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Impact of Basel III and EMIR on European Insurer ALM and Risk Management

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11 November 2013

Agenda

Three Key Areas For Today

- So What Does It All Mean (1)? – High level summary of the potential impacts on insurers
- The Context - Our view of the key points from Basel III and EMIR and the asset side implications
- So What Does It All Mean (2)? – A more detailed look at the implications for products and risk management

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So what does it all mean (1)?

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Basel III and EMIR

A Tale of Two Products

A brief summary of the key areas of impact from Basel III and EMIR for two product types both providing long-term guarantees to support the provision of a secure income in retirement.

Impact Area	Unit-linked with guarantees	Traditional annuity
Operational complexity	Low adverse	Moderate adverse
Liquidity risk	Low adverse	Moderate adverse
Counterparty credit risk	Moderate positive	Moderate positive
Yield enhancement	Low adverse	Moderate adverse
Capital encumbrance	High adverse	High adverse
Matching adjustment	N/A	Moderate adverse
Transaction costs	Moderate adverse	Low adverse
Other	Low adverse	Moderate adverse

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Basel III and EMIR
A Tale of Two Products

Responses are likely to combine:

- Continued offering of existing products to end customers but with changes made “behind-the-scenes” with regard to the investment and risk management approaches used to support them.

- Changes to the product offerings themselves

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Basel III and EMIR

A Tale of Two Products

Risk management adaptations – traditional annuity:

Basel III / EMIR Challenge	Potential Responses				
	Alternative Cash Bond Assets	Replace Currency Swaps with FX Futures	Replace Inflation Swaps with IL Cash Bonds	Replace IRS With Swap Futures	Replace IRS With Forward Bonds
Operational complexity	Negative	Negative	Negative	Negative	Moderate
Liquidity risk	Negative	Moderate Negative	?	Neutral	Positive
Counterparty credit risk	N/A	Positive	N/A	Neutral	Negative
Yield enhancement	Positive	?	?	?	Positive
Capital encumbrance	N/A	Moderate Positive	Positive	Positive	Positive
Market risk	Neutral	Neutral	Moderate Negative	Moderate Negative	Neutral
Matching adjustment	?	Negative	?	Negative	Moderate Positive
Transaction costs	Moderate Negative	?	Moderate Negative	?	Moderate Negative
Other	N/A	Positive	Positive	N/A	N/A
Feasibility	Moderate	High	Moderate - Low	Moderate	Moderate

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Basel III and EMIR

Product and Consumer Implications

Area of impact	Providers	Consumers
Benefit levels	Pressure to reduce	Poorer perceived VFM
Market capacity (long-term guarantees)	Supply may be reduced: - complexity - cost - capital	Demand remains high: - strong flow of funds - customers value certainty - gov't wants certainty
Product choice	Increased need to diversify	Increased need to diversify
Benefit options	Some reduction	Need to seek alternatives
Investment options	Increased focus on approaches which support risk / capital management	Increased focus on suitability to support long-term stable income generation

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The Context

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The Context

Basel III Main Objectives

- Raise quality, consistency and level of capital base
- Reduce pro-cyclicality and systemic risks
- Improve the risk coverage of the regulatory capital
- Introduce minimum liquidity requirements
- Limit the leverage of balance sheets

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The Context

Basel II Versus Basel III

Multiple increase in capital base

$$\text{Capital Ratio} = \frac{\text{Total Capital}}{\text{Risk-Weighted Assets}}$$

Minimum requirements doubled

Risk weights significantly increased

New!

$$\text{Leverage Ratio} = \frac{\text{Tier 1 Capital}}{\text{Un-Weighted Assets}}$$

New!

