

Part IV: Valuation and Takeover

8 A Stock Exchange Valuation

Introduction

Our study is based on the normative assumption of financial theory, namely shareholder wealth maximisation, using share price as a suitable metric. Wealth is measured by movements in price based upon the economic law of supply and demand in a capital market that may not be *perfect* but *reasonably efficient*. Investors respond *rationally* to new information (good, bad or indifferent) and buy, sell, or hold shares in a market without too many barriers to trade.

Theoretical models of share price determination based on the capitalisation of a perpetual annuity, using either current dividends or earnings, underpin practical performance measures published by stock exchanges throughout the world. Yields, cover, P/E ratios and market capitalisation combine to provide current shareholders and prospective investors (whether they are private individuals, companies, or financial institutions acting on their behalf) with a sturdy framework for analysing investment decisions. Any market participant can evaluate the relationship between a company's current share price, its latest reported dividend and earnings per share within the context of their personal risk-return profile.

Having explained a number of universally available measures by which individual investors analyse stock market performance, the remainder of this text is devoted to two practical applications available to corporate management who wish to maximise shareholder wealth. They not only provide an opportunity to reflect upon the relevance of dividend policy and earnings to investment and financial decisions outlined in Part Two but also represent the most important strategic decisions that management is ever likely to encounter.

- The first case concerns an unlisted company coming to the capital market, requiring an aggregate flotation value and "offer for sale" price per share. Particular attention is paid to the dividend yield, dividend cover and price earnings (P/E) ratio required by future shareholders.
- The second evaluates an acceptable bid price based on various methods of valuation that support the motives for acquiring a business as a going concern in the event of a takeover.

By the end of our study, you should be in no doubt that the derivation of a share's price, which utilises a DCF analysis of either prospective earnings or dividends, rather than actual data drawn from published financial accounts, represents the ideal wealth maximisation criterion.

8.1 Coming to the Market

To appreciate why just a few selected measures published in the financial press, such as market price, dividend yield, dividend cover and the P/E ratio are believed to capture the essential features of a company's market performance, let us consider the case of Duran Ltd. It is an unlisted company wishing to finance expansion by having its shares marketed on the Stock Exchange. What management need to determine are:

- a) A total market value for the company, (the market capitalisation of equity).
- b) A recommendation for the aggregate *flotation value*.
- c) Knowledge of how many shares should be issued, and in what denominations, having regard to the dividend yield and dividend cover required by investors.
- d) The price at which shares should be offered for sale.

To guide these decisions, comparative financial data relating to Duran and three companies, A, B and C, engaged in the same type of business but already listed on the stock exchange has been prepared (summarised in Table 8.1 for the past three years).

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	A	B	C	D
	£000s	£000s	£000s	£000s
Profit after loan interest and before tax:				
Year 1	1,315	734	359	799
Year 2	1,361	734	370	805
Year 3	1,405	736	364	801
Net capital employed, end of Year 3:				
Loan	1,500	390	500	-
Share Capital				4,700
Ordinary share capital (nominal)	2,000	1,540	994	-
Reserves	2,310	4,260	1,656	-
Total	5,810	6,190	3,150	4,700
	£	£	£	£
Nominal value per share	0.10	0.25	0.25	-
Current share price	0.80	1.40	0.90	-
Last dividend %	19.50	17.30	16.00	-

Table 8.1: Primary Data

Duran has a sound financial history with adequate liquid assets. However, profits have made little progress in recent years. Its own forecast before corporation tax at 25 percent for next year (Year 4) is £810,000 although this may be optimistic in view of its track record. Further market research also reveals that:

A: has rising dividends, underpinned by gradual earnings growth.

B: exhibits solid dividends, although earnings have failed to advance.

C: reveals a pattern of dividends and earnings with negligible movement in recent years.

In order to produce a total market valuation and price per share for Duran initially we must determine *valuation and income profiles* of all four companies using accounting data (Table 8.2). Only then can Duran establish a prospective *investment profile* based on comparative stock market ratios which are attractive to potential investors. It is important to realise that as a listed company, the share price of Duran plc will be judged by this structure and also compared with similar firms on the market.

