Ponderous Thoughts… (or maybe not)

- There are few facts and lots of opinions…
- The real world is a messy place…
- Definitions matter…
- The model is your tool… You are not the model’s tool…
- Change is the only constant…
The Breakdown in the Classical Objective Function

**STOCKHOLDERS**
- Have little control over managers
- Managers put their interests above stockholders

**BONDHOLDERS**
- Lend Money
- Bondholders can get ripped off

**MANAGERS**
- Delay bad news or provide misleading information

**FINANCIAL MARKETS**
- Markets make mistakes and can over react

**SOCIETY**
- Significant Social Costs
- Some costs cannot be traced to firm
I. Where does the power lie?
II. Who is your marginal investor? Results from Spring 2007
III. Risk Profiles and Costs of Equity

Cost of Equity = Riskfree Rate + Beta * Risk Premium

Riskfree Rate:
- No default risk
- No reinvestment risk
- In same currency and in same terms (real or nominal as cash flows)

Beta - Measures market risk

Risk Premium - Premium for average risk investment

Type of Business
Operating Leverage
Financial Leverage
Base Equity Premium
Country Risk Premium
Beta: The Standard Approach

Beta of Equity

Top-Down

- $R_j$
- $R_m$
- $R^2$: Proportion of risk that is not diversifiable
- Slope = Beta
- Intercept - $R_f (1 - \text{Beta}) = \text{Jensen's Alpha}$

Bottom-up

1. Identify businesses that firm is in.
2. Take weighted average of the unlevered betas of other firms in the business.
3. Compute the levered beta using the firm’s current debt to equity ratio:
   \[ \beta_l = \beta_u \left[ 1 + (1 - \text{tax rate}) \left( \frac{\text{Debt}}{\text{Equity}} \right) \right] \]
Regression Estimation Approaches

Typical reasons given
1. My company is unique
2. My company is in only one line of business
3. My bottom-up beta is too different from my regression beta
Beta Distribution

![Beta Distribution Chart]

- < 0.5
- 0.5 - 0.7
- 0.7 - 0.9
- 0.9 - 1.1
- 1.1 - 1.3
- 1.3 - 1.5
- 1.5 - 1.75
- 1.75 - 2
- > 2
Jensen’s Alpha Distribution
R Squared

Aswath Damodaran
Cost of Capital

Cost of Capital = Cost of Equity \( \frac{E}{D+E} \) + After-tax cost of debt \( \frac{D}{D+E} \)

Cost of Equity

= Riskfree Rate + Default Spread

Rating

Actual Rating

Synthetic Rating

Cost of Debt

Market-value Weights of Debt & Equity

Equity includes Options

Debt includes all fixed commitments
Distribution of Current Market Value Debt Ratios

![Bar Chart showing the distribution of current market value debt ratios](chart.png)
IV. The Quality of Investments: The Firm View

% After-tax Operating Income \rightarrow \text{Capital Invested in Assets in Place}
% Return on Capital = \frac{\text{After-tax Operating Income}}{\text{Capital Invested in Assets in Place}}
% \text{Return Spread} = \text{ROC} - \text{WACC}
% \text{EVA} = (\text{ROC} - \text{WACC}) \times (\text{Capital Invested})
% \text{Cost of Capital} = \frac{\text{Cost of Equity (E/(D+E))} + \text{After-tax cost of debt (D/(D+E))}}{}
% \text{Net Income} \rightarrow \text{Equity Invested in Assets in Place}
% \text{Return on Equity} = \frac{\text{Net Income}}{\text{Equity Invested in Assets in Place}}
% \text{Return Spread} = \text{ROE} - \text{COE}
% \text{Equity EVA} = (\text{ROE} - \text{COE}) \times (\text{Equity Invested})
ROC versus Cost of Capital
ROE versus Cost of Equity

![Graph showing ROE versus Cost of Equity with bars for different ranges of ROE and Cost of Equity.](Image)
VI. The Optimal Financing Mix

Debt Ratios

- Optimal
- Actual

0% - 10%
0.01% - 20%
30% - 50%
60% - 70%
80% - 90%
>90%
Under versus Over Levered Firms

