Value and Valuation: Making Sense of Long-Term Incentive Data

Terry Adamson, CEP
Fred Whittlesey, CEP, CCP, CECP
Presentation Outline

- This is Important if…
- Statement of the Problem
- History of LTI Valuation
- Accounting Fair Value
- Survey Values
- Proxy Statement Values
- Proxy Advisory Firm Values
- Re-Emerging Methodologies
- Emerging Effects on Value
- Your Next Steps
This is Important if...

- You reference survey data and/or proxy data in your compensation analyses, **and**
- Your compensation market data includes LTI data, **and**
- Your company grants LTI to the positions you are analyzing, **or**
- Your company does not grant LTI to the positions you are analyzing, **or**
- A proxy adviser or institutional shareholder has questioned your executive or equity compensation program (in the say-on-pay process), **or**
- Your CEO is the subject of unfavorable headlines for being “overpaid”
Statement of the Problem

- Long-term incentive compensation represents a small to significant portion of total compensation depending on
  - Position
  - Industry
  - Location
  - Form of organization
  - Company pay philosophy

- Unlike cash compensation, LTI values are subject to a wide variety of conflicting methodologies
Statement of the Problem

- Accountants and the SEC have a unified approach to LTI valuation
  - These are increasingly being challenged as “pay value”
- Corporate compensation practitioners use LTI market data represented in a wide range of value
  - Data is often combined/averaged like base salary and total cash compensation data
  - Various forms of LTI are, in turn, combined into dollar-denominated values
- Corporate governance advocates assess LTI value as an element of their analyses
  - Each has its valuation method
## Survey Valuation Methodologies

<table>
<thead>
<tr>
<th>Survey Firm</th>
<th>Stock Options</th>
<th>Method of Calculating Pay Value of Equity Compensation</th>
<th>Cash LTI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Firm A</strong></td>
<td>Black-Scholes value Proprietary calculation</td>
<td>100% of FMV Fair value Excluded</td>
<td></td>
</tr>
<tr>
<td><strong>Firm B</strong></td>
<td>Black-Scholes value individual company value</td>
<td>100% of FMV 100% of FMV at target Excluded</td>
<td></td>
</tr>
<tr>
<td><strong>Firm C</strong></td>
<td>1-Black-scholes 2-Binomial 3-NPV *Growth = 10% *Discount rate = 4.5% *Period = 5</td>
<td>100% of FMV 100% of FMV at target Excluded</td>
<td></td>
</tr>
<tr>
<td><strong>Firm D</strong></td>
<td>NPV=45% of FMV *Growth = 10% *Discount rate = 6% *Period = 5</td>
<td>NPV=75% of FMV *Growth = 0% Discount rate = 6% Period = 5 Target less a discount: 2-year period = 85% 3-year period = 80% 4-year period = 75% 5-year period = 70% Target less a discount: 2-year period = 85% 3-year period = 80% 4-year period = 75% 5-year period = 70%</td>
<td></td>
</tr>
<tr>
<td><strong>Firm E</strong></td>
<td>Risk-Adjusted PV *Growth = 12% *Discount rate = 12% *Period = 5</td>
<td>100% of FMV plus option value 1-Target value 2-Fair value Included</td>
<td></td>
</tr>
<tr>
<td><strong>Firm F</strong></td>
<td>Risk-Adjusted PV *Growth = 12% *Discount rate = Rf *Period = 3</td>
<td>PV of RAPV plus option value *Growth = 12% *Discount rate = Rf *Period = 3 1-Target value 1-Target value</td>
<td></td>
</tr>
</tbody>
</table>
A Brief History of Valuation

- 1980s
  - Grant Value
  - Grant Value Multiple
- Allowed LTI-to-LTI comparisons (if all options)
- Allowed crude pay mix comparisons
- No “total compensation” calculation possible
  - Note: At that time, SEC disclosure rules did not require a total compensation figure
## Grant Value

<table>
<thead>
<tr>
<th></th>
<th>Stock Options</th>
<th></th>
<th>Restricted Stock</th>
<th>Performance Shares</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Base Salary</td>
<td>$250,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) FMV on Grant Date</td>
<td>$15.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) Number of shares</td>
<td>12,000</td>
<td>12,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c1) Minimum</td>
<td>6,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c2) Target</td>
<td>12,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c3) Maximum</td>
<td>18,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(d) Strike price</td>
<td>$15.00</td>
<td></td>
<td>n/a</td>
<td>n/a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(e) Grant Value</td>
<td>(c) * (d) $180,000</td>
<td></td>
<td>(c) * (b) $180,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(c2) * (b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(f) Grant Value Multiple</td>
<td>(e) / (a) 0.72</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A Brief History of Valuation (continued)

