Advanced Corporate Finance
Prof. Mathias Kronlund
Problem Set #1
Due Date: February 7, 2018

Question 1.
See Global Corp.'s financial statements in the lecture notes ("Financial Statement Analysis"). What is Global's:

a. Market/Book (M/B)?
b. Interest coverage?
c. EV/EBITDA?
d. Market leverage (D/E)?
e. Current ratio?

Question 2.
See Global Corp.'s Balance Sheet in the lecture notes ("Financial Statement Analysis"). Consider the following potential events that might have occurred to Global. For each one, indicate which line items in Global's balance sheet would be affected and by how much. Also indicate the change to Global's book value of equity.

a. Global used \$20 million of its available cash to repay \$20 million of its long-term debt.
b. A warehouse fire destroyed \$5 million worth of uninsured inventory.
c. Global used \$5 million in cash and \$5 million in new long-term debt to purchase a \$10 million building.
d. A large customer owing \$3 million for products it already received declared bankruptcy, leaving no possibility that Global would ever receive payment.
e. Global's engineers discover a new manufacturing process that will cut the cost of its flagship product by over 50%.
f. A key competitor announces a radical new pricing policy that will drastically undercut Global's prices.

Question 3.
Find on SEC Edgar the annual report (10-K) for Starbucks for the fiscal year 2013 (the year ending on Sept 29, 2013).

a. How much cash and short-term investments did Starbucks have? How much of this amount is abroad? How was this money invested?
b. How much debt does Starbucks have?
c. Rearrange the balance sheet into "net operating assets" and "net capital"
d. What was Starbucks' Enterprise Value? (you may need to find the share price from some other source than the 10-K)
e. What were Starbucks diluted earnings per share? What number of shares is the diluted EPS based on, and why is this number different from the undiluted number of shares?
f. What was the main reason Starbucks made less profit in 2013 compared to previous years?
g. What is Starbucks P/E ratio? Can we use this number to compare Starbucks' relative valuation to the valuations of its competitors?

Question 4.
You are considering making a movie. The movie is expected to cost $10 million upfront and take a year to make. After that, it is expected to make $5 million in cash flow when it is released in one year and $2 million per year for the following four years. What is the payback period of this investment? If you require a payback period of two years, will you make the movie? Does the movie have a positive NPV if the cost of capital is 10%?

Question 5.
OpenSeas, Inc. is evaluating the purchase of a new cruise ship. The ship would cost $500 million upfront, and would operate for 20 years. OpenSeas expects annual cash flows from operating the ship to be $70 million (at the end of each year) and its cost of capital is 12%.

a. Prepare an "NPV profile" of the purchase (i.e., plot a function of NPV on r)
b. Estimate the IRR (to the nearest 1%) from the graph you made in a).
c. Is the purchase attractive based on these estimates?
d. How far off could OpenSeas' cost of capital be (to the nearest 1%) before your purchase decision would change?

Question 6.
On Sept. 14 2016, Bayer announced it was acquiring Monsanto. Please use the event study methodology to calculate:

a. The value implications (NPV) for Bayer of this deal
b. The value implications (NPV) for Monsanto

Also describe any relevant caveats or your greatest concerns about the accuracy of this analysis.

Question 7.
Cellular Access, Inc. is a cellular telephone service provider that had an EBIT of $250 million for the most recent fiscal year. The firm had depreciation expenses of $100 million, capital expenditures of $200 million, and interest expenses of $40 million. Working capital increased by $10 million. The firm's tax rate is 40%. Calculate the free cash flow for Cellular Access for this year.

Question 8. (You will need material from the cost of capital lecture to do this problem!)
Thurbinar has a stock price of $20 per share, with 15 million shares outstanding, and the equity beta is 1.00. It also has $100 million in outstanding debt, with a debt beta of zero. The risk-free rate is 4%, and the market risk premium is 5%.

a. Estimate Thurbinar's unlevered (asset) beta. Use the unlevered beta to estimate Thurbinar's unlevered (asset) cost of capital.
b. Estimate Thurbinar's equity cost of capital and debt cost of capital. Use these costs of capital to estimate Thurbinar's unlevered (asset) cost of capital.