A “Mystery” Valuation Exercise to Emphasize P/B and Forward P/E Ratios
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**INTRODUCTION**
This poster describes a valuation exercise:
- Used as a take-home exam in an MBA Financial Statement Analysis and Valuation course
- Also useful as a case or in-class group exercise
- Based on a recent personal experience with three companies in the specialty retail industry.

**OBJECTIVES**
- To test student’s ability to implement and understand the Residual Income (RIV) and Abnormal Earnings Growth (AEG) valuation models before moving to operations-based valuation.
- To emphasize the importance of understanding “knowing the business,” even within industry, to valuation.
- To understand the determinants and limitations Price-to-Book (P/B) and Forward Price-to-Earnings (P/E) ratios in valuation. These companies supposedly have the same operating risk, but may have different financial risk, profitability and growth.
- To use the “mystery” aspect to engage interest in the exercise and subsequent discussions.

**INFORMATION GIVEN**

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<thead>
<tr>
<th></th>
<th>COMPANY 1</th>
<th>COMPANY 2</th>
<th>COMPANY 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price Per Share Time Zero ($)</td>
<td>62.76</td>
<td>65.75</td>
<td>38.48</td>
</tr>
<tr>
<td>Book Value per Share</td>
<td>calculate</td>
<td>calculate</td>
<td>1.13</td>
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<tr>
<td>Beta</td>
<td>1.7</td>
<td>1.9</td>
<td>1.5</td>
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<tr>
<td>EPS Time Zero</td>
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<td>3.28</td>
<td>0.64</td>
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<tr>
<td>Dividend Per Share Time Zero</td>
<td>0.48</td>
<td>1.25</td>
<td>0.00</td>
</tr>
<tr>
<td>First Call Forecast EPS Time 1 ($)</td>
<td>4.53</td>
<td>3.77</td>
<td>0.87</td>
</tr>
<tr>
<td>First Call Forecast EPS Time 2 ($)</td>
<td>5.15</td>
<td>4.28</td>
<td>0.91</td>
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<tr>
<td>First Call Forecast EPS Time 3 ($)</td>
<td>5.76</td>
<td>4.89</td>
<td>1.12</td>
</tr>
</tbody>
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Risk Free Rate = 3.25%; Market Risk Premium = 5.0%; Growth for RIV & AEG = 4.0%

**SELECT QUESTIONS/CALCULATIONS**
Students were assigned either Company 1 or Company 2. Company 3 was for comparison.
1. Calculate the value per share using both the Residual Income Valuation (RIV) model and the Abnormal Earnings Growth (AEG) model
2. Compare the values per share calculated with the RIV and AEG models to your company’s stock price. Do you think each model is useful for your company given the assumptions?
3. Explain why the Price-to-Book (P/B) ratio for your company may differ from both the normal P/B ratio of 1 and Company 3’s P/B ratio
4. Explain why the forward Price-to-Earnings (P/E) ratio for your company may differ from both the normal P/E of (1/required return) and Company 3’s forward P/E.

**STUDENT SOLUTIONS**

- Of the students who calculated the P/B ratios correctly, most attributed the unusually high P/B of Company 3 to higher expected profitability. One also considered the effect of an unusually low book value.
- For the forward P/E ratios, most attributed the relative high P/E to higher expected growth. Some considered unusually low expected earnings.

**TEXTBOOK REFERENCES**