Degree of Under/OverLeverage

[Bar chart showing the comparison between underlevered and overlevered firms across different leverage levels, with bars representing the percentage of firms in each category.]
Change in Cost of Capital

![Bar chart showing the distribution of WACC drops among firms. The x-axis represents the percentage drop in WACC, and the y-axis represents the number of firms. The bars are grouped into categories: 0% or less, 0-0.20%, 0.20-0.40%, 0.40-0.60%, 0.60%-0.80%, 0.80%-1.00%, and >1.0%. The chart illustrates that the majority of firms experienced a drop in WACC of 0-0.40%.](image-url)
VIII. The Right Kind of Financing

- Sensitivity of Firm Value to Changes in Interest Rates
  - Duration of Assets
    - Duration of Debt
  - Cyclicality of Firm
    - Margin for Error
- Sensitivity of Firm Value to Changes in GDP
- Sensitivity of Firm Value to Changes in Inflation
  - Pricing Power
    - Fixed versus Floating Rate
- Sensitivity of Firm Value to Changes in Exchange Rates
  - Foreign Currency Exposure
    - Domestic versus Foreign Currency Debt
IX. Measuring Potential Dividends

1. Begin with the net income (which is after interest expenses and taxes)
2. Add back the non-cash charges such as depreciation & amortization
3. Subtract out reinvestment needs
   - Capital expenditures
   - Investments in Non-cash Working Capital (Change)
4. Subtract out payments to non-equity investors
   - Principal Repayments
   - Preferred Stock Dividends
5. Add any cash inflows from new debt
   - New Debt Issues

To get to the Cash that is available for return to Owners
Dividends versus FCFE

Dividends as % of FCFE
X. Valuation: Firm versus Equity

**EQUITY VALUATION WITH FCFE**

- **Cashflow to Equity**
  - Net Income
  - (Cap Ex - Depr) (1- DR)
  - Change in WC (1-DR)
  - \( = \text{FCFE} \)

- **Expected Growth**
  - Retention Ratio * Return on Equity

- **Terminal Value**
  - \( = \frac{\text{FCFE}_{n+1}}{(k_e - g_n)} \)

**DISCOUNTED CASHFLOW VALUATION**

- **Cashflow to Firm**
  - EBIT (1-t)
  - (Cap Ex - Depr)
  - Change in WC
  - \( = \text{FCFF} \)

- **Expected Growth**
  - Reinvestment Rate * Return on Capital

- **Terminal Value**
  - \( = \frac{\text{FCFF}_{n+1}}{(r - g_n)} \)

**Firm Value**

- Value of Equity

**Discount at Cost of Capital (WACC)**

\[ \text{Discount at Cost of Capital (WACC)} = \text{Cost of Equity} \left( \frac{\text{Equity}}{\text{Debt} + \text{Equity}} \right) + \text{Cost of Debt} \left( \frac{\text{Debt}}{\text{Debt} + \text{Equity}} \right) \]
Valuing Deutche Bank: 2003

Dividends
EPS = 0.433 Eur
* Payout Ratio 34.64%
DPS = 1.50 Eur

Expected Growth
65.36% *
11.26% = 7.36%

Retention Ratio = 65.36%
ROE = 11.26%

EPS 4.65 Eur 4.99 Eur 5.36 Eur 5.75 Eur 6.18 Eur
DPS 1.61 Eur 1.73 Eur 1.86 Eur 1.99 Eur 2.14 Eur

PV of dividends during first 5 years = 7.22 Euros

Discount at Cost of Equity

Cost of Equity
4.05% + 0.977 (4.82%) = 8.76%

Stock was trading at 66 Euros per share on the day of the valuation

Use industry average rather than Deutsche’s own ROE of 4.55%

Value of Equity per share = 7.22 Euros
+ 72.41/1.08765
= 54.80

Risk Free Rate:
Long term bond rate in Euros
4.05%

Beta
0.977

Risk Premium
4.82%

Mature Market
4.82%
Country Risk
0%

Weighted beta of commercial and investment banking businesses
Tsingtao Breweries: A FCFE valuation (2001)