Short Term Liquidity Ratio & **Long Term Liquidity Ratio**

Limit ALM mismatch

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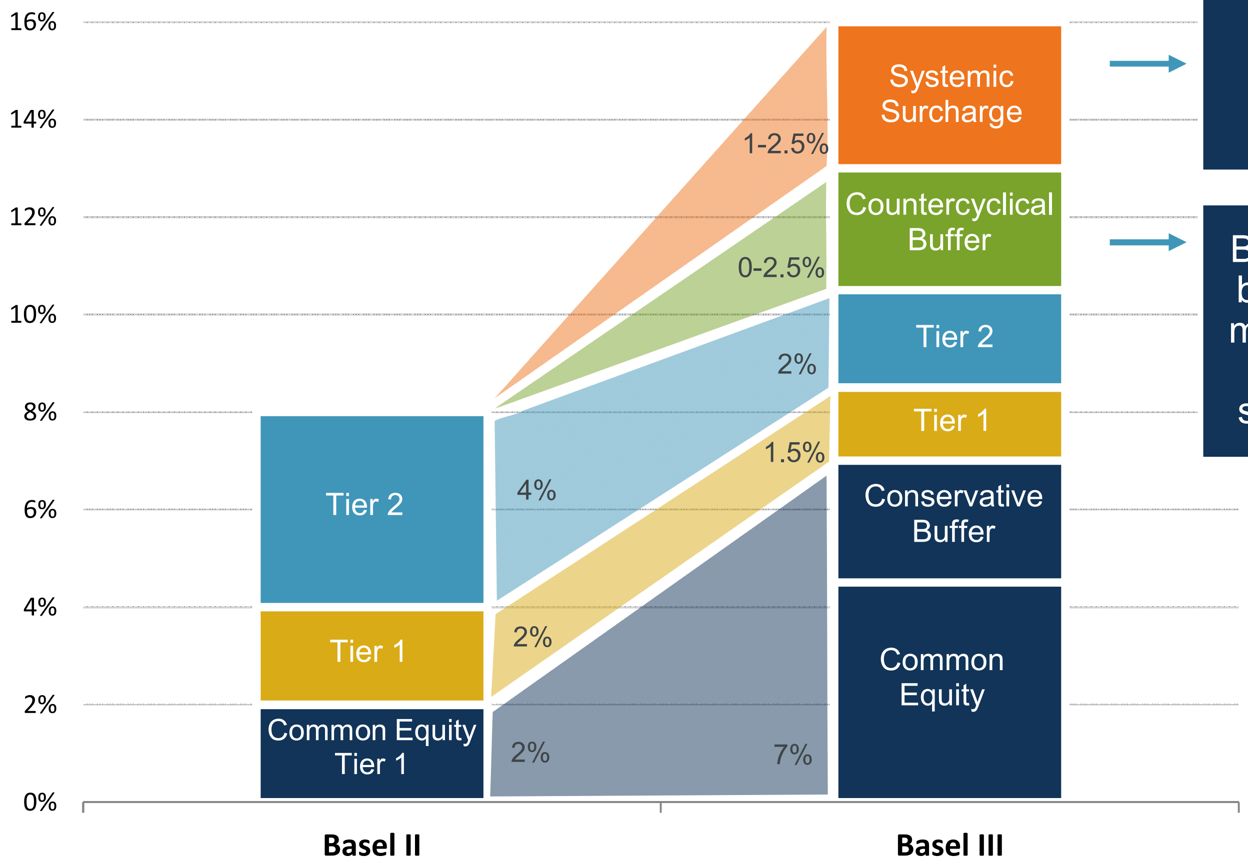
The Context

Basel III – Higher capital of higher quality



Supplementary capital requirement for those global banks defined as systemically important financial institutions (SIFI)

Build-up of a capital countercyclical buffer of up to 2.5% of RWA above minimum requirements during good times, which would support significant losses during bad times

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The Context

Implications of Basel III on Banks' Lending and Trading Activities

Basel III Measures	Trading Activities	Financing / Banking Activities
Capital	Major Impact	Major Impact
IRC	Major Impact	N/A
CRC	Major Impact	N/A
Leverage Ratio	Medium Impact	Major Impact
Liquidity Ratio	Limited Impact	Major Impact

Legend:

***Major Impact**:* *A significant impact across a broad range of activities.*

***Medium Impact**:* *A significant impact on some activities coupled with a moderate impact on other activities.*

***Limited Impact**:* *A moderate impact on some activities but limited impact overall.*

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The Context

Basel III - Improve Risk Coverage of the Regulatory Capital

- Enhanced **counterparty risk charge** (CRC)
  - Capital charge for risk that the CVA of OTC derivatives increases in stressed market conditions
- An **incremental risk charge** (IRC)
  - Capital charge for default and credit rating migration risks for non-securitised products (bonds, certificates of deposit and listed equities)

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The Context

Impact of counterparty risk charge (CRC) on Trading Activities

- **Credit Value Adjustment (CVA)** is the difference between the risk-free value of an OTC derivative and the true value that takes into account the possibility of a counterparty's default.
- For example if MtM of OTC derivative is +10m and the counterparty defaults then the bank will incur a loss of +10m
- CVA captures the expected cost of counterparty risk for a derivative by considering at each future time period:
  - Potential evolution of MtM of the derivative (with focus on positive values)
  - Default rate and recovery rate of the counterparty
- **CRC** measures using 10 day 99% VaR, the risk that CVA rises as result of an increase in the implied default rate of the counterparty only

