighted average cost of capital. This is known as the “WACC”.

   A. The Taqeem Glossary describes the weighted average cost of capital: “The cost of capital (discount rate) determined by the weighted average, at market value, of the cost of all financing sources in a Business Capital Structure.”

7. The formula for calculating the WACC seems very complex. The idea is very simple. We will use an example:

   A. A company has a market value equity weighting of 85% in its financing structure. The market value of debt weighting is 15%;

   B. The interest rate payable on the debt is 4%. The rate of tax on corporate profits is 25%;

C. The cost of the equity is 9%;

D. The WACC is made up of the cost of debt and the cost of equity in the relevant percentages;

(1) The interest rate on the debt is 3% after tax:

(a) $4\% \; x \; (1 \; less \; tax \; rate)$

(b) $4\% \; x \; (1 \; less \; 0.25)$

(c) $= 4\% \; x \; 0.75 = 3\%$

(2) The cost of equity is 9% - as given above;

(3) The WACC is: $(3\% \; x \; debt \; percentage) + (9\% \; x \; equity \; percentage)$

(4) $WACC = \; (3\% \; x \; 0.15) + (9\% \; x \; 0.85) = 0.45\% + 7.65\% = 8.1\%$

E. Here is the formula as applied above:

$$\left(cost \; of \; equity \; x \; \frac{equity}{invested \; capital}\right) + \left(cost \; of \; debt \; x(1-t) x \frac{debt}{invested \; capital}\right)$$

F. Example 7.3

(1) Use the following data in order to calculate the weighted averge cost of capital or WACC:

(a) Cost of equity capital: 12.5%

(b) Interest rate on debt: 3.5%

(c) Rate of tax on corporate profits: 20%

(d) Market value of equity: 10,500,000

(e) Market value of debt: 4,500,000

8. The cost of debt is normally the rate of interest payable to a bank or other financial institution, if the interest changes as the market changes.

9. If the debt is publicly traded, such as a corporate bond issued by a public company, the cost of the debt is the rate to redemption on the corporate bond as set by the market.

10. The cost of equity is normally calculated by what is known as the Capital Asset Pricing Model or CAPM.

A. The Capital Asset Pricing Model is defined by the Taqeem Glossary: "An asset pricing model used to determine the expected rate of return of a security by adding a risk premium to the rate on a risk-free security. The risk premium is comprised of the Equity (or Market) Risk Premium adjusted by the Systematic Risk (or Beta) of the security. Conceptually it captures the incremental (systematic) risk that investors need to be compensated for when investing in risky securities (typically stocks) relative to investing in a risk-free security."

11. The formula for the CAPM is:

    A. $Risk\ free\ rate + (equity\ risk\ premium\ x\ Beta\ (\beta))$

12. We can see that the model is built on the assumption that a return on an equity should be more than the risk-free rate.

    A. The additional return for the whole equity market is the equity risk premium or ERP.

        (1) In the formula on the screen the ERP is described as (R_m-R_f). This is the market return less the risk free rate. In other words the return above the risk free rate is the equity risk premium.

    B. The returns for particular sectors of the market change according to Beta.

13. We will demonstrate with an example involving two market sectors:

    A. We assume a risk-free rate of 3% and an equity risk premium for the market of 6%. This means that R_m is 9%.

    B. Market sector F has a Beta of 0.8; Market sector G has a Beta of 1.2.

    C. The CAPM gives the two different costs of equity:

        (1) For sector F the cost of equity is 3% + (6% x 0.8) = 3%+4.8% = 7.8%

        (2) For sector G the cost of equity is 3% + (6% x 1.2) = 3% +7.2% = 10.2%

    D. Example 7.4

        (1) Calculate the market return R_m and the cost of equity K_e for sector H, using the following inputs:

            (a) Risk free rate (R_f): 3.6%;

            (b) Market equity risk premium (R_m-R_f): 5.2%;

(c) Beta of market sector: 1.35.

Section G Project Appraisal

1. The weighted average cost of capital or WACC can be used internally within businesses. It is used to calculate if a project should proceed.

   A. If the project does not generate a return that is greater than the weighted average return on capital, it should not proceed.

2. As an example, a business manufactures various food flavorings. It uses mainly natural products, which it buys from suppliers in various countries. It decides to produce a new flavor with specialist plant for blending and processing many different products.

3. The appraisal is done at the start of year 1.

   A. The plant will cost 20 million. It will take a year to build. It will have a useful life of 15 years once it is brought into use. The cash outflows in year one are therefore 20 million. They are all assumed to take place at the end of year 1. The plant will become operational at the start of year 2. It will come to the end of its life at the end of year 16.

   B. There will be scrap value of the stainless steel plant at the end of the project. That will equal the estimated costs of closing the plant down and clearing the site.

   C. The cash flows in year 2 are 2.2 million. They will increase in line with inflation at a rate of 2% a year.

   D. The weighted average cost of capital is 12%.

   E. Should the project proceed?

4. A very simple method is to consider the payback period:

   A. The capital costs of the project are calculated;

   B. The annual positive cash flows once the plant is operating is calculated;

   C. The payback period is the capital costs of the project divided by the annual positive cash flows;

   D. Using the above information the payback period is:

$$\frac{20\ million}{2.2\ million} = 9.1\ years$$

5. The payback period does not consider the timing of the cash outflows and inflows. The business may require a payback period of less than 7 years. If so, the project would not proceed.

6. A far better way of project appraisal is to use discounted cash flow techniques. With DCF the answer to the above involves the following steps:

    A. There is a cash outflow at the end of year 1 of 20 million. The discounted value is 17.857 million.

    B. The cash inflow from production in year 2 is 2.2 million. This needs to be discounted to the present. The discount rate is the WACC of 12%.

        (1) The discounted value is 1.754 million.

    C. The cash inflow from production in year 3 is 2.244 million.

        (1) The discounted value is 1.597 million.

    D. The same steps are undertaken for years 4 to 16;

        (1) The present values of the inflows less the outflows is (3.044) million.

        (2) The figure is negative. The project should not be undertaken.

    E. We can use what if analysis and goal seek in order to determine the actual return on the project.

        (1) Using the data tab, “what if” analysis and “goal seek”, Excel can calculate the actual return on the project. It is 9.59%.

7. The rate of 9.59% is known as the Internal Rate of Return or IRR.

8. The project is reviewed. They obtain a price for a lower cost version of the plant of 15 million. The price of fragrances has increased due to increasing world demand. The cash inflows in year 2 are now estimated at 2.3 million.

    A. The figures are recalculated using these revised assumptions. The cash inflows less cash outflows are 2.093 million.

    B. The figure of 2.093 million can be considered as the economic value added. If the assumptions are accurate the project gives more than the required return on capital of 12%. The figure of 12% is the cost of the capital. The 2.093 million is the economic value added above that cost of capital.

        (1) The project is viable under these changed assumptions. The Internal Rate of Return is now 14.7%. The excess return is therefore 2.7% a year.

9. Businesses and investors seek to make an Internal Rate of Return that is greater than the weighted average cost of capital.

A. Example 7.5

(1) A construction company is considering producing concrete on a construction site. The alternative is for the concrete to be delivered in mixing trucks every day.

(2) The plant for producing the concrete has a cost of 600,000 at the start of year 1. The site will be operational for three years. There will be no value left in the plant at the end of 3 years.

(3) The cash flow benefit is 255,000 in year 1. The cash flow benefit increases by 2.5% a year in each of years 2 and 3.

(4) The weighted average cost of capital is 10.2%.

(a) Use end of year discounting to calculate if the plant should be purchased.

(b) What is the payback period?

(c) How could a more accurate appraisal be undertaken?

(d) What is the Internal Rate of Return?

Section H The Internal Rate of Return

1. We referred above to the Internal Rate of Return or IRR. The IRR is the rate of return that results in the project having a net present value of nil.

A. With the 15 year flavoring plant project, the initial capital cost was 20 million. The net present value of 15 years of cash flows was equal to 20 million with a rate of return of 9.59%.

(1) This was less than the Weighted Average Cost of Capital. The project therefore should not go ahead.

B. With the 3 year concrete plant project the capital cost was 600,000. The net present value of the cash flows was greater than 600,000. This is the case when using either the year end discounting convention or the mid year discounting convention.

(1) As the net present value of the cash flows was greater than 600,000 the project should go ahead.

(2) The Internal Rate of Return on that project was 12.2%.

(a) This is the discount rate at which the net future cash inflows have a net present value of 600,000. This is equal to the cost of the investment.

2. In the next chapter we will look at some of the stages of a corporate finance project relating to the possible purchase of a private company.

Chapter 8 Introduction to Corporate Finance

Section A Investment Decisions

1. Corporate finance is a broad term. It includes many of the skills and much of the knowledge that we have covered in this manual.

2. In the previous chapter we looked at the analysis of relatively simple projects relating to possible expenditure on fixed assets. This was by use of a cost of capital and the net cash flows arising from the capital projects.

3. These same tools can be used when considering more complex projects such as the purchase of companies.

4. We will consider an example. We will use this example as we follow a corporate finance transaction.

   A. A private equity fund, Capital Growth Partners ("CGP") is considering the purchase of a private company, Easy Dining. The company has developed a mobile phone application for use by restaurants.

      (1) The application means that customers at the restaurant can order food and drinks using their mobile phones;

      (2) They can also use the application to pay the account and to add a tip if required;

      (3) The application can identify the precise location of the customers in the restaurant.

   B. Easy Dining has been successful and now provides the software for use by many restaurants in Riyadh. It has expanded very quickly. The application has been simple to use.

   C. Easy Dining would like to expand to other towns and cities in the Kingdom. CGP sees the opportunity to develop beyond the KSA into other Arabic speaking countries.

   D. The Sellers have said that they are only interested in offers in which the enterprise value of Easy Dining is more than 13.5 million This is calculated as 9 times the EBITDA for the next 12 months. There is some competition between venture capital and private equity funds and this may be the likely pricing by the market.

   E. The EBITDA for the last 12 months has been 300,000. Projections have been prepared. Due to the rate of growth of Easy Dining the projections show an EBITDA of 1,500,000 for the next 12 months.

F. If these projections are realistic the possible market pricing of the invested capital or enterprise is at least 13,500,000.

5. We will follow this example of Easy Dining as we consider how a corporate finance transaction might proceed.

Section B Marketing for Sale

1. The owners of Easy Dining used a corporate broker. The job of the corporate broker was to:

   A. Advise the sellers as to realistic price expectations;

      (1) This would be after they had discussed the business of Easy Dining with the sellers, including the growth prospects.

   B. Advise on the timing of the offer to the market;

   C. Identify possible interested parties;

      (1) The corporate brokers would identify those private equity and venture capital funds that were most interested in information technology applications for the consumer market;

      (2) They may identify public companies or large private companies engaged in similar activities. Such public companies may want to grow by buying businesses such as Easy Dining.

   D. Prepare a document setting out the features of Easy Dining:

      (1) The special features of the software and the targeted customer group;

      (2) The unique selling point or USP of the business;

      (3) Financial information;

      (4) The anticipated transaction:

         (a) This may be the sale of the entire share capital;

         (b) It may be selling a percentage interest to a private equity or venture capital fund.

Section C Protecting The Parties

1. If a potential buyer has a serious interest, he will invest time and money in gaining further information. This is known as due diligence. The sellers will be providing a lot of sensitive information about the company to the potential buyer. In this situation the company may be known as the Target.

2. Due to the costs that the potential buyer will spend, he may require a period of exclusivity. A legal agreement will be signed. The sellers will agree that the potential buyer will be given a period of three or four months in which to gain further information. The potential buyer aims to finalize a transaction within the period of exclusivity or to decide not to proceed.

   A. In that period of three or four months the sellers will undertake that they will not market the Target for sale to other interested parties.

   B. They will also undertake that they will not enter into discussions with other potential buyers who may make the first approach to them.

3. The potential buyer will be provided with a great deal of information about the Target. Much of this information will be of value to competitors. A legal confidentiality agreement will therefore be signed to protect the sellers and the Target. The potential buyer will agree to keep all of the information confidential.

   A. He will only pass the confidential information on to his professional advisers;

   B. If the deal does not proceed he will undertake to destroy any confidential information provided. He will require his professional advisers to do the same;

   C. There may be other conditions: the potential buyer may not contact any customers of the Target or any employees of the Target.

4. The auditors and any tax agents to Easy Dining may be asked to allow access to their audit and tax working papers. They may decide that they will only do so once a “hold harmless” letter is in place.

   A. The hold harmless letter states that the potential buyer will not provide information from the audit or tax files to the Target if this may result in the auditors or tax agents being sued for negligence by the Target.

      (1) The potential buyer may identify that the tax agents did not claim a tax allowance to which Easy Dining was entitled. They may identify that the audit work was of poor quality in some areas.

      (2) The hold harmless letter means that the buyer should not disclose this information to the sellers or the Target.

Section D Due Diligence – Testing the Information

1. Due diligence is a process in which a potential buyer looks in considerable detail at the Target it is planning to buy.

2. Due diligence can take many forms:

   A. Accounting and financial due diligence looks at previous management accounting information.

      (1) In the case of Easy Dining the rate of growth has been very high. This means that the latest monthly sales revenues and profits will be relevant.

         (a) The results for earlier years will probably not be relevant for the investment decision. Easy Dining will have been changing very quickly;

         (b) The earlier years will be relevant when considering such questions as customer and staff retention.

      (2) Financial due diligence also looks at the projections. The assumptions on which they are based will be reviewed in detail. The projections may not be realistic:

         (a) Very high growth in sales revenue may be assumed. These growth rates may be guesswork.

         (b) The gross profit percentage assumed may be higher than that achieved in earlier years.

         (c) The sellers may have underestimated the cost of the additional administrative support needed as the business increases in size.

         (d) The sellers will be seeking the highest price. They may therefore produce optimistic projections.

      (3) The projections may not be complete:

         (a) Income statement projections should have the relevant balance sheet projections;

         (b) The income statement projections should agree to the movements on the reserves on the balance sheets;

         (c) Cash flow projections are also needed.

            - The cash flow projections are needed for the interest expense to be calculated;

            - The cash flow projections help tie the income statement to the balance sheet.

(4) You will remember the following illustration relating to the preparation of accounting information. The three statements fit together. Projections are incomplete if the three statements are not included. The same disciplines are needed for projections as are required for the preparation of historic financial statements.

(5) There may be calculating errors in the projections: the preparation of the three statements reduces this risk.

B. Technical due diligence is the review of the product – this may be the production processes for a manufacturing business. For Easy Dining it will be a review of the software.

(1) The review will include how the software works with the different operating systems of mobile phones.

(2) The potential buyer may require the services of a technical specialist for this aspect of due diligence.

C. Legal due diligence requires the production of a large number of documents by the Target to the legal advisers:

(1) The company's constitution;

(2) Shareholder agreements;

(3) Employment contracts;

(4) Bank loan agreements;

(5) Asset-backed finance agreements;

(6) Contracts with customers and suppliers;

(7) Correspondence on litigation;

(8) Health and safety documents.

3. The first stage in due diligence is for the professional advisers to produce lists of required information. Such lists can be very long. The list relating to the legal due diligence would be far longer than the 8 examples given above.

Section E The Data Room

1. All of the documents that are required for due diligence may be loaded onto a secure internet location. This is called a Data Room.
2. The previous way of dealing with due diligence was for many different physical files to be prepared for the many documents.
3. The Data Room will normally be organized with different file locations: those file locations will correspond to the numbering of the lists of required information.

Section F Due Diligence Arranged by Sellers

1. If there are several possible buyers, it may be agreed that the sellers will use independent professional advisers to undertake the due diligence on the Target.
2. The results of this due diligence will be placed into a Data Room.
3. All the possible buyers will have access, once they have signed a suitable confidentiality agreement.
4. This reduces the costs to the possible buyers. This is used if the sellers know that there are several possible buyers. They will then ask for confidential bids once the due diligence information has been reviewed.

Section G Methods of Valuation

1. There are a great many transactions in which private companies are bought and sold. A common metric for expressing the value is as a multiple of EBITDA.
2. This is only a way of describing a value. An offer for a business may be expressed as:

   A. An EBITDA multiple of 8x on the EBITDA for the next 12 months on a cash free and debt free basis.

3. We need to analyze what this means:

A. The EBITDA for the next 12 months must be a realistic figure: the due diligence procedures must give the buyer a high degree of confidence that the EBITDA is achievable.

B. The due diligence process must also indicate that the EBITDA generates the expected cash:

(1) There are many businesses in which growth involves very significant balance sheet expansion:

(a) There is a need for more capital expenditures as the sales revenues increase;

(b) The inventories and the trade receivables increase. These increases are only partly reduced by the increase in trade payables.

(2) Such balance sheet expansion reduces the cash generation of the business. There may be some increase in the borrowing powers of the business as a result of balance sheet expansion. However the net effect is normally a reduction in cash flows to the equity holders.

(3) Such balance sheet expansion is the greatest when the rate of growth is high.

C. A multiple of 8x the EBITDA for the next 12 months gives what is called the enterprise value. This is the same as the invested capital: the total of the equity and the interest-bearing debt.

D. The equity value is the enterprise value less the interest-bearing debt and plus any surplus cash.

(1) Cash is only surplus cash if it is not needed to meet the working capital needs of the company.

(2) A good test is to consider if the company could continue in operation without borrowings if the cash was removed from the business.

4. It is very likely that the potential buyers will use different financial tools in order to decide on the value of the business to them.

A. The first method that can be applied is the use of discounted cash flow techniques: we have used these techniques in the simple examples of the valuation of bonds.

B. We have also used them for project appraisal.

C. They are also used for the valuation of businesses.

(1) As a reminder, the value of any business is the net present value of future cash flows.

(2) Projections will be prepared for the business. These may be produced by the sellers. It is very likely that many buyers will have their own models. They will be likely to put the figures produced by the sellers into their own models.

(3) The buyers will consider their cost of capital. They will discount the future cash flows to net present value using that cost of capital.

(4) They will calculate a terminal value. This terminal value will be the estimated value of the business at the end of the discrete periods for which projections are prepared.

D. A very similar method to the above can be used. Instead of the buyers calculating a cost of capital, they will have a rate of return that they require on their investments.

(1) This is known as the Internal Rate of Return or IRR.

(2) The IRR can be used instead of the calculated cost of capital. The discounted cash flow techniques are then identical to those described above.

(3) The Buyers may use the IRR in a different way. They will estimate the market price of a business. They will carry out their own projections. They will then back-solve the projections to calculate the IRR that the investment provides.

E. The use of IRR in this way can be very useful when undertaking stress testing or sensitivity analysis. This is a means of running different projections with changes to certain assumptions:

(1) The growth in sales may be shown at higher and lower amounts;

(2) The gross profit margin may be adjusted;

(3) A specific project, such as the expansion into a new market may be added or deducted in the projections.

