

Pilot Paper

Question 1

Scenario - Almond Arts plc

Almond Arts plc manufactures and distributes paint and related products to the building trade. It has traded for over 40 years and has been listed on the UK stock market since 1968. The shares are now widely held, with approximately 75 per cent in the hands of institutional investors. Draft, abbreviated financial statements for the year to 31 December 2000 are attached. The company's directors are considering a rights issue to help finance an expansion programme. The first phase of the expansion will involve expenditure of £3 million on fixed assets and £1 million on stock in 2001. Additional capital expenditure of £2 million will be required in 2002.

Assume you are assistant to the finance director. You have been asked to provide some key financial data and supporting evidence for discussion by the board. You have so far obtained the following information based on the assumption that the expansion will go ahead. Using the draft accounts for the year to 31 December 2000 as a base:

turnover is expected to grow by 5 per cent in the financial year ending 31 December 2001. This increased level of sales is expected to be at least maintained in 2002 and beyond;

the ratio of cost of sales excluding depreciation to sales (turnover) will improve in 2001 by 2.6 percentage points as a result of improved buying procedures;

operating expenses in 2001 are expected to be held constant at the year-2000 level as a result of organisational restructuring and efficiency measures. However, this will involve a one-off charge of £125,000 during the year for redundancy payments.

Other relevant information is as follows:

- ? the company's tax accountant estimates that tax payable for 2001 will be £850,000. Assume tax is paid in the year in which the liability occurs;
- ? the ratios of debtors to sales and trade creditors to cost of sales less depreciation are expected to remain the same in 2001 as in 2000. Operating expenses are paid in the year in which they occur;
- ? no sales of fixed assets are planned for the next two years. Depreciation on existing and new assets will be £1.2 million in 2001;
- ? dividends are payable the year after they are declared. The company plans to maintain the 2000 payout ratio in 2001;
- ? the company's cost of equity is 14 per cent per annum. It uses this rate to evaluate new investments but a full appraisal has not yet been carried out for the expansion proposals;
- ? assume interest charges for 2001 will relate only to payment on existing fixed-rate debt (i.e. no overdraft interest will be payable);
- ? inflation is anticipated at between 2 per cent and 3 per cent per annum for 2001. Interest rates on long-term bonds suggest that inflation is likely to rise above 3 per cent in 2002.

Financial objectives

The company's financial objectives are stated as:

- ? to earn an annual after-tax return on shareholders' funds (as at the end of each financial year) of at least 25 per cent;
- ? to increase earnings per share and dividends per share by at least 10 per cent per year; to increase share price year on year without taking undue risks

Draft profit and loss account for the year to 31 December 2000

	£000
Turnover	16,500
Cost of sales (note 1)	11,600
Operating expenses	1,700
Operating profit	3,150
Interest	200
Corporation tax	885
Net profit	2,065
Dividends declared	1,136
Retained profits	929

Draft balance sheet at 31 December 2000

	£000
Fixed assets (net book value)	7,500
Current assets	
Stock	2,850
Debtors	1,675
Cash and bank	55
Less: Current liabilities	
Trade creditors	1,750
Other creditors (dividends)	1,136
Net current assets	1,694
Amounts payable after 1 year	
10% Debentures 2005	2,000
Total assets less liabilities	7,194
Financed by	
Ordinary share capital (ordinary shares of £ 1)	5,000
Retained profits	2,194
Total shareholders' funds	7,194

Notes

1. Including depreciation of £925,000
 2. Share price information (Pence)
 - As at 31 December 1999: 465p
 - As at today (31 December 2000)
- | | |
|------------------------------------|-----------|
| Range for year (1.1.99 - 31.12.99) | 425p-535p |
| Range for year (1.1.00 - 31.12.00) | 515p-565p |

3.	Other financial information for 1999	
	EPS	37.2p
	DPS	20.5p
	After tax return on shareholders' funds	26.2%

Requirements

Assume that today is 31 December 2000. Prepare:

- (a) (i) a forecast profit and loss account for the year to 31.12.2001; (ii) a forecast balance sheet as at 31.12.2001;
- (iii) a cash-flow forecast for 2001 (this is not an investment appraisal and you do not need to discount your cash flows);
- (iv) calculations of after-tax return on shareholders' funds, earnings per share and dividends per share for the two years 2000 and 2001.