- 1990s
  - Gain Value
    - Allows for comparison and addition to cash compensation
  - Driven by 3 controversial assumptions
    - Growth rate
    - Discount rate
    - Time period
  - Proxy statement table
    - 5% and 10% growth rate
## Gain Value

<table>
<thead>
<tr>
<th></th>
<th>Grant Price</th>
<th>FMV</th>
<th>End Price</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stock Option</strong></td>
<td>$15.00</td>
<td>$15.00</td>
<td>$30.17</td>
<td>$11.89</td>
</tr>
<tr>
<td><strong>Restricted Stock</strong></td>
<td>$15.00</td>
<td>$30.17</td>
<td>$23.64</td>
<td></td>
</tr>
<tr>
<td><strong>Performance Shares</strong></td>
<td>$15.00</td>
<td>$30.17</td>
<td>$23.64</td>
<td></td>
</tr>
</tbody>
</table>

### Assumptions
- **Growth Rate**: 15%
- **Discount Rate**: 5%
- **Years**: 5
- **Performance vs. Target**: 100%

<table>
<thead>
<tr>
<th></th>
<th>Grant Price</th>
<th>FMV</th>
<th>End Price</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stock Option</strong></td>
<td>$0.00</td>
<td>$15.00</td>
<td>$30.17</td>
<td>$7.54</td>
</tr>
<tr>
<td><strong>Restricted Stock</strong></td>
<td>$15.00</td>
<td>$30.17</td>
<td>$15.00</td>
<td></td>
</tr>
<tr>
<td><strong>Performance Shares</strong></td>
<td>$15.00</td>
<td>$30.17</td>
<td>$15.00</td>
<td></td>
</tr>
</tbody>
</table>

### Assumptions
- **Growth Rate**: 15%
- **Discount Rate**: 15%
- **Years**: 5
- **Performance vs. Target**: 100%
A Brief History of Valuation (continued)

1990s

- FAS123: Optional accounting fair value (footnote required) endorsing (without naming) Black-Scholes and driven by:
  - Volatility
  - Expected Life (not full term)
  - Risk-free Interest Rate
  - Dividend Yield
  - Any discount/premium from fair market value for strike price
Black-Scholes Value

\[ C = S e^{-\delta t} N(d_1) - e^{-rt} N(d_2) \]
\[ d_1 = \left[ \ln \left( \frac{S}{E} \right) + (r - \delta + \sigma^2/2)t \right] / \sigma \sqrt{t} \]
\[ d_2 = d_1 - \sigma \sqrt{t} \]

MARKET PRICE AT DATE OF GRANT $40.00
FUTURE DIVIDEND YIELD (3% = 0.03) 2.20%
STRIKE PRICE $40.00
VOLATILITY 0.450
RISK-FREE RATE (8% = 0.08) 1.75%
TERM (IN YEARS) 4.5

VALUE OF OPTION $13.03
A Brief History of Valuation (continued)

- Proxy Statement – Summary Compensation Table
  - Pre-1993: Total cash compensation, number of stock options
  - 1993: Value of RS and PS but number of options
  - 2004: $ values of all forms of LTI (except cash)
  - 2007: Grant date fair value and “total comp” plus cash LTI in NEIP
    - Fair value accrued in that year for all years’ grants
  - 2010: Back to grant date fair value
A Brief History of Valuation (continued)

- The Past Decade
  - ISS Burn Rate table
  - 1995: FAS123
    - Option pricing model endorsed by FASB
  - 1997: Share Value Transfer method released
  - 2004: FAS123R
    - Binomial model endorsed as preferred method
  - 2005: SAB107 adds some shortcuts
    - Expected Life = (T + V)/2
Illustration comparing closed-form Black-Scholes model with a traditional binomial model (present value of future cash flows)

\[ d_1 = \left[ \ln\left( \frac{S}{X} \right) + \left( r - \delta + \frac{\sigma^2}{2} \right) t \right] \frac{1}{\sigma \sqrt{t}} \]

* Simplification such that there is an equal probability of downward and upward movements. This is generally not the case as the probability of upward and downward movements are governed by the volatility, the dividend yield, and the discount rate.
**Principles of Monte Carlo simulation** are akin to The Price Is Right game Plinko:

- Future stock prices are randomly simulated up or down at each time period.
- Plinko right or left at each peg.
- Ending price used to determine whether award vests and the value of that award.
- Process is repeated to ensure a wide distribution of results.

