chapter 4

What is profit?

overview

We start this chapter with a discussion of the economic concept of profit and consider a number of different ways in which profit may be defined and measured. This requires us to consider, first, the measurement of wealth at the beginning and end of a period and, second, the comparison of these opening and closing amounts when the value of the measuring rod, the pound, may be changing. We demonstrate that the traditional approach of historical cost accounting is just one of several approaches which could be adopted and that it has serious limitations for many of the purposes for which it is used. This section of the chapter also serves as an introduction to Part 3 of the book, where we discuss, in some depth, major alternatives to the traditional historical cost accounting approach.

The chapter also has a more immediate practical purpose in that the later sections explore the legal definition of distributable profit, which is relevant when determining the maximum dividend that can be paid by a limited company, and the closely related question of when a profit is deemed to have been realised.

Introduction

The layperson has no doubt about the way in which the question 'What is profit?' should be answered. Profit is the difference between the cost of providing goods or services and the revenue derived from their sale. If a greengrocer can sell for 10p an apple which cost him 6p, his profit must be 4p. Accountants also used to inhabit this seemingly comfortable world of simplicity, but they are now aware that such a world is not only uncomfortable but possibly dangerous. We can perhaps agree that profit is the difference between cost and revenue, but there is more than one way of measuring cost. Historical cost – the cost of acquisition – is only one alternative, which may indeed be one of the least helpful for many purposes. Furthermore, it is not even obvious that we should measure the difference between costs and revenue in monetary terms – actual pounds – for another unit of measurement has been suggested: the purchasing power of pounds.

In order to answer the question 'what is profit?' it is perhaps best to start by considering the most useful of hypothetical examples in accounting theory – the barrow boy who trades for cash and rents his barrow.

Consider such a barrow boy whose only asset at the start of a day's trading is cash of £2000. Let us suppose that he rents a barrow and a pitch for the day which together cost him £20. Let us further assume that he spends £150 in the wholesale market for a barrow-load of vegetables, all of which are sold for £240. The trader therefore ends the day with cash of £2070 and we can all agree that the profit for that day's trading is £70.[1] In other words we have taken the barrow boy's profit to be the increase in monetary wealth resulting from his trading activities.

[1] Actually this is not strictly true, for one might wish to impute a charge for the labour supplied by the barrow boy and would say that his profit is the excess of £70 over the imputed labour charge.

Let us extend the illustration by supposing that the barrow boy has changed the style of his operation. He now owns his barrow and trades in household sundries of which he can maintain a stock. If we wish to continue to apply the same principle as before in calculating his profit, we would need to measure his assets at the beginning and the end of each day. Thus we would need to place a value on his stock and his barrow at these two points of time as well as counting his cash.

All this may appear to be very simple, but it is by no means trivial, for the above argument contains one important implication, that profit represents an increase in wealth or 'well-offness', and one vital consequence, that in order to measure the increase in wealth it is necessary to attach values to the assets owned by the trader at the beginning and end of the period.

Let us now consider the implied definition of profit in a little more detail. The argument is that a trader makes a profit for a period if either he is better off at the end of the period than he was at the beginning (in that he owns assets with a greater monetary value) or would have been better off had he not consumed the profits. This essentially simple view was elegantly expressed by the eminent economist Sir John Hicks, who wrote that income – the term which economists use to describe the equivalent, in personal terms, of the profit of a business enterprise – could be defined as:

> **the maximum value which [a man] can consume during a week and still expect to be as well off at the end of the week as he was at the beginning.[2]**

This definition cannot be applied exactly to a business enterprise since such an entity does not consume. The definition can, however, be modified to meet this point, as was done by the Sandilands Committee,[3] which defined a company's profit for a year by the following adaptation of Hicks's dictum:

> **A company's profit for the year is the maximum value which the company can distribute during the year and still expect to be as well off at the end of the year as it was at the beginning.[4]**

The key questions that have to be answered in arriving at such a profit are, 'How do we measure "well-offness" at the beginning and end of a period?' and 'How do we measure the change in "well-offness" from one date to another?'

This is not the end of the matter for we may wish to make a distinction between that part of the increase in 'well-offness' which was available for consumption and that which should not be so regarded. In traditional accounting practice a distinction has been made between realised and unrealised profits such that only the former is normally available for distribution. Subsequently company legislation[5] introduced into statute law the concept of distributable profits and the legal aspects of the assessment of this element of profit will be discussed in the final section of this chapter.

Turning to our two questions, we will first examine the question of how we may measure 'well-offness' or 'wealth' of a business at a point in time. There are two approaches. First, the wealth of a business can be measured by reference to the expectation of future benefits; in other words, the value of a business at a point of time is the present value of the expected future net cash flow to the firm. The second approach is to measure the wealth of a business by reference to the values of the individual assets and liabilities of the business. Actually these two approaches can be linked by the recognition of an intangible asset, often called goodwill, which can be defined as the difference between the value of the business as a whole and the sum of the values of the individual assets less liabilities.

[2] J.R. Hicks, *Value and Capital*, 2nd edn, Oxford University Press, Oxford, 1948, p. 172.
[3] *Report of the Inflation Accounting Committee*, Cmnd 6225, HMSO, London, 1975.
[4] *Ibid.*, p. 29.
[5] Companies Act, 1980 and 1981.

Present value of the business

We will assume that readers are familiar with the principles and mechanics of discounted cash flow techniques.

The present-value approach is based on the assumption that the owner of a business is only interested in the pecuniary benefits that will accrue from its ownership ('I am only in it for the money'). Well-offness at any balance sheet date is then measured by the present value of the expected future net cash flows at that date and profit for the period is the difference between the present values at the beginning and end of the period after adjustment for injections and withdrawals.

This requires some formidable problems of estimation of both cash flows and appropriate discount rates, but such estimates are made either explicitly or implicitly (usually the latter) when businesses or individual assets are bought and sold. The present-value approach is an important and useful one when applied to the valuation of businesses or shares in a business in order to determine whether their sale or purchase would be worthwhile at a given price. It may well be thought, however, that the problems of estimation are such as to render the approach unsuitable for the measurement of an entity's periodic profit on a regular basis, specifically given the qualitative characteristics of financial information discussed in Chapter 1. But there is a more fundamental objection to the use of this method for financial accounting in that it is agreed that the regular reporting of profits should not be based solely on future expectations. The present-value approach is, of course, based entirely on expectations of the future and depends on decisions involving the way in which assets will be employed. It is argued that one of the objectives of accounting is to aid decision making and it is hardly appropriate if the fundamental measure of profit is based on the assumption that all decisions have already been made. This point was made by Edwards and Bell, who wrote:

> A concept of profit which measures truly and realistically the extent to which past decisions have been right or wrong and thus aids in the formulation of new ones is required. And since rightness or wrongness must, eventually, be checked in the market place, it is changes in market values of one kind or another which should dominate accounting objectives.[6]

This quotation provides a neat introduction to the asset-by-asset approach.

Measurement of wealth by reference to the valuation of individual assets

In this section we shall discuss some of the different methods that may be used to value assets. We shall at this stage concentrate on the problems associated with the determination of an asset's value using the different bases and shall defer the question of the suitability of the different bases of asset valuation for profit measurement until later.

[6] E.O. Edwards and P.W. Bell, *The Theory and Measurement of Business Income*, University of California Press, Stanford, CA, 1961, p. 25.

Historical cost

The historical cost of an asset can usually be determined with exactitude so long as the records showing the amount paid for the asset are still available. The matter, however, is not always that simple. The historical cost of a fixed asset purchased when new may well be known, but it will usually be impossible to say what proportion of the original total cost should be regarded as being applicable to that portion of the asset which remains unused at a point in time. For example, imagine that we are dealing with a two-year-old car which cost £20 000 and which we expect to have a total life of five years – do we say that the historical cost of the unused portion of the car is three-fifths of £20 000, i.e. £12 000? This is, of course, the class of question which is answered by the use of some more or less arbitrary method of depreciation. As we will show later, much the same sort of expedient is used in various forms of current-value accounting.

Readers will be aware of the difficulties involved in the determination of the historical cost of trading stock – whether stock should be valued on the basis of 'average', FIFO, etc. The problem is even more acute when trading stock involves work-in-progress and finished goods, as the question of the extent to which overheads should be included in the stock figure must be considered. Similar problems arise when determining the cost of fixed assets which are constructed by a firm for its own use.

There is another class of assets for which it may be difficult to find the historical costs. These are assets which have been acquired through barter or exchange, a special case of which are assets which are purchased in exchange for shares in the purchasing company. In such instances it will usually be necessary to estimate the historical cost of the assets acquired. This is usually done by reference to the amount that would have been realised had the assets, which had been given in exchange, been sold for cash. In some cases it might prove to be extremely difficult to make the necessary estimates as there may not be a market in the assets concerned.

Yet further problems occur where a number of assets are purchased together; for example, where a company purchases the net assets of another company or unincorporated firm. For accounting purposes it is necessary to determine the cost of the individual assets and liabilities which have been acquired and this involves an allocation of the global price to the individual assets and liabilities which are separately identified in the accounting system; any balancing figure represents the amount paid for all assets and liabilities not separately identified in the accounting system and is described as goodwill.[7] Such an allocation has traditionally been made using 'fair values', which usually results in the individual assets being valued at their replacement costs and liabilities being valued at their face values.

The contents of this section may seem fairly obvious, but it is important to remember that the determination of an asset's historical cost is not always an easy task.

