Practical Aspects of Asset-Liability Management in the Current Environment

René Cotting, SVP, Global Financial Solutions
Larry Carson, SVP, Global Financial Solutions

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1. The current market environment

Low Interest Rates

Not a new topic!

From "The Impact of Low Interest Rates on Insurers"

The Geneva Papers on Risk and Insurance, Vol. 25 No. 1 (January 2000) 38-58

- "One has to go back several decades to find long-term interest rates as low as they are today."
    - United States: "At the end of 1998 – after eight years of uninterrupted growth – the long-term bond yield declined to about 4.7% but rose again slightly at the beginning of 1999."
    - Germany: "In December 1998, the German long-term yield dipped under the 4% threshold to 3.89%
    - Japan: "The Bank of Japan is trying to reduce higher interest rates [slightly above 2%] by pumping liquidity into the market. We think that if Japan experiences funding shortages and finances those shortages by printing money, there is a large chance that Japanese rates might rise again strongly."
- As of June 27, 2012:
    - United States 10-year government bond yield: 1.63%
    - Germany 10-year government bond yield: 1.52%
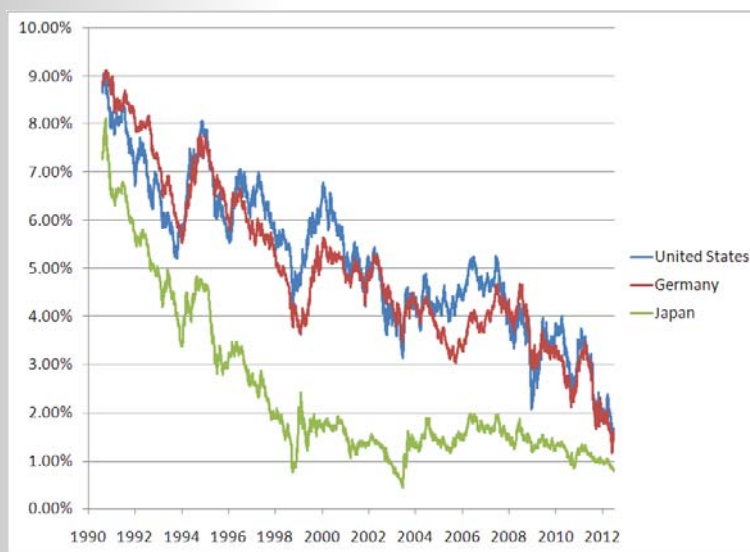   - Japan 10-year government bond yield: 0.83%

10-year Government bond yields

History 1990-2000
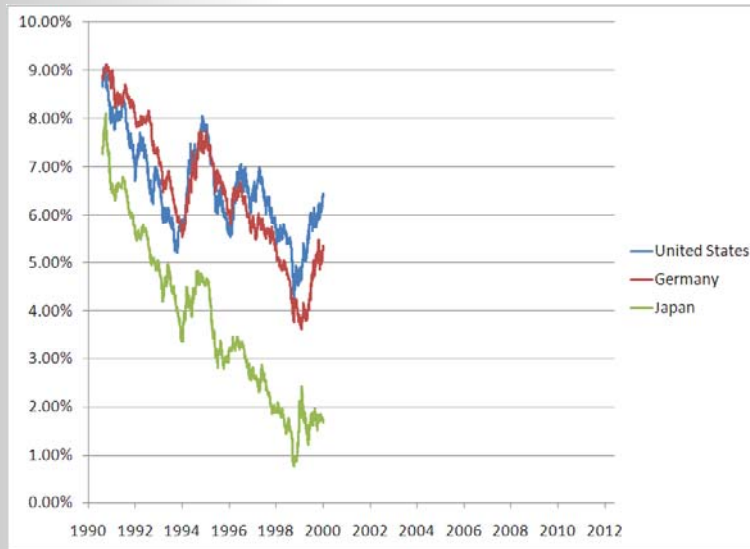
- JPY interest rates dropped massively in the nineties
- Much more than USD and EUR interest rates

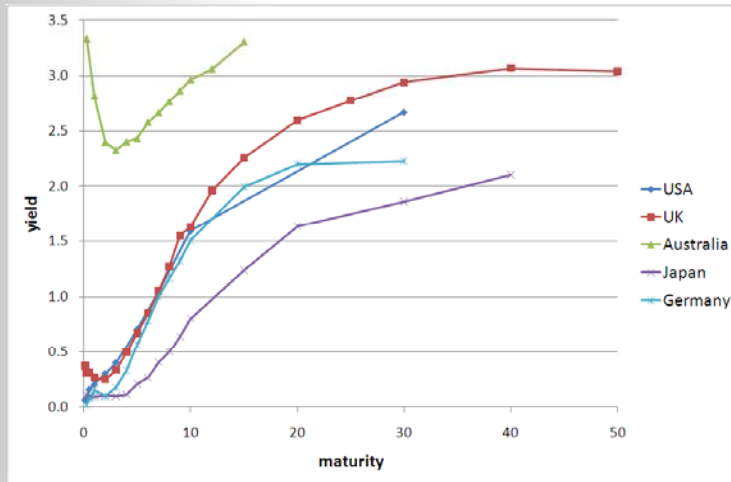## 10-year Government bond yields

History 1990-today

- JPY interest rates have been flat for the past 15y
- USD and EUR yields have continued to steadily decline and are now again close to JPY interest rates
- Will ease pressure on JPY FX rate
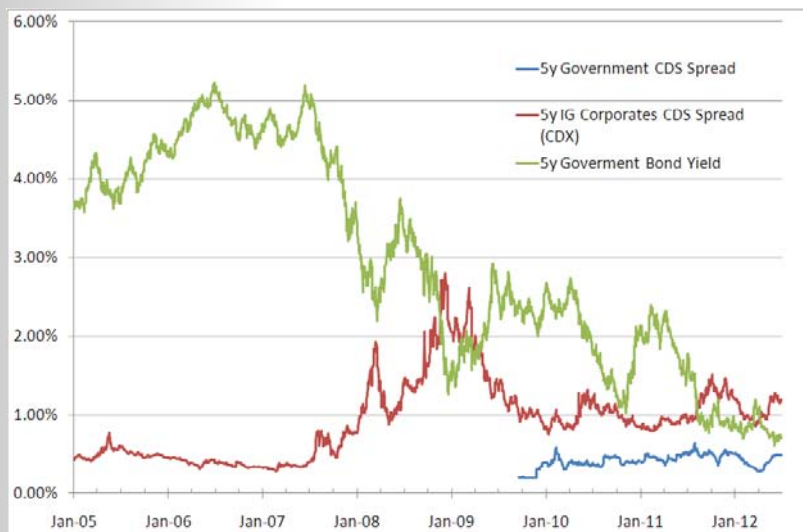
Current Government Bond Yield Curves

As of June 28, 2012

- USD, EUR and GBP are getting close to the JPY
- AUD the last yielding currency (but rapidly declining)
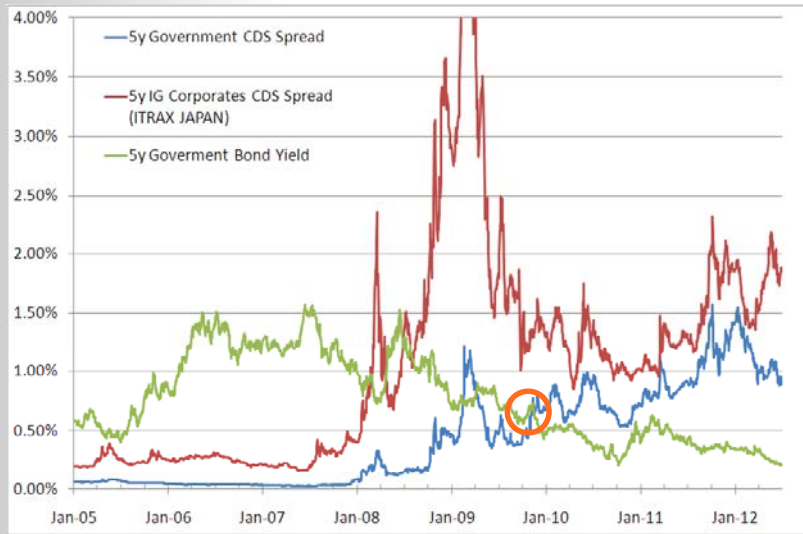
Credit Spreads USA