**Fair Value** = Vesting Percentage x Simulated Price x Present Value

- Simple average of all simulation results.
ISS Valuation vs. Accounting

Adobe Systems DEF14A 3/1/2012

Adobe\(^1\) versus ISS\(^2\) Option Valuation

1. Adobe values as reported in 2012 Summary Compensation Table.
2. ISS values as reported in the ExecComp Analytics section of their Compensation Suite on the ISS Governance Analytics website.
WorldatWork’s Model

- Initiated comment in 2009 with goal of a standardized valuation method to be used by all
- Cover story in April 2011 *Workspan* - great deal of interest by practitioners and several large survey firms
- At the end of 2011, several firms were attempting to implement the WorldatWork/GEO standard LTI model in their data collection systems for 2012, but they failed to meet their own deadlines
- WorldatWork anticipates that at least one or two firms will again attempt to include a standard LTI model for 2013
- Association is actively encouraging further discussion, toward a standard LTI valuation model that be in addition to (not replace) other models
Re-emerging Methodologies

- Intrinsic value
  - What the award is actually worth… but when?

- Realized value
  - What the award was worth when exercised (options), vested (RS and PS), or paid (cash LTI)

- Realizable value
  - What the award would be worth (right now) if fully paid out
    - Captures intrinsic value
    - Eliminates bias of unexercised options
## Intrinsic Value: Proxy Statement Table

### Citigroup DEF14A 3/8/2012

### Equity Value Table

<table>
<thead>
<tr>
<th>Name</th>
<th>Year</th>
<th>Value of Stock Awards Shown in Summary Compensation Table</th>
<th>Value of Option Awards Shown in Summary Compensation Table</th>
<th>Combined Equity Award Value at December 30, 2011</th>
<th>Difference between Combined Equity Value and Stock and Option Award Values in Summary Compensation Table</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vikram Pandit</td>
<td>2011</td>
<td>$ 0</td>
<td>$ 7,839,581</td>
<td>$ 0</td>
<td>$(7,839,581)</td>
</tr>
<tr>
<td></td>
<td>2010</td>
<td>$ 0</td>
<td>$ 0</td>
<td>$ 0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td>$ 0</td>
<td>$ 0</td>
<td>$ 0</td>
<td>0</td>
</tr>
<tr>
<td>John Gerspach</td>
<td>2011</td>
<td>$ 2,333,333</td>
<td>$ 2,039,836</td>
<td>$ 1,278,958</td>
<td>$(3,094,211)</td>
</tr>
<tr>
<td></td>
<td>2010</td>
<td>$ 4,166,667</td>
<td>$ 0</td>
<td>$ 2,736,678</td>
<td>$(1,429,989)</td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td>$ 4,583,333</td>
<td>$ 0</td>
<td>$ 3,187,875</td>
<td>$(1,395,458)</td>
</tr>
<tr>
<td>John Havens</td>
<td>2011</td>
<td>$ 4,750,000</td>
<td>$ 2,719,781</td>
<td>$ 2,603,594</td>
<td>$(4,866,187)</td>
</tr>
<tr>
<td></td>
<td>2010</td>
<td>$ 9,000,000</td>
<td>$ 0</td>
<td>$ 5,911,225</td>
<td>$(3,088,775)</td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td>$ 10,327,374</td>
<td>$ 434,380</td>
<td>$ 7,432,805</td>
<td>$(3,328,949)</td>
</tr>
<tr>
<td>Brian Leach</td>
<td>2011</td>
<td>$ 5,400,000</td>
<td>$ 2,039,836</td>
<td>$ 2,830,159</td>
<td>$(4,609,677)</td>
</tr>
<tr>
<td>Manuel Medina-Mora</td>
<td>2011</td>
<td>$ 3,998,939</td>
<td>$ 2,719,781</td>
<td>$ 2,191,918</td>
<td>$(4,526,802)</td>
</tr>
<tr>
<td></td>
<td>2010</td>
<td>$ 7,450,911</td>
<td>$ 0</td>
<td>$ 4,893,779</td>
<td>$(2,557,132)</td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td>$ 9,328,010</td>
<td>$ 361,984</td>
<td>$ 6,911,154</td>
<td>$(2,778,840)</td>
</tr>
</tbody>
</table>
Intrinsic Value: Proxy Statement Chart

CEO Equity Grants
Grant Date Fair Value vs. Intrinsic Value as of 12/31/2011

Total Grant Date Fair Value = $15.7MM
Total Intrinsic Value = $11.0MM

Grant Price:
- Annual Award: $74.79, $54.88, $23.68, $50.17, $60.89
- Performance Options: $72.51, $50.39, $34.11, $50.88, $53.68
Realizable Pay: Supplemental Filing

1. Target compensation uses target base and non-equity incentive values, and the reported value for each fiscal year in the Summary Compensation Table of our 2012 Proxy Statement for equity grant values. Performance Shares included at target payout.