'Adjusted' historical cost

By 'adjusted' historical cost we mean the method whereby the historical cost of an asset is taken to be its original acquisition cost adjusted to account for changes in the value or purchasing power of money between the date of acquisition and the valuation date. This method of valuation forms the basis of the accounting system known as current purchasing power accounting (see Chapter 19).

[7] Such an approach is also necessary when preparing consolidated financial statements and this is discussed in Chapter 14.

The practical difficulties of this approach include all those which were discussed in the preceding section on historical cost but to these must be added the problems involved in reflecting the changes in the value of money. This is done by using a price index, which is an attempt to measure the average change in prices over a period.

Great care must be taken when interpreting the figures produced by the adjusted historical cost approach. It must be remembered that this method does not attempt to revalue (i.e. state at current value) the assets; it is money and not the asset which is revalued. The adjusted historical cost method can be contrasted with those approaches under which assets are stated at their current values. It is these approaches which are the subjects of the following sections.

Replacement cost

Replacement cost (RC) is often referred to as an entry value because it is the cost to the business of acquiring an asset. In crude terms it may be defined as the estimated amount that would have to be paid in order to replace the asset at the date of valuation.

This is a useful working definition, but it is crude as it begs a large number of questions, some of which will be discussed below.

The definition includes the word 'estimated' because the exercise is a hypothetical one in that the method is based on the question, 'How much would it cost to replace this asset today?' Since the asset is not being replaced, the answer has to be found from an examination of the circumstances prevailing in the market for the asset under review. If the asset is identical with those being traded in the market, the estimate may be reasonably objective. Thus, if the asset is a component which is still being manufactured and used by a business, its replacement cost may be found by reference to manufacturers' or suppliers' price lists. However, even in this apparently straightforward case, there may still be difficulties in that the replacement cost may depend on the size of the order. Typically a customer placing a large order will pay a lower price per unit than someone buying in small lots. In some types of business the difference between the two sets of prices may be significant, as is evidenced by the different prices paid for food by large supermarkets and small grocery shops. This observation leads to the conclusion that in certain instances it will be necessary to add to the above definition of replacement cost that the estimate should assume that the owner of the asset would replace it in 'the normal course of business', in other words that the replacement would be made as part of the normal purchasing pattern of the business.

The difficulties inherent in the estimation of replacement cost loom very much larger when we turn our attention to assets which are not identical to those that are currently being traded in the market, including those which have been made obsolete by technological progress. A special, and very important, class of non-identical assets is used assets because all used assets will differ in some respect or other from other used assets of a similar type.

A more detailed discussion of the ways in which the replacement cost of assets is found will be provided later in the book, but it will be helpful if we indicate some of the possible approaches at this stage:

1 *Gross/net replacement cost:* The most common approach, particularly if the asset has been the subject of little technological change, is to take the cost of a new asset (the gross replacement cost) and then deduct an estimate of depreciation; for example, if the asset is two years old and is expected to last for another three years then, using straight-line depreciation, the net replacement cost is three-fifths of the gross replacement cost.

2 *Market comparison*: In the case of some used assets, such as motor vehicles, the asset might be valued by reference to the value of similar used assets. It may prove necessary to adjust the value found by direct comparison to account for any special features pertaining to the particular asset. Thus, the approach includes a subjective judgement element which is combined with the reasonably objective comparison with the market.
3 *Replacement cost of inputs*: In certain cases – particularly fixed assets manufactured by owners for their own use and work-in-progress and finished goods – it might be possible to determine an asset's replacement cost by reference to the current replacement cost of the various inputs used in the construction of the asset. Thus the necessary labour input could be costed at the wage rates prevailing at the valuation date with similar procedures being applied to the other inputs – raw materials, bought-in components and overheads.

Whilst in practice the focus of valuation is often the physical asset itself, we need to recognise that this is a proxy for that which is actually being valued – the services provided by the asset.

Take, as an example, a machine which is expected to operate for another 2000 hours. A new machine might have a life of 4000 hours and have operating costs which are less than those of the machine whose replacement cost we are seeking to estimate. In this case, the replacement cost of the old machine would be half the cost of the new machine less the present value of the savings in the operating costs. If there is a 'good market' in second-hand machines the replacement cost of used machines will approximate this value, but if this is not the case the replacement cost will be based on the cost of a new machine after adjusting for differences in capacity and operating costs.

Net realisable value

The net realisable value of an asset may be defined as the estimated amount that would be received from the sale of the asset less the anticipated costs that would be incurred in its disposal. It is sometimes called an exit value as it is the amount realisable when assets leave the firm.

One obvious problem with this definition is that the amount which would be realised on the disposal of an asset depends on the circumstances in which it is sold. It is likely that there would be a considerable difference between the proceeds that might be expected if the asset were disposed of in the normal way and the proceeds from a forced and hurried sale of the assets. Of course, it all depends on what is meant by the 'normal course of business' and, while the phrase may be useful enough for many practical purposes, it must be remembered that it is often not possible to think in terms of the two extreme cases of 'normal' and 'hurried' disposals. There may be all sorts of intermediate positions between these extremes. It can thus be seen that there may be a whole family of possible values based on selling prices which depend on the assumptions made about the conditions under which assets are sold and that, particularly in the case of stock, great care must be taken when interpreting the statement that the net realisable value of an asset is £*x*.

As is true for the replacement cost basis of valuation, the difficulties associated with the determination of an asset's net realisable value are less when the asset in question is identical, or very similar to, assets which are being traded in the market. In such circumstances the asset's net realisable value can be found by reference to the prevailing market price viewed from the point of view of a seller in the market. The replacement cost is, of course, related to the purchaser's viewpoint. If there is an active market, the difference between an asset's replacement cost and its net realisable value may not be very great and will depend on the expenses and profit margins of traders in the particular type of asset.

The relationship of the business to the market will determine whether, in the case of that business, an asset's replacement cost exceeds its net realisable value or vice versa. It is likely that the barrow boy to whom reference was made earlier would find that the replacement cost of his barrow could be greater than its net realisable value, while the reverse is likely to hold for his vegetables. It is generally, but not universally, true that a business will find that the replacement costs of its fixed assets will exceed their net realisable values, while in the case of trading stock the net realisable value will be the greater.

Generally the estimation of the net realisable value of a unique asset is even more difficult than the determination of such an asset's replacement cost. It may be possible to use a 'units of service' approach in that one could examine what the market is prepared to pay for the productive capacity of the asset being valued, but the process is likely to be more subjective. In the replacement cost case, the owner is the potential purchaser and will base his valuation on his own estimate of the productive capacity of the asset but, in the net realisable value case, the hypothetical purchaser will have to be convinced of the asset's productive capacity.

A further difficulty involved in the estimation of net realisable value is the last phrase in the definition – 'less the anticipated costs that would be incurred in its disposal'. This sting in the definition's tail can be extremely significant, especially in the case of work-in-progress, in relation to which the estimation of anticipated additional costs may be difficult and subjective.

Present value

It might be possible to apply the present-value approach to the valuation of individual assets. To do so would require the valuer to attach an estimated series of future cash flows to the individual asset and select an appropriate discount rate. This may be possible in the case of assets which are not used in combination with others, such as an office block which is rented out, but most assets are used in combination to generate revenue. Thus, a firm purchases raw materials which are processed by many machines in their building to produce the finished goods which are sold to earn revenue. In such circumstances as these it would seem impossible to say what proportion of the total net cash flow should be assigned to the building or to a particular machine. Hence it would not be possible to calculate a present value for the individual building or for a particular machine but only for groups of assets which can be identified as a separate income-generating unit.

Capital maintenance

Let us for a while ignore the practical problems associated with the valuation of assets at an instant in time and assume that one can generate a series of figures (depending on the basis of valuation selected) reflecting the value of the bundle of assets which constitutes a business and hence, after making appropriate deduction for creditors,[8] arrive at a series of figures showing the owners' equity in or net assets of the enterprise at different instants in time.

If this can be done, is the profit for a period found by simply deducting the value of the net assets at the start of the period from the corresponding value at the end of the period? In

[8] The valuation of liabilities is a much less developed subject than the valuation of assets, but things are changing and more attention is now being paid to this topic. In order to focus on the principles underlying the concept of capital maintenance and its relationship to the measurement of profit we will defer the subject of the valuation of liabilities to Chapter 7.

other words if, using the selected basis of valuation, the value of the assets at the time t_0 was £1000 and the value at the time t_1 £1500, is the profit for the period £500? The answer is, probably not.

We must remember that we have defined profit in terms of the amount that can be withdrawn or distributed while leaving the business as well off at the end as it was at the beginning of the period. Now assume that in this simple example the valuation basis used is replacement cost and, for the sake of even more simplicity, that no capital has been introduced or withdrawn during the period and that the firm only holds one type of asset, the replacement cost of which has increased by 50 per cent. (Thus the company holds the same number of assets at the end as it did at the beginning of the period.) Let us also assume that prices in general have not increased over the period.

The question which has to be answered is, how much could be distributed by way of a dividend at the end of the period without reducing its 'well-offness' below that which prevailed at the start of the period? It could be argued that £500 could be paid, as that would leave the value of the assets constant. It could also be argued that nothing should be paid because in order to pay a dividend the company would have to reduce its holding of assets. If the latter view is accepted, it means that the whole of the increase in the value of the assets should be retained in the business in order to maintain its 'well-offness'. It will be seen that each of the approaches described in this simple example will be found in different accounting models, but at this stage we simply want to show that it is not sufficient to find the difference between values at two points in time. The profit figure will also depend on the amount which it is deemed necessary to retain in the business to maintain its 'well-offness', that is on the concept of *capital maintenance* which is selected. We shall describe the various approaches to capital maintenance in a little more detail below.