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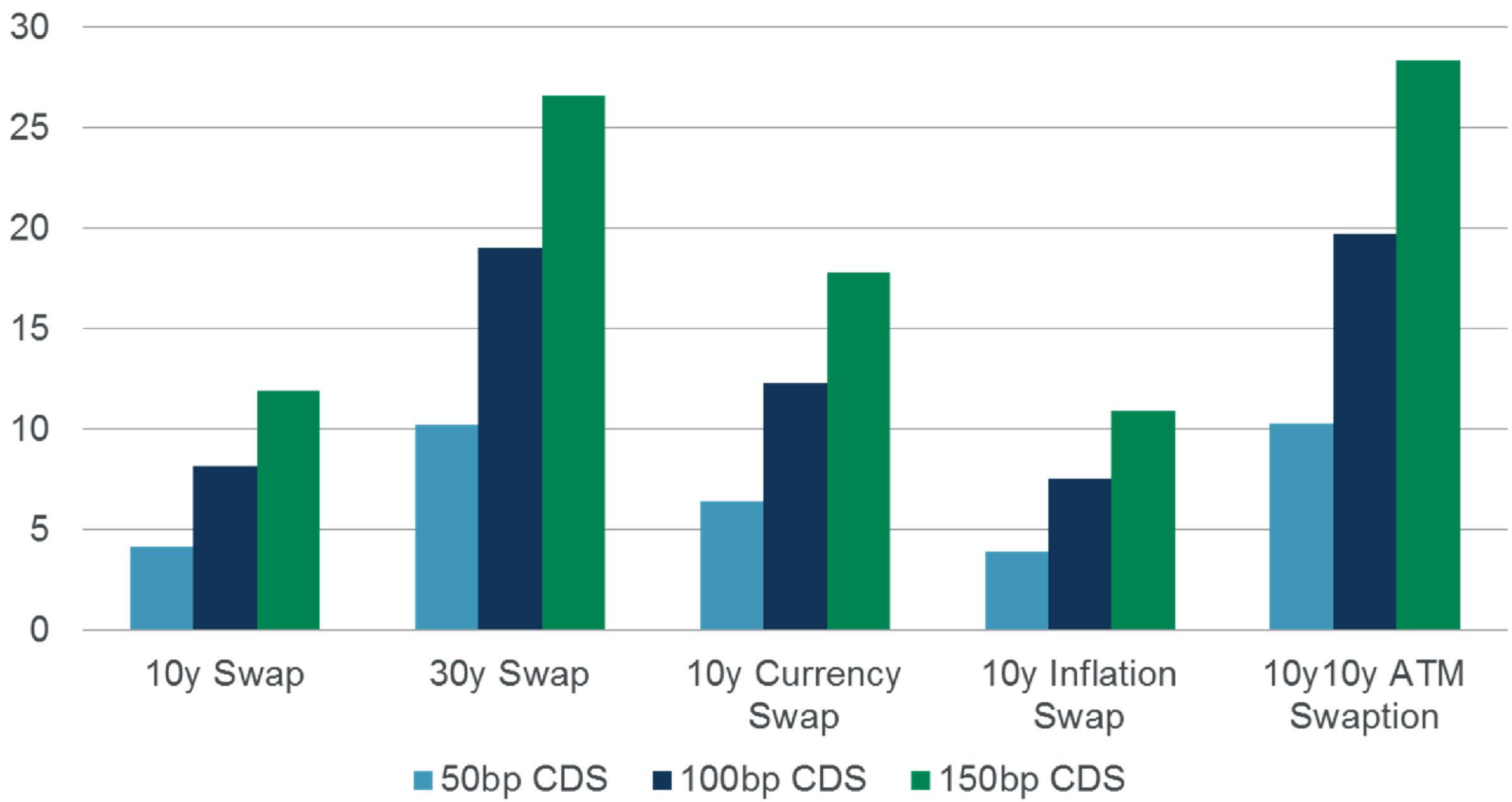
The Context

Impact of the Counterparty Risk Charge (CRC) on Trading Activities



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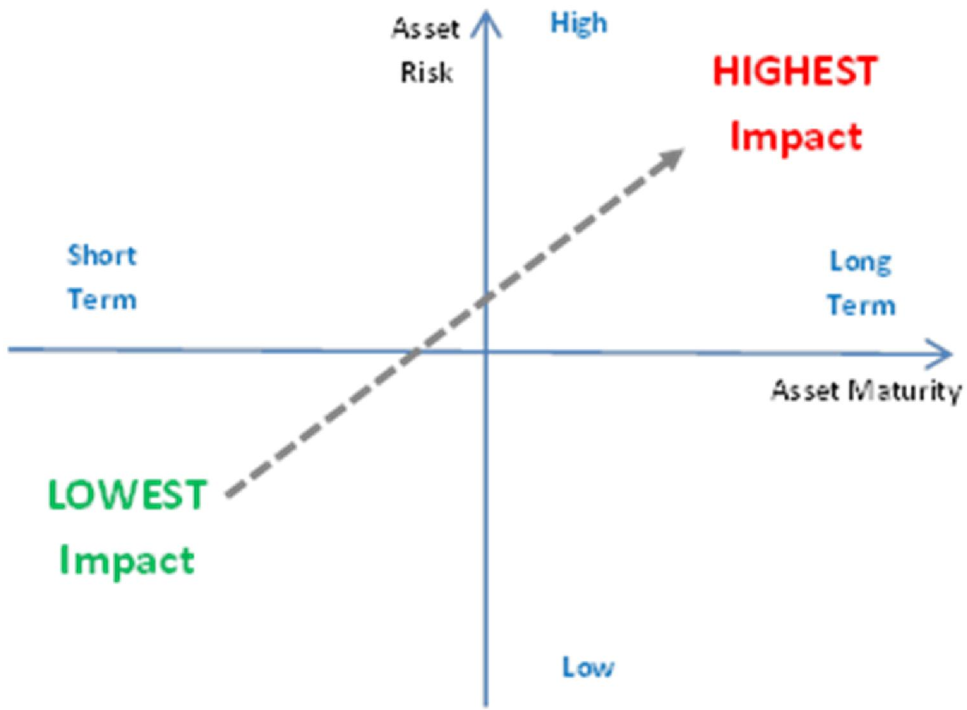
Impact of Incremental Risk Charge (IRC) on Trading Activities

