DIVIDEND ASSESSMENT: THE CASH-TRUST NEXUS

Dividend policy rests on management trust.
Set Up and Objective
1: What is corporate finance
2: The Objective: Utopia and Let Down
3: The Objective: Reality and Reaction

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

Hurdle Rate
4. Define & Measure Risk
5. The Risk free Rate
6. Equity Risk Premiums
7. Country Risk Premiums
8. Regression Betas
9. Beta Fundamentals
10. Bottom-up Betas
11. The "Right" Beta
12. Debt: Measure & Cost
13. Financing Weights

Investment Return
14. Earnings and Cash flows
15. Time Weighting Cash flows
16. Loose Ends

The Financing Decision
Find the right kind of debt for your firm and the right mix of debt and equity to fund your operations

Financing Mix
17. The Trade off
18. Cost of Capital Approach
19. Cost of Capital: Follow up
20. Cost of Capital: Wrap up
21. Alternative Approaches
22. Moving to the optimal

Financing Type
23. The Right Financing

The Dividend Decision
If you cannot find investments that make your minimum acceptable rate, return the cash to owners of your business

Dividend Policy
24. Trends & Measures
25. The trade off
26. Assessment
27. Action & Follow up
28. The End Game

Valuation
29. First steps
30. Cash flows
31. Growth
32. Terminal Value
33. To value per share
34. The value of control
35. Relative Valuation

36. Closing Thoughts
The Cash/Trust Assessment

Step 1: How much could the company have paid out during the period under question?

Step 2: How much did the company actually pay out during the period in question?

Step 3: How much do I trust the management of this company with excess cash?
   How well did they make investments during the period in question?
   How well has my stock performed during the period in question?
How much has the company returned to stockholders?

- As firms increasingly use stock buybacks, we have to measure cash returned to stockholders as not only dividends but also buybacks.

- For instance, for the companies we are analyzing, the cash returned looked as follows.

<table>
<thead>
<tr>
<th>Year</th>
<th>Disney Dividends</th>
<th>Disney Buybacks</th>
<th>Vale Dividends</th>
<th>Vale Buybacks</th>
<th>Tata Motors Dividends</th>
<th>Tata Motors Buybacks</th>
<th>Baidu Dividends</th>
<th>Baidu Buybacks</th>
<th>Deutsche Bank Dividends</th>
<th>Deutsche Bank Buybacks</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>$648</td>
<td>$648</td>
<td>$2,993</td>
<td>$741</td>
<td>7,595₹</td>
<td>0₹</td>
<td>₹0</td>
<td>₹0</td>
<td>2,274€</td>
<td>0€</td>
</tr>
<tr>
<td>2009</td>
<td>$653</td>
<td>$2,669</td>
<td>$2,771</td>
<td>$9</td>
<td>3,496₹</td>
<td>0₹</td>
<td>₹0</td>
<td>₹0</td>
<td>309€</td>
<td>0€</td>
</tr>
<tr>
<td>2010</td>
<td>$756</td>
<td>$4,993</td>
<td>$3,037</td>
<td>$1,930</td>
<td>10,195₹</td>
<td>0₹</td>
<td>₹0</td>
<td>₹0</td>
<td>465€</td>
<td>0€</td>
</tr>
<tr>
<td>2011</td>
<td>$1,076</td>
<td>$3,015</td>
<td>$9,062</td>
<td>$3,051</td>
<td>15,031₹</td>
<td>0₹</td>
<td>₹0</td>
<td>₹0</td>
<td>691€</td>
<td>0€</td>
</tr>
<tr>
<td>2012</td>
<td>$1,324</td>
<td>$4,087</td>
<td>$6,006</td>
<td>$0</td>
<td>15,088₹</td>
<td>970₹</td>
<td>₹0</td>
<td>₹0</td>
<td>689€</td>
<td>0€</td>
</tr>
<tr>
<td>2008-12</td>
<td>$4,457</td>
<td>$15,412</td>
<td>$23,869</td>
<td>$5,731</td>
<td>51,405₹</td>
<td>970₹</td>
<td>₹0</td>
<td>₹0</td>
<td>4,428₹</td>
<td>₹0</td>
</tr>
</tbody>
</table>
A Measure of How Much a Company Could have Afforded to Pay out: FCFE

- The Free Cashflow to Equity (FCFE) is a measure of how much cash is left in the business after non-equity claimholders (debt and preferred stock) have been paid, and after any reinvestment needed to sustain the firm’s assets and future growth.