F. With each of these different projections the purchase price may be fixed; the IRR can then be calculated under these alternatives.

G. These alternatives can be complex: if it is assumed that the sales are less than expected, the administrative overheads may be reduced.

(1) The investment should only be made once all of the possible outcomes have been considered.

Section H Due Diligence Findings

1. The due diligence on Easy Dining has been undertaken. Various areas of possible concern have been identified:

   A. There is a dispute with a former shareholder;

   B. There has been a tax investigation. It is nearing completion. There will be some modest taxes and penalties payable;

   C. A former employee is taking legal action for unfair treatment and bullying;

   D. Easy Dining has filed some past financial statements with the regulatory authorities after the due date;

   E. An insurance claim relating to flood damage to one of the offices is not yet settled.

2. The possible buyers will consider each of these findings. There are various ways that they can act:

   A. They can decide that the findings are so serious that the risks are too great. They therefore do not proceed with a transaction.

   B. They can decide that the findings are serious. However the risks can be managed. They can do this by including terms in the purchase contract.

      (1) Those terms might be that the sellers will pay for all legal costs and payments to the former employee if the claim is successful.

      (2) The sellers may also have to pay if the insurance claim is settled at less than the amount included in the financial statements.

      (3) They may also decide to hold back part of the price payable for the business. These amounts will be released only when the position is known.

   C. They can decide that the findings are not serious. No further action is then required.

Section I Plans for the Business

1. Private equity and venture capital buyers will normally seek to increase the size and profit potential of a Target company:

   A. The Target may grow more quickly if greater funding is available:

(1) Easy Dining may be able to expand more quickly into Jeddah and other towns in the Kingdom if the funds are available.

(a) The funds are needed to hire additional employees and to pay for the losses.

(2) Many smaller businesses will be limited in their growth due to lack of funds.

B. The Target may become the central hub of a larger enterprise:

(1) Easy Dining may be the main company. The venture capital or private equity fund may seek to build a larger group by acquiring other target companies;

(2) Another company may already have been bought as the central hub; Easy Dining may be one of the smaller businesses being bought.

Section J Invested Capital Structure

1. We have already considered the advantages of debt in the invested capital structure:

A. Conventional bank debt is normally secured on the assets of a business. This is often described as senior debt. It is the first liability that has to be settled.

B. Such secured bank debt normally has a low cost of capital: this means that the interest rate charged on such debt is relatively low.

(1) The interest rate or cost of capital is low as the risk is low. The debt is secured on assets of the business.

C. There is also a tax deduction in many countries for the interest on such debt.

(1) This means that the cost of capital is the rate of interest multiplied by (1-T) when T is the rate of tax on corporate profits.

(2) Debt with an interest charge of 4% has a cost of capital of only 3% if the rate of tax is 25%. [4% x (1 – 0.25) = 3%.]

D. Debt that is not secured will normally have a higher cost of capital. Senior debt is the first to be repaid. Other debt will only be paid once this has happened.

(1) Private equity and venture capital often use unsecured debt in the structure of the invested capital. This is sometimes known as mezzanine financing.

(a) A mezzanine is a floor between the ground floor and the first floor of a building.

(b) Mezzanine debt is between senior debt and equity.

- It has a higher cost of capital than senior debt. The cost of capital is lower than equity.
- Senior debt holders may receive interest of 4%. Mezzanine debt holders may receive interest of 12%. This reflects the additional risk involved.

(c) Interest on Mezzanine debt is also deductible for tax purposes in many countries.

- Interest of 12% may therefore have a cost of capital of 9% if the rate of taxation on corporate profits is 25%.

E. Debt has a lower cost of capital than equity. Debt included in the invested capital should lead to increased returns to equity.

F. We can see this from an example. We will consider two companies A and B. A has no debt in its invested capital. B has a large amount of debt in its invested capital. We are using the market values of both the equity and the debt in these examples.

G. We are assuming that the interest rate on the debt is 4%. We also assume a rate of taxation or zakat of 25%.

H. We are ignoring growth in these examples. We start with Company A.

Company A			
	Equity		Enterprise
EBIT	1,000		1,000
Interest on debt	0		
	1,000		
Tax at 25%	(250)		(250)
Net income after tax / NOPAT	750		750
	Equity	Debt	Total
		at 3.0%	
Value	7,500		7,500
Return	750	0	750
Return on invested capital	10.0%		10.0%

I. The first five lines above are presenting the income statement in two ways. The first column is the normal income statement. We finish with the net income after tax. The second column is in the format that gives us the Net Operating Profit after Tax or NOPAT.

(1) In business valuation another term for invested capital value is enterprise value.

(2) For Company A the two columns are the same as there is no debt in the invested capital.

J. In the rest of the table the net profits after tax are divided between the equity and the debt.

(1) The whole return goes to equity. The return on the equity is 10% (750/7,500).

K. We now consider Company B:

Company B			
	Equity		Enterprise
EBIT	1,000		1,000
Interest on debt	(180)		
	820		
Tax at 20%	(205)		(250)
Net income after tax / NOPAT	615		750
	Equity	Debt	Total
		at 3.0%	
Value	3,000	4,500	7,500
Return	615	135	750
Return on invested capital	20.5%	3.0%	10.0%

L. The invested capital or enterprise value is 7,500 as before. For Company B, the debt is 4,500/ 7,500 or 60% of the total.

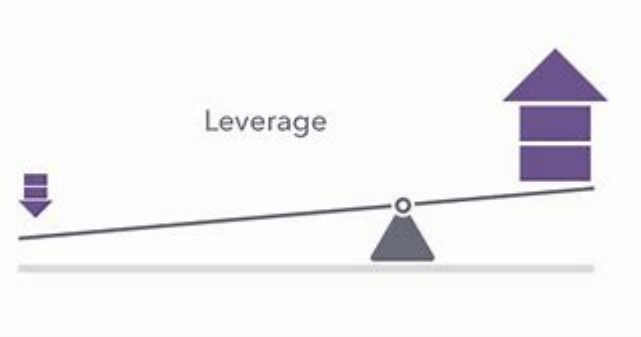
M. The net income after tax is 615. The NOPAT is 750.

(1) The difference between these two figures is 135. This is:

Interest charge after tax relief		
Interest on debt at 4%		(180)
Tax at 25%		45
Net interest cost		(135)

N. With Company B we can see that the return to the equity, before considering the effect of growth, has increased from 10% to 20.5%. This is due to the use of debt in the invested capital structure.

O. The use of debt in the invested capital structure is known as leverage. A lever can be used to move heavy objects as shown below. The available force is increased. Financial leverage can be used to increase returns to equity holders.



P. Financial leverage has this effect if the returns on invested capital are greater than the cost of debt.

2. There are disadvantages to the use of debt:

A. Interest on debt has to be paid when it is due.

B. The debt has to be repaid when repayment is due.

C. We can compare this with equity funding:

(1) Dividends are only paid to equity holders if there is cash to do so;

(2) Equity does not have to be repaid.

D. Debt therefore increases the risk in the invested capital structure.

(1) The return to the equity holders in Company B is greater than Company A. There is far more risk in Company B.

E. The cost of debt increases as there is more debt in the invested capital.

(1) As mentioned above, there is senior debt and mezzanine debt. The rate of interest (cost of capital) of senior debt is far less than mezzanine debt. There is far lower risk for the lenders of senior debt.

3. There is an optimal or best structure for the invested capital. It is that position when the amounts of equity and debt give the highest returns to the equity at a satisfactory level of risk.

   A. With no debt, the risk is reduced, but the returns to the equity are reduced.

   B. With too much debt, the returns to equity are higher but there is too much risk.

   C. At the best level there is considered to be a balance between the risk and the reward.

4. In Example 7.2 we looked at five different public companies. They are all manufacturers of fragrances and flavors. They are based in the USA, Germany, Switzerland and the UK.

5. The mean and median structures of the capital structures were:

Five Flavor and Fragrance Manufacturers		
	Mean	Median
Equity	91.0%	89.6%
Debt	9.0%	10.4%
	100.0%	100.0%

6. It is normally accepted that the invested capital structures of public companies represent the best structure. This is the position when the amount of debt in the invested capital structure increases the returns to the equity holders without too much risk.

7. With the five companies, four of them were grouped very closely together. There was one outlier with debt of only 1%.

8. The close grouping of four of the five public companies is normally considered to be strong evidence of the best capital structure for businesses in that sector.

Section K The Cost of Capital

1. The information above shows how the cost of capital can reduce if there is debt in the invested capital structure.

2. In order to calculate the cost of capital, valuers use what is called the weighted average cost of capital or WACC.

3. We will look at this in more detail in the next chapter. Here is a quick summary of what we have already discussed:

   A. The WACC is the cost of debt and the cost of equity. The relevant costs are weighted. The weightings are the proportions in the capital structure.

   B. We will continue with the examples of companies A, B, C, D and E above.

      (1) If the average interest rate on the debt is 3.5% and the tax rate is 23%, the after-tax cost of debt is 3.5% x (1- 0.23) = 2.7%.

      (2) The weighting to apply to that cost is the median value of 10.4%.

      (3) This means that the debt part of the invested capital has a weighted cost of 2.7% x 10.4% = 0.28%.

      (4) We will assume a market cost of equity of 9.5%. The weighting to apply to that cost is the median value of 89.6%.

      (5) This means that the equity part of the invested capital has a weighted cost of 9.5% x 89.6% = 8.51%.

      (6) The WACC is therefore 0.28% + 8.51% = 8.79%.

4. The cost of equity capital is calculated by obtaining information on the equity risk premium or ERP.

   A. The equity risk premium is defined by the Taqeem Glossary as: “The additional rate of return required by investors over the risk-free return to reflect the additional risk of investing in Equity instruments compared to risk free instruments.”

5. As previously stated, the equity risk premium is adjusted according to the volatility of the sector in which the company operates. This adjustment is known as Beta.

   A. Each of the public companies will have a Beta value that changes as the stock price moves. Sources such as Bloomberg and Capital IQ provide details of the Beta of public companies.

6. The return that is required is provided by what is called the Capital Asset Pricing Model or CAPM. The return is equal to the risk free rate plus the Beta-adjusted equity risk premium.

   A. The capital asset pricing model is described by the Taqeem Glossary as:

(1) “An asset pricing model used to determine the expected rate of return of a security by adding a risk premium to the rate on a risk-free security. The risk premium is comprised of the Equity (or Market) Risk Premium adjusted by the Systematic Risk (or Beta) of the security. Conceptually it captures the incremental (systematic) risk that investors need to be compensated for when investing in risky securities (typically stocks) relative to investing in a risk-free security.

7. The above is a simple explanation of Beta. There is another factor that is included within Beta as an adjustment to the equity risk premium. This factor is the relevant leverage of the companies. The Beta is adjusted for the difference in leverage between a guideline public company and the company being analyzed.

   A. In the example of the five flavor and fragrances companies, the median leverage of the companies was debt as 10.4% of the invested capital.

      (1) A private company that was manufacturing flavors and fragrances may be compared with the public companies. The private company has debt as 30% of the market value of the invested capital.

      (2) The greater proportion of debt in the invested capital of the private company increases the risk. This means that the share price of a public company with that level of debt would be more volatile.

      (3) The beta is adjusted in order to account for the additional volatility and risk in the invested capital structure of the private company.

      (4) The cost of the equity capital (the return that would be required by investors) increases as the leverage increases:

         (a) this increases the Beta;

         (b) the increased Beta is used to multiply the equity risk premium in the capital asset pricing model.

8. The capital asset pricing model is expressed simply:

$$Cost\ of\ equity = risk\ free\ rate + (Beta\ x\ equity\ risk\ premium)$$

Section L Country Risk

1. The capital asset pricing model is based on investing in a single economy.

2. When investors from one country invest in another country, there are additional risks:

A. An obvious risk is that of currency movements. The investor in KSA who invests in a Japanese company is taking the investment risk of that Japanese equity investment.

(1) The Saudi investor is also taking another risk: the Japanese Yen may change in value against the Saudi Riyal.

(a) If the Japanese Yen increases in value against the Saudi Riyal, the Saudi investor gains from that risk or uncertainty.

- He or she has the investment performance of the Japanese company plus a currency gain;

(b) If the Japanese Yen reduces in value against the Saudi Riyal, the investment performance is reduced by the currency loss.

3. There are other risks that may be involved in investing in other countries. This is a very complex area. Examples of such risks are:

A. The risk of assets being confiscated by governments;

B. Sudden increases in the taxes charged on corporations;

C. The risks involved in corruption within the society;

D. The risks associated with civil disturbance and civil war.

4. There are various models which aim to account for what is known as country risk. None of these models is yet generally accepted as the correct way of dealing with this most complex area.

5. The subject of country risk is covered in later BV courses. The course materials look at the main alternative models currently in use to measure country risk.

Section M Dividend Policies

1. In many countries public companies view dividends as being of great importance.

A. Value stocks are those stocks with relatively high asset backing. They have positive cash flows and modest growth. They will often focus on relatively high dividend payments to stockholders.

(1) Examples of such companies are the main oil companies and many banks.

B. Real Estate Investment Trusts will be often be required, by tax authorities, to pay out virtually all of their profits in the form of dividends to stockholders.

C. For such companies the dividend is a very important consideration in maintaining the share price.

D. If the share price is not maintained, the officers will be likely to find that stockholders become hostile.

E. Such companies will seek to increase the dividends gradually. A reduction in dividends will likely lead to a reduction in the share price.

2. Companies described as growth companies will often not pay dividends:

A. Investors know that their cash flows are needed. The expansion of the balance sheet uses all of the cash from the profits.

3. A measure of dividend payments is what is known as dividend cover. The net income after tax is divided by the dividend paid in the year.

4. We can show with a simple example of two companies G and H:

A. G is a company that is growing quickly. It pays out only a small dividend.

B. V is a value company. Stockholders expect relatively high dividends.

Dividend Cover Illustrated		
Company	G	V
Net income after tax	100,000	100,000
Dividend	(10,000)	(60,000)
Profits retained	90,000	40,000
Dvidend cover	10 times	1.7 times

5. In the next chapter we will look at the financial projections prepared by the management of Easy Dining in order to support their valuation of 13.5 million based on 9x next year's EBITDA of 1.5 million.

Chapter 9 Introduction to Financial Modelling

Section A Review of Projections

1. The next stage is to look at the projections that have been prepared by the management of Easy Dining. This is the company that we introduced in Chapter 8.

2. We need to see if the projections have been properly prepared.

3. We will then consider how the projections can be used for valuation purposes.

4. The Sellers have said that they are only interested in offers in which the enterprise value of Easy Dining will be at least 13,500,000 (9 times the projected EBITDA of 1.5 million for the next 12 months). We need to consider if Capital Growth Partners (CGP) are interested in this investment.

5. The corporate brokers have stated that cash inflows before financing will be as follows:

	'000
Next year	1,259
Next year add 1	1,880
Next year add 2	2,005

6. They have said that this strong cash generation is a main reason for the price that is expected.

A. Example 9.1

(1) On the tab "Easy Dining" you will see the income statements, balance sheets and cash flow statements as provided by the officers of Easy Dining.

(a) Are there any obvious calculating errors in the projections?

(b) If so, what is the cause of the errors?

(c) What are the number of days sales in receivables?

(d) Do the assumptions seem reasonable?

B. There is a lot of information to review. Twenty minutes or thirty minutes will be allowed.

7. We have summarised on the slide some comments on the structure of the projections and the reasons for some differences.

8. We are showing a revised cash flow statement on the PowerPoint slide. This is based on various changes that have been made.

   A. An Excel file will be emailed to you with the revised figures.

9. Important points to remember:

   A. A financial model must contain income statements, balance sheets and cash flow statements.

   B. The three statements must agree to one another:

      (1) The net income and after dividends (and other adjustments) must agree to the movement in the reserves on the balance sheet.

      (2) The cash flow statement must agree to the movement in the cash balances on the balance sheet.

      (3) The balance sheets must balance.

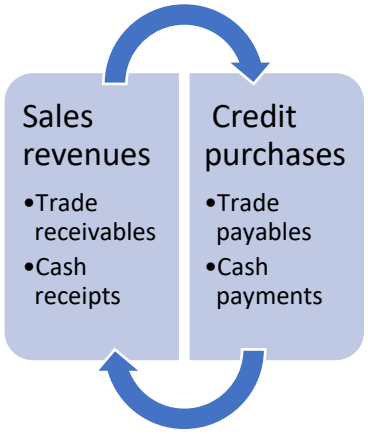
10. These are first requirements for financial modelling. This does not mean that the projections are correct. It does mean that the model does not contain any internal errors.

11. On the slide you can see the mistakes that have been made in putting the projections together.

Section B Assumptions

1. Any projections are based on assumptions.

2. These relate to the working capital cycle as shown for Easy Dining below:



3. There will be a large number of assumptions in any projections.

   A. If any figure increases, reduces or stays the same, that figure is based on assumptions.

4. It is good practice to consider each of the lines on the projections. Each of the lines will be based on assumptions. Each assumption should be listed as a means of documenting the judgements made. Examples are:

   A. How the sales change from year to year;

   B. The inventories that will be needed for those sales;

   C. The capital expenditures that will be needed as replacements and for growth;

   D. How quickly customers pay for the goods or services sold to them.

5. Assumptions are based on judgements.

   A. Example 9.2

      (1) Look at the figures for the sales revenues, the trade receivables and the cash receipts from sales. What are the main assumptions that have been made in the preparation of the projections?

      (2) What is the impact on the cash inflows from sales revenues if the number of days in trade receivables is constant at 58 days?

6. It is important to go through all of the figures in projections and write down the assumptions on which they are based.

   A. This is a good way to review and challenge projections that you have prepared.

   B. It is also a very good way to challenge the projections that have been prepared by other people.

7. Assumptions relating to inventories, trade receivables and trade payables are normally relatively easy to project.

   A. As the business increases in size, the working capital will normally increase at the same rate:

      (1) It is unlikely that customers will start paying more quickly or that more credit can be taken from suppliers.

8. The projection of capital expenditure can be more difficult.

   A. As a general rule it might be expected that there is a relationship between the levels of fixed assets and sales revenues being generated by a business.

      (1) It is far less likely that a business can increase its sales revenues dramatically without investing further amounts in capital expenditures.

B. If projections show that the plant and equipment on the balance sheets are becoming smaller and smaller when compared to sales revenues, the assumption underlying the capital expenditures should be challenged.

9. For a great many businesses the cash generation is less than the net income after tax. This is due to the impact of balance sheet expansion.

10. The main changes that have been made to the cash flow projections have been:

    A. Restate the sales revenue receipts on the basis of more realistic levels of trade receivables;

    B. Restate the cost of sales payments on the basis of more realistic levels of trade payables;

    C. Increase the levels of administrative costs to make more allowance for growth in the size of the business;

    D. Make allowance for capital expenditures;

    E. Include payments made to owners.

11. The above adjustments are mainly mechanical in nature. They are changes that are evidently required as the assumptions in the original projections were clearly not realistic.

