Capital Structure in Major Corporations: Theory and Practice

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Capital Structure

- Choice of Capital Structure
- Theory
  - Capital Structure in a Perfect Capital Market
  - Tradeoff Theory: Optimal Amount of Debt with Taxes and Financial Distress
  - Tradeoff Theory: Plus Asymmetric Information, Incentives...
- Practice
  - New Issues
  - Sources Equal Uses
  - Leverage Ratios
  - Cash Holdings
Capital Structure: Theory and Practice

**Theory:** The choice and amount of securities to issue when raising capital from investors, either to invest (such as capital expenditures or mergers), to hold, or to pay claimants (such as repaying debt, paying dividends, or repurchasing shares)
Capital Structure in a Perfect Capital Market

- Modigliani Miller Proposition I (American Economic Review, 1958): As long as the cash flows generated by the firm’s assets are unchanged, a firm’s total value does not depend on its capital structure

\[ V_U = \text{Value of firm with no debt} \]
Tradeoff Theory: Optimal Amount of Debt with Taxes and Financial Distress

The tax shield increases the value of the levered firm. Financial distress costs lower the value of the levered firm. The two offsetting factors produce an optimal amount of debt at $D^*$. 

$$V_L = V_U + t_cD$$

Value of firm under MM with corporate taxes and debt

$$V = V_U$$

Actual value of firm

$$V_U =$$

Value of firm with no debt

$$V_L =$$

Value of levered firm

$V = V_U$ + $t_cD$

Present value of tax shield on debt

Present value of financial distress costs

Optimal amount of debt

Maximum firm value

Value of firm ($V$)
Tradeoff Theory: Plus Asymmetric Information, Incentives...

Value of firm ($V$)

Too Little Leverage
- Lost Tax Benefits
- Excessive Perks
- Wasteful Investment
- Empire Building

Too Much Leverage
- Excessive Interest
- Financial Distress Costs
- Excessive Risk Taking
- Under-investment

Value of Debt, $D$

$t_c D$

$V_L$

$V_U$
Why Hold Cash?

- The General Theory of Employment, Interest and Money by John Maynard Keynes, 1936
  1. Transaction Motive
  2. Precautionary Motive
  3. Speculative Motive

- Cash as an option

  **Warren Buffett** “looks at cash as an option – in essence, the price of being able to scoop up a bargain when it becomes available.”

  **Alice Schroeder** in an interview at the Investment Industry Association of Canada, September 24, 2012

  “It serves the shareholder best to actually have that strategic ability to pounce” when there is the opportunity to make a major acquisition.

  **Patrick Pichette**, Google CFO, at the Morgan Stanley Technology Conference, March 4, 2013

  “The first thing is to keep enough cash on hand to give us flexibility to manage things like a severe short-term economic dislocation.”


- Overseas taxation
**Capital Structure: Theory and Practice**

**Practice:** The choice and amount of securities to issue when raising capital from investors, either to invest (such as capital expenditures or mergers), to hold, or to pay claimants (such as repaying debt, paying dividends, or repurchasing shares)
## New Issues

**New Security Issues, U.S. Corporations (1.46)**  
Millions of dollars

<table>
<thead>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 All issues, new and refunding</td>
<td>1,037,231</td>
<td>1,401,013</td>
<td>1,528,874</td>
<td>127,845</td>
<td>143,278</td>
<td>125,458</td>
<td>142,389</td>
<td>166,128</td>
<td>92,113</td>
<td>77,208</td>
<td>165,285</td>
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<td>1,242,453</td>
<td>1,337,544</td>
<td>124,362</td>
<td>140,686</td>
<td>115,946</td>
<td>139,214</td>
<td>158,872</td>
<td>90,023</td>
<td>76,639</td>
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**By type of offering**

| 3 Sold in the United States | 880,674 | 1,265,321 | 1,296,574 | 115,752  | 136,502  | 109,390  | 133,683  | 152,983  | 89,590   | 74,051   | 151,203  |
| 4 Sold abroad | 28,438  | 37,132   | 40,671   | 8,611    | 3,784    | 6,556    | 5,530    | 5,888    | 433      | 2,588    | 5,957    |

