Stock Options

Presented by Ernie Wilcox

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Employee Stock Option

Net Gain on Exercise

Equal to:  market price at exercise
          - the exercise price
          * the number of options or shares exercised

Net gain on exercise is the measure of employer compensation from stock options.

Corporations deduct the net gain on exercise as a compensation expense in reporting their income to IRS.
Net Gain on Exercise

Conceptually incorrect way of measuring compensation because:

- It is NOT income generated by production in the period of exercise.

- Stock option compensation and corporate expense should be multi-year accruals.
Net Gain on Exercise in the NIPA’s Mismatch between wages and corporate profits

- **Wage Estimates**
  quarterly Unemployment Insurance (UI) data from BLS through September 2002 - include net gain on exercise as wages

- **Corporate Profits Estimates through 2000**
  annual Statistics on Income (SOI) data from IRS through 2000 - include net gain on exercise as expense

- **2001 Corporate Profits Estimates**
  extrapolated from 2000 using reported corporate profits - **do not** include stock options expense
Disclosures Required on Annual Corporate Stock Option Activity

Corporations are required to disclose the following:

• Number of options outstanding at the beginning of the year
• Number of options granted
• Number of options exercised
• Number of options cancelled (expired or forfeited)
• Number of options outstanding at the end of the year
• The weighted average exercise price of the each of the above categories
4 Measures of Stock Options Activity

1. Exercise value of options outstanding
   Number of options outstanding * weighted average exercise price

2. Exercise value of options granted
   Number of options granted * weighted average exercise price

3. Exercise value of options exercised
   Number of options exercised * weighted average exercise price

4. Proxy net gain on exercise
Proxy Net Gain on Exercise

Net gain on exercise:
Weighted average market price at exercise
  - weighted average exercise price
  * number of options or shares exercised.

Proxy net gain on exercise:
Weighted average grant price as a proxy for the weighted average market price at exercise
  - weighted average exercise price
  * number of options or shares exercised.
How good is the Proxy?

 Ø The ratio of our proxy to the actual GE net gains is in the range of 80% to 116% for 1993 to 2002 -- average of 90%.

 Ø Schedule M-1s filed with IRS reconciles corporations’ public reported income with the income reported on tax returns.

  • Stock option reconciliation for few large corporations shows $15.3 billion compared with our proxy estimate of $16.0 billion for 2000.

  • Stock option reconciliation for 75 corporations show $16.4 billion compared to proxy estimate of $27.3 billion for 2001. Preliminary all corporation total is $29.9 billion.

  • Proxy approximately tracts what is reported to IRS
Proxy net gain on exercise for 1999 is $2749.4 million ($2.7 billion)

\[(31.96 - 3.32 = 28.64; \quad 28.64 \times 96.0 = 2749.4)\]

Proxy net gain on exercise for 2000 is $5377.2 million ($5.4 billion)

\[(54.68 - 4.66 = 50.02; \quad 50.02 \times 107.5 = 5377.2)\]
About the Proxy Series

- The proxy net gains on exercise series is for combined non-qualified and incentive stock option activity.

- The proxy series is based on stock option activity of 97 S&P 500 corporations, which account for roughly 70% of the stock option activity in the S&P 500.

- We use an expansion factor of 30% from the S&P 500 benchmark to give us a universe estimate.
## Proxy Net Gain on Exercise

**Billions of dollars**

<table>
<thead>
<tr>
<th></th>
<th>Raw Total (97)</th>
<th>Expanded Total</th>
<th>Corporate Wages &amp; Salaries</th>
<th>Stock Option Share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>8.7</td>
<td>11.3</td>
<td>3200.1</td>
<td>0.5</td>
</tr>
<tr>
<td>1996</td>
<td>15.9</td>
<td>20.7</td>
<td>2442.8</td>
<td>0.8</td>
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<tr>
<td>1997</td>
<td>28.3</td>
<td>36.8</td>
<td>2636.8</td>
<td>1.4</td>
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<tr>
<td>1998</td>
<td>46.8</td>
<td>60.8</td>
<td>2870.3</td>
<td>2.1</td>
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<tr>
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<td>73.1</td>
<td>95.0</td>
<td>3082.2</td>
<td>3.1</td>
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<tr>
<td>2000</td>
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<td>110.6</td>
<td>3343.9</td>
<td>3.3</td>
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<td>57.3</td>
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<td>1.7</td>
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<tr>
<td>2002</td>
<td>24.1e</td>
<td>31.3e</td>
<td>3388.0</td>
<td>0.9</td>
</tr>
</tbody>
</table>

*e - estimate*
What’s Next?

- The 2002 proxy net gain of exercise will change with the incorporation of more annual reports.

- Once we have 2001 SOI data, develop an adjustment to corporate profits for 2002 and 2003.
Conceptual Issues

- Accrual period is the period between **grant** and **vesting** (and perhaps the year before grant).

- Measurement date - **Grant**, **Vesting**, or **Exercise**?

- Remove **Exercise** date because:
  - Gain or loss between vesting and exercise is not considered compensation.

- Remaining choices:
  - Valuation at **Grant** using options pricing model
  - Valuation at **Vesting** using intrinsic value

- Valuation choice should show that the valuation is a cost to the corporation