Notes

Work to the nearest £000 for parts (i) and (ii).

Assume that the expansion is to be part-funded by a rights issue of 1 for 10 at 475 pence.

Ignore issue costs.

(20 marks)

(b) Write a report to the finance director of Almond Arts plc in which you:

(i) discuss the key aspects and implications of the financial information you have obtained in your answer to part (a) of the question, in particular whether the company is likely to achieve its financial objectives in the years to 31 December 2000 and 2001. Include in your discussion comments on the suitability of the financial objectives for the company in its present circumstances and advise on alternative objectives which the directors could consider;

(ii) explain the need for financing in 2001 and discuss alternative types of finance that might be suitable for the company at the present time. Use relevant data from the scenario and your answers to part (a) of the question, plus any additional calculations you think appropriate and relevant. Make whatever assumptions you think necessary. If you have been unable to complete your calculations for part (a), use your assumptions as the basis for discussion;

(iii) discuss the difficulties of incorporating inflation into forecasts and comment on how a rate of inflation exceeding the 2-3 per cent anticipated for 2001 might affect the achievement of the objectives (you are not expected to rework your figures);

(iv) recommend a course of action for the board to consider.

(30 marks)

(Total marks = 50)

Question One Answer

(a) (i) Forecast profit and loss account for the year to 31 December 2001

	£000
Turnover	17,325
Cost of sales	10,760
Depreciation	1,200
Operating expenses	<u>1,750</u>
Operating profit before exceptional items	3,615
Interest	200
Redundancy payment	<u>125</u>
Profit before tax	3,290
Tax liability	<u>850</u>
Net profit	2,440
Dividends declared	<u>1,342</u>
Retained profits	1,098

(ii) Forecast balance sheet at 31 December 2001

	£000
Fixed assets (net book value)	9,300
Current assets	
Stock	3,850
Debtors	1,759
Cash and bank	864
Current liabilities	
Trade creditors	(1,764)
Dividends payable	(1,342)
Amounts payable after 1 year	
10% Debentures 2005	<u>(2,000)</u>
Total assets less liabilities	<u>10,667</u>
Financed by	
Ordinary share capital	5,500
Retained profits	3,292
Share premium account	<u>1,875</u>
Total shareholders' funds	10,667

Note: New capital raised
 is 500,000 shares at 475p
 = £2,375,000: £500,000
 ordinary share capital and
 £1,875,000 share
 premium account

Preliminary calculations:

Ratio of debtors to sales in 2000: $1.675/16.500 \times 100 = 10.2\%$

Ratio of creditors to cost of sales less depreciation in 2000: $1.750/10,675 \times 100 = 16.4\%$

FLFS

(iii) Cash flow forecast, 2001

	£000	£000
Net cash flows from		
Operating profit plus		4,815
Increase in debtors		(84)
Increase in creditors		14
Total		4,745
Less		
Fixed assets	3,000	
Stock	1,000	
Interest	200	
Tax	850	
Dividends	1,136	
Redundancy	125	
Total		(6,311)
Net cash flows before new		(1,566)
Opening cash balance		55
New capital		2,375
Closing cash balance		<u>864</u>

(iv) Return on shareholders funds is after-tax profits as a percentage of total shareholders' funds at the end of each year.

2000 $2,065/7,194 \times 100 = 28.7\%$

2001 $2,440/10,667 \times 100 = 22.9\%$

Earnings per share

	Pence	Increase on previous year, %
2000	41.3	11.0
2001	44.4	7.5
41.3 44.4		

Note: Accounting standards would require restatement of EPS for 2000 to reflect the rights issue made in 2001.

