

2007 Boston Actuaries Club Fair Value

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Welcome

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Scope and Adoption

- Addresses not when to apply
- Defines (how) fair value under GAAP
- Applies broadly to financial and nonfinancial assets and liabilities measured at fair value, except those relating to:
 - Share-based payment transactions
- Effective for fiscal years beginning after January 1, 2008 (some banks early adopted)

FAS 157 – Definition of Fair Value

Fair value 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

Overview of FAS 157

- Potential changes from current practice:
 - Exit price vs. entry (transaction) price
 - Market-based assumptions vs. entity specific
 - Clarifies that market participant assumptions include assumptions about risk
 - Liability measurement includes nonperformance risk
 - Establishes a fair value hierarchy based on observable and unobservable inputs
 - Blockage factors excluded for trades in active markets
 - Transaction costs excluded from FVM
 - Enhanced disclosures about FVM

Common areas which need FAS 157 evaluation

- Non public investments, especially equities
- Equity method investments in private equity pools
- Embedded derivatives (GMAB, equity indexed annuities, etc.)
- FAS 107 disclosures
- Business combination accounting
- Impairment tests (goodwill and intangibles)
- Impairment write offs

Fair Value Framework



Fair Value Hierarchy

- Fair Value Hierarchy prioritizes the **inputs** to valuation techniques used to measure fair value into three broad levels:
 - Level 1 Inputs
 - Level 2 Inputs
 - Level 3 InputsInputs/assumptions include assumptions about risk:
 - Risk inherent in a particular valuation technique, and
 - Risk inherent in the inputs to the valuation techniqueThe significance of an input to measurement of fair value determines level in which a fair value estimate is categorized
- This categorization drives financial statement disclosures
- FV Hierarchy does not prioritize valuation techniques themselves

FAS 157 – Disclosure Requirements

- FAS 157 disclosure requirements provide information about the following:
 - Extent to which companies measure assets and liabilities at fair value
 - Methods and assumptions used to measure fair value
 - Effect of fair value measures on earnings
 - Recurring (e.g., trading assets):
 - Quantitative disclosure about fair value measures are required separately for each major category of assets and liabilities
 - For fair value measures using Level 3 inputs, a reconciliation of beginning and ending balance including total gains and losses (realized and unrealized). Derivatives may be presented net
 - Nonrecurring (e.g., impaired assets):
 - Fair value measurements recorded during the period and the reasons for the measures
 - For assets and liabilities measured using Level 3 inputs, a description of the inputs and the information used to develop those inputs

Fair Value Option

FAS 159

Objectives

- Move toward fair value – away from mixed attribute model
- Simplification: To enable entities to achieve an offset accounting effect for the changes in the fair values of related assets and liabilities without having to apply more complex hedge accounting provisions
- To achieve further convergence with the IASB, which has incorporated a fair value option (FVO) for financial instruments in its IAS 39, Financial Instruments: Recognition and Measurement

Phase 1 Financial Assets and Liabilities Includes:

- Recognized financial assets and liabilities (except as noted)
- Firm commitments that involve only financial instruments
- Written loan commitments
- Equity method investments
- A host financial instrument resulting from bifurcation of an embedded non-financial derivative instrument
- Securities that do not have a readily determinable FV under SFAS 115 (non marketable securities)
- AFS and HTM investments under SFAS 115
- Insurance and reinsurance contracts
- Warranty obligations or rights
- Unconditional purchase obligations under FAS 47

Implementation

- Irrevocable election to measure at fair value can be made on a contract by contract basis
- Election made on the date the financial asset or liability is initially recognized
- New GAAP triggering new-basis accounting at fair value (Purchase accounting)

The FVO Election – Transition and Ongoing

- FVO elections made on a “contract by contract” basis
 - If multiple advances are made to one borrower pursuant to a single contract and the individual balances lose their identity and become part of large balance, must apply FVO to whole balance
 - If applied to an equity method investment, all of investor’s financial instruments in that entity must be apply FV
 - If applied to insurance or reinsurance, must be applied to all claims and obligations under the contract
 - Cannot be separately applied to nonintegrated contract features of an insurance contract

Irrevocable election must be made (and documented) at the time of initial recognition

The FVO Election – Transition and Ongoing (cont'd)