History 2005-today

- Fed actions are heavily influencing the shape of the interest rate curve (quantitative easing, Operation Twist)

Credit Spreads Japan

History 2005-today

- Negative JGB liquidity premium for more than 3y
- Corporate credit spreads blew out massively in 2008/09, but are generally relatively tight
- Large portion of JPY fixed income market is Government related
- Corporate bond market is very shallow

Credit Spreads Europe

History 2005-today
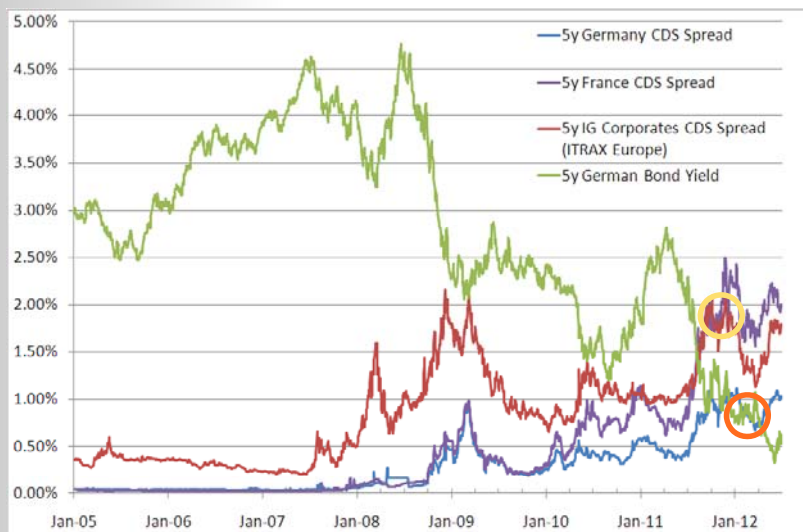
- Negative liquidity premium on German Bunds since earlier this year
- France CDS is now wider than European IG Corporates (…and the Philippines)

FX Markets

Cross Currency swap basis (USD-JPY)

- Difficult for JPY investor to invest abroad due to negative FX basis

Example:
- 5y USD corporate bond that yields USD 3m Libor + 100bps currently yields after CCY swapping to JPY only 3m Tibor + 20bps
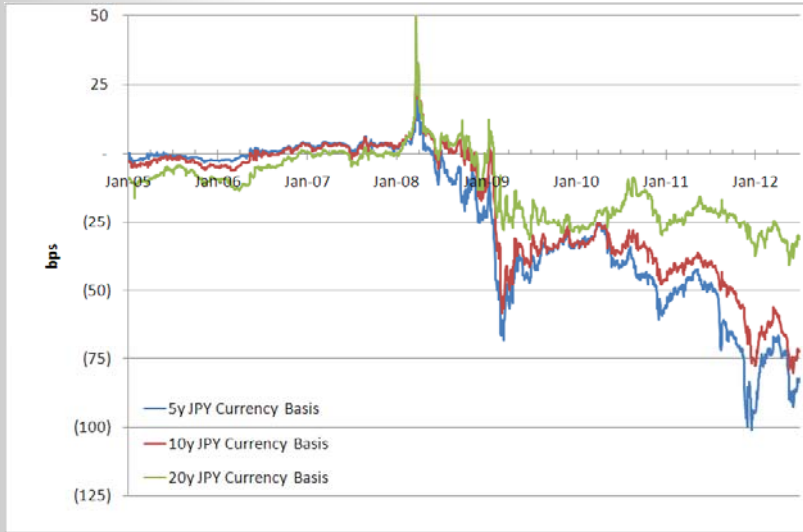

Engineering long spread duration

What if the fixed income market doesn't allow matching the liability?

- **Local currency corporate cash bond market is duration limited:**
  - USD, GBP: 30 years
  - EUR, AUD: 7 years
  - JPY: very shallow

- **Hedging strategies:**
  - Invest in e.g. USD corporate bonds and FX hedge (FX basis – great for AUD, bad for JPY investors)
  - Invest in shorter duration bonds and duration lengthen with FWD starting fixed-floating interest rate swaps

- **Replication strategies:**
  - Synthetically replicate a JPY corporate bond by buying a JGB and selling CDS protection on a corporate name to generate spread
  - Long-term repos (repurchase agreements)

- Hedging and replication strategies require derivatives

Using derivatives for ALM purposes

Complex and onerous requirements for holding derivatives

- **Accounting & income volatility**
  - Is hedge accounting required (cash flow or fair value hedging)?
  - Micro hedging (at security level) vs. macro hedging (portfolio level, permitted in IFRS only)
  - Hedge effectiveness testing
- **Trading infrastructure and liquidity**
  - Sufficient ISDAs in place?
  - What collateral can be posted to banks?
  - Setting aside liquidity reserves
  - Counterparty exposure to banks
- **Statutory reporting & capital**
  - Derivative reporting requirements
    e.g. RSATs in the U.S. (Replication (Synthetic Asset) Transaction)
  - Capital relief for derivative hedging?

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2. Interdependence of market variables

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Approach

- **Stochastic scenarios**
    - Generate 500 real-world scenarios calibrated to actual market data
    - Look at 1-year changes of key variables in three dimensions:

Credit spreads
(for different credit qualities)

Maturity

Interest rates
(swap)

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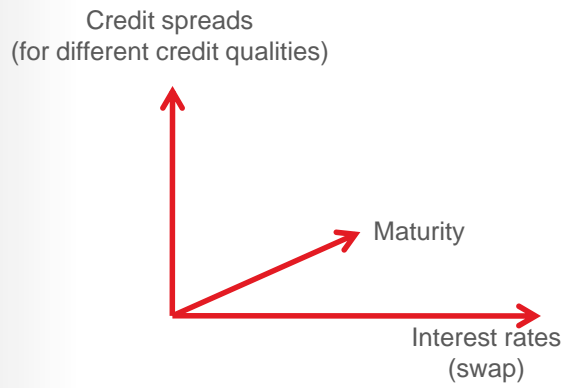
Interest rate – credit spread correlation

10-year swap – 10-year AA bond yield
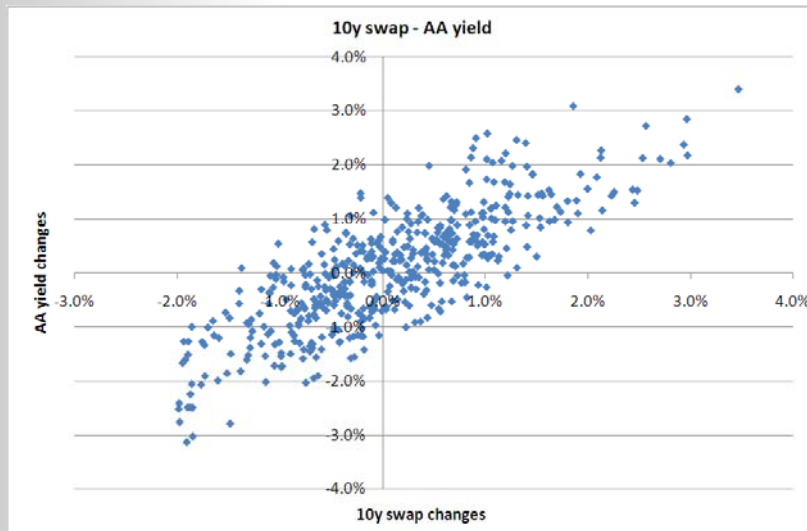
1y average movements
- 10y swap: 0.98%
- 10y AA yield: 1.07%
- Correlation   81%

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Interest rate – credit spread correlation (cont.)