There are thus two choices to be made: the basis of asset valuation and the aspect of capital which is to be maintained. In theory each of the possible bases of valuation can be combined with any of the different concepts of capital maintenance with each combination yielding a different profit figure. In practice the two choices are not made independently of each other in that, as we will show, there are some combinations of asset value/capital maintenance which are mutually consistent and yield potentially helpful information, while others appear not to provide useful information, usually because the two choices are made on the basis of an inconsistent approach to the question of the objectives served by the preparation of financial accounts.

We can summarise the argument thus far by stating that the profit figure depends on (a) the basis of valuation selected, and (b) the concept of capital maintenance used, and is found in the following way:

1. Find the difference between the value of the assets less liabilities at the beginning and end of the period after adjusting for capital introduced or withdrawn.
2. Decide how much of the difference (if any) needs to be retained in the business to maintain capital.
3. The residual is then the profit for the period.

We will now turn to more detailed examination of the possible ways of viewing the capital of the company (or of its owners) which is to be maintained. It will be helpful to categorise the various approaches to capital maintenance in the following way:

- Financial capital maintenance
  - Not adjusted for inflation (Money financial capital maintenance)
  - Adjusted for inflation (Real financial capital maintenance)

- Operating capital maintenance[9]
  - From the standpoint of the entity
  - From the standpoint of the equity shareholders' interest.

We shall deal with the above in turn. In order to avoid repetition, readers should assume that there have been no capital injections or withdrawals.

Money financial capital maintenance

With money financial capital maintenance the benchmark used to decide whether a profit has been earned is the book value of the shareholders' interest at the start of the period.

If money capital is to be maintained then the profit for the period is the difference between the values of assets less liabilities at the start and end of the period with no further adjustment. Money financial capital maintenance is used in traditional historical cost accounting which is not to say that, as we will show in Example 4.1, it cannot be combined with other bases of asset valuation.

Real financial capital maintenance

With real financial capital maintenance (which is often referred to simply as real capital maintenance) the benchmark used to determine whether a profit has been made is the *purchasing power* of the equity shareholders' interest in the company at the start of the period. Thus, if the equity shareholders' interest in the company is £1000 at the start and the general price level increases by 5 per cent in the period under review, a profit will only arise if, on the selected basis, the value of the assets less liabilities, and hence the equity shareholders' interest[10] at the time, amounts to at least £1050.

Both the money financial capital and real financial capital maintenance approaches concentrate on the equity shareholders' interest in the company and are hence sometimes referred to as measures of profit based on *proprietary capital maintenance.*

Operating capital maintenance

The operating capital maintenance concept is less clear-cut than the financial capital maintenance approach. Broadly, it is concerned with the physical assets of the enterprise and suggests that capital is maintained if at the end of the period the company has the same level of assets as it had at the start. A very simple example of the operating capital approach is provided by the following example.

Suppose a business starts the period with £100 in cash, 20 widgets and 30 flanges and ends the period with £130 in cash, 25 widgets and 32 flanges. Then the profit for the period, using the operating capital maintenance approach, could be regarded as being:

Profit = £30 in cash + 5 widgets + 2 flanges.

[9] There is no consensus on the names of the various bases of capital maintenance. For example, the term 'nominal money' might be used instead of 'money capital', or 'physical capital' rather than 'operating capital'. We believe the terms used in this book both provide better descriptions and are more widely used in the literature than the alternatives.

[10] Preference shares being treated as liabilities for this purpose.

For certain purposes one could stop here, for the list of assets given above shows the increase in wealth achieved by that business over the period. To state profit in this way does provide a very clear picture of what has happened and shows in an extremely objective fashion the extent to which the business has grown in physical terms. Accountancy, however, is concerned with providing information stated in monetary terms.

In order to take this additional step it is necessary to select a basis of valuation, for this would then enable the accountant to place a single monetary value on the profit.

Let us assume that it is decided that replacement cost is the selected valuation basis and that the replacement costs at the end of the year are widgets £100 each and flanges £150 each. The profit for the period would then be stated as follows:

	£
Increase in cash	30
Increase in widgets, 5 × £100	500
Increase in flanges, 2 × £150	300
Profit	830

The above example is obviously simplistic in so far as companies hold a large number of different sorts of assets and, only in the most static of situations, will the assets held at the end of the year match those which are owned at the start of the period. However, the example does illustrate the sort of thinking which will be developed in later chapters.

The example was based on the variant of the operating capital maintenance measure which states that a company only makes a profit if it has replaced, or is in a position to replace, the assets which were held at the start of the period and which have been used up in the course of the period. A more sophisticated alternative would be to consider the output which is capable of being generated by the initial holding of assets and design an accounting model which would only disclose a figure for profit if the company is able to maintain the same level of output.

Most variants of the operating capital maintenance approach relate the determination of profit to the assets held by the business, i.e. look at the problem from the standpoint of the business. The operating capital approach is thus often referred to as an *entity measure of profit*. It is, however, possible to combine the operating capital maintenance concept with the proprietary approach. Thus, a profit based on an entity concept can be derived which can be adjusted to show the position from the point of view of the equity holders. If, for example, part of the assets are financed by long-term creditors, it might be assumed that part of the additional funds required, in a period of rising prices, to maintain the business's operating capital will also be contributed by the long-term creditors. Hence, the profit attributable to equity holders would be higher than the profit derived from the strict application of the entity concept. Assume that a company has the following opening balance sheet:

	£		£
Equity shareholders	60	Assets	
		10 items of stock at £10 each	100
Debentures	40		
	100		100

Stock is valued at its replacement cost and the proportion of debt finance in the capital structure (i.e. the gearing) is 40 per cent. For simplicity we will assume the debentures are interest free.

Assume that the company holds the stock for a period and then sells all 10 items for cash at £18 each so that the closing balance sheet includes just one asset, cash of £180. In the period the replacement cost of stock has risen from £10 to £15 per unit.

If the operating capital maintenance concept is followed, then, in order to maintain the operating capital of the entity, an amount of £150, that is 10 items at the new replacement cost of £15, would be needed. Thus, the entity profit would be:

	£
Closing capital in cash	180
less Amount necessary to replace 10 items at £15	150
Entity profit	30

However, in order to maintain the operating capital of the equity shareholders' interest in the entity, an amount of £90 rather than £150 would be needed. Shareholders were financing 60 per cent of the stock and 60 per cent of £150 is £90. Thus, the proprietary profit would be:

Net assets at end of period:	£
Cash	180
less Debentures	40
Equity interest	140
Amount necessary to maintain the equity interest in entity	90
Profit attributable to equity shareholders	50

The additional £20 of profit may be described as a gearing gain and represents the profit which accrued to the shareholders because the company borrowed money and invested it in stock which rose in value. It is therefore 40 per cent of the increase in the replacement cost of stock: $40\% \times (150 - 100)$.

If the gearing gain were distributed, the operating capital of the entity would fall, unless the debentures were increased to maintain the original gearing ratio of 40 per cent.

An extended illustration is provided in Example 4.1, in which the combinations of three different bases of valuation and three different concepts of capital maintenance are shown.

Example 4.1 Different profit concepts

In this example the three valuation bases used are historical cost (HC), replacement cost (RC) and net realisable value (NRV), and the three measures of capital maintenance are money financial capital, real financial capital and operating capital.

Suppose that a trader has an inventory consisting of 100 units at the start of the year (all of which were sold during the year) and 120 units at the end of the year, but has no other assets or liabilities.

Assume that the trader has neither withdrawn nor introduced capital during the period.

Suppose that the following prices prevailed:

Opening position (100 units)

Basis of valuation	Unit price £	Total capital £
Historical cost	10.00	1000
Replacement cost	11.00	1100
Net realisable value	11.50	1150

Closing position (120 units)

Basis of valuation	Unit price £	Total capital £
Historical cost	15.00	1800
Replacement cost	17.00	2040
Net realisable value	18.00	2160

In order to use the real financial capital approach it is necessary to know how a suitable general price index moved over the year. For illustrative purposes, we shall assume a high rate of inflation. We will assume that an index moved as follows:

	Index
Beginning of the year and date on which the opening inventory was purchased	100
Date on which the closing inventory was purchased	118
End of year	120

(a) Money financial capital

The opening money financial capital depends on the selected basis of asset valuation and profit is the difference between the value of the assets at the end of the period and the corresponding figure for opening money capital.

Basis of valuation	Closing value of assets £	Opening money capital £	Profit £
Historical cost	1800	1000	800
Replacement cost	2040	1100	940
Net realisable value	2160	1150	1010

(b) Real financial capital

(i) *Historical cost*. The closing inventory of £1800 (as measured by its historical cost) was acquired when the general price index was 118. The index has risen to 120 by the year end and thus the historical cost of inventory expressed in terms of pounds of year-end purchasing power is £1800 × 120/118 = £1831.

Opening money capital based on historical cost was £1000. The index stood at 100 at the beginning of the year and rose to 120 by the year end. Thus the real financial capital which has to be maintained is £1000 × 120/100 = £1200.

The profit derived from the combination of historical cost valuation and real financial capital is hence £1831 – £1200 = £631 (expressed in 'year-end pounds').