- Existing assets and liabilities may only be elected for fair value accounting upon initial adoption of the standard
 - Standard states that all previously deferred fees/costs and any premium/discount should be written off on initial adoption through the cumulative adjustment
 - Standard states that it does not address interest income/expense and geography

The FVO Election – Transition and Ongoing (cont'd)

- One time option upon initial adoption to elect the FVO for all or a portion of AFS or HTM securities
 - Does not question past assertions
 - Quick sales might
 - SEC gave a speech about principle of standard is to increase use of FV
- Cumulative-effect adjustment to retained earnings for any adjustment to existing assets/liabilities upon adoption (including AFS securities)

Actuarial Practice Forum Paper on Fair Value – Is this consistent with FAS 157

- Exit market is influenced by bulk discounts
- True exit market doesn't exist in US as policyholder consent is required
- Exit market is influenced by entity specific factors and by the size of the block
- When exit market is corrected for these factors exit and entry market are the same

What is the basic value proposition

- Markets are risk averse, they pay an amount greater than the expected loss to transfer risk. The risk margin in an insurance contract is similar to the difference in risk spread and expected defaults for a Corporate Bond
- Insurance Companies capture risk margin by diversifying away risk

The most Advantageous Principal Market?

- Since there is no liquid, principal, market for exiting Insurance Liabilities, we need to determine how a hypothetical market might behave
- Fair Value is the value in the hypothetical market where an insurance company is willing to assume the risk from another company (exit value) and where the policyholder is willing to agree to grant a novation to the selling insurer (entry value).

What is the basic value proposition

- On a contract basis an insurance company should be indifferent between issuing a new contract or assuming a contract so long as it receives its risk margin
- A policyholder is indifferent between two identical rated companies so long as the policyholder receives the same benefit for the same premium outflow and receives the same level of service

Fair Value Criteria

- Consistency between day 1 and day 2 values
- Consistency across contract types whether insurance or not (no contract classification)
- Reference market that is free of distortions due to scale, diversification and other constraints
- Consistent with accepted economic pricing methods
- Consistent among standards
- Consistent across unit of account

Risk Margins

- Marketplace participants build risk margins into offered prices to assume obligations.
- Determination of a market-based risk margin requires an active market
- Risk margins are different in different reference markets
- Changes in risk margins affect the value of an obligation

Term Life Insurance Example

- Assumptions
 - 20 Year \$100,000 Level Premium Term Contract
 - Annual premium: \$820
 - Acquisition Costs: 55% FYP
 - Credit spread: 55bps

Term Life Insurance Example

- Basic Formula:

FV Liability =

Present value of expected cash outflows

Less

Present value of expected cash inflows

This is a cash flow swap

Term Life Insurance Example

- Discount rates:
 - Outflows: Risk free rate plus credit spread
 - Inflows: Risk free rate plus risk margin
- Risk margin:
 - Using retail reference market and no gain/loss at inception, solve for risk margin
 - Deduct acquisition costs from cash inflows
 - Risk margin = 6.72%

Term Life Insurance Example

Policy year	Premium	Change in fair value of assets	Benefits	Acquisition costs	Liability	Change in liability	Net Income
1	\$ 820	\$ 11	\$ 172	\$ 451	- \$ 5	- \$ 5	\$ 213
2	730	43	209		371	377	187
3	657	78	233		679	308	195
4	594	113	246		950	271	190
5	540	137	265		1,176	226	186
6	492	159	294		1,349	173	184
7	447	178	332		1,461	112	181
8	411	199	356		1,529	68	186
9	378	228	366		1,569	40	200
10	347	270	377		1,586	16	224

Fair Value Issues

- Changes in “Own Credit Risk”
 - Not appropriate for solvency measure
 - Should not generate income
 - Consider restricted capital?
- Changes in risk margin
 - Needs to be reflected in fair values
 - Comparable to gain or loss on investments

FVO – Business Decisions

- What are the accounting mismatches in results that get in the way of explaining results to outsiders?
- Evaluate the business approach and application of FVO on contract basis
- Perform a cost/benefit evaluation between FVO and FAS 133 for hedging relationships
- Evaluate the tactical use of combinations of assets and liabilities for “natural hedging”
- How will the choices be communicated externally?