TEST YOURSELF – FINANCIAL RATIOS **Mel Bulu Taciroglu**

(Students are not expected to explain multiple-choice questions in tests. We included some explanation for some of the answers below to provide study help.)

You can find a summary of financial ratios at the end of the document for easy reference.

1. Which of the following is correct about a company that goes public (sells its shares to the general public)?

a) It collects funds at no cost
b) Financial Statements need not to be made public
c) Since more people own the company, it becomes harder to take over
d) Management gains more control over company related decisions
e) Company gains more visibility

2. Which of the following is NOT correct?

a) Net Working Capital is needed to manage short term operations.
b) Capital Structure refers to the fixed asset composition of a company.
c) Increasing stockholders' equity is a widely accepted financial objective.
d) If a company goes bankrupt, debt holders are paid before stockholders.
e) Agency problem refers to the conflict of interest between owners and managers.

Capital Structure refers to the funding composition of the company (right side of the balance sheet).

3. Which of the following is correct about the assets of a company appearing in its balance sheet?

a) Current assets refer to those assets that can be turned into cash within 6 months with no major loss of value.
b) Accounts receivables are the sales made on credit that needs to be collected every 3 months.
c) Inventory is recorded at the price that is expected to be obtained at sale.
d) Intangible assets are considered current assets.
e) In most cases, intangible assets do not reflect the entire intangible asset holdings of a company.

4. A company decides to buy back its stocks with cash in order to improve its profitability and market value ratios. A Stock buyback would NOT lead to:

a) Increase in Return on Equity
b) Increase in Return on Assets
c) Increase in Earnings per Share
d) Increase in Profit Margin
e) None of the above

Since a stock buyback with cash would mean lower ASSETS, lower EQUITY, and lower number of shares outstanding, ROE and ROA will go down. EPS will go down as well. But there is no immediate effect on Sales, costs, or profit margin.

5. An increase in which of the following accounts increases a firm's current ratio without affecting its quick ratio?

a) Accounts payable
b) Cash
c) Inventory
d) Accounts receivables
e) Notes Payable

6. According to the Generally Accepted Accounting Principles:

a) Sales are recorded in balance sheet even though no cash transfer has yet taken place.
b) Intangible assets do not depreciate.
c) Taxes have to be paid in the year they are due.
d) Assets are recorded according to how liquid they are with less liquid ones recorded first.
e) Revenue coming from a one-time sale of a plant or an equipment cannot be recorded under the operating section of income statement.

7. According to the corporate tax rules:

a) A small business and a mid-size business have the same average tax rate.
b) A small business and a mid-size business have the same marginal tax rate.
c) Sole proprietorships will be subject to corporate taxes if their revenue exceeds $10 million.
d) Marginal tax rate will be higher than the average tax rate regardless of the size of the revenue.
e) There is a downward trend in the average effective tax rate US companies pay.

8. Which two of the following represent the most effective methods of directly evaluating the financial performance of a firm?
I. comparing the current financial ratios to those of the same firm from prior time periods
II. comparing a firm's financial ratios to those of other firms in the firm's peer group who have similar operations
III. comparing the financial statements of the firm to the financial statements of similar firms operating in other countries
IV. comparing the financial ratios of the firm to the average ratios of all firms located in the same geographic area

a) I and II only
b) II and III only
c) III and IV only
d) I and IV only
e) I and III only

9. A company has a current ratio that is comparable to industry standards but a quick ratio that is below the industry standards. What ratio would you check to assess whether this situation constitutes a problem for the company?

a) Days' sales in inventory
b) Fixed asset turnover
c) Price-earnings ratio
d) Cash coverage ratio
e) Return on Assets

High current ratio and low quick ratio implies that the company carries high inventory. This would be a problem if it takes longer to sell inventory for the company compared to the industry. Then Days' sales in inventory should be checked.

10. When would an investor be worried about a high Equity Multiplier?

a) If inventory turnover is low
b) If P/E ratio is low
c) If profit margin is high
d) If market capitalization is unstable (changing from day to day)
e) If total asset turnover is low

We will accept both (a) and (e) as correct. Here is the reasoning: If equity multiplier (Assets/Equity) is high, company carries a lot of debt. Then, to be able to pay back the debt the operating cash flow should be high. If inventory turnover is low or if asset turnover is low, the company may have trouble in having high cash flow and being able to pay the debt back. If Profit margin is high, then company has a reason not to be worried as the cash is flowing in. Also, P/E ratio and market capitalization are affected mostly by the market in general and do not indicate anything to be worried about immediately about the cash flow of the company.