10-year swap – 10-year AA bond spread
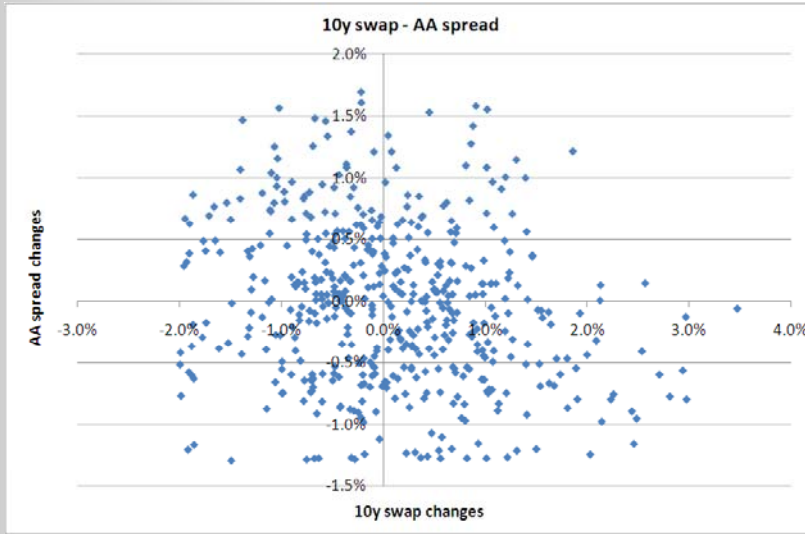
1y average movements
- 10y swap: 0.98%
- 10y AA spread: 0.64%
- Correlation   **-19%**

Increasing credit risk can reduce interest rate risk

Interest rate correlation between different maturities

3-month swap – 10-year swap
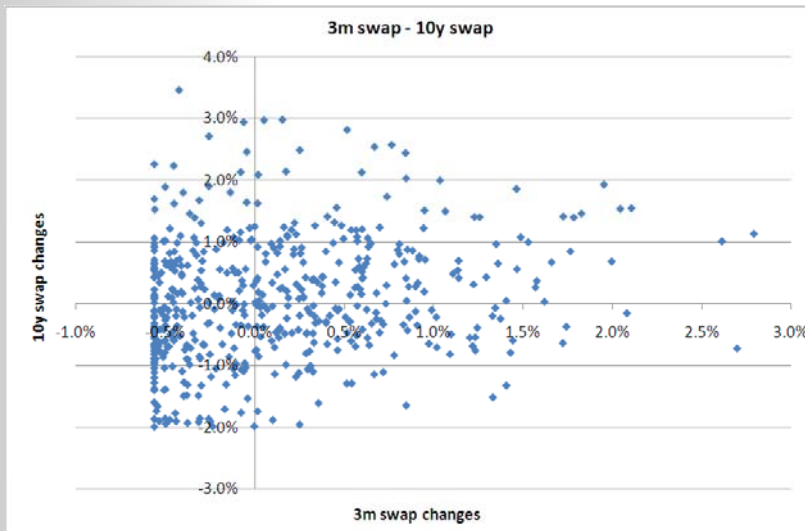
1y average movements
- 3m swap: 0.65%
- 10y swap: 0.98%
- Correlation   21%

Q: Is duration still an appropriate measure or a too simplistic concept?
The yield curve barely ever shifts parallel

Spreading interest exposure across a maturity range reduces risk

Spread correlation between different credit quality levels

10-year AA spread – 10-year BBB spread
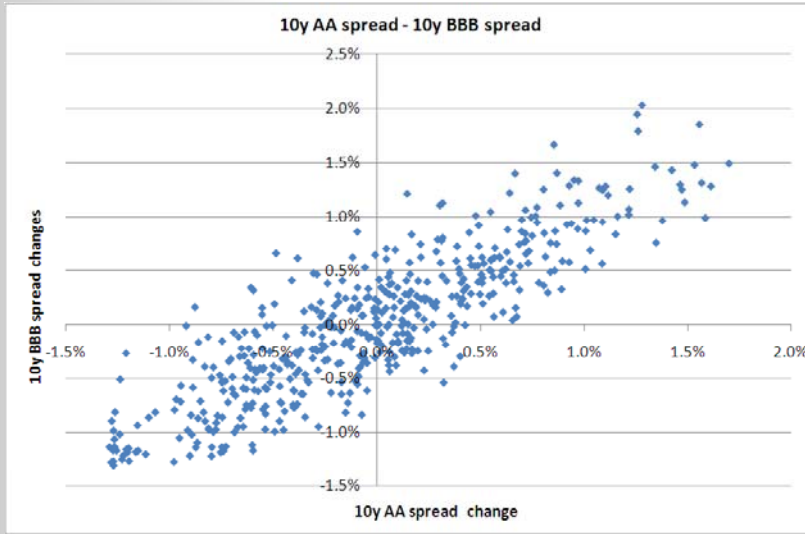
1y average movements
- 10y AA spread: 0.64%
- 10y BBB spread: 0.67%
- Correlation   86%

Credit quality levels (of same asset class) move largely in sync

Credit spread correlation between different maturities

3-month BBB bond – 10-year BBB bond spread
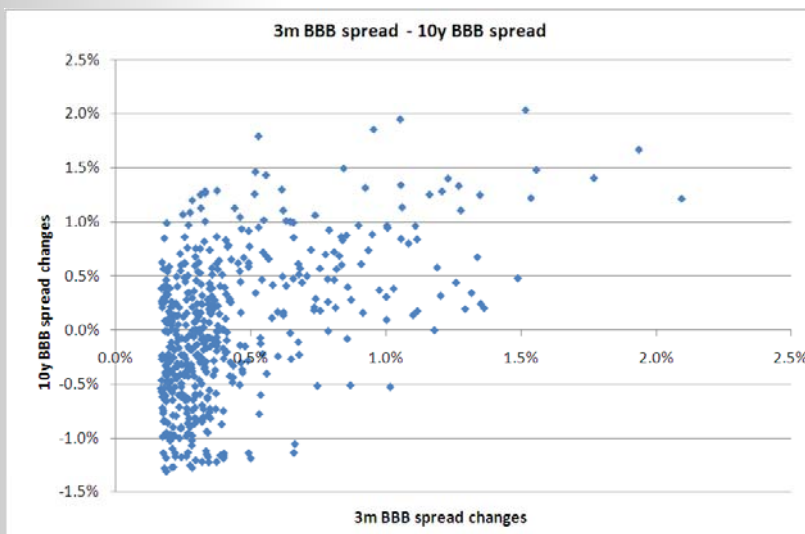
1y average movements
- 3m BBB spread : 0.30%
- 10y BBB spread: 0.67%
- Correlation   **-2%**

Credit spreads are not duration correlated
– distributing bonds across maturities reduces spread risk

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3. Modeling a lifetime payout annuity with guaranteed period

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Our (Simplified) Model

- **Product:**
  - Lifetime payout annuity with guaranteed period
  - Book-value surrender and death benefits apply during the guaranteed period
- **Modeling:**
  - Single cell: attained age 51, policy duration 3, 25 years guaranteed
  - Interest-sensitive lapse formula
  - Fair value of liabilities (FVL) based on 500 risk-neutral stochastic scenarios at time 0; applies AA own-credit-risk adjustment (embedded option valuation)
  - Interpolation / extrapolation based on time-0 FVL sensitivities used to determine FVL at all future times
  - 500 real-world scenarios + 8 deterministic scenarios (New York 8)
  - Full fair-value balance sheet and income statement
- **Assumptions / features that can be varied:**
  - Level of interest-rate-sensitive policyholder behavior
  - Average credit quality of investment strategy
  - Taxes
  - Capital

New York 8 Scenarios [1]

- NY1 – Level Interest Rates
- NY2 – Increasing 50bp per year for 10 years
- NY3 – Increasing 100bp per year for 5 years, then decreasing 100bp per year for 5 years
- NY4 – Immediate increase of 300bp
- NY5 – Decreasing 50bp per year for 10 years [2]
- NY6 – Decreasing 100bp per year for 5 years, then increasing 100bp per year for 5 years [2]
- NY7 – Immediate decrease of 300bp [2]
- NY8 – Inverted term structure

[1] Prescribed scenarios for cash flow testing under New York Regulation 126

[2] Rates floored at 50% of the current level

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Baseline

- Interest-sensitive lapse formula applied
- Government bonds are only allowable investments
- No taxes
- No capital
- Liability characteristics:
  - Effective duration = 10.4
  - Effective convexity = 182.7
  - Fair value of liability = 1,873.9
- Present value (@ 6.0%) of pre-tax income over real-world scenarios:
  - Average = 55.7
  - 99.5[th] percentile = (442.8)