**MEMO**

| 5 Private placements, domestic | 17,095 | 21,350   | 21,239   | n.a.     | n.a.     | n.a.     | n.a.     | n.a.     | n.a.     |

**By industry group**

| 6 Nonfinancial | 480,698 | 663,254 | 714,683 | 69,409 | 74,322 | 50,476 | 57,119 | 81,168 | 36,824 | 23,208 | 73,204 |
| 7 Financial | 428,411 | 579,199 | 622,861 | 54,563 | 66,364 | 65,470 | 72,094 | 77,704 | 53,199 | 63,431 | 83,956 |

**Stocks**

| 8 | 129,489 | 158,933 | 191,512 | 10,621 | 13,045 | 19,585 | 16,783 | 24,805 | 16,321 | 3,398 | 19,813 |

**By industry group**

| 9 Nonfinancial | 58,740 | 62,976 | 101,762 | 7,059 | 7,460 | 7,264 | 7,874 | 16,610 | 7,654 | 1,917 | 7,240 |
| 10 Financial | 70,749 | 95,957 | 89,730 | 3,722 | 5,585 | 12,320 | 8,909 | 8,240 | 8,667 | 1,480 | 12,573 |

Sources Equal Uses:
How S&P Composite 1500 Firms’ Capital is Distributed  (in $billions)

<table>
<thead>
<tr>
<th>Year</th>
<th>Market Cap.</th>
<th>Dividends</th>
<th>Buybacks</th>
<th>Acquisitions</th>
<th>Capital Expenditures</th>
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<td>11,481</td>
<td>119</td>
<td>87</td>
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<td>1996</td>
<td>13,911</td>
<td>128</td>
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<td>115</td>
<td>385</td>
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<td>19,395</td>
<td>136</td>
<td>170</td>
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<td>140</td>
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<td>431</td>
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<td>2005</td>
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<tr>
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<td>673</td>
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<td>612</td>
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<td>249</td>
<td>662</td>
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<td>513</td>
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<tr>
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<td>525</td>
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<td>2012</td>
<td>14,946</td>
<td>330</td>
<td>446</td>
<td>334</td>
<td>724</td>
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<tr>
<td>2013</td>
<td>19,380</td>
<td>365</td>
<td>522</td>
<td>224</td>
<td>739</td>
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</tbody>
</table>

Leverage Ratios

Figure 1: Annual Aggregate Leverage Ratios

Leverage Ratios

Panel B: Cash and Net Debt

US Non-Financial Companies Cash Holdings
(in billions, as of 6/30/14)

Cash = Cash + Cash Equivalents

$1,649
US Non-Financial Companies Cash Holdings
(in billions, as of 6/30/14)

Top 50 Cash Holders
$1,021
(62%)
US Non-Financial Companies Cash Holdings
(in billions, as of 6/30/14)

Top 5 Cash Holders:
- Apple
- Microsoft
- Google
- Cisco
- Oracle

Top 5 Cash Holders: $415.1 billion (25%)
US Non-Financial Companies Cash Holdings
(in billions, as of 6/30/14)

Apple $164.5  (10%)
“That's why all these companies are building up hoards of cash, because they don't know what to do with it, but they don't want to admit they're no longer tech companies.”

Peter Thiel, while debating then-Google CEO Eric Schmidt about cash holdings on July 16, 2012

“Treasurers are sleeping soundly these nights, while their stockholders walk the floor in worried desperation.”


“Cash is king. No company ever went out of business for having too much cash.”

Scott McNealy, cofounder of Sun Microsystems, on Your World with Neil Cavuto on January 17, 2003
If you’re interested in learning more: