

# Fair Value & Int'l Accting Update

*“Fair Value is coming, if not already here in some circumstances. ..”*

*“This session will provide the fundamentals of fair value/economic value measurements for insurance contract assets and liabilities, including the particular requirements (and potential relevance) of Financial Accounting Standards 157 and 159.”*

- What is fair value?
- What is fair value for insurance contracts?
- Is it really coming?
- What are FAS 157, 159, 141R?

# What is fair value (*for a liability*) ?

## FAS 157

Fair value is the price that would be ... paid to transfer a liability in an orderly transaction between market participants at the measurement date.

## IAS 39

Fair value is the amount for which ... a liability [could be] settled, between knowledgeable, willing parties in an arm's length transaction.

*“orderly”, “willing”, “market”*

# How is fair value calculated?

## Heirarchy

- Level 1 – Observed values from a robust market
- Level 2 – Observed values for similar items (robust market)  
*(modified observations)*
- Level 3 – Modeled values  
*(hypothetical market)*  
*This is where all the recent issues are!*

# Level 3 fair value

## Three building blocks

- Expected Cash Flows
- Time value of money
- Risk margin (market based)
  - *This is NOT conservatism*

# Level 3 fair value (cont.)

## Current Level 3 controversy

- What is a “forced” sale?
- What is an “orderly market”?
- What is an “inactive market”?

If market values set by panic or those who have to liquidate,  
is it “orderly”, “willing”

Current market - risk margins are extremely high historically

Economic scenario generators assume “mean reversion” –  
i.e., current risk margins only temporary

IASB –banks can use amortized cost (not f.v.) for investments.

# Fair Value for insurance contracts

Level 1 and 2 don't exist –

- Can't observe transfer values
- Can't legally transfer in many cases
- Reinsurance prices  $\neq$  “fair value”
  - Not a robust market
  - Not publically disclosed
  - Not complete transfer

Instead, must use level 3

- Expected cash flows
- Time value of money
- Risk margin

# Accounting mindset 101

What does “expected” mean?

*(hint – think of, and only of, transactions)*

To an accountant, “expected” probably means “mode”

*What do you “expect” to happen for this transaction*

To an actuary, “expected” means “mean”

Accountingese

“Probability weighted” – i.e., not mode

Actuarial translation – “mean”, and not necessarily stochastic

# Fair Value for insurance contracts

## Level 3 – three building blocks

- Expected cash flows – *can do*
- Time value of money – *can do, if U.S. Treasury yield curve o.k.*
- Risk margin - *????*



# Fair Value – risk margin methods

## Percentiles

- What percentile?
- Percentile choice would vary by line (EQ vs. Auto Liab.)
- Can't calibrate to market

## Cost of Capital

- Consistent with pricing (IRR) models
- (Conceivably) easier to calibrate

# Cost of Capital

Needs Capital and a Cost of the capital

## Recursive

Year n-1 to Year n

Investment = beginning Capital

Desired return (“cost”) =

Investment income during the year

+ Underwriting gain during the year (drop in reserve less pds)

+ Capital release during the year

Solve for beginning (fair value) reserve

Year n-2 to Year n-1

Repeat

...

Eventually you get to Year 0 reserve.

# How much capital – for how long?

How much?

- Economic capital?
- Regulatory capital (e.g., CAL RBC)
- Rating Agency Capital

My answer – choose the operative constraint  
(i.e., the biggest of the three)

Frequently, answer is reasonably well known in the aggregate

# How much capital – for how long?

How long?

- Flat % of fair value reserves?
- Flat % of undiscounted reserves?
- Increasing % of fair value reserves?
- Other

Simplifying assumptions make the math easier

Process risk  $\uparrow$  over time. Parameter risk  $\downarrow$  over time.

Many focus on process risk issue, ignore parameter risk issue.

# How much capital – for how long? (cont.)

My experience – relative risk in the shape of a “U”

- Starts out very high parameter risk,  
moderate/low process risk
- Parameter risk fades out, process risk heats up
- At the end, parameter risk low, process risk high
- Net of two – probably varies greatly by line.
- KISS

# Cost of the capital

## Risk free + Risk Premium

### Risk free

- In the U.S., probably U.S. Treasury (zero coupon) yield curve
- Liquidity premium issue
- Yield curve changes every quarter.

### Risk Premium

- Relatively narrow “reasonable range” for company total
- Fixed for all lines, or vary by line?
  - Solvency II approach – fixed
- More than equity risk premium? Less?
- Hard to change arbitrary assumptions over time.

# Is it here (in the U.S.) yet?

## ■ FAS 157 - Fair Value Measurements

- Defines fair value and provides guidance on how to calculate it.
- *Does not say when to use it.*

## ■ FAS 159 - Fair Value Option

- Gives companies *an option* to use fair value
- Decision is made contract by contract.
- Does not require it anywhere.

## ■ FAS 141R – Business Combinations (revised)

- Requires fair valuing the acquired liabilities at fair value *at their acquisition date*.
- Initial difference between fair value and FAS 60 value treated as a separate intangible asset
- Intangible asset is “amortized on a basis consistent with the liability ... consistent with the limited guidance provided by IFRS 4.”

# Is it here (in IFRS) yet?

IFRS = International Financial Reporting Standard

Produced by the IASB

*There is currently no international insurance accounting standard on liability measurement!!!*

IFRS 4 says:

What insurance is, and

Some things not to do (e.g., pre-event cat reserves), but

Does not say how to measure insurance liabilities



# Is it (fair value for ins.) coming?

## IASB insurance project timetable

October 2008 – May 2009 - IASB deliberates issues

October 2009 – release exposure draft

February 2010 – comments due

May 2010 – January 2011 – IASB reviews comments

May 2011 – Final Standard published

Effective date TBD

*(IASB has a history of missing deadlines.)*

# Is it (fair value for ins.) coming?

IASB insurance project is now a joint project with the FASB  
(since late Oct. 2008)

Implies that it will become effective in U.S. and in IFRS at (or near)  
the same time.

*But will it be fair value?*

Likely to require expected cash flows, discounting, margin

Likely economic value

Don't know if it will be fair value

# Choices other than fair value

1. Current exit value – (same as fair value?)
  - *Transfer value at accounting date*
2. Current settlement value – could
  - *Value at which you could settle at accounting date*
3. Current settlement value – would
  - *Value at which you would settle at accounting date*
4. Customer fulfillment value
  - *Normal settlement pattern, discounted with risk margin*

All would have the 3 building blocks

Also – Canada, Australia approaches

# Practical Issues - 1

Big issue - the level of aggregation

If done at the aggregate level,

Fewer resources needed

Fewer resources impacted.

What to maintain – by level of aggregation

Payment pattern

Risk adjustment amount or formula (load over risk-free)

Method to reflect latest risk-free yield curve

# Practical Issues - 2

Can't reliably measure 99.95 percentile

*Plight of the Fortune Tellers* – Riccardo Rebonato

Market values not always economic

E.g., current crisis

*A Demon of our own Design* – Richard Bookstaber

The books have to be closed (in days, not months)

Lock in payment patterns

Risk margin changes little

# What does this all mean?

	<u>Low</u>	<u>High</u>	
Undiscounted	90	110	The big driver
Discount factor	80%	84%	Relatively stable
Risk Margin	???	???	How do I know if right? How do I know if wrong?

Not clear how much useful info this provides

Possible FAS 115-like reaction

(i.e., undo it all, to get to useful info)

# Other issue of note

“Revenue Recognition”

Earned Premium vs. Billed Premium  
vs. Customer Fulfillment value