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Baseline

Real-World Scenarios: Distribution of Present Values

Baseline

Real-World Scenarios: Volatility of Annual Distributable Earnings
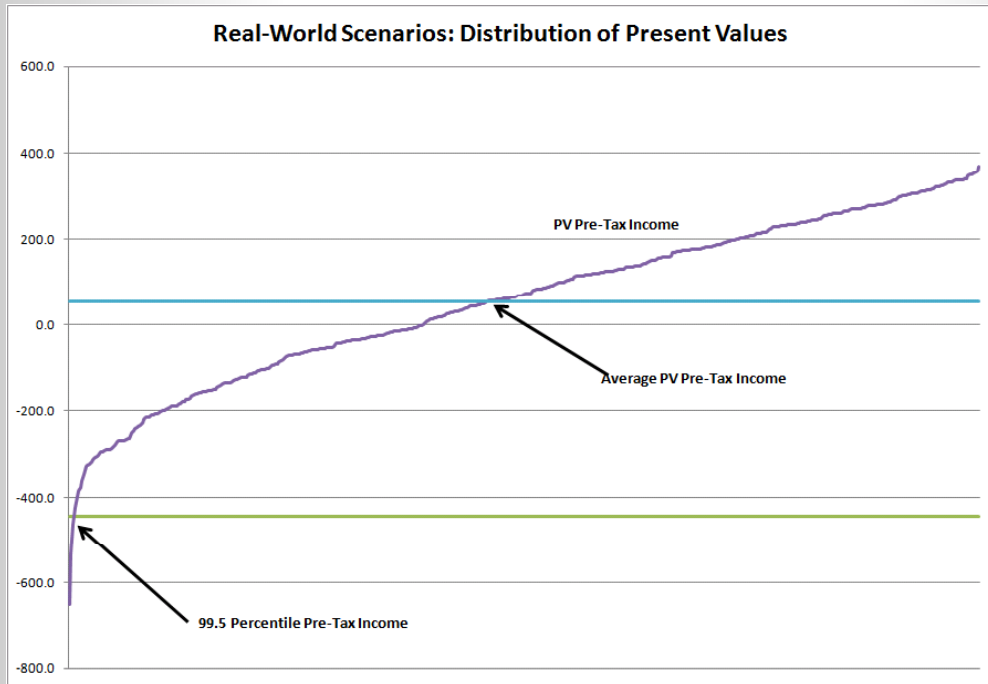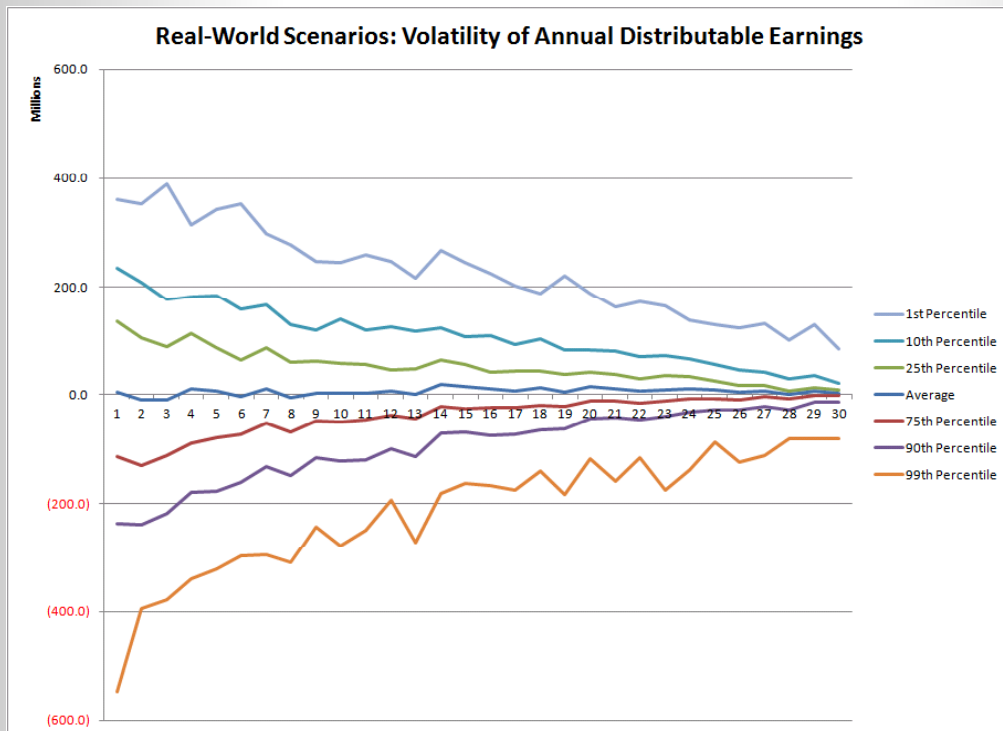
Baseline

Scenario	Description	Present Value of Pre-Tax Income	Percentile of Real-World Scenarios
NY1	Level Interest Rates	172.2	33%
NY2	Increasing 50bp per year for 10 years	(303.8)	97%
NY3	Increasing 100bp per year for 5 years, then decreasing 100bp per year for 5 years	(194.5)	89%
NY4	Immediate increase of 300bp	(381.7)	99%
NY5	Decreasing 50bp per year for 10 years	205.7	26%
NY6	Decreasing 100bp per year for 5 years, then increasing 100bp per year for 5 years	194.4	28%
NY7	Immediate decrease of 300b	206.8	26%
NY8	Inverted term structure	(187.7)	88%

Note: for NY5-NY7, rates are floored at 50% of the current level

Taxes and capital

- Add taxes (35%) and capital (14.8% of FVL) to baseline run
  - Initial capital iteratively solved for as the 99.5th percentile of the present value of after-tax income over the real-world scenarios
- Liability characteristics unchanged
- Present value (@ 6.0%) of pre-tax income over real-world scenarios:
  - Now includes investment income on capital
  - Average = 87.8   (dynamic lapses: 55.7)
  - 99.5th percentile = (466.9)   (dynamic lapses: (442.8))
- Return on capital over real-world scenarios:
  - Average = 7.2%
  - 99.5th percentile = -4.7%

Taxes and capital

Real-World Scenarios: Distribution of Present Values

PV Pre-Tax Income

PV Distributable Earnings

Average PV Pre-Tax Income

Average PV Distributable Earnings

99.5 Percentile Pre-Tax Income

Taxes and capital

Real-World Scenarios: Volatility of Annual Distributable Earnings

- 1st Percentile
- 10th Percentile
- 25th Percentile
- Average
- 75th Percentile
- 90th Percentile
- 99th Percentile