Net Income
  + Depreciation & Amortization
  = Cash flows from Operations to Equity Investors
  - Preferred Dividends
  - Capital Expenditures
  - Working Capital Needs
  - Principal Repayments
  + Proceeds from New Debt Issues
  = Free Cash flow to Equity
Disney’s FCFE: 2008 – 2012

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Income</td>
<td>$6,136</td>
<td>$5,682</td>
<td>$4,807</td>
<td>$3,963</td>
<td>$3,307</td>
<td>$23,895</td>
</tr>
<tr>
<td>- (Cap. Exp - Depr)</td>
<td>$604</td>
<td>$1,797</td>
<td>$1,718</td>
<td>$397</td>
<td>$122</td>
<td>$4,638</td>
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<tr>
<td>- ∂ Working Capital</td>
<td>($133)</td>
<td>$940</td>
<td>$950</td>
<td>$308</td>
<td>($109)</td>
<td>$1,956</td>
</tr>
<tr>
<td>Free CF to Equity (pre-debt)</td>
<td>$5,665</td>
<td>$2,945</td>
<td>$2,139</td>
<td>$3,258</td>
<td>$3,294</td>
<td>$17,301</td>
</tr>
<tr>
<td>+ Net Debt Issued</td>
<td>$1,881</td>
<td>$4,246</td>
<td>$2,743</td>
<td>$1,190</td>
<td>($235)</td>
<td>$9,825</td>
</tr>
<tr>
<td>= Free CF to Equity (actual debt)</td>
<td>$7,546</td>
<td>$7,191</td>
<td>$4,882</td>
<td>$4,448</td>
<td>$3,059</td>
<td>$27,126</td>
</tr>
<tr>
<td>Free CF to Equity (target debt ratio)</td>
<td>$5,720</td>
<td>$3,262</td>
<td>$2,448</td>
<td>$3,340</td>
<td>$3,296</td>
<td>$18,065</td>
</tr>
<tr>
<td>Dividends</td>
<td>$1,324</td>
<td>$1,076</td>
<td>$756</td>
<td>$653</td>
<td>$648</td>
<td>$4,457</td>
</tr>
<tr>
<td>Dividends + Buybacks</td>
<td>$5,411</td>
<td>$4,091</td>
<td>$5,749</td>
<td>$3,322</td>
<td>$1,296</td>
<td>$19,869</td>
</tr>
</tbody>
</table>

Disney returned about $1.5 billion more than the $18.1 billion it had available as FCFE with a normalized debt ratio of 11.58% (its current debt ratio).
Estimating FCFE when Leverage is Stable

Net Income
- \((1 - \delta)\) (Capital Expenditures - Depreciation)
- \((1 - \delta)\) Working Capital Needs
= Free Cash flow to Equity

- \(\delta = \) Debt/Capital Ratio
- For this firm,
  - Proceeds from new debt issues = Principal Repayments + \(d\) (Capital Expenditures - Depreciation + Working Capital Needs)
  - Thus, whatever debt has to be repaid gets paid off with new debt and additional debt is taken on to fund growth in the firm.
An Example: FCFE Calculation

- Consider the following inputs for Microsoft in 1996. In 1996, Microsoft’s FCFE was:
  - Net Income = $2,176 Million
  - Capital Expenditures = $494 Million
  - Depreciation = $480 Million
  - Increase in Non-Cash Working Capital = $35 Million
  - Debt Ratio = 0%

- FCFE = Net Income - (Cap ex - Depr) (1-DR) - Chg WC (!-DR)
  
  = $2,176 - (494 - 480) (1-0) - $35 (1-0)
  
  = $2,127 Million

- By this estimation, Microsoft could have paid $2,127 Million in dividends/stock buybacks in 1996. They paid no dividends and bought back no stock. Where will the $2,127 million show up in Microsoft’s balance sheet?
**FCFE for a Bank?**

- We redefine reinvestment as investment in regulatory capital.

  \[ \text{FCFE}_{\text{Bank}} = \text{Net Income} - \text{Increase in Regulatory Capital (Book Equity)} \]