11. For which of the following situations you would expect to see a cash coverage and interest coverage ratios that are close to each other?

a) For a highly capital intensive industry
b) For a company with high market capitalization
c) For a company with no long term debt
d) For a company that has replaced its entire fixed capital in recent years
e) For a company with a high P/E ratio

Again, P/E and market capitalization are mostly affected by the market in general and do not have immediate bearing on coverage ratios. If a company is capital intensive or replaced its fixed capital in recent years, we would expect to see high depreciation, hence the difference between cash coverage and interest coverage will be significant. If the firm carries no debt, there will be no interest and both ratios will indicate $+\infty$.

12. A company's inventory turnover ratio is decreasing over time. This is consistent with:

a) Company may be holding same amount of inventory on average but its sales may be increasing
b) Company is getting better in inventory management with higher and higher days' sales in inventory
c) Company sales are stable but average daily inventory is getting lower
d) Company's market capitalization may be getting higher

e) The industry in which the company operates may be experiencing a recession

Inventory turnover ratio goes down when total COGS goes down or Inventory piles up both of which may be a result of a recession. (Hint: less sales, less COGS). (a) is not correct because it implies higher rather than lower inventory turnover.(b) is not correct because lower inventory turnover is not consistent with better inventory management. (c) is not correct because it is again indicating a higher inventory turnover rather than lower. (d) is not immediately related to inventory in any way.

13. A company has an unusually low receivables turnover ratio. What may be an explanation for this?

a) The ratio might have been calculated using entire sales rather than sales on credit
b) Company may be making only a small portion of its sales on credit and mostly working with cash
c) Company's days' sales in receivables is low
d) Company is not able to collect cash from its customers
e) If total asset turnover is low

14. (10 points) Following table gives the Assets side of Company M's Balance Sheet as of Dec 31st 2014 and Dec 31st 2015.

In thousands $	Dec 31st 2014	Dec 31st 2015
Cash	2,540	3,120
Receivables	85	134
Inventory	192	400
Total Current Assets	*2,727*	*3,654*
Plant&Equipment	12,040	14,600
Intangible Assets	740	700
Total Assets	*15,507*	*18,954*

a) How much Total Equity Company M has if its Net Working Capital is $930K and $1,080K for 2014 and 2015 respectively and it does not carry any long term debt?

Current Liabilities is 2,727-930 = $1,797K for 2014 and 3,654-1,080 = $2,574K for 2015. Total Equity is 15,507 – 1,797 = $13,710K for 2014 and 18,954 – 2,574 = $16,380K for 2015. (Graders: Equity for 2015 is enough for full points)

b) Company M has a policy of distributing 50% of its earnings as dividends each year. What is Company M's Net Income for 2015 if no stock was purchased or sold during 2015?

Addition to Retained Earnings = 16,380 – 13,710 = $2,670K
*Net Income = 2,670*2 = $5,340K*

c) Company M's total asset turnover is 0.70 for 2015. What is total sales for 2015?

*TAT = 0.70 = Total Sales / Total Assets, Total Sales = 0.70*18,954 = $13,267.8K*

d) What is the Profit Margin for 2015?

PM = NI/Sales = 5,340/13,267.8 = 40%

e) Investors are not happy with Company M's Return on Equity. What can Company M do to address this?

*ROE = PM*TAT*EM , increase PM or TAT. Given company has no long term debt, Debt can be increased for a higher EM.*

15. A firm has sales of $1,200, net income of $200, net fixed assets of $500, and current assets of $300. The firm has $100 in inventory. What is the common-size statement value of inventory?

Total Assets: 300+500 = 800
Inventory: 100
Common Size Inventory: 100/800=12.5%

16. The 2014 COGS (cost of goods sold) are $35 million, revenue is $70 million and $5 million is the 12/31/2014 inventory. Based on year end data, what are Days Sales in Inventory?

*Days' Sales in Inventory = 365 / (COGS/Inventory) = 365 * (5 / 35) = 52 days*

17. Atlas Industries has accounts receivable of $500, ROE of 0.10, D/E of 2/3, Asset Turnover of 0.2 and Net Income of $3,000. On average, how long does it take Atlas to collect the payment on the credit sales if 50% of all sales occur on credit?