	A	B	C	D	Notes:
	£000s	£000s	£000s	£000s	
Equity	4,310	5,800	2,650	4,700	Share capital plus reserves.
Market Value	16,000	8,624	5,578	-	
Earnings	1,100	550	275	605	
Dividend	390	266	159	-	Percentage on ordinary shares
					Profits after tax
Return on equity %	25.5	9.5	10.4	12.9	Capital employed minus loan

Table 8.2: Valuation and Income Profiles

8.2 Calculations and Assumptions

At this stage in our analysis you will note from Table 8.2 that we have no figures for the market value or dividend for Duran, since they still require definition based on a comparative analysis of its competitors performance (A,B and C). Note also that the earnings for all four companies no longer reflect historical accounting convention, but rather a feeling for anticipated events, using calculations based on reasonable assumptions.

(a) *Market Value* is derived by the following two stage procedure:

$$(i) \quad \frac{\text{Share Capital}}{\text{Nominal Value}} = \text{Number of shares}$$

$$(ii) \quad \text{Number of Shares} \times \text{Current share price} = \text{Total market value}$$

Company	Share Capital	= Number of shares	x Current share price	= Total market value
A	£2,000,000/0.10	= 20,000,000	x £0.80	= £16,000,000
B	£1,540,000/0.25	= 6,160,000	x £1.40	= £8,624,000
C	£994,000/0.25	= 3,976,000	x £0.90	= £3,578,400

(b) *Earnings* have been approximated using the following assumptions:

A, steadily increasing, to around £1.45 million	=	£1,100,000 after tax
B, stable at £735,000	=	£550,000 after tax
C, stable at £365,000	=	£275,000 after tax
D, stable at £805,000	=	£605,000 after tax

Activity 1

Before proceeding with our case study, you should note that we are already manipulating data to establish inter-relationships between accounting data and comparative stock ratios, which will encourage investors to buy the company's shares when they are launched on the market. If you are unsure about this framework of ratios, refer to the Appendix at the end of the text as a guide for future reference.

So far, so good: Table 8.2 itemises the salient features of the four companies' accounts as a basis for analysis. The "unknown" variables are the required forecast of market value and dividend relating to Duran. However, these may be established by reference to the *investment profiles* of A, B and C that are given in Table 8.3 below. These profiles are simply a reformulation of the financial data contained in Table 8.2 into all the investment ratios (yield, cover and the P/E) with which you are familiar. Perhaps you can confirm this?



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Activity 2

Using Table 8.3 and the market ratios in the Appendix, you should now be able to determine the “unknowns” for Duran as basis for its total market valuation, flotation value, share denomination and offer price per share, relative to the dividend policies of its competitors.

	A	B	C	D	
					<i>Notes:</i>
Nominal value	0.10p	0.25p	0.25p	-	Given
Current share price	0.80p	£1.40	0.90p	-	Given
Dividend %	19.3	17.3	16.0	-	Given
Dividend yield	2.4	3.1	4.4	-	Nominal value x Dividend %
					Market value
Dividend cover	2.8	2.1	1.7	-	Profit after tax
					Dividend (gross)
Earnings yield	7.0	6.4	7.7	-	Profit after tax %
					Market value
P/E ratio	14.5	15.7	13.0	-	1
					Earnings Yield

Table 8.3: Investment Ratio Profiles

8.3 A Total Market Valuation

The simplest and typically most conservative valuation to be placed upon all Duran’s shares would be based upon its net assets calculated directly from the accounts. On the information available, this would take the form of assets minus liabilities, without any adjustment for current values as either a going concern (net replacement cost), surplus assets (realisable value) or intangible items, producing a figure of £4.7 million.