Last Year
Net Income: 72.36 CY
- (Cap Ex - Deprec'n)(1-DR) - 77.39
- Chg in Wkg Cap (1-DR) - 30.89
= FCFE = -35.82 CY
Reinvestment Rate = 149.97%
Current Return on Capital = 2.80%

Expected Reinvestment
Rate = 149.97%

Return on capital
will improve to 12%

Stable growth rate = 10%
Return on Equity = 20%
Equity Reinv. Rate = 10%/20%
50% Cost of equity = 13.96%

Expected Growth rate over next 5 years
= 1.4997 *.12 + [(1.12-0.028)/0.028]^{1/5}-1] = 44.91%

Terminal value of Equity = 1331.81 \times 1.1^{(1.5)}/(0.1396-0.10) = 18497

PV of FCFE during high growth = -187
+ PV of Terminal price = 4783
= Value of Equity = 4596
Value per share = 7.04

Beta goes from 0.75 to 0.80
Country premium drops to 0.95%
Cost of equity drops to 13.96%

Riskfree Rate in CY = 10.00%
Beta = 0.75
Risk Premium = 6.28%

Mature market premium = 4%
Country Risk Premium = 2.28%

Default Spread for country = 0.95%
Equity Mkt std dev / Country bond std dev = 2.40

Cost of Equity = 10% + 0.75 (6.28%) = 14.71%
## Disney: Inputs to Valuation

<table>
<thead>
<tr>
<th></th>
<th>High Growth Phase</th>
<th>Transition Phase</th>
<th>Stable Growth Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Length of Period</strong></td>
<td>5 years</td>
<td>5 years</td>
<td>Forever after 10 years</td>
</tr>
<tr>
<td><strong>Tax Rate</strong></td>
<td>37.3%</td>
<td>37.3%</td>
<td>37.3%</td>
</tr>
<tr>
<td><strong>Return on Capital</strong></td>
<td>12% (last year’s return on capital was 4.42%)</td>
<td>Declines linearly to 10%</td>
<td>Stable ROC of 10%</td>
</tr>
<tr>
<td><strong>Reinvestment Rate</strong></td>
<td>53.18% (last year’s reinvestment rate)</td>
<td>Declines to 40% as ROC and growth rates drop: Reinvestment Rate = g/ROC</td>
<td>40% of after-tax operating income, estimated from stable growth rate of 4% and return on capital of 10%. Reinvestment rate = 4/10 = 40%</td>
</tr>
<tr>
<td><strong>Expected Growth Rate in EBIT</strong></td>
<td>ROC x Reinvestment Rate = 12% x 0.5318 = 6.38%</td>
<td>Linear decline to Stable Growth Rate of 4%</td>
<td>4%: Set to riskfree rate</td>
</tr>
<tr>
<td><strong>Debt/Capital Ratio</strong></td>
<td>21% (Existing debt ratio)</td>
<td>Increases linearly to 30%</td>
<td>Stable debt ratio of 30%</td>
</tr>
<tr>
<td><strong>Risk Parameters</strong></td>
<td>Beta = 1.25, k_e = 10%</td>
<td>Beta decreases linearly to 1.00; Cost of debt stays at 5.25%</td>
<td>Beta = 1.00; k_e = 8.82%</td>
</tr>
<tr>
<td></td>
<td>Cost of Debt = 5.25%</td>
<td>Cost of capital drops to 7.16%</td>
<td>Cost of debt stays at 5.25%</td>
</tr>
<tr>
<td></td>
<td>Cost of capital = 8.59%</td>
<td>Cost of capital = 7.16%</td>
<td>Cost of capital = 7.16%</td>
</tr>
</tbody>
</table>
## Disney: FCFF Estimates

