Quiz 3: Corporate Finance

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

1. Lagerfield Enterprises is a public traded company, with 80 million shares outstanding, trading at $20/share and $400 million in debt outstanding (book and market value). The firm currently has a pre-tax cost of debt of 8% and a cost of capital of 9.36%. The riskfree rate is 3%, the equity risk premium is 5% and the marginal tax rate is 40%. Shaken by the financial crisis, the firm is planning on issuing new shares and retiring all of its debt. If it does so, what will its cost of capital be after the transaction? (3 points)
2. Nestea Inc. is a publicly traded beverage company with 15 million shares, trading at $40 a share, and $400 million in debt; the current cost of capital is 10.5%. Nestea plans to borrow $200 million and buy back stock, and it expects its cost of capital to drop to 10%, if it does so. Assuming that investors are rational and that savings from the lower cost of capital will grow 2% a year in perpetuity, how many shares will Nestea be able to buy back with $200 million. (4 points)
3. You have been asked to analyze how best Runoff Inc, a manufacturing firm, should finance its acquisitions of GEL Inc, and have been provided with the following information on the two firms:

<table>
<thead>
<tr>
<th>Firm</th>
<th>Market value of Equity</th>
<th>Market value of Debt</th>
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</thead>
<tbody>
<tr>
<td>Runoff</td>
<td>$300 million</td>
<td>$200 million (all 3-year zero coupon debt)</td>
</tr>
<tr>
<td>GEL</td>
<td>$400 million</td>
<td>$100 million (all 4-year zero coupon debt)</td>
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</tbody>
</table>

You have also run regressions of changes in firm value against changes in interest rates for both companies:

- Change in Value_{Runoff} = 0.08 \cdot 4.00 \text{ Change in T. Bond rate}
- Change in Value_{GEL} = 0.12 \cdot 7.00 \text{ Change in T. Bond rate}

Runoff plans to assume\(^1\) all of GEL’s debt and plans to acquire the equity in GEL using all debt. If its objective is to have the weighted duration of the combined firm’s debt be equal to the weighted duration of the combined firm’s assets, what should the duration of the “new” debt be? (3 points)

\(^1\) All of GEL’s existing debt will become Runoff debt. Runoff will therefore have to come up with only the equity portion of GEL for the acquisition.