

## **Chapter 5**

### **E5.6 Small and Big**

(i)

#### **Profitability ratios for Small plc and Big plc for 2001**

##### **Gross margin, G**

###### **Small plc**

$$\text{Gross margin \%} = \frac{\text{gross margin}}{\text{sales}} = \frac{\underline{\pounds 400} \times 100\%}{\pounds 1,140} = 35.1\%$$

###### **Big plc**

$$\text{Gross margin \%} = \frac{\underline{\pounds 36,000} \times 100\%}{\pounds 150,000} = 24.0\%$$

##### **Operating profit**

###### **Small plc**

$$\text{Operating profit \%} = \frac{\text{operating profit}}{\text{sales}} = \frac{\underline{\pounds 220} \times 100\%}{\pounds 1,140} = 19.3\%$$

###### **Big plc**

$$\text{Operating profit \%} = \frac{\underline{\pounds 17,000} \times 100\%}{\pounds 150,000} = 11.3\%$$

##### **Net profit, PAT (return on sales, ROS)**

###### **Small plc**

$$\text{PAT\%} = \frac{\text{net profit}}{\text{sales}} = \frac{\underline{\pounds 94} \times 100\%}{\pounds 1,140} = 8.2\%$$

###### **Big plc**

$$\text{PAT\%} = \frac{\underline{\pounds 10,400} \times 100\%}{\pounds 150,000} = 6.9\%$$

##### **Return on capital employed, ROCE (return on investment, ROI)**

using total capital employed as average is unavailable

###### **Small plc**

$$\text{ROCE\%} = \frac{\text{operating profit}}{\text{total assets - current liabilities}} = \frac{\underline{\pounds 220} \times 100\%}{\pounds 1,738} = 12.7\%$$

(total capital employed)

###### **Big plc**

$$\text{ROCE\%} = \frac{\underline{\pounds 17,000} \times 100\%}{\pounds 130,397} = 13.0\%$$

### **Return on equity, ROE**

#### **Small plc**

$$\text{ROE\%} = \frac{\text{PAT}}{\text{equity}} = \frac{\underline{\pounds 94} \times 100\%}{\pounds 998} = 9.4\%$$

#### **Big plc**

$$\text{ROE\%} = \frac{\underline{\pounds 10,400} \times 100\%}{\pounds 120,397} = 8.6\%$$

### **Capital turnover**

**using total capital employed as average is unavailable**

#### **Small plc**

$$\text{Capital turnover} = \frac{\text{sales}}{\text{capital employed}} = \frac{\underline{\pounds 1,140}}{\pounds 1,738} = 0.7 \text{ times}$$

#### **Big plc**

$$\text{Capital turnover} = \frac{\underline{\pounds 150,000}}{\pounds 130,397} = 1.2 \text{ times}$$

### **Efficiency ratios for Small plc and Big plc for 2001**

#### **Debtor days**

##### **Small plc**

$$\text{Debtor days} = \frac{\text{trade debtors} \times 365}{\text{sales}} = \frac{\underline{\pounds 440} \times 365}{\pounds 1,140} = 141 \text{ days}$$

##### **Big plc**

$$\text{Debtor days} = \frac{\underline{\pounds 26,000} \times 365}{\pounds 150,000} = 63 \text{ days}$$

#### **Creditor days**

##### **Small plc**

$$\text{Creditor days} = \frac{\text{trade creditors} \times 365}{\text{cost of sales}} = \frac{\underline{\pounds 360} \times 365}{\pounds 740} = 178 \text{ days}$$

##### **Big plc**

$$\text{Creditor days} = \frac{\underline{\pounds 20,000} \times 365}{\pounds 114,000} = 64 \text{ days}$$

### Stock days (stock turnover)

#### Small plc

$$\text{Stock days} = \frac{\text{stock value}}{\text{average daily cost of sales in period}} = \frac{\underline{\pounds 300}}{\pounds 740/365} = 148 \text{ days (21.1 weeks)}$$

#### Big plc

$$\text{Stock days} = \frac{\underline{\pounds 24,000}}{\pounds 114,000/365} = 77 \text{ days (11.0 weeks)}$$

### Operating cycle days

#### Small plc

$$\text{Operating cycle} = \text{stock days} + \text{debtor days} - \text{creditor days} = 141 + 148 - 178 = 111 \text{ days}$$

#### Big plc

$$\text{Operating cycle} = 63 + 77 - 64 = 76 \text{ days}$$

### Operating cycle %

#### Small plc

$$\text{Operating cycle \%} = \frac{\text{working capital requirement}}{\text{sales}} = \frac{(\pounds 300 + \pounds 440 - \pounds 360) \times 100\%}{\pounds 1,140} = 33.3\%$$

#### Big plc

$$\text{Operating cycle \%} = \frac{(\pounds 24,000 + \pounds 26,000 - \pounds 20,000) \times 100\%}{\pounds 150,000} = 20.0\%$$

### Asset turnover

#### Small plc

$$\text{Asset turnover} = \frac{\text{sales}}{\text{total assets}} = \frac{\underline{\pounds 1,140}}{\pounds 2,360} = 0.48 \text{ times} \quad [1,620 + 740]$$

#### Big plc

$$\text{Asset turnover} = \frac{\underline{\pounds 150,000}}{\pounds 166,000} = 0.90 \text{ times} \quad [114,000 + 52,000]$$

(ii)

You should refer to the relevant sections in Chapter 5 to check your solution.

