Seminar on Public Finance

Lecture #9: March 28

Business and Corporate Income Taxation
Corporate Taxation Topics

- Average vs. Marginal Effective Tax Rates
- Depreciation and Investment
  - Policy experiment: does investment stimulus work?
- Financing: Debt vs. Equity
- Treatment of Corporate Tax Losses
  - Policy experiment: does stimulus via refunding to tax losses work?
- Multinational Corporations
  - Policy experiment: did repatriation tax break create jobs?
- Dividend Payouts
  - Policy experiment: did corporations pay out more dividends after the 2003 tax cuts reduced tax on dividends to 15%?
- Corporate Tax Incidence
Rate cuts vs. Accelerated depreciation

- All corporate tax reform packages ultimately come down to these factors.
- If revenue neutrality matters, depreciation MUST be altered if you want to lower tax rates.
- All other “corporate preferences” are much smaller. Might “buy down” the tax rate 3-5 percentage points. See recent JCT analysis.
Debate: Rate Cuts or Accelerated Depreciation?

- **Question:** if we want to reduce the “double tax” on corporate earnings and spur investment, should we allow more accelerated tax depreciation such as “bonus depreciation” or simply lower the tax rate?
- **Treasury:** reducing tax rate gives you less “bang for the buck”
  - “Old capital” will benefit, has no impact on investment decisions
  - Rate cuts benefit marginal and inframarginal investment the same, and in same proportion.
  - Expensing also helps all investment, but proportionally much greater for marginal investment: ONLY “normal” return is eliminated.
- **Conclusion:** If you have limited funds to “spend,” then you get more induced investment per dollar of tax cut with more accelerated depreciation than tax cuts.
But a Rate Reduction Can Be Superior

- Lowering the rate reduces the bias in favor of debt (deduction is worth less). Accelerating depreciation does nothing.
- Lowering the rate reduces the bias against corporations. More accelerated depreciation must be offered to all firms, corporate and non-corporate.
- Lower rate reduces the value of tax shelters.
- Lower rates encourages firms to unlock foreign earnings and bring back to US.
- Lower rates help investments that are “intangibles” and are currently expensed such as R&D and computer databases.
Increasing Capital Mobility Matters

- In an international context, a country’s statutory tax rate affects location decision (entire firm) while METR affects expansion decision.

- When locating a firm, you care about the tax rate on ALL investment, not just marginal investment. Very lumpy.

- Europe: nearly all countries have lowered their statutory rates and paid for them by offering less generous depreciation allowances (recoup outlays more slowly).

- Lower rates also help combat income shifting between countries:
  - Transfer pricing: high tax country overpays to low tax affiliate
  - Related party debt: high tax county borrows for low tax affiliate
  - Location of intangibles in low tax countries
Figure 4

Corporate Tax Rates Vary Widely by Sector

Average tax rate of various business sectors

- Trucking: 30.9%
- Household Products: 24.9%
- Chemical: 21.6%
- Machinery: 20.4%
- Restaurant: 19.9%
- Medical Services: 18.8%
- Financial Services: 16.5%
- Petroleum Production: 11.3%
- Computer Software/Svcs: 10.1%
- Metals & Mining: 7.4%
- Public/Private Equity: 0.8%

Source: Calculations by Aswath Damodaran, New York University, based on public financial statements.
## Corporate Tax Rates in OECD Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Top Corporate Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>35.0</td>
</tr>
<tr>
<td>France</td>
<td>34.4</td>
</tr>
<tr>
<td>Belgium</td>
<td>33.0</td>
</tr>
<tr>
<td>Spain, Mexico, Japan, Australia</td>
<td>30.0</td>
</tr>
<tr>
<td>Norway, New Zealand</td>
<td>28.0</td>
</tr>
<tr>
<td>Italy</td>
<td>27.5</td>
</tr>
<tr>
<td>Sweden</td>
<td>26.3</td>
</tr>
<tr>
<td>Portugal, Netherlands, Israel, Denmark, Austria</td>
<td>25.0</td>
</tr>
<tr>
<td>Finland</td>
<td>24.5</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>24.0</td>
</tr>
<tr>
<td>Korea</td>
<td>22.0</td>
</tr>
<tr>
<td>Luxembourg, Estonia</td>
<td>21.0</td>
</tr>
<tr>
<td>Turkey, Slovenia, Iceland, Greece, Chile</td>
<td>20.0</td>
</tr>
<tr>
<td>Slovak Republic</td>
<td>19.0</td>
</tr>
<tr>
<td>Poland, Hungary</td>
<td>19.0</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>19.0</td>
</tr>
<tr>
<td>Canada, Germany</td>
<td>15.0</td>
</tr>
<tr>
<td>Ireland</td>
<td>12.5</td>
</tr>
<tr>
<td>Switzerland</td>
<td>8.5</td>
</tr>
<tr>
<td>OECD Avg</td>
<td>23.4</td>
</tr>
</tbody>
</table>
Figure 2
U.S. Average Corporate Taxes
Low By International Standards

Average Corporate Tax Rates (2000-2005)

