**Private Equity Valuation**

**Project Guidelines**

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**Part B**

Evaluate your firm’s potential as a buyout target. To do so you shall examine your firm’s prospects from the point of view of a potential Private Equity fund that specializes in your industry. This includes the analysis of: (1) Stock Valuation (DCF method), (2) Operating Performance relative to peers, and (3) Ability to Service Debt.

*B1. Stock Valuation*:

Use the Weighted Average Cost of Capital (WACC) method where,

$r\_{WACC}=\frac{D}{D+E}r\_{D}(1-t)+\frac{E}{D+E}r\_{E}$.

Use the CAPM for obtaining the expected returns. You can estimate the cost of debt by assuming a beta of debt that is between 0.1-0.3 depending on the level of the leverage ratio. Suggestion: use 0.1 if leverage is below one third, use 0.3 if leverage is above two thirds, and use 0.2 otherwise. For the beta of equity use that provided online. For the risk free rate, use the current rate on 20-30 year US government bonds. Allow for a market premium of 6%.

1. Estimate the equity cost of capital for your firm? Obtain a range by using at least two estimates of beta from sources available online.
2. Estimate the weighted average cost of capital. Report the corresponding range.
3. Forecast future sales and FCFs and report the annual sales growth rates, operating margins, and profit margins assumed. Note other key assumptions and relevant extracts from the spread sheet in your word document.
4. Conduct a valuation sensitivity analysis. Using Data-Table in Excel produce three separate tables to explore the enterprise value as a function of (a) short-term (5 – 7 years) sales growth rate, (b) EBITDA-margin, (c) Net Income-margin. Possibly, include other key assumptions as suitable for your firm.
5. Summarize your findings. Is your firm over-valued, under-valued or fairly valued?

*B2. Relative Operating Performance and Ability to Service Debt:*

Here you are asked to evaluate the overall operating performance of your firm relative to the other firms chosen by fellow team members or other firms in the industry.

1. Generate graphs of the time series of the above key performance metrics over the last few years for the four firms in your group relative to the annual average.
2. Generate graphs as in (6) for interest coverage, i.e., the ratio of EBIT to Interest Expense.
3. Summarize the results. How do the four firms compare?

The cost of debt capital of your firm is likely to vary with the level of debt. As an approximation you may use the following table to compare leverage capacities:

|  |  |  |
| --- | --- | --- |
| Coverage Ratio | Interest rate | (New Debt)/EBIT |
| 5<CR<7 | 5% - 7%  | 2.8  |
| 3<CR<5 | 7% - 8%  | 4 – 3 |
| 1.5<CR<3 | 8% - 10% | 6 – 4  |
| 1.2<CR<1.5 | 10% - 12% | 8 – 6  |

Note, this table is based on Moody’s reported averages and might not be suitable for your particular firm/industry. Alternatively, consider a high *junk*-bond rate of say 10%-12% for high levels of leverage such as 60% while maintaining the firm’s ability to pay with a coverage ratio above 1.2.

1. For each firm, apply the above table to calculate three possible leverage ratios and corresponding amounts of debt and interest rate as implied by three alternative coverage ratios.

*B3: The PE Proposition*

In this part, each team must select one single firm with the highest potential for being a profitable target for a leveraged buyout by a value-enhancing private equity fund and derive a PE transaction strategy.

1. Select a PE target based on your *stock valuation* analysis, and *relative performance and ability to service debt* analysis. Explain your choice.

*Transaction Assumptions:*

The PE fund will aim for a 40-60% leveraged transaction with an internal rate of return (IRR) of above 25%, MOIC above 2, and an exit in 5-7 years. Assume that the PE fund will pay a premium of 10-15% above the market price for the target’s equity. The PE firm will use FCFs to payback debt principal until the year of exit.

As a starting point, consider the PE acquisition without the PE firm implementing any performance improvements to the target firm. Calculate the expected IRR and MOIC realized by the PE investors for two leverage levels and exit years 5 – 7.

The private equity firm is expected to improve operating performance along certain dimensions. It is up to you to decide what seems like reasonable targets for these improvements and justify your approach (you can benchmark against the performance of peers and challenges and opportunities you have identified in the industry).

1. What improvements by the PE firm do you propose? Explain why these improvements seem reasonably attainable.
2. Conduct a revised valuation analysis of the target firm under the improvements assumed to be implemented by the PE firm. Report the change in valuation that is implied by these changes. Report your results with and without the debt-tax-benefit.
3. As in part 11, calculate the expected IRR and MOIC realized by the PE investors if exit takes place at years 5 – 7, while considering the revised valuation above. How would the investors’ IRR and MOIC change with leverage?
4. What would be a reasonable premium paid by the PE fund to replace the 15% level of premium assumed? You might take into account the level of value created by the PE and other multiples of deals in the industry. Report the IRR and MOIC for three different levels of premium paid by the PE fund.
5. Summarize your analysis. What recommendation (e.g., price range, leverage, and exit year) would you submit to the limited partners at the private equity fund?

**What to submit for Part B?**

* Each *student* should independently submit Part B1.
* Each *team* should submit parts B2 & B3.