Taxes and capital

Real-World Scenarios: Return on Capital
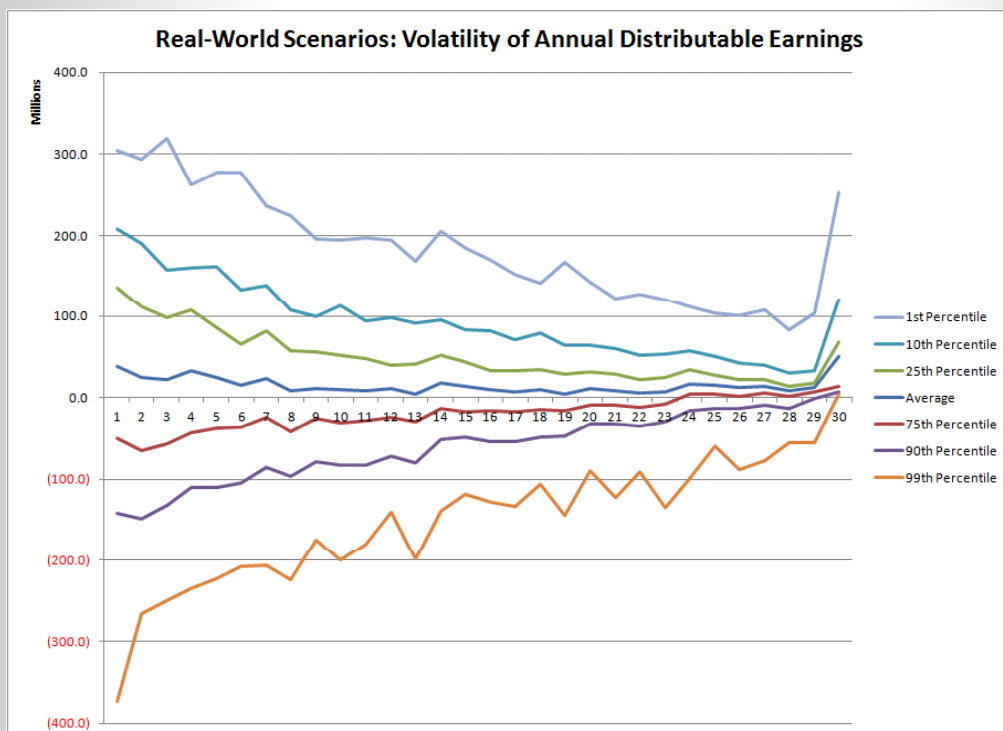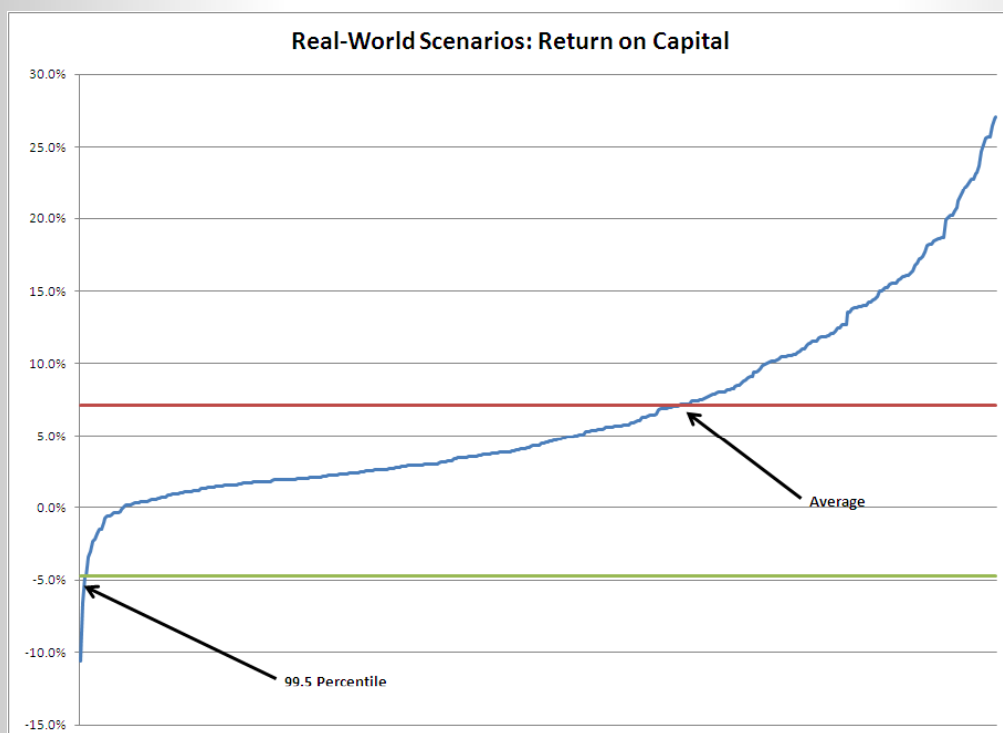
Taxes and capital

Scen.	Description	Return on Capital		PV of Distributable Earnings		PV of Pre-Tax Income	
			%ile		%ile		%ile
NY1	Level Interest Rates	6.8%	38%	18.1	33%	211.9	34%
NY2	Increasing 50bp per year for 10 years	0.9%	90%	(317.5)	97%	(259.0)	94%
NY3	Increasing 100bp per year for 5 years, then decreasing 100bp per year for 5 years	1.3%	87%	(241.9)	89%	(183.7)	90%
NY4	Immediate increase of 300bp	0.5%	92%	(371.5)	99%	(362.1)	99%
NY5	Decreasing 50bp per year for 10 years	8.4%	30%	42.0	26%	250.7	26%
NY6	Decreasing 100bp per year for 5 years, then increasing 100bp per year for 5 years	7.9%	33%	33.6	29%	237.7	28%
NY7	Immediate decrease of 300bp	8.5%	30%	42.7	26%	252.1	25%
NY8	Inverted term structure	1.2%	87%	(236.8)	88%	(155.3)	86%

Note: for NY5-NY7, rates are floored at 50% of the current level

Starting Economic Capital: 303.1 for all scenarios

Taxes, capital, and credit risk

- Add ability to invest in single-A corporate bonds to prior run
  - Assume that corporate bond market goes out to maturities of 10 years
  - Capital, again iteratively calculated, is now 23.0% of FVL
- Liability characteristics unchanged
- Present value (@ 6.0%) of pre-tax income over real-world scenarios:
  - Average = 452.1   (w/o credit: 87.8)
  - 99.5th percentile = (223.1)   (w/o credit: (466.9))
- Return on capital over real-world scenarios:
  - Average = 14.2%   (w/o credit: 7.2%)
  - 99.5th percentile = 2.5%   (w/o credit: -4.7%)

> **Being able to invest in corporate bonds lowers dollars of risk and capital, increases expected and tail returns**

Taxes, capital, and credit risk

Real-World Scenarios: Distribution of Present Values

Taxes, capital, and credit risk

Real-World Scenarios: Volatility of Annual Distributable Earnings

Taxes, capital, and credit risk

Real-World Scenarios: Return on Capital
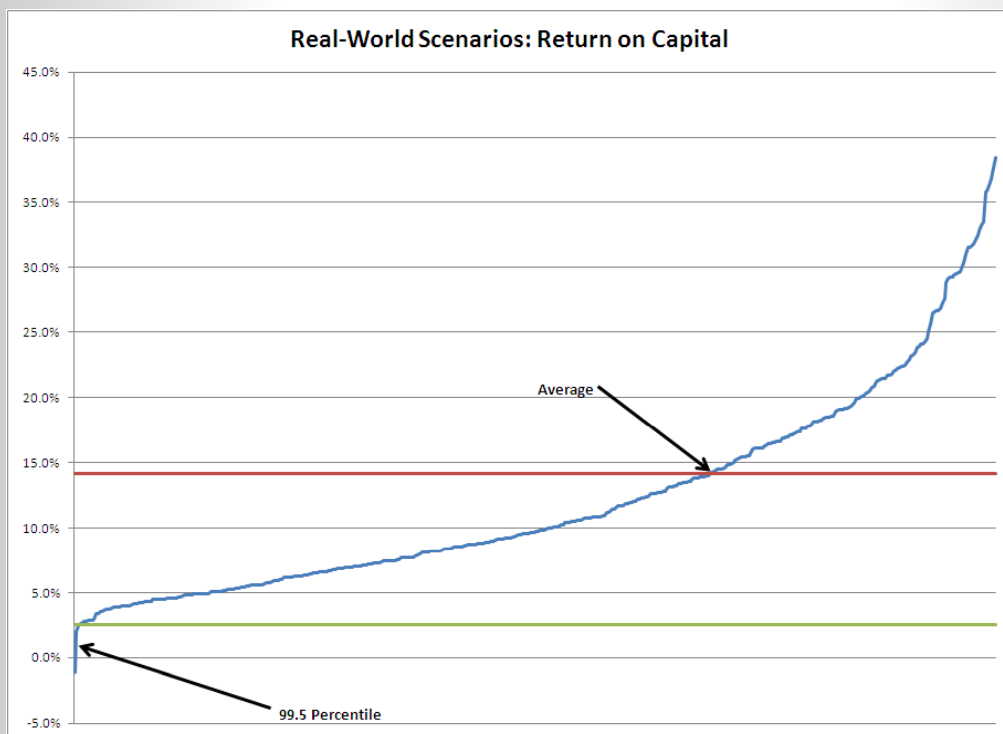
Taxes, capital, and credit risk

Scen.	Description	Return on Capital		PV of Distributable Earnings		PV of Pre-Tax Income	
			%ile		%ile		%ile
NY1	Level Interest Rates	12.7%	40%	200.9	35%	570.3	36%
NY2	Increasing 50bp per year for 10 years	4.9%	87%	(87.6)	91%	190.8	85%
NY3	Increasing 100bp per year for 5 years, then decreasing 100bp per year for 5 years	4.9%	88%	(75.4)	89%	151.5	88%
NY4	Immediate increase of 300bp	4.0%	94%	(177.8)	98%	23.6	96%
NY5	Decreasing 50bp per year for 10 years	15.0%	32%	230.4	26%	618.4	26%
NY6	Decreasing 100bp per year for 5 years, then increasing 100bp per year for 5 years	14.7%	33%	220.7	29%	603.5	29%
NY7	Immediate decrease of 300bp	15.2%	32%	231.5	26%	620.5	25%
NY8	Inverted term structure	5.6%	81%	(21.9)	81%	262.8	79%

