Derivatives and Hedging Accounting: FAS 133 and Beyond
Mastering the Evolving Guidance on Derivative Instrument Accounting and Valuations

A Live 110-Minute Teleconference/Webinar with Interactive Q&A

Today’s panel features:
Krishnan Iyengar, Chairman, Hedge Accounting Technical Task Force, Reval, Inc., New York
Mark Leffers, Founder, Bennett Point Associates, LLC, Bethesda, Md.
Barry Epstein, Partner-In-Charge, Forensic Accounting Group, Russell Novak & Co., Chicago

Wednesday, February 17, 2010

The conference begins at:
1 pm Eastern
12 pm Central
11 am Mountain
10 am Pacific

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Today’s Program

- Introduction To Derivatives, slides 3 through 14 (Krishan Iyengar)
- Relevant Guidance On Derivative Instruments, Hedging And Foreign Currency Transactions, slides 15 through 29 (Barry Epstein)
- Impacts Of Hedge Accounting On Financial Statements, slides 30 through 45 (Barry Epstein)
- Embedded Derivatives, slides 46 through 57 (Mark Leffers)
- Commodities Hedging, Demystified, slides 58 through 70 (Krishnan Iyengar)
- Relevant Fair Value Scenarios And Accounting Standards, slides 71 through 74 (Barry Epstein)
Introduction To Derivatives
Introduction To Derivatives
Derivatives, According To Warren Buffet

I view derivatives as time bombs, both for the parties that deal in them and the economic system.
In The Beginning

- 2000 B.C.: Sumerian used clay tokens to trade sheep
- Some say ancient Greek Thales was first to trade options on olive presses
- 16th Century: OTC futures and options were involved in the Tulip Bubble collapse
- 17th Century: Japan trading rice futures
- 1848: Chicago Board of Trade (CBOT)
- 1898: The Chicago Butter and Egg Board (CME)
What Is Hedging?

- Reduces or eliminates risk in an “exposure,” similar to an insurance policy against a negative event
- Use financial instruments to strategically offset risk and adverse price movements
How Does A Company Hedge?

- Derivatives (futures, options, swaps)
- Has a cost – similar to insurance
- Goal: Not profit but to offset risk
Types Of Derivatives

OTC Derivatives
- Foreign Exchange
  - FX Forwards
  - FX Options
- Interest Rates
  - Interest Rate Swaps
  - Caps/Floors/Collars
- Commodities
  - Forward Contracts
  - Commodity Swaps

ET Derivatives
- Currency Futures
- IR Futures
- Commodity Futures
- Options traded on Exchanges
- Equity Futures
# What’s The Difference?

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>ET Derivatives</th>
<th>OTC Derivatives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Definition</strong></td>
<td>Seller is obligated to deliver specific amount of specific item at specific time</td>
<td>Same</td>
</tr>
<tr>
<td><strong>Settlement</strong></td>
<td>Cash or Physical Settlement</td>
<td>Same</td>
</tr>
<tr>
<td><strong>Contract Type</strong></td>
<td>Standardized</td>
<td>Customizable</td>
</tr>
<tr>
<td><strong>Where Traded</strong></td>
<td>Exchange</td>
<td>“Over the Counter” — Your bank</td>
</tr>
<tr>
<td><strong>Delivery Date</strong></td>
<td>Typically closed out before contract matures by offsetting deal</td>
<td>End of contract</td>
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<tr>
<td><strong>Valuation</strong></td>
<td>MTM Daily with margin calls</td>
<td>Have to be disclosed at least quarterly</td>
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</table>
Interest Rate Swap Example

- CORP XYZ 3ml 2015 floating rate note, swapped to fixed

5.00% USD

 Dealer

3M LIBOR

3ML USD

XYZ
Example Of Commodity Hedge

- A carmaker that uses natural gas needs 10,000 MMBTU of natural gas that it wants to buy in two months. The carmaker can hedge by buying one natural gas futures contract that settles in two months time for $5.428/MMBTU.

WHY???

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<th>Price rises to $6.428</th>
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<th>Price falls to $4.428</th>
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<tr>
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CERTAINTY
Derivatives Are Great! What’s the Accounting Like?