12. The most important assumptions are the rates of growth of sales revenues.

    A. We would expect the due diligence process to spend a lot of time on looking at the projected growth:

        (1) In order to achieve growth of 91% in a year Easy Dining must have a pipeline

Section C Valuation

1. We now have revised figures for the cash flows to the equity holders. We are now ready to calculate the value of Easy Dining.

2. As stated earlier, any business is worth the present value of its future cash flows. We now have revised cash flow projections for three years.

3. The stages in calculating value are:

    A. We can either:

        (1) use the cash flows to equity holders, or

        (2) use the cash flows to the enterprise.

(a) The enterprise is the invested capital. It is the equity and debt combined.

B. Most valuers use the cash flows to the enterprise in order to calculate the value of the equity:

(1) The value of the invested capital is calculated;

(2) The interest-bearing debt is deducted;

(3) Non-operating (surplus) cash is added;

(4) Non-operating (surplus) assets are added;

(5) The result is the value of the equity.

C. This indirect method is used for one simple reason:

(1) A business should not be valued differently due to the way that it is funded.

D. We have decided to use enterprise value as a way of calculating the equity value. We therefore need to calculate the enterprise cash flows. These are different from the equity cash flows.

E. We need to establish a discount rate to apply to those cash flows.

F. We only have cash flows for three years, next year and the following 2 years. We therefore need to consider a terminal value. As the sales' growth in the final year of the projections is very high at 12%, we know that we cannot use this as a sustainable rate of growth.

G. If Easy Dining had reached a stage when its rate of growth is sustainable over the long term, we could calculate the terminal value. This requires a growth estimate.

H. We need to deduct the debt and add the non-operating cash and surplus assets to calculate the equity value.

4. We therefore need to focus on the cash flows to the enterprise, not the cash flows to equity. These are given below for the three forecast periods:

			Cash Flows to Enterprise		
			3	4	5
			Next year	Next year add 1	Next year add 2
Sales revenues			3,249	4,128	4,687
Cost of sales			(517)	(676)	(750)
Administrative costs			(1,665)	(1,957)	(2,177)
Capital expenditures			(109)	(154)	(163)
Operating cash flows			958	1,341	1,597
Less: taxation			(171)	(358)	(405)
Operating cash flows after tax			**788**	**983**	**1,192**

5. The first four lines are taken from the amended cash flow projections.
6. The figure that needs to be explained is the figure for taxation.
7. We have previously discussed the concept of NOPAT, the Net Operating Profit After Tax. This is how we calculate NOPAT:
   A. Start with the operating profits (EBIT);
   B. Calculate the percentage rate of tax that applies to the earnings before tax;
   C. Multiply the operating profits by that percentage rate. That gives the tax charge;
   D. Deduct that tax charge from the operating profits.
8. The effect of the above is to include a tax charge as if the business did not have an interest cost.
9. The taxation line differs from the cash flow statement. It has been derived by calculating the NOPAT:

Calculation of taxes for enterprise	3	4	5
	Next year	Next year add 1	Next year add 2
Earnings before tax	1,204	1,546	1,734
Taxation	(164)	(358)	(405)
Net income after tax	1,040	1,188	1,329
Effective rate	13.6%	23.2%	23.4%
Operating profits above	1,253	1,546	1,734
Tax at effective rate	(171)	(358)	(405)
Net operating profit after tax (NOPAT)	1,082	1,188	1,329

10. We now have cash flows to the enterprise – the figures of 788, 983 and 1,192 above.

11. We need to select an appropriate discount rate. This requires us to calculate a weighted average cost of capital or WACC.

    A. The weighted average cost of capital is defined by the Taqeem Glossary as: “The cost of capital (discount rate) determined by the weighted average, at market value, of the cost of all financing sources in a Business Capital Structure.”

12. We can explain this concept again very simply:

    A. We calculate the cost of the debt financing- that is the rate of interest payable on the debt.

    B. We reduce the rate of interest by the rate of corporate income taxes.

        (1) Interest on debt is a deductible expense in most countries. We need the cost after the benefit of that tax deduction.

    C. We calculate a cost of equity. We have considered this in Chapter 8. We will be looking at this again in the next chapter.

    D. We determine the optimum debt and equity in the invested capital at market value.

        (1) As an example, the debt may be 30% of the invested capital and the equity may be 70% of the invested capital.

    E. In this case we calculate the WACC by taking 30% of the cost of debt and 70% of the cost of equity.

    F. This is the WACC.

13. In the example of Easy Dining we will assume that the WACC is 12%.

14. This then means that we discount the three years of the projections by applying the following three formulas:

$$\frac{788}{(1.12)^1} + \frac{983}{(1.12)^2} + \frac{1{,}192}{(1.12)^3} = 704 + 784 + 848 = 2{,}336$$

15. In this simplified example, Easy Dining is expected to grow quickly over the three years of the projections. We will now assume that its growth reduces to a lower level that can be sustained in perpetuity.

16. If we assume that the future sustainable rate of growth is 3% we have a capitalization rate to apply to the terminal cash flows. The capitalization rate is equal to the discount rate less growth.

    A. It is very important to remember this fundamental relationship. When dealing with the valuation of businesses, we use this terminology:

Capitalization rate = K – g.

17. "K" is the discount rate or cost of capital. "g" is the rate of growth.

18. We can then apply the Gordon Growth Model to calculate the terminal value. As a reminder, here is the formula for the Gordon Growth Model:

$$Terminal\ value = \frac{CF_0\ x\ (1+g)}{K-g}$$

19. We know all of the inputs into this model with the exception of CF_0. We will use 1,339 for CF_0 .. We will explain this figure in the next session.

A. Example 9.3

(1) Using the inputs that have been provided above, calculate the terminal value of Easy Dining.

(2) What do we do with that terminal value in order to derive the value of the enterprise?

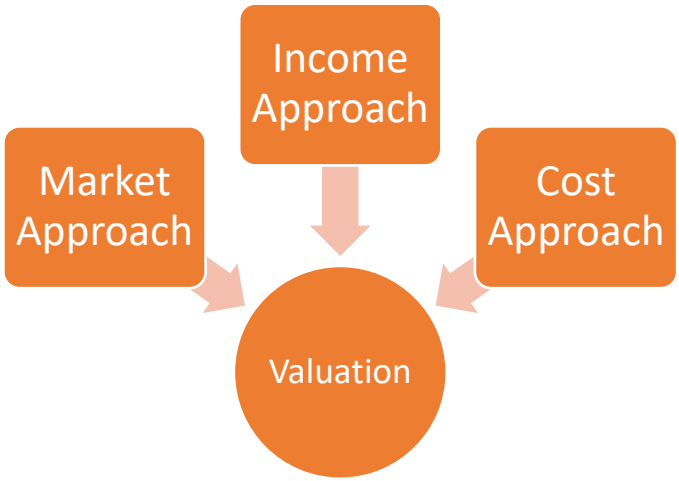
Section D The Easy Dining Value

1. We have looked at the Easy Dining projections. Do we want to pursue an investment in this company at the price that is expected?

Chapter 10 Introduction to Business Valuation

Section A Introduction: The Language of Valuation

1. Valuation professionals of real estate, businesses, plant, intangible assets and financial instruments use the same terms, all taken from International Valuation Standards. International Valuation Standards (IVS) are set by the International Valuation Standards Council.
2. International Valuation Standards are supported by Taqeem.
3. The Taqeem Glossary is consistent with IVS.
4. The terms that are used precisely are in bold text below.
5. There are three valuation **approaches**. These are generally recognized throughout the international valuation community.



6. The three valuation approaches are defined within the Taqeem Glossary. The definitions in the Glossary are the same as those in International Valuation Standards 2020.

   A. The market approach: “It provides an indication of value by comparing the asset with identical or comparable (that is similar) Assets for which price information is available.”

   B. The income approach: “It provides an indication of value by converting future cash flow to a single current value. Under the income approach, the value of an asset is determined by reference to the value of income, cash flow or cost savings generated by the asset.”

C. The cost approach: “It provides an indication of value using the economic principle that a buyer will pay no more for an asset than the cost to obtain an asset of equal utility.”

7. There are two main **methods** under the market approach:

   A. Using guideline public companies and the prices at which they are valued on the stock markets;

   B. Using databases of transactions. The databases generally contain details of companies published by public companies.

8. There are other possible methods under the market approach:

   A. One of these is commonly used in early stage companies: the current value is calculated by calibration to a recent funding round.

      (1) Calibration is described in the Taqeem Glossary: “the use of relevant inputs as of the date that an earlier investment in an entity was made; updated inputs as of a subsequent measurement date are then used in order to generate the current value.”

   B. Other methods are:

      (1) Previous offers for the company made in good faith; and

      (2) Sales or customer number metrics for particular sectors. These are commonly known as “rules of thumb”.

      (3) Rules of thumb are explained in the Taqeem Glossary: “These are sector-specific valuation benchmarks. They are common in certain retail sectors with small businesses. They are sometimes based on multiples of revenue or the volume sales of specific goods or services. They can also be based on the Sellers’ Discretionary Earnings or Cash Flow. They should not be given substantial weight unless it can be shown that buyers and sellers place significant reliance on them.”

9. There are two main methods under the income approach.

   A. Discounted cash flow techniques.

      (1) Discounted cash flow techniques are described by the Taqeem Glossary: “ a valuation method under the income approach, which discounts future expected cash flows to a present value using a discount rate”.

   B. Capitalization of a single period’s cash flows or earnings.

(1) This is described by the Taqeem Glossary: “a method within the income approach whereby expected economic benefits for a representative single period are converted to value through division by a cap rate or multiplication by a multiple.”

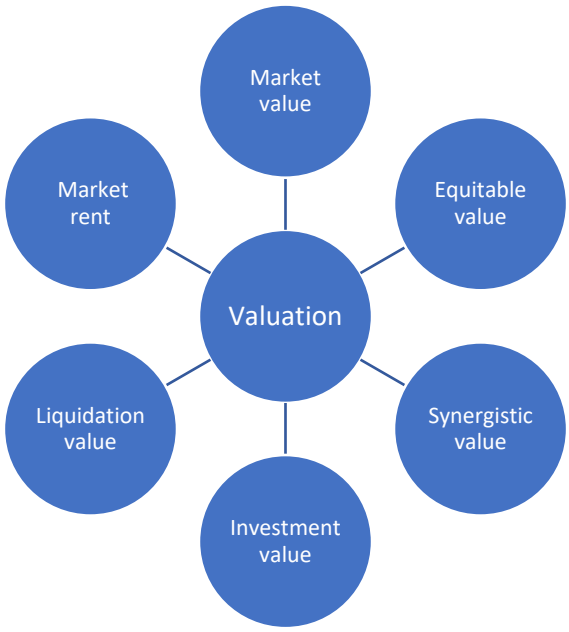
10. For business valuation using the cost approach the summation method is commonly used:

A. This is described by the Taqeem Glossary: “the main method under the Cost Approach for the valuation of a business. It involves the valuation of each of the component Assets of a business and the deduction of the amounts payable in respect of liabilities. It is commonly used for businesses such as real estate companies, in which the value is in the individual Assets, with little or no intangible asset value.”

11. **Bases of Value**

A. There are various bases of value. These are described by the Taqeem Glossary: “Bases of value (sometimes called standards of value) describe the fundamental measurement assumption on which the reported values will be based.”

B. Five of these bases of value can relate to business valuation. The sixth basis, Market rent, is primarily relevant for real estate valuation.



C. The most common basis of value in International Valuation Standards is Market value: "The estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion."

D. It is important not to confuse the meanings: there is the market approach; there is market value as a basis of value. Any one of the three approaches can be used to calculate market value.

E. In addition to market value as a basis of value, there are other bases. These include other IVS bases such as synergistic value and equitable value; there are also other bases, a common one being the basis of value used for tax purposes in different countries.

12. Premises of Value

A. The Taqeem Glossary states: "This describes the circumstances of how an asset or liability is used. IVS describe four premises of value. These are highest and best use; current use/existing use; orderly Liquidation; forced sale. The first two are going concern premises and the second two are Liquidation premises."

13. When undertaking a valuation it is important to define how the valuation is being conducted, using standard valuation terms.

14. As an example a valuation might use the income approach and the discounted cash flow method to determine the market value of a company on the assumption of a current use premise.

A. In this sentence the approach, method, basis and premise have all been stated.

Section B Non-Operating Assets

1. It is possible to value an equity interest directly. The more common alternative is to value the enterprise (the total invested capital) and then to:

A. Deduct the value of the debt;

B. Add on any surplus cash and any non-operating assets.

2. International Valuation Standards state the following regarding non-operating assets:

A. “Most valuation methods do not capture the value of assets that are not required for the operation of the business. For example, a business valued using a multiple of EBITDA would only capture the value the assets utilised in generating that level of EBITDA.”

B. Example 10.1

You are valuing a large printing business that specialises in printing packaging for luxury goods such as perfumes and other toiletry products. Which of the following would be considered to be non-operating assets?

(1) Some old printing plant that is no longer in use and is to be sold;

(2) The administrative office building housing offices and a large meeting room;

(3) A holiday home used by the main shareholder;

(4) Some old paper and card inventory That is no longer saleable and needs to be destroyed

(5) An amount owing by the owner to the company.

Section C Enterprise Value and Equity Value

1. It is now most common to value the enterprise (the invested capital, that is the equity and interest-bearing debt combined). The value of the debt is then deducted in order to value the equity.

2. International Valuation Standards 2020 state the following:

   A. “While equity or a particular class of equity can occasionally be valued directly, more often the enterprise value of the business is determined and then that value is allocated between the various classes of debt and equity.”

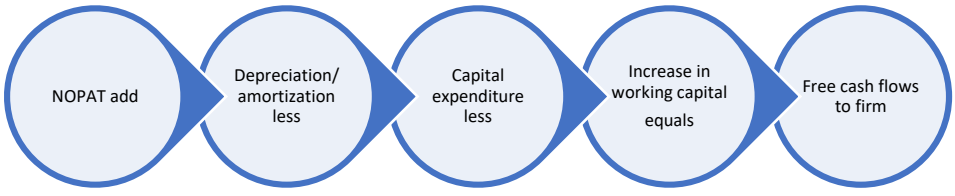
3. The central reason why enterprise value is calculated and the debt then deducted is simple:

   A. businesses should not be valued differently because they are funded differently.

4. As a reminder, here are income statements presented in the two different ways:

	Invested Capital "Enterprise"	Equity Capital "Equity"
Sales	3,254,419	3,254,419
Cost of sales	(2,029,322)	(2,029,322)
Gross profit	1,225,097	1,225,097
Administrative costs	(782,608)	(782,608)
Earnings Before Interest, Taxation, depreciation and amortization (E	442,489	442,489
Depreciation, amortization etc.	(96,657)	(96,657)
Operating profits (EBIT)	345,832	345,832
Interest payable		(52,765)
	345,832	293,067
Taxation at 20.3%	(70,040)	(59,354)
Net operating profit after tax (NOPA	275,792	
Net income after tax		233,713
Difference	42,079	
Interest	52,765	
Less tax at 20.3%	(10,686)	
Net above	42,079	

5. If we are valuing the business on the basis of cash flows, the above figures of NOPAT and net income after tax are converted to cash flows.



	Invested Capital "Enterprise"	Equity Capital "Equity"
Net operating profit after tax	275,792	
Net income after tax		233,713
Add depreciation, amortization	96,657	96,657
Less capital expenditures	(72,973)	(72,973)
Change in working capital	69,043	69,043
Change in debt		(117,754)
Enterprise cash flows	368,519	
Equity cash flows		208,686

6. The increase in the debt increases the equity cash flows. Repayment of the debt reduces the equity cash flows.
7. The changes in the debt have no effect on the enterprise cash flows.
8. When we are valuing the enterprise, common figures that we can use are:

   (1) Sales

   (2) Earnings Before Interest, Taxation, Depreciation and Amortization (EBITDA)

   (3) Earnings Before Interest and Tax (EBIT)

   (4) Net Operating Profits After Tax (NOPAT)

9. When we are valuing the equity directly, common figures that we can use are:

   (1) Earnings before tax

   (2) Net income

Section D The Market Approach

1. We will now use some of the skills that we have discussed during the previous days on this course.
2. We will begin with the market approach and the guideline public company method.

A. Example 10.2

You have been asked to consider the relevant valuation metrics to use under the market approach and the guideline public company method. You have been provided with various valuation metrics for seven guideline companies based in Europe, Asia and North America. The companies are all engaged in internet retailing. The valuation metrics are based on the last 12 months' results. They are all expected to grow rapidly over the next few years and the multiples are therefore generally very high. The company that you are valuing is also engaged in internet retailing. The details are given below.

(1) Which of these valuation metrics relate to the enterprise value (that is the invested capital); which of these valuation metric relate to the equity value?

(2) Calculate the mean and the median of each of the lines of multiples.

(3) Calculate the standard deviation and the coefficient of variation of the various valuation metrics.

(4) Which of the 7 valuation metrics do you consider will be the most reliable?

(5) Do any of these companies appear to be outliers, that is very different to the other companies?

Companies	A	B	C	D	E	F	G
Valuation Multiples							
Sales	6.5	6.2	5.9	7.0	3.2	4.0	6.0
Gross profits	17.8	18.4	15.0	16.5	9.9	8.9	16.3
EBIT	108.2	39.8	42.7	44.2	27.6	30.4	40.1
EBITA	60.4	39.7	34.4	36.8	27.3	28.2	36.7
EBITDA	42.0	35.7	28.1	31.5	20.8	26.0	32.3
Profit before tax	154.9	40.1	38.6	44.8	26.7	30.1	39.4
Net income after tax	181.1	52.3	59.7	52.9	33.6	39.7	56.8

B. Example 10.3

(1) You are valuing a loss-making company which is developing new functions for mobile phones. It had a funding round a month ago and raised 12 million at a price of 17.40 per share. Which method under the market approach is likely to be the most reliable for valuing the shares – the guideline public company method, the comparable transactions method or the calibration method?