Note: for NY5-NY7, rates are floored at 50% of the current level

Starting Economic Capital: 430.2 for all scenarios

Summary of results
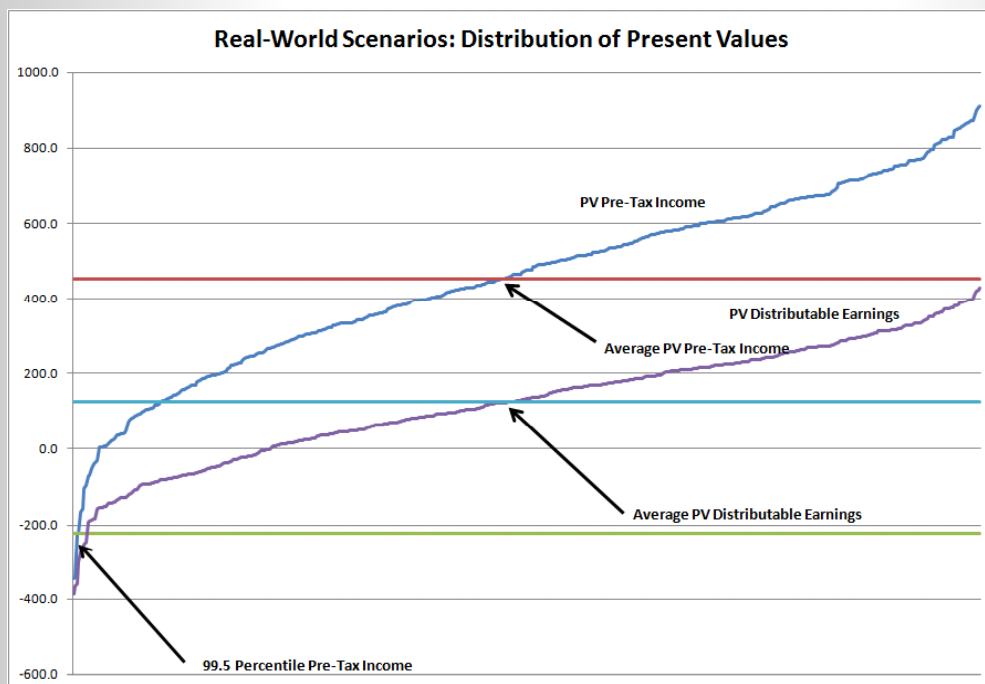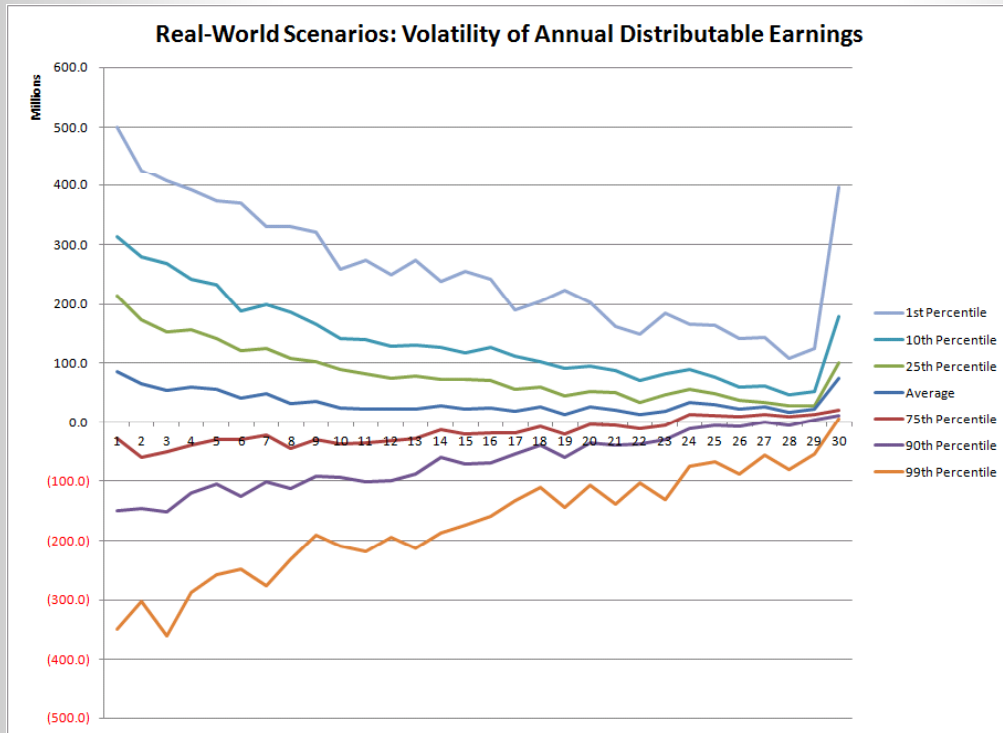
Model assumptions	Effective		Fair Value (Liability)	PV of Pre-Tax Income		Return on Capital	
	Duration	Convexity		Avg	99.5%ile	Avg	99.5%ile
Baseline				55.7	(442.8)		
+ taxes, and capital	10.4	182.7	1,873.9	87.8	(466.9)	7.2%	-4.7%
+ credit risk				452.1	(223.1)	14.2%	2.5%

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4. Conclusions

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Conclusions

- Low interest rates have been an issue for quite some time in certain markets, and the rest are quickly catching up
- Anomalies (or are they permanent?) in credit spreads, cross-currency swap basis force companies to revise investment strategies, look for alternatives
- Expanding available investment universe is critical not only for finding yield and diversification in a low-interest-rate environment but also for increasing risk-adjusted returns
- The basis (FX but also credit) is important
- Inclusion of taxes and/or capital changes how one views ALM risk and desired investment strategy
- Including credit risk in an investment portfolio tends to reduce risk when viewed holistically

Thank you for your attention.

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Financial Reinsurance and Risk Transfer

Gaston Nossiter FIAA
Senior Vice President, Business Development
Global Financial Solutions
RGA Reinsurance Company

Financial Reinsurance and Risk Transfer | July, 2012

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Financial Reinsurance and Risk Transfer

Outline:

- Drivers of demand for financial reinsurance
- Risk transfer under emerging regulatory systems
- Some comments about "risk transfer"
- Financial reinsurance: facilitators and barriers

Drivers of demand for financial reinsurance

- Global insurance regulation
- Statutory reserves
- Solvency margins / risk-based capital
- Balance sheet / surplus
- Other drivers

Drivers of demand for financial reinsurance

Global insurance regulation:

- General trend toward principles-based regulation
- Differences in product designs between countries often reflect differences in available investments to support them
  - e.g., longer-duration debt instruments available in Germany vs. Taiwan, US vs. Australia, etc.
- Differences in regulatory requirements reflect these differences in product design (or vice versa)
  - e.g., few long-term guarantees on Australian life insurance products vs. US market
- Regulation benefits from simple rules
  - Ease of compliance and statutory audit
- However, simplicity can also lead to potential mismatch with principles-based approach
- Reinsurance and investment banking products have evolved to fill the void, bringing sophisticated solutions to provide greater product choices for policyholders
  - Often the cost of such solutions is reduced through capital arbitrage

Drivers of demand for financial reinsurance

"Arbitrage" and "capital arbitrage" defined:

ar·bi·trage   *noun*   \ är-bə-,träzh \

1.   the nearly simultaneous purchase and sale of securities or foreign exchange in different markets in order to profit from price discrepancies

French, from Middle French, arbitration, from Old French, from *arbitrer* **to render judgment**, from Latin *arbitrari*, from *arbitr-*, *arbiter*

[source: *Merriam-Webster Dictionary*; emphasis added]

cap·i·tal ar·bi·trage   *noun*   \ ka-pə-təl är-bə-,träzh \

1.   minimizing the excess of statutory reserving and capital requirements over economic reserving and capital requirements
2.   rendering judgment on local regulatory, accounting, and solvency rules by betting that they're overly conservative

[source: *someone trying to make a living selling financial reinsurance*]

Drivers of demand for financial reinsurance

Statutory reserves:

- Use of prescribed mortality tables (when materially different from experience)
    - e.g., US, Korea
- Use of prescribed interest rates (when materially different from market rates)
    - e.g., US with prescribed rates based on policy issue year
- Zero lapse assumption
    - Or 100% immediate lapse assumption (cash value floor)
- Flooring of negative reserves
- Adjustment of statutory reserves to give partial credit for DAC (when materially different from DAC that can otherwise be amortized economically)
    - e.g., Japan, Germany
- Ignoring surrender charges
- Ignoring MVAs
- Not recognizing value of hedging
    - e.g., Japan
- Discount rates that do not reflect full illiquidity of liability
    - e.g., concerns raised regarding Solvency II on payout annuities

Drivers of demand for financial reinsurance

Solvency margins / risk-based capital:

- Factor-based calculations based on % reserves or premium not reflective of underlying risk
    - e.g., Solvency I
- Conservative assumptions or stress tests supporting capital requirements
    - e.g., C1 requirements of Solvency II
- Insufficient credit for diversification

Drivers of demand for financial reinsurance

Balance sheet / surplus:

- Inability to raise capital through debt financing
- Limitations on equity financing alternatives
    - e.g., mutual insurers
- Limited credit for Value of In-force Business
    - No credit or treat as Tier 3 vs. Tier 1 capital
    - Restrict recognition on consolidation (e.g., Basel III)
- Use of market value for assets but not for liabilities
- Inadmissible assets
    - e.g., limits due to concentration risk on assets invested with bank by bancassurer
- Differences in timing of recognition of income
    - e.g., tax, DAC, future profit emergence, IFRS vs. US GAAP vs. local statutory

Drivers of demand for financial reinsurance

Other drivers:

- Differences in treatment by banks vs. insurers
  - e.g., can VIF reinsurance / contingent loan be marked to market as part of an active trading book (and profits recognized upfront)?
  - e.g., differences in capital treatment
- No capital requirements for pension plans holding investment, longevity, and insurance risk vs. insurers
- Differences between accounting treatment of reinsurance vs. derivatives
- Rating agency capital requirements vs. statutory requirements

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Drivers of demand for financial reinsurance

Example of rating agency vs. statutory requirements:

- S&P charges for credit risk calibrated to fundamental default risk
- Solvency II takes a MV approach
  - QIS 5 results in significantly different answer
  - Also significantly different from US RBC
- Liabilities discounted at risk free plus at most some provision for liquidity premium
- End result is considerable volatility of Solvency II capital due to credit spread volatility in response to market sentiment
- Is this an opportunity for arbitrage?

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Drivers of demand for financial reinsurance

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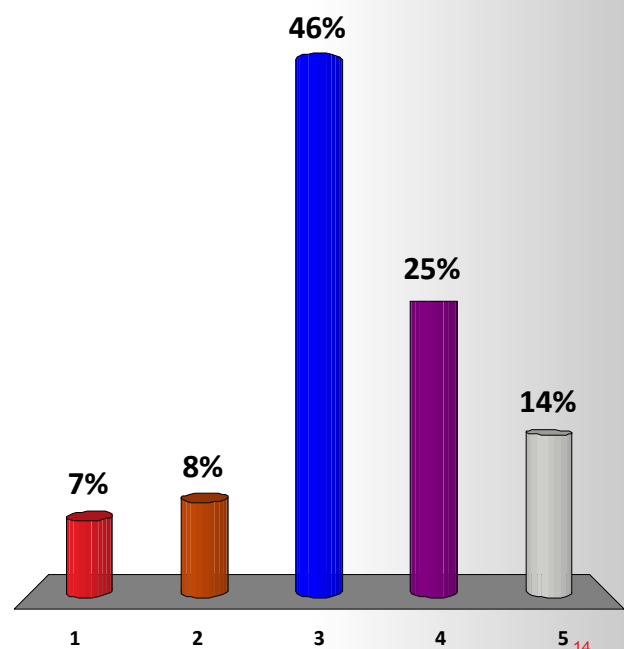
Risk transfer under emerging regulatory systems

- IFRS
- Solvency II
- Comparison to US GAAP

Polling question:

What's your opinion about Solvency II and IFRS?

1. I'm sick of hearing about them. When does the reception start?
2. I'll retire before any of them happen.
3. The actuary in me agrees with some or all of the theory behind them, but the businessperson in me doesn't like the results.
4. All of the above.
5. Seriously, though, I'm sick of hearing about them.

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7% (1) 8% (2) 46% (3) 25% (4) 14% (5)

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Risk transfer under emerging regulatory systems

IFRS:

Insurance risk is significant if, and only if, an insured event could cause an insurer to pay significant additional benefits in any scenario, excluding scenarios that lack commercial substance (i.e., have no discernible effect on the economics of the transaction). If significant additional benefits would be payable in scenarios that have commercial substance, the condition in the previous sentence can be met even if the insured event is extremely unlikely or even if the expected (i.e., probability-weighted) present value of contingent cash flows is a small proportion of the expected present value of all the remaining cash flows from the insurance contract.

IFRS Insurance Contracts Exposure Draft, July 2010, Paragraph B24

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RGA   Polling question:

Would financial reinsurance, as commonly understood in the US, qualify as reinsurance under IFRS?

1. Yes. If the transaction passed all significant risks – which it must in order to pass US statutory risk transfer – then IFRS would treat the transaction as having significant insurance risk.

2. No. Typically the price for a financial reinsurance transaction – the fee rate – does not vary materially based on the level of remoteness of those scenarios that might lead to a loss for the reinsurer. Therefore, such a transaction would not pass significant insurance risk.
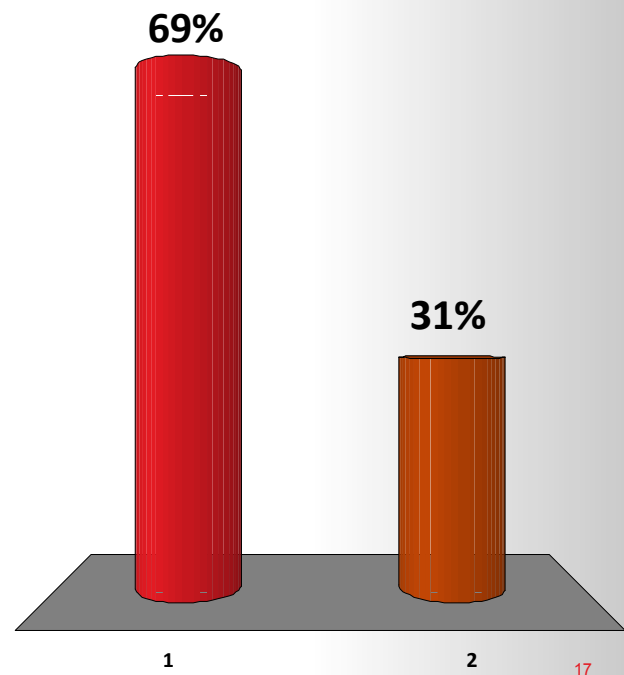
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69%

31%

1   2   17

Polling question:

Will financial reinsurance get credit under Solvency II?

1) Yes. Solvency II has some very conservative elements, and to the extent that reinsurers are willing to take the bet that those elements truly are overly conservative, ceding companies will be able to receive Solvency II credit for such reinsurance.

2) No. Since Solvency II is built upon a fully principles-based, market-consistent framework, any transaction designed to be fee-based and/or short-term in nature will not allow a ceding company to take credit under Solvency II.

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Will financial reinsurance, as commonly understood in the US, get credit under Solvency II?

1) Yes. Solvency II has some very conservative elements, and to the extent that reinsurers are willing to take the bet that those elements truly are overly conservative, ceding companies will be able to receive Solvency II credit for such reinsurance.

2) No. Since Solvency II is built upon a fully principles-based, market-consistent framework, any transaction designed to be fee-based and/or short-term in nature will not allow a ceding company to take credit under Solvency II.

51%

49%

1)

2)

19
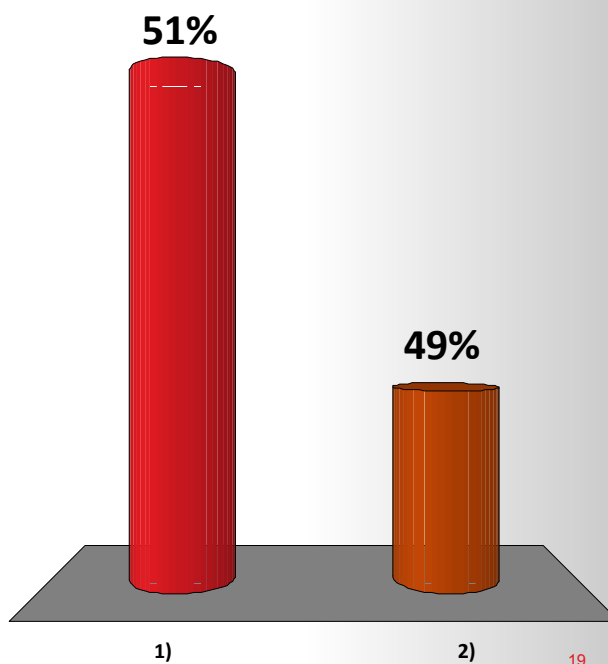
Risk transfer under emerging regulatory systems

US GAAP:

Determining whether a contract with a reinsurer provides indemnification against loss or liability relating to insurance risk **requires a complete understanding of that contract and other contracts or agreements between the ceding enterprise and related reinsurers**. A complete understanding includes an evaluation of all contractual features that (a) limit the amount of insurance risk to which the reinsurer is subject (such as through experience refunds, cancellation provisions, adjustable features, or additions of profitable lines of business to the reinsurance contract) or (b) delay the timely reimbursement of claims by the reinsurer (such as through payment schedules or accumulating retentions from multiple years).