“Earnings volatility has a negative impact on the cost of capital and the share price” Shareholder value studies

P&L volatility **matters** to independent shareholders
## Matching P&L Impact

### NO HEDGE ACCOUNTING

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<th></th>
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<th>Period 2</th>
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<td>40</td>
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<tr>
<td>Derivative</td>
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<td>0</td>
<td>-40</td>
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<tr>
<td>Profit and Loss</td>
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### CASH FLOW HEDGE

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<tr>
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<td>Profit and Loss</td>
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### FAIR VALUE HEDGE

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Relevant Guidance On Derivative Instruments, Hedging And Foreign Currency Transactions
Derivatives And Hedging: ASC 815

• Accounting Standards Codification cross-reference for these standards
  – FAS 133
  – FAS 149
  – FAS 161
  – FAS 155
• Covers the following topics:
  – Embedded derivatives
  – Hedging
  – Fair value hedges
  – Cash flow hedges
  – Foreign currency hedges
  – Contracts in entity’s own equity
  – Weather derivatives
Exceptions that are not subject to the requirements of ASC 815

- Regular-way security trades
- Normal purchases and normal sales of securities
- Certain insurance contracts
- Certain financial guarantee contracts
- Certain contracts that are not exchange-traded
- Derivatives that serve as impediments to sales accounting
Derivatives And Hedging: ASC 815 (Cont.)

• Resolves a number of inconsistencies in previous guidance
  – The effects of derivative instruments were not easily understood, were often not properly displayed in the financial statements, and sometimes were not recognized in the financial statements
  – The available accounting guidance was incomplete. Many derivative instruments were excluded from the statement of financial position
  – The accounting guidance was inconsistent. There were different measurements of various derivative instruments, and different qualifications for alternative types of hedging
  – The guidance that did exist was difficult to apply. There was a variety of sources, and no single comprehensive approach had been defined
Derivatives And Hedging: ASC 815 (Cont.)

- Standardizes accounting and reporting for all derivative instruments and hedging activities.
- Four key principles underlying the standard:
  - Derivative instruments are assets and liabilities.
  - The fair value of derivative instruments is the only relevant measure to be reported.
  - Only true assets and liabilities are to be reported as such. Gains and losses from derivative instruments are not separate liabilities or assets and are not to be reported as such.
  - Only designated qualifying items that are effectively offset by changes in fair value or cash flows during the term of the hedge are eligible to use the special accounting for hedging.
Fair Value Measurements And Disclosures: ASC 820

• Accounting Standards Codification cross-reference
  – FAS 157
Fair Value Measurements And Disclosures: ASC 820 (Cont.)

- Establishes a single, consistent GAAP definition of fair value, which is:
  - The price that would be received to sell an asset or paid to transfer a liability in an “orderly transaction” between market participants at the measurement date
  - Concept of “exit price” is now synonymous with fair value

- Provides uniform, consistent guidance on how to measure fair value
  - Establishes a hierarchical fair value measurement framework

- Expands the information required to be provided to financial statement users about fair value measurements
Fair Value Measurements And Disclosures: ASC 820 (Cont.)

• Basic measurement principles and methodologies
  – Identify the item to be valued and the unit of account
  – Determine the principal or most advantageous market and the relevant market participants
  – Select the valuation premise to be used for asset measurements
  – Consider the risk assumptions applicable to the liability measurements
  – Identify available inputs
  – Select the appropriate valuation technique(s)
  – Make the measurement
  – Determine the amounts to be recognized and information to be disclosed
Foreign Currency Matters: ASC 830

- Accounting Standards Codification cross-reference
  - FAS 52
Foreign Currency Matters: ASC 830 (Cont.)

• Provides guidance on accounting for foreign currency transactions and translation of financial statements
  – Foreign currency transactions (e.g. exports, imports and loans) that are denominated in other than a company’s functional currency
  – Foreign currency financial statements of branches, divisions, subsidiaries and other investees that are incorporated into the financial statements of a company reporting under U.S. GAAP by combination, consolidation, or application of the equity method
• Provides a common basis to facilitate the proper analysis of foreign operations by financial statement users, transactions and financial statements denominated in foreign currencies
Transfers And Servicing: ASC 860

- Accounting Standards Codification cross-reference
  - FAS 166
  - FAS 140
Transfers And Servicing: ASC 860 (Cont.)