(ii) *Replacement cost*. As the replacement cost is a current value it is automatically expressed in year-end pounds and hence the closing value of inventory is £2040.

Opening money capital using replacement cost was £1100 which, expressed in year-end pounds, is equivalent to £1320 (£1100 × 120/100). The profit for this particular combination is thus £2040 – £1320 = £720.

(iii) *Net realisable value*. The argument is similar to that which was used above and the profit derived from a net realisable value/real financial capital concept combination is calculated as follows:

	£
Closing inventory at net realisable value (automatically expressed in pounds of year-end purchasing power)	2160
Opening money capital (based on net realisable value) restated in year-end pounds, £1150 × 120/100	1380
Profit	780

(c) Operating capital

In this simple example it can be seen that the wealth of the business has increased by 20 units and the only question is how the 20 units should be valued:

Basis of valuation		*Profit* £
Historical cost (using first in, first out)	20 × £15.00	300
Replacement cost	20 × £17.00	340
Net realisable value	20 × £18.00	360

The various profit figures are summarised in the following table:

	Capital maintenance concept		
Basis of valuation	*Money financial* £	*Real financial* £	*Operating capital* £
Historical cost	800	631	300
Replacement cost	940	720	340
Net realisable value	1010	780	360

The usefulness of different profit measures

In Example 4.1 nine different profit figures emerged. It is impossible to say that one of these is the 'correct' figure. They are all 'correct' in their own terms, although it may be argued that some of them are generally more useful than others. The different measures reflect reality in different ways. We will meet some of these measures later in this book in the context of the various proposals that have been made for accounting reform.

It might be useful if at this stage we examined a number (but by no means all) of the different objectives which are served by the preparation of financial statements and consider which of the different profit measures would appear to be the more useful in each case.

We will first discuss the question of whether a business should be allowed to continue in existence. For simplicity we will assume that the business is a sole proprietorship. Consider the profit figure of £780 derived from the combination of the net realisable value asset valuation method and real financial capital maintenance. This figure shows the potential increase in purchasing power which accrued to the owner of the business by virtue of his decision not to liquidate the business at the beginning of the year. Had he taken that option, the owner would have received £1150, which expressed in terms of year-end pounds amounts to £1380, i.e. he could at the beginning of the year purchase an 'average' combination of goods and services amounting to £1150 but it would cost £1380 to purchase the same quantity of goods and services at the end of the year. By allowing the business to continue, the owner has increased his wealth by £780 in that, should he liquidate the business at the end of the year, he would release purchasing power amounting to £2160. Now this analysis does not enable the owner to tell whether he was right to allow the business to continue in operation, but the figures do allow him to compare his increase in wealth with that which he would have achieved had he liquidated the business at the beginning of the year and invested his funds elsewhere. In the words of Edwards and Bell (see p. 645) the owner has been able to check in the market place his decision not to wind up the business.

But, of course, the past is dead and it is current decisions which are important, the decision to be taken in this case being whether or not the business should be liquidated at the end of the year. It would be naive to assume that the figure of past profit can be expected to continue in the future. However, the decision maker has to start somewhere and most people find it easier to think in incremental terms. With this approach the decision maker might say: 'In the conditions which prevailed last year I made a profit of £*x*. I accept that next year there will be a number of changes in the circumstances facing the business and I estimate that the effect of these changes will be to change my profit by £*y*.' It is clear that if this approach is adopted a profit figure related to the decision maker's objectives (in this case assumed to be the maximisation of the potential consumption) is a valuable input to the decision-making process.

Let us now consider the subject of taxation. A government might well take the view that a company should be able to maintain its productive capacity and that taxation should only be levied on any increase in the company's wealth as measured against that particular yardstick. In that case, one of the set of profit figures derived from the application of physical capital maintenance might be thought to be most suitable on the grounds that, to use the figures given in our example, if the company started the year with 100 units, then in order to maintain the productive capacity it should hold 100 units at the end of the year. The government would, if it took this view, wish to base its taxation levy on the physical increase of wealth of 20 units. Arguments for and against the use of one of the three members of the physical capital maintenance set could be deployed, but these will not be pursued at this stage. There are obviously severe practical difficulties in the use of the physical units approach where the company owns more than one type of asset and, as will be discussed later, other more practical methods have been used which allowed governments to apply a taxation policy which approximated to that postulated above.

Later in this chapter we will point out the limitations of the historical cost approach and, in fairness, we should now consider whether the profit derived from the traditional accounting system (historical cost asset values and money capital maintenance) could be said to be particularly apposite for any purpose. It is sometimes suggested that the traditional profit figure is of use in questions concerned with distribution policy, for, to quote Professor W.T. Baxter:

> The ordinary accounting concept has obvious merits; it is familiar and (inflation apart) cautious, and most of its figures are based on objective data; its widespread use has therefore been sensible where the decisions are about cash payments (e.g. tax and dividends), since it reduces the scope for bickering and the danger of paying out cash before the revenue has been realized.[11]

How do we choose?

We have identified nine different methods of measuring profit and one possible way forward would be to include in a company's annual financial statements a list of these different profit figures. However, if this is not considered practical, the question becomes which basis or bases is/are the most suitable for inclusion in published accounts. The reference to the plural 'bases' holds upon the possibility that it might be found desirable to include more than one profit concept in the financial statements.

A sensible approach to this question would be a consideration of the purposes for which a knowledge of a company's profits are used, which is in effect the consideration of the aims and objectives of published financial accounts. A very long list of such purposes can be provided, but it might be helpful if these were analysed under four different headings, i.e. control, consumption, taxation and valuation. It must, however, be recognised that the divisions between these headings are not watertight and that they share numerous common features.

The limitations of historical cost accounting

Later chapters of this book deal with the subject of current purchasing power and current value accounting and will, by implication, highlight some of the deficiencies of the traditional form of accounting, i.e. the historical cost basis of valuation and money financial capital maintenance.[12] It might, however, be helpful if by way of introduction we tested the traditional system against the objectives enumerated above.

Control

It is a widely held view that the prime objective of the preparation and publication of regular financial reporting is – so far as public limited companies are concerned – to provide a vehicle whereby the directors can account to the owners of the company on their *stewardship* of the resources entrusted to their charge. This involves providing shareholders with information about the progress of the company as well as details of the amounts paid to directors by way of remuneration. In theory shareholders can, when supplied with this information,

[11] W.T. Baxter, *Accounting Values and Inflation*, McGraw-Hill, London, 1975, p. 23. It may be strange to quote the words of one of the foremost advocates of current value accounting in support of historical cost accounting. However, Professor Baxter, on whose work this section of the book is largely based, was seeking to show that different profit concepts may be useful for different purposes.

[12] The weaknesses of the traditional accounting model are lucidly and concisely set out by the Accounting Standards Committee in *Accounting for the Effects of Changing Prices: a Handbook*, published in 1986, and by the Accounting Standards Board in its Discussion Paper, 'The Role of Valuation in Financial Reporting', published in 1993. See Chapters 19–21.

take certain steps to remedy the position if the information suggests that all is not well. One mechanism that is available to shareholders is to effect a change in directors, but in practice it is rare for shareholders directly to oust directors because of the publication of unfavourable results. This end might be achieved by the indirect process of a takeover, in that shareholders might accept an offer for their shares on the grounds that they believe that the new management will be more effective than existing management. An individual shareholder can, of course, achieve similar ends by selling his shares but in so doing he must compare what he considers to be the value of the shares with the existing management with the current market price (see the section on valuation later in this chapter).

The above discussion is based on the view that the directors need only account for their stewardship to their shareholders, but it has been suggested that the concept of stewardship should be extended – at least so far as large companies are concerned – to cover the need to report to the community at large. This view, propounded for example in *The Corporate Report*,[13] is based on the view that large companies control the use of significant proportions of a country's scarce resources and that, consequently, large companies should report to the community at large on the way in which the resources have been used. It will be realised that such a view does not attract the support of all business people and accountants, who might well be concerned with the nature of the control devices which might follow if this view were adopted. The pressure of public opinion might be an acceptable control device, but many would be concerned that this might not be regarded as being sufficiently strong and that recourse might be made to government intervention or 'interference' or, ultimately, nationalisation.

If stewardship is narrowly defined to cover simply the reporting by directors to shareholders of how they have used shareholders' funds, then it is possible to argue that historical cost accounting is reasonably adequate. A historical cost balance sheet lists the assets of the company and the claims by outsiders (liabilities) on the company; however it will not identify *all* the assets, as it will usually omit many intangible assets such as the skill and knowledge of the employees, degree of monopoly power, etc. The main point, however, is whether stewardship should be narrowly defined in the manner suggested above. If shareholders, and others, are to apply effective control they should be helped to form judgements about how well the directors have used the resources entrusted to them.

As we indicated earlier in the chapter there are a number of different possible approaches to the question of how one can measure how successful a company – and by implication its managers – has been over a period. At this stage it is perhaps sufficient to point out that historical cost accounting will not – except in the simplest of cases where a high proportion of a company's assets is made up of cash – be of much assistance. Historical cost accounts, in general, simply show the acquisition cost or the depreciated historical cost of a company's assets and not their current values, let alone the value of the company as a whole.

It is sometimes argued that, even if historical cost accounts do not provide an absolute measure of success, they can at least allow comparisons to be made between the quality of performance achieved by different companies. This statement is sometimes justified by arguments such as, 'Inflation affects all companies to more or less the same extent and therefore a comparison of profitability measured on a historical cost basis, e.g. rate of return on capital employed, enables a rough comparison to be made of relative success'.