However, the disparities between nominal (par) and market values for A, B and C suggest that this figure is no more than a lower benchmark. Even if book values were appropriate, a more sophisticated valuation based upon the return on capital employed (ROCE) of similar firms, provides a significantly higher figure. For example, ignoring the anomalously high return of A and taking an average return on capital plus reserves of 11 percent for B, C and Duran from Table 8.2 provides a capitalisation of Duran’s post-tax earnings as follows:

$$£605,000 / 0.11 \cong £5.5 \text{ million}$$

Ignoring book values altogether, a more satisfactory current market valuation may be determined using the P/E ratios from Table 8.3. Clearly, Duran’s growth does not match that of A. It is nearer that of Company B. If Duran’s earnings are therefore capitalised using the latter’s P/E ratio, the following market value would result:

$$£605,000 \times 15.7 \cong £9.5 \text{ million}$$

8.4 An Aggregate Flotation Value

To ensure full subscription, financial prudence dictates that Duran's shares should be offered at a figure below their market value. To ascertain the aggregate flotation value for an offer for sale, a lower P/E ratio would therefore be more appropriate. Taking the figure for C, the following valuation may be determined:

$$£605,000 \times 13.0 \cong £7.9 \text{ million}$$

It therefore seems reasonable to conclude that Duran should be floated on the market at an aggregate value, somewhere in the region of £8 million.

8.5 The Number and Denomination of Shares

With regard to the total number and denomination of shares issued by Duran, the dividend policies of similar companies now come into play. Given the information relating to A, B and C, it appears that the dividend paid by Duran should be covered twice. Thus, the total dividend payout based upon our earlier estimate of its after-tax earnings would be:

$$£605,000 / 2 = £302,500$$

Given an aggregate flotation value of £8 million, then the dividend yield on Duran's shares (its "real" rate of return) will be:

$$£302,000 / £8\text{million} \cong 3.8\%$$

This should prove satisfactory to potential investors since it falls between the forecast yields of 3.1% and 4.4% for B and C respectively.

8.6 A Valuation per Share

Proceeding to the final stage of Duran's analysis, the nominal and market values per share will also be constrained by the data for similar stock currently traded on the market.

The values for B and C in Table 8.3 suggest that an issue made at 25 pence, with a *premium* of 75 pence attached, representing a market value of £1.00 per share, might succeed. Given a total dividend payout of £302,500 on 8 million shares nominally valued at 25 pence each, this would then result in the following *dividend percentage*:

$$\text{Dividend \%} = \frac{\text{Dividend yield} \times \text{Market value}}{\text{Nominal value}} = (3.8\% \times £1.00) / £0.25 = 15.2\%$$

But would this satisfy potential investors in the new Duran plc?

When compared with the percentages for A, B and C, 15.2 percent might be considered rather on the low side. A nominal value of 22 pence per share with a 78 pence premium would improve this figure and could be justified, particularly if we consider the low par value for A. The revised calculation would produce a figure more in line with Duran’s other competitors.

$$\text{Dividend \%} = (3.8\% \times \text{£}1.00) / \text{£}0.22 = 17 \%$$

Summary and Conclusions

It must be stressed that dividend yields, rather than percentages, are the “real” measure of a share’s return and it is the yield of 3.8 per cent on market price which should motivate rational subscribers to take up an offer for sale. However, we cannot ignore the dividend percentage, if only because it is published in company accounts, and might sway the investment decisions of less informed individuals.

To ensure success, it is suggested that Duran should therefore place its shares on the market for £1.00, comprising a 22 pence par value and a 78 pence premium. Table 8.4 sets out the proposed capital structure and investment profile in accordance with this recommendation having regard to the dividend expectations of investors (yield and percentage).

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Duran plc	£000s
Ordinary share capital (8 million)	1,760
Reserves (share premium)	6,240
Flotation Value	8,000
Earnings (profits after tax)	605
Dividends	302.5
Dividend cover	Twice
Nominal value per share	£0.22
Premium per share	£0.78
Market value per share	£1.00
Dividend %	17%
Dividend yield	3.8%
Earnings yield	7.6%
Price/Earnings ratio	13

Table 8.4: Capital Structure and Investment Ratio Profile