Home Depot: Background and Model Choice

- Home Depot is the largest home improvement retailer in the world and the second largest retailer of any kind in the U.S.

- Because Home Depot’s leverage ratio is fairly stable, either a Free Cash Flow to the Firm (FCFF) or Free Cash Flow to Equity (FCFE) model should work well.

- The firm has revenue and earnings growth that are higher than a stable growth firm, but not extraordinarily high. I will apply a two-stage model allowing for a finite period of high growth followed by stable growth in perpetuity.

Home Depot: Background and Model Choice

- The firm operated 2,042 stores in 2005.
  - 54 stores in Mexico – largely due to the acquisition of Home Mart Mexico, the largest home improvement retailer in Mexico.
  - 137 stores in Canada.
  - The firm also entered into a recent agreement to lease commercial space for expansion into China.
  - As of 2005, the firm also had numerous wholly-owned subsidiaries providing plumbing, flooring, heating/air conditioning, etc.

- While the firm grew very rapidly in the late 1990s, growth has diminished over time.
  - Revenues were $81.5 billion in 2005 and were growing at a rate of 10-11% per year.
  - Store growth averaged 17% over the past 10 years, but 8% in 2005.
Home Depot: Model Inputs

- The following basic information is obtained from Home Depot’s 2005 financial statements:
  - Net Income = $5838 million, EPS = $2.73, and DPS = $0.40
  - Operating Income (EBIT) = $9363 million
  - Effective tax rate = 37.1%, marginal tax rate ≅ 38%
  - CapEx (net of divestitures) = $3717 mil, depreciation = $1579 mil
  - Increase in non-cash working capital = $644 million
  - Net debt issues $971 million, debt-to-capital ratio = 13.2%

- In addition, we estimate that as of 12/31/2005:
  - MV of debt = $4.06 billion and MV of equity = $85.99 billion
  - Beta = 1.4438 (regression beta)

Home Depot: FCFF Valuation

- I will begin with a two-stage FCFF valuation of Home Depot as of 12/31/2005.

- Steps in valuation:
  - Cost of Capital Calculations
    » Operating lease adjustment
    » Cost of equity and WACC calculations
  - Analysis of internal reinvestment
    » Normalization of working capital
    » Normalization of acquisition costs
  - Analysis of non-equity claims
    » Valuation of existing employee stock options
  - FCFF valuation
    » Calculation of current and past FCFF
    » Forecasting growth based on historical and fundamental growth
    » Discounted Cash Flow Analysis based on FCFF
Home Depot: Operating Leases

- Operating leases should be considered debt for the purposes of valuation. We can estimate the present value of Home Depot’s future operating lease commitments using the firm’s cost of debt, or 4.89%.

<table>
<thead>
<tr>
<th>Year</th>
<th>Lease Commitments ($ millions)</th>
<th>Present Value ($ millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>706</td>
<td>673.09</td>
</tr>
<tr>
<td>2007</td>
<td>669</td>
<td>608.08</td>
</tr>
<tr>
<td>2008</td>
<td>618</td>
<td>535.53</td>
</tr>
<tr>
<td>2009</td>
<td>558</td>
<td>461.00</td>
</tr>
<tr>
<td>2010</td>
<td>535</td>
<td>421.39</td>
</tr>
<tr>
<td>&gt;2010</td>
<td>5,363 = 617.2/yr for 8.69 years</td>
<td>3,375.65</td>
</tr>
</tbody>
</table>

Debt Value of Leases = $6,074.73

Home Depot: Operating Leases

- Home Depot’s pre-tax operating income in 2005 was $9,363 million and its 2005 operating lease expense was $782 million.
  - Using Home Depot’s cost of debt, gives operating income adjusted for operating leases of $9,660 million:
    \[
    9363 + (6074.7 \times 0.0489) = 9363 + 297.1 = $9,660 million
    \]

- The market value of Home Depot’s debt in 2005 was $4,056 million.
  - Incorporating operating lease commitments, Home Depot’s adjusted debt equals $10,131 million:
    \[
    4056 + 6075 = $10,131 million
    \]
Home Depot: Cost of Equity

To estimate the cost of equity for Home Depot we make the following assumptions as of 12/31/2005:
- The risk-free rate equals the yield on the long-term Treasury Bond, or 4.39%.
- The market risk-premium equals the historical geometric average of the premium of U.S. equities over the long-term Treasury Bond, or 4.80%.
- Home Depot’s Beta equals 1.4438, as estimated from a CAPM regression using five years of monthly data.

\[ k_{e,HD} = 4.39\% + 1.4438(4.80\%) = 11.32\% \]