- Lower liquidity in secondary markets, in particular for corporate bonds
- Higher bid/offer spreads for corporate bonds and longer-term (and lower-rated) government bonds



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The Context

Basel III - Introduce Minimum Liquidity Ratios

- Liquidity coverage ratio (LCR)

$$\text{LCR} = \frac{\textbf{High Quality Liquid Assets}}{\textbf{Net Cash Outflows over 1 month}} \geq 100\%$$

- Net stable funding ratio (NSFR)

$$\text{NSFR} = \frac{\textbf{Available Stable Funding (>1 year)}}{\textbf{Required Stable Funding (>1 year)}} \geq 100\%$$

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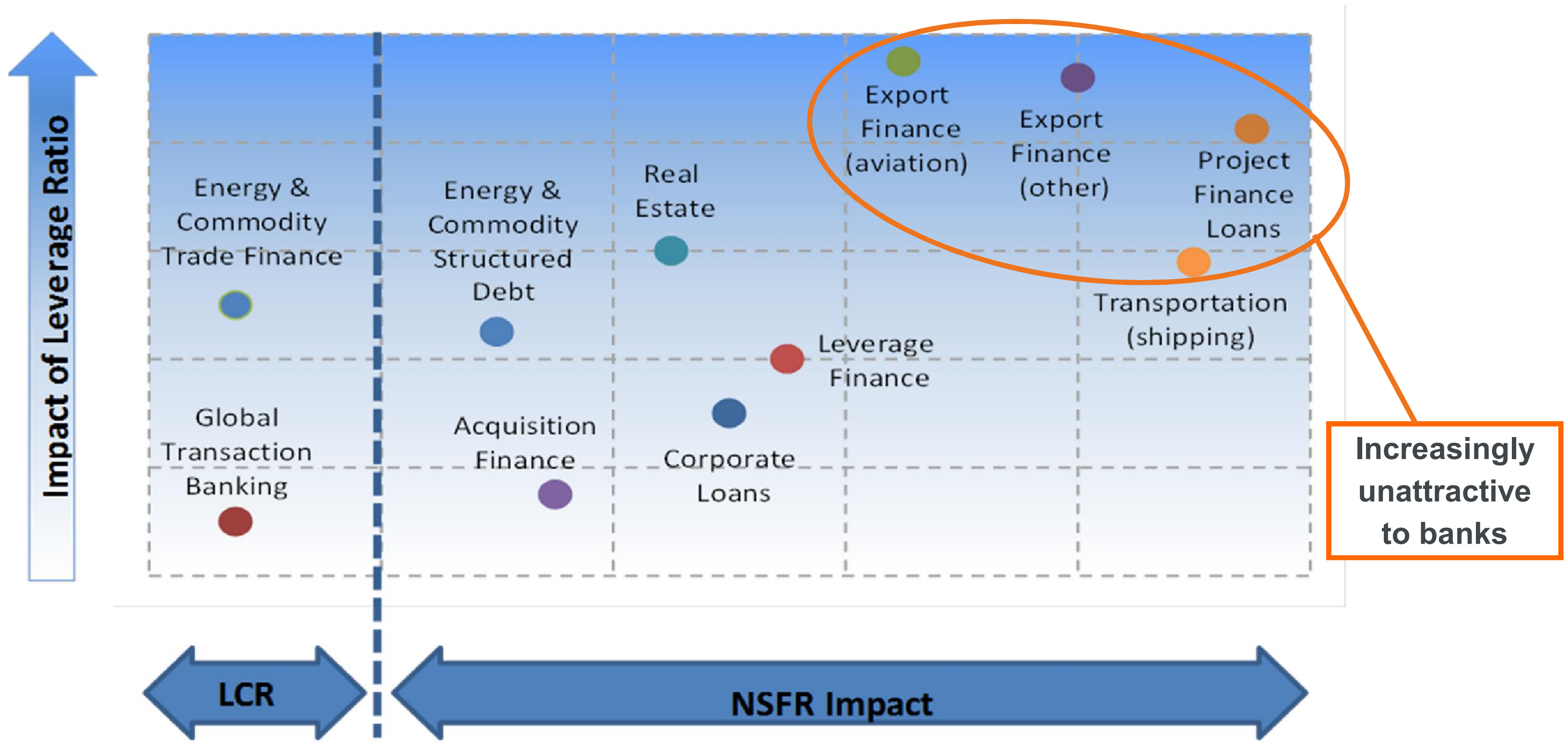
The Context