Section E The Income Approach

1. Discounted cash flow techniques are one of the methods under the income approach.
2. We looked at the conversion of profits to cash flows above.
3. As a reminder, if we use the discounted cash flow method there are the following steps:
   A. Project cash flows for the years until the business has reached stable growth;
   B. Calculate a terminal value at the end of that number of years;
   C. Discount the various values back to net present value.
4. Under the income approach the terminal value is most commonly calculated using the Gordon Growth Model. This is a model that has been derived from the formula for an increasing annuity. As a reminder the formula for the Gordon growth model is:

$$\frac{CF_1}{k-g} = \frac{CF_0\, x\, (1+g)}{k-g}$$

   A. CF_1 means the cash flow in the next year.
   B. CF_0 means the cash flow in the last year.
   C. g means the rate of growth.
   D. k is the cost of capital.
5. Using a simple example, if CF_0 is 1,000, g is 2.5% and k is 16%, the above formula gives us a value of:

$$\frac{1{,}000\, x\, 1.025}{0.16-0.025} = 7{,}592.6$$

6. As a further reminder, the discounting of the cash flows for a single period provides the same value as using the discounted cash flow method if the cash flows are already stable. We used the example of Dammam Care which was growing at a stable rate of 2.5% a year:

Dammam Care - single period multiple and discounted cash flow					
Year	1	2	3	4	Terminal
Cash flows	450,256	461,512	473,050	484,876	496,998
Discount rate (Ke)	13%	13%	13%	13%	13%
Gordon growth model					4,733,316
Discount factor	0.885	0.783	0.693	0.613	0.613
Net present value	398,457	361,432	327,847	297,384	2,903,032
Total	4,288,151				
Value using year 1	4,288,151				

A. Example 10.4

(1) Calculate the value of the enterprise of the following company using the following information and the end of year discounting convention:

Discounted Cash Flow Techniques						
	1	2	3	4	5	Terminal
Cash flows	(140)	21	146	529	545	
Discount rate (K)	13%	13%	13%	13%	13%	
Growth at end of year 5						3%

7. In the above example we used the Gordon Growth model in order to calculate the terminal value. This is the use of the income approach.

8. It is also possible to use the market approach or the cost approach:

   A. The terminal value may be calculated using a market approach such as the year 6 projected EBITDA and multiples from the market.

   B. The first challenge in doing this is that an incorrect metric may be chosen. The market values today may reflect an anticipated period of fast growth. This may no longer be the case in three or four years' time.

   C. The second challenge is that this is using a mixture of methods. The underlying assumptions may not be the same.

      (1) When doing this it is important to understand the link between the two methods.

         (a) The enterprise value is based on a multiple of EBITDA;

(b) The related EBIT can be converted into NOPAT;

(c) The NOPAT can be converted into estimated cash flows;

(d) The cash flow multiple can be calculated;

(e) The inverse of the cash flow multiple is the capitalization rate;

(f) If we add the terminal growth rate to the capitalization rate we derive the cash flow discount rate;

(g) This can be compared with the discount rate used under the income approach.

D. The following example explains the calculations. You are reviewing a business valuation that has been prepared by another firm of valuers.

(1) The firm of valuers has calculated a weighted average cost of capital of 12%. This is the cost of equity and the cost of debt. This is the discount rate.

(2) The income approach has been used with the discount rate of 12%. This has reduced the enterprise cash flows to net present value.

(3) The valuers have calculated a terminal value using the market approach. They have used an EBITDA multiple of 7x.

(4) Is this consistent with the discount rate? You undertake the following calculations:

Comparing EBITDA multiple with the income approach				
			Multiple	EV
Sales	11,345,558			
Cost of sales	(6,784,571)			
Gross profit	4,560,987			
Administrative costs	(3,745,960)			
EBITDA	815,027		7	5,297,676
Depreciation/amortization	(370,598)			
EBIT	443,624	443,624		
Interest expense	(85,969)			
Profit before tax	357,655			
Taxation at 24%	(85,837)	(106,470)		
Profit after tax	271,818			
NOPAT		337,154		
Tax rate	24.0%			
Estimated cash flows 92%		310,182	17.1	5,297,676
Capitalisation rate			5.86%	
Terminal growth			2.50%	
Discount rate			8.36%	

(5) The other firm of valuers have calculated a terminal value of 5,297,676. They have used the projected EBITDA of 815,027 and a multiple of 7x.

(6) The related NOPAT can be calculated easily. The rate of tax on the profits is 24%. The EBIT of 443,624 less tax of 24% gives NOPAT of 337,154.

(7) If the terminal growth was nil, the NOPAT would equal the cash flows:

(a) The capital expenditures would equal the depreciation charge;

(b) There would be no increase in inventories, trade receivables or trade payables.

(8) Terminal growth is normally the rate of background inflation.

(a) There may be some adjustment for population growth.

(9) This means that the capital expenditures will be greater than the depreciation charge.

(10) It also means that the inventories, trade receivables and trade payables will be expected to increase each year.

(11) This is known as balance sheet expansion. The net effect for most businesses is that the enterprise cash flows will be less than the NOPAT.

(12) In this case, it has been calculated that the balance sheet expansion will use 8% of the cash flows. The net cash flows are therefore 92% of the NOPAT.

(13) The value of 5,297,676 can be expressed as a multiple of 17.1 times the enterprise cash flows.

(14) The capitalization rate is therefore $\frac{1}{17.1}$ = 5.86%. If the terminal growth rate is 2.5% the discount rate implied by the EBITDA multiple of 7 is 8.36%.

(15) This is not consistent with the weighted average cost of capital of 12%.

(16) If the weighted average cost of capital is realistic, it means that the EBITDA multiple of 7x is too high.

(17) The EBITDA multiple would need to be 4x in order to be consistent with income approach calculations.

E. It is not common to use the cost approach to calculate the terminal value.

(1) This will be done if the business is expected to end at the end of the projection period.

9. If that is the case, the assets will be turned into cash. The liabilities will be paid. The net amount realised will be the terminal value.

Section F The Cost Approach

1. The cost approach is used for the following:

A. Businesses whose value is determined by capital assets such as investment properties;

B. Businesses which are to end operations. The assets are to be realised in a controlled closure and orderly liquidation;

C. Businesses in distress that have been incurring losses. The assets are to be realised in a forced sale and liquidation;

D. Businesses in which the goodwill is non-transferable. This arises in cases in which a skilled specialist generates revenues from his own work but operates that business through a corporate structure.

(1) An example would be a heart surgeon: all of the value in the business in excess of the net assets would be represented by the personal skills of the heart surgeon.

Chapter 11 Summary of Learning Points

Section A Overview

1. This course has covered a very large amount of content. We do not expect those new to business valuation to have remembered or understood all the subjects that have been covered.

2. Please retain this manual as a useful guide. As you develop your experience of business valuation and attend other business valuation courses, this manual should provide useful reference material.

   A. Points that you may not fully understand now will become clearer as you progress in your knowledge and experience.

Section B Chapter 1

1. Equity markets and bond markets are both primary markets and secondary markets:

   A. They are primary markets when companies raise new capital by issuing shares or making a new bond issue;

   B. They are secondary markets when market participants buy and sell shares and bonds in the markets.

   C. The secondary market transactions are very much greater than the primary market transactions.

   D. Trading in the secondary markets does not involve the company whose stocks are being traded – the transactions are between market participants.

2. Simple interest is a constant charge on the sum that is borrowed or lent.

3. Compound interest is very different: if the interest is not paid it is added to the amount that was borrowed. Interest is then charged on a larger sum.

4. The formula for compound interest is: $future\ amount = loan\ x\ (1 + r)^n$ where r is the rate of interest and n is the number of years.

5. The reverse of compounding is discounting. The above formula is used in reversed: $Present\ amount\ = \frac{future\ amount}{(1+r)^n}$.

6. The valuation of bonds, equities and financial instruments and businesses reflects the present value of future cash flows.

7. Here is a comparison of debt and equity:

	Debt	Equity
Income return	Interest – amounts that must be paid	Dividends – variable amounts payable at choice of company
Amount of income	Fixed	Variable
Capital	Must be repaid at due date	Not repayable
Capital growth	No	Yes
Security	May be secured	Not secured

8. For debt interest is the return **on** the investment. The repayment of the debt is the return **of** the investment.

9. Equity securities are known as common stock or ordinary shares. There are however endless variations in the rights of different classes of stock. The important point to consider is not the name of the stock, but an understanding of the rights that attach to different classes of stock.

10. Here are some examples of different rights to different classes of stock:

Voting rights

- 1 vote per share
- No vote per share
- Only have votes if preferred dividend not paid
- 10 votes per share
- 1 vote per share and right to appoint an officer

Rights to dividend income

- Equal rights with other classes
- Preferred fixed dividend
- Preferred fixed dividend and then equal rights
- No dividend income rights
- Equal rights above a stated level of dividends each year
- Dividends as declared by officers

Rights in a sale or a winding up

- Right to a preferential fixed amount
- Right to a preferential amount and then equal rights with other classes
- Minimal rights

11. Some preferred stock is entitled to a fixed rate of dividend. They may have no right to capital growth. Under International Financial Reporting Standards such stock is shown as debt on the balance sheet and the dividends are shown as interest expense. This is because such preferred stock is considered to be more like debt than equities in nature.

12. In bond trading a movement of 1% is referred to as 100 basis points. Therefore 50 basis points equates to 0.5%.

13. Private equity in the KSA is organized by the Saudi Venture Capital and Private Equity Association (SVCPEA).

14. The foreign exchange markets reflect extremely high volumes and values of transactions.

    A. Only a very small proportion of these transactions relate to the underlying trading in physical goods or other flows of funds between countries.

    B. The vast majority of transactions are dealers seeking to make profits from movements in exchange rates in these markets.

15. The neutral assumptions to make for a business are:

    A. The business will continue in being;

    B. It will grow in line with the background inflation in the economy.

16. Invested capital provides the funds for a business. There are two main sources:

    A. Funds provided by stockholders and profits retained in the business by those stockholders;

    B. Funds borrowed from various lenders – banks and other financial institutions.

17. The combination of Equity and Debt is known as the Capital Structure.

18. An alternative term for the value of invested capital is enterprise value.

19. In many countries the interest on Debt is deductible for tax purposes. Dividends paid are not deductible for tax purposes.

20. The relationship between Debt and Equity financing in the Capital Structure is known as leverage.

21. Here are examples of low leverage and high leverage:

22. High leverage means higher risk in the capital structure.

    A. Debt normally has a lower cost than equity.

23. There are derivatives in the equity markets: these are instruments that derive from an underlying stock or security.

24. Examples of derivatives are options. A call option gives the option holder the choice to buy the shares at a fixed price in the future. A put option gives the option holder the choice to sell the shares at a fixed price in the future.

25. Put options and call options can be purchased in the market. The option holder has the right to either buy or sell shares at a stated price in the future. He is free not to exercise that right.

26. Markets are considered to be generally efficient. This means that capital is allocated most efficiently. This is achieved if the assets being traded in the market are correctly priced.

27. That does not mean that there is no irrational behavior in the markets. John Maynard Keynes stated: “the markets can remain irrational longer than you can remain solvent”.

28. As markets are generally efficient it is extremely difficult to make trading gains on a consistent basis in a well-researched and liquid equity market.

    A. This is demonstrated by the increasing choice of Tracker Funds over discretionary fund management by many investors. These are also called exchanged traded funds or ETFs.

29. There are two main ways that the values of stocks are described in the financial newspapers and on the internet:

    A. As a multiple of the net income after tax. This is known as the P/E ratio or P/E ratio;

B. As the dividend as a percentage of the stock price. This is known as the dividend yield.

30. There are some stocks whose prices are stated as a percentage of the underlying net asset values:

    A. Real estate companies;

    B. Closed end funds.

31. The dividend cover states how many times the dividend could be paid from the net income after tax.

32. The investment banks provide advice and other services to public companies and to companies that are thinking of changing from private to public.

33. Financial assets are very prone to the development of asset pricing bubbles.

    A. Bubbles can develop as the normal rules of supply and demand do not apply. A financial asset becomes more attractive as it increases in price.

    B. A non-financial asset becomes less attractive as it increases in price.

Section C Chapter 2

1. Economic development has generally involved the movement of the majority of the population away from agricultural production into other areas of the economy.

2. Adam Smith developed the idea of “the invisible hand of the market”.

    A. The supply of goods and services would increase and decrease due to demand for such goods and services;

    B. There would be price changes as the supply and demand increased and decreased;

    C. The market would therefore determine how productive assets were employed in the economy. There was no need for central intervention.

3. Price elasticity is the relationship of the price of goods to the volume of their supply. Perfect elasticity is when the smallest increase in price reduces the demand to nil; the smallest reduction in price increases the demand to an infinite amount.

4. There are various factors that affect a perfectly free market:

    A. There may be cartels, that is a group of suppliers agreeing on prices.

B. There are natural monopolies, such as roads, electricity and water supplies.

C. A supplier can control the whole of the market; this is a monopoly. If there are a small number of such suppliers this is known as an oligopoly.

D. There are factors such as pollution. Governments control certain activities so as to reduce pollution.

E. There are many occasions when one party has more information than the other party. This can be the result of illegal insider trading. It also occurs in many other transactions such as selling a used car, borrowing funds or buying a business.

F. There are ethical considerations, such as bans on tobacco or alcohol.

G. An increasing number of countries put employee protections in place such as minimum wage levels.

H. Governments may make policy decisions to protect domestic producers from international competition.

5. In all countries the central government is a very large participant in the economy.

   A. Governments raise large tax revenues;

   B. They are large employers;

   C. They are large purchasers of goods and services.

6. Governments can regulate the economy in many ways by increasing or reducing demand in the economy.

7. Relatively modest levels of inflation are widely accepted as a consequence of economic growth and improving living standards.

8. Control of the money supply is a main part of government's and central bank's economic planning. The money supply is one major factor in the operations of a modern economy.

9. Gross Domestic Product or GDP is a major economic indicator used in most of the world.

10. A national economy can be considered as comprising four factors:

    A. Households

    B. Businesses

    C. Government

D. External Account

11. The above four factors must be in balance.

12. If GDP has grown by 2% and if there is inflation in the economy of 3%, the overall growth has been 5.06%. (This is (1.02 x 1.03) – 1.) These two factors have to be multiplied rather than added.

13. The “real” growth is 2%. The “nominal” growth is 5.06%.

    A. This means that the volume of goods and services has increased by 2%. At the same time there has been inflation. This has increased the average prices of those goods and services.

14. The economic cycle has been a feature of economic activity for many centuries. However it is still not fully understood.

    A. Some businesses are more affected by the economic cycle than others: the construction sector is normally more affected by the economic cycle than some other sectors. Non-discretionary sectors, such as food production and non-discretionary retail, will be less affected by the economic cycle.

Section D Chapter 3

1. A SWOT analysis refers to:

   A. Strengths; Weaknesses; Opportunities; and Threats

2. Strengths and weaknesses are internal to the business.

3. Opportunities and threats are largely external.

4. A SWOT analysis can be used for the following purposes:

   A. To gain understanding of a company's current situation;

   B. For strategic planning;

   C. As a problem-solving tool;

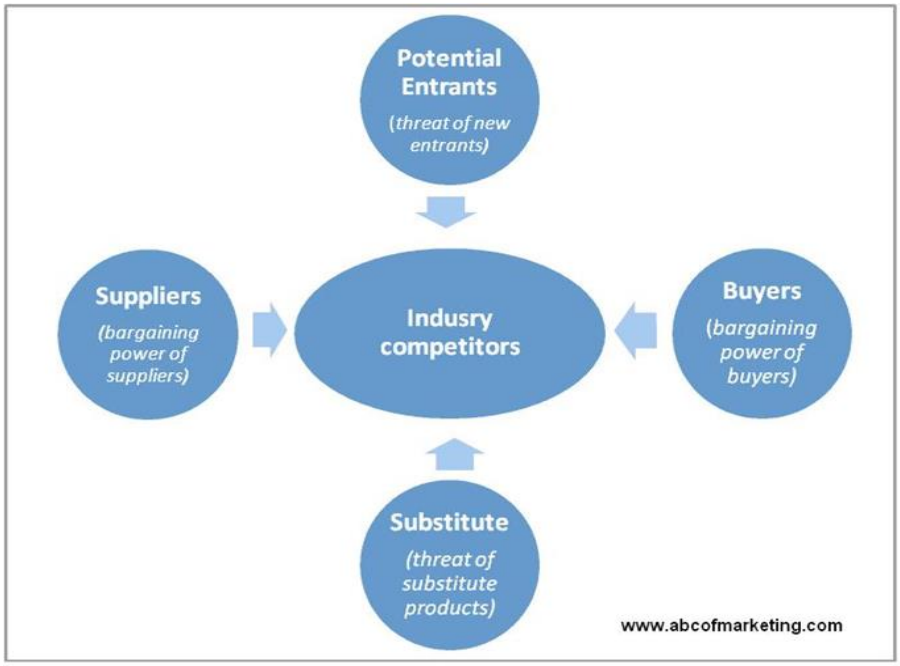
   D. As a decision-making tool;

   E. As a resource allocation tool.

5. Every company has specific operational and financial value drivers.

6. Generally, these value drivers are related to the industry and to the company’s critical success factors.

7. Porter’s Five Forces model is utilized to understand an industry and the forces that influence a company and its strategies. The five forces are represented below:



8. Barriers to entry are characteristics that reduce the rate of entry of new firms. Sectors with low barriers to entry will have many new entrants who will compete with existing suppliers.

9. There are three general strategies for competing effectively in the market place:

   A. Cost leadership – this is normally high volume and low margin;

   B. Production differentiation – the building of a brand, or a reputation for high quality;

   C. Focus – a concentration on being a specialist supplier to one part of the market.

Section E Chapter 4

1. Accounting is the language of business.

2. Accounting is based on what is known as double-entry:

   A. There are debits and there are credits;

   B. The debits must always equal the credits.

3. Debits are assets or expenses.

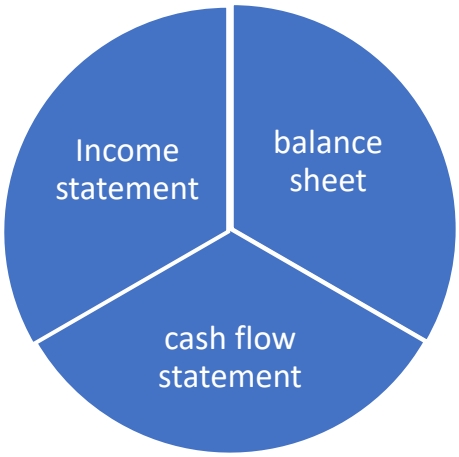
4. Credits are liabilities, equity or revenues.

5. It is important to recognise that the capital account is represented by the net assets in a business. In a limited company the capital account will be the total of the stockholders' funds:

A. The original amounts received by the company for the issue of stock;

B. Profits made by the company that have not been paid out to stockholders.

6. There are three primary statements within a set of financial statements. These are closely connected.



7. The three primary statements all relate to one another. They are prepared on a consistent basis from the same basic set of data, known as the accounting records.

8. The income statement is the easiest of the primary statements to understand. It records the sales revenues less the costs.

9. The costs that relate directly to the revenues that have been generated are shown as cost of sales. The gross profit is the sales revenues less the direct cost of sales relating to those revenues.

   A. The gross profit percentage is the gross profit expressed as a percentage of sales revenues.

10. Other business costs that cannot be related directly to the sales to customers, apart from interest costs, are shown as administrative costs. These costs are also known as Sales, General and Administration or SG&A costs.