- Australia: 30.5%
- United Kingdom: 27.7%
- France: 20.0%
- Portugal: 17.2%
- Belgium: 17.1%
- Spain: 16.7%
- Japan: 16.4%
- Finland: 16.2%
- Czech Republic: 15.7%
- Denmark: 15.0%
- Greece: 15.0%
- Canada: 14.5%
- Switzerland: 14.4%
- Korea: 14.3%
- United States: 13.4%
- Slovak Republic: 11.5%
- Poland: 11.3%
- Austria: 11.2%
- Germany: 7.2%
Average Effective Tax Rate (AETR) = US tax / US profits
- Excludes all foreign income

Examines 280 Fortune 500 firms, look at 2008-10, exclude all firms reporting a loss

Use “book profits” from 10-K filings with the SEC (GAAP rules, not tax)

30 have AETR < 0, 67 have rate from 0 - 10% = 107 firms < 10% AETR
14 have rate 10% to 17.5%, 98 between 17.5% and 30%, 71 firms have AETR > 30%

- Using their measure, AETRs will always be very low during these times.
What is driving the very low rates?

• Very accelerated tax depreciation (mentioned)
  • Reduces taxes now, but increases them in future (deferred tax liability)
  • Purely a timing benefit
  • Book profits (the denominator) does not use the tax measure of depreciation
  • Also, “bonus” depreciation for 2008-2010

• Net Operating Loss Deductions (largely omitted)
  • Tax deductions from past years that reduce taxes.
  • Tax loss that is forced to be carried forward or backwards to offset old taxes.

• Should these firms be treated differently (same investment)?
  • A: 100, 100, 100 = 300
  • B. -100, 200, 200 = 300

• No. The timing should not matter. Overall burden and tax should be the same.

• This is NOT a “tax break” or loophole. HUGE tax losses, but might be profitable on a “book” basis.
Financing Investment: Debt vs. Equity
Basic Corporate Finance

• Corporate finance = how businesses finance investments, manage cash flow

• 2 ways to finance projects
  1. Internally
     • i.e., use retained earnings
  2. Externally
     • with debt (promise to repay principle and interest on loan)
     • with equity (promise to share in future profits)
Debt vs. Equity Financing

• Use of debt finance
  • U.S. tax system allows for the deduction of interest payments, but not dividend payments.
  • Thus, built in bias toward debt financing.
  • If borrowing cost at 6%, after-tax cost is really 6% * (1 - 35%) = 4%.
Debt vs. Equity Financing (2)

- Why is there a distinction between payment of dividends to shareholders and interest to debt holders?
  - Both represent a cost to firms to raise funds.
  - This is an artifact from time when owners and shareholders of firm were the same. Very closely held corporations. As if owners were paying themselves.
  - Debt holders viewed as separate from the corporation.
  - Now, stocks are widely held by many individuals and pension funds, but treatment has not changed.
Debt vs. Equity Financing (3)

- One of the strongest criticisms of corporate income tax is fact that it distorts economic incentive to issue equity and pay dividends.
- Early literature suggests taxes have little impact on corporate finance decisions. More recent studies find significant effects.
  - See Gordon (2010, National Tax Journal) for good literature review.
- For example, Graham (1996, JOF) finds high tax rate firms issue more debt (here, the interest deduction is worth more).
  - By “high tax rate” we mean they are typically profitable.
- Conversely, low tax rate firms use more leasing.
  - Transfer the “tax shield” of depreciation and interest deductions to firms that can use them (profitable or high tax rate firms)
  - e.g., airline industry where carriers lease planes
  - a one percentage point higher tax rate increases the debt-asset ratio by between 0.17 and 0.28.
  - Responses are increasing over time, which suggests that debt bias distortions have become more important.”
Miscellaneous Points About Debt Financing

- Debt financing produces a significant reduction in METRs
  - For most equipment investment, **borrowing reduces METR by roughly 10 to 20 percentage points** depending on tax life of investment.

- If tax depreciation is very accelerated, METRs can be negative.
  - The tax system actually subsidizes investment.
  - With expensing, tax system should restrict or eliminate deduction for interest payments.

- Some countries disallow full deduction for interest payments.
  - Germany restricts net interest deduction to no more than 30% of net income.

- This is a legitimate deduction. A cost of doing business.
## Table 3: Effective Marginal Tax Rates for Debt and Equity Financed Corporate Investments: Selected OECD Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Effective Marginal Tax Rate Equipment (Equity)</th>
<th>Effective Marginal Tax Rate Equipment (Debt)</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>31</td>
<td>-23</td>
<td>-54</td>
</tr>
<tr>
<td>Austria</td>
<td>27</td>
<td>-14</td>
<td>-41</td>
</tr>
<tr>
<td>Belgium</td>
<td>5</td>
<td>-50</td>
<td>-55</td>
</tr>
<tr>
<td>Canada</td>
<td>28</td>
<td>-21</td>
<td>-49</td>
</tr>
<tr>
<td>Finland</td>
<td>27</td>
<td>-18</td>
<td>-45</td>
</tr>
<tr>
<td>France</td>
<td>29</td>
<td>-59</td>
<td>-88</td>
</tr>
<tr>
<td>Germany</td>
<td>32</td>
<td>-10</td>
<td>-42</td>
</tr>
<tr>
<td>Greece</td>
<td>14</td>
<td>-26</td>
<td>-40</td>
</tr>
<tr>
<td>Ireland</td>
<td>15</td>
<td>-4</td>
<td>-19</td>
</tr>
<tr>
<td>Italy</td>
<td>38</td>
<td>1</td>
<td>-37</td>
</tr>
<tr>
<td>Japan</td>
<td>49</td>
<td>-4</td>
<td>-53</td>
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<tr>
<td>Netherlands</td>
<td>27</td>
<td>-14</td>
<td>-41</td>
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<tr>
<td>Norway</td>
<td>33</td>
<td>-11</td>
<td>-43</td>
</tr>
<tr>
<td>Portugal</td>
<td>22</td>
<td>-34</td>
<td>-56</td>
</tr>
<tr>
<td>Spain</td>
<td>36</td>
<td>-22</td>
<td>-58</td>
</tr>
<tr>
<td>Sweden</td>
<td>24</td>
<td>-24</td>
<td>-48</td>
</tr>
<tr>
<td>Switzerland</td>
<td>22</td>
<td>-18</td>
<td>-40</td>
</tr>
<tr>
<td>UK</td>
<td>30</td>
<td>-9</td>
<td>-40</td>
</tr>
<tr>
<td>United States</td>
<td>37</td>
<td>-60</td>
<td>-97</td>
</tr>
</tbody>
</table>

