Instructor's Manual

Corporate Finance and Investment

Decisions and Strategies

Eighth edition

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Contents

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Preface

This manual accompanies the eighth edition of *Corporate Finance and Investment*, and is designed to assist instructors in the use of the text on their courses. For each chapter of the text, the following three elements are provided.

- A note of the key learning objectives.

- A summary of those chapter end exercise questions whose solutions are to be found in this manual.

- Solutions to the exercises not given in Appendix B of the text. It should be remembered that there is often no single correct solution to a particular exercise; alternative solutions may be equally appropriate because the information given is not always complete, or because there is more than one possible approach to the problem.

Separately available on the web site are some additional questions with solutions thereto. There is also a selection of more complex case studies with relevant teaching notes.

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PART I

A framework for financial decisions

CHAPTER 1

An overview of financial management

Learning objectives

By the end of the first chapter, the reader should have gained a better appreciation of:

- What corporate finance and investment decisions involve.
- How financial management has evolved.
- The finance function and how it relates to its wider environment and to strategic planning.
- The central role of cash in business.
- The goal of shareholder wealth creation and how investors can encourage managers to adopt this goal.

Questions summary

2. **Go4it plc** explores the ideas behind the classical 'maximisation of shareholder value' approach to finance, and how success in this aim can best be measured.

3. These questions address the wider fields of 'stakeholder' and 'agency' theory.

4. This question asks students to evaluate benefits and problems of ESOPs in solving the 'agency' dilemma.

5. **Zedo plc** assesses various remuneration packages for senior management in relation to encouraging managers to pursue shareholder goals.

6. This question examines shareholder goals and social objectives.

7. The role and characteristics of the financial management function are examined.

8. In the **Cleevemoor Water Authority**, stakeholder goals and performance measures of a public utility are considered.

Answers to questions

2. Go4it plc

Maximising earnings per share will focus the company's decision-making on profit after tax.

This is an important element of shareholder value, but it ignores:

- Cash flow – depreciation policy will affect profits but not cash while capital investment affects cash but not profits.
- Risk.
- Cost of capital.

3.

(a) Managers and owners may have different interests because ownership and management are separate in many firms. Shareholders have little direct influence on the day-to-day management. Managers are typically reckoned to be more risk averse than shareholders, who can diversify much of the risk by holding an investment portfolio.

Examples of possible conflicts include:

- The level of perquisites that managers may look for.
- The time horizon for decision outcomes – managers may not expect to stay with the firm for more than a few years.
- Take-over situations – managers may be reluctant to support a bid if it means new management and redundancy.

(b) Corporate social responsibility refers to the way in which companies need to be aware of the needs of the wider community. Such responsibility includes:

- Employees – fair wages and a safe working environment.
- Customers – providing a quality product at an appropriate price.
- Public – safety and support to the local community.
- Suppliers – prompt payment of bills.
- Government – proper payment of taxes and compliance with regulations.

(c) 'Value for Money' (VFM), as its name infers, involves getting the best possible service at the least possible cost. With regard to public services, this would imply that the taxpayers' requirements are being served by the most efficient use of resources. VFM has three aspects:

- Economy – acquiring the necessary inputs at the lowest cost.
- Efficiency – gaining more output from given inputs.
- Effectiveness – the extent to which a service meets its declared goals.

4. Executive share option plans (ESOPs) have become popular in recent years, partly to aid goal congruence within companies. Goal congruence arises when goals of different groups coincide. The two main groups are the shareholders (principals) and the managers (agents). Other groups include the employees, the creditors, the government and the local community.

ESOPs enable managers to buy a company's shares at a fixed price over a specified period. The aim is to give managers a stake in the firm so that they will make decisions consistent with shareholder's interests. However, share options typically form only a limited part of the remuneration package. If share prices fall, managers may decide not to take up the option. Once they have taken up the option, managers may feel that share price movements may have little to do with their efforts, but reflect the external market movements. ESOPs are viewed as a useful instrument for encouraging congruence between the shareholder and the manager, but which is by no means perfect.

5. Zedo plc

(a) The management of Zedo plc, under the control of the board of directors, is probably a very different group of individuals, with different requirements and aspirations, from the company's shareholders. For the majority of quoted companies, there is a clear separation of ownership and control. The owners (shareholders) must therefore seek to ensure that their agents (managers) act in their best interests.