Impact of Leverage and Liquidity Measures on 'Banking Books'



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The Context

European Market Infrastructure Regulation (EMIR)

Requirements under EMIR are extensive, but primarily constructed around three core obligations:

- **Mandatory central clearing** for eligible OTC derivatives

- New **risk management** measures for non-centrally cleared OTC derivatives, which set minimum risk mitigation standards

  e.g. Dispute Resolution, Daily Valuation, Collateralisation, Timely Confirmation, Portfolio Reconciliation

- **Trade reporting** of all (OTC and exchange-traded) derivatives to trade repositories

The Context - EMIR

Application by Type of Counterparty

Counterparty Type		Daily Valuation	Other Risk Management requirements	Trade reporting	Clearing	Collaterali-sation
FC (**)	Pension Funds	Non-centrally cleared derivatives	Non-centrally cleared derivatives	All derivatives	3 years exemption	Non-centrally cleared derivatives
	All others	Non-centrally cleared derivatives	Non-centrally cleared derivatives	All derivatives	Eligible derivatives	Non-centrally cleared derivatives
NFC (**)		Not Applicable	Non-centrally cleared derivatives	All derivatives	Not Applicable	Not Applicable
NFC+ (**)		Non-centrally cleared derivatives	Non-centrally cleared derivatives	All derivatives	Eligible derivatives	Non-centrally cleared derivatives

*(**) **FC** (Financial Counterparties), **NFC** (Non Financial Counterparties), **NFC+** (NFCs over the clearing threshold)*

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The Context - EMIR

Implications of EMIR

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So what does it all mean (2)?

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Implications For Insurers (1)

Collateral Requirements – How Much?

- Variation margin

Risk Measure	Cash Collateral Required (£m / % Assets backing annuities)
VAR – 99.5% 1 day	£20m / 0.3%
Max call – 1 day	£40m / 0.6%
VAR – 99.5% 1 week	£50m / 0.8%
Max call – 1 week	£85m / 1.3%

Figures assessed using daily data over the period 2005 - 2012

- Initial margin

Clearing house 1 = £75m (2.9% of notional)

Clearing House 2 = £87m (3.4% of notional)

Source: Milliman analysis based on an example portfolio of IRS held by a Model Life Company writing principally annuity business

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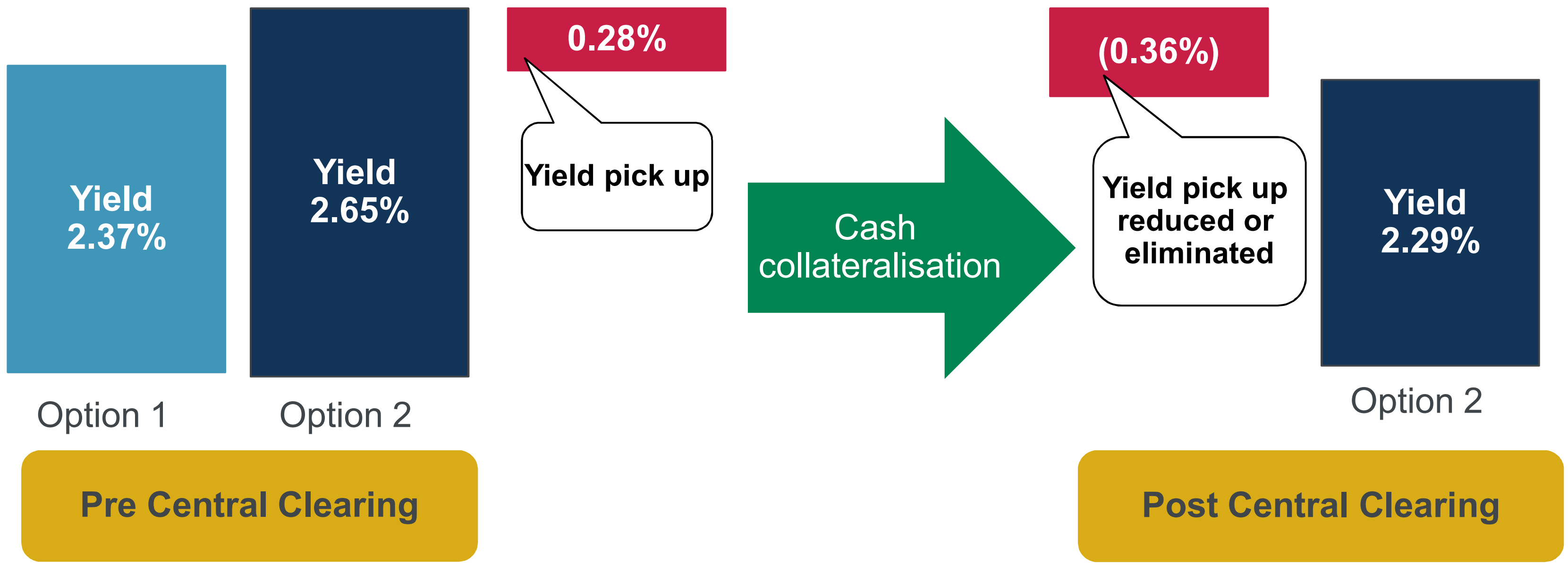
Implications For Insurers (2)