**Average, Excluding U.S. (unweighted)** | 34 | -17 | -51 |

**G-7 Average, Excluding U.S. (unweighted)** | 37 | -15 | -51 |

*Source: U.S. Department of Treasury, Office of Tax Analysis.*

*See notes to Table 1: G-7 Statutory and Effective Corporate Tax Rates (in Percent): 2011. Averages are calculated using 2010 gross domestic product (in current U.S. dollars) as weights.*
### Non-Financial Corporate Borrowing - How Much Occurs?

<table>
<thead>
<tr>
<th></th>
<th>Interest Paid</th>
<th>Net Income</th>
<th>Corp Debt</th>
<th>ratio to GDP</th>
<th>Mortgage Debt</th>
<th>Consumer Credit</th>
<th>Total to GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>395</td>
<td>379</td>
<td>4,276</td>
<td>0.46</td>
<td>4,416</td>
<td>1,554</td>
<td>5,970</td>
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<tr>
<td>2000</td>
<td>465</td>
<td>339</td>
<td>4,638</td>
<td>0.47</td>
<td>4,798</td>
<td>1,741</td>
<td>6,539</td>
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<tr>
<td>2001</td>
<td>451</td>
<td>122</td>
<td>4,834</td>
<td>0.48</td>
<td>5,306</td>
<td>1,892</td>
<td>7,198</td>
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<tr>
<td>2002</td>
<td>403</td>
<td>97</td>
<td>4,857</td>
<td>0.46</td>
<td>6,010</td>
<td>1,997</td>
<td>8,007</td>
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<tr>
<td>2003</td>
<td>380</td>
<td>230</td>
<td>4,968</td>
<td>0.45</td>
<td>6,895</td>
<td>2,103</td>
<td>8,998</td>
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<tr>
<td>2004</td>
<td>381</td>
<td>436</td>
<td>5,171</td>
<td>0.44</td>
<td>7,838</td>
<td>2,220</td>
<td>10,058</td>
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<tr>
<td>2005</td>
<td>435</td>
<td>1,028</td>
<td>5,472</td>
<td>0.44</td>
<td>8,879</td>
<td>2,321</td>
<td>11,200</td>
</tr>
<tr>
<td>2006</td>
<td>503</td>
<td>873</td>
<td>5,943</td>
<td>0.44</td>
<td>9,868</td>
<td>2,416</td>
<td>12,284</td>
</tr>
<tr>
<td>2007</td>
<td>583</td>
<td>818</td>
<td>6,703</td>
<td>0.48</td>
<td>10,542</td>
<td>2,555</td>
<td>13,097</td>
</tr>
<tr>
<td>2008</td>
<td>534</td>
<td>563</td>
<td>6,955</td>
<td>0.48</td>
<td>10,495</td>
<td>2,594</td>
<td>13,089</td>
</tr>
<tr>
<td>2009</td>
<td>480</td>
<td>330</td>
<td>6,968</td>
<td>0.49</td>
<td>10,348</td>
<td>2,479</td>
<td>12,827</td>
</tr>
<tr>
<td>2010</td>
<td>7,100</td>
<td>0.49</td>
<td>10,100</td>
<td>2,400</td>
<td>12,500</td>
<td>0.86</td>
<td></td>
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<tr>
<td>2011</td>
<td>7,500</td>
<td>0.50</td>
<td>9,930</td>
<td>2,440</td>
<td>12,370</td>
<td>0.82</td>
<td></td>
</tr>
</tbody>
</table>
Corporate Tax Losses
Treatment of Corporate Tax Losses

- Corporations receive “asymmetric” treatment of tax losses. They remit tax when profitable, but most do not receive an immediate refund if they incur a tax loss.
  - Under a “pure” income tax, the gov’t would pay firms a refund on their tax loss.
  - It is simply negative income, no different than profits.
- Instead, firms must carry losses (1) backwards to offset prior taxes paid (and claim a refund, “carrybacks”) or (2) forward in time to offset taxable income (loss carryforwards).
  - After 1997, firms could “carryback” two years, and forward 20 years.
  - No country allows immediate refunds for losses. Possible reasons include potential fraud and huge negative impact on receipts.
- 2005: -$217 billion
- 2006: -$225 billion
- 2007: -$318 billion
- 2008: -$690 billion
- 2009: -$596 billion
## TABLE 2