Shareholders seek to maximise their wealth by maximising the market value of their investment and by the dividends received. Managers, on the other hand, might seek to maximise their personal wealth or satisfaction through higher salaries, better 'perks' (company cars, better offices, etc.) and increased leisure time. They may have a different attitude to corporate risk, profitability and growth than shareholders, which would lead to the development of strategies and policies inconsistent with shareholders' goals.

One approach that shareholders frequently adopt is to introduce a remuneration scheme designed to motivate managers to take actions consistent with shareholders' goals.

Factors to be considered in devising a remuneration package:

- Linking management compensation to changes in shareholder wealth.
- Reflecting manager's contribution to increased wealth, i.e. rewarding efficiency rather than managerial luck.
- Matching the time horizon for decisions of managers with that of shareholders. Many managers look towards maximising only short-term profits.
- Encouraging the same risk attitude as for shareholders. This is not easy as shareholders, unlike managers, can reduce risk through holding investment portfolios.
- Making the scheme easy to monitor and incapable of manipulation by the managers.
- Operating a cost-effective scheme.

(b) Advantages and disadvantages of the three schemes.

(i) A bonus based upon achieving a minimum pre-tax profit level.

The danger with such a scheme is that it emphasises short-term profits at the expense of longer-term profitability. Investment decisions often have a negative profit impact in the short-term. This scheme may discourage vital investment decision-making. At the same time, it encourages the use of 'creative accounting' methods to manipulate year-end

results, for example, companies may have sold properties and recorded the gains made as part of trading profit. Another trick is to issue new shares and invest the proceeds in the bank, and the interest accrued is shown as an increase in the year's profits.

(ii) A bonus based on turnover growth.

While this has obvious merits for companies with strong growth goals, it emphasises growth at the expense of profitability and may not increase shareholders' wealth. Investment decisions and acquisitions might be taken on the basis of turnover rather than wealth-creation. Prices may be reduced to increase sales at the expense of margins.

(iii) A share-option scheme.

These schemes are long-term compensation arrangements, which are dependent upon the company's share performance. Managers can buy a given number of shares at a given price over a set period of time. Such share options only have value when the actual share price exceeds the option price. This offers managers, who take up the scheme, the incentive to take actions consistent with wealth-creation over a longer time period.

While, in theory, the scheme is attractive, it is often difficult for managers to see a clear relationship between their efforts and share prices. For example, inefficient managers could be rewarded in times of a generally rising stock market, and *vice versa*.

6. The primary financial objective of companies and the potential conflict with environmental and social goals is discussed in Section 1.7.

7. Many of the techniques used in financial decision-making are based upon the assumption of shareholder wealth maximisation. This might be the main objective of shareholders, but it is unlikely to be the only objective. Environmental and social considerations are only two of a number of possible objectives of shareholders, some of which may conflict with wealth maximisation. Maximisation of shareholder wealth, to the exclusion of other objectives, is therefore, neither desirable nor possible in many companies. This does not negate its usefulness as a financial objective. A company might seek to maximise shareholder wealth after taking into account agreed environmental, social or other factors.

Possibly, more serious concerns are the 'agency' conflicts that might exist within organisations. In large companies, in particular, shareholders own the company but control is exercised by management, especially the board of directors.

Managers acting as 'agents' of the shareholders might in part take decisions, which maximise their own utility, for example, through high salaries, perks or job security, rather than maximise shareholder wealth. Decisions are sometimes argued to be 'satisficing' rather than maximising, with managers of all levels concerned with taking decisions that will satisfy the next higher level of authority, while at the same time fulfilling their own personal objectives. If shareholders wish managers to make decisions that are consistent with shareholders' wealth maximisation, they will need to incur costs to monitor 'managers actions', and to introduce incentives for managers to seek wealth maximisation, for example, through the introduction of share-option schemes whereby managers also benefit from good market performance of a company's shares.

Shareholder wealth maximisation is a realistic objective for a profit-seeking organisation, but it is unlikely to be achieved because of imperfect information, the existence of additional objectives and the lack of goal congruence between shareholders and the company's employees, especially its managers.

(a) Quoted high-growth company:

- A large amount of time devoted to statutory and listing requirements, particularly if the company is growing by acquisition.
- Strong focus on management and accounting, for example, evaluation of strategic opportunities including mergers and acquisitions.
- Strong treasury skills to secure both the short- and long-term financing for the company.
- Development of management information and accounting systems to meet the needs of the business.