<table>
<thead>
<tr>
<th>Year</th>
<th>Expected Growth</th>
<th>EBIT</th>
<th>EBIT (1−t)</th>
<th>Reinvestment Rate</th>
<th>Reinvestment</th>
<th>FCFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>$2,805</td>
<td>$2,805</td>
<td>$2,805</td>
<td>$2,805</td>
<td>$2,805</td>
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</tr>
<tr>
<td>1</td>
<td>6.38%</td>
<td>$2,984</td>
<td>$1,871</td>
<td>53.18%</td>
<td>$994.92</td>
<td>$876.06</td>
</tr>
<tr>
<td>2</td>
<td>6.38%</td>
<td>$3,174</td>
<td>$1,990</td>
<td>53.18%</td>
<td>$1,058.41</td>
<td>$931.96</td>
</tr>
<tr>
<td>3</td>
<td>6.38%</td>
<td>$3,377</td>
<td>$2,117</td>
<td>53.18%</td>
<td>$1,125.94</td>
<td>$991.43</td>
</tr>
<tr>
<td>4</td>
<td>6.38%</td>
<td>$3,592</td>
<td>$2,252</td>
<td>53.18%</td>
<td>$1,197.79</td>
<td>$1,054.70</td>
</tr>
<tr>
<td>5</td>
<td>6.38%</td>
<td>$3,822</td>
<td>$2,396</td>
<td>53.18%</td>
<td>$1,274.23</td>
<td>$1,122.00</td>
</tr>
<tr>
<td>6</td>
<td>5.90%</td>
<td>$4,047</td>
<td>$2,538</td>
<td>50.54%</td>
<td>$1,282.59</td>
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<td>$4,866</td>
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<td>$1,830.62</td>
</tr>
</tbody>
</table>
## Disney: Costs of Capital and Present Value

<table>
<thead>
<tr>
<th>Year</th>
<th>Cost of capital</th>
<th>FCFF</th>
<th>PV of FCFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8.59%</td>
<td>$876.06</td>
<td>$806.74</td>
</tr>
<tr>
<td>2</td>
<td>8.59%</td>
<td>$931.96</td>
<td>$790.31</td>
</tr>
<tr>
<td>3</td>
<td>8.59%</td>
<td>$991.43</td>
<td>$774.21</td>
</tr>
<tr>
<td>4</td>
<td>8.59%</td>
<td>$1,054.70</td>
<td>$758.45</td>
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<td>5</td>
<td>8.59%</td>
<td>$1,122.00</td>
<td>$743.00</td>
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<td>8.31%</td>
<td>$1,255.13</td>
<td>$767.42</td>
</tr>
<tr>
<td>7</td>
<td>8.02%</td>
<td>$1,393.77</td>
<td>$788.91</td>
</tr>
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<td>8</td>
<td>7.73%</td>
<td>$1,536.80</td>
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PV of cashflows during high growth = $7,894.66
Disney: Valuation

Current Cashflow to Firm

EBIT(1-t) : 1,759
- Nt CpX 481
- Chg WC 454
= FCFF $ 824
Reinvestment Rate=(481+454)/1759 = 53.18%

Expected Growth in EBIT (1-t) .5318*.12=.0638 6.38%

Reinvestment Rate=53.18%

Expected Growth
in EBIT (1-t)

Cashflows

Growth drops to 4%

Terminal Value10= 1,904/(.0716-.04) = 60,219

Cost of Equity
10%

Cost of Debt
(4.00%+1.25%)(1-.373) = 3.29%

Weights
E = 79% D = 21%

Discount at Cost of Capital (WACC) = 10.00% (.79) + 3.29% (0.21) = 8.59

In transition phase, debt ratio increases to 30% and cost of capital decreases to 7.16%

Disney was trading at about $26 at the time of this valuation.
Aswath Damodaran

Current EBIT (1-t) $1,759

The Investment Decision
Invest in projects that earn a return greater than a minimum acceptable hurdle rate

The Dividend Decision
If you cannot find investments that earn more than the hurdle rate, return the cash to the owners of the business.

The Financing Decision
Choose a financing mix that minimizes the hurdle rate and match your financing to your assets.

Existing Investments
ROC = 4.22%

New Investments

Return on Capital 12%

Reinvestment Rate 53.18%

Expected Growth Rate = 12% * 53.18% = 6.38%

Disney: Corporate Financing Decisions and Firm Value

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<td>Terminal Value</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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Cost of capital = 10% (.79) + 3.29% (.21) = 8.59%

Disney: Corporate Financing Decisions and Firm Value
Value versus Price

Valuation Results

- Undervalued > 50%
- Undervalued 10-50%
- Undervalued < 10%
- Overvalued less than 10%
- Overvalued between 10-50%
- Overvalued 50-100%
- Overvalued >100%
So, how do you explain the price? Its all relative.