Two points need to be made. The first concerns inflation. As will be shown, the problem is not just inflation – a general increase in prices or a fall in the value of money – but includes the treatment of changes in relative prices. For, even in an inflation-free economy, there will be

[13] Scope and Aims Committee of the Accounting Standards Steering Committee, *The Corporate Report*, Accounting Standards Steering Committee, London, 1975.

changes in individual prices. The limitations of historical cost accounting in the context of changes in relative prices can be seen by considering the following simple example.

Suppose that two companies start operations as commodity dealers, in an inflation-free environment, with £1000 each. Company A spent its £1000 on commodity A while Company B invested its £1000 in commodity B. Assume that neither company bought or sold any units during the period and that over the period the market value[14] of commodity A increased by 2 per cent and commodity B increased by 20 per cent. Historical cost accounts will not show that Company B performed better in the sense that it chose to invest in a commodity which experienced a greater increase in value.

The second point which should be made about the argument advanced above is that it is not true that inflation affects all companies to more or less the same extent. This point will be developed later when we will show that price changes (both general and relative) affect different companies in very different ways and that it is in fact the case that historical cost accounts are most unhelpful when it comes to the comparison of performance.

Consumption

Probably one of the most important uses of the profit figure is in determining the amount of any increment of wealth which is available for distribution and how it should be shared between the various groups entitled to share in such a distribution, i.e. the different classes of shareholders, the directors and employees (either directly through profit-sharing schemes or indirectly through wage claims) and the community through taxation. There are what might be called 'legal' and 'economic' aspects to this question. Company law requires that dividends may only be paid out of profits, and tax law specifies the amount of taxation which has to be paid; however, subject to these constraints, plus any other legal limitations arising from such things as profit-sharing agreements, it is for the directors to make economic judgements about the level of dividends and, again subject to numerous institutional and possible legal constraints, the level of wages. Empirical evidence suggests that companies' dividends are related to the level of reported profit. It is also safe to suggest that sole traders and partners act in a similar fashion in that, when deciding on the level of their drawings, they will be influenced by the profits of their businesses.

The concept of capital maintenance based on historical cost accounting principles has, in periods of anything but modest price changes, proved to be a dangerous benchmark when used to assess the amount which a company can pay out by way of dividend or through taxation. For example, the maintenance of money financial capital is not, except in the simplest of cases, the same as the maintenance of the company's productive capacity. The point is an obvious one, for we could visualise a company which started business with £10 000 which it invested in 1000 units of stock. If the price of the stock increases and if the whole of the company's historical cost profit is taxed or consumed away, its money financial capital will be maintained, but it is clear that the company will have to reduce the physical quantity of stock.

It should be recognised that there is a great deal of difference between using the capital maintenance approach as a benchmark to measure profit and requiring companies to maintain their capital. Presumably distribution decisions should be made on the basis of consumption needs and perceived future investment opportunities inside and outside the company, and in many cases it would be sensible not to restrict distributions to profits. It is

[14] For simplicity we will ignore transaction costs and assume, in the case of both commodities, that there is no difference between the commodities' replacement costs and net realisable values.

necessary that company law should attempt to provide a measure of protection to creditors, but this should not be done in an inflexible way.[15]

It will be argued in later chapters that there is a need to devise a measure of profit that will provide a signal that if more than the amount of profit is consumed or taxed away then the substance of the business – however that may be defined – will be eroded. However, this is not to say that the substance of the business should never be reduced by way of dividend: in other words, a partial liquidation of the business might in certain circumstances be beneficial to shareholders without being detrimental to the interests of creditors and employees.

Taxation

In the UK, as in many other countries, a company's tax charge is based on its accounting profit, although some adjustments will usually have to be made to that profit in order to compute the profit subject to taxation. The general rule is, however, clear: the higher the accounting profit, the higher, all other things being equal, the amount that will be paid in tax.

For reasons similar to those discussed in the above section on consumption, the traditional accounting system does not constitute a suitable basis for the computation of the taxation obligations of businesses. This view depends on the not unreasonable assumption that governments would wish companies to be at least able to maintain the substance of their businesses. As we have shown, it is possible for historical cost accounting to generate a profit figure even when there has been a decline in the productive capacity of the business or, in less extreme cases, the reported profit might far exceed the growth in the company's productive capacity. Thus the use of historical cost accounting as the basis for taxation means that in periods of rising prices the proportion of the increase in a company's wealth which is taken by taxation may be very much larger than that which is implied by the nominal rate of taxation. In extreme cases taxation might be payable even where there has been a decline in the productive capacity of the business.

The rapid and extreme inflation of the mid-1970s made governments and others very much aware of the inadequacy of historical cost accounting for the purposes of taxation. Special measures were enacted which allowed businesses some relief against taxation for the impact of increasing prices, namely stock appreciation relief[16] and accelerated capital allowances. In contrast, financial accounting practice remained and remains essentially rooted in the traditional model of historical cost valuation combined with money financial capital maintenance, although, as described later in this book, the debate on possible reforms continues.

Valuation

The information contained in a company's financial statements is a significant, but not the sole, input to decisions concerning the valuation of a business or of a share in a business. At this stage it is perhaps sufficient to point out that the value of any asset, including a business or a share, depends on the economic benefits which are expected to flow to the asset's owner. It requires neither much space nor forceful argument to suggest that a knowledge of the historical cost of a company's assets will not be of much help in assessing the value of a

[15] Current legal practice regarding distributable profit is outlined in the next section of this chapter.

[16] Stock appreciation relief was a means of mitigating the extent to which companies had to pay tax on illusory profits arising from the increase in the replacement cost of stock during the periods in which they were held.

company or of its shares. Indeed, it was never the view of accountants that historical cost accounts should be used in this way. However, this view has never fully been accepted by the users of accounts, who have, understandably from their point of view, believed that the information provided by a company's accounts should help them form judgements concerning valuation. In fact the case for accounting reform does not rest simply on the existence of inflation, which still appears to be a permanent feature of our economy, but on the recognition that the wish of users to be supplied with information which will help them assess the value of companies and shares therein is a legitimate demand and one which will be better served by accounts based on current value principles than by historical cost accounts.

Interim summary

So far in this chapter, we have considered the meaning of profit and have shown that there are very many ways of measuring this elusive concept. These depend essentially on the choice made regarding the basis of asset valuation and the aspect of capital which is to be maintained. We have also discussed the limitations of historical cost accounting when tested against the more important purposes which a 'reasonable person' might expect financial accounts to serve. In Part 3 of the book, we will consider in some detail a number of the more important accounting models which have been developed and used in practice. But before doing so, we will turn our attention briefly to the subject of distributable profits.

Distributable profits

Because the liability of its shareholders is limited to the amount which they have paid or agreed to pay in respect of their shares, creditors of a failed limited company will normally only have recourse to the assets of the company itself. The assets representing the share capital, and any other reserves which are treated as being similar to share capital, may be seen as a buffer or cushion which provides some protection to creditors in the event of a failure. If a company were permitted to use its assets to repay this 'permanent' capital, the buffer would be reduced or disappear entirely with the result that the creditors' position would be more risky.

Although the law cannot prevent companies from reducing their 'permanent' capital by making losses, it does attempt to restrict the reduction of capital in other circumstances and, where a reduction of capital is permitted, it is strictly regulated. One way in which the law achieves its aim is by restricting payments of dividends to the distributable profits of the company. Another way is by the regulation of any transactions involving the purchase or redemption of a company's own shares and of any capital reduction or reorganisation schemes. We look at the former here and the latter in Chapter 18.

It has long been the case that dividends can only be paid out of profits but, surprisingly, until the passage of the Companies Act 1980, statute law offered no guidance on what constituted profits available for distribution. There were a number of leading cases, some of which were distinguished by their age rather than their economic rationale, which combined to produce some rather odd and confusing results.[17]

[17] Interested readers are referred to E.A. French, 'Evolution of the Dividend Law of England', in *Studies in Accounting*, W.T. Baxter and S. Davidson (eds), ICAEW, London, 1977.

The implementation of the Second and Fourth EU Directives necessitated the inclusion of provisions relating to distributable profits in UK statute law and, as a result, the Companies Act 1985 contains the following definition:

> **. . . a company's profits available for distribution are its accumulated, realised profits, so far as not previously utilised by distribution or capitalisation, less its accumulated, realised losses, so far as not previously written off in a reduction or reorganisation of capital duly made.[18]**

The above represents the only legal requirement placed on private companies, but additional rules apply to public companies and investment companies.

A public company may not pay a dividend which would reduce the amount of its net assets below the aggregate of its called-up share capital plus its undistributable reserves.[19] For this purpose the Act defines undistributable reserves as:

(a) the share premium account;
(b) the capital redemption reserve;
(c) excess of accumulated unrealised profits over accumulated unrealised losses (to the extent that these have not been previously capitalised or written off);
(d) any other reserve which the company may not distribute.

Before turning to the special case of investment companies we will discuss the implications of the above for public and private companies. Note that no distinction is made between revenue and capital profits, both are distributable; the key element is whether the profits have been *realised*, a term which will be discussed in further detail below.

A private company may, legally, pay a dividend equal to the accumulated balance of realised profits less realised losses, irrespective of the existence of unrealised losses. In contrast, the effect of the 'net asset rule' or 'capital maintenance rule' imposed on public companies is to require such a company to cover any net unrealised losses.

