VALUE ENHANCEMENT AND THE EXPECTED VALUE OF CONTROL: BACK TO BASICS
Price Enhancement versus Value Enhancement

Aswath Damodaran

The market gives...

And takes away....

NAME THAT STOCK

New Markets, New Names
In the bull market, adding dot-com to a company name made a stock soar. Lately those zippy new monikers are disappearing.

New Name, Higher Price
But the stocks still get a boost when dot-com goes away. Chart shows returns in the days before and after the name change.

Using the DCF framework, there are four basic ways in which the value of a firm can be enhanced:

- The cash flows from existing assets to the firm can be increased, by either
  - increasing after-tax earnings from assets in place or
  - reducing reinvestment needs (net capital expenditures or working capital)
- The expected growth rate in these cash flows can be increased by either
  - Increasing the rate of reinvestment in the firm
  - Improving the return on capital on those reinvestments
- The length of the high growth period can be extended to allow for more years of high growth.
- The cost of capital can be reduced by
  - Reducing the operating risk in investments/assets
  - Changing the financial mix
  - Changing the financing composition
Value Creation 1: Increase Cash Flows from Assets in Place

Aswath Damodaran

1. More efficient operations and cost cutting: Higher Margins
2. Divest assets that have negative EBIT
3. Reduce tax rate
   - moving income to lower tax locales
   - transfer pricing
   - risk management

Revenues
- Operating Margin
  \[ \text{EBIT} \times (1 - t) \]
- Tax Rate \( t \) \cdot \text{EBIT}
= EBIT (1-t)
+ Depreciation
- Capital Expenditures
- Chg in Working Capital
= FCFF

- Live off past over-investment
- Better inventory management and tighter credit policies
Value Creation 2: Increase Value from Expected Growth

**Pricing Strategies**

*Price Leader versus Volume Leader Strategies*

\[
\text{Return on Capital} = \text{Operating Margin} \times \text{Capital Turnover Ratio}
\]

Game theory

*How will your competitors react to your moves?*
*How will you react to your competitors’ moves?*
Value Creating Growth... Evaluating the Alternatives..

Modes of organic growth vary in value creation intensity—consumer goods industry

- **New-product market development**: Shareholder value created for incremental $1 million of growth/target acquisition size: 1.75–2.00
- **Expanding an existing market**: 0.30–0.75
- **Maintaining/growing share in a growing market**: 0.10–0.50
- **Competing for share in a stable market**: −0.25–0.40
- **Acquisition (25th to 75th percentile result)**: −0.5–0.20

Revenue growth/acquisition size necessary to double typical company’s share price:
- **New-product market development**: 5–6 $ billions
- **Expanding an existing market**: 13–33
- **Maintaining/growing share in a growing market**: 20–100
- **Competing for share in a stable market**: n/m–25
- **Acquisition (25th to 75th percentile result)**: n/m–50
Sometimes, growing less is the answer...

Excess Returns (ROIC - Cost of Capital) Globally - January 2019 update

<table>
<thead>
<tr>
<th>Region</th>
<th>ROIC &lt; WACC</th>
<th>ROIC=WACC</th>
<th>ROIC &gt; WACC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa and Middle East</td>
<td>58.83%</td>
<td>13.09%</td>
<td>28.08%</td>
</tr>
<tr>
<td>Australia &amp; NZ</td>
<td>66.89%</td>
<td>8.26%</td>
<td>24.85%</td>
</tr>
<tr>
<td>Canada</td>
<td>80.35%</td>
<td>6.36%</td>
<td>13.29%</td>
</tr>
<tr>
<td>China</td>
<td>51.33%</td>
<td>14.56%</td>
<td>33.51%</td>
</tr>
<tr>
<td>Eastern Europe &amp; Russia</td>
<td>60.57%</td>
<td>14.25%</td>
<td>25.18%</td>
</tr>
<tr>
<td>EU &amp; Enrons</td>
<td>53.27%</td>
<td>12.73%</td>
<td>34.00%</td>
</tr>
<tr>
<td>India</td>
<td>35.04%</td>
<td>13.44%</td>
<td>32.62%</td>
</tr>
<tr>
<td>Japan</td>
<td>46.18%</td>
<td>19.35%</td>
<td>34.47%</td>
</tr>
<tr>
<td>Latin America &amp; Caribbean</td>
<td>53.43%</td>
<td>17.59%</td>
<td>28.84%</td>
</tr>
<tr>
<td>Small Asia</td>
<td>69.39%</td>
<td>9.99%</td>
<td>20.62%</td>
</tr>
<tr>
<td>UK</td>
<td>40.31%</td>
<td>11.20%</td>
<td>39.50%</td>
</tr>
<tr>
<td>United States</td>
<td>57.73%</td>
<td>10.47%</td>
<td>31.80%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>58.79%</td>
<td>12.30%</td>
<td>28.91%</td>
</tr>
</tbody>
</table>
III. Building Competitive Advantages: Increase length of the growth period