Home Depot: Cost of Capital

To estimate the WACC for Home Depot we make the following assumptions:
- The cost of equity was estimated previously to be 11.32%
- The cost of debt is 4.89% (based on the firm’s rating and comparable bonds)
- Home Depot’s market value of debt equals $4.056 billion prior to the operating lease adjustment and $10.131 billion after the operating lease adjustment.
- Home Depot’s market value of equity equals $85.99 billion
- The marginal tax rate is 38%

\[ WACC = \left( \frac{85.99}{85.99 + 10.131} \right) 11.32\% + \left( \frac{10.131}{85.99 + 10.131} \right) 4.89\%(1-.38) \]

\[ = .8946(11.32\%) + .1054(3.032\%) = 10.45\% \]
### Home Depot: Working Capital

- In order to grow, Home Depot must reinvest in short-term working capital and long-term capital expenditures.

- The change in non-cash working capital for Home Depot was -$1,900 million, $310 million, -$198 million, $76 million, and $644 million in 2001 through 2005, respectively.

- To normalize the firm’s investment in working capital, I examine working capital as a % of revenues. Non-cash working capital averaged approximately 7% of revenues prior to 2000 and 2.43% of revenues after 2000.

- The change in revenues from 2004 to 2005 was $8417 million.

- Based on these numbers, I assume a change in non-cash working capital for 2005 of 2.43% x $8417 = $204.53 million.

### Home Depot: Acquisition Costs

- In addition to expenditures on property, plant, and equipment, Home Depot made significant capital expenditures in the form of acquisitions.

- Home Depot makes numerous acquisitions each year. Acquisition costs for 2001 through 2005 were $193 million, $202 million, $248 million, $729 million, and 2.55 billion, respectively.

- To normalize these acquisition costs, I estimate the average cost of acquisitions from 2001 to 2005, giving $783.6 million. I use this average acquisition cost to estimate capital expenditures in 2005.
To value the equity of the firm, we must also understand the value of non-equity claims on the firm’s cash flows. Existing employee stock options are one such non-equity claim. Home Depot’s 2005 Annual Report provides the following summary of existing employee options.

The company also notes that they use the Black-Scholes model for valuing options, assuming a risk-free rate of 4.3%, a standard deviation of 33.7%, and a dividend yield of 1.1%.

Using the Black-Scholes Model and the inputs provided in Home Depot’s financial statements, I estimate the value of employee stock options to be $1,318.13 million.
Home Depot: FCFF

Based on the estimates outlined on the prior slides, I estimate Free Cash Flow to the Firm (FCFF) in 2005 as follows:

- Adjusted EBIT(1-T) $ 9659.3(1-.371)
- (Capex – Depreciation) – (3717 – 1579)
- Acquisition Costs – 783.60
- Increase in Working Capital – 204.53
= FCFF $ 2949.6 million

Home Depot: Forecasting Growth

- Home Depot’s growth in both revenues and new stores has slowed considerably over the past five years, from roughly 20% to 10%. This suggests that Home Depot’s future growth may be slowing.

- Home Depot’s reinvestment rate and ROC also suggest that it will be unable to maintain double-digit growth for an extended period of time. This is due partly to the fact that past increases in growth have reflected improvements in ROC, which cannot continue indefinitely.

- However, continued U.S. expansion as well as expansion in Mexico, Canada, and China suggest that Home Depot may have strong growth for the next few years.
### Historical Growth at Home Depot