- Consider a bank with $10 billion in loans outstanding and book equity of $750 million. If it maintains its capital ratio of 7.5%, intends to grow its loan base by 10% to $11 billion and expects to generate $150 million in net income:

  \[ \text{FCFE} = 150 \text{ million} - (11,000-10,000) \times 0.075 = 75 \text{ million} \]

**Deutsche Bank: FCFE estimates (November 2013)**

<table>
<thead>
<tr>
<th>Asset Base</th>
<th>Current</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>439,851 €</td>
<td>453,047 €</td>
<td>466,638 €</td>
<td>480,637 €</td>
<td>495,056 €</td>
<td>509,908 €</td>
</tr>
<tr>
<td>Capital ratio</td>
<td>16.00%</td>
<td>16.00%</td>
<td>16.00%</td>
<td>16.00%</td>
<td>16.00%</td>
<td>16.00%</td>
</tr>
<tr>
<td>Tier 1 Capital</td>
<td>70,376 €</td>
<td>72,487 €</td>
<td>74,662 €</td>
<td>76,902 €</td>
<td>79,209 €</td>
<td>81,585 €</td>
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<tr>
<td>Change in regulatory capital</td>
<td>2,111 €</td>
<td>2,175 €</td>
<td>2,240 €</td>
<td>2,307 €</td>
<td>2,376 €</td>
<td></td>
</tr>
<tr>
<td>Book Equity</td>
<td>76,829 €</td>
<td>78,940 €</td>
<td>81,115 €</td>
<td>83,355 €</td>
<td>85,662 €</td>
<td>88,038 €</td>
</tr>
<tr>
<td>ROE</td>
<td>-1.08%</td>
<td>0.74%</td>
<td>2.55%</td>
<td>4.37%</td>
<td>6.18%</td>
<td>8.00%</td>
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<tr>
<td>Net Income</td>
<td>-757 €</td>
<td>584 €</td>
<td>2,072 €</td>
<td>3,642 €</td>
<td>5,298 €</td>
<td>7,043 €</td>
</tr>
<tr>
<td>- Investment in Regulatory Capital</td>
<td>2,111 €</td>
<td>2,175 €</td>
<td>2,240 €</td>
<td>2,307 €</td>
<td>2,376 €</td>
<td></td>
</tr>
<tr>
<td>FCFE</td>
<td>-1,528 €</td>
<td>-102 €</td>
<td>1,403 €</td>
<td>2,991 €</td>
<td>4,667 €</td>
<td></td>
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</tbody>
</table>
Dividends versus FCFE: Across the globe

Figure 11.2: Dividends versus FCFE in 2014
The Consequences of Failing to pay FCFE

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash Flow</th>
<th>Cash Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985</td>
<td>$1,500</td>
<td>$0</td>
</tr>
<tr>
<td>1986</td>
<td>$2,000</td>
<td>$1,000</td>
</tr>
<tr>
<td>1987</td>
<td>$1,500</td>
<td>$2,000</td>
</tr>
<tr>
<td>1988</td>
<td>$1,000</td>
<td>$3,000</td>
</tr>
<tr>
<td>1989</td>
<td>$500</td>
<td>$4,000</td>
</tr>
<tr>
<td>1990</td>
<td>$0</td>
<td>$5,000</td>
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<td>1991</td>
<td>$1,000</td>
<td>$6,000</td>
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<td>1992</td>
<td>$2,500</td>
<td>$7,000</td>
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<tr>
<td>1993</td>
<td>$3,000</td>
<td>$8,000</td>
</tr>
<tr>
<td>1994</td>
<td>$3,500</td>
<td>$8,000</td>
</tr>
</tbody>
</table>

Notes:

- Cumulated Cash = Free Cash Flow to Equity
- Cash to Stockholders = FCFE
Application Test: Estimating your firm’s FCFE

- In General,
  Net Income
  + Depreciation & Amortization
  - Capital Expenditures
  - Change in Non-Cash Working Capital
  - Preferred Dividend
  - Principal Repaid
  + New Debt Issued

  = FCFE

- Compare to
  Dividends (Common)
  + Stock Buybacks

If cash flow statement used
Net Income
+ Depreciation & Amortization
+ Capital Expenditures
+ Changes in Non-cash WC
+ Preferred Dividend
+ Increase in LT Borrowing
+ Decrease in LT Borrowing
  + Change in ST Borrowing

= FCFE

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Task
Estimate the potential dividends for your company and it’s current cash balance.