### DISPOSITION OF NET OPERATING LOSSES
(billions of dollars)

<table>
<thead>
<tr>
<th>Tax Year</th>
<th>NOL</th>
<th>CB</th>
<th>Used as Carryforward Deduction, Number of Years Until Used</th>
<th>Final NOL Disposition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>1993</td>
<td>71.0</td>
<td>10.4</td>
<td>2.8</td>
<td>6.4</td>
</tr>
<tr>
<td>1994</td>
<td>64.4</td>
<td>11.7</td>
<td>3.9</td>
<td>2.5</td>
</tr>
<tr>
<td>1995</td>
<td>73.3</td>
<td>12.1</td>
<td>2.1</td>
<td>3.0</td>
</tr>
<tr>
<td>1996</td>
<td>80.5</td>
<td>12.9</td>
<td>2.1</td>
<td>2.6</td>
</tr>
<tr>
<td>1997</td>
<td>97.1</td>
<td>15.7</td>
<td>2.6</td>
<td>3.2</td>
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<tr>
<td>1998</td>
<td>141.9</td>
<td>18.9</td>
<td>5.8</td>
<td>7.9</td>
</tr>
<tr>
<td>1999</td>
<td>180.6</td>
<td>20.8</td>
<td>11.1</td>
<td>5.6</td>
</tr>
<tr>
<td>2000</td>
<td>245.5</td>
<td>26.0</td>
<td>5.4</td>
<td>5.4</td>
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<tr>
<td>2001</td>
<td>370.3</td>
<td>88.1</td>
<td>8.0</td>
<td>8.3</td>
</tr>
<tr>
<td>2002</td>
<td>365.9</td>
<td>66.3</td>
<td>5.1</td>
<td>11.4</td>
</tr>
<tr>
<td>2003</td>
<td>243.1</td>
<td>28.0</td>
<td>5.6</td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>188.3</td>
<td>13.7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Utilization of Pre-Existing NOL Stocks**

|          |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Pre-1993 | 262.7 | (3) | 27.3 | 25.3 | 25.7 | 19.6 | 17.7 | 11.1 | 9.0 | 7.0 | 4.7 | 2.5 | 1.8 | 153.2 | 91.6 | 17.9 |
| New Firms| 162.7 | (4) | 14.0 | 16.5 | 11.9 | 13.1 | 7.0 | 4.8 | 2.7 | 2.0 | 0.7 | 0.5 | 0.2 | 73.4 | 46.7 | 42.6 |

(1) Sum of carryback refunds and loss carryforward deductions.
(2) Stocks of NOLs that disappear due to firm expiration or a merger/acquisition.
(3) Pre-existing NOL stock brought forward into tax year 1993. Carryback refunds are not observable.
(4) Pre-existing NOL stock for firms that first appear in our dataset after tax year 1993. Carryback refunds are not observable.
<table>
<thead>
<tr>
<th>Industry</th>
<th>Reported Tax Loss</th>
<th>Share Used (1)</th>
<th>Average Vintage (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Firms</td>
<td>71.0</td>
<td>80.5</td>
<td>180.6</td>
</tr>
<tr>
<td>Non-Durable Man</td>
<td>7.3</td>
<td>7.5</td>
<td>16.8</td>
</tr>
<tr>
<td>Durable Man</td>
<td>11.6</td>
<td>12.7</td>
<td>30.4</td>
</tr>
<tr>
<td>Wholesale-Retail</td>
<td>7.4</td>
<td>12.7</td>
<td>21.3</td>
</tr>
<tr>
<td>Information</td>
<td>5.0</td>
<td>9.3</td>
<td>40.6</td>
</tr>
<tr>
<td>Financial</td>
<td>19.0</td>
<td>15.4</td>
<td>26.8</td>
</tr>
<tr>
<td>Professional Services</td>
<td>1.7</td>
<td>4.0</td>
<td>13.7</td>
</tr>
<tr>
<td>Utilities</td>
<td>2.2</td>
<td>2.6</td>
<td>3.0</td>
</tr>
<tr>
<td>Transportation</td>
<td>4.6</td>
<td>2.5</td>
<td>4.3</td>
</tr>
<tr>
<td>All Other (3)</td>
<td>12.1</td>
<td>13.8</td>
<td>23.7</td>
</tr>
</tbody>
</table>

(1) Percentage of NOLs used during eight-year window that follows tax loss.
(2) Average age of NOLs used during eight-year window that follows tax loss.
(3) Includes Health, Accommodation and Food Services, Other Services, Agriculture, Mining and Constr.
Impact of Tax Loss Asymmetry

- Due to this treatment, roughly two-thirds of losses are actually “used” or claimed.
  - For losses that are used, firms require an average of 3 years to use them, so real value is eroded.
  - Significant variation across industries. Violates equity principles.