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenues</th>
<th>% Change</th>
<th>EBITDA</th>
<th>% Change</th>
<th>Net Income</th>
<th>% Change</th>
<th>Stores</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>15470.36</td>
<td></td>
<td>1376.51</td>
<td></td>
<td>731.52</td>
<td></td>
<td>423.00</td>
<td></td>
</tr>
<tr>
<td>1996</td>
<td>19535.50</td>
<td>26.28%</td>
<td>1767.11</td>
<td>28.38%</td>
<td>937.74</td>
<td>28.19%</td>
<td>512.00</td>
<td>21.04%</td>
</tr>
<tr>
<td>1997</td>
<td>24156.00</td>
<td>23.65%</td>
<td>2181.00</td>
<td>23.42%</td>
<td>1160.00</td>
<td>23.70%</td>
<td>624.00</td>
<td>21.88%</td>
</tr>
<tr>
<td>1998</td>
<td>30219.00</td>
<td>25.10%</td>
<td>3027.00</td>
<td>38.79%</td>
<td>1614.00</td>
<td>39.14%</td>
<td>761.00</td>
<td>21.96%</td>
</tr>
<tr>
<td>1999</td>
<td>38434.00</td>
<td>27.18%</td>
<td>4267.00</td>
<td>40.96%</td>
<td>2320.00</td>
<td>43.74%</td>
<td>930.00</td>
<td>22.21%</td>
</tr>
<tr>
<td>2000</td>
<td>45738.00</td>
<td>19.00%</td>
<td>4816.00</td>
<td>12.91%</td>
<td>2581.00</td>
<td>11.25%</td>
<td>1134.00</td>
<td>21.94%</td>
</tr>
<tr>
<td>2001</td>
<td>53553.00</td>
<td>17.09%</td>
<td>5721.00</td>
<td>18.74%</td>
<td>3044.00</td>
<td>17.94%</td>
<td>1333.00</td>
<td>17.55%</td>
</tr>
<tr>
<td>2002</td>
<td>58247.00</td>
<td>8.77%</td>
<td>6775.00</td>
<td>19.42%</td>
<td>3664.00</td>
<td>20.37%</td>
<td>1532.00</td>
<td>14.93%</td>
</tr>
<tr>
<td>2003</td>
<td>64816.00</td>
<td>11.28%</td>
<td>7919.00</td>
<td>16.89%</td>
<td>4304.00</td>
<td>17.47%</td>
<td>1707.00</td>
<td>11.42%</td>
</tr>
<tr>
<td>2004</td>
<td>73094.00</td>
<td>12.77%</td>
<td>9231.00</td>
<td>16.57%</td>
<td>5001.00</td>
<td>16.19%</td>
<td>1890.00</td>
<td>10.72%</td>
</tr>
<tr>
<td>2005</td>
<td>81511.00</td>
<td>11.52%</td>
<td>10861.00</td>
<td>17.66%</td>
<td>5638.00</td>
<td>16.74%</td>
<td>2042.00</td>
<td>8.04%</td>
</tr>
</tbody>
</table>

**Arithmetic Avg:** 18.26%  23.27%  23.47%  17.17%

**Geometric Avg:** 18.08%  22.94%  23.08%  17.05%

**Std. Deviation:** 6.60%  9.21%  10.01%  5.21%

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### Home Depot: Forecasting Growth

- **Historical Growth:**
  - Earnings growth in 2005 was 17% and the 10-yr geometric average is 23%
  - Industry average earnings growth during 2005 was approximately 14%

- **Analyst Forecasts:**
  - The long-term analyst forecast of EPS growth for the industry is 13.6%

- **Fundamental Growth:**
  - Home Depot’s adjusted ROC and reinvestment rate for 2005 were 18.5% and 51.5%, giving a long-term fundamental growth rate of 9.5%.
  - By improving ROC in 2005, Home Depot improved its total fundamental growth to 18.3%.
  - The industry average ROC and reinvestment rate are 21% and 34%, respectively, giving a fundamental growth rate of 7.1%.

- I will assume 13% growth in earnings (and FCFF) for five years and 5% growth in perpetuity thereafter. I will also assume the reinvestment rate remains at 50% during the high growth period.
Home Depot: FCFF Valuation

- Based on the two-stage model, the present value of Home Depot’s operating cash flows is $107,643 million.
- Home Depot does not have any unconsolidated holdings in other firms, but it does have cash and marketable securities valued at $807 million. Adding this gives a firm value of $108,450 million.
- Next we subtract the value of other claims:
  - Debt (including operating leases) = $10,131 million.
  - After-tax value of employee stock options = $817.3 million.
- These adjustments give a total equity value of $97,502 million. Dividing by 2,124.3 million shares outstanding gives an equity price per share of $45.90.
- The market price of the stock as of 12/30/2005 was $40.48.

Home Depot: Sensitivity Analysis

- Assuming high growth of only 10% rather than 13% gives an estimated price of $39.89.
- Assuming stable growth of only 4% rather than 5% gives an estimated price of $41.88.
- Assuming ROC = 13% rather than the current industry average of 17% gives an estimated price of $40.38.
- Assuming a cost of capital of 11% rather than 10.45% gives an estimated price of $40.85.
On March 31, 2006 Home Depot completed its acquisition of Hughes Supply. This is Home Depot’s largest acquisition to date and doubles the size of the firm’s supply division.

In April 2006, the company’s Director and CEO came under fire for his huge compensation package which increased by 11% in 2005, despite a 12% drop in stock price since he took over. The protests were heightened in May 2006 when the Chairman/CEO would not answer questions related to his pay package at the company’s annual meeting and the remaining directors didn’t even show up for the meeting.

In May 2006, Home Depot agreed to acquire Enerbank USA. This firm is an example of the type of “industrial loan corporation” that allows U.S. firms to get involved in the banking industry through a regulatory loophole. The FDIC has since put approval of these types of deals on hold while it considers regulatory changes.

On May 17, 2006, the stock price dropped 5% despite a 19% increase in quarterly profits. The drop reflected analyst and investor reaction to the firm’s decision to stop reporting comparable store sales. After the backlash, the company reconsidered and again reported the numbers with their second quarter results in August 2006.