Dividends per share

	Pence	Increase on previous year, %
2000	22.7	10.7
2001	24.4	7.5

(b) Report

To: Finance director of Almond Arts plc

From: Assistant

Date: 1 January 2001

(i)

Comments on forecast profit and loss account, balance sheet, cash-flow and financial objectives

The forecast profit and loss account shows improving after-tax profits. The main reason for this is that sales are forecast to rise by a higher percentage than cost of sales or operating expenses.

The justification for this approach is acknowledged, but it could be optimistic.

The forecast net cash requirement is a fairly modest £ 1.5 million. The company is expecting its profit improvement to be maintained and the redundancy payment is a one-off expense. A 'back-of-an-envelope' cash-flow forecast for 2002, shown in section (ii) of this report, suggests that the company will generate substantial cash in 2002 and beyond, once the capital expenditure programme is out of the way. The need for new long-term finance is therefore questionable. This is addressed in a later section of this report.

An investment appraisal is not available for this project and this should be prepared before the company decides to go ahead. The figures will also need to be reworked when the method of financing the expansion is decided, as this will have an effect on profitability and cash flow.

The three financial objectives are discussed below.

RETURN ON SHAREHOLDERS' FUNDS

The objective here is to achieve a ROSF of 25 per cent per annum. The company met this objective in 1999 and 2000 (draft) but is unlikely to meet it, on the basis of the forecast, in 2001. It is not uncommon for capital investment programmes to depress returns based on book values during the first year of operations. This highlights the paradox of using accounting-based measures against which to monitor performance; one way of raising return on capital and similar measures is to restrict investment.

CROWIH IN EARNINGS PER SHARE

The company achieved the objective of increasing FPS by at least 10 per cent per annum in 2000 (draft) but is not likely to do so in 2001. One reason is the one-off redundancy costs in 2001; another is that there will be new shares in issue before the full benefits of the new investment are seen in profits. Accounting standards require FPS shown in financial statements to be adjusted for comparability when the number of shares in issue has changed (for example, following a rights issue or a loan-stock conversion), although there is still a 'perceived' problem with a drop in FPS. However, the use of this measure is widespread and an objective of increasing FPS year on year is common. However, it is based on accounting numbers, which can, of course, be manipulated and seriously distorted by a variety of factors.

GROWTH IN DIVIDENDS PER SHARE.

As the company proposes to maintain the 2000 payout ratio in 2001, the growth figures for DPS will be the same as for FPS. As with earnings per share, the growth in DPS will be affected by the issue of new shares. In theory, it is total returns to shareholders that should matter, although shareholder preferences for dividends over capital gains is influenced by their tax situation, their need for regular cash flows and their attitude to risk. It is not clear whether the company's policy is influenced by knowledge of its shareholder profile or whether it is simply using another popular objective.

The dividend decision influences the way the company finances its operations. A stated objective of increasing dividends per share could prove problematic if the company wants to retain more of its earnings for future investment, as it does at present. However, dividends are seen as important 'signals' to the market and the company may not wish to reduce dividends, even if the alternative would be either to postpone investment or to raise new debt.

SHARE PRICE INCREASE

According to the theory of shareholder value analysis, the value of a company is the present value of future cash flows discounted at an appropriate rate. Forecast dividend streams can also be used as a basis on which to value companies. Both methods have practical limitations. Although in theory, as noted above, it is total returns to shareholders that would matter, an increasing share price is a sign of market confidence. A complication, however, is that share prices react to external influences outside the control of the company, for example speculation on takeover activity.

The company appeared to achieve this objective in 2000 (share price having risen from 465 pence at the end of 1999 to 525 pence at the end of 2000) although we really need to compare this increase with the increase in the general market index. A comparison with the market should be incorporated into our objectives.

In respect of forecasting the effect on the market valuation of the company's expansion programme (assuming the market is not yet aware of our plans), we could take the constant growth variant of the dividend valuation model and apply it to Almond Arts' dividend forecasts. If we assume a constant growth in dividends of 10 per cent, we get a market capitalisation of approximately £37 million as follows:

$$\text{Equity valuation, } P_0 = \frac{D_1}{k_e - g} = \frac{\pounds 1,342,000 \times 1.10}{14\% - 10\%} \quad \pounds 37\text{m}$$

Note: different assumptions about the amount and timing of the dividend payment would be acceptable.