- Asymmetry has a number of negative consequences:
  - Discriminates against cyclical firms
  - Discriminates against new firms with high levels of loss
  - Discriminates against the corporate form because “pass through” entities (partnerships, sole props, s corporations) are largely able to use losses immediately
    - As a result, many start-ups avoid C corporate form, but may convert later when they are profitable
Implications of Tax Loss Asymmetry for Investment

- In general, loss asymmetry increases marginal effective tax rates on investment.
- Firms want to use all deductions as quickly as possible. Anything that prevents that outcome increases their “effective tax rate” on investment or lowers their return.
- How does a firm that pays no tax suffer? Isn’t their tax rate = 0?
- Recall: under accelerated depreciation, the deduction exceeds the income from the investment.
- On net, the income from the project is negative, and you should receive a refund under a true income tax.
- Instead, perhaps firm can use to offset taxable income from another investment.
Business Stimulus and Corporate Tax Losses: Recent Example

Joint Committee on Taxation
November 3, 2009
JCX-45-09

ESTIMATED REVENUE EFFECTS OF CERTAIN REVENUE PROVISIONS CONTAINED IN
THE "WORKER, HOMEOWNERSHIP, AND BUSINESS ASSISTANCE ACT OF 2009"

Fiscal Years 2010 - 2019
[Millions of Dollars]

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Extension and Modification of First-Time Homebuyer Credit (sunset 4/30/10)</td>
<td>[1]</td>
<td>-9,960</td>
<td>-2,755</td>
<td>678</td>
<td>668</td>
<td>473</td>
<td>30</td>
<td>24</td>
<td>11</td>
<td>4</td>
<td>3</td>
<td>-10,895</td>
<td>-10,823</td>
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<tr>
<td>C. Exclude From Gross Income Qualified Military Base Realignment and Closure Fringe</td>
<td>pma 2/17/09</td>
<td>-119</td>
<td>-41</td>
<td>-15</td>
<td>-12</td>
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<td>-11</td>
<td>-8</td>
<td>-8</td>
<td>-8</td>
<td>-8</td>
<td>-9</td>
<td>-199</td>
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<tr>
<td>D. Delay in Application of Worldwide Allocation of Interest Until 2013</td>
<td>tyba 12/31/09</td>
<td>---</td>
<td>494</td>
<td>1,362</td>
<td>3,077</td>
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<td>3,475</td>
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<td>8,133</td>
<td>20,123</td>
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<td>E. Modification of Penalty for Failure to File Partnership or S Corporation Returns 1. Increase the penalty for failure to file partnership return by $106 to $195</td>
<td>tyba 12/31/09</td>
<td>---</td>
<td>---</td>
<td>2</td>
<td>39</td>
<td>92</td>
<td>95</td>
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<td>2. Increase the penalty for failure to file an S Corporation return by $106 to $195</td>
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<td>587</td>
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<tr>
<td>F. Expansion of Electronic Filing by Return Preparers</td>
<td>rfa 12/31/10</td>
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<td>---</td>
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<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>18,298</td>
<td>---</td>
</tr>
<tr>
<td>G. Increase the Required Corporate Estimated Tax Payments Factor for Corporations with Assets of at Least $1 Billion for Payments Due in July, August, and September 2011 by 13 Percentage Points</td>
<td>DOB</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>18,298</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>NET TOTAL</td>
<td></td>
<td>-43,276</td>
<td>3,568</td>
<td>7,231</td>
<td>7,616</td>
<td>24,809</td>
<td>-12,892</td>
<td>4,884</td>
<td>4,601</td>
<td>2,676</td>
<td>663</td>
<td>-52</td>
<td>-121</td>
</tr>
</tbody>
</table>

Joint Committee on Taxation

NOTE: Details may not add to totals due to rounding.

[Legend and Footnotes for JCX-45-09 appear on the following page]
Business “Stimulus” and Corporate Losses

- Another way to encourage investment is to allow firms to immediately use their tax losses. “Open up” the carryback window.
  - For 2000-01, the five-year carryback increased refunds by roughly $25 billion. For 2008-09 losses, roughly $40-$45 billion.
- Corporate loss carryback rules: largely timing, but there is a cost
  - A much higher cost in NPV terms, but that is not counted.
  - 10-year cost is -$10.4 billion, really -$13.6 billion in NPV at 5%.
- But, is it “stimulative”?  
  - Very front-loaded. Money out the door very quickly.
  - Likely has only a minor effect on investment. Relatively small reduction in METR. Might give funds to cash strapped firms for investment.
  - Does it “save” jobs? Is it good counter-cyclical policy?
- CBO testimony January 2009: “loss carryback” multiplier impact on GDP is only 0.0 - 0.4 for every $1 in additional refunds.
## CBO: Options for Responding to Short-Term Weakness (2008)

### Table 1

<table>
<thead>
<tr>
<th>Policy</th>
<th>Cost</th>
<th>Lag From Enactment to</th>
<th>Uncertainty About</th>
<th>Effective</th>
<th>Stimulus</th>
<th>Effects</th>
<th>Comments</th>
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<tbody>
<tr>
<td>Cut in Corporate Rates</td>
<td>Small</td>
<td>Long</td>
<td>Small</td>
<td>Corp rate reductions have only limited effect on new investment and may take time to affect business investment.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Incentives for New Investment</td>
<td>Medium</td>
<td>Medium</td>
<td>Large</td>
<td>Most of stimulus appears to come at the end of the period of incentive. The last time such incentives were tried, the results were not encouraging.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extending Operating Loss CB Period</td>
<td>Small</td>
<td>Medium</td>
<td>Large</td>
<td>These provision have little effect by themselves, although improved cash flow may have some effect on firms facing difficulty in accessing outside capital.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Taxation of Foreign Source Income
There are basically two ways to treat foreign source income (income generated outside US):

1. **Territorial** income earned by foreign subsidiaries is not taxed (controlled foreign corporation or CFC, owned by US corporation but incorporated in another country), no incentive to keep profits overseas.