11. The EBITDA is **E**arnings **B**efore **I**nterest, **T**ax, **D**epreciation and **A**mortization.

12. One of the reasons for using EBITDA as a measure of performance is that it is closer to the cash flows generated for the Debt and Equity from trading.

A. EBITDA less capital expenditure is closer still to the cash flows.

13. Another reason for using EBITDA is due to the charges for the amortization of intangible assets. Different companies will have different levels of amortization. However, they may be very similar in all other respects.

14. Depreciation and amortization are deducted in order to give the operating profits or EBIT: **E**arnings **B**efore **I**nterest and **T**axation.

    A. The operating profits are the profits before any financing costs.

    B. The operating profits provide the returns on those two forms of capital:

        (1) The return on the Debt is interest payable to the lenders;

        (2) The returns on the Equity capital after taxation are:

            (a) Dividends to stockholders;

            (b) Increase in the market value of the equity capital.

15. One measure of the financial health of a business is known as “times interest earned” or “interest cover”. It expresses the operating profits as a multiple of the interest expense.

16. Depreciation is a non-cash expense. The cash payment was made when the fixed asset was bought.

    A. Depreciation is a means of spreading the cost of that fixed assets over the periods expected to benefit from its use.

17. A fundamental accounting concept is that income and expenditure must be matched. This means that the expenditure should be shown in the same period in which the related income is recognized.

    A. Sales are recognised when the goods or services are delivered to customers. They are not recognised when the customer has paid.

    B. Costs or assets are recognised when the goods or services are delivered by suppliers. They are not recognised when the supplier has been paid.

18. Many countries charge taxation on profits made by businesses. The profits for tax purposes may not be the same as the profits for financial reporting purposes. This means that there are two relevant rates of tax:

    A. The rate of tax that is payable on taxable profits – the actual tax rate;

B. The tax payable stated as a percentage of the reported profits – the effective tax rate.

19. There are some costs that are variable in nature: this means that they go up and down in proportion to the sales revenues of a business.

20. It is very important to make sure that the figure at the bottom of the income statement (the retained earnings carried forward) agrees to the balance sheet retained earnings.

21. Working capital is a term used to describe inventories, trade payables, trade receivables and operating cash.

22. We use the term “working capital cycle” to describe the stages involved in the production of goods for sale. It can also apply to the provision of services.

23. Some other measures of financial health are based on the working capital:

A. The current ratio is:

$$\frac{Current\ assets}{Current\ liabilities}$$

B. The quick ratio is:

$$\frac{Current\ assets\ less\ inventories}{Current\ liabilities}$$

24. There are different presentations of the income statement. One presentation is for equity and the other is for the invested capital or enterprise value:

	Invested Capital "Enterprise"	Equity Capital "Equity"
Sales	3,254,419	3,254,419
Cost of sales	(2,029,322)	(2,029,322)
Gross profit	1,225,097	1,225,097
Administrative costs	(782,608)	(782,608)
Earnings Before Interest, Taxation, depreciation and amortization (EBITDA	442,489	442,489
Depreciation, amortization etc.	(96,657)	(96,657)
Operating profits (EBIT)	345,832	345,832
Interest payable		(52,765)
	345,832	293,067
Taxation at 20.3%	(70,040)	(59,354)
Net operating profit after tax (NOPAT)	275,792	
Net income after tax		233,713

25. The enterprise presentation shows the figures as if there was no debt and no interest charge on that debt. The difference between the NOPAT and the Net Income After Tax is 42,079. This is the interest payable of 52,765 reduced by the tax relief on the interest at a rate of 20.3%.

26. A cash flow statement can be calculated from the movements in the balance sheet and the income statement. The differences between the opening and the closing balance sheets are analyzed. The cash flow effects can then be calculated.

    A. Increases in assets use up cash resources and are an outflow of funds.

    B. Increases in liabilities create cash resources and are an inflow of funds.

27. Financial analysis provides more information from the figures in the financial statements. It is a way of making the numbers talk.

    A. Vertical analysis of the figures in financial statements is known as common size or one size financial statements:

        (1) All of the figures in the income statement are stated as a percentage of sales;

        (2) All of the figures in the balance sheet are stated as a percentage of total assets.

    B. There are various types of financial ratios:

(1) Growth ratios;

(2) Profitability ratios;

(3) Asset utilization;

(4) Financial leverage;

(5) Returns on investment;

(6) Measures of business or financial risk.

28. Growth for one year is given by the formula: $\frac{number\ this\ year}{number\ last\ year} - 1$

29. The compound average growth rate (CAGR) is given by the following formula with "n" being the number of years being reviewed:

$$\left(\frac{number\ this\ year}{number\ earliest\ year}\right)^{\frac{1}{(n-1)}} - 1$$

A. An advantage of the CAGR is that it quantifies the growth trend over a number of years.

B. A disadvantage of CAGR is that it is calculated only on the latest year and the earliest year. It tells us nothing about the performance in between.

30. The asset utilization ratios for working capital are very commonly used. To show trade receivables in terms of days sales the formula is:

$$\frac{Trade\ receivables\ x\ 365}{Sales\ revenue\ for\ year}$$

31. The receivables turnover ratio is:

$$\frac{Sales\ revenue\ for\ year}{Trade\ receivables}$$

32. The formulas to use for inventories and trade payables are similar to those above.

A. Inventories are related to cost of sales;

B. Trade payables are related to credit purchases.

33. There are two commonly used measures of balance sheet leverage:

$$\frac{Interest - bearing\ debt}{Equity}$$

and

$$\frac{Interest-bearing\ debt}{Interest-bearing\ debt\ and\ equity}$$

34. When giving a figure for leverage it is important to define the measure being used.

35. A simple measure of returns on investment at book amount for an equity interest is given by the following formula:

$$\frac{Net\ income\ after\ tax}{Average\ opening\ and\ closing\ stockholders'funds}$$

36. The formula if considering enterprise value is:

$$\frac{NOPAT}{Average\ opening\ and\ closing\ invested\ capital}$$

Section F Chapter 5

1. One essential task undertaken by many businesses is the preparation of budgets for the next year.

2. Different businesses have different budget cultures.

3. A comparison of the actual results of earlier years with the budgets that were prepared for those years is an important part of budget setting.

4. There is no direct relationship between sales revenues and many administrative expenses. However, administrative support services will need to increase over time as the size of the business increases.

   A. When preparing a budget it is very important that the income statement, balance sheet and cash flow forecast are consistent. This can be complex. The level of complexity will depend on the assumptions within the model.

5. It is normal for a budget to be prepared on a month by month basis.

   A. This means that the budget for a year will have:

      (1) 12 income statements;

      (2) an opening balance sheet and 12 more balance sheets;

      (3) 12 cash flow statements.

Section G Chapter 6

1. The generalized formula for discounting is:

$$\frac{CF}{(1+r)^n}$$

$CF = cash\ flow$

$r = rate\ of\ return\ required\ (discount\ rate)$

$n = number\ of\ years\ to\ be\ discounted$

2. The yield to maturity of a bond reflects the market pricing of the bond. It is not the rate of interest payable on the bond.

3. The general form of the level annuity formula is:

$$\frac{1 - \frac{1}{(1+r)^n}}{r}$$

4. As the number of years increase this simplifies to:

$$\frac{1}{r}$$

5. The formula for an annuity increasing at a constant rate is:

$$CF_1\ x\ \frac{1 - \left(\frac{1+g}{1+r}\right)^n}{r-g}$$

6. As the number of years increase, this simplifies to the formula known as the Gordon Growth Model:

$$\frac{CF_1}{r-g} = \frac{CF_0\ x\ (1+g)}{r-g}$$

7. When valuing businesses there is a change in terms used. This is just the use of different symbols:

$$\frac{CF_0\ x\ (1+g)}{k-g} = \frac{CF_1}{k-g}$$

8. The use of the Gordon growth model at a date in the future is entirely consistent with the single period capitalization model if the growth remains the same throughout.

9. The range of a population is the lowest value to the highest value.

10. The median is the middle value when the population is ordered in terms of size.

11. The figure between the median and the lowest value is known as the lower quartile.

12. The figure that is mid-way between the median and highest value is known as the upper quartile.

13. The interquartile range is the range between the lower quartile and the upper quartile.

14. The mean or average is the total values of the population divided by the number in the population.

15. The median is normally used in business valuation as the impact of outliers is reduced.

16. A very common feature of large populations is what is known as the normal distribution.

17. The qualities of a normal distribution are described by the standard deviation. The formula is:

$$\sqrt{\frac{\sum(x-\bar{x})^2}{n}}$$

In the above, the symbol $\sum$ means total.

$(x-\bar{x})$ means the value of each member of the population less the average.

n is the number in the population.

18. The coefficient of variation allows for entirely different populations to be compared. The population with the lowest coefficient of variation normally provides the best quality evidence as the data is close together. The formula is:

$$\frac{Standard\ deviation}{mean}$$

19. For larger populations the following rules generally apply:

A. 68% of the population is within one standard deviation to the left of the mean and one standard deviation to the right of the mean;

B. 95% of the population is within two such standard deviations;

C. 99.7% of the population is within three such standard deviations.

Section H Chapter 7

1. In theory the interest income received from government should reflect the cost of renting the money. This is a charge with no adjustment for risk, as the lending is considered to be risk-free.

2. The bond market works on the basis of a higher risk demanding a higher return. The expectation is that the increase over the risk free rate will be very small for AAA rated bonds. For bonds rated BB, these are still considered to be investment grade, but a higher return would be expected for the additional risk within the rating.

3. The risks involved in equities are far higher than those with bonds issued by the same company.

    A. Due to these higher risks there is an expectation of higher returns over a number of years when compared with bonds.

4. The movement up and down in the value of common stock is known as volatility. With high volatility there is a risk of loss if the stock is bought at the top of the market and then sold at the bottom of the market.

5. Volatility is one of the factors in the pricing of stocks in the markets: low volatility stocks normally deliver a lower return. That return is more predictable. We can say that there is a lower cost of equity capital with low volatility stocks. High volatility stocks have a higher cost of equity capital.

6. In business valuation there is a an adjustment called Beta. This is a Greek letter and is written as β. Beta is a measure of comparative volatility: the entire market is given a Beta of 1: companies that are more volatile than the entire market have a Beta of more than 1. Low volatility companies have a Beta of less than 1. Beta measures the relative volatility. It also measures the correlation of the shares with the market as well as relative volatility.

7. The fully diversified investor is protected from the risks associated with individual companies. This is known as unsystematic risk.

8. Systematic risk is the risk that applies to the whole of the equity market.

9. It is generally accepted that the returns in the market provide reward for the systemic or systematic risk. The returns do not provide reward for unsystematic risk.

10. The cost of invested capital is known as the weighted average cost of capital. The formula is:

$$\left(cost\ of\ equity\ x\ \frac{equity}{invested\ capital}\right) + \left(cost\ of\ debt\ x(1-t)x\frac{debt}{invested\ capital}\right)$$

11. The cost of equity is normally calculated by what is known as the Capital Asset Pricing Model or CAPM. The formula for the CAPM is:

$$Risk\ free\ rate + (equity\ risk\ premium\ x\ Beta\ (\beta))$$

12. Businesses and investors seek to make an Internal Rate of Return that is greater than the weighted average cost of capital.

Section I Chapter 8

1. Corporate finance is a broad term. It includes many of the skills and much of the knowledge that we have covered in this manual.

2. If a potential buyer has a serious interest, he will invest time and money in gaining further information. This is known as due diligence. Due diligence is a process in which a potential buyer looks in considerable detail at the Target company it is planning to buy.

3. All of the documents that are required for due diligence may be loaded onto a secure internet location. This is called a Data Room. The Data Room will normally be organized with different file locations: those file locations will correspond to the numbering of the lists of required information.

4. The use of debt in the invested capital structure is known as leverage. A lever can be used to move heavy objects as shown below. The available force is increased. Financial leverage can be used to increase returns to equity holders.

5. There is an optimal or best structure for the invested capital. It is that position when the amounts of equity and debt give the highest returns to the equity at a satisfactory level of risk.

6. There is another factor that is included within Beta as an adjustment to the equity risk premium. This factor is the leverage of the companies. The Beta is adjusted for the difference in leverage between a guideline public company and the company being analyzed.

7. The capital asset pricing model is based on investing in a single economy. When investors from one country invest in another country, there are additional risks. These may be the risk of currency risks or political risks.

8. There are various models which aim to account for what is known as country risk. None of these models is yet generally accepted as the correct way of dealing with this most complex area.

Section J Chapter 9

1. Important points to remember:

   A. A financial model must contain income statements, balance sheets and cash flow statements.

   B. The three statements must agree to one another:

(1) The net income after tax and after dividends (and other adjustments) must agree to the movement in the reserves on the balance sheet;

(2) The cash flow statement must agree to the movement in the cash balances on the balance sheet.

(3) The balance sheets must balance.

2. Any projections are based on assumptions. It is good practice to consider each of the lines on the projections. Each of the lines will be based on assumptions. Each assumption should be listed as a means of documenting the judgements made

3. For a great many businesses the cash generation is less than the net income after tax. This is due to the impact of balance sheet expansion.

4. Most valuers use the cash flows to the enterprise in order to calculate the value of the equity: this is because a business should not be valued differently due to the way that it is funded.

5. The various years of projections of enterprise cash flows and the terminal value need to be discounted back to net present value and added together. This gives us the enterprise value.

Section K Chapter 10

1. There are three valuation approaches: the market, income and cost approaches.

2. Each of the valuation approaches has different methods.

   A. The two main methods under the market approach are the guideline public company method and the guideline transaction method.

   B. The two main methods under the income approach are discounted cash flow techniques method and the single period capitalization method.

   C. The main method under the cost approach is the summation method.

3. There are various bases of value. Bases of value (sometimes called standards of value) describe the fundamental measurement assumption on which the reported values will be based. A common basis of value under International Valuation Standards is market value.

4. Premises describe the circumstances of how an asset or liability is used.

5. Non-operating assets are assets that are not used in the generation of the cash flows of the business. Such non-operating assets should be valued and should be added to valuations obtained under the market or income approaches.

6. The adjustments needed to go from enterprise value are to deduct the market value of the debt and to add the value of non-operating assets.

Section L Close

1. From all of us at iiBV, many thanks for taking part in this training course!

2. We hope that you found it useful.

3. We hope that this manual will serve as a guide as you develop your business valuation skills.

Chapter 12 Taqeem Business Valuation Glossary

- **Accredited Valuer:** a natural or corporate person licensed to practice the profession according to this Law (Accredited Valuers Law 1433H)
- **Acquisition:** The purchase of one corporate entity or business or Assets by another, with the acquiring company's shareholders gaining control.
- **Acquisition Premium:** The difference between the price paid per share in a takeover of a public company and the share price before the announcement of the attempt at a takeover. This can also be calculated on the basis of total invested capital. See also Market Participant Acquisition Premium.
- **Active Market:** A market in which transactions take place with sufficient frequency and volume to provide pricing information on a continuing basis.
- **Adjusted Net Asset Value (NAV):** A method within the Cost Approach whereby a business' Assets and liabilities (including off-balance sheet assets, Intangible Assets and contingent assets and/or liabilities) are adjusted to market values or another basis of value.[8] This is the Summation Method under the Cost Approach in IVS. This is also known as the "adjusted book value method" and the "asset accumulation method"
- **Adjusted Present Value (APV):** a technique typically used to estimate the value of a levered business as the sum of the value of an unlevered business (i.e. 100% equity financed) and the value of the the tax benefits associated with debt financing.[9]
- **Amalgamation:** The joining or merging of two or more previously separate corporate entities on the basis of equality of interest. Also known as a merger. In an amalgamation or merger the acquiring company's stockholders do not gain control of the enlarged entity.
- **Appraisal:** also known as Valuation
- **Arbitrage Pricing Theory (APT) Model:** A multi-factor asset-pricing model, which predicts an asset's returns using the relationship between the asset and macroeconomic risk factors. It incorporates several systematic risk factors.
- **Arm's Length:** An arm's length transaction is one between parties who do not have a particular or special relationship and who are each acting independently.
- **Articles of Association -** A document that contains the constitution of a company with regard to matters such as the powers of directors and members, the holding of meetings and votes, etc. It also provides guidelines for a company's operations. There may be further requirements between certain or all shareholders in a Shareholders' Agreement.
- **Assembled Workforce:** Also known as Workforce in Place. The team of employees who work in a Business. This is a concept that is used when calculating Contributory Asset Charges in the valuation of Intangible Assets. The Workforce in Place is an Intangible Asset but one which is nor recognized for financial reporting purposes.
- **Asset:** A resource controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity.[10]

[8] International Business Valuation Glossary
[9] International Business Valuation Glossary

[10] International Financial Reporting Standards Framework

- **Asset Approach**: A general manner of estimating the value of a business using one or more methods based on a summation of the value of the assets, net of liabilities, where each has been valued using either the market, income, or cost approach. Also known as asset-based approach.[11] The same as the Cost Approach in IVS
- **Asset-Liability Symmetry**: The concept that financial liabilities can be valued at the same amount as the related asset.
- **Asset Retirement Obligation:** A legal (or constructive) obligation that can arise when dealing with tangible long-life wasting Assets such as mines or oil wells. These obligations arise when the retirement of the asset requires the restoration of the asset site to minimum standards. Also known as a Disposal Cost. See also Salvage Value
- **Assumption:** A supposition taken to be true. It involves facts, conditions or situations affecting the subject of, or approach to, a valuation that, by agreement, do not need to be verified by the valuer as part of the valuation process. Typically, an assumption is made where specific investigation is not required in order to prove that something is true,[12] Assumed facts that are consistent with, or could be consistent with, those existing at the date of the valuation. See also Special Assumptions.
- **Attrition:** The annual percentage rate of loss (or churn) of an existing Asset such as a customer relationship Intangible Asset.[13]
- **Backsolve Method**: a method within the Market Approach whereby the total Equity Value (or the value of a specific equity class) of a business is implied from a recent transaction in the business' securities.[14] Also known as Calibration.
- **Back-Testing**: The comparison of the valuation metrics used by the valuer in an earlier valuation with the actual metrics achieved on an exit.
- **Bases of Value:** A statement of the fundamental measurement assumptions of a valuation. 15 There are six IVS Bases of Value and other Bases of Value defined by other bodies. Also known as Standard of Value.
- **Beta:** A measure of the relative risk (or sensitivity) of an individual security versus the risk of a market portfolio.[16] It is computed as the volatility of a security (as measured by standard deviation) relative to the volatility of the market, multiplied by the correlation of the security with the market. See also Capital Asset Pricing Model, Systematic Risk, Unsystematic Risk, Levered Beta and Unlevered Beta.
- **Bid-Ask Spread or Bid-Offer Spread:** The difference between the price at which an investor can purchase (the ask or offer price) and at which it can sell (the bid price) of a security. Less liquid stocks have a larger spread between the purchase and the selling price.
- **Binomial Lattice Model**: a model typically used to estimate the value of an asset or investment that employs a binomial tree to show the different paths the price of an underlying asset, such as a security, might take over the security's life.[17]