*Increase length of growth period*

- Build on existing competitive advantages
  - Brand name
  - Legal Protection
- Find new competitive advantages
  - Switching Costs
  - Cost advantages
Value Creation 4: Reduce Cost of Capital

Value Creation 4: Reduce Cost of Capital

- Change financing mix
  - Match debt to assets, reducing default risk
    - Swaps
    - Derivatives
    - Hybrids
  - More effective advertising
- Outsourcing
- Flexible wage contracts & cost structure
- Reduce operating leverage
- Make product or service less discretionary to customers
- Changing product characteristics

Cost of Equity \( \frac{E}{D+E} \) + Pre-tax Cost of Debt \( \frac{D}{D+E} \) = Cost of Capital
Current Cashflow to Firm

EBIT(1-t) : 1414
- Nt CpX : 831
- Chg WC : -19
FCFF : 602
Reinvestment Rate = 612/1414 = 57.42%

Expected Growth in EBIT (1-t)

.5742*.1993 = .1144
11.44%

Return on Capital

19.93%

Stable Growth

g = 3.41%; Beta = 1.00;
Debt Ratio = 20%
Cost of capital = 6.62%
ROC = 6.62%; Tax rate = 35%
Reinvestment Rate = 51.54%

Terminal Value

10 = 1717/(.0662 - .0341) = 53546

Cost of Equity

8.77%

Cost of Debt

(3.41% + .35%)(1 -.3654) = 2.39%

Weights

E = 98.6% D = 1.4%

Riskfree Rate

Euro riskfree rate = 3.41%

Beta

1.26

Risk Premium

4.25%

Unlevered Beta for Sectors: 1.25

Mature risk premium 4%

Country Equity Prem 0.25%

Average Reinvestment rate = 36.94%

Aswath Damodaran
## SAP: Optimal Capital Structure

<table>
<thead>
<tr>
<th>Debt Ratio</th>
<th>Beta</th>
<th>Cost of Equity</th>
<th>Bond Rating</th>
<th>Interest rate on debt</th>
<th>Tax Rate</th>
<th>Cost of Debt (after-tax)</th>
<th>WACC</th>
<th>Firm Value (G)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>1.25</td>
<td>8.72%</td>
<td>AAA</td>
<td>3.76%</td>
<td>36.54%</td>
<td>2.39%</td>
<td>8.72%</td>
<td>$39,088</td>
</tr>
<tr>
<td>10%</td>
<td>1.34</td>
<td>9.09%</td>
<td>AAA</td>
<td>3.76%</td>
<td>36.54%</td>
<td>2.39%</td>
<td>8.42%</td>
<td>$41,480</td>
</tr>
<tr>
<td>20%</td>
<td>1.45</td>
<td>9.56%</td>
<td>A</td>
<td>4.26%</td>
<td>36.54%</td>
<td>2.70%</td>
<td>8.19%</td>
<td>$43,567</td>
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<tr>
<td>30%</td>
<td>1.59</td>
<td>10.16%</td>
<td>A-</td>
<td>4.41%</td>
<td>36.54%</td>
<td>2.80%</td>
<td>7.95%</td>
<td>$45,900</td>
</tr>
<tr>
<td>40%</td>
<td>1.78</td>
<td>10.96%</td>
<td>CCC</td>
<td>11.41%</td>
<td>36.54%</td>
<td>7.24%</td>
<td>9.47%</td>
<td>$34,043</td>
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<tr>
<td>50%</td>
<td>2.22</td>
<td>12.85%</td>
<td>C</td>
<td>15.41%</td>
<td>22.08%</td>
<td>12.01%</td>
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<td>$22,444</td>
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<tr>
<td>60%</td>
<td>2.78</td>
<td>15.21%</td>
<td>C</td>
<td>15.41%</td>
<td>18.40%</td>
<td>12.58%</td>
<td>13.63%</td>
<td>$19,650</td>
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<tr>
<td>70%</td>
<td>3.70</td>
<td>19.15%</td>
<td>C</td>
<td>15.41%</td>
<td>15.77%</td>
<td>12.98%</td>
<td>14.83%</td>
<td>$17,444</td>
</tr>
<tr>
<td>80%</td>
<td>5.55</td>
<td>27.01%</td>
<td>C</td>
<td>15.41%</td>
<td>13.80%</td>
<td>13.28%</td>
<td>16.03%</td>
<td>$15,658</td>
</tr>
<tr>
<td>90%</td>
<td>11.11</td>
<td>50.62%</td>
<td>C</td>
<td>15.41%</td>
<td>12.26%</td>
<td>13.52%</td>
<td>17.23%</td>
<td>$14,181</td>
</tr>
</tbody>
</table>
SAP: Restructured

