

# Options Expensing Alert

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## What Investors Need to Know

15 February 2007



INSTITUTIONAL SHAREHOLDER SERVICES

Enabling the Business of Corporate Governance

# Webcast Instructions

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- Please use the chat function in the lower right side of your screen to ask questions throughout the webcast. We will answer as many as possible at the conclusion.
- The slides will be sent to you at the conclusion of the webcast.
- This conference is being recorded. The recording and transcript will be available on our website at [www.issproxy.com](http://www.issproxy.com) tomorrow.

## Today's Speakers

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- Patrick McGurn, Executive Vice President and Special Counsel, Institutional Shareholder Services
- Jeffrey Mahoney, General Counsel, Council of Institutional Investors
- Frank Caruso, Senior Research Analyst, ISS

## Discussion Topics

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- Stock Option Expensing – key issues
- Implications of expensing
- Market practice
- Option Expensing Alert overview

## Valuing employee stock options – key issues

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- Unique features of employee stock options
  - Nonmarketability (cannot be transferred)
  - Vesting periods (4-year graded is typical)
  - Early exercise due to terminations and employee views on future stock performance
  - Long contract terms (7-10 years)
- Absence of market pricing mechanism

## Getting to FAS 123R

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- Measurement objective is to estimate the grant-date fair value of equity instruments
- FASB process
  - Nearly 60 public Board meetings
  - Two documents issued for public comment
  - Review and analysis of over 20,000 comment letters
  - Four public roundtables
  - Field visits with a variety of companies
  - Discussions and consultations with a broad range of preparers, users, and auditors of financial reports including representatives of
    - The Financial Accounting Standards Advisory Council
    - The User Advisory Council
    - The Small Business Advisory Committee
    - The Options Valuation Group

## Criteria for acceptable valuation models

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- Is applied in a manner consistent with the fair value measurement objective and the other requirements of the standard
- Is based on established principles of financial economic theory and generally applied in that field, and
- Reflects all substantive characteristics of the instrument
- The valuation technique must take into account, at a minimum, the following inputs
  - The exercise price of the option
  - The expected term of the option
  - The current price of the underlying share
  - The expected volatility of the price of the underlying share
  - The expected dividends on the underlying share
  - The risk-free interest rate(s)

## Benefits of Statement 123(R) to investors and creditors who use financial reports

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- Will result in more efficient allocation of capital
  - By permitting a better understanding of an entity's economic transactions relating to share-based payment transactions
  - By permitting a better understanding of the impact that share-based payment transactions have on an entity's financial condition and operations
  - By improving comparability of financial reports domestically by eliminating one of the two very different methods of accounting for equity-based compensation transactions that currently exist (intrinsic value method) and, thereby, eliminating the current practice that permits entity's to report zero compensation cost for certain employee stock options.



## Key concerns for issuers

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- Option expense is model-driven
  - Market pricing is difficult
  - FAS 123R offers a lot of potential models to choose from: Black-Scholes, binomial and trinomial (lattice) models, monte carlo simulation
- All models require a range of assumptions as input
  - Some assumptions can be estimated from observed historical or market data: volatility, risk-free rate, dividend yield, pre-vesting termination
  - Some assumptions are difficult to estimate or directly observe: notably, term length for Black-Scholes
  - Some models handle the specific features of employee options better
    - Black-Scholes wraps all of these up in a single opaque assumption, term length
  - Companies have flexibility in determining assumptions – for instance, what period for volatility?

## Key concerns for investors

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- Options affect earnings – but how much is highly susceptible to changing assumptions
  - Different companies use different models, different basis for assumptions
  - How do we compare earnings?
  - How confident are we in the numbers being reported?
  - How close is reported value to fair value?
- Complex interactions between model inputs make systematic analysis difficult – relative impacts of volatility and term length assumptions are not linear

## Where we are today

- First wave of disclosures coming in 10-Ks right now
- Noticing some stark differences between old disclosures and new disclosures
  - Some companies dramatically changing term and volatility assumptions
  - But others are staying constant
  - Predominant use of the Black-Scholes model and expected-term assumptions, despite its limitations
- Raises significant consistency and transparency questions for investors

	2006	2005	2004
<b>Intuit</b>			
Expected Term	2.78	2.98	3.36
Expected Volatility	25.00%	32.5%	59.5%
<b>Campbell Soup</b>			
Expected Term	6	6	6
Expected Volatility	23.0%	21.0%	24.0%