[11] International Business Valuation Glossary
[12] Valuation: RICS-Global Standards 2022
[13] International Business Valuation Glossary
[14] International Business Valuation Glossary
[15] International Valuation Standards (IVS) 2022 104 section 10.1
[16] International Business Valuation Glossary
[17] International Business Valuation Glossary

- **Black Scholes Option Model**: A model, with the status of a mathematical proof, devised for the pricing of Option contracts in the markets. The Black Scholes Call Option Model can be used for the valuing of stock when there are several classes of stock. The Black Scholes Put Option Model can be used for considering the Discount for Lack or Marketability (DLOM).
- **Blockage Discount:** An amount or percentage deducted from the current market price of a publicly traded security to reflect the decrease in the per security value of a block of securities that is of a size that could not likely be sold in a reasonable period of time given normal trading volume.[18] The concept is that a large block of stock offered for sale on the same day would reduce the market price.
- **Bottom-up Method:** A method under the income approach for the valuation of certain non-financial liabilities
- **Build Up Model:** A model in which the expected return for a security (or portfolio of securities) is measured by a Risk-Free Rate plus premiums for Systematic Risk (e.g. Equity Risk Premium, size premium and industry risk premium) and Unsystematic Risk (e.g. Company-Specific Risk Premium). See also Capital Asset Pricing Model.[19] It differs from CAPM as Beta is not used to adjust the Equity risk premium.
- **Business:** A business conducts a commercial, industrial, service or investment activity. Businesses can take many forms, such as corporations, partnerships, joint ventures and sole proprietorships.
- **Business Risk:** The degree of uncertainty of realizing expected future returns resulting from factors other than financial leverage.[20]
- **Business Valuation:** The practice of determining the economic value of a company or business or ownership interest therein.
- **Calibration:** the use of relevant inputs as of the date that an earlier investment in an entity was made; updated inputs as of a subsequent measurement date are then used in order to generate the current value. This is particularly important when a valuation technique that uses unobservable inputs is to be used to measure value in subsequent periods. This is recommended for use in the Guide issued by the AICPA: “Valuation of Portfolio Company Investments of Venture Capital and Private Equity Funds and Other Investment Companies” and also by the International Private Equity and Venture Capital Valuation (IPEV) Guidelines. There may be various funding rounds when dealing with a venture capital investment. Calibration is then an important valuation technique as it ensures that after initial recognition the reporting entity is using valuation techniques that reflect current market conditions at the measurement date. Also known as the Backsolve method.
- **Call Option:** An option contract giving the holder of the option the choice to buy stock in the future at a stated price. See also Put Option, Option, and Black Scholes Option Model.
- **Capital Asset Pricing Model (CAPM):** A single factor asset pricing model that measures the expected return for a security (or portfolio of securities) as the sum of a Risk-Free Rate plus a risk premium. The risk premium is equal to the Systematic Risk (measured by Beta) of the security (or portfolio of securities) multiplied by the risk premium of holding the overall market portfolio. The CAPM

[18] International Business Valuation Glossary
[19] International Business Valuation Glossary
[20] International Business Valuation Glossary

is often modified or extended for other risk factors, such as size, country risk and Company-Specific Risk. See also Build-Up Model.[21] Conceptually it captures the incremental (systematic) risk that investors need to be compensated for when investing in risky securities (typically stocks) relative to investing in a risk-free security.

- **Capital Market Authority (CMA):** The Saudi government's financial regulatory authority responsible for capital markets in Saudi Arabia.
- **Capitalization:** the conversion of income into a valuation indication through the application of an appropriate capitalization rate. the economic benefits of a single period into value.
- **Capitalization Factor:** any multiple or divisor used to convert into value the expected economic benefits of a single period.
- **Capitalization of Earnings Method:** a form of the Capitalization of Economic Income Method.[22] This is a method within the income approach whereby expected economic benefits for a representative single period are converted to value through division by a cap rate or multiplication by a multiple.
- **Capitalization Rate (cap rate):** a divisor (usually expressed as a percentage) used to convert into value the expected Economic Income of a normalized single period. The Capitalization Rate is generally calculated as a Discount Rate less a long-term growth rate.[23] A ratio of one year's net operating income provided by an asset to the value of the asset; used to convert income into value in the application of the income capitalization approach.[24] The cap rate is the inverse of the market multiple and is usually expressed as a percentage. The expected economic benefits are divided by the cap rate (or multiplied by the market multiple).
- **Capital Structure:** the composition of the Invested Capital of a business, including debt and debt equivalents, hybrid securities, non-equity claims, and equity. See also Simple Capital Structure and Complex Capital Structure.[25] Financial analysis will be based on book amounts. For valuation purposes the figures should be the market values.
- **Cash Equivalents:** Assets in a business that can be converted into cash. Examples are realizable investments, amounts due from officers and amounts due from other related parties.
- **Cash Flow:** cash inflows or outflows that are generated over a period by an asset, business, or investment; often supplemented by a qualifier in the given valuation context (e.g. discretionary or operating). See also Net Cash Flow to Equity and Net Cash Flow to Invested Capital.[26]
- **Client:** The person, persons, or entity for whom the valuation is performed. This may include external Clients (i.e., when a Valuer is engaged by a third-party client) as well as internal Clients (i.e., valuations performed for an employer).[27]
- **Close Ended Investment Companies (CEICs):** Investment companies listed on a stock exchange that raise a fixed amount of capital through an IPO. The CEIC invests its capital in the stock of other public or private companies. The purchase

[21] International Business Valuation Glossary

[22] International Business Valuation Glossary
[23] International Business Valuation Glossary
[24] The Dictionary of Real Estate Appraisal, 6th edition
[25] International Business Valuation Glossary
[26] International Business Valuation Glossary
[27] IVS, 2022 Glossary, section 20.2

of the stock of a CEIC is therefore a simple way of a small investor achieving diversification.

- **Company Specific Risk:** The risk that is unique to a specific investment in a business, in excess of the Equity Risk Premium, size risk, and/or country risk (e.g. significant customer concentration, business dependence on key person(s) or lack of product diversification). Also known as Unsystematic Risk.[28] arising from factors other than those factors correlated with the investment market. The investor requires an additional return to compensate for the additional risk.
- **Company Specific Risk Premium:** an adjustment to the cost of equity to account for Company Specific Risk. Also known as alpha.
- **Comparable Public Company (or Guideline Public Company) Method:** A valuation method under the Market Approach, which uses the market multiples derived from the market prices of the securities of public traded companies in an open actively traded market in the same or similar line of business as the private company being valued. This is one of the two main methods under the Market Approach in IVS.
- **Comparable Companies Multiple:** A financial metric used in the Comparable Public Company Method to value a company, generally the market value of a company's stock or invested capital divided by a company measure.
- **Comparable Transaction (or Guideline Transaction) Method:** A valuation method under the market approach, which uses pricing multiples as derived from acquisition transactions of significant interests in public and private companies, which are engaged in the same or similar lines of business as the private company being valued. This is one of the two main methods under the market approach in IVS.
- **Comparable Transaction Multiple:** A financial metric used in the Comparable Transaction Method to value a company.
- **Completion:** The point at which a sale and purchase of an asset takes place.
- **Complex Capital Structure:** a Capital Structure that includes debt and equity securities with different economic and control rights. Contrast with Simple Capital Structure.[29]
- **Compounded Annual Growth Rate (CAGR):** The annualized growth rate of an investment over a period of time greater than a year.
- **Contingent Consideration:** Consideration that varies according to results achieved after Completion. A purchase transaction may be structured so that the amount which is paid is based on revenues achieved or profits realized in the two or three years after Completion.
- **Contributory Assets:** Any tangible or Intangible Assets required for the generation of the cash flows associated with the valuation of intangible Assets. This is part of the calculations using the Excess Earnings Method for valuing certain intangible Assets.
- **Contributory Asset Charge:** An economic charge for Contributory Assets applied in the Multi-Period Excess Earnings Method. See also Contributory Assets, Excess Earnings Method and Multi-Period Excess Earnings Method.[30] A charge deducted from the cash flows relating to the intangible asset being valued using the MPEEM to reflect a fair return on the contributory Assets.[31]

[28] International Business Valuation Glossary
[29] International Business Valuation Glossary
[30] International Business Valuation Glossary
[31] International Business Valuation Glossary

- **Contributory Assets:** assets (e.g. working capital, machinery and equipment, trademarks, assembled workforce) that are used in conjunction with the subject Intangible Asset in the realization of prospective cash flows associated with the Intangible Asset being valued. See also Multi-Period Excess Earnings Method and Contributory Asset Charge.[32]
- **Control:** A level of ownership having sufficient rights (e.g., voting) to direct the management policies, and disposition of a business.[33]
- **Control Premium:** an amount or percentage by which the pro rata value of a Controlling Interest exceeds the pro rata value of a Noncontrolling Interest in a business, to reflect the anticipated economic benefits of Control. Also known as Acquisition Premium.[34]
- **Controlling Interest:** an ownership interest in a business that conveys the economic benefits of Control to the holder(s) of such interest.[35] This is due to the ability to direct the management and policies of the business.
- **Controlling Non-Liquid Interest:** A Controlling Interest in a private company..
- **Cost Approach:** An approach that provides an indication of value using the economic principle that a buyer will pay no more for an asset than the cost to obtain an asset of equal utility.[36] This is one of the three valuation approaches in IVS.
- **Cost of Capital:** The expected rate of return that the market requires in order to attract funds to a particular investment considering the risk of the investment. See also Weighted Average Cost of Capital.[37]
- **Cost of Debt (COD):** The effective rate a company pays on its Debt obligations.
- **Cost of Equity (COE):** The rate of return Equity holders expect in return for investing in the Equity securities of company i.e. compensation for undertaking the risk of owning Equity interests.
- **Cost Savings Method:** A method within the Income Approach whereby the value of an Intangible Asset is estimated based on an expected future benefit stream of the asset in terms of the future expenses that are avoided (or reduced) by owning the asset.[38] An example of the Cost Savings Method is the Relief from Royalty Method for valuing certain intangible Assets.
- **Country Risk:** The risks associated with the political governance structures or financial risks in another country.
- **Credit Risk:** The risk of a financial loss as a result of another party failing to discharge an obligation.
- **Currency Risk:** The risk that future cash flows in another currency will fluctuate because of changes in currency exchange rates. The Currency Risk is separate from Country Risk.
- **Current Use/Existing Use:** The current way an asset is used. The current use may be, but is not necessarily, also the highest and best use. This is one of the four premises in IVS.
- **Current Value Method (CVM):** A procedure to allocate the Equity Value to the various equity interests (or Enterprise Value to the various debt and equity interests) in a business as though the business were to be sold on the Valuation

[32] International Business Valuation Glossary
[33] International Business Valuation Glossary
[34] International Business Valuation Glossary
[35] International Business Valuation Glossary
[36] IVS 2022
[37] International Business Valuation Glossary
[38] International Business Valuation Glossary

Date, without considering the option-like payoffs of the equity interests. Contrast with Probability-Weighted Expected Return Method and Option Pricing Method.[39] This method may not provide credible valuations when there are various classes of shares in existence.

- **Customer-Related Intangible Assets:** Intangible Assets such as lists of customers, order backlog and customer contracts
- **Debt:** In business valuation this conventionally relates to interest-bearing Debt. This can be all interest-bearing Debt or long-term interest-bearing Debt.
- **Debt Equivalents:** a debt-like financial obligation or other non-equity claim resulting from the signing of a short- or long-term contract (e.g. operating leases, unfunded pension liabilities, asset retirement obligations, contingent liabilities). See also Capital Structure and Hybrid Securities.[40]
- **Direct Capitalization**: A method used to convert an estimate of a single year's income expectancy into an indication of value in one direct step, either by dividing the net income estimate by an appropriate capitalization rate or by multiplying the income estimate by an appropriate factor. Direct capitalization employs capitalization rates and multipliers extracted or developed from market data. Only one year's income is used. Yield and value changes are implied, but not explicitly identified.[41]
- **Discount for Lack of Control (DLOC):** An amount or percentage deducted from the pro rata amount of 100% of the entity's Equity Value (when determined on a Controlling Interest basis) to reflect the absence of some or all of the economic benefits of Control.[42]
- **Discount for Lack of Liquidity:** An amount or percentage applied to the value of an ownership interest to reflect a relative lack of Liquidity.[43]
- **Discount for Lack of Marketability:** an amount or percentage applied to the value of an ownership interest to reflect a relative lack of Marketability.[44]
- **Discount for Lack of Voting Rights:** an amount or percentage applied to the per share value of a voting share to reflect an absence of voting rights.[45]
- **Discount Rate**: A rate of return on capital used to convert future payments or receipts into present value.[46]
- **Discounted Cash Flow (DCF) Method:** A form of the Discounted Economic Income Method based on Cash Flow.[47] within This is the main method under the income approach in IVS. All other income approach methods are variations on the DCF method.
- **Discounted Economic Income Method:** A method within the Income Approach, whereby the present value of expected Economic Income is calculated using a Discount Rate.[48]
- **Disposal Cost:** A negative terminal value that can arise when dealing with wasting Assets such as mines or oil wells. Also known as an Asset Retirement Obligation. See also Salvage Value

[39] International Business Valuation Glossary
[40] International Business Valuation Glossary
[41] The Dictionary of Real Estate Appraisal 6th edition.
[42] International Business Valuation Glossary
[43] International Business Valuation Glossary
[44] International Business Valuation Glossary
[45] International Business Valuation Glossary
[46] The Dictionary of Real Estate Appraisal, 6th edition
[47] International Business Valuation Glossary
[48] International Business Valuation Glossary

- **Distributor Method:** A variation of the Multi-Period Excess Earnings Method that relies upon market-based distributor data or other market inputs to value customer relationship Intangible Assets. Sometimes referred to as the disaggregated method.[49] The margins made by businesses which act solely as distributors can be used to determine the proportion of profits which relate to customer-related intangibles. This is one of the five income approach methods advocated by IVS for the valuation of intangible Assets.
- **EBIT:** Earnings before interest and tax/zakat expense. This represents the operating income of the Valuation Subject.
- **EBITA:** Earnings before interest, tax/zakat and amortization expenses
- **EBITDA:** Earnings before interest, tax/zakat, depreciation and amortization expense.
- **Economic Life:** the period of time over which an asset is expected to generate either profits or cost savings. Economic life commonly ends when the capital expenditure required to maintain the asset is higher than the cash flows from the asset.
- **Economic Income:** monetary inflows or outflows resulting from business activities (e.g., Cash Flows, EBITDA, net income).[50]

  Economic Obsolescence: a form of depreciation or loss in value or usefulness of an asset caused by factors external to the asset, especially factors related to changes in demand for such products or services produced by the asset. See also Functional Obsolescence and Physical Obsolescence.[51]

- **End of Period Discounting:** a convention used when discounting Economic Income to present value that reflects such income being generated at the end of each respective period. Contrast with Mid-Period Discounting.[52]
- **Engagement Letter:** The legal agreement between a professional firm and its Client, detailing the scope of services in exchange for compensation and other key engagement terms and conditions.
- **Enterprise (1)**: A Business.
- **Enterprise (2):** The Equity in a business plus its Debt and less any cash or cash equivalents available to repay the Debt and less any non-operating Assets in the business.
- **Enterprise Value:** The Market Value of Invested Capital, typically adjusted to remove all or a portion of cash and cash equivalents, and other Nonoperating Assets. See also Market Value of Invested Capital and Invested Capital.[53].
- **Equitable Value:** The estimated price for the transfer of an asset or liability between identified knowledgeable and willing parties that reflects the respective interests of those parties.[54] This is one of the six IVS bases of value
- **Equity Instrument:** a contract that creates a residual interest in a business after deducting all liabilities.
- **Equity Risk Premium:** The incremental return that investors expect to receive from an investment in public equity securities over that of a risk-free security. It is generally calculated as the difference between the expected rate of return on the

[49] International Business Valuation Glossary
[50] International Business Valuation Glossary
[51] International Business Valuation Glossary
[52] International Business Valuation Glossary
[53] International Business Valuation Glossary
[54] IVS 2022, 104, section 50.1

overall market and the return on a risk-free instrument. Also known as market risk premium, or equity market risk premium.[55]

- **ESG:** Environmental, social and governance factors that impact a business or asset and its financial performance and operations (e.g., the impact of sustainability and ethical practices).[56]
- **Evidential Skepticism:** The exercise of due professional care by challenging information provided with an appropriate level of enquiry. The level of skepticism should be based on the possible lack of Objectivity within the information provided.
- **Excess Earnings:** The amount of expected Cash Flow that exceeds the economic charge for the use of the Contributory Assets used to generate such cash flow.[57]
- **Excess Earnings Method:** a method which values an intangible asset as the present value of the cash flows attributable to the subject intangible asset after excluding the proportion of the cash flows which are attributable to other Assets required to generate the cash flows ("Contributory Assets").[58] Also known as the Multi-Period Excess Earnings Method. This is one of the five income approach methods advocated by IVS for the valuation of intangible Assets.
- **Exercise Price:** the price that is payable when an option is exercised. This is more commonly known as the Strike Price.
- **Existing Use**: See Current Use/Existing Use
- **Exit Price:** The price that would be received to sell an asset or paid to transfer a liability.
- **Expected Cash Flow:** the probability-weighted average of the various possible scenarios of a subject business' Cash Flows.[59]This can be contrasted with the most likely cash flows; the most likely cash flows are the cash flows which are considered to have the highest probability of being achieved.
- **Expert:** a specialist who provides opinions in respect of his area of specialism. Such Experts are often appointed as part of litigation; they are different from factual witnesses in that they are able to give their opinions in Court.
- **Expert Determination:** A means of settling a dispute by appointing an Expert who will determine the matter in dispute in accordance with the instructions given to him or her.
- **Expert Witness:** an expert who gives opinions within his area of specialism. Other witnesses are only able to recount facts known to them.
- **Fair Value:** The price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.[60]
- **Fairness Opinion:** An opinion as to whether or not the consideration proposed to be paid or received in a transaction is fair from a financial point of view to the party paying or receiving such consideration.[61] Such opinions are given on private transactions, non-arm's length transactions relating to public securities, public company takeovers, and significant acquisitions by public companies.