Current Cashflow to Firm

| EBIT(1-t) | 1414 |
| - Nt CpX | 831 |
| - Chg WC | -19 |
| = FCFF   | 602 |

Reinvestment Rate = 812/1414 = 57.42%

Expected Growth in EBIT (1-t)

\[ 0.70 \times 0.1993 = 0.1144 \]

13.99%

Reinvest more in emerging markets

Return on Capital 19.93%

Stable Growth

g = 3.41%; Beta = 1.00;
Debt Ratio = 30%;
Cost of capital = 6.27%
ROC = 6.27%; Tax rate = 35%
Reinvestment Rate = 54.38%

Terminal Value

\[ 1898 / (0.0627 - 0.0341) = 66367 \]

Op. Assets 38045

+ Cash: 3,018
- Debt 558
- Pension Lian 305
- Minor. Int. 55
= Equity 40157
- Options 180
Value/Share 126.51

Cost of Capital (WACC) = 10.57% (0.70) + 2.80% (0.30) = 8.24%

Cost of Equity 10.57%

Cost of Debt

\[ (3.41\% + 1.00\%) \times (1 - 0.3654) \]

= 2.80%

Weights

E = 70%; D = 30%

Riskfree Rate: Euro riskfree rate = 3.41%

+ Beta 1.59

x Risk Premium 4.50%

Use more debt financing.

On May 5, 2005, SAP was trading at 122 Euros/share
### Current Cashflow to Firm

- **EBIT(1-t):** 163
- **Nt CpX:** 39
- **Chg WC:** 4
- **= FCFF:** 120

Reinvestment Rate = 43/163 = 26.46%

### Expected Growth in EBIT (1-t)

\[ .2645 \times 0.0406 = 0.0107 \]

1.07%

### Reinvestment Rate

26.46%

### Terminal Value

\[ 104 / (0.0676 - 0.03) = 2714 \]

### Expected Growth

\[ \text{Expected Growth} = 1.07\% \]

### Stable Growth

- **g = 3\%; Beta = 1.00;**
- **Cost of capital = 6.76\%;**
- **ROC = 6.76\%; Tax rate = 35\%;**
- **Reinvestment Rate = 44.37\%;**

### Discount Rate at Cost of Capital (WACC)

\[ \text{Cost of Equity} = 8.50\% \]

\[ \text{Cost of Debt} = (4.10\% + 2\%) \times (1 - 0.35) = 3.97\% \]

\[ \text{Weights} = E = 48.6\% D = 51.4\% \]

### Riskfree Rate

- **Riskfree rate = 4.10\%;**

### Beta

\[ \text{Beta} = 1.10 \]

### Risk Premium

\[ \text{Risk Premium} = 4\% \]

### Unlevered Beta for Sectors

\[ \text{Unlevered Beta} = 0.80 \]

### Firm's D/E Ratio

\[ \text{Firm's D/E Ratio} = 21.35\% \]

### Mature risk premium

\[ \text{Mature risk premium} = 4\% \]

### Country Equity Prem

\[ \text{Country Equity Prem} = 0\% \]
### Blockbuster: Restructured

**Current Cashflow to Firm**

<table>
<thead>
<tr>
<th>Component</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBIT(1-t)</td>
<td>249</td>
</tr>
<tr>
<td>Net CPX</td>
<td>39</td>
</tr>
<tr>
<td>Change WC</td>
<td>4</td>
</tr>
<tr>
<td><strong>FCFF</strong></td>
<td>206</td>
</tr>
<tr>
<td>Reinvestment Rate</td>
<td>17.32%</td>
</tr>
</tbody>
</table>

**Expected Growth in EBIT (1-t)**

\[
\text{Expected Growth} = 0.1732 \cdot 0.0620 = 0.0107 = 1.07\%
\]