## Enhanced disclosure has not yielded transparency for investors

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- FAS 123R permits the exclusive use of historical volatility, implied volatility, or a blend of both. When calculating historical volatility, companies can carve out periods of extreme volatility at their discretion, or use volatility of peer companies.
- Expected term can take on any supportable length as long as it is no shorter than the vesting period
  - The result: expected terms ranging from 2 years to 9 years.
  - Additionally, the SEC permits companies to use as the expected term the average of the vesting period and the contractual term; for example, a 10-year option with 2 year cliff vesting would have an expected term of 6 years.
- FAS 123R permits the use of a single value or a range of values for expected volatility, dividend yield, and risk-free rate.
- FAS 123R permits the use of any established option-pricing model for estimating fair value: Black-Scholes, binomial, multinomial, Monte Carlo simulation....
  - This flexibility has lead to the most problematic issue - companies are relying on the potentially less accurate Black-Scholes model

## How will misstatements of value affect investors?

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- **Consistency is important** – measure the effect of options expense uniformly across all companies, to separate economic differences from model and assumption differences

## Options Expensing Alert: Applying a standard model to options expense

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- ISS uses the Hull-White model
  - FASB indicated clear preference for binomial lattice models in initial exposure draft
  - Open-form lattice model accounts for option vesting restrictions, employees' suboptimal early exercise behavior, and post-vesting employment turnover.
  - Defines a condition under which employees are expected to exercise vested options in terms of the stock price reaching a specified multiple of the exercise price – a much sounder theoretical basis for ESO valuation over estimating expected term.
- ISS applies a standard assumption set
  - exclusive reliance on historical volatility using the same look-back period (versus company-by-company decisions to place exclusive reliance on implied volatility, historical volatility, or blended volatility)
  - exclusive reliance on option contractual term (observable)
  - constant risk-free rate and dividend yield

## Hull-White/lattice model handles employee stock options better

–Black-Scholes requires only 4 assumptions (expected term, volatility, dividend yield, risk-free rate) and combines most employee stock option-specific effects as a single adjustment to term length.

–Hull-White adds three additional, empirically observable or contractual inputs: vesting period, suboptimal exercise multiple, post-vesting employment turnover rate.

	Model	
Employee Option Characteristic	Black-Scholes	Hull-White/Lattice
Options are not exercisable during vesting period	Adjust expected term assumption	Explicitly modeled through vesting assumption
Stock-price-driven early employee exercise	Adjust expected term assumption	Explicitly modeled through exercise multiple
Employee turnover after vesting period	Adjust expected term assumption	Explicitly modeled as early exercise

# Options Expensing Alert

## Example:

ISS estimates that this company understated its per-option fair value by 23%, its Net Income by \$80 million, and its Earnings per Share by \$0.10.

Options Granted	Assumed Term	Full Term	Assumed Vol.	Historic Vol.	Div. Yield	Risk-Free Rate	Reported Option Value	Hull-White Option Value	Adj. to Net Income	Adj. to EPS	Reported EPS	Adjusted EPS
35 mil	4.25 Years	10 Years	25%	45%	1%	4%	\$15.73	\$19.32	-\$82 mil	-\$0.10	\$2.35	\$2.25



## Findings from initial disclosures

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- Over 80% of companies using Black-Scholes formula with adjusted expected term length
- Broad variance (ISS-adjusted option values range from 92% higher to 11.7% lower than reported)
  - Most of the variation within values is driven by expected term and volatility assumptions
- Hull-White/ISS value for average company in database is 26% higher than company-reported value
- ISS-adjusted EPS is on average 3.4% lower than reported EPS (weighted by dollar size of option grant)
  - Almost all of this trend is due to expected term assumption – companies' volatility assumptions are not driving the aggregate results

## Using the Option Expensing Alert

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- A basis for company analysis
  - How far is the Hull-White option value from the company's reported option fair value?
  - Fair value assumptions (e.g. expected term and volatility), reported per-option fair value, reported EPS, and adjusted EPS (adjusted to account for under/overstated of option expense)
  - Why is there a gap? Most gaps come from aggressive assumptions concerning expected term and volatility – product displays historical volatility and option contractual term so the user can observe the source of the gap.
  - Is there aggressive accounting? Are there risks?
- A basis for comparative analysis
  - Are differences due to options expensing assumptions, or real competitive differences?
  - Clean up sector analysis by standardizing expense

## *Q & A*

**Please use the online Q&A feature  
to submit questions over the web.**

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