This compares with the current market capitalisation of £26.25 million at the end of 2000 (five million shares at 525p). An alternative would be to apply the current PIE ratio to the forecast EPS for 2001. This would give a valuation of £31 million (PIE of 12.7 x EPS of 44.4 P x 5.5m shares). However, the share price might rise when information on our expansion plans is known. If this were to happen, and all other things remained equal, the market capitalisation would move closer towards the figure produced by the dividend valuation model.

OTHER SUITABLE MEASURES

Financial objectives are normally related to a market measure of shareholder wealth, for example return on equity. The company is doing this to some extent by focusing on dividend growth and share-price increase. However, it is not clear how the company has derived its cost of capital of 14 per cent. If this has been set too high it would result in rejection of profitable projects and under-investment (and, conversely, if set too low, in accepting projects which should be rejected).

(ii) Need for financing

The company is planning to raise £2.375 million in 2001 by means of a rights issue. However, if sales and costs behave as forecast, the company needs finance for only around eighteen months (the £2.375 million raised by rights issue being 'repaid' roughly halfway through 2003), as the following rough estimate shows:

	2000 £000	2003 £000
Cash flow from operations (assuming min 5% increase)	4,982	5,231
Interest payments	(200)	(200)
Dividends (previous year payment, assume 10% increase in 2003)	(1,342)	(1,476)
Taxation (estimate)	(1,000)	(1,050)
New fixed assets	<u>(2,000)</u>	<u>-</u>
Net cash flow during year	440	2,505
Opening balance	<u>864</u>	<u>1,304</u>
Closing balance	<u>1,304</u>	<u>3,809</u>

It must be emphasised that these figures are very approximate, and I have continued to assume that inflation can be absorbed in the forecasts, but the order of magnitude is probably realistic. The board needs to consider carefully whether long-term finance is appropriate at the present time. Unless we can identify profitable investments to use the surplus funds being generated, it would not be in the shareholders' interests to raise long-term finance.

Suggestions for alternatives could be:

a two-year bank loan or medium-term debt, for example a finance lease or a eurobond; hire purchase or operating lease for some of the assets, if available;
phasing the expenditure to coincide with cash flows if possible;
deferring dividend payments. This might not be acceptable to shareholders and clearly breaches one of the company's objectives.

(iii) Problems with inflation and effect on objectives

The main problem is that inflation does not affect all companies and all variables at the same rate. Adjusting for inflation in financial statements such as profit and loss accounts and balance sheets is particularly difficult. Specific inflation rates need to be determined and applied. This is difficult to do with accuracy beyond the short term. It is also difficult for people to understand the true effects of inflation. Forecasting in real terms at least has the merit of accessibility. However, our forecasts for 2001 are in nominal terms.

If inflation were to rise above 3 per cent the effect would much depend on which variables are affected, by how much, and whether the company will be able to increase prices to recover the higher-than-expected increase in costs. If this were to be the case, then, in nominal terms, ROSF, EPS and DPS would probably rise (ignoring any requirements of current cost accounting). Clearly the increase year on year would also rise unless we were to restate the figures in real terms.

(iv) Summary and recommendation for a course of action

The expansion proposals appear profitable and generate substantial cashflows. However, before a decision is taken, the following actions are recommended:

a more thorough evaluation of the probabilities of achieving the forecast sales and containing costs should be made. Sensitivity analysis or simulation methods could be used to assist the exercise;

a full investment appraisal exercise should then be undertaken using an appropriate discount rate;

the discount rate the company uses should be reviewed. Using one rate to evaluate all investments may result in incorrect investment decisions;

the company's objectives should be reviewed, particular those relating to dividend policy and share prices. Continuing to use a measure such as return on shareholders' funds may be necessary, but its shortcomings should be recognised:

short or medium-term finance appears more appropriate than long-term capital. A review of alternative types of finance should be undertaken, including an evaluation of the effect on cash flows and risk, as measured by capital gearing.