Thus, suppose a company's balance sheet is as given below:

	£	£
Share capital		50
Share premium		25
Unrealised profits	20	
Unrealised losses	(35)	(15)
Realised profits less realised losses		40
Net assets		100

If the concern were a private company it could pay a dividend of £40, but if it were a public company the maximum possible dividend would, because of the net asset rule, be restricted as follows:

	£	£
Net assets		100
less Share capital and undistributable reserves		
Share capital	50	
Share premium	25	
Excess of unrealised profits over unrealised losses[20]	0	75
Maximum dividend payable by public company		25

[18] Companies Act 1985, s. 263(3).
[19] Companies Act 1985, s. 264(1).
[20] Note that the excess of unrealised profits over unrealised losses is zero rather than the 'mathematical' excess of minus 15.

The effect of the net asset rule is to reduce the possible dividend by the net unrealised losses:

	£
Realised profits less realised losses	40
less Excess of unrealised losses over unrealised profits	15
Maximum dividend	25

Given the general bias in accounting to treat losses and provisions as being realised, it should be appreciated that unrealised losses are likely to be rare in practice. As we shall see later in the chapter, one of the few examples is a loss recognised on the reversal of a previously recognised unrealised gain.

An investment company is a listed public company whose business consists of investing its funds in securities with the intention of spreading the risk and giving its shareholders the benefits of the results of its management of funds. Such a company can, if it satisfies a number of conditions,[21] including a prohibition on the distribution of capital profits, give notice to the Registrar of Companies of its intention to be regarded as an investment company.

Except for the fact that it may not distribute capital profits, an investment company may calculate its maximum dividend on the same basis as any other public company. However, it is afforded greater flexibility by s. 265 of the Companies Act 1985 which provides an alternative method of calculating the maximum dividend payable. An investment company can, subject to a number of conditions, pay a dividend equal to the amount of its accumulated realised revenue profits less its accumulated revenue losses (both realised and unrealised). Thus, it may ignore any capital losses subject to the restriction that, after the payment of the dividend, the company's assets must be equal to or greater than one-and-a-half times its liabilities. Thus, if an investment company wishes to take advantage of the provision in s. 265 of not restricting its dividend by virtue of the existence of capital losses, it must apply this 'asset ratio test'.

It should be noted that the asset ratio test will be affected by the way in which it is proposed to fund the dividend, in that the result will depend on whether the dividend will reduce assets (if paid out of a positive cash balance) or increase liabilities (if paid from an overdraft). Suppose, for example, that an investment company has assets of £1200 and liabilities of £600. Then the maximum dividend on each basis will be:

(a) Dividend paid out of cash (i.e. liabilities held constant)

	Initial position £	*After dividend* £	*Maximum dividend* £
Assets	1200	900(3)	300
Liabilities	600	600(2)	

(b) Dividends paid out of an overdraft (assets held constant)

	Initial position £	*After dividend* £	*Maximum dividend* £
Assets	1200	1200(3)	
Liabilities	600	800(2)	200

[21] For a detailed list of conditions readers should refer to the Companies Act 1985, s. 266.

The various provisions outlined above are summarised in Table 4.1 and illustrated in Example 4.2.

Table 4.1 Tests for maximum dividend

Type of company	*Test*
Private	The dividend must not exceed accumulated realised profits less accumulated realised losses.
Public (other than investment companies)	The dividend must not exceed accumulated realised profits less accumulated realised losses, less accumulated net unrealised losses.
Investment companies	The maximum dividend is the higher of: (a) the amount derived from the above rule applicable to all public companies with the modification that realised capital profits must be excluded; and (b) the amount of accumulated realised revenue profits less accumulated revenue losses, both realised and unrealised, provided that, after payment of the dividend, assets are equal to at least one and a half times the liabilities.

Example 4.2

The balance sheet of Company A is summarised below:

	£	£
Total assets		4000
less Total liabilities		1000
		3000
Share capital		200
Share premium account		800
Unrealised profits		
Revenue	100	
Capital	200	300
Unrealised losses		
Revenue	(200)	
Capital	(800)	(1000)
Realised profits less realised losses		
Revenue	2300	
Capital	400	2700
		3000

We will now work out the maximum dividend on the assumption that Company A is (a) a private limited company, (b) a public limited company and (c) an investment company.

(a) Private company

For such a company, the maximum dividend is the accumulated net realised profits, that is £2700.

(b) Public company

The public company is subject to the capital maintenance rule that, after distribution, the net assets must equal the share capital plus undistributable reserves. In this case the undistributable reserves comprise only the share premium account, for the excess of unrealised profits over unrealised losses is zero. Hence, the maximum dividend is given by:

	£	£
Net assets		3000
less Share capital	200	
Share premium	800	1000
Maximum dividend		2000

In the case of the public company, the maximum dividend of the private company (£2700) has been reduced by the net unrealised losses of £700. (Unrealised losses £1000 less unrealised profits £300.)

(c) Investment company

By definition, an investment company must not distribute its capital profits. Hence our starting point must be realised revenue profits of £2300 subject, however, to the capital maintenance rule. Under this rule, the maximum dividend would be £2000 as for the public company in (b) above.

Using the alternative method allowed by s. 265, the maximum dividend is the excess of the realised revenue profits over net unrealised revenue losses, i.e. £2300 – (200 – 100) = £2200, subject to the application of the asset ratio test.

(i) If a dividend of £2200 were paid in cash, total assets would fall from £4000 to £1800, which is more than 1.5 times the liabilities of £1000.
(ii) If the dividend of £2200 was paid by overdraft, liabilities would increase to £3200, which would require asset cover of 1.5 × £3200 = £4800, i.e. more than the existing assets of £4000.

Hence the maximum dividend is £2200, but only if such a payment did not increase the liabilities. The lower limit of the maximum dividend is £2000 (as this can be justified on the alternative capital maintenance rule) while a dividend of between £2000 and £2200 would be possible if only a proportion of the dividend was paid out of an overdraft.

Realised profits

It is clear from the above discussion that the most important task in determining a company's distributable profits is deciding what constitutes its realised profits less losses.[22] Given the importance of the term, we might expect the Companies Acts to provide us with a comprehensive definition, but we would be extremely disappointed.

The Companies Acts provide both specific and general guidance; although the specific guidance is helpful, the general guidance is much less helpful. Let us look at the more detailed guidance first.

[22] This section on realised profits draws heavily on the ICAEW research paper, B.V. Carsberg and C.W. Noke, *The Reporting of Profits and the Concept of Realisation*, ICAEW, 1989. Interested readers are also referred to the Draft Technical Release (TECH 25/00), *The determination of realised profits and distributable profits in the context of the Companies Act 1985*, ICAEW and ICAS, 2000, although, for reasons explained later in this section, this draft is unlikely to be developed any further.

Section 275 of the Companies Act 1985 states that provisions are realised losses except for a provision made in respect of a fall in value of a fixed asset appearing on a revaluation of all the fixed assets of the company, whether including or excluding goodwill. This rather strange statement appears to mean that a fall in the value of one fixed asset may be treated as unrealised provided the aggregate value of fixed assets exceeds their aggregate net book value, thus taking a portfolio approach to fixed assets not often found in accounting. For this purpose, directors merely have to consider the values of all fixed assets and do not have to recognise those values in the financial statements although disclosure of what has been done is required. In the absence of such a general revaluation of fixed assets, a reduction in a previously unrealised profit would be treated as an unrealised loss unless the reduction is such that the revised value falls below the depreciated historical cost of the asset; in the latter case, the difference between the revised value and the depreciated historical cost is regarded as being a realised loss.

The Act also provides that where a fixed asset is revalued and depreciation is subsequently based on the revalued amount, the excess of depreciation based on the revalued amount over depreciation based on historical cost is to be treated as a realised profit. Thus the unrealised profit on revaluation is gradually converted into realised profit over the remaining useful life of the asset. Put another way, whatever is done in the profit and loss account, it is necessary only to charge depreciation based on historical cost in arriving at the realised profits of a company.

To give an example of such depreciation, let us suppose that a company purchased a fixed asset for £50 000 when its expected useful life was ten years and its expected residual value was zero. Using the straight line method of depreciation, the annual charge would be £5000 and, after four years, the net book value would be £30 000. If, after these four years, the asset were revalued to £42 000, there would be an unrealised revaluation surplus of £12 000, that is £42 000 less £30 000. The future annual depreciation charge in accordance with FRS 15 *Tangible Fixed Assets*, would normally be £42 000 ÷ 6 = £7000.

The excess of the revised depreciation charge of £7000 over historical cost depreciation of £5000 will then be treated as realised profits of the company year by year for the purpose of determining its distributable profits. Thus, by the end of the ensuing six years, the original unrealised revaluation surplus of £12 000 will have been regarded as realised and hence distributable.

Quite clearly the realised profits of a company may be a different figure from the balance on its profit and loss account!

Let us turn next to the more general guidance provided by the law. As a consequence of Companies Act 1989, the Companies Act 1985, s. 275 now contains the following definition:

> **References . . . to 'realised profits' and 'realised losses', in relation to a company's accounts, are to such profits or losses of the company as fall to be treated as realised in accordance with principles generally accepted, at the time when the accounts are prepared, with respect to the determination for accounting purposes of realised profits or losses.**

This hardly provides an adequate definition of realised profits. Rather it leaves the definition of realised profits to accountants, subject, of course, to the need for judicial interpretation in the courts if the accountants' methods are challenged. For reasons which we discuss below, accounting standard setters have found it extremely difficult to provide a satisfactory definition of realised profits.

