Quiz 1: Corporate Finance

Answer all questions and show necessary work. Please be brief. This is an open books, open notes exam.

1a. If the average (annualized) riskfree rate between 3/09 and 2/11 was 2.60%, estimate the annualized Jensen’s alpha for Goldman Sachs during this period. (2 points)

1b. Which of the following statements best describes what the $R^2$ in this regression is telling you about risk in Goldman Sachs? (1 point)

i. 52.6% of the total risk in the firm is firm specific risk
ii. 52.6% of the beta can be attributed to market risk
iii. 52.6% of the total risk in the firm is market risk
iv. 52.6% of the total risk in the firm can be diversified away
v. None of the above
2. Midland Oil is a US-based oil drilling company that is publicly traded and has estimated a dollar cost of equity of 8% for itself. (The ten-year treasury bond rate is 3.5% and the equity risk premium used by the company is 8%) The company is considering acquiring ColOil, a Colombia-based oil company and wants to estimate a cost of equity in Colombian pesos. It has collected the following information:

- The Colombian government has 10-year peso denominated bonds, trading at an interest rate of 7% and 10-year US$ denominated bonds trading at an interest rate of 5.0%. Colombia’s local currency rating matches its foreign currency rating.
- The standard deviation of Colombian equities is 25%, whereas the standard deviation in Colombian government bond (both peso and $) is 20%.

Assuming that the dollar cost of equity that Midland Oil has computed for itself is right (it reflects an appropriate beta for an oil drilling company), estimate the Colombian peso cost of equity for ColOil. (3 points)
3. Melia Coffee is a company that operates espresso bars and produces coffee pods and espresso machines for sale. The following table summarizes the revenues that the company generated from each business and relevant statistics from publicly traded companies in each business.

<table>
<thead>
<tr>
<th>Business</th>
<th>Melia’s Sales (in millions)</th>
<th>Industry average</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EV/Sales</td>
<td>Regression Beta</td>
</tr>
<tr>
<td>Espresso bars</td>
<td>$50</td>
<td>1.00</td>
</tr>
<tr>
<td>Coffee/Espresso</td>
<td>$50</td>
<td>3.00</td>
</tr>
<tr>
<td>Machines</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\( \text{EV} = \text{Enterprise value} = \text{Market value of equity} + \text{Debt} - \text{Cash} \)

\( \text{Unlevered betas are already corrected for cash holdings at companies} \)

Melia Coffee had debt outstanding of $ 50 million at the end of the most recent year and the marginal tax rate for all companies is 40%.

a. Estimate the levered beta for Melia Coffee today. (2 points)
b. The CEO of Melia Coffee is planning to do a leveraged buyout of the firm, where he intends to borrow $100 million and raise private equity (from KKR) to buy out the publicly traded stock in the firm. However, he plans to sell off the espresso bar business (at fair value) and retire debt right after the LBO, with the proceeds from the sale. Assuming that he can pull this off, estimate the levered beta for the firm after these transactions. (2 points)