- Establishes the procedures used to determine whether a transfer of financial assets is a sale or a secured borrowing
- Financial components approach is specified
  - A single financial asset is viewed as a mix of component assets and component liabilities
  - Focus is on who controls the components and whether that control has changed as a result of a given transfer
- When the transferor has surrendered control of the transferred assets, the transfer is a sale
- If the transferor retains control of the transferred assets, the transfer is a secured borrowing
Transfers And Servicing: ASC 860 (Cont.)

- ASC 860 applies to transfers of non-cash financial assets by and to an entity other than the issuer of the financial asset

- A transfer includes
  - Selling a receivable
  - Transferring a receivable to a trust
  - Using the receivable as security for a loan
Transfers And Servicing: ASC 860 (Cont.)

• Types of transfers subject to ASC 860
  – Transfers of receivables with recourse (factoring with recourse)
  – Transfers of undivided partial interests in receivables (retained interests)
  – Transfers of receivables with servicing retained
  – Transfers of minimum lease payments under sales-type and direct financing leases, and any related guaranteed residual
  – Securitizations
  – Repurchase agreements
  – Securities lending
  – Transfers of receivables as collateral
Impacts Of Hedge Accounting On Financial Statements
Fair Value Hedges

• Qualifications

• At the hedge’s inception, formal documentation exists of the:
  – Hedging relationship
  – Risk management objectives
  – Strategy for undertaking the hedge
  – Identification of the hedged item, the hedging instrument, the nature of the risk being hedged, the method of assessing effectiveness, and the components (if any) that are excluded (such as time value) from the effectiveness assessment
  – Reasonable method to be used in recognizing in earnings the asset or liability representing the gain or loss in the case of a hedged firm commitment
Fair Value Hedges (Cont.)

• The hedging relationship is expected to be highly effective in producing offsetting fair value changes throughout the hedge period. This relationship must be assessed at least every three months and each time financial statements or earnings are reported.

• If hedging with a written option, the combination must provide as much potential for gains from positive fair value changes as potential for losses from negative fair value changes. If a net premium is received, a combination of options is considered a written option. The combination of a written option and some other non-option derivative is also considered a written option.
Fair Value Hedges (Cont.)

• Accounting implications

• The accounting for qualifying fair value hedges gains and losses is:
  – On the hedging instrument, gains and losses are recognized in earnings
  – On the hedged item, gains and losses are recognized in earnings, even if they would normally be included in OCI if not hedged

• Differences between the gains and losses on the hedged item and the hedging instrument are either due to amounts excluded from the assessment of hedging effectiveness, or are due to ineffectiveness
  – These gains and losses are to be recognized currently in earnings
Fair Value Hedges (Cont.)

• A fair value hedge is considered effective if all of the following conditions are met:
  – The principal amount of the interest-bearing asset or liability being hedged matches the notional amount of the swap
  – The fair value of the swap is zero at inception, if the hedging instrument is solely an interest rate swap
  – The net settlements under the swap are computed the same way on each settlement date
  – The financial instrument is not pre-payable
  – The terms are typical for those instruments and don’t invalidate the assumption of effectiveness
Fair Value Hedges (Cont.)

- Hedge effectiveness (Cont.)
  - The maturity date of the instrument and the expiration date of the swap match
  - No floor or ceiling on the variable interest rate of the swap exists; and
  - The interval (three to six months, or less) between repricings is frequent enough to assume the variable rate is a market rate

- The fair value hedge should not continue if any of the following events occur:
  - The criteria are no longer met
  - The derivative instruments expire or are sold, terminated or exercised
  - The designation is removed
Cash Flow Hedges

• Qualifications

• At the hedge’s origin, formal documentation exists of the:
  – Hedging relationship
  – Risk management objectives
  – Strategy for undertaking the hedge
  – Identification of the hedged transaction, the hedging instrument, the nature of the hedged risk, and the method of assessing effectiveness and the components (if any) that are excluded (such as time value) from the effectiveness assessment
Cash Flow Hedges (Cont.)

• Qualifications (Cont.)
• Documentation must include:
  – All relevant details
  – The specific nature of any asset or liability involved
  – When (date on or period within) a forecasted transaction is expected to occur
  – The expected currency amount (exact amount of foreign currency being hedged) or expected quantity (specific physical quantities such as number of items, weight, etc.) of a forecasted transaction
• The hedging relationship is expected to be highly effective in producing offsetting cash flows throughout the hedge period. Relationship to be assessed every three months and each time financial statements or earnings are reported.
Cash Flow Hedges (Cont.)