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Ticker Symbol</th>
<th>PE</th>
<th>Expected Growth Rate</th>
<th>PEG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Point 360</td>
<td>PTSX</td>
<td>10.62</td>
<td>5.00%</td>
<td>2.12</td>
</tr>
<tr>
<td>Fox Entmt Group Inc</td>
<td>FOX</td>
<td>22.03</td>
<td>14.46%</td>
<td>1.52</td>
</tr>
<tr>
<td>Belo Corp. 'A'</td>
<td>BLC</td>
<td>25.65</td>
<td>16.00%</td>
<td>1.60</td>
</tr>
<tr>
<td>Hearst-Ardele Television Inc</td>
<td>HTV</td>
<td>26.72</td>
<td>12.90%</td>
<td>2.07</td>
</tr>
<tr>
<td>Journal Communications Inc.</td>
<td>JRN</td>
<td>27.94</td>
<td>10.00%</td>
<td>2.79</td>
</tr>
<tr>
<td>Saga Communic. 'A'</td>
<td>SGA</td>
<td>28.42</td>
<td>19.00%</td>
<td>1.50</td>
</tr>
<tr>
<td>Viacom Inc. 'B'</td>
<td>VIA/B</td>
<td>29.38</td>
<td>13.50%</td>
<td>2.18</td>
</tr>
<tr>
<td>Pixar</td>
<td>PIXR</td>
<td>29.80</td>
<td>16.50%</td>
<td>1.81</td>
</tr>
<tr>
<td>Disney (Walt)</td>
<td>DIS</td>
<td>29.87</td>
<td>12.00%</td>
<td>2.49</td>
</tr>
<tr>
<td>Westwood One</td>
<td>WON</td>
<td>32.59</td>
<td>19.50%</td>
<td>1.67</td>
</tr>
<tr>
<td>World Wrestling Ent.</td>
<td>WWE</td>
<td>33.52</td>
<td>20.00%</td>
<td>1.68</td>
</tr>
<tr>
<td>Cox Radio 'A' Inc</td>
<td>CXR</td>
<td>33.76</td>
<td>18.70%</td>
<td>1.81</td>
</tr>
<tr>
<td>Beasley Broadcast Group Inc</td>
<td>BBGI</td>
<td>34.06</td>
<td>15.23%</td>
<td>2.24</td>
</tr>
<tr>
<td>Entercom Comm. Corp</td>
<td>ETM</td>
<td>36.11</td>
<td>15.43%</td>
<td>2.34</td>
</tr>
<tr>
<td>Liberty Corp.</td>
<td>LC</td>
<td>37.54</td>
<td>19.50%</td>
<td>1.92</td>
</tr>
<tr>
<td>Ballantyne of Omaha Inc</td>
<td>BTNE</td>
<td>55.17</td>
<td>17.10%</td>
<td>3.23</td>
</tr>
<tr>
<td>Regent Communications Inc</td>
<td>RGCI</td>
<td>57.84</td>
<td>22.67%</td>
<td>2.55</td>
</tr>
<tr>
<td>Eommis Communications</td>
<td>EMMS</td>
<td>74.89</td>
<td>16.50%</td>
<td>4.54</td>
</tr>
<tr>
<td>Cumulus Media Inc</td>
<td>CMLS</td>
<td>94.35</td>
<td>23.30%</td>
<td>4.05</td>
</tr>
<tr>
<td>Univision Communic.</td>
<td>UVN</td>
<td>122.76</td>
<td>24.50%</td>
<td>5.01</td>
</tr>
<tr>
<td>Salem Communications Corp</td>
<td>SALM</td>
<td>145.67</td>
<td>28.75%</td>
<td>5.07</td>
</tr>
<tr>
<td>Average for sector</td>
<td></td>
<td>47.08</td>
<td>17.17%</td>
<td>2.74</td>
</tr>
</tbody>
</table>
## Most Under Valued Stocks