### **E5.7 Small and Big**

(i)

#### **Liquidity ratios for Small plc and Big plc for 2001**

##### **Current ratio**

###### **Small plc**

$$\text{Current ratio} = \frac{\text{current assets}}{\text{current liabilities}} = \frac{£740}{£622} = 1.2 \text{ times}$$

###### **Big plc**

$$\text{Current ratio} = \frac{£52,000}{£35,597} = 1.5 \text{ times}$$

##### **Acid test (quick ratio)**

###### **Small plc**

$$\text{Quick ratio} = \frac{\text{current assets} - \text{stocks}}{\text{current liabilities}} = \frac{£740 - £300}{£622} = 0.7 \text{ times}$$

###### **Big plc**

$$\text{Quick ratio} = \frac{£52,000 - £24,000}{£35,597} = 0.8 \text{ times}$$

##### **Defensive interval**

**assuming sales for year approximates to cash from operations**

###### **Small plc**

$$\text{Defensive interval} = \frac{\text{quick assets}}{\text{average daily cash from operations}} = \frac{£740 - £300}{£1,140/365} = 141 \text{ days}$$

###### **Big plc**

$$\text{Defensive interval} = \frac{£52,000 - £24,000}{£150,000/365} = 68 \text{ days}$$

## Investment ratios for Small plc and Big plc for 2001

### Earnings per share, eps

#### Small plc

$$\text{eps} = \frac{\text{profit after tax} - \text{preference share dividends}}{\text{number of ordinary shares in issue}} = \frac{\pounds 94 \times 100}{440,000} = 21.36\text{p}$$

#### Big plc

$$\text{eps} = \frac{\pounds 10,400 \times 100}{70} = 14.86\text{p}$$

### Dividend per share

#### Small plc

$$\begin{aligned} \text{Dividend per share} &= \frac{\text{total dividends paid to ordinary shareholders}}{\text{number of ordinary shares in issue}} \\ &= 11.40\text{p per share} \end{aligned}$$

#### Big plc

$$\text{Dividend per share} = 5.71\text{p per share}$$

### Dividend cover

#### Small plc

$$\begin{aligned} \text{Dividend cover} &= \frac{\text{earnings per share}}{\text{dividend per share}} \\ &= \frac{21.36\text{p}}{11.40\text{p}} = 1.9 \text{ times} \end{aligned}$$

#### Big plc

$$\text{Dividend cover} = \frac{14.86\text{p}}{5.71\text{p}} = 2.6 \text{ times}$$

### Dividend yield %

#### Small plc

$$\begin{aligned} \text{Dividend yield} &= \frac{\text{dividend per share}}{\text{share price}} \\ &= \frac{11.40\text{p} \times 100\%}{\pounds 4.07} = 2.80\% \end{aligned}$$

#### Big plc

$$\text{Dividend yield} = \frac{5.71\text{p} \times 100\%}{\pounds 3.05} = 1.87\%$$

**Price/earnings ratio, P/E**

**Small plc**

$$\text{P/E ratio} = \frac{\text{current share price}}{\text{eps}} = \frac{\underline{\pounds 4.07}}{21.36\text{p}} = 19.1 \text{ times}$$

**Big plc**

$$\text{P/E ratio} = \frac{\underline{\pounds 3.05}}{14.86\text{p}} = 20.5 \text{ times}$$

**Capital expenditure to sales %**

**Small plc**

$$\text{Capital expenditure to sales} = \frac{\text{capital expenditure for year}}{\text{sales}} = \text{N/A}$$

**Big plc**

$$\text{Capital expenditure to sales} = \text{N/A}$$

**Capital expenditure to gross fixed assets %**

**Small plc**

$$\text{Capital expenditure to gross fixed assets} = \frac{\text{capital expenditure for year}}{\text{gross value of tangible fixed assets net book value} + \text{cumulative depreciation provision}} = \text{N/A}$$

**Big plc**

$$\text{Capital expenditure to gross fixed assets} = \text{N/A}$$

(ii)

You should refer to the relevant sections in Chapter 5 to check your solution.