

**UNIVERSITY OF TASMANIA**

**Tasmanian School of Business and Economics**

**Introduction to Financial Management**

**BFA503**

**Semester 2 2014**

**ASSIGNMENT One: Due Date: No later than 2 pm on 18th August 2014**

**Assessment: 11%**

This assignment is designed to introduce you to:

- Determining the value of shares and other assets,
- Risk/return analysis as a basis for making investment decisions, and
- Financial planning and controlling operations.

***Required:***

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In your answer you should consider the following:

1. Show all calculations and spreadsheets.
2. Interpretation of calculations where requested will require a minimum of one paragraph
3. Ensure that you answer all the requirements of each question.
- 4. Please note new submission rules**
5. This assignment consists of TWO (2) questions of unequal weight.

**Question one**

Seven years ago, after 15 years in public accounting, Fred Hooker, FCPA, resigned his positions as manager of systems for Cooke, Bray and Jackson Public Accountants and started Montage Software Limited. In the two years preceding his departure from Cooke Bray and Jackson, Fred had spent nights and weekends developing a sophisticated cost accounting software program that became Montage's initial product offering. As the firm grew, Fred planned to develop and expand the software product offerings – all of which would be related to streamlining the accounting process of medium – to large sized manufacturers.

Although Montage experienced losses during its first two years of operation – 2007 and 2008 – its profit has increased steadily from 2008 to the present (2013). The firms profit history, including dividend payments and contributions to retained earnings, is summarised in Table 1.

Fred started the firm with a \$100,000 investment – his savings of \$50,000 as equity and a \$50,000 long-term loan from the bank. He had hoped to maintain his initial 100% ownership in the corporation, but after experiencing a \$50,000 loss during the first year of operation (2005), he sold 60% of the shares to a group of investors in order to obtain needed funds. Since then, no other share transactions have taken place. Although he owns 40% of the firm, Fred actively manages all aspects of its activities; the other shareholders are not active in the management of the firm. The shares closed at \$4.50 in 2012 and at \$5.28 in 2013.

Fred has just prepared the firm's 2013 income statement, balance sheet and statement of retained earnings, shown in Tables 2, 3 and 4, along with the 2012 balance sheet. In addition, he compiled the 2013 ratio values and industry average values, which are applicable to both 2010 and 2013. These are summarised in Table 5. Fred is quite pleased to have achieved record earnings of \$48,000 in 2013, but he is concerned about the firm's cash flows. Specifically, he is finding it more and more difficult to pay the firm's bills in a timely manner. To gain insight into these cash flow problems, he is planning to prepare the firm's 2013 operating cash flow and free cash flow.

Fred is further frustrated by the firm's inability to afford to hire a software developer to complete development of a cost estimation package that is believed to have 'blockbuster' sales potential. Fred began development of this package two years ago, but the firms growing complexity has forced him to devote more of his time to administrative duties, thereby halting the development of this product. Fred's reluctance to fill this position stems from his concern that the added \$80,000 per year in salary and benefits for the position would certainly lower the firms earning per share (EPS) over the next couple of years. Although the project's success is no way guaranteed, Fred believes that, if the money were spent to hire the software developer, the firm's sales and earnings would rise significantly once the two to three year development, production and marketing process was completed.

With all these concerns in mind, Fred set out to review the various data to develop strategies that would help to ensure a bright future for Montage Software. Fred believed that, as part of this process, a thorough ratio analysis of the firm's 2013 results would provide important additional insights.

**Required**

1. a) On what financial goal does Fred seem to be focusing? Is it the correct goal? Explain your answer.  
b) Could a potential agency problem exist in this firm? Explain. *(1.5 Marks)*
  
2. Calculate the firm's earnings per share (EPS) for each year, recognising that the number of shares issued has remained unchanged since the firm's inception. Comment on the EPS performance in view of your response to question **1a**. *(1.5 Marks)*
  
3. Use the financial data presented to determine Montage's operating cash flow (OCF) and free cash flow (FCF) in 2013. Evaluate your findings in light of Montage's current cash flow difficulties. *(1.5 Marks)*
  