2. Realizable compensation uses actual base and non-equity incentive values from the Summary Compensation Table, while realizable equity is calculated using the closing stock price of $27.11 on the last day of fiscal year 2011, December 2, 2011. Performance Shares included as earned under the plan for each year.

3. ISS compensation as reported in the ExecComp Analytics section of their Compensation Suite on the ISS Governance Analytics website.
Emerging Effects on Value

- Performance features
  - Introduced in reaction to RSUs = PSUs
  - Extended to stock options
- Stock ownership guidelines
  - Introduced in early 1990s
  - Embedded in proxy advisory voting guidelines
- Clawbacks
  - Introduced in Sarbanes-Oxley
  - Enhanced in TARP
  - Extended in Dodd-Frank – awaiting SEC rules
How Do These Affect Value?

- **Performance features**
  - Typically viewed as a discount by participants
  - Reported at target in GPBA (with a footnote for max)
  - Often create an accounting expense greater than target

- **Stock ownership guidelines**
  - Typically viewed as a discount by participants
  - No models consider in LTI value
  - Often moot due to one-time RSU grants accompanying new guidelines
    - Which are often excluded from proxy and survey values!

- **Clawbacks**
  - Typically viewed as a discount by participants
  - Unquantifiable due to uncertain circumstances and timing
Emerging Effects – Relative TSR

- Sample fair value result based on the following:
  - 3-year performance period
  - Assumes $20 current price, 3% risk-free rate, and no dividend yield
  - Payout based on percentile rank

- Summary of simulation results

<table>
<thead>
<tr>
<th>Percentile</th>
<th>Frequency</th>
<th>Vesting Percent</th>
<th>Stock Price</th>
<th>Present Value Factor</th>
<th>Fair Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum</td>
<td>25%</td>
<td>150%</td>
<td>$51.33</td>
<td>0.9151</td>
<td>$17.28</td>
</tr>
<tr>
<td>Above Target</td>
<td>17%</td>
<td>124%</td>
<td>$22.10</td>
<td>0.9151</td>
<td>$4.30</td>
</tr>
<tr>
<td>Below Target</td>
<td>20%</td>
<td>73%</td>
<td>$14.30</td>
<td>0.9151</td>
<td>$1.91</td>
</tr>
<tr>
<td>Below Threshold</td>
<td>39%</td>
<td>0%</td>
<td>$7.09</td>
<td>0.9151</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

Simulated Fair Value: $23.49

- Note that this result is 115% of face!
Emerging Effects – Absolute TSR

- 3-year performance period; RSU vests if the stock price exceeds the Stock Price Hurdle
- Assumes $20 current price, 3% risk-free rate, and no dividend yield

<table>
<thead>
<tr>
<th>Volatility</th>
<th>Stock Price Hurdle</th>
<th>$20</th>
<th>$30</th>
<th>$40</th>
<th>$50</th>
</tr>
</thead>
<tbody>
<tr>
<td>30%</td>
<td>$13.35 (-33%)</td>
<td>$7.28 (-64%)</td>
<td>$3.68 (-82%)</td>
<td>$1.83 (-91%)</td>
<td></td>
</tr>
<tr>
<td>40%</td>
<td>$13.66 (-32%)</td>
<td>$9.13 (-54%)</td>
<td>$6.00 (-70%)</td>
<td>$3.97 (-80%)</td>
<td></td>
</tr>
<tr>
<td>50%</td>
<td>$14.09 (-30%)</td>
<td>$10.55 (-47%)</td>
<td>$7.92 (-60%)</td>
<td>$6.02 (-70%)</td>
<td></td>
</tr>
<tr>
<td>60%</td>
<td>$14.56 (-27%)</td>
<td>$11.71 (-41%)</td>
<td>$9.52 (-52%)</td>
<td>$7.83 (-61%)</td>
<td></td>
</tr>
</tbody>
</table>