(b) Quoted low-growth company:

- Focus on improvement of profit by means of cost control, and, therefore, the financial management must be able to select and implement appropriate budgetary and cost-control systems and to provide management information in a concise and relevant form.
- The department must be capable of dealing efficiently with the statutory and listing requirements.
- If the slower rate of growth means that the company generates cash, the financial management will be concerned with the best ways in which to use the funds, for example, investment in new business opportunities or repayment to shareholders in the form of dividends or a buy-back of shares.

(c) Unquoted company aiming for a stock exchange listing:

- If the flotation is being made due to the need for access to a wider pool of funds to finance expansion, then many of the points made in part (a) would also be relevant.
- The financial management must understand the listing requirements and be able to liaise with the banks and institutions advising on the flotation.
- If the purpose of the flotation is to enable the owners to realise the value of their investment, then the financial managers must be able to persuade potential investors that the company will be as successful under a new ownership and control structure as it was, as a private company.
- The managers must be good at communicating information about the company to the wider public, and must be able to present financial information in a clear and accessible format.

(d) Small family-owned business:

- The financial manager must be able to communicate effectively with a wide range of people, including the owners of the business, providers of finance, tax officers and shopfloor workers.
- The role of the financial manager will depend on the position and nature of the company. For instance, is it growing or is it facing competitive pressure and liquidity problems? Different business situations will place different demands on the financial managers.
- In a small company, the financial manager must be able to turn his hand to a much wider range of activities than in a large company. He must therefore be much more of a generalist and understand the details of a wide range of financial specialisms.

(e) Non-profit-making organisation, for example, a charity:

- The main difference between a non-profit-making organisation and a commercial business is that resources are allocated not on the basis of cash-flow generation, but on the basis of value to those providing the funds. Thus, the financial manager will be more concerned with providing an appropriate way of measuring 'value' in the context of the aims of the organisation than with measuring cash flow.
- Since funds are donated, there is likely to be a strong emphasis on cost control and the efficient use of allocated resources.
- The financial manager will need to be involved in the fund-raising process. This is quite different from the way in which a commercial organisation raises funds in the form of equity and debt.

(f) Public sector, for example, a government department:

- In terms of expenditure, the work of the financial manager is likely to be similar to that in a non-profit-making organisation, the emphasis being on 'value' rather than cash flow. This is likely to demand an understanding of the techniques of cost–benefit analysis.
- The financial manager will have little or no concern with the way in which the funds are raised since there is generally a separation in the public sector between sourcing of funds and expenditure.
- Unlike the private organisation where some attempt will be made to look at the longer term, most of the budgeting in a government department is concerned with the one-year time span and is framed in revenue terms.

8. Cleevemoor Water Authority

(a) The main function of public enterprise is to serve the public interest – in the case of a water undertaking, it would be responsible for ensuring a safe and reliable supply of water to households at an affordable price, which would also require close attention to the control of operating and distribution costs. Prior to privatisation, UK public enterprises were also expected to achieve a target rate of return on capital, which struck a balance between the going rate in the private sector and the long-term perspective involved in such operations. The authority would also have faced political constraints on achieving its objectives in the form of pressure to keep water charges down and also periodic restrictions on capital expenditure.

One problem faced by such enterprises was their inability to generate sufficient funds necessary to finance the levels of investment required to maintain water supplies of acceptable quality.

Once privatised, NW would be required to generate returns for shareholders, allowing for risk, at least, as great as comparable enterprises of equivalent risk. Moreover, it would be expected to generate a stream of steadily rising dividends to satisfy its institutional investors with their relatively predictable stream of liabilities.

Any capital committed to fixed investment would have to achieve efficiency in the use of resources and to achieve the level of returns required by the stock market. In the United Kingdom, it is often alleged that there is an over-concern with short-term results, both to satisfy existing investors and to preserve the stock market rating of the company. Although this may safeguard future supplies of capital, it has militated against infrastructure projects

and activities such as R&D, which may generate their greatest returns in the more distant future.

(b)

(i) Shareholders

In financial theory, companies are supposed to maximise the wealth of shareholders, as measured by the stock market value of the equity. In the absence of perfect information, it is not possible to measure the relationship between achieved shareholder wealth and the outright maximum. However, good indicators of the benefits received by shareholders are the returns they receive in the form of dividend payments and share price appreciation.