4. Analyse the firm's financial condition in 2013 as it relates to a) liquidity, b) activity, c) debt and d) probability, using the financial statements provided in Tables 2 and 3 and ratio data included in Table 5. Be sure to evaluate the firm on both a cross-sectional and a time-series basis. *(3 Marks)*
  
5. What recommendations would you make to Fred about hiring a new software developer? Relate your recommendation here to your responses to question **1a**. *(1.5 Marks)*

Table 1

Profit, dividend and retained earnings, 2007 – 2013 Montage Software Limited			
Year	Net profits after taxes (1)	Dividends paid (2)	Contribution to retained earnings [(1) – (2)] (3)
2007	(\$50,000)	\$2	(\$50,000)
2008	(20,000)	0	(20,000)
2009	15,000	0	15,000
2010	35,000	0	35,000
2011	40,000	1,000	39,000
2012	43,000	3,000	40,000
2013	48,000	5,000	43,000

Table 2

Income Statement (\$000) Montage Software Limited For the year ended 31 December 2013		
Sales revenue		\$1,550
Less Cost of goods sold		<u>1,030</u>
Gross profits		\$520
Less Operating expenses		
Selling expense	\$150	
General and administrative expense	270	
Depreciation expense	<u>11</u>	
Total operating expenses		<u>431</u>
Operating profits		\$89
Less Interest expense		<u>29</u>
Net profits before taxes		\$60
Less Taxes (20%)		<u>12</u>
Net profits after taxes		<u>\$48</u>

Table 3

<b>Balance Sheets (\$000)</b>		
<b>Montage Software Limited</b>		
<b>31 December</b>		
	<b>2013</b>	<b>2012</b>
<b>Assets</b>		
Current assets		
Cash	\$12	\$31
Marketable securities	66	82
Accounts receivable	152	104
Inventories	<u>191</u>	<u>145</u>
Total Assets	<u>\$421</u>	<u>\$362</u>
Gross non-current assets		
Less Accumulated depreciation	<u>63</u>	<u>52</u>
Net non-current assets	<u>\$132</u>	<u>\$128</u>
Total assets	<u>\$553</u>	<u>\$490</u>
<b>Liabilities and Shareholders' equity</b>		
Current liabilities		
Accounts payable	\$136	\$126
Notes payable	200	190
Accruals	<u>27</u>	<u>25</u>
Total current liabilities	<u>\$363</u>	<u>\$341</u>
Long-term debts	<u>\$38</u>	<u>\$40</u>
Total liabilities	<u>\$401</u>	<u>\$381</u>
Shareholders' equity		
Ordinary Shares (100 000 shares)	\$50	\$50
Retained earnings	<u>102</u>	<u>59</u>
Total shareholders' equity	<u>\$152</u>	<u>\$109</u>
Total liabilities and shareholders' equity	<u>\$553</u>	<u>\$490</u>

Table 4

<b>Statement of retained earnings (\$000)</b>	
<b>Montage Software Limited</b>	
<b>For the year ended 31 December 2013</b>	
Retained earnings balance (1 January 2013)	\$59
Plus Net profits after tax (for 2013)	48
Less Cash dividends on ordinary shares (paid during 2013)	<u>(5)</u>
Retained earnings balance (31 December 2013)	<u>\$102</u>

Table 5

<b>Ratio</b>	<b>Actual 2012</b>	<b>Industry average 2013</b>
Current ratio	1.06	1.82
Quick ratio	0.57	1.10
Inventory turnover	10.40	12.45
Average collection period	29.6 days	20.2 days
Total asset turnover	2.66	3.92
Debt ratio	0.78	0.55
Times interest earned ratio	3.0	5.6
Gross profit margin	32.1%	42.3%
Operating profit margin	5.5%	12.4%
Net profit margin	3.0%	4.0%
Return on total assets	8.0%	15.6%
Return on equity	36.4%	34.0%
Price/earnings ratio	10.5	11
Market/book ratio	4.1	4

### Question two

Briefly describe the following theories of the general shape of the yield curve. **(a)** expectations theory; **(b)** liquidity preference theory; and **(c)** market segmentation theory (300 words). (2 Marks)