Yield Enhancement Through IRS

Matching a simple level annuity:

- Option 1: Hold a portfolio of cash Gilts of similar duration:
- Option 2: Hold shorter corporate bonds and use IRS to match duration

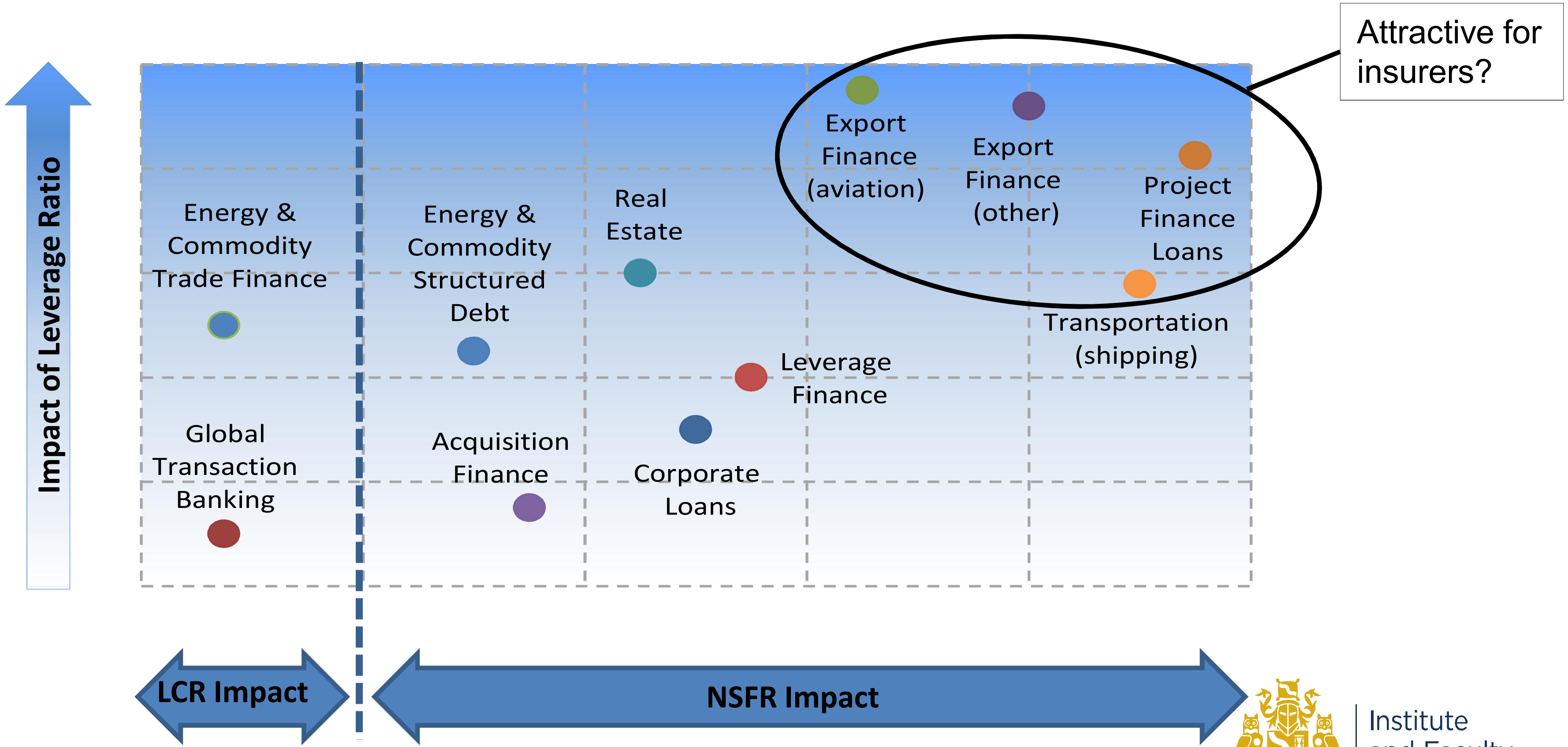


Source: Milliman analysis

Implications For Insurers (3)

Opportunities in Alternative Assets?