Dividends

The *pro forma* dividend was 7p and by 2006 the dividend per share had grown by 186% to 20p, an average annual (compound) growth of around 19%. The *pro forma* payout ratio was 33%, falling to 31% by 2006. This suggests that dividend per share has grown by slightly less than earnings per share. The *pro forma* EPS was 21p rising by 210% to 65p, an average annual increase of about 21%. This suggests that the company broadly wishes to align dividend increases to increases in EPS over time.

Share Price

The flotation price was £1, rising to £1.60 on the first day of dealing. By 2002, the EPS had become 29p. Given a P:E ratio of 7, this implies a market price of 203p per share. By 2006, the EPS had risen to 65p, and with a P:E ratio of 7.5, this corresponds to a market price of 488p. Compared to the close of first day's dealings, the growth rate was 205% (or just over 20% as an annual average), and over the period 2002–2006, growth occurred at the accelerated rate of 140% (an annual average of about 24%).

Although information about returns in the market in general, and those enjoyed by shareholders of comparable companies are not available to act as a yardstick, these figures suggest considerable increases in shareholders' wealth, and at a rate substantially above the increase in the RPI.

(ii) Consumers

Although NW's ability to raise prices is ostensibly restrained by the industry regulator, turnover has risen by 38% over the period, an annual average of 5.5%. This is above the rate of inflation over this period (about 2% p.a.) and also above the trend rate of increase in demand (also 2% p.a.). This suggests relatively weak regulation, perhaps reflecting the industry's alleged need to earn profits in order to invest, or perhaps that NW has diversified into other, unregulated activities, which can sustain higher rates of product price inflation.

However, before accusing NW of exploiting the consumer, one would have to examine whether it did lay down new investment, and also how productive it had been, especially using indicators like purity and reliability of water supply.

(iii) Workforce

Numbers employed have fallen from 12,000 to 10,000 (i.e. by 17%). The average remuneration has risen from £8,333 to £8,600, corresponding to a mere 1% in nominal terms, but about 8% in real terms, after allowing for the 9% inflation in retail prices over this period. This suggests a worsening of the returns to the labour force, although a shift in the skill mix away from skilled workers and/or a change in conditions of

employment away from full time towards part time and contract working might explain the figures recorded. Certainly, the efficiency of the labour force as measured by sales per employee (up from £37,500 to £62,000 – an increase of 65%) has outstripped movements in pay. However, apparently greater labour efficiency could be due to product price inflation and/or the impact of new investment.

The directors, however, seem to have benefited greatly. It is not stated whether the number of directors has increased, but as a group, their emoluments have trebled. Arguably, this might have been necessary to bring hitherto depressed levels of public sector rewards in line with remuneration elsewhere in the private sector in order to retain competent executives. Conversely, the actual remuneration may be understated as it does not appear to include non-salary items such as share options, which would presumably be very valuable, given the share price appreciation that has occurred over this period.

(iv) Macroeconomic objectives

There are numerous indicators whereby NW's contribution to the achievement of macroeconomic policies can be assessed. Among these are the following:

1. Price stability

   (i) *Via its pricing policy.* As noted, NW's revenues have risen by 38% in nominal terms and 29% in real terms. This questions the company's degree of responsibility in cooperating with the government's anti-inflationary policy.

   (ii) *Via its pay policy.* There is evidence that NW has held down rates of pay, but if this has not been reflected in a restrained pricing policy, then, the benefits accrue to shareholders rather than to society at large. Moreover, the rapid increase in directors' emoluments is hardly anti-inflationary, providing signals to the labour force, which are likely to sour industrial relations.

2. Economic growth

   (i) *Via its capital expenditure.* Higher profitability has been implicitly condoned by the regulator in order to allow NW to generate funds for new investment. This appears to have been achieved. Capital expenditure has nearly quadrupled. As well as benefiting the industry itself, this will have provided multiplier effects on the rest of the economy to the extent that equipment has been domestically sourced.

   (ii) *Via efficiency improvements.* It is not possible to calculate non-financial indicators of efficiency, but there are clear signs of enhanced financial performance. The sharp increase in sales per employee has been noted. In addition, the return on capital as measured by operating profit to long-term capital has moved steadily upwards as follows:

2000	2002	2004	2006
6.5%	8.4%	12.2%	15.3%

3. *Tax payments.* Although NW's average rate of taxation has fallen from 19% in 2000 to 13% by 2006, this may be due to the impact of capital expenditure, generating significant tax breaks.