- Qualifications (Cont.)

- If hedging with a written option, the combination must provide at least as much potential for positive cash flow changes as exposure to negative cash flow changes.

- A link must be used to modify interest receipts or payments of a recognized financial asset or liability from one variable rate to another.
Cash Flow Hedges (Cont.)

- Accounting implications

- The effective portion of the gain or loss on the derivative instrument is reported in other comprehensive income

- The ineffective portion of the gain or loss on the derivative instrument is reported in earnings

- Any component excluded from the computation of the effectiveness of the derivative instrument is reported in earnings
Cash Flow Hedges (Cont.)

- Accumulated other comprehensive income from the hedged transaction should be adjusted to the lesser of the following:
  - The cumulative gain or loss on the derivative from the creation of the hedge, minus any component excluded from the determination of hedge effectiveness, and minus any amounts reclassified from accumulated OCI into earnings
  - The portion of the cumulative gain or loss on the derivative needed to offset the cumulative change in expected future cash flow on the transaction from the creation of the hedge, minus any amounts reclassified from accumulated other comprehensive income into earnings
Cash Flow Hedges (Cont.)

- A cash flow hedge is considered effective if all of the following conditions are met
  - The principal amount and the notional amount of the swap match
  - The fair value of the swap is zero at origin
  - The financial instrument is not pre-payable
  - The terms are typical for those instruments and don’t invalidate the assumption of effectiveness
  - All variable-rate interest payments or receipts on the instrument during the swap term are designated as hedged and none beyond that term
  - No floor or cap on the variable rate of the swap exists unless the variable-rate instrument has one. If the instrument does, the swap must have a comparable one
  - Repricing dates match
  - The index base for the variable rates match
Foreign Currency Hedges

- A derivative instrument or a non-derivative financial instrument (that can result in a foreign currency transaction gain or loss under ASC 830) can be designated as a hedge of a foreign currency exposure of a net investment in a foreign operation.
- The gain or loss from the designated instrument to the extent that it is effective is reported as a translation adjustment.
- Fair value hedges can be used for all recognized foreign-currency-denominated asset or liability hedging situations.
- Cash flow hedges can be used for recognized foreign-currency-denominated asset or liability hedging situations, in which all of the variability in the functional-currency-equivalent cash flows are eliminated by the effect of the hedge.
Foreign Currency Translation And Remeasurement

- Importance of functional currency
  - Management must make a decision as to which currency is the functional currency of the foreign entity
  - Once chosen, the functional currency cannot be changed unless economic facts and circumstances have clearly changed
  - Previously issued financial statements are not restated for any changes in the functional currency
  - Functional currency decision is crucial because different translation methods are applied, which may have a material effect on the U.S. entity’s financial statements
Foreign Currency Translation And Remeasurement (Cont.)

• Current rate method vs. remeasurement method

• The current rate method is mandated by ASC 830 when the functional currency is the foreign currency.
  – All assets and liabilities are translated at current rates, while stockholders’ equity accounts are translated at the appropriate historical rate or rates
  – Revenues and expenses are translated at rates in effect when the transactions occur, but those that occur evenly over the year may be translated at the weighted average rate for the year
Foreign Currency Translation And Remeasurement (Cont.)

- The remeasurement method is required when the foreign entity’s accounting records are not maintained in the functional currency (e.g. when the U.S. dollar is designated as the functional currency for a Brazilian subsidiary, whose books are maintained in reals)
  - Translates monetary assets (cash and other assets and liabilities that will be settled in cash) at the current rate
  - Non-monetary assets, liabilities and stockholders’ equity are translated at the appropriate historical rates
  - The appropriate historical rate is the exchange rate at the date the transaction involving the non-monetary accounting originated
  - Other revenues and expenses occurring evenly over the year may be translated at the weighted average exchange rate in effect during the time period
Embedded Derivatives
Why Important Today?

• Many non-traditional capital sources stepping in to replace traditional players
  – Private equity, hedge funds, others

• Often look for more than typical return on debt (interest) or equity (dividends, market appreciation)

• Will include features to provide upside potential
What Is an Embedded Derivative?