A basic problem is that the definition includes reference, not to generally accepted accounting principles, but to 'principles generally accepted with respect to the determination for accounting purposes of realised profits'. There is some considerable doubt over whether such principles actually exist. Accounting principles have been primarily concerned with a different objective, namely providing a true and fair view of a company's position and

results. In attempting to achieve such an objective, accountants have been more concerned with the recognition of profit than with whether it is realised or distributable.

Paragraph 12 of Schedule 4 to Companies Act 1985 further complicates matters by stating that:

> The amount of any item shall be determined on a prudent basis, and in particular:
>
> (a) only profits realised at the balance sheet date shall be included in the profit and loss account.

Many accountants see this as providing an undesirable constraint on the development of more informative accounting.[23] Indeed the ASC invoked the true and fair override to avoid the requirement to comply with the above principle in cases where it was thought to be inappropriate. One example is the treatment of exchange gains on foreign currency loans outstanding on a balance sheet date, which we discuss in Chapter 16.

Given the above position, it is perhaps not surprising to find little guidance on how to determine realised profits. One source of guidance was the ICAEW Technical Release 481, issued in 1982, which came to the conclusion that:

> A profit which is required by SSAPs to be recognised in the profit and loss account should normally be treated as a realised profit, unless the SSAP specifically indicates that it should be treated as unrealised.

Although this might have seemed an attractive way forward, it does seem to be a rather suspect interpretation of the law. Indeed, it appears to be somewhat close to a tautology: a profit and loss account must only include realised profits but, by definition, whatever an accountant puts in the profit and loss account is realised!

Given the above difficulties, the ASC requested the Research Board of the ICAEW to commission a study, and the resulting paper 'The Reporting of Profits and the Concept of Realisation', by B.V. Carsberg and C.W. Noke, was published in 1989. If the ASC was expecting guidance on what was and what was not a realised profit, it must have been extremely disappointed. Carsberg and Noke identified six different meanings of realisation which have been used.

We shall focus on just two of these possible concepts of realisation. The narrower of the two is that which was embodied in the definition of prudence contained in the now withdrawn SSAP 2:[24]

> **revenue and profits are not anticipated, but are recognised by inclusion in the profit and loss account only when realised in the form either of cash or of other assets the ultimate cash realisation of which can be assessed with reasonable certainty; provision is made for all known liabilities (expenses and losses) whether the amount of these is known with certainty or is a best estimate in the light of the information available. (Para. 14)**

This concept concentrates on the reasonable certainty of the ultimate receipt of cash. Clearly realisation has occurred if cash has been received but realisation is also deemed to occur if certain types of assets, such as debtors, are held which are reasonably certain to be turned into cash.

The wider concept regards profit as realised if it can be assessed with reasonable certainty. Thus, it considers the main purpose of the concept as being to ensure reliability of measurement.

[23] See, for example, 'The ASC in chains: whither self-regulation now?', Professor David P. Tweedie, *Accountancy*, March 1983, pp. 112–20. This article was written many years before David Tweedie became Chairman of the Accounting Standards Board in 1990.

[24] As explained in Chapter 2, SSAP 2 *Disclosure of Accounting Policies* (November 1971) has now been replaced by FRS 18 *Accounting Policies* (December 2000).

Readers may find the distinction between these two concepts difficult to grasp so it is perhaps helpful to look at some examples.

Where a company makes a cash sale, there is no doubt that the profit is realised under either concept. Similarly, where a sale is made on credit, the profit is treated as realised subject to the possible need for a provision for doubtful debts. The creation of the debt payable in the short term provides evidence of the ultimate cash proceeds and also provides a reliable measure of the profits.

Let us think next of an investment in a listed security which increases in price during a period. Under the narrower concept of realisation, profit would not be considered realised because the ultimate cash proceeds at some unspecified time in the future cannot be assessed with reasonable certainty. However, under the wider concept, profit would be treated as realised because the listed price of the share on the balance sheet date provides reliable evidence that a profit has been made. Conventionally accountants would adopt the narrower concept and would treat the holding gain as unrealised.

When we turn to foreign exchange gains on unsettled short-term debtors and creditors, we find that SSAP 20 requires that such gains be taken to the profit and loss account as realised profits. Under the narrower concept of realisation, these would not be treated as realised profits in view of the fact that the exchange rate may reverse between the balance sheet date and the date of receipt or payment. However, under the wider concept, there is reliable evidence, in the form of a published exchange rate, for the fact that a profit has been made. It is true that this may be reversed in the subsequent period but that will be a matter for the subsequent period. Here the ASC appears to have adopted the wider concept of realisation, although, interestingly, the adoption of this wider concept is not applied to the treatment of exchange gains on unsettled long-term monetary items, for here the gains are specifically described as unrealised.[25]

We hope that these examples provide an indication of the lack of consistency in defining realised profits in practice. In order to provide some consistency, Carsberg and Noke recommended that the standard setters should prepare a statement defining realisation and, in their view, the definition should be framed in terms of the reliability of measurement. Instead of attempting to define or redefine realisation, the ASB has taken a rather different approach in the development of its *Statement of Principles*. As we have seen in Chapter 1, it has developed recognition criteria which do not depend upon realisation; we shall return to this below.

Do the provisions make sense?

It is possible to question the philosophy on which the law of distributable profits is based and to press for changes to that law. Why, after all, should dividends be restricted to distributable profits defined in terms of realisation?[26]

Let us approach the question in two stages. First, why should dividends be restricted to profits and, second, if such a restriction is to apply, why should it relate to realised profits?

If a company's directors are acting in the interests of its shareholders then the decision on whether or not a distribution is made should depend on the rates of return available to

[25] See Chapter 16, pp. 480–3.

[26] The ideas which follow may be explored in E.A. French, 'Evolution of the dividend law of England', in *Studies in Accounting*, W.T. Baxter and S. Davidson (eds), ICAEW, London, 1977, and D.A. Egginton, 'Distributable profit and the pursuit of prudence', *Accounting and Business Research*, No. 41, Winter 1980.

shareholders outside the company, compared with the rates of return available within the company. If the company has inferior investment opportunities to those of the shareholders, then the restriction of a dividend to the distributable profits of the company would lead to an inefficient allocation of economic resources. The position of creditors needs to be considered and there is a case for protecting the 'buffer' available to creditors. In practice it is likely that the buffer will only be of relevance if the company goes into liquidation or substantially reduces its scale of operations. In such circumstances the real protection for creditors is the amount which will be realised from the sale of assets. In the case of some assets, especially current assets, realisable values may be well in excess of book values, but in the case of many fixed assets, particularly of a failed company, book value might exceed net realisable value. Hence, it might be argued that the test that should be applied is to specify that after distribution the realisable value of the company's assets exceed, possibly by a safety margin, the amounts due to creditors.

Even if we accept that dividends should be restricted to profits, why should the distribution be limited to realised profits?

It is sometimes argued that if a gain is realised, then the money is available to pay the dividend without the need to consider asset valuation. However, as Professor Egginton has pointed out, the argument has two weaknesses, one damaging and the other fatal! The damaging weakness is that conventional accounting often treats profits as realised well before cash is received. The fatal weakness is that even when profits have been received in cash, this cash will usually have been converted into other assets long before any dividends are paid. Hence, whether profits have been received or not, there is no guarantee that cash is available.

This is an area of the law which includes a number of poorly thought-out rules based on dubious reasoning, and accountants are forced to operate within an extremely unhelpful framework. It is of some consolation that in the vast majority of cases the limiting factor in determining a dividend is not the availability of distributable profits but the availability of cash and the alternative uses to which it may be put!

The ASB approach

According to the present law, only profits realised at a balance sheet date may be included in a profit and loss account. However, given the difficulties which we have discussed above, it is not surprising that the ASB has found the concept of realisation a poor test of whether or not a gain or loss should be recognised in financial statements. As we have explained in Chapter 1, the ASB *Statement of Principles*[27] is drawn up ignoring the realisation constraint as well as other constraints imposed by the law.

The *Statement of Principles* contains recognition criteria which are based upon the reasonable certainty that an asset or liability exists and whether it can be measured with sufficient reliability. This would achieve the purpose intended by the recommendation in the report by Carsberg and Noke, discussed above, but in a rather different way. In the view of the authors, this attempt to separate recognition from realisation makes good sense.

The ASB anticipates that its approach will lead to changes in company law and this now seems likely following the publication of the White Paper *Modernising Company Law* in July 2002.[28] This White Paper makes an enormous number of proposals for change of which two are pertinent here.

[27] *Statement of Principles for Financial Reporting*, ASB, London, December 1999.

[28] *Modernising Company Law*, Cm. 5553-I and Cm 5553–II, Draft clauses of Companies Bill, July 2002. The White Paper is available from the Modernising Company Law pages of the Department of Trade and Industry website at **www.dti.gov.uk/companiesbill**.

First, as we have seen in Chapter 2, the White Paper proposes that the next Companies Act will not contain detailed rules on the form and contents of annual financial statements and reports. Rather power to make these detailed rules will be delegated to a Standards Board, modelled on the present ASB but with a wider remit. This delegation will permit the new Standards Board to make the rules for what is or is not to be recognised in a company's performance statement and its rules will undoubtedly make no reference to realisation as a criteria for recognition.