The asset mix on bank balance sheets is likely to change



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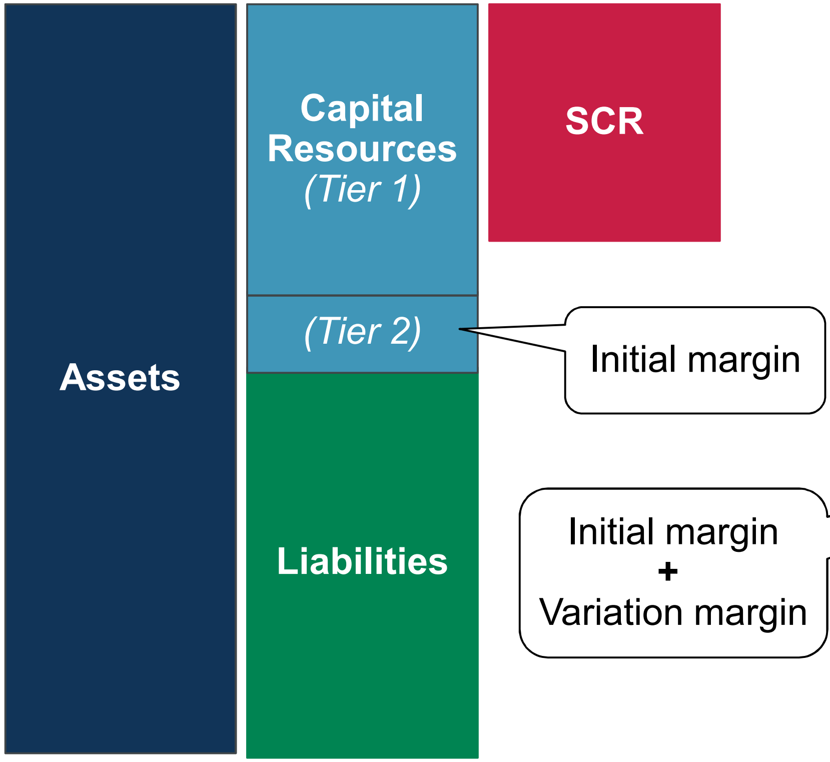
Implications For Insurers (4)

