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ENGR 111 H1

1.
Find two companies (of your choice) whose financial statements are publicly available. Fill out the following table using the latest available annual numbers:

	Current Assets	Long Term Debt	Equity	Revenue	Net Income
Facebook	50,480,000	-	84,127,000	55,838,000	22,112,000
Google	135,676,000	3,950,000	177,628,000	136,819,000	30,736,000

Note: All numbers are in thousands

Can you compare the financial health of these companies by looking at the above numbers? Why or why not? Provide at least three criteria to be able to compare financial numbers of these two companies.

It is difficult to compare the financial health of FB and GOOG with just the numbers in the table above. Evaluating the financial health of a company cannot be achieved by looking at a single metric, but is a culmination of a number of financial ratios to provide a deep dive into a given company. With that said, the financial health of two companies can be compared by looking at their liquidity, solvency, and profitability.

Liquidity is the amount of cash and easily-convertible-to-cash assets a company owns to manage its short-term debt obligations. Liquidity can be measured using the current ratio for example, which is the current assets divided by the current liabilities (with the latter missing from the table). Solvency is a company's ability to meet its debt obligations on an ongoing basis (and not just in the short term). Solvency can be measured using the debt/equity ratio, which divides the total liabilities by the shareholder's equity (with current liabilities missing, so total liabilities cannot be calculated). Lastly, looking at a company's bottom line or net profitability is a good measure of financial health, which can be found by using the net income and revenue to calculate how much profit is generated as a percentage of revenue (which can be found using the table above).

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2.

Following are the account entries for Company X. Organize company's Balance Sheet and Income Statement.

Balance Sheet

Assets

- Current Assets
  - Cash 250
  - Inventory 200
- Fixed Assets
  - Plant&Equipment 600

Liabilities

- Current Liabilities
  - Accounts Payable 150
- Long Term Debt 400
- Owners' Equity 500

Income Statement

- Revenue 1,100
  - Costs of Goods Sold 700
- Tax 122.5
- Interest 50
- Net Income 227.5

3.

Profit margins tend to differ in different industries. An example is that grocery stores have notoriously low profit margins. Albertson's Profit Margin is 1.2% compared to Pfizer's Profit Margin of 15.6%, a pharmaceutical company.

Then, why invest on grocery stores instead of pharmaceutical companies?

Grocery stores may not have the impressive looking profit margins that pharmaceutical companies have, but they offer investors with stability and a more defensive position to have in a portfolio. This is because grocery stores are more defensive by nature as they aren't affected by the cycles of the economy (i.e. people always need to buy groceries/food to eat whether we are in a recession or expansion) and are usually considered value stocks as they pay higher dividends. On the other hand, pharmaceutical companies are growth stocks that have much more risk involved as they are under increased scrutiny from the FDA; spend billions of dollars in trials for new products/patents (and if they ultimately fail, they would have wasted billions of dollars and many years, which investors don't look at too kindly); and pay much lower dividends to investors.

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4.

Pull out the Income Statement and the Balance Sheet for Dec 31, 2018 for Alcoa Inc., one of the major aluminum companies in the world. Answer the following questions:

Note: All numbers are in thousands

a) What is the Quick Ratio for 2018?

Quick Ratio = [Cash And Cash Equivalents + Short Term Investments + Net Receivables] / Current Liabilities

Quick Ratio = 0.72

b) What is the Equity Multiplier for 2018?

Equity Multiplier = Total Assets / Total Net Equity

Equity Multiplier = 3.1

c) What is the Cash Coverage Ratio for 2018?

Cash Coverage Ratio = Cash And Cash Equivalents / Current Liabilities

Cash Coverage Ratio = 0.38

d) What is the Return on Equity for 2018?

Return on Equity = Net Income / Average Shareholders' Equity

Return on Equity = 4.58%

e) How did the NWC (Net Working Capital) change from 2017 to 2018 (you need Balance Sheet for 2017) ?

Net Working Capital = Current Assets – Current Liabilities

NWC (2018) = 1,215,000, NWC (2017) = 986,000

The NWC increased from 2017 to 2018

f) How did the Debt/Equity ratio change from 2017 to 2018?

Debt/Equity Ratio = Total Liabilities / Shareholders' Equity

D/E Ratio (2018) = 1.65, D/E Ratio (2017) = 2.47

D/E ratio decreased from 2017 to 2018

g) What was the ADDITION to retained earnings for 2018?

Retained Earnings (2018) = 341,000, Retained Earnings (2017) = 113,000

Addition to retained earnings is 228,000

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5.

LinkedIn is a professional networking service. It is a relatively young company that filed for an initial public offering(IPO) in January 2011 and traded its first shares on May 19, 2011, under the NYSE symbol "LNKD". It was purchased by Microsoft in June 2016 and stopped trading under LKDN symbol.

Find the latest P/E ratio of LNKD (2016) and compare it to an average P/E ratio corresponding to the same time (You can use the average P/E ratio of S&P 500, which includes selected 500 companies whose shares are traded in NYSE or NASDAQ, two of the major exchanges where stocks are traded). How did the P/E ratio changed since 2011 compared to the average P/E.

Do you see a difference? What maybe the explanation?

(For consistency, you can pick one P/E ratio for each year corresponding to the same month around same day, an example would be mid June. Choice is yours as long as you pick the same month for each year. We are trying to get an overall trend for the P/E ratio for this stock)

P/E Ratio = Price of Share / EPS

P/E Ratio

Year (Jan.)	2011	2012	2013	2014	2015
LinkedIn	5.00	8.60	12.80	18.10	23.20
S&P 500	16.30	14.87	17.03	18.15	20.02

The P/E ratio of LinkedIn grew at a much faster rate than the average P/E from 2011 to 2015, while the average P/E grew at a steady rate during the same time. This is most likely due to high investor excitement of the LinkedIn stock, which drove the price of the stock high over a short period of time as the investors were anticipating higher growth in the future.