

Stock Options

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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?

- 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%.
- 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 tracks what is reported to IRS

Intel 2000 Annual Report

| | | Millions of shares | Weighted average exercise price | Proxy net gain on exercise (millions \$) |
|----------|-------------|--------------------|---------------------------------|--|
| 12/31/98 | Outstanding | 625.0 | 9.07 | |
| | Granted | 81.2 | 31.96 | |
| | Exercised | 96.0 | 3.32 | 2749.4 |
| 12/31/99 | Outstanding | 611.2 | 12.87 | |
| | Granted | 162.8 | 54.68 | |
| | Exercised | 107.5 | 4.66 | 5377.2 |
| 12/31/00 | Outstanding | 638.2 | 24.16 | |

- Proxy net gain on exercise for 1999 is \$2749.4 million (\$2.7 billion)
($31.96 - 3.32 = 28.64$; $28.64 * 96.0 = 2749.4$)
- Proxy net gain on exercise for 2000 is \$ 5377.2 million (\$5.4 billion)
($54.68 - 4.66 = 50.02$; $50.02 * 107.5 = 5377.2$)

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

| | Raw Total (97) | Expanded Total | Corporate Wages & Salaries | Stock Option Share (%) |
|------|---------------------------|---------------------------|---|---------------------------------------|
| 1995 | 8.7 | 11.3 | 3200.1 | 0.5 |
| 1996 | 15.9 | 20.7 | 2442.8 | 0.8 |
| 1997 | 28.3 | 36.8 | 2636.8 | 1.4 |
| 1998 | 46.8 | 60.8 | 2870.3 | 2.1 |
| 1999 | 73.1 | 95.0 | 3082.2 | 3.1 |
| 2000 | 85.1 | 110.6 | 3343.9 | 3.3 |
| 2001 | 44.1 | 57.3 | 3378.6 | 1.7 |
| 2002 | 24.1e | 31.3e | 3388.0 | 0.9 |

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