<table>
<thead>
<tr>
<th>Company</th>
<th>Value per share</th>
<th>Price/Share</th>
<th>Undervalued by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lions Gate</td>
<td>$27.81</td>
<td>$9.21</td>
<td>66.88%</td>
</tr>
<tr>
<td><strong>Drinks Americas Holdings</strong></td>
<td>$1.04</td>
<td>$0.39</td>
<td>62.50%</td>
</tr>
<tr>
<td>Hess</td>
<td>$193.42</td>
<td>$76.68</td>
<td>60.36%</td>
</tr>
<tr>
<td>JCP</td>
<td>$113.12</td>
<td>$45.73</td>
<td>59.57%</td>
</tr>
<tr>
<td>DDS</td>
<td>$46.03</td>
<td>$20.62</td>
<td>55.20%</td>
</tr>
<tr>
<td>M</td>
<td>$58.46</td>
<td>$29.09</td>
<td>50.24%</td>
</tr>
<tr>
<td>Pacific Ethanol</td>
<td>$11.99</td>
<td>$6.10</td>
<td>49.12%</td>
</tr>
<tr>
<td>Jet Blue</td>
<td>18.14</td>
<td>9.52</td>
<td>47.52%</td>
</tr>
<tr>
<td>Rolls Royce</td>
<td>£10.70</td>
<td>£5.65</td>
<td>47.20%</td>
</tr>
<tr>
<td>Coldwater Creek</td>
<td>$14.09</td>
<td>$7.45</td>
<td>47.13%</td>
</tr>
<tr>
<td>Allis-Chalmers Energy</td>
<td>$30.78</td>
<td>$16.63</td>
<td>45.97%</td>
</tr>
<tr>
<td>Alaska Air Group</td>
<td>$48.24</td>
<td>$26.50</td>
<td>45.07%</td>
</tr>
<tr>
<td>Crown Holdings</td>
<td>$32.69</td>
<td>$18.09</td>
<td>44.66%</td>
</tr>
<tr>
<td>British Airways (GBP)</td>
<td>6.12</td>
<td>3.42</td>
<td>44.12%</td>
</tr>
<tr>
<td>Halliburton</td>
<td>$67.09</td>
<td>$37.87</td>
<td>43.55%</td>
</tr>
</tbody>
</table>
The Triple Whammy: Underlevered, Cash Build-up and Under valued?