ROE = Profit Margin x Asset Turnover x Equity Multiplier
0.10=PM x 0.2 x 5/3, PM = 0.3
Then, Sales = 3,000/0.3 = $10,000. Credit Sales = $5,000, Receivables Turnover = $5,000/$500 = 10, then it takes on average 365/10=36.5 days to collect money on credit sales.

18.

	2007		2007
Cash	310	Acc. Pay.	2,720
Acc. Rec.	2,640	Notes Pay.	100
Inventory	3,275	Total Cur. Liab.	2,820
Total Cur. Ass.	6,225	Long Term Debt	7,875
Net Fixed Ass.	10,960	Common Stock	5,000
Total Assets	17,185	Retained Earnings	1,490
		Total Liab. & Eq.	17,185

	2008
Sales	9,610
COGS	6,310
Depreciation	1,370
EBIT	1,930
Interest	630
Pretax Income	1,300
Tax	455
Net Income	845

You can find the Balance Sheet as of 31st December 2007 and Income Statement as of December 31st 2008 for a company.

For 2008, C(A) is $430, Net Capital Spending is $1,080 and change in Net Working Capital from the end of 2007 to the end of 2008 is $1,335.

Net New Long Term Borrowing for 2008 is $225.

a) What is the Net Fixed Assets as of the end of 2008?

Change in Net Fixed Assets from end of 2007 to end of 2008= Net Fixed Assets end of 2008 – Net Fixed Assets end of 2007 + Depreciation during this time

1,080 = Net Fixed Assets end of 2008 -10,960+ 1,370
Net Fixed Assets end of 2008 = 10,670

b) What is the Net Working Capital as of the end of 2008?

(NWC of 2008 – NWC of 2007) = 1,335
(NWC of 2008 – (6,225-2,820)) = 1,335
NWC of 2008 = 4,740

c) If a total of $275 is distributed as dividends in 2008, has the company sold or purchased any stocks?

C(A) = C(B) + C(S)
C(B) = Interest – Net Borrowing = 630 – 225 = 405
430 = 405 + C(S)
C(S) = 25
C(S) = Dividends – (Stocks sold – Stock purchased)
25 = 275 - (Stocks sold – Stock purchased)
(Stocks sold – Stock purchased) = 250
Company had a net stock sales of 250

19. Write one positive and one negative aspect of forming a business as a corporation or sole proprietorship:

	Positive	*Negative*
Corporation	*-limited liability* *-easy to raise large amounts of funds* *-easy to transfer ownership* *-perpetual life*	*-costly to start* *-double taxation* *-may face agency problems*
Sole Proprietorship	*-easy to start* *-single taxation* *-control of the company resides with the owner*	*-hard to transfer ownership* *-unlimited liability* *-limited life*

Market Value Measures	Market Capitalization = Price per share * # Shares Outstanding P/E Ratio = Price Per Share / Earnings Per Share
Accounting Ratios	Current Ratio = Current Assets/ Current Liabilities Quick Ratio = (Current Assets – Inventory) / Current Liabilities Cash Ratio = Cash / Current Liabilities Total Debt Ratio = (Total Assets – Total Equity) / Total Assets Debt/Equity = Total Debt / Total Equities Equity Multiplier = Total Assets / Total Equity Times Interest Earned = (Earnings Before Interest And Taxes) / Interest Cash Coverage = (EBIT + Depreciation + Amortization) / Interest Inventory Turnover = Cost of Goods Sold / Inventory Days' Sales in Inventory = 365 / (Inventory Turnover) Receivables Turnover = Sales / Accounts Receivable Days' Sales in Receivables = 365 / Receivables Turnover Total Asset Turnover = Sales /Total Assets Profit Margin = Net Income / Sales Return on Assets = Net Income / Total Assets Return on Equity = Net Income / Total Equity EBITDA Margin = EBITDA / Sales Capital Intensity = Total Assets / Sales
Financial Cash Flow	C(A)=C(B)+C(S) C(A) =OCF- Change in NWC – Cash Flow to Fixed Assets OCF=EBIT+Depreciation-Tax Change in NWC = Ending NWC – Beginning NWC Cash Flow to Fixed Assets = Ending NFA-Beginning NFA+Depreciation (if we use the gross fixed assets, then = Ending Gross Fixed Assets – Beginning Gross Fixed Assets) C(B) = Interest-(Ending Long Term Debt – Beginning Long Term Debt) C(S) = Dividends – (Stocks sold- Stocks purchased)