Teaching Finance in a Flipped Classroom

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March 12, 2012
Good judgment comes from experience.

Experience comes from bad judgment.

Seeking to Teach Good Judgment
Cumulative Total Returns: Wetherbe Fund vs. Stocks/Bonds Benchmark
January 2007 - Present

Wetherbe Fund: +21%
Benchmark: +13.5%
WHAT IS THE FLIPPED CLASSROOM?

The flipped classroom inverts traditional teaching methods, delivering instruction online outside of class and moving “homework” into the classroom.

THE INVERSION

The Traditional Classroom
Teacher’s Role: Sage on the Stage

LECTURE TODAY
Homework
Reading and questions for tomorrow

The Flipped Classroom
Teacher’s Role: Guide on the Side

ACTIVITY TODAY
WATCH lecture online tonight!

Source: www.knewton.com/flipped-classroom
A THEORETICAL FRAMEWORK

Educational technology and activity learning are two key components of the flipped classroom model. They both influence student learning environments in fundamental ways.

Source: www.knewton.com/flipped-classroom
FIN360: Financial Information Technology

- 26 exercises provided at start of semester
- Video tutorials recorded and posted online
- Students work exercises start to finish in class

A Flipped Classroom in Finance
<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Free Cash Flow to the Firm Valuation:</td>
<td>WMT</td>
<td>Wal-Mart Stores Inc</td>
<td></td>
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<td></td>
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<td></td>
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<tr>
<td>2</td>
<td>Date of valuation:</td>
<td>2/15/2012</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3</td>
<td>Total Revenue</td>
<td>348,368</td>
<td>377,023</td>
<td>404,254</td>
<td>408,085</td>
<td>421,849</td>
<td>443,562</td>
<td>452,433</td>
<td>461,482</td>
<td>470,712</td>
</tr>
<tr>
<td>4</td>
<td>Normalized EBITDA</td>
<td>25,997</td>
<td>28,269</td>
<td>29,506</td>
<td>31,419</td>
<td>33,183</td>
<td>34,598</td>
<td>34,837</td>
<td>35,073</td>
<td>35,303</td>
</tr>
<tr>
<td>5</td>
<td>Depreciation, Supplemental</td>
<td>5,500</td>
<td>6,317</td>
<td>6,739</td>
<td>7,157</td>
<td>7,641</td>
<td>8,091</td>
<td>8,482</td>
<td>8,864</td>
<td>9,237</td>
</tr>
<tr>
<td>6</td>
<td>Normalized EBIT</td>
<td>20,497</td>
<td>21,952</td>
<td>22,767</td>
<td>24,252</td>
<td>25,542</td>
<td>26,507</td>
<td>26,355</td>
<td>26,209</td>
<td>25,066</td>
</tr>
<tr>
<td>7</td>
<td>Income Tax Total</td>
<td>6,354</td>
<td>6,889</td>
<td>7,133</td>
<td>7,156</td>
<td>7,579</td>
<td>9,012</td>
<td>8,961</td>
<td>8,911</td>
<td>8,862</td>
</tr>
<tr>
<td>8</td>
<td>Normalized NOPAT</td>
<td>14,143</td>
<td>15,053</td>
<td>15,634</td>
<td>17,106</td>
<td>17,963</td>
<td>17,495</td>
<td>17,395</td>
<td>17,298</td>
<td>17,204</td>
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<tr>
<td>9</td>
<td>Depreciation, Supplemental</td>
<td>6,317</td>
<td>6,739</td>
<td>7,157</td>
<td>7,641</td>
<td></td>
<td>8,091</td>
<td>8,482</td>
<td>8,864</td>
<td>9,237</td>
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<tr>
<td>10</td>
<td>Working Capital Cash Flow (WCCF)</td>
<td>31</td>
<td>1,356</td>
<td>4,452</td>
<td>-2,535</td>
<td></td>
<td>907</td>
<td>177</td>
<td>181</td>
<td>185</td>
</tr>
<tr>
<td>11</td>
<td>Capital Expenditures (CapEx)</td>
<td>-14,937</td>
<td>-11,499</td>
<td>-12,184</td>
<td>-12,699</td>
<td></td>
<td>-13,307</td>
<td>-13,573</td>
<td>-13,844</td>
<td>-14,121</td>
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<tr>
<td>12</td>
<td>Free Cash Flow to the Firm (FCFF)</td>
<td>6,474</td>
<td>12,240</td>
<td>16,531</td>
<td>10,370</td>
<td></td>
<td>13,186</td>
<td>12,481</td>
<td>12,498</td>
<td>12,504</td>
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<tr>
<td>13</td>
<td>Terminal value</td>
<td></td>
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<td></td>
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<td></td>
<td>284,475</td>
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<td>14</td>
<td>Total $ Fair Value of Assets</td>
<td>$241,229</td>
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<td>15</td>
<td>Value of Debt</td>
<td>$49,864</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.9233</td>
<td>0.8525</td>
<td>0.7871</td>
<td>0.7268</td>
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<td>16</td>
<td>PV of future FCFF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12,175</td>
<td>10,640</td>
<td>9,838</td>
<td>9,088</td>
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<tr>
<td>17</td>
<td>Total Equity Value</td>
<td>$198,760</td>
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<td></td>
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<td></td>
<td></td>
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<tr>
<td>18</td>
<td>Value of Equity</td>
<td>$198,760</td>
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<tr>
<td>19</td>
<td>Fair value per share</td>
<td>$58.04</td>
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<td></td>
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<td>20</td>
<td>Current price</td>
<td>$82.01</td>
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<tr>
<td>21</td>
<td>% to Fair Value</td>
<td>-6.41%</td>
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WACC: \( w(\text{debt}) = 19.02\% \)
\( \text{Cost of debt} = 4.88\% \)
\( \text{Tax rate} = 34.00\% \)
\( w(\text{equity}) = 80.98\% \)
\( \text{WACC} = 8.31\% \)
\( \text{LT Corporate Bond Yields} \)

Required return on equity:

Rating: AA
Yield: 4.88%
Beta (raw): 0.34
Beta (Blume adjusted): 0.56
Equity Risk adjusted: 7.64%
M* req retn: 9.50%
CAPM required return: 7.54%
EV/EBITDA at terminal date: 7.90
FIN436/536: Applied Security Analysis and Portfolio Management
Asset Allocation

Efficient Frontier

Return Measure (Y) Risk Measure (X)
Arithmetic Mean Standard Deviation

Active Frontier: Practice Inputs 2011-12-19 11:08

Arithmetic Mean

Risk: Standard Deviation