<table>
<thead>
<tr>
<th>Company</th>
<th>ROE - COE</th>
<th>ROC - WACC</th>
<th>Current Debt ratio</th>
<th>Optimal Debt Ratio</th>
<th>Dividends</th>
<th>FCFE</th>
<th>Value/share</th>
<th>Price/Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rolls Royce</td>
<td>37.10%</td>
<td>26.98%</td>
<td>40.00%</td>
<td>$98.60</td>
<td>$145.60</td>
<td>$10.70</td>
<td>$5.65</td>
<td></td>
</tr>
<tr>
<td>Allis-Chalmers Energy</td>
<td>14.10%</td>
<td>70.00%</td>
<td>$0.00</td>
<td>$55.56</td>
<td>$30.78</td>
<td>$16.63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domino's</td>
<td>16.20%</td>
<td>70.00%</td>
<td>$29.84</td>
<td>$114.23</td>
<td>$22.78</td>
<td>$13.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>K-Swiss</td>
<td>14.53%</td>
<td>50.00%</td>
<td>$7.84</td>
<td>$84.55</td>
<td>$29.90</td>
<td>$18.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vivendi</td>
<td>15.03%</td>
<td>70.00%</td>
<td>$2,255.00</td>
<td>$8,077.00</td>
<td>$52.40</td>
<td>$32.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Darden Restaurants</td>
<td>10.48%</td>
<td>50.00%</td>
<td>$59.20</td>
<td>$181.33</td>
<td>$63.02</td>
<td>39.26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cadbury Schweppes</td>
<td>29.51%</td>
<td>40.00%</td>
<td>$58.21</td>
<td>$3.14%</td>
<td>$114.23</td>
<td>$29.90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UPS</td>
<td>17.62%</td>
<td>70.00%</td>
<td>$1,196.20</td>
<td>$1,663.00</td>
<td>$102.29</td>
<td>72.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timberland</td>
<td>10.47%</td>
<td>70.00%</td>
<td>$0.00</td>
<td>$130.08</td>
<td>$21.44</td>
<td>15.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBS Corporation</td>
<td>-2.41%</td>
<td>50.00%</td>
<td>$519.10</td>
<td>$1,911.40</td>
<td>$37.60</td>
<td>26.51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viacom</td>
<td>9.32%</td>
<td>50.00%</td>
<td>$1,136.00</td>
<td>$2,071.17</td>
<td>$56.73</td>
<td>43.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Movado</td>
<td>1.64%</td>
<td>40.00%</td>
<td>$6.16</td>
<td>$30.08</td>
<td>$29.61</td>
<td>15.76</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FedEx</td>
<td>7.03%</td>
<td>70.00%</td>
<td>$110.00</td>
<td>$225.81</td>
<td>$123.48</td>
<td>97.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kraft</td>
<td>2.46%</td>
<td>30.00%</td>
<td>$199.26</td>
<td>$3,245.80</td>
<td>$40.71</td>
<td>32.51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valero</td>
<td>17.02%</td>
<td>60.00%</td>
<td>$369.63</td>
<td>$863.52</td>
<td>$80.39</td>
<td>64.65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harley-Davidson</td>
<td>18.34%</td>
<td>60.00%</td>
<td>$74.41</td>
<td>$1,189.00</td>
<td>$57.26</td>
<td>46.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Choice Hotels</td>
<td>-181.00%</td>
<td>40.00%</td>
<td>$98.68</td>
<td>$354.59</td>
<td>$44.06</td>
<td>36.23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nordstrom</td>
<td>23.37%</td>
<td>40.00%</td>
<td>$110.16</td>
<td>$347.90</td>
<td>$46.52</td>
<td>38.45</td>
<td></td>
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</tr>
<tr>
<td>Qualcomm</td>
<td>8.50%</td>
<td>30.00%</td>
<td>$459.00</td>
<td>$1,350.35</td>
<td>$23.85</td>
<td>20.18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wal-Mart</td>
<td>9.17%</td>
<td>60.00%</td>
<td>$5,193.83</td>
<td>$5,278.17</td>
<td>$57.57</td>
<td>49.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TV Guide</td>
<td>5.70%</td>
<td>20.00%</td>
<td>$0.00</td>
<td>$88.77</td>
<td>$5.78</td>
<td>4.99</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pactiv</td>
<td>24.27%</td>
<td>70.00%</td>
<td>$0.00</td>
<td>$293.01</td>
<td>30.65</td>
<td>26.56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Genentech</td>
<td>18.52%</td>
<td>30.00%</td>
<td>$559.18</td>
<td>$924.00</td>
<td>$78.39</td>
<td>68.89</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### The Investment Decision
Invest in projects that earn a return greater than a minimum acceptable hurdle rate.

### The Dividend Decision
If you cannot find investments that earn more than the hurdle rate, return the cash to the owners of the business.

### The Financing Decision
Choose a financing mix that minimizes the hurdle rate and match your financing to your assets.