- Technical definition: A feature within a host contract that meets the FAS 133 definition in paragraph
  - a) One or more underlyings, and b) notional amount or payment provision, or both
  - No or “small” initial net investment
  - Net settlement
Nature Of Embedded Derivative

- Potentially alters cash flows under the contract
  - “Potentially,” since tied to a variable
  - Automatically or at option of party to the contract

- Linked to an outside index or event
  - Stock index, event of default, company’s stock price, etc.

- Can be hard to identify
  - Buried and not obvious
  - Frequently more than one
Accounting Implications

- Must be bifurcated and accounted for separately at fair value, unless:
  - Considered to have risks and characteristics that are clearly and closely related to the host
    - Evaluate nature of the host: Debt vs. equity
    - Evaluate nature of feature: Debt-like vs. equity-like
    - If not aligned, “clearly and closely related” exception not met
    - Redemption right at a substantial premium may still fail:
      - DIG No. B16
      - Premium computed based on carrying value. Watch out for debt issued with warrants, other securities that is carried at a discount to face. Early redemption right at par may be a substantial premium
Accounting Implications (Cont.)

• Must be bifurcated and accounted for separately at fair value, unless:
  – Entire contract is accounted for at fair value under other GAAP
    • Investment company accounting, for example
    • Don’t bifurcate if entire contract is a derivative
  – Meets one of several scope exceptions listed in paragraph 10
    • Infrequent since paragraph 10 exceptions apply narrowly
Accounting Implications (Cont.)

- Must be bifurcated and accounted for separately at fair value, unless:
  - Feature can be considered contingent consideration related to a business combination
    - Need to look at terms of seller financing
  - Feature falls within the scope of FAS 123R
  - Feature is a) settled in company’s own stock, and b) classified in equity
    - Settled in own stock: EITF 07-5 (gatekeeper to EITF 00-19)
    - Classified in equity: EITF 00-19
Valuation Issues

• Feature must be valued as a “stand-alone” right

• Valuation methods can be complex
  – Stock value simulation models
  – Binomial
  – Probability-weighted cash flows
  – Others

• May not be determinable
  – What a willing buyer would pay and what a willing seller would pay
Valuation Issues (Cont.)

- May not be determinable
  - Is it reasonable to assume that anyone would invest in the stand-alone right?
  - If not reliably measurable, FAS 133, paragraph 16 requires carrying entire instrument at fair value
  - Can elect hybrid instrument accounting FAS 155
    - Carry entire instrument at fair value
    - Instrument-by-instrument election
    - Irrevocable
    - Why? COST!
Impacts Of Bifurcation

• Asset or liability that must be marked to market each reporting date

• Bifurcation requires allocation of proceeds b/t host and bifurcated feature(s)
  – Host must be evaluated under other GAAP after bifurcation, BUT with all features considered, including the bifurcated feature
  – Debt discounts, beneficial conversion features, etc.
Example 1

- Redeemable convertible preferred stock
  - **Key terms**
    - Redeemable at holders’ option in five years at greater of issuance price or FV of underlying common stock
    - Redeemable upon a change of control at 125% of issuance price
  - **Host type:** Debt (FAS 115 analogy)
  - **Embedded derivative feature:**
    - Conversion right: In substance, an equity forward
    - Substantial redemption premium
Example 2

- Promissory note
  - Key terms
    - Due in three years
    - Fixed interest rate that increases upon an event of default (including failure to pay, failure to deliver audited FS, change of control, bankruptcy)
  - Host type: Debt
  - Embedded derivative features
    - Interest rate uptick
Commodities Hedging, Demystified
Commodities Hedging, Demystified
My Crystal Ball Is Broken
What A Ride

- Oil went from $140 in July 2008 to $40 by December
- Rise appears not to have been demand-driven but rather to be speculative
- Fall appears to be both supply-driven and liquidation of positions by speculators
- Whatever the cause, the learning lesson for hedgers is that the future is unpredictable and is all the more reason to hedge
Chasing Tails

■ Airwise News - March 17, 2005

> “U.S. airlines face billions of dollars in extra costs from soaring fuel prices and suffered some $10 billion USD in losses last year”

> “Delta, American and Continental are the three major US airlines which have the least hedging to protect them from jet fuel prices…”


> United, Citing Fuel Hedging, Loses $779 Million in Quarter

> “Non-cash charge that reflected the declining value of its hedging contracts for jet fuel”

> “Southwest said it lost $120 million, its first loss in 17 years, because of its own charge to reflect the declining value of hedge contracts. Without the charge, Southwest earned $69 million.”
Should You Hedge?