CHAPTER 2

The financial environment

Learning objectives

By the end of this chapter, the reader should appreciate the nature of financial markets and the main players within them. A clear understanding is required of the following topics:

- The functions of financial markets.
- The operation of the Stock Exchange.
- The extent to which capital markets are efficient.
- How taxation affects corporate finance.

Enhanced ability to read financial statements and the financial pages in a newspaper should also be achieved.

Questions summary

1. This question invites students to define and discuss the role of investment banks in providing corporate finance advice.

2. Parts (a) and (b) require discussion of the role and operation of capital markets, and especially the place and form of the Efficient Market Hypothesis (EMH) within these operations. Part (c) has a solution in the textbook.

3. **Buntam plc**/**Zellus plc** asks students to calculate some common 'market' indicators and comment on the issues to be considered and advice to obtain when investing in the stock market.

4. **Beta plc** examines the merits of a stock exchange listing.

5. **Collingham plc** considers the issues involved in gaining a stock market listing.

Answers to questions

1. **(a)** See Section 2.3 in Chapter 2 – the section on wholesale banks.

2. **(a)** See Section 2.2 in Chapter 2

(b) See Section 2.5 in Chapter 2

3. Report to Clients: Buntam plc/Zellus plc

Subject: Traded investments

(a) 'Traded investment' refers to any investment asset, which is traded in the financial markets. Examples include government and company bonds, ordinary shares, preference shares, warrants and options or futures contracts. The range of such investments is therefore wide, and it is important to recognise that each type of investment has unique characteristics in terms of its cost, rate of return and risk. All of these factors must be taken into account when selecting an investment.

The price of bonds and shares will vary, depending on economic conditions and the financial performance of the individual companies. Interest rates directly affect the price of gilt-edged stock and corporate bonds; an increase in interest rates reduces the price of bonds. This represents a capital risk to the investor, who cannot be certain of the price at which the bond can be sold. The return earned on bonds will generally be higher than that available through interest-bearing deposit accounts. Ordinary shares present a much riskier form of investment, particularly for private individuals, who may incur high charges from the purchase and sale of shares. The price of ordinary shares varies daily, depending on factors within the market in general, and also specific to the company. An investor may earn a return via dividends and/or capital gains. The amount of dividends receivable is dependent, among other things, upon the profits of the company, and hence is not predictable with certainty. Individual share prices are definitely not predictable with any level of certainty. Consequently, investment in ordinary shares is relatively risky, but may offer good returns, which historically have been shown on average to be higher than the returns on bonds.

In conclusion, when comparing the different traded investments, it is essential that the composition of the investment portfolio matches both the liquidity and risk needs of each individual investor.

(b) Financial intermediaries are important to the efficient functioning of the financial markets, as they play a crucial role in bringing the borrowers/companies and lenders/equity providers together. Financial intermediaries include pension funds, insurance companies, retail and merchant banks and unit trust companies. In relation to private investors, their functions include:

(i) The provision of investment advice and information.

(ii) Reduction of risk via aggregation of funds.

(iii) Maturity transformation. Financial intermediaries play a role here in performing the function of maturity transformation. For example, a building society will lend out money for a period of 20–30 years, but their investors would still wish to be able to withdraw cash that they have in deposit accounts at random intervals. By taking advantage of the constant turnover of cash between borrowers and lenders, the building society can lend long term while holding short-term deposits. It is this process that is referred to as maturity transformation.

Financial intermediaries can therefore be seen to be extremely useful to the private investor, as they may provide useful advice and make it easier for the individual to take advantage of the returns that can be earned in the financial markets (via, for example, personal pension funds), while, at the same time, leaving investors with a wide range of opportunities as a result of maturity transformation, aggregation and reduced risk.

(c)

(i) Gross dividend

At the end of the financial year, companies will announce the profits or losses that they have earned, and a figure for net profit after tax. A company can choose to pay out profit in dividends or to reinvest it in the business. Dividends are paid out per share, and so the more shares that you own in a business, the more dividend income that you will receive. Using the example of Buntam plc, the figures indicate a gross dividend yield of 5%. This means that the dividend paid equals 5% of the share price, or 8p, in this case. The term 'gross' means that this is the dividend paid before tax. The equivalent calculation for Zellus plc means that the dividend yield of 3.33% is equivalent to a gross dividend payment of 9p. If an individual shareholder in Buntam plc pays tax at 10% on investment income, then he will collect a net dividend of 8.10p per share. The company pays this basic rate of tax to the government as an advance payment of its corporation tax liability, when it pays out its dividends, and so investors receive the dividend after deduction of the basic tax payable.