[55] International Business Valuation Glossary
[56] International Business Valuation Glossary
[57] International Business Valuation Glossary
[58] IVS 2022, 210, section 60.6
[59] International Business Valuation Glossary
[60] IFRS 13
[61] International Business Valuation Glossary

- **Financial Risk:** the degree of uncertainty of realizing expected future returns of the business resulting from financial leverage.[62] This should be compared with Business Risk which relates to all risks in a business other than Financial risk.
- **Firm (1):** a Business.
- **Firm (2):** The same as Enterprise (2): The Equity in a business plus its Debt and less any cash or cash equivalents available to repay the Debt and less any non-operating Assets in the business. This is the meaning in the definition "Free Cash Flows to Firm".
- **Forced Liquidation or Forced Sale:** One of the two premises in the IVS valuation basis of Liquidation Value. The circumstances when a seller is under compulsion to sell and, as a consequence, a proper marketing period is not possible and buyers may not be able to undertake adequate due diligence. The price that could be obtained in these circumstances will depend on the nature of the pressure on the seller and the reasons why proper marketing cannot be undertaken. [63] Forced Sale is one of the four premises in IVS.
- **Free Cash Flow to Equity (FCFE):** Cash flow available to the Equity holders of the company after all operating expenses (including taxes, zakat), interest, principal payments of debt and necessary investments in working and fixed capital have been paid/ made.
- **Free Cash Flow to the Firm (FCFF):** Cash flow available to both Equity holders and Debt holders of the company after all operating expenses (including taxes/zakat relating to EBIT), and necessary investments in working capital and fixed capital have been paid/made. These cash flows are before interest expense, Debt repayments and dividends on preference capital.
- **Fulfilment:** The discharge of a performance obligation of a liability. For financial liabilities is payment of the amount owed.
- **Functional Obsolescence:** a form of depreciation in which the loss in value or usefulness of an asset is caused by inefficiencies or inadequacies of the asset itself, when compared to a more efficient or less costly newly developed asset. See also Economic Obsolescence, Physical Obsolescence, Replacement Cost Method, and Replacement Cost New.[64]
- **General Authority of Zakat and Tax (GAZT):** A government agency that reports to the Ministry of Finance. Its objective is to assess and collect tax/zakat from companies.
- **Going Concern:** An ongoing operating business enterprise.[65]
- **Goodwill:** Any future economic benefit arising from a business, an interest in a business or from the use of a group of assets which is not separable.[66] the residual intangible asset arising as a result of economic benefits exceeding the returns required on the tangible net Assets and the identified intangible Assets. From an accounting viewpoint goodwill represents the excess of the purchase price of an acquired business over the value of the net identifiable tangible and intangible Assets acquired.
- **Gordon Growth Model:** A valuation tool which determines value, based on the economic benefit of a single period. That economic benefit is expected to grow at a constant average annual compound rate of growth into perpetuity. The formula is $CF_1/(k-g)$. CF_1 is the cash flow in the period immediately after the

[62] International Business Valuation Glossary
[63] IVS, 2022 104, section 170.1
[64] International Business Valuation Glossary
[65] International Business Valuation Glossary
[66] IVS 2022 210, section 20.6

valuation date; k is the cost of capital and g is the rate of growth. (CF_1 is the same as the cash flows for the period up to the valuation date (CF_0) as increased by the rate of growth.) The Gordon growth model is based on the mathematical formula for an annuity increasing at a constant rate. When the annuity is deemed to continue in perpetuity this formula simplifies to that shown above.

- **Greenfield Method:** A method used to estimate the value of certain Intangible Assets (e.g., franchise agreements or broadcast spectrum) based on the discounted cash flows of a hypothetical start-up business. The Greenfield Method assumes that the subject asset is the only asset of the business at the Valuation Date and that investments are made during the start-up period to purchase, build or rent the other assets required to assemble the business. See also Contributory Assets, Excess Earnings Method, and Multi-Period Excess Earnings Method.[67] This is one of the five income approach methods advocated by IVS for the valuation of intangible Assets.
- **Gross Domestic Product (GDP):** The economic value of all the finished goods and services produced in an economy typically over a year. It is one of the primary indicators to gauge the economic performance of a country or region and to make international comparisons.
- **Guideline Public Company Method:** a method within the Market Approach whereby the value of a business is estimated by application of Multiples derived from market prices of securities or publicly traded companies that are engaged in the same or similar lines of business as the subject business.[68] Also known as the comparable company method.
- **Highest and Best Use:** The use, from a market participant perspective, that would produce the highest value for an asset.[69] This is one of the four premises of value in IVS. It must be physically possible, financially feasible, legally allowed and within the reasonable knowledge of market participants.
- **Hybrid Securities:** a component of company's Capital Structure that cannot be classified purely as debt or equity, as it may have characteristics of both (e.g., convertible debt, convertible preferred stock, employee stock options).[70]
- **Identifiable Intangible Asset:** in a financial reporting context, an Intangible Asset is identifiable if it meets certain contractual and/or separability criteria as defined by a relevant standard (e.g., IFRS 3 or ASC 805).[71]
- **Impairment:** A loss in value of an asset due to unexpected declines in expected future economic benefits.
- **Income Approach:** An approach that provides an indication of value by converting future cash flow to a single current value. Under the income approach, the value of an asset is determined by reference to the value of income, cash flow or cost savings generated by the asset.[72] This is one of the three valuation approaches in IVS.
- **Initial Public Offering (IPO):** The shares of a private company, which are offered to the public for the first time, when the company becomes a public company

[67] International Business Valuation Glossary
[68] International Business Valuation Glossary
[69] IVS 2022, 104, section 140.1
[70] International Business Valuation Glossary
[71] International Business Valuation Glossary
[72] IVS 2022, 105, section 40.1

- **Intangible Assets:** A non-monetary asset that manifests itself by its economic properties. It does not have physical substance but grants rights and/or economic benefits to its owner. [73]
- **Intellectual Property (IP):** A legal concept that refers to creations of the mind that are derived from intellectual or creative effort for which exclusive or fractional rights are recognized (e.g., trademarks, trade names, trade secrets, patents, copyright, design rights, and proprietary information). Intellectual property rights generally give the owner the right to prohibit others from using the property without permission.[74]
- **Intended Use:** The use(s) of a valuer's reported valuation or valuation review results, as identified by the valuer based on communication with the client.[75]
- **Intended User**: The client and any other party as identified, by name or type, as users of the valuation or valuation review report by the valuer, based on communication with the client.[76]
- **Internal Rate of Return (IRR):** The discount rate which equates the present value of expected net cash flows to the initial investment (cost).[77]
- **Internal Valuation Professional:** A valuation professional who is employed by the owner of an asset.
- **International Financial Reporting Standards (IFRS):** A set of international accounting standards stating how transactions and other events should be accounted for in the financial statements and to help investors and other users of financial information to make economic decisions. The standards relate to how transactions are *measured* and how they are *disclosed* in financial statements.
- **International Valuation Standards (IVS):** Standards for undertaking valuation assignments using generally recognized concepts and principles that promote transparency and consistency in valuation practice.
- **Intrinsic Value (1):** The value that an investor considers, on the basis of available facts to be the "true", "real" of fundamental value that will become the Market Value when other investors reach the same conclusion.[78] .
- **Intrinsic Value (2):** The difference between the exercise price or strike price of an option and the market price of the underlying security.
- **Invested Capital:** The sum of a business' equity, debt and Debt Equivalents, Hybrid Securities and other non-equity claims. See also Enterprise Value and Market Value of Invested Capital.
- **Invested Capital Net Cash Flows:** Cash flows available to the Equity holders and Debt holders of the company after all operating expenses (including taxes/zakat relating to EBIT), and necessary investments in working capital and fixed capital have been paid/made. These cash flows are before interest expense, Debt repayments and dividends on preference capital. This is the same definition as Free Cash Flows to the Firm.
- **Investment Risk:** the uncertainty of realizing Economic Income as expected (with respect to amount and/or timing).

[73] IVS 2022, 210, section 20.1
[74] International Business Valuation Glossary
[75] IVS 2022, Glossary, section 20.3
[76] IVS 2022, Glossary, section 20.4
[77] International Business Valuation Glossary
[78] International Business Valuation Glossary

- **Investment Value:** An entity specific basis of value that represents the value of an asset to a particular owner for individual investment or operational objectives.[79] This is one of the six IVS bases of value.
- **Joint Venture:** A joint arrangement where two parties have joint control of the arrangement and rights to the net Assets of the arrangement. It normally involves sharing of resources, which could include capital, personnel, physical equipment, facilities or intellectual property such as patents. [80]
- **Jurisdiction:** The legal and regulatory environment in which a valuation engagement is performed. This generally includes laws and regulations set by governments (e.g., country, state and municipal) and, depending on the purpose, rules set by certain regulators (e.g., banking authorities and securities regulators).[81]
- **Key Person Discount:** An amount or percentage deducted from the value of an operating business to reflect the reduction in value resulting from the actual or potential loss of a key person upon which the business is highly dependent.[82]
- **Levels of Value:** The relationships between holdings of stocks in the public markets with Controlling Interests and Non-Controlling Interests in private companies. This enables the Discount for Lack of Control (DLOC) and the Discount for Lack of Marketability (DLOM) to be related to the differences between the various types of interests.
- **Levered Beta:** A measure of Beta reflecting a Capital Structure that includes Debt. Also known as equity beta. Contrast with Unlevered Beta.[83]
- **Liability:** A present obligation of the entity arising from past events, the settlement of which is expected to result in an outflow from the entity of resources embodying economic benefits.[84]
- **Liquid Value:** The value of a security which has the quality of Liquidity. Liquidity is the ability to convert an asset into cash rapidly, for a known price, without the transaction affecting that price, with a modest bid-offer spread and with modest dealing costs
- **Liquidation:** The process of converting Assets into cash and settling obligations with creditors.
- **Liquidation Value:** The amount that would be realized when an asset or group of Assets are sold on a piecemeal basis. Liquidation value should take into account the costs of getting the Assets into saleable condition as well as those of the disposal activity. [85] This is one of the six IVS bases of value.
- **Liquidity:** The ability to quickly or readily convert an asset, business, or investment to cash at minimal cost. See also Marketability.[86] The five qualities of liquidity are the ability to convert an asset into cash rapidly, for a known price, without the transaction affecting that price, with a modest bid-offer spread and with modest dealing costs.
- **Majority Control:** the control provided by a majority interest, normally an interest of more than 50% of the votes in a business. This is the same as Control.

[79] IVS 2022
[80] IFRS 11 – Joint Arrangements
[81] IVS, 2022 Glossary, section 20.5
[82] International Business Valuation Glossary
[83] International Business Valuation Glossary
[84] International Financial Reporting Standards Framework
[85] IVS, 2022, 104, section 80.1
[86] International Business Valuation Glossary

- **Management Information Systems (MIS):** financial information in whatever form, which provides management of a business with regular reports on the operations of the business.
- **Market Approach:** An approach that provides an indication of value by comparing the asset with identical or comparable (that is similar) Assets for which price information is available.[87] This is one of the three valuation approaches in IVS.
- **Marketability:** the ability to quickly or readily convert an asset, business or investment to cash at minimal cost that reflects the capability or ease of transfer of that property. Marketability is affected by, among other things, the particular market in which the asset is expected to transact and the characteristics of the asset. See also Liquidity.[88]
- **Market Capitalization of Equity:** the aggregate Equity Value of a publicly traded company, calculated as the product of its market price and the number of equity securities outstanding.[89]
- **Market Multiple:** the market value of a public company's shares divided by a relevant measure such as net income after tax, etc.
- **Market Participants:** all individuals or other entities that are potential buyers of the asset.
- **Market Participant Acquisition Premium (MPAP:** The observable premiums paid and offered on takeovers and attempted takeovers of public companies.
- **Market Rent:** The estimated amount for which an interest in real property should be leased on the valuation date between a willing lessor and a willing lessee on appropriate lease terms in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion. This is one of the six IVS bases of value.
- **Market Risk:** The risk that is present in the entire market and that cannot be diversified. Also known as Systematic Risk.
- **Market Value:** The estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion. [90] This is one of the six IVS bases of value.
- **Material or Significant:** Inputs and assumptions are Material or Significant if the impact on the valuation could reasonably be expected to influence the decisions of users of the valuation. This is a similar concept to the use of the word "material" in the context of the truth and fairness of financial statements.
- **May:** The word "may" describes actions and procedures that Valuers have a responsibility to consider. Matters described in this fashion require the Valuer's attention and understanding. How and whether the Valuer implements these matters in the valuation engagement will depend on the exercise of professional judgement in the circumstances consistent with the objectives of the standards. [91]
- **Mid-Period Discounting:** A convention used in the Discounted Economic Income Method that reflects Economic Income being generated at a mid-period,

[87] IVS 2022, 105, section 20.1
[88] International Business Valuation Glossary
[89] International Business Valuation Glossary
[90] IVS, 2022, 104 section 30.1
[91] IVS, 2022, Glossary

approximating the effect of Economic Income being generated throughout the period. Contrast with End of Period Discounting.[92] middle of the.

- **Minority Discount:** a discount for lack of control applicable to a non-controlling or minority interest.[93] .
- **Minority Interest:** an ownership interest which does not have control. This is often an interest of less than 50% of the voting interest in a business, but this depends on the distribution of other shareholders. Also known as Non-Controlling Interest.
- **Monetary Asset:** An asset that is defined in monetary terms. Examples are cash, bank balances, trade receivables and trade payables.
- Monte Carlo Method: A statistical technique that samples randomly from a probability distribution in order to produce different possible outcomes that simulate the various sources of uncertainty that affect the value of a subject asset, business or investment.[94]
- **Most Advantageous Market:** The market that maximizes the amount that would be received to sell the asset or minimizes the amount that would be paid to transfer the liability, after taking into account transaction costs and transport costs. .
- **Multi-Factor Model:** A model, which incorporates various factors, based on the risks of the investment to determine the required rate of return of an asset/security. These factors could vary from size to macroeconomic factors. .
- **Multi-Period Excess Earnings Method:** a Method which values an Intangible Asset as the present value of the cash flows attributable to the subject Intangible Asset after excluding the proportion of the cash flows which are attributable to other Assets required to generate the cash flows ("Contributory Assets"). Also known as the excess earnings method. This is one of the five income approach methods advocated by IVS for the valuation of intangible Assets.
- **Multiple:** A ratio calculated as the value of a business or security divided by Economic Income or a non-financial metric. Also known as market multiple, pricing multiple, or valuation ratio.[95] A multiple is the inverse of the capitalization rate. The multiple (and the cap rate) may refer to any metric, such as sales revenue, EBITDA, EBIT, NOPAT, net income after tax or Net Book Value.
- **Must:** The word "must" indicates an unconditional responsibility. The Valuer must fulfill responsibilities of this type in all cases in which the circumstances exist to which the requirement applies. [96]
- **Net Asset Value:** The difference between a business' total Assets and Liabilities restated at a particular Basis of Value rather than accounting book values. This is the product of the summation method under the cost approach.
- **Net Book Value:** also known as net book amount. The difference between Assets and liabilities as they appear on the balance sheet of the business. With respect to a specific asset, this is the original capitalized cost less accumulated amortization, depreciation, depletion, allowances or impairment.
- **Net Cash Flow to Equity:** Cash Flow available to equity holders after funding business operations, paying taxes, making necessary capital investments, and servicing debt and Debt Equivalents, Hybrid Securities, and non-equity claims.

[92] International Business Valuation Glossary
[93] International Business Valuation Glossary
[94] International Business Valuation Glossary
[95] International Business Valuation Glossary
[96] IVS, 2022, Glossary

See also Net Cash Flow to Invested Capital. Sometimes referred to as fre cash flow to equity.[97]

- **Net Cash Flow to Invested Capital:** Cash Flow available to all security holders after funding business operations, paying taxes, and making necessary capital investments. See also Net Cash Flow to Equity. Sometimes referred to as free cash flow to invested capital or free cash flow to the firm.[98]
- **Net Income:** Net income or net income after tax is a company's total earnings (or profit) after all expenses have been deducted from sales and after taxation/zakat charges. It represents earnings after deducting cost of goods sold, operating expenses, interest, gains and losses, and taxes for an accounting period.
- **Net Operating Profit After Tax (NOPAT):** The earnings before interest and taxation/zakat (EBIT) as reduced by a tax charge at the effective rate. The tax charge at the effective rate percentage is calculated on the tax chargeable on profits before tax. This tax rate is then applied to EBIT. The effect of this is the adding back of the tax relief on the interest expense. If a firm has interest-bearing Debt, the tax charge in calculating NOPAT is higher than the tax charge on the profits or earnings before tax.
- **Net Present Value:** The value, as od a specified date, of future cash inflows less cash outflows, (including the cost of initial investment) calculated using a Discount Rate.[99]
- **Net Realizable Value:** The net proceeds obtainable on the sale of an asset or a group of Assets, after providing for all costs of disposal, including taxation.
- **Nominal Cash Flows:** Cash Flows that include the effects of inflation. Contrast with Real Cash Flows.[100] The actual amount of money that a business expects to receive or pay in future periods.
- **Nominal Rate of Return:** A Rate of Return that includes the effect of inflation. Contrast with Real Rate of Return.[101]
- **Noncontrolling Interest:** An ownership interest that lacks Control of the business. Also known as a Minority Interest or minority shareholding.[102]
- **Non-Disclosure Agreement (NDA):** A legal contract, which states the confidentiality terms, shared between at least two parties. It describes the information which could be shared between the parties and the information which should not be accessible for the public.
- **Non-Financial Liabilities:** Those liabilities requiring a non-cash performance obligation to provide goods or services.[103]
- **Non-Operating Assets:** Assets which are not required for use in the income-producing operations of the Business.[104]
- **Normalized Earnings:** Economic Income adjusted for extraordinary, nonrecurring, noneconomic, or other unusual items in order to eliminate anomalies and facilitate comparisons.[105]Noneconomic items include

[97] International Business Valuation Glossary
[98] International Business Valuation Glossary
[99] International Business Valuation Glossary
[100] International Business Valuation Glossary
[101] International Business Valuation Glossary
[102] International Business Valuation Glossary
[103] IVS, 2022, 220, section 20.1
[104] IVS, 2022, 200, section 120.1
[105] International Business Valuation Glossary

remuneration paid to owners and related parties at above or below market rates – and any other similar transactions.