- What is the competition doing?
  - If no one is hedging jet fuel in the airline industry, then there is no disadvantage
  - If you could hedge gasoline better, could you offer lower price on your product or services?

- What is core to your business? Do investors want the volatility?
  - Mining company investors want share price to go up with gold price
  - Investors don’t want P&L noise around Fx risk if you sell handbags to Japanese consumers
Commodity Confusion

- Don’t let commodity terminology scare you!
- Variety of underlying physical commodities, locations and grades creates confusion
- Understand the units and conventions
- If you understand FX or interest rate derivatives, then commodities shouldn’t be a problem
Lifecycle Of A Commodity Trade: Pre-Trade

- Big Co. Inc., manufacturer of Buzz Kill Beer ("BKB"), the world’s only alcoholic beer that doesn’t get you drunk
- To produce BKB, Big Co. uses natural gas to power its cookers
- At $14 per MMBtu, Big Co. did not have a hedging program for natural gas, and as a result its gross margins on beer sales plummeted by 20%
- With natural gas back down toward $4, the CFO has mandated an initiation of an energy hedging program
From The Plant To Production

- Nat Gas Plant
- Henry Hub
- Nat Gas to Big Co.
- Finished Product
Putting On The Hedge

- Big Co. estimates that it uses 100,000 MMBtus a month
- Big Co. enters into a one-year OTC swap to pay fixed for 12 months for $6.85 per MMBtu on 100,000 MMBtus notional, and will receive the floating price based on the Henry Hub NYMEX index setting.
Hedge Accounting Impact

- Big Co. wanted to achieve the benefit of hedge accounting treatment on its anticipated purchases of natural gas.
- Big Co. designated the fixed-price swap as a cash flow hedge and performed monthly prospective and retrospective tests.
- Big Co. was fortunate enough to have a perfectly effective hedge relationship with no P&L volatility, due to the derivative contract.
Perfectly Effective Hedge

- No basis risk with hedge
- NYMEX natural gas delivery at Henry Hub is same delivery point for Big Co. (conveniently)
- Notional, dates match
- Perfectly effective

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</table>
Epilogue

- CFO happy to have removed risk of rising natural gas prices
- Natural gas prices did fall during the first half of the hedge, but the company was able to offset hedge loss with lower purchase price of gas
- BKB beer sales continue to take off
Relevant Fair Value Scenarios And Accounting Standards
Accounting Standards Update 2010-06

• On Jan. 21, 2010, FASB issued ASU 2010-06 Fair Value Measurements and Disclosures (Topic 820)

• The update provides amendments to ASC 820-10 that require new disclosures, such as:
  – A reporting entity should disclose separately the amounts of significant transfers in and out of Level 1 and Level 2 fair value measurements and describe the reasons for the transfers
  – In the reconciliation for fair value measurements using significant unobservable inputs (Level 3), a reporting entity should present separately information about purchases, sales, issuances and settlements (that is, on a gross basis rather than as one net number)
Accounting Standards Update 2010-06 (Cont.)

• This update also clarifies existing disclosures
  – A reporting entity should provide fair value measurement disclosure for each *class* of assets and liabilities. A class is often a subset of assets or liabilities within a line item in the statement of financial position. A reporting entity needs to use judgment in determining the appropriate classes of assets and liabilities.
  – A reporting entity should provide disclosures about the valuation techniques and inputs used to measure fair value for both recurring and nonrecurring fair value measurements. Those disclosures are required for fair value measurements that fall in either Level 2 or Level 3.
Accounting Standards Update 2010-06 (Cont.)

• Effective date

• The new disclosures and clarifications of existing disclosures are effective for interim or annual periods beginning after Dec. 15, 2009

• The disclosures about purchases, sales, issuances and settlements in the roll-forward of activity in Level 3 fair value measurements are effective for fiscal periods beginning after Dec. 15, 2010, and for interim periods within those fiscal years