2. **Worldwide** subsidiary income is taxed when “repatriated” (some exceptions, such as passive income under Subpart F), but a credit is allowed for foreign taxes paid, home country gets “first dibs”, US picks up the residual.

Really, the US does not use a pure worldwide system since deferral is allowed, and some of it is permanent.

Nearly all countries use a territorial system. That treatment, plus relatively high US corporate income tax rate, makes US an outlier.
<table>
<thead>
<tr>
<th>Country</th>
<th>2000</th>
<th>Rank in 2000</th>
<th>2009</th>
<th>Rank in 2009</th>
<th>% Change in Rate</th>
</tr>
</thead>
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<tr>
<td>Japan</td>
<td>42.0%</td>
<td>3</td>
<td>40.7%</td>
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<td>United States (b)</td>
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<tr>
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<tr>
<td>France</td>
<td>36.7%</td>
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<tr>
<td>Canada</td>
<td>44.6%</td>
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<td>-26.0%</td>
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<tr>
<td>Italy (c)</td>
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<tr>
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<tr>
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<td>30.0%</td>
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<td>New Zealand</td>
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<td>28.0%</td>
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<tr>
<td>Finland</td>
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<tr>
<td>Korea</td>
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<tr>
<td>Switzerland</td>
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<tr>
<td>Turkey</td>
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<td>Czech Republic</td>
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<td>Poland</td>
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<td>Slovak Republic</td>
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<tr>
<td>Hungary</td>
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<td>Unweighted OECD Avg</td>
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<td>Unweighted G7 Avg</td>
<td>40.9%</td>
<td>33.7%</td>
<td>33.7%</td>
<td>-17.6%</td>
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## Taxation of Foreign Source Income

<table>
<thead>
<tr>
<th>Foreign Source Income</th>
<th>Tax Liability</th>
<th>Foreign Tax Credit</th>
<th>Net Residual</th>
<th>Net Rate</th>
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<td>1999</td>
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<td>2008</td>
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<tr>
<td>2009</td>
<td>441</td>
<td>154</td>
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<td>60</td>
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</table>
Taxation of Multinational Corporations

• Corporate Tax Avoidance: Profit Shifting To “Tax Havens”
  (country with low or no tax rate that is deemed uncooperative)

  1. Allocation of Debt and “Earnings Stripping”
     • “parent” firm in the high tax country borrows from
       “subsidiary” in low tax country;
     • Deductions worth more at US rate of 35%
     • Income earned by foreign subsidiary taxed at lower rate
       (possibly 0%) and may never by “repatriated”
     • Much evidence that US multinationals allocate significantly
       more interest expense to high tax jurisdictions

  2. Transfer Pricing
     • prices charged for goods and services sold between affiliates
       should be “arms length” pricing (as if done with an unrelated
       party)
     • US firm is overcharged for products or inputs, reduces their
       tax profits, while subsidiary gets unusually high profits and
       might not be taxed
     • relatively easy to manipulate prices, difficult to audit
     • For certain products, there are no markets (especially
       intangibles, e.g. patents)
Income shifting

Double Irish Dutch Sandwich:

Numerous companies take advantage of loopholes in international laws to move profits around the world, avoiding taxes. Many of these techniques rely on transferring profits on patent royalties to places like Ireland. Here is one technique typical of what Apple and others pioneered.

START HERE

U.S. consumer

If the profits from the sale of a product stay in the United States, they would be subject to a federal tax of 35 percent. But if money is paid to an Irish subsidiary as royalties on patents the company owns, it can ultimately be taxed at far lower rates.

Overseas consumer

When the same product is sold overseas, money from the sale is sent to a second Irish subsidiary.

Second Irish subsidiary

Because of a quirk in Irish law, if the Irish subsidiary is controlled by managers elsewhere, like the Caribbean, then the profits can skip across the world tax-free.

Irish subsidiary

Manufacturing subsidiary

At one time, a company would actually manufacture products in Ireland. But today, it’s more likely to use factories in China, Brazil or India that ship directly to Caribbean or other tax haven.

The profits can land in an overseas tax haven where they are stored, invisible to authorities, for years.

Netherlands

And because of Irish treaties that make some inter-European transfers tax-free, the company can avoid taxes by routing the profits through the Netherlands ...

... and then back to the first Irish subsidiary, which sends the profits to the overseas tax haven.

... and finally to the overseas consumer.
Would a Territorial System Solve Problems?

- Probably not. Solves some but new ones created.
- Problems Solved:
  - A territorial system eliminates incentive to keep income earned overseas.
  - Puts subsidiaries of US firms on more level playing field vs. competitors. Would face the same tax rate on income earned in foreign country.
  - Simplification - eliminates most of foreign tax credit rules. These are extremely complicated.
- New problems:
  - Increases incentives to shift profits overseas since there is no US tax on those amounts (esp. if US maintain high tax rates)
  - Increases pressure on transfer pricing rules.
  - Would it encourage more investment overseas at the expense of investment in US? Unclear.
Tax Policy: Repatriation Tax Holiday

- American Jobs Creation Act of 2004 allows a temporary rate of 5.25 percent on repatriations of dividends from foreign subsidiaries. Effective rate is really closer to 4.0 percent.
  - So, if dividends are from Ireland, tax equal to $12.5\% + 4.0\% = 16.5\%$

- Firms repatriate roughly $360$ billion in dividends in 2005 out of $900$ billion in unrepatriated overseas income.
  - Average from 2000-04 was $60$ billion per year.