- But what about Market Stock Units? Those are Absolute Performance Shares
- Expect Market Stock Units to be approximately 120% of face, depending on terms
Emerging Effects – Truncated Terms and Caps

- Shorter Contractual Terms of 7 Years or less became popular in 2006

<table>
<thead>
<tr>
<th>Volatility</th>
<th>10 Years</th>
<th>7 Years / Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>30%</td>
<td>33.0%</td>
<td>-14.0%</td>
</tr>
<tr>
<td>40%</td>
<td>41.4%</td>
<td>-13.1%</td>
</tr>
<tr>
<td>50%</td>
<td>49.2%</td>
<td>-12.4%</td>
</tr>
<tr>
<td>60%</td>
<td>56.5%</td>
<td>-11.7%</td>
</tr>
<tr>
<td>70%</td>
<td>63.2%</td>
<td>-11.0%</td>
</tr>
<tr>
<td>80%</td>
<td>69.2%</td>
<td>-10.2%</td>
</tr>
</tbody>
</table>

- Look for Capped Options to come next …

<table>
<thead>
<tr>
<th>Volatility</th>
<th>500%</th>
<th>400%</th>
<th>300%</th>
<th>200%</th>
</tr>
</thead>
<tbody>
<tr>
<td>30%</td>
<td>-0.42%</td>
<td>-0.45%</td>
<td>-2.88%</td>
<td>-11.32%</td>
</tr>
<tr>
<td>40%</td>
<td>-2.01%</td>
<td>-3.93%</td>
<td>-7.44%</td>
<td>-21.01%</td>
</tr>
<tr>
<td>50%</td>
<td>-6.71%</td>
<td>-7.36%</td>
<td>-13.85%</td>
<td>-30.36%</td>
</tr>
<tr>
<td>60%</td>
<td>-10.41%</td>
<td>-13.20%</td>
<td>-21.36%</td>
<td>-39.41%</td>
</tr>
<tr>
<td>70%</td>
<td>-13.61%</td>
<td>-19.05%</td>
<td>-27.99%</td>
<td>-47.01%</td>
</tr>
<tr>
<td>80%</td>
<td>-20.34%</td>
<td>-25.71%</td>
<td>-35.51%</td>
<td>-53.66%</td>
</tr>
</tbody>
</table>
Emerging Effects - Clawbacks

- ASC Topic 718 does not allow for a reduction for claw-backs
- IFRS 2 requires a reduction in the valuation of Claw-backs
  - Companies are only going to reduce the fair value of equity for the probability of violating non-compete or non-solicit provisions, not for misconduct
- Simplistic Example: Requires assumptions about termination, the probability of competition, and the length of the non-compete provision. The example below reflects a 1-year non-compete

<table>
<thead>
<tr>
<th>Termination Rate</th>
<th>Probability of Competing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>25.00%</td>
</tr>
<tr>
<td>5.00%</td>
<td>-1.3%</td>
</tr>
<tr>
<td>10.00%</td>
<td>-2.5%</td>
</tr>
<tr>
<td>15.00%</td>
<td>-3.8%</td>
</tr>
<tr>
<td>20.00%</td>
<td>-5.0%</td>
</tr>
</tbody>
</table>

- Discount = 1 – (Termination Rate) * (Probability of Competing)
- Longer non-competes would get greater reductions in fair value
What To Do?

- Confirm your current internal methodologies
  - Stock options and SARs
  - Time-vested stock grants (e.g., RSUs)
  - Performance-vested stock grants (e.g., PSUs)
  - Multi-year Non-equity Incentive awards (e.g., Cash LTI)
- Confirm your survey and consultant methodologies
- Reverse engineer and normalize values
- Note how vastly different this new analysis is from anything you’ve done before!
  - Compared to proxy tables
  - Compared to consultant’s analyses
Then…

- Determine your Compensation Committee consultant’s methodologies
- Research your Compensation Committee members’ other Board memberships, and repeat
- Educate your CEO/CFO/GC/VPHR
- Provide empirical and analytical support for your executives’ trip to the Compensation Committee
- Develop a position on LTI competitiveness, and the impact on total compensation
- Manage those numbers behind-the-scenes to be instantly prepared for a say-on-pay challenge, lawsuit, stock price crash, employee whining, etc.
Contact Information

Fred Whittlesey, CEP
Principal Consultant
206.388.9068
fred@compensationventuregroup.com
www.compensationventuregroup.com
Blog: payandperformance.blogspot.com

Terry Adamson, CEP
Partner
Aon Hewitt Consulting
tadamson@radford.com
215.255.1802