**Stable Growth**

\[ q = 3\%; \ Beta = 1.00; \text{ Cost of capital } = 6.76\% \]

\[ \text{ROC} = 6.76\%; \text{ Tax rate } = 35\% \]

\[ \text{Reinvestment Rate} = 43/249 = 17.32\% \]

\[ \text{Reinvestment Rate} = 44.37\% \]

**Terminal Value**

\[ \text{Value/Share} = 156/(0.0676-0.03) = 4145 \]

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

\[ \text{WACC} = 8.50\% \cdot 0.486 + 3.97\% \cdot 0.514 = 6.17\% \]

**Cost of Equity**

8.50%

**Cost of Debt**

\[ (4.10\%+2\%)(1-.35) = 3.97\% \]

**Weights**

\[ E = 48.6\%; D = 51.4\% \]

**Riskfree Rate**

Riskfree rate = 4.10%

\[ \text{Beta} = 1.10 \]

\[ \text{Risk Premium} = 4\% \]

**Unlevered Beta for Sectors**

0.80

**Firm's D/E Ratio**

21.35%

**Mature Risk premium**

4%

**Country Equity Prem**

0%
The Expected Value of Control

The Value of Control

Probability that you can change the
management of the firm

\[ \times \]

Change in firm value from changing
management

Takeover
Restrictions
Voting Rules & Rights
Access to Funds
Size of company

Value of the firm run optimally

Value of the firm run status quo
Why the probability of management changing shifts over time....

- Corporate governance rules can change over time, as new laws are passed. If the change gives stockholders more power, the likelihood of management changing will increase.

- Activist investing ebbs and flows with market movements (activist investors are more visible in down markets) and often in response to scandals.

- Events such as hostile acquisitions can make investors reassess the likelihood of change by reminding them of the power that they do possess.
You can estimate the probability of management changes by using historical data (on companies where change has occurred) and statistical techniques such as probits or logits.

Empirically, the following seem to be related to the probability of management change:

- Stock price and earnings performance, with forced turnover more likely in firms that have performed poorly relative to their peer group and to expectations.
- Structure of the board, with forced CEO changes more likely to occur when the board is small, is composed of outsiders and when the CEO is not also the chairman of the board of directors.
- Ownership structure, since forced CEO changes are more common in companies with high institutional and low insider holdings. They also seem to occur more frequently in firms that are more dependent upon equity markets for new capital.
- Industry structure, with CEOs more likely to be replaced in competitive industries.
Hostile acquisitions: In hostile acquisitions which are motivated by control, the control premium should reflect the change in value that will come from changing management.

Valuing publicly traded firms: The market price for every publicly traded firm should incorporate an expected value of control, as a function of the value of control and the probability of control changing.

\[ \text{Market value} = \text{Status quo value} + (\text{Optimal value} - \text{Status quo value}) \times \text{Probability of management changing} \]

Voting and non-voting shares: The premium (if any) that you would pay for a voting share should increase with the expected value of control.

Minority Discounts in private companies: The minority discount (attached to buying less than a controlling stake) in a private business should be increase with the expected value of control.
1. Hostile Acquisition: Example

- In a hostile acquisition, you can ensure management change after you take over the firm. Consequently, you would be willing to pay up to the optimal value.

- As an example, Blockbuster was trading at $9.50 per share in July 2005. The optimal value per share that we estimated as $12.47 per share. Assuming that this is a reasonable estimate, you would be willing to pay up to $2.97 as a premium in acquiring the shares.

- Issues to ponder:
  - Would you automatically pay $2.97 as a premium per share? Why or why not?
  - What would your premium per share be if change will take three years to implement?
The market price per share at the time of the valuation (May 2005) was roughly $9.50.

Expected value per share = Status Quo Value + Probability of control changing * (Optimal Value – Status Quo Value)

$9.50 = $5.13 + Probability of control changing ($12.47 - $5.13)

The market is attaching a probability of 59.5% that management policies can be changed. This was after Icahn’s successful challenge of management. Prior to his arriving, the market price per share was $8.20, yielding a probability of only 41.8% of management changing.

<table>
<thead>
<tr>
<th></th>
<th>Value of Equity</th>
<th>Value per share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status Quo</td>
<td>$955 million</td>
<td>$5.13 per share</td>
</tr>
<tr>
<td>Optimally mana ged</td>
<td>$2,323 million</td>
<td>$12.47 per share</td>
</tr>
</tbody>
</table>