- **Objectivity:** Making impartial judgements as to the reliability of inputs and assumptions. Such judgements need to be made in a way that promotes transparency and minimizes subjective factors.
- **Option:** An opportunity, but not an obligation, to buy or sell stock in the future for a stated price. Option contracts are bought and sold in the public markets as a form of financial derivative. See also Black Scholes Option Model, Call Option and Put Option.
- **Option Pricing Method (OPM):** A forward-looking technique used to allocate value between various equity classes with different economic rights, assuming various future outcomes. The Option Pricing Method considers the current Equity Value and then allocates that value to the various equity classes considering a continuous distribution of outcomes, rather than focusing on distinct future scenarios.[106]The OPM most frequently relies on the Black-Scholes Option Pricing Method.
- **Orderly Liquidation:** The value of a group of Assets that could be realized in a Liquidation sale, given a reasonable period of time to find a purchaser (or purchasers), with the seller being compelled to sell on an as-is, where-is basis. [107] This is one of the four premises of value in IVS. The term “as-is, where-is” refers to the condition and the location of the Assets being realized. The seller is deemed to sell the Assets in their existing condition and at the location where the Assets are held.
- **Participant:** The word “participant” refers to the relevant participants pursuant to the basis (or bases) of value used in a valuation engagement. Different bases of value require valuers to consider different perspectives, such as those of “market participants” (e.g., Market Value, IFRS Fair Value) or a particular owner or prospective buyer (e.g., Equitable Value, Investment Value).[108]
- **Performance Obligation:** The obligation contained within a liability. For a financial liability the performance obligation is settlement in cash, known as Fulfilment. For a Non-Financial Liability the Performance Obligation is the provision of goods or services, and this requires a fulfilment effort.
- **Physical Obsolescence:** A form of depreciation where the loss in value or usefulness of an asset is due to the decrease or expiry in its life from wear and tear, deterioration, exposure to various elements, physical stresses, and similar factors. See also Economic Obsolescence, and Functional Obsolescence.[109]
- **Portfolio:** an assemblage of various Assets, investments, or liabilities.[110]
- **Post-Money Value:** A business’ implied aggregate value immediately following its most recent round of financing. Contrast with Pre-Money Value.[111].
- **Pre-Money Value:** a business’ implied aggregate value immediately preceding its most recent round of financing. Contrast with Post-Money Value.[112]
- **Preference Share or Preferred Share:** a financial instrument which has the legal form of a share (in accordance with the relevant jurisdiction) but which is not part of the Equity of the company. A Preference Share can be entitled to a

[106] International Business Valuation Glossary
[107] IVS, 2022, 104, section 160.1
[108] IVS, 2022, Glossary, section 20.8
[109] International Business Valuation Glossary
[110] International Business Valuation Glossary
[111] International Business Valuation Glossary
[112] International Business Valuation Glossary

fixed dividend each year. There is a very broad range of possible Preference Share Features. Although such instruments are legally shares, with a possible entitlement to dividends, they are accounted for as Debt under IFRS and any dividend payments are shown as interest expense. If they have features such as conversion options and significant variable participation in the earnings of the company they may be treated as Equity.

- **Premise of Value:** This describes the circumstances of how an asset or liability is used.[113] IVS describe four premises of value. These are highest and best use; current use/existing use; orderly Liquidation; forced sale. The first two are going concern premises and the second two are Liquidation premises.
- **Premium Profit Method:** Projections are prepared for two scenarios: in one the business uses the relevant intangible asset; in the other the business does not use the relevant intangible asset. This is more commonly known as the "With and Without Method" and is normally used for the valuation of non-competition agreements. This is one of the five income approach methods advocated by IVS for the valuation of intangible Assets.
- **Pre-Money Value:** The value of a business immediately before its most recent round of financing. See also Post-Money Value.
- **Present Value:** The value, as of a specified date, of expected Economic Income, calculated using a discount rate.[114] Also known as "Net Present Value".
- **Price:** The monetary or other consideration asked, offered, or paid for an asset, which may be different from the value.[115]
- **Price/ Earnings Ratio (P/E):** A company's stock/share price divided by the company's earnings per share. Also known as Price/earnings multiple.
- **Principal Market:** the market with the greatest trading volume for the asset.
- **Prior Transaction Method:** A method within the market approach that uses previous transactions involving the subject business as an indicator of value. Also known as subject company transaction method or recent transaction method.[116]The actual price in the transaction can serve as a basis of valuation.. See also Calibration.
- **Probability-Weighted Expected Return Method (PWERM)**: A scenario-based technique used to estimate the value of an equity interest based on the probability-weighted present value of various discrete future outcomes for the business (i.e. initial public offering, sale, dissolution, or continued operation until a later exit date.[117] This is typically used for the valuation of different share classes when a company is close to exit
- **Professional Skepticism:** The combination of Evidential Skepticism and Self-Skepticism. The valuation professional has to consider the Credibility of the evidence provided, in the form of projections and other evidence as inputs for the purpose of the valuation. The valuation professional also has to challenge his/her own judgements as these are also inputs into the valuation.
- **Profit After Tax (PAT):** The profit after deducting tax expenses. Also known as Net Income and Net Income After Tax.
- **Profit Method:** A method of valuation that provides an indication of value for a trade related property based on the potential turnover and profit that could be realized through the carrying out of a specified business in the property.

[113] IVS, 2022, 104, section 130.1
[114] International Business Valuation Glossary
[115] International Business Valuation Glossary
[116] International Business Valuation Glossary
[117] International Business Valuation Glossary

- **Prospective Financial Information:** forecasts of financial performance used to estimate future cash flows in a discounted cash flow analysis.
- **Purchase Price Allocation:** A term commonly used to describe the process of allocating the price paid in a business combination among the assets acquired and liabilities assumed of the target business, using a variety of methods.[118]Under a Purchase Price Allocation the values of real estate and possibly plant are stated at market value. Purchase Price Allocation also involves the valuation of individual Intangible Assets. The residual figure is accounted for as goodwill.
- **Purpose of Valuation:** The reason(s) a valuation is performed. Common purposes include (but are not limited to) financial reporting, tax reporting, litigation support, transaction support, and to support secured lending decisions.[119] Also known as Valuation Purpose.
- **Put Option:** An option contract giving the holder of the option the choice to sell stock in the future at a stated price. See also Call Option, Option, and Black Scholes Option Model.
- **Quality and Risk Management (Q&RM):** The practice of identifying, quantifying, mitigating and managing a company's risk. It involves a team providing coordinated advice and assistance on independence, conflicts, compliance, regulatory, policy, security and risk management issues.
- **Rate of Return:** An amount, expressed as a percentage of the amount of the investment, of anticipated or realized Economic Income and/or change in value of an investment.[120]
- **Real Cash Flows:** cash flows that exclude the effect of inflation over time. Contrast with Nominal Cash Flows.[121] Nominal cash flows can be changed to real cash flows by removal of the effects of inflation on the projected figures.
- **Real Estate Investment Trusts (REITs):** A corporation or trust that invests in real estate. The rules relating to REITs vary according to jurisdiction. They are commonly public companies which are not subject to corporate taxation, provided that substantially all of the income is distributed to stockholders.
- **Relief from Royalty Method:** A method that estimates the value of an Intangible Asset by reference to the present value of the hypothetical royalty payments that are avoided by owning the asset as compared with licensing it from a third party. Also known as royalty savings method.[122] This is one of the five income approach methods advocated by IVS for the valuation of intangible Assets.
- **Replacement Cost Method:** A Method under the Cost Approach that estimates the value of an asset by calculating the cost, as of the Valuation Date, to recreate the functionality or utility of a similar asset. See also Cost Approach.[123] This is a Method of main interest to plant valuers.
- **Reproduction Cost Method:** A Method under the Cost Approach that indicates value by calculating the cost to recreating a replica of an asset. This is a Method of main interest to plant valuers.
- **Required Rate of Return:** The minimum Rate of Return acceptable by investors before they will commit money to an investment, given its level of risk.[124]

[118] International Business Valuation Glossary
[119] IVS, 2022, Glossary, section 20.9
[120] International Business Valuation Glossary
[121] International Business Valuation Glossary
[122] International Business Valuation Glossary
[123] International Business Valuation Glossary
[124] International Business Valuation Glossary

- **Risk Free Rate:** A Rate of Return available in the market on an investment perceived as free of default risk.[125] The concept is that all other investments require a higher return to compensate for the risk within them.
- **Risk Premium:** A Rate of Return added to a base rate (e.g., a risk-free rate) to reflect the incremental risk of a an asset, business, or investment (e.g., Equity Risk Premium, Unsystematic Risk premium, country risk premium or size premium). [126]
- **Royalty:** A payment (hypothetical or actual) made for the use of an asset, especially an Intangible Asset or a natural resource.[127] A gross royalty rate means that all responsibilities and expenses associated with the ownership of the intangible asset are the responsibility of the owner (licensor) of the intangible. A net royalty rate means that such responsibilities and expenses are transferred to the licensee.
- **Rules-of-Thumb:** These are sector-specific valuation benchmarks. They are common in certain retail sectors with small businesses. They are sometimes based on multiples of revenue or the volume sales of specific goods or services. They can also be based on the Sellers' Discretionary Earnings or Cash Flow. They should not be given substantial weight unless it can be shown that buyers and sellers place significant reliance on them. This is a subsidiary method under the market approach.
- **Salvage Value:** The value of an asset at the end of its economic life given the purpose for which the asset was created. The asset may still have value for an alternative use or for recycling.[128] computed under the cost approach. The Salvage Value is the proceeds of sale less all the costs of disposal.
- **Saudi Arabian Monetary Authority (SAMA):** The central bank of the Kingdom of Saudi Arabia.
- **Scenario Analysis:** The technique of modelling multiple scenarios of possible future Economic Income to derive expected value. See also Monte Carlo Method, Option Pricing Method, and Probability-Weighted Expected Return Method (PWERM).[129]
- **Scenario Based Method:** The modelling of multiple scenarios for possible future cash flows. This is often used for the valuation of non-financial liabilities.
- **Scope of Work or Terms of Engagement:** The fundamental terms of a valuation engagement, such as the Assets being valued, the purpose of the valuation and the responsibilities of parties involved. In order to be compliant with IVS it is necessary for 14 specific matters to be communicated to the client at the start of the engagement. These 14 requirements are given in IVS 2022, 101, section 20.3, points a) to n). A valuer must communicate the scope of work to its client prior to completion of the assignment.
- **Self-Skepticism:** The challenge of one's own assumptions and conclusions. This is of special importance when undertaking valuations frequently for the same client or in the same industry. See Back-testing.
- **Seller's Discretionary Earnings or Cash Flow:** The earnings or cash flows of a business before making any allowance for the costs of the Seller. Such costs include the remuneration and benefits paid to the Seller and possibly to family

[125] International Business Valuation Glossary
[126] International Business Valuation Glossary
[127] International Business Valuation Glossary
[128] International Business Valuation Glossary
[129] International Business Valuation Glossary

members. This is a valuation metric often used for the valuation of small businesses.

- **Share or Stock:** A share is a fractional interest in a company. If there are 100 shares in issue each share represents an interest of 1%. It is possible for there to be different classes of share: as an example one class of share may be non-voting and may have restricted rights to dividends.
- **Shareholders' Agreement:** An arrangement among the company's shareholders designed to minimize disputes when more than one shareholder is present in a corporation. The Shareholders' Agreement describes shareholders rights and obligations in matters such as transferring shares, representation on board, protection of shareholders, etc.
- **Should:** The word "should" indicates responsibilities that are presumptively mandatory. The Valuer must comply with requirements of this type unless the Valuer demonstrates that alternative actions, which were followed under the circumstances were significant to achieve the objectives of the standards.[130]In the rare circumstances in which the Valuer believes the objectives of the standard can be met by alternative means, the Valuer must document why the indicated action was not deemed necessary and/or appropriate.
- **Significant or Material:** Inputs and assumptions are Material or Significant if the impact on the valuation could reasonably be expected to influence the decisions of users of the valuation. This is a similar concept to the use of the word "material" in the context of the truth and fairness of financial statements.
- **Simple Capital Structure:** A Capital Structure that includes a single equity class and may include debt or debt-like preferred securities. Contrast with Complex Capital Structure.[131]
- **Special Assumption:** An assumption that either assumes facts that differ from the actual facts existing at the valuation date or that would not be made by a typical market participant in a transaction on the valuation date.[132]
- **Special Interest Purchasers:** acquirers who consider that they can enjoy post-acquisition benefits not available to other Market Participants. Examples of such benefits are economies of scale, synergies with their existing business or strategic advantages.
- **Standalone Value:** the value of an asset, business, or investment estimated without considerations of potential Synergies.[133]
- **Strengths, Weaknesses, Opportunities and Threats (SWOT):** A structured planning method that evaluates a business' competitive analysis and elements in the environment it can exploit or should be concerned about.
- **Strike Price:** the amount payable when an option is exercised. This is also known as the exercise price.
- **Summation Method:** the main method under the Cost Approach for the valuation of a business. It involves the valuation of each of the component Assets of a business and the deduction of the amounts payable in respect of liabilities. It is commonly used for businesses such as real estate companies, in which the value is in the individual Assets, with little or no intangible asset value.
- **Synergies:** The concept that the performance and value of two assets or businesses combined will be greater than the sum of the separate individual parts, resulting from the expectation of economies of scale or post-acquisition

[130] IVS 2022, Glossary, section 20.10
[131] International Business Valuation Glossary
[132] Royal Institution of Chartered Surveyors (RICS) 2020
[133] International Business Valuation Glossary

benefits.[134] This will arise as a result of greater revenues, lower costs or reduced cost of capital.

- **Synergistic Value:** The result of a combination of two or more Assets or interests where the combined value is more than the sum of the separate values.[135] This is one of the six IVS bases of value.
- **Systematic Risk:** Risk that is common to all risky securities and cannot be eliminated through diversification. Also known as Market Risk and Undiversifiable Risk. The extent of the systematic risk between different sectors is measured by Beta.
- **Tadawul:** The primary stock exchange in the Kingdom of Saudi Arabia.
- **Tangible Asset:** An asset that has physical form and derives value from its physical properties or tangible nature (e.g., real estate, property, plant, equipment). Contrast with Intangible Asset.[136]
- **Tax Amortization Benefit (TAB):** The present value of income tax savings resulting from the tax deduction generated by the amortization of an Intangible Asset. An adjustment made when valuing Intangible Assets using the Income Approach to reflect the tax relief available on the amortization of certain Intangible Assets.
- **Tax Depreciation Benefit:** The present value of income tax savings resulting from the tax deduction generated by the depreciation of a Tangible Asset.[137]
- **Terminal Growth Rate:** A constant rate, which assumes that a firm's expected income or cash flows, will grow in perpetuity. It is used to compute the terminal value of a company.
- **Terminal Value:** An estimate of the value of Economic Income of a business beyond the discrete forecast period in the Discounted Economic Income Model. Also known as Residual Value or continuing value.[138]
- **Top-Down Method:** methods for the valuation of certain non-financial liabilities and inventory.
- **Trade related property:** Any type of real property designed for a specific type of business where the property value reflects the trading potential for that business.[139]
- **Unlevered Beta:** A measure of Beta reflecting a capital structure without debt. Also known as Asset Beta.[140]
- **Unlevered Cost of Capital:** The expected Rate of Return that the market requires in order to attract funds to a particular investment, assuming an unlevered Capital Structure. See also Weighted Average Cost of Capital.
- **Unobservable Inputs:** inputs for which market data are not available and that are developed using the best information available. Unobservable inputs relate to third tier evidence in IFRS 13.
- **Unsystematic Risk:** the risk specific to an individual security that can be eliminated through diversification. Also known as idiosyncratic risk or diversifiable risk. Contrast with Systematic Risk.[141]

[134] International Business Valuation Glossary
[135] IVS, 2022, 104, section 70.1
[136] International Business Valuation Glossary
[137] International Business Valuation Glossary
[138] International Business Valuation Glossary
[139] Royal Institution of Chartered Surveyors (RICS) 2020
[140] International Business Valuation Glossary
[141] International Business Valuation Glossary

- **Valuation:** The act or process of determining an estimate of value of an asset or liability.[142]
- **Valuation Approach:** A general manner of estimating a value that uses one or more specific Valuation Methods.[143] The principal valuation approaches are: (a) Market Approach, (b) Income Approach, and (c) Cost Approach. They are all based on the economic principle of price equilibrium, anticipation of benefits or substitution.
- **Valuation Date:** The relevant date to which the valuer's conclusion of value applies.
- **Valuation Method:** The particular detailed procedure within each Approach used by the Valuer to obtain the value of a company**.**
- **Valuation Model:** The quantitative methods, systems, techniques and qualitative judgements used to estimate and document value.[144]
- **Valuation Purpose:** The reason(s) a valuation is performed. Common purposes include (but are not limited to) financial reporting, tax reporting, litigation support, transaction support, and to support secured lending decisions.
- **Valuation Subject:** The business or Equity stake in a business that is to be valued.
- **Valuation Technique:** A specific analytical process of data treatment, conducted within a valuation method.
- **Value in Use:** The value of an asset, business, or investment in its current or continued use.[145]
- **Valuer:** An individual, group of individuals or a firm who are accredited by Taqeem and possess ability and experience to execute a valuation in an objective, unbiased and competent manner. In Saudi Arabia, licensing from Taqeem is required before one can act as a Valuer.[146]
- **Waterfall:** The contractual allocations of cash flows commonly resulting from a liquidity event (e.g., merger, acquisition, initial public offering), to the various ownership classes (e.g., debt, preferred equity, common equity) in a business, reflecting the economic rights of each class.[147].
- **Weight or Weighting:** The amount of reliance placed on a particular indication of value in reaching a conclusion of value (e.g., when a single method is used, it is afforded 100% weight).[148]
- **Weighted Average Cost of Capital (WACC):** A measure of a business' overall cost of capital in which the expected Rate of Return on each component of capital (e.g., debt, equity) is weighted at market value based upon its relative proportion of the Capital Structure.[149]
- **Weighted Average Return on Assets (WARA):** The weighted average, at market value, of the cost of financing each of the tangible and intangible fixed Assets and the working capital. Conceptually, the WARA should equal the WACC. As discount rates for many Assets are known, reconciliation of the WARA for all asset categories to the WACC is a means of confirming the reasonableness of asset-specific discount rates.

[142] IVS Glossary, section 20.13
[143] International Business Valuation Glossary
[144] IVS, 2022, 105, section 90.1
[145] International Business Valuation Glossary
[146] IVS, 2022,20 Glossary, section 20.17 (amended)
[147] International Business Valuation Glossary
[148] IVS, 2022, Glossary, section 20.18
[149] International Business Valuation Glossary

- **With and Without Method:** A method used to estimate the value of an asset by comparing a scenario in which the business uses the asset and other scenario in which the business does not use the asset, all other factors held constant.[150] This is sometimes known as the "Premium Profit Method" and is normally used for the valuation of non-competition agreements. This is one of the five income approach methods advocated by IVS for the valuation of intangible Assets.
- **Workforce in Place:** Also known as the Assembled Workforce. The team of employees who work in a Business. This is a concept that is used when calculating Contributory Asset Charges in the valuation of Intangible Assets. The Workforce in Place is an Intangible Asset but one which is nor recognized for financial reporting purposes.
- **Working Capital:** the amount of current assets minus current liabilities held in a business for its day to day operational needs. Also known as debt-free net working capital when all or a portion of cash and the current portion of interest-bearing debt is excluded.[151]
- **Zakat:** Companies owned by Saudi and GCC investors are liable for Zakat, a religious obligation. *Zakat* is charged on the company's *Zakat* base at 2.5%; *zakat base* represents the net worth of the entity as calculated for *Zakat* purposes

[150] International Business Valuation Glossary
[151] International Business Valuation Glossary