- To take advantage, firms had to devise a plan to show how the repatriated amounts would be re-invested in US. Could not be used for share repurchases, dividends payouts or higher executive compensation. Intention was to create jobs.
  - Many studies find that funds used for share repurchases.
  - Nearly impossible to track. Monies are fungible.
  - Some firms repatriating the largest amounts have mass layoffs (Pfizer).
Tax Policy: Repatriation Tax Holiday

• For 2008, roughly $1 trillion in overseas profits that are unrepatriated. For 2010, roughly $1.3 trillion.
• Should we have another holiday?
• Perverse incentives.
• Firms might begin to expect holidays so they might (1) repatriate less in anticipation and (2) attempt to shift more profits overseas.
• Similar to state tax amnesty programs.
• Treasury department did not support repatriation holiday.

• For excellent article on this and a behind the scenes look at revenue scoring for this proposal, see “A Revenue Estimate Case Study: The Repatriation Holiday Revisted” by Kleinbard and Driessen.
  • Scored as a net negative receipts impact.
Dividend Policy
Retained Earnings versus Dividends

- Corporate profits may be
  1. Retained by the firm (retained earnings)
  2. Paid to stockholders (dividends)
  3. Used to repurchase shares (thereby raising the value of those that remain)
Recent legislation has moved toward eliminating the double taxation of dividends.

- The President proposed in 2003 that all dividends be excluded from individuals income to the extent that corporations paid tax.
  - Too complicated.
- Instead Congress passed a reduction in the tax rate. Maximum tax rate on dividends received is now 15% at the individual level.
Retained Earnings versus Dividends

- Retained earnings increase the value of the corporation, and this increase should be reflected in the stock price.
- These increased capital gains are not taxed until those gains are realized. (Gain from “inside build-up”.) Also, gains rates are generally lower.
- Thus, tax system creates incentives for firms to retain earnings rather than pay them out in dividends.
  - The “Dividend Puzzle.” - observation that firms payout dividends and issue equity at same time
  - Why do this? Not tax advantaged.
  - Some ideas: signaling, clienteles
Under a classical system of taxation, dividends are tax disfavored relative to retained earnings or share repurchases, both of which should increase capital gains all else constant.

Historical dividend payout ratios (dividends/net income):

- 1940s: 59%
- 1950-60s: 54-56%
- 1970-90s: 46-48%
- 2000s: 32%

Note: NIPA ratios much higher (such as Economic Report of President), roughly two-thirds
• It has been a puzzle why do firms pay dividends at a tax penalty.
  
  • Why not just repurchase shares?
  • One justification is that it is a signal of a firms financial strength
  • Marginal tax rates of investors vary some firms “specialize” in attracting low marginal tax rate investors (i.e., retirees), known as the clientele effect.
  • Several econometric studies have found that when the opportunity cost of retained earnings decreases, dividend payments go down. Thus, tax system increases amount of retained earnings.
• Because we can’t explain why dividends are paid, it is difficult to predict what impact a change in the taxation of dividends will have on dividend payments.

• Similar to corporate investment, different views of the role of taxes on dividend payout decisions have different policy implications for evaluating the current tax system and possible integration (i.e., eliminating the double tax) alternatives.
• **Key:** Does the taxation of dividends at the individual level matter to the firm and does it affect their marginal investment decision?
  - If not, then integration is less important.
  - For now, ignore debt finance.
  - Assume marginal project financed with equity or retained earnings.

• Is it good policy to reduce dividend tax and encourage payouts?
  - May have important allocation effects (don’t want to “lock-in” retained earnings)
Competing Views of Dividend Taxation

- When does the taxation of dividends at individual level have an impact on marginal investments financed with equity?
  - Theories will assume that marginal projects are financed with equity, and not debt.
  - Clearly true for firms that do not borrow.
  - Likely true for many others since cost is probably lower (market frictions to borrow raise costs, even with the tax deduction).
Competing Views of Dividend Taxation (2)

- **Agree**: dividend taxation reduces the return to investment financed with new share issues.
- **Disagree**: Do dividend taxes at the individual level impose a tax penalty (relative to capital gains rates) on investments financed with retained earnings?
  - Traditional View: Yes.
  - New View: No.
    - Those taxes do not affect the firm’s financing or payout decisions.
    - The fact that they are higher than gains taxes does not matter.
- **Most “equity” finance takes the form of retained earnings, so view matters for the impact of dividend policy.**
Three Views of Dividend Taxation

1. ‘Tax Irrelevance” view
   - Marginal shareholder is tax-exempt or a taxable investor who ignores or can offset incremental taxes (Auerbach and Hassett, 2006).
   - Implication: dividend tax reduction has no impact on equity value or firm’s dividend policy.

2. Traditional view
   - Some reason why firms pay dividends despite the tax penalty - Dividends offer special benefits that offset their costs
     - e.g., Signaling profitability, solve principal-agent problem
   - Reducing dividend tax reduces the firm’s cost of capital and increases investment.
   - Firms indifferent between financing with retained earnings and new equity - div taxes affect both equally on margin
   - Dividend taxes very distortionary.
Three Views of Dividend Taxation

3. “New” view

- Dividends are a residual after all profitable investments have been made.