The gross dividend figure is of relevance to an investor as it facilitates direct comparison of the dividend figure and dividend yield paid out by different companies, as well as comparison with interest yields on fixed-return investments.

The tax liability is determined by the individual circumstances of each investor, and so its inclusion would serve only to confuse any comparative analysis. The dividend figure is also relevant to an investment decision because it is a way of earning income from investments, as opposed to capital gains, which can only be realised when the investment is sold.

(ii) Earnings per share

Earnings per share (EPS) is calculated as profit attributable to equity divided by the number of shares in issue and ranking for dividends. EPS thus represents what is available to be paid out as dividends.

Clearly, therefore, if the number of shares in issue remains fixed, the EPS will rise as the net profit attributable to equity increases.

The value or EPS can be calculated by dividing the share price by the P:E ratio. For Buntam, this means EPS equals 8p. In other words, the earnings per share is equal to the gross dividend payable. For Zellus, the EPS is equal to 18p (270/15), in comparison with a gross dividend of 9p. On first sight, therefore, it is tempting to view Zellus as a better investment because its EPS is higher. On the other hand, an investor has to pay 270p per share to get earnings of 18p, compared with 160p to get earnings of 8p. The EPS figure is of limited value on its own; it needs to be judged in conjunction with the share price, and hence the P:E ratio.

(iii) Dividend cover

Dividend cover measures the relationship between earnings per share and net dividends per share. The higher the level of dividends (for any given level of EPS), the lower will be the level of profit retained and reinvested within the business. This can have an effect on the balance of returns available to an equity investor.

The returns from investing in shares may take the form of either income, i.e. dividends, which are paid twice yearly, or capital gain/loss which is earned/incurred when the shares are sold. Some investors may prefer one type of return to the other, often for tax reasons.

Dividend cover is measured as follows: earnings per share, (net)/dividend per share (net).

Using the example of Zellus plc, the net EPS is 18p. The gross dividend is 9p, and so if tax is payable at 10%, then the net dividend equals 8.1p. Using this formula, the dividend cover equals 18/8.1, which gives a dividend cover of 2.2.

In other words, Zellus' earnings are sufficient for the company to be able to pay out dividends at a rate 2.2 times their current level. By comparison, Buntam has an EPS of 8p and a net dividend per share of 7.2p, giving a dividend cover of just 1.1.

Investors need to understand the relationship between dividend cover and investment returns. As a general rule, the greater the level of retention (and dividend cover), the greater is the likelihood that a share will yield capital gain rather than income. From the examples given above, it would thus appear for Buntam plc (paying out almost all its earnings as dividends), there is limited scope for capital growth in the share price. By contrast, Zellus has a relatively high dividend cover, and so the reinvestment of profits should generate capital gains.

As with all investor ratios, dividend cover has to be interpreted with caution, and alongside a number of other measures.

4. Beta plc

(a) The advantages of obtaining a listing on a stock exchange for a company and its shareholders are as follows:

Cost of capital: The fact that listed shares are easily marketable means that listed shares are usually viewed as being less risky than unlisted shares. This may help lower the cost of capital for the company.

Ready price: The fact that a ready price is available for listed shares should help avoid any uncertainties which occur when shares are being valued for certain purposes such as merger and take-over bids or for calculating liability for taxation.

Efficient market price: Shares listed on a stock exchange are usually valued in an efficient manner. This means that the price of the shares reflects fully the available information concerning the company and its prospects. This should give potential investors greater confidence when trading in the company's shares.

Transferability of shares: Existing shareholders will be able to transfer shares more easily, as listed shares are more marketable than unlisted shares. This increase in the marketability of shares should also make it easier for the company to raise new share capital when required.

Credit rating: A listed company may be seen as more creditworthy than an unlisted company. This may make it easier for the company to raise loans when required.

High profile: When the company is listed, it will become more widely known and will be the subject of greater interest by the investment and business community. This may help the company in developing and exploiting market opportunities.

The disadvantages of obtaining a stock exchange listing are as follows:

Market expectations: A listed company may be under considerable pressure to meet market expectations. Failure to do so is likely to have an adverse effect on the share price. Sometimes, market expectations for profit in the short term may conflict with the longer-term strategies which the company wishes to pursue.