   SFAS 113, Paragraph 8 [emphasis added]

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Risk transfer under emerging regulatory systems

US GAAP (continued):

Indemnification of the ceding enterprise against loss or liability relating
to insurance risk in reinsurance of long-duration contracts requires
the **reasonable possibility that the reinsurer may realize
significant loss from assuming insurance risk** as that concept is
contemplated in Statement 60 and FASB Statement No. 97,
Accounting and Reporting by Insurance Enterprises for Certain Long-
Duration Contracts and for Realized Gains and Losses from the Sale
of Investments . Statement 97 defines long-duration contracts that do
not subject the insurer to mortality or morbidity risks as investment
contracts. Consistent with that definition, a contract that does not
subject the reinsurer to the reasonable possibility of significant loss
from the events insured by the underlying insurance contracts does
not indemnify the ceding enterprise against insurance risk.
SFAS 113, Paragraph 12 [emphasis added]

Risk transfer under emerging regulatory systems

What happens when "risk transfer" is not well-defined?

- Regulators looking sometimes to IFRS, and sometimes to US GAAP,
  for guidance on whether contract is reinsurance
  - Insurance risks vs. other risks (e.g., policyholder behavior / lapse vs. investment
    risk)
  - Minimum risk transfer
  - Reliance on auditor's assessment
- Subtle differences in application of IFRS and US GAAP standards,
  although similar wording used
- Leads to potential differences in interpretation
  - Is it possible to qualify as reinsurance under IFRS but fail as reinsurance under
    US GAAP?
  - Is it possible to qualify as reinsurance under US GAAP but fail as reinsurance
    under IFRS?

Risk transfer under emerging regulatory systems

How do we construct a financial reinsurance transaction when "risk transfer" is not well-defined?

- Guidance is limited
- Standards vary from company to company (and between audit firms or offices)
- To minimize cost, try to target the minimum threshold where the relevant risk transfer criteria is met
- As more risk is transferred, more capital is required by the reinsurer, and thus the capital arbitrage benefit is diminished
- Need to consider how inconsistencies in accounting will be perceived
  - Potential legal and reputation risks (recall Gen Re / AIG)
  - Will public view transaction as misleading when companies with different thresholds for risk transfer record transaction differently?
  - Responsibility on reinsurer to confirm ceding company treatment
    - Ignorance is not bliss!
  - IFRS treatment different from US GAAP may be fine; differences within same accounting standards need justification

Some comments about "risk transfer"

The view at RGA:

- We must believe that the ceding company retains less risk after executing a reinsurance transaction than it held before the transaction.
- There should be some reasonable relationship between the amount of risk transferred and the capital benefit (reserve, solvency, etc.) taken by the ceding company.
- There must be a <u>plausible</u>, though perhaps remote, chance that the reinsurer can suffer a permanent cash loss at least equal to the capital benefit taken by the ceding company as part of any reinsurance transaction, measured on a present value basis.

Some comments about "risk transfer"

What do we mean by a "plausible" scenario?

- Determined in the context of the accounting, reserving, and/or solvency requirements for the regime in which the ceding company is recognizing the capital benefit
  - For example, a ceding company may be required to hold reserves under the assumption that all policyholders lapse immediately or that mortality will be 300% of expected over the life of the business.
    - Those assumptions are then "plausible" for determining appropriate risk transfer for reserve relief in that jurisdiction.
  - Sometimes we may need to infer such plausible scenarios from what we know about the particular accounting, reserving, or solvency regime.
- Usually at a level below the "everybody dies" scenario
- Should be above a level that has actually occurred in the past
  - Assuming no environmental changes have occurred to preclude it from happening again
- Likely beyond those scenarios underlying in establishing principles-based economic capital
  - Ignoring scenarios implied by the accounting or solvency regime

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Some comments about "risk transfer"

"Arbitrage" – derived from *arbitrer*, "to render judgment"

- If:
  1. A company is told that they have to reserve or capitalize for certain scenarios; <u>and</u>
  2. A reinsurer, under a reinsurance transaction, will sustain a cash loss based on the occurrence of such scenarios.
- Then the ceding company should be able to take credit in its financials to the extent that the reinsurance would "pay off" in those scenarios.
- Put simply: the regulators / auditors / accountants can't have it both ways. Either:
  a) the scenario is important enough to require reserves and/or capital – in which case credit should be allowed under these circumstances; or
  b) the scenario is too remote, in which case the company should not have to hold those reserves and/or capital in the first place.

RGA   Polling question:

The regulators / auditors / accountants can't have it both ways. Either: the scenario is important enough to require reserves and/or capital – in which case credit should be allowed under these circumstances; or the scenario is too remote, in which case the company should not have to hold those reserves and/or capital in the first place.

Given whatever support you would need, would you be comfortable making that argument to your regulator or auditor?

1) Yes to both
2) Auditor – yes; Regulator – no
3) Auditor – no; Regulator – yes
4) No to both

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RGA   Polling question:

The regulators / auditors / accountants can't have it both ways. Either: the scenario is important enough to require reserves and/or capital – in which case credit should be allowed under these circumstances; or the scenario is too remote, in which case the company should not have to hold those reserves and/or capital in the first place.

Given whatever support you would need, would you be comfortable making that argument to your regulator or auditor?

1) Yes to both
2) Auditor – yes; Regulator – no
3) Auditor – no; Regulator – yes
4) No to both

73%

17%

3%

8%

1)   2)   3)   4)   28

RGA
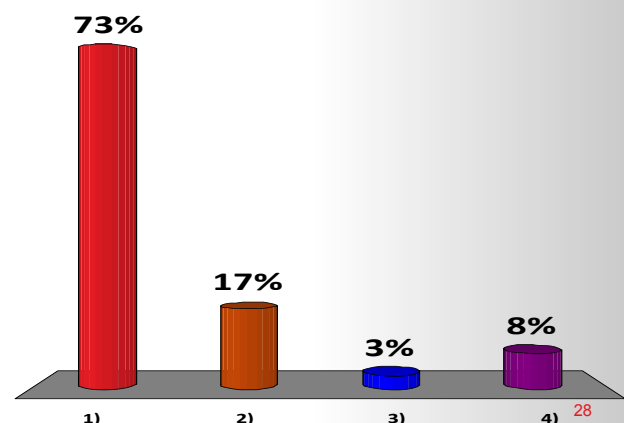
Financial reinsurance: facilitators and barriers

Potential facilitators:

- Credit given for offshore reinsurance
- Appointed actuary approval sufficient
- Credit provided for withheld ceding commission ("non-cash" relief)
- Supporting regulation:
  - Focus on counterparty risk concerns vs. being overly restrictive
  - Risk transfer requirements allow for tail-risk solutions

RGA

Financial reinsurance: facilitators and barriers

Potential barriers:

- Limitations on reinsurance, such as:
  - No credit for reserve transfer
  - YRT only
  - Limited percentage allowed
- Limitations on off-shore reinsurance
  - Australia requires accredited reinsurer
  - US, Canada require use of assets in trust or letter of credit
- Prior regulatory approval required
  - Regulatory approval process can be difficult and/or time-consuming
- Recognition of VIF limited to amount of cash advanced
  - e.g., CP 10/10 in UK
  - Adds significantly to cost
  - Introduces credit risk in addition to performance risk on reinsured block

Financial Reinsurance and Risk Transfer

Some concluding thoughts:

- Despite the many benefits of reinsurance as a risk and financial management tool, it has a cost to the ceding company
- Arbitrage often improves the attractiveness of reinsurance, lowering the cost to the ceding company as more capital is released on the transaction
- The move to principles-based regulation will not necessarily increase or decrease arbitrage opportunities but will change the nature of such opportunities
- The more the underlying principles are deemed to be conservative, the more there will be arbitrage opportunities