- **Key**: Earnings can ONLY be distributed to shareholders as dividends, not share repurchases. Equity is trapped.
  - Burden of extra dividends tax (over capital gains) is inescapable.

- Extra dividend tax is capitalized into firms value, regardless of whether that particular firm pays dividends or not.

- Windfall gains if dividends tax cut. Firms investment decision is not affected by dividend taxes.

- Effective tax rate on investment financed with retained earnings is independent of individual tax rate: only a function of capital gains and business taxes. (See Zodrow 1990).

- Like “expensing”: the tax value of the “deduction” or deferral exactly equal to the present value of all future dividend taxes.

- The extra dividend tax is “eliminated”. Only business tax and capital gains taxes. Differential between the dividends tax rate and capital gains tax rate does not matter.

- Theory most applicable to mature firms with lots of retained earnings.
Three Views of Dividend Taxation

<table>
<thead>
<tr>
<th></th>
<th>New Equity</th>
<th>Retained Earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tax Irrelevance</td>
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<td>No</td>
</tr>
<tr>
<td>Traditional View</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>New View</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
Implications and extensions of the “New View”:

- Dividend taxes do not affect the firm. Does not affect investment decisions.
- Dividend taxes are “capitalized” or built into the firm’s value. Market capitalization should increase after dividend tax cut.
- Windfall gains from a dividends tax cut.
Taxation and Corporate Dividends

- The Jobs and Growth Tax Relief Act of 2003 (JGTRRA 2003) provides a natural experiment to test these theories
- The bill reduced the tax rate on dividends to 15% from ordinary rates (typically 35%)
  - Final bill enacted May 28th
- Did this tax cut:
  1. Cause the surge in dividends observed
  2. Induce substitution of repurchases for dividends (that is, did total payouts rise?)
- Chetty and Saez (2006) is an “Event Study”
Chetty and Saez (2006)

- Data: 1981-2006, quarterly, roughly 5,000 firms.
- Regular and Special dividends.
Figure 1

Total Regular and Special Dividends (Updated to 2006Q2)

- Regular Dividends
- Special Dividends
Figure 2
Regular Dividend Initiation in Top 3807 (Constant Sample Size) Firms

Percent of Top 3807 Firms

Quarter
82-1 84-1 86-1 88-1 90-1 92-1 94-1 96-1 98-1 00-1 02-1 04-1 06-1
Figure 3

Dividend Payers in Top 3807 Firms

Percent of Top 3807 Firms

Quarter

82-1  84-1  86-1  88-1  90-1  92-1  94-1  96-1  98-1  00-1  02-1  04-1  06-1
While the legislation clearly “unlocked” lots of retained earnings (like the Microsoft special dividend), there also appears to be a significant increase in both the level of regular dividend payments and the number firms paying dividends.

What is less clear is whether there was an increase in investment as predicted by the “traditional/old view”.

Or a change in firm value as predicted by the “new view”.

Work by Auerbach and Hassett (2006) provide evidence that dividend paying firms outperformed the market which is consistent with the “new view” that the tax cut was capitalized into the share price.
Chetty and Saez (6)

- Tax cut appears to increase dividends by $5 billion or 20% in quarters immediately following announcement and enactment.
  - But, this is noisy. Could be other factors. (see Edgerton (forthcoming))
- But increase in (1) number of dividend initiators (extensive margin) and a (2) dollar amounts by regular payors (intensive margin) while controlling for various factors suggests robust results.
- MUCH heterogeneity in dividend response. Firms (1) controlled or owned by taxable entities or (2) have high executive ownership with low executive stock option holdings were much more likely to respond.
  - New and old view miss this.
- Unclear if firms increased investment in response to tax cut.
• Notice how the various provisions work to reinforce one another and how intertwined they are.
  • Bonus depreciation reduces cost of capital.
  • Expansion of carryback window reinforces that impact. Allows non-taxable firms to use the extra deductions.
  • Lower dividend rates might also increase investment depending on ones view (old vs new view).

• A troubling aspect is that we don’t know where the current incidence of the tax falls.
  • So, very difficult to say how changes to corporate tax policy affect the overall progressivity of the system.
Corporate Tax Incidence
Romney:
“Corporations are people, my friend.”

- It’s not remittance that matters - it’s incidence!
- One can only tax things that feel pain
- When tax corporation, burden falls on:
  - Consumers $\rightarrow$ higher prices
  - Employees $\rightarrow$ lower wages
  - Owners $\rightarrow$ lower after-tax profits
Who bear’s the burden of the corporate tax?

- Atkinson and Stiglitz (1980)
  - Theory suggests labor could bear more than 100% of burden
- Desai, Foley, Hines (2007)
  - 45%-75% of burden falls on labor
  - 25%-55% on capital (i.e., owners)
  - This range is reflective of the literature as a whole
Corporate Tax Incidence

- Wide ranges in empirical estimates reflect many assumptions needed
  - Capital mobility
  - Labor mobility
  - Competition in product markets
  - Competition in labor markets
  - Capital-labor substitutability
  - Identification of who owns capital (complications of investment vehicles)