Cost: The costs of floating a company on the stock exchange can be very high. These costs will usually include substantial legal and accountancy fees.

Administration and disclosure requirements: A listed company must comply with various stock exchange rules and regulations and these may represent an administrative burden. The company must also meet additional financial disclosure requirements imposed by the stock exchange, for example, the London Stock Exchange requires that interim (half-yearly) accounts be published.

Dilution of control: Existing shareholders will have their control over the company diluted as a result of widening ownership in the company's shares.

Risk of takeover: As shares in a listed company are easy to acquire, there is a greater risk that another company will acquire its shares with a view to a takeover.

Public scrutiny: Listed companies are subject to a great deal of scrutiny from financial analysts, the financial press and investors. This may be a problem if Beta plc is engaged in activities which require sensitive handling or which may arouse criticism from certain quarters.

(b) When attempting to place an issue price on shares in a company, which is to be floated on a stock exchange, the following factors should be taken into account:

Risk: The level and type of risk associated with the business will be identified and assessed by investors. For certain types of business, associated risks may be identified and evaluated more easily than for others. Investors will take account of the risks and compare these with expected returns when evaluating the share price.

Maintainable profits: The level of maintainable profits will be an important determinant of share price. The degree of confidence that investors have in the reliability of profit forecasts produced will also be important.

Similar companies' data: If there are companies operating in the same industry that are already listed on the stock exchange, it may be possible to obtain a guide price from the data available. The P:E ratio of similar companies can be multiplied by the earnings per share of the company to be floated in order to arrive at a market valuation. However, care must be taken in using the P:E ratio of other companies as they may not have the same risk and growth characteristics. Furthermore, the P:E ratio can be influenced by particular accounting policies being adopted by a company. Other investment ratios, such as the dividend yield and dividend cover of similar companies may also be used in developing a guide price.

Investor interest: A company may wish to create a good impression among investors by having a fully subscribed issue of shares. This may be particularly important for a company that expects to make further issues in the foreseeable future. Thus, the shares to be issued may be offered at a discount on what is considered to be their true market value, in order to attract investor interest. Research suggests that small companies must usually offer a larger discount than large companies when issuing shares for the issue to be successful. An immediate premium will accrue to investors who subscribe to the issue for which a discount is offered.

5. Collingham plc

(a) Seeking a quotation places many strains on a company; in particular, the need to provide more extensive information about its activities. However, the costs involved in doing this may seem worthwhile in order to pursue the following aims:

(i) **To obtain more capital to finance growth.** Companies that apply for a market listing are often fast-growing firms, which have exhausted their usual supplies of capital. Typically, they rely on retained earnings and borrowing, often on a short-term basis.

A quotation opens up access to a wider pool of investors. For example, large financial institutions are more willing to invest in quoted companies whose shares are considerably more marketable than those of unlisted enterprises.

Companies with a listing are often perceived to be financially stronger and hence may enjoy better credit ratings, enabling them to borrow at more favourable interest rates.

(ii) **To allow owners to realise their assets.** After several years of successful operation, many company founders own considerable wealth on paper. They may wish to realise some of their holdings to fund other business ventures or simply for personal reasons, even at the cost of relinquishing some measure of voting power. Most flotations allow existing shareholders to release some of their equity as well as raising new capital.

(iii) **To make the shares more marketable.** Existing owners may not wish to sell out at present, or to the degree that a flotation may require. A quotation, effected usually by means of a Stock Exchange Introduction, is a device for establishing a market in the equity of a company, allowing owners to realise their wealth as and when they wish.

(iv) **To enable payment of managers by stock options.** The offer of payment to senior managers partially in the form of stock options may provide powerful incentives to improve performance.

(v) **To facilitate growth by acquisition.** Companies whose ordinary shares are traded on the stock market are more easily able to offer their own shares (or other traded securities, such as convertibles) in exchange for those of target companies whom they wish to acquire.

(vi) **To enhance the company's image.** A quotation gives an aura of financial respectability, which may encourage new business contracts. In addition, as long as the company performs well, it will receive free publicity when the financial press reports on their performance and discusses the results in future years.

