



GROUP WORK ASSIGNMENT #1

CORPORATE INVESTMENT APPRAISAL

MASTERS IN FINANCE

1st SEMESTER 2011-2012

The group work assignment consists of a practical case of determining the cost of capital and capital structure of a large international company, involving collection of relevant information. The case is described next, but please read first the rules of the game.

Rules of the Game:

- 1) **Important Deadlines:** The final delivery date of the assignment is **November 30th, 2011**. The assignment must be handed in to Professor Clara Raposo during the CIA class. It may also be left at the reception of the ISEG building in Rua Miguel Lupi, No. 20;
- 2) **Each group has a maximum number of 4 elements.**
- 3) **The assignment involves producing the following 3 elements:**
 - a. A brief **Report** written in Microsoft Office **word**, describing the procedures followed and the results found. (MAXIMUM 10 pages A4);
 - b. A **Spreadsheet** in Microsoft office **excel**, in a cd-rom, supporting the written report;
 - c. A **Presentation** in Microsoft Office **powerpoint** summarizing the case, also included in the cd-rom.

CASE DESCRIPTION: **Toyota Motor Company**

Toyota Motor Company is expanding the production of their gas-electric hybrid drive systems and plans to begin production in the United States. To enable the expansion they are contemplating investing \$1.5 billion in a new plant with an expected 10-year life. The anticipated free cash flows from the new plant would be \$220 million the first year of operation and grow by 10% for each of the next two years and then 5% per year for the remaining seven years. As a newly hired expert in the capital budgeting division you have been asked to evaluate the new project. You will compute the appropriate costs of capital and the net present value using different valuation methods. You must seek out the information necessary to value the free cash flows. But you'll be given some direction to follow!

1. Go to MarketWatch.com (www.marketwatch.com) and get the quote for Toyota (symbol: TM).
 - a. Click "Financials." The income statements for the last four fiscal years will appear. Place the cursor in the middle of the statements and right-click the mouse. Select "Export to Microsoft Excel."
 - b. Go back to the Web page and select "Balance Sheets" from the top of the page. Repeat the download procedure for the balance sheets, then copy and paste them into the same worksheet as the income statements.
 - c. Click "Historical Quote" in the left column, and find Toyota's stock price for the last day of the month at the end of each of the past four fiscal years. Record the stock price on each date in your spreadsheet.
2. Create a timeline in Excel with the free cash flows of for the 10 years of the project.
3. Determine the WACC rate:
 - a. For the cost of debt, r_D :
 - i. Go to NasdBondInfo.com:
(<http://cxa.marketwatch.com/finra/BondCenter/Default.aspx>) and click to search by symbol. Enter Toyota's symbol, select the Corporate toggle, and press "Enter."
 - ii. Look at the average credit rating for Toyota long-term bonds. If you find that they have very high ratings, then you can make the approximation that the cost of debt is the risk-free rate. If Toyota's credit rating has slipped, use the table in the classes' powerpoint file Session 1 to estimate the beta of debt from the credit rating.

- b. For the cost of equity, r_E :
 - i. Get the yield on the 10-year U.S. Treasury Bond from Yahoo! Finance (<http://finance.yahoo.com>). Scroll down to the Market Summary. Enter that yield as the risk-free rate.
 - ii. Find the beta for Toyota from Nasdaq.com. Enter the symbol for Toyota and click "Summary Quote." The beta for Toyota will be listed there.
 - iii. Use a market risk premium of 4.50% to compute r_E using the CAPM. If you need to, repeat the exercise to compute r_D .
 - c. Determine the values for E and D for Toyota and the debt-to-value and equity-to-value ratios.
 - i. To compute the net debt for Toyota, add the long-term debt and the short-term debt and subtract cash and cash equivalents for each year on the balance sheet.
 - ii. Multiply the historical stock prices by the "Basic Weighted Shares Outstanding" data in the income statement to compute Toyota's market capitalization at the end of each fiscal year.
 - iii. Compute Toyota's debt-to-value ratio at the end of each year by dividing its net debt by its enterprise value. Use the average ratio from the last four years as an estimate for Toyota's target debt-to-value ratio.
 - d. Determine Toyota's tax rate by dividing the income tax by earnings before tax for each year. Take the average of the four rates as Toyota's marginal corporate tax rate.
 - e. Compute the WACC rate for Toyota.
4. Compute the NPV of the hybrid engine expansion given the free cash flows you calculated, using the WACC method of valuation.
 5. Determine the NPV using the Adjusted Present Value method, and also using the Flow to Equity method. In both cases assume that Toyota maintains the target leverage ratio you computed before.
 6. Compare the results under the three methods.