Potential Encumbrance

(t=0) Base

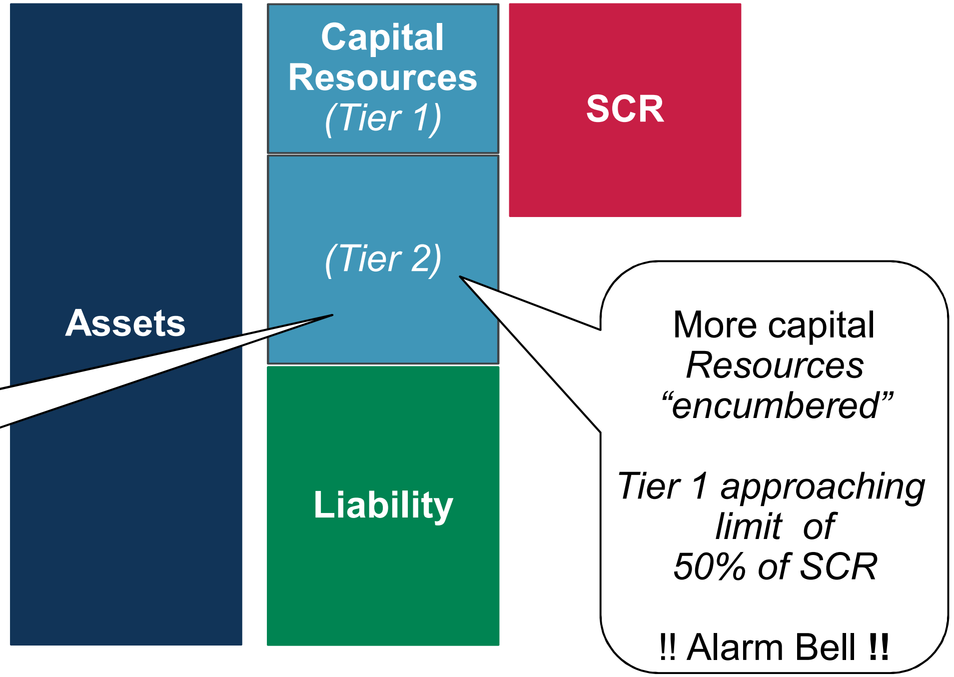
100% SCR met by Tier 1



Initial margin + Variation margin

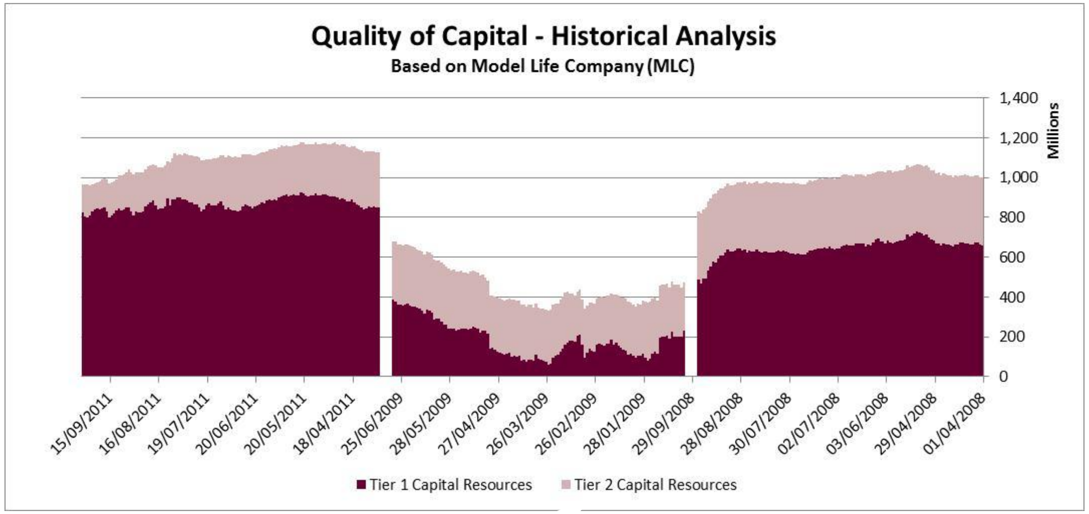
(t=n) Markets have risen:

Liability value fall offset by fall in value of derivative. Capital resources unchanged but variation margin must be posted

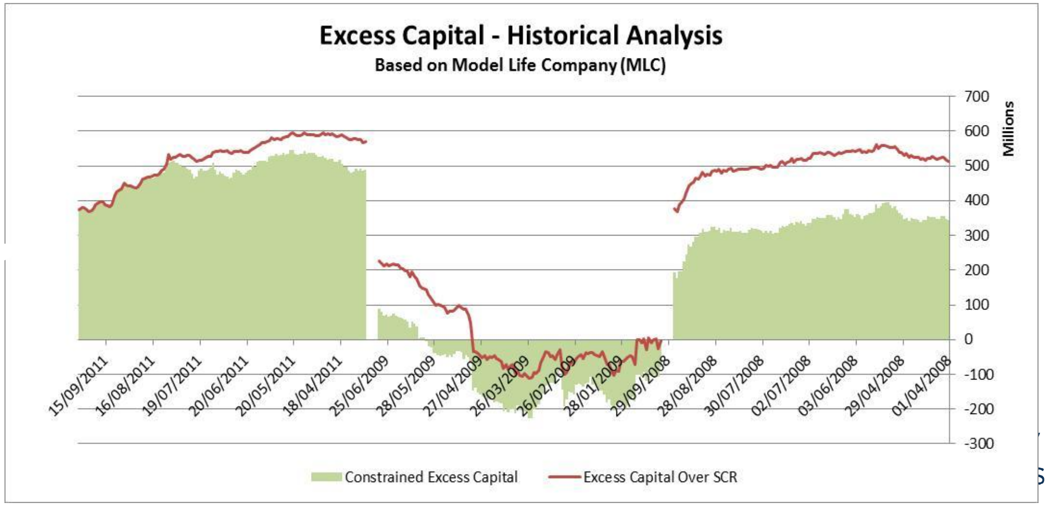


Implications For Insurers (5)

Potential Encumbrance – Historical Analysis



Looking back over recent history, margin calls would have had a material impact on capital quality - - and on MLC's ability to cover the SCR



Source: Milliman analysis

All is Not Lost!
Possible Risk Management Adaptations

Variable annuity:

1. Wider re-balancing thresholds
2. Increased rolling of IRS positions
3. Replace IRS with swap futures (option also for traditional product)
4. Reduce basis risk via fund selection

Traditional annuity:

1. Alternative cash bond assets
2. Replace currency swaps with FX futures
3. Replace inflation swaps with IL cash bonds
4. Replace IRS with forward bonds

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Ask the Audience
Question 1

What do you see as most significant implication of Basel III and EMIR for insurers?

1. Reduced counterparty credit risk for derivatives
2. Increased liquidity risk from collateral management
3. Increased market risk from more limited hedging
4. More investment in Gilts
5. Increased use of alternative assets e.g. export finance

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Ask the Audience
Question 2

Do you believe the changes to be introduced through Basel III and EMIR are, overall, likely to:?

1. Increase your company's use of derivatives
2. Have little impact
3. Reduce your company's use of derivatives

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Questions

Comments

Expressions of individual views by members of the Institute and Faculty of Actuaries and its staff are encouraged.

The views expressed in this presentation are those of the presenters.

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