**Current EBIT (1-t)**
$3,417

**Expected Growth Rate = 15% * 53.18% = 7.98%**

**Return on Capital**
15%

**Reinvestment Rate**
53.18%

**Cost of capital**
$10.53% (.70) + 3.45% (.30) = 8.40%

<table>
<thead>
<tr>
<th>Year</th>
<th>Expected Growth</th>
<th>EBIT (1-t)</th>
<th>Reinvestment Rate</th>
<th>Reinvestment</th>
<th>FCFF</th>
<th>Cost of capital</th>
<th>PV of FCFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>7.98%</td>
<td>$5,327</td>
<td>53.18%</td>
<td>$1,918</td>
<td>$1,688</td>
<td>8.40%</td>
<td>$1,558</td>
</tr>
<tr>
<td>1</td>
<td>7.98%</td>
<td>$5,752</td>
<td>53.18%</td>
<td>$2,071</td>
<td>$1,823</td>
<td>8.40%</td>
<td>$1,551</td>
</tr>
<tr>
<td>2</td>
<td>7.98%</td>
<td>$6,211</td>
<td>53.18%</td>
<td>$2,236</td>
<td>$1,969</td>
<td>8.40%</td>
<td>$1,545</td>
</tr>
<tr>
<td>3</td>
<td>7.98%</td>
<td>$6,706</td>
<td>53.18%</td>
<td>$2,414</td>
<td>$2,126</td>
<td>8.40%</td>
<td>$1,539</td>
</tr>
<tr>
<td>4</td>
<td>7.98%</td>
<td>$7,241</td>
<td>53.18%</td>
<td>$2,607</td>
<td>$2,295</td>
<td>8.40%</td>
<td>$1,533</td>
</tr>
<tr>
<td>5</td>
<td>7.98%</td>
<td>$7,819</td>
<td>53.18%</td>
<td>$2,803</td>
<td>$2,465</td>
<td>8.40%</td>
<td>$1,529</td>
</tr>
<tr>
<td>6</td>
<td>7.18%</td>
<td>$8,380</td>
<td>50.54%</td>
<td>$2,554</td>
<td>$2,656</td>
<td>8.40%</td>
<td>$1,525</td>
</tr>
<tr>
<td>7</td>
<td>6.39%</td>
<td>$8,915</td>
<td>47.91%</td>
<td>$2,278</td>
<td>$2,912</td>
<td>8.40%</td>
<td>$1,521</td>
</tr>
<tr>
<td>8</td>
<td>5.59%</td>
<td>$9,414</td>
<td>45.27%</td>
<td>$2,672</td>
<td>$3,230</td>
<td>7.91%</td>
<td>$1,517</td>
</tr>
<tr>
<td>9</td>
<td>4.80%</td>
<td>$9,865</td>
<td>42.64%</td>
<td>$2,637</td>
<td>$3,548</td>
<td>7.41%</td>
<td>$1,513</td>
</tr>
<tr>
<td>10</td>
<td>4.00%</td>
<td>$10,260</td>
<td>40.00%</td>
<td>$2,573</td>
<td>$3,860</td>
<td>7.16%</td>
<td>$1,509</td>
</tr>
</tbody>
</table>

**Terminal Value**
$126,967

Value of Operating Assets = $74,900
+ Cash & Non-op Assets = $3,432
Value of firm = $78,332
- Debt = $14,649
- Options = $1,335
Value of equity in stock = $62,349
Value per share = $30.45

**Disney: The Value of Control**
First Principles

- Invest in projects that yield a return greater than the minimum acceptable hurdle rate.
  - The hurdle rate should be higher for riskier projects and reflect the financing mix used - owners’ funds (equity) or borrowed money (debt)
  - Returns on projects should be measured based on cash flows generated and the timing of these cash flows; they should also consider both positive and negative side effects of these projects.
- Choose a financing mix that minimizes the hurdle rate and matches the assets being financed.
- If there are not enough investments that earn the hurdle rate, return the cash to stockholders.
  - The form of returns - dividends and stock buybacks - will depend upon the stockholders’ characteristics.

Objective: Maximize the Value of the Firm
Objectives of this class

- If you get the big picture, the details will come (sooner or later)
- Tools are useful but only in the larger context of answering bigger questions.
- Corporate finance is fun!!!
And don’t forget your CFEs…

1. This course was mentally challenging/intellectually stimulating.
   1 2 3 4 5 6 7
   No-brainer! Brilliant insights!

2. This course was demanding of my time.
   1 2 3 4 5 6 7
   What work? Haven’t slept all semester.

3. This course provided me with tools and information that I will find useful in the future.
   1 2 3 4 5 6 7
   Only in prison Completely relevant

4. Overall evaluation of the course
   1 2 3 4 5 6 7
   Horrible! (I want my money back) Stupendous!

5. The instructor was organized and well prepared for class.
   1 2 3 4 5 6 7
   Had trouble finding classroom Scarily efficient!

6. The instructor communicated his/her ideas and material well.
   1 2 3 4 5 6 7
   Garbled gobbledygook! Should have own TV show

7. The instructor was enthusiastic about his/her subject matter.
   1 2 3 4 5 6 7
   Dead man talking! I am a convert

8. Overall evaluation of the instructor
   1 2 3 4 5 6 7
   Dog! Star!