(b) The table below compares Collingham's ratios against the industry averages:

	Industry	Collingham
Return on (long-term) capital employed	22%	10/33 = 30.3%
Return on equity	14%	6/28 = 21.4%
Net profit margin	7%	10/80 = 12.5%
Current ratio	1.8:1	23/2 = 1.15:1
Acid test	1.1:1	13/20 = 0.65:1
Gearing (total debt/equity)	18%	10/28 = 35.7%
Interest cover	5.2 times	10/3 = 3.33 times
Dividend cover	2.6 times	6/0.5 = 12 times

Collingham's profitability, expressed in terms of both ROCE (Return on Capital Employed) and ROE (Return on Equity), compares favourably with the industry average. This may be inflated by the use of a historic cost base, insofar as assets have never been revalued. Although a revaluation might depress these ratios, the company appears attractive compared

to its peers. The net profit margin of 12.5% is well above that of the overall industry, suggesting a cost advantage, either in production or in operating a flat administrative structure. Alternatively, it may operate in a market niche where it is still exploiting first-comer advantages. In essence, it is this aspect which is likely to appeal to investors.

Set against the apparently strong profitability is the poor level of liquidity. Both the current and the acid test ratios are well below the industry average, and suggest that the company should be demonstrating tighter working capital management. However, the stock turnover of (10/70 × 365) = 52 days and the debtor days of (10/80 × 365) = 46 days do not appear excessive, although industry averages are not given. It is possible that Collingham has recently been utilising liquid resources to finance fixed investment or to repay past borrowings.

Present borrowings are split equally between short term and long term, although the level of gearing is well above the market average. The debenture that is due for repayment shortly will exert further strains on liquidity, unless it can be re-financed. Should interest rates increase in the near future, Collingham is exposed to the risk of having to lock-in higher interest rates on a subsequent long-term loan or pay (perhaps temporarily) a higher interest rate on overdraft. The high gearing is reflected also in low interest cover, markedly below the industry average. In view of high gearing and poor liquidity, it is not surprising that the pay-out ratio is below 10%, although Collingham's managers would presumably prefer to link high retentions to the need to finance ongoing investment and growth rather than to protect liquidity.

(c) It is common for companies in Collingham's position to attempt to 'strengthen' or to 'tidy up' their balance sheets in order to make the company appear more attractive to investors. Very often, this amounts to 'window dressing', and if the company were already listed, it would have little effect in an information-efficient market. However, for unlisted companies, about whom little is generally known, such devices can improve the financial profile of the company and enhance the prospects of a successful flotation.

(i) Some changes in the balance sheet that Collingham might consider prior to flotation are as follows:

- **Revalue those fixed assets** which now appear in the accounts at historic cost. The freehold land and premises are likely to be worth more at market values, although the effect of time on second-hand machinery values is more uncertain. If a surplus emerges, a revaluation reserve would be created, thus increasing the book value of shareholders' funds, and hence the Net Asset Value per share. The disadvantage of this would be to lower the ROCE and the ROE, although these are already well above the industry averages. Asset revaluation would also reduce the gearing ratio.
- **Dispose of any surplus assets** in order to reduce gearing and/or to increase liquidity which is presently low, both absolutely, and also in relation to the industry.
- **Examine other ways to improve the liquidity position,** by reducing stocks, speeding up debtor collection or slowing payment to suppliers, although it already appears to be a slow payer with a trade credit period of (15/70 × 365) = 78 days.
- **Conduct a share split,** because at the existing level of earnings per share, the shares promise to have a 'heavyweight' rating. Applying the industry P:E multiple of 13 to the current EPS of (£6m/£4m × 2) = 75p, yields a share price of (13 × 75p) = £9.75. While there is little evidence that a heavyweight rating is a deterrent to trading in already listed shares, it is likely that potential investors, certainly small-scale ones, will be deterred from subscribing to a highly priced new issue. A one-

for-one share split whereby the par value is reduced to 25p per share and the number of shares issued correspondingly doubles, and would halve the share price, although other configurations are possible.

- **It will *have* to enfranchise the non-voting 'A' shares,** because, under present stock exchange regulations, these are not permitted for companies newly entering the market.

(ii) Following the flotation, Collingham would probably have to accept that a higher dividend payout is required to attract and retain the support of institutional investors. If it wishes to persist with a high level of internal financing, a compromise may be to make scrip issues of shares, especially if the share price remains on the 'heavy' side.

Scrip issues are valued by the market because they usually portend higher earnings and dividends in the future.

Finally, if the company has not already done so, it might consider progressively lowering the gearing ratio. It might begin this by using part of the proceeds of the flotation to redeem the debenture early. However, it must avoid the impression that it requires a flotation primarily to repay past borrowings as that might cast doubts on the company's financial stability.