Second, the White Paper proposes:

> the revision of the distribution rules to clarify what is a 'distribution', replacing the common law rules in the area with a complete codification, and enabling the delegation of some of the more technical accounting provisions to the proposed Standards Board.[29]

Although many draft clauses of a Companies Bill were published in July 2002,[30] unfortunately no definition of distribution or draft clauses on this topic are provided to help us to see how the new law is likely to develop.

Changes in company law inevitably involve a long gestation period and it has to be recognised that the approach taken by the ASB is likely to lead to all manner of difficulties and possible confusion until a new Companies Act is enacted. While it was possible to ignore the constraints imposed by law in drawing up the *Statement of Principles* it is not possible to do so in drafting accounting standards and the ASB is only too well aware that some parts of its accounting standards are in conflict with its own *Statement of Principles*.

Summary

In this chapter, we have first looked at the economic concept of profit and explored different ways of measuring it. These involve first measuring the wealth or well-offness of a company at the beginning and end of an accounting period and then comparing these two amounts with the aid of a capital maintenance concept. Although wealth could be measured in respect of the business as a whole, it is more likely to be determined as the sum of the values of the individually identified assets and liabilities. Using this approach, possible measurement bases for assets include historical cost, replacement cost, net realisable value and present value. When prices are changing, comparison of the opening and closing wealth requires the selection of a capital maintenance concept, the three main candidates for which are money financial capital maintenance, real financial capital maintenance and operating capital maintenance. We have examined briefly the usefulness of the different profit measures which result, and, in particular, the limitations of the traditional historical cost/money capital maintenance approach to the measurement of profit.

We have also examined the legal definition of distributable profits, the amounts which may be paid out to the shareholders of a limited company, and the related, but rather unhelpful, legal definition of realised profits, which have developed over the past century, largely as part of the common law. Under present company law, only realised profits may be included in a profit and loss account and, as we have seen in Chapter 1, this legal restriction has been hampering the ASB in its attempts to reform financial reporting. Fortunately, the Government White Paper *Modernising Company Law*, issued in July 2002, proposes that the

[29] *Ibid.*, Cm. 5553-I, Part II, Chapter 6, para. 6.5.
[30] *Ibid.*, Cm. 5553-II, Companies Bill – Draft clauses.

next Companies Act will delegate the making of detailed rules on the form and content of company accounts to a new Standards Board, a successor to the ASB but with a somewhat wider remit. It also proposes that the new Act will include changes to the distribution rules, which will replace the common law rules with a complete codification.

Recommended reading

B.V. Carsberg and C.W. Noke, *The Reporting of Profits and the Concept of Realisatio*n, ICAEW, London, 1989.

R.H. Parker, G.C. Harcourt and G. Whittington (eds), *Readings in the Concept and Measurement of Income*, 2nd edn, Philip Allan, Oxford, 1986.

A useful website

www.dti.gov.uk/companiesbill

Questions

4.1 Some commentators on financial reporting practices argue that financial statements produced under the historic cost convention do not provide relevant information to users of those statements in times of rising prices.

Requirements

(a) **Identify the main limitations of historic cost accounting, explaining the nature of those limitations.** (5 marks)

(b) **Discuss how the use of other capital maintenance concepts to that applied under historic cost accounting might provide more useful information to users of financial statements.** (5 marks)

ICAEW, Financial Reporting, May 1995 **(10 marks)**

4.2 (a) **Give a brief summary of the current value replacement cost accounting system (entry values).** (6 marks)

(b) **Give a brief summary of the current value net realisable value accounting system (exit values).** (6 marks)

(c) **To what extent do you consider it would be useful to prepare financial statements which used entry values for the profit and loss account and exit values for the balance sheet and why?** (8 marks)

ACCA Level 2, The Regulatory Framework of Accounting, December 1989 **(20 marks)**

4.3 Three unrelated companies, Tower plc (a public company), Book Ltd (a private company) and Holdings plc (a quoted investment company) have summarised balance sheets, as on 30 June 1985, as set out below with relevant additional information.

(a) Tower plc

	£m		£m
Share capital	2.0	Fixed assets	3.3
Share premium account	0.5		
Revaluation reserves	1.0	Net current assets	2.7
Profit and loss account	2.5		
	6.0		6.0

(1) A partial revaluation of fixed assets took place during the year with the following result:

	£m
Surplus on land	0.65
Surplus on buildings	0.35
Surplus on plant and machinery	0.10
Deficit on fixtures and fittings	(0.10)
	1.00

The directors consider that the value of the remaining fixed assets not revalued is equal to their net book amounts.

(2) Depreciation is provided at 2% on buildings, 15% on plant and machinery, and 20% on fixtures and fittings. All fixed assets are depreciated for the full year on the cost or revalued amounts.

(3) Fixed assets comprise:

	£m
Land	1.2
Buildings	0.8
Plant and machinery	0.8
Fixtures and fittings	0.3
Development costs	0.2
	3.3

(b) Book Ltd – Current Cost Balance Sheet

	£000		£000	£000
Share capital	45	Fixed assets		50
Current cost reserve	40	Investment in Worm Ltd		40
Retained profit	55	Current assets		
		Stock	10	
		Long-term work-in-progress	30	
			40	
		Cash	10	50
	140			140

(1) No provision has yet been made for the losses of the subsidiary, Worm Ltd. It is estimated that the net assets of Worm Ltd in which Book Ltd has an interest of 60% are £50 000.

(2) The current cost reserve comprises:

	£000
CCA adjustments passed through profit and loss account	13
Uplift of fixed assets to CCA values	27
	40

(3) Long-term work-in-progress includes a profit element of £6000 calculated in accordance with SSAP 9.

(c) Holdings plc

	£000		£000	£000
Share capital	650	Fixed assets		
Share premium	325	Tangible		20
Reserves	4 380	Investments		5 647
		Current assets		
		Debtors	98	
		Investments	2 436	
		Cash	147	
			2 681	
		Creditors falling due within 1 year	1 793	888
				6 555
		Creditors falling due in more than 1 year		(936)
		Provisions		(264)
	5 355			5 355

Reserves consist of:

	£000
Unrealised capital losses	(48)
Unrealised revenue profits	140
Unrealised revenue losses	(17)
Realised capital profits	2 890
Realised capital losses	(1 241)
Realised revenue profits	2 666
Realised revenue losses	(10)
	4 380

Requirements

(a) State concisely, for each of the three types of company mentioned, the principles for calculating distributable profits under the Companies Act 1980 (now part of the Companies Act 1985). (5 marks)

(b) Calculate for each of the three companies the maximum legally distributable profits. (7 marks)

(c) Discuss the reasons why it is not normally commercially or practically desirable to make the maximum distribution. (7 marks)

ICAEW, Financial Accounting II, December 1985 **(19 marks)**

4.4 The balance sheet of Omega as at 30 September 1992 contained the following balances and notes:

		£000
Share capital		10 000
Reserves:		
Share premium	*Note 1*	1 000
Revaluation reserve	*Note 2*	1 780
Other Reserves:		
Merger reserve	*Note 3*	550
Profit and loss account – 1992	*Note 4*	1 940
Profit and loss account b/f		(200)
Capital and reserves		15 070
Liabilities		15 070
Total assets		30 140

Note 1 The share premium arose on the issue of shares on 1 October 1989.

Note 2 The revaluation reserve arose as a result of a revaluation of certain of the fixed assets on 1 October 1991. It comprises a gain of £2 000 000 on the revaluation of plant and machinery, which is the balance remaining after the transfer to the profit and loss account of £200 000 representing the depreciation on the revaluation surplus; and a loss of £220 000 arising from the revaluation of office premises. The directors propose to revalue the remaining fixed assets which currently appear at historic cost in a subsequent financial year.

Note 3 The merger reserve represented the premium of £1 450 000 on shares issued on the acquisition on 1 October 1991 of a subsidiary, Alpha plc, in accordance with the merger provisions of the Companies Act 1985 less goodwill of £900 000 arising on a separate transaction. The goodwill has an estimated useful economic life of 15 years.

Note 4 The profit and loss account balance is the balance after:

(i) Writing off the total acquisition goodwill of £400 000 arising on the acquisition on 1 October 1991 of an unincorporated business carried on by Beta Associates. The estimated useful economic life of the goodwill is 10 years.
(ii) Creating a provision of £1 200 000 representing a permanent diminution in the value of a subsidiary, Gamma plc.
(iii) The transfer of the £200 000 mentioned in Note 2 from the revaluation reserve to the profit and loss account representing the amount by which the total depreciation charge for the year exceeded the amount that would have been provided if the plant had not been revalued.
(iv) Crediting an exchange gain of £38 000 that arose on the translation of a long-term loan taken out in French francs on 1 October 1991. The loan was taken out to use in the United Kingdom because the interest rate was favourable at the date the loan was raised.

Required

(a) Calculate the amount of distributable profit for Omega on the basis that it is:
(i) A public company.
(ii) An investment company. (10 marks)

(b) Explain briefly:
(i) The disclosure requirements relating to distributable profits in a single company and group context.

(ii) The effect on the distributable profits of the holding company if the group has sufficient distributable profits in aggregate to make a distribution to the holding company's shareholders but the holding company itself has insufficient distributable profits.

(iii) The effect on the distributable profits of the holding company if the holding company has sold one subsidiary company to another subsidiary for a consideration that exceeds the carrying value of the investment in the holding company's accounts.

(iv) The effect on the distributable profits of the holding company if a subsidiary company which has a coterminous accounting period declares a dividend after the end of the holding company's year end. (10 marks)

ACCA, Advanced Financial Accounting, December 1992 **(20 marks)**