Institute and Faculty of Actuaries

Financial Reinsurance

David J Walton – Munich Re
Stephane Iotti – PartnerRe

08 November 2013

Institute
and Faculty
of Actuaries

Contents of Presentation

(1) What is meant by financial reinsurance (“FinRe”)?
(2) Rationale for FinRe
(3) Common types of FinRe
(4) Characteristics of FinRe for insurers and reinsurers
(5) Analysis of typical risks in FinRe transactions
(6) Regulatory perspective
(7) Typical deal progression
(8) Key commercial aspects of reinsurance treaty
(9) Overview of current / recent market activity
(10) Summary

(1) What is meant by financial reinsurance ("FinRe")?

- Probably a good question to start with! No "official" definition, but can live with something like:
  - "Reinsurance that is motivated by financial as well as other risk transfer objectives"
- However, FinRe contracts may well not be treated as reinsurance under certain accounting conventions (e.g. IFRS) because they do not transfer significant insurance risk:
  - Not because reinsurers don't like accepting risk, rather because there is no insurance risk in the underlying business to transfer to the reinsurer!
  - "Significant" can be difficult to interpret or quantify
- In practice there can be considerable blurring between "reinsurance" and "FinRe":
  - Some reinsurance transactions both transfer material insurance risk and achieve a significant financing benefit for the insurer
  - Accounting conventions may require separation of financing and risk transfer (if possible) and different accounting treatment to be applied to each component

Institute and Faculty of Actuaries

(2) Rationale for FinRe

- Create additional free assets or convert an intangible ViF asset into cash to:
  - Finance new business strain or to write higher volumes for same strain
  - Finance capital expenditure, planned expansion or a business acquisition
- Improve profit recognition and / or profitability measures for new or in-force business:
  - Some accounting bases (e.g. solvency valuation) can give distorted view of profitability
  - Often charge for FinRe < insurers IRR target so FinRe can improve IRR metric
- Improve quality of capital:
  - Lock-in a proportion of an intangible ViF asset reducing volatility
  - May send right signals to the market about focus on balance sheet quality
  - Does not weigh on debt leverage
- **Or, more generally, plan with greater certainty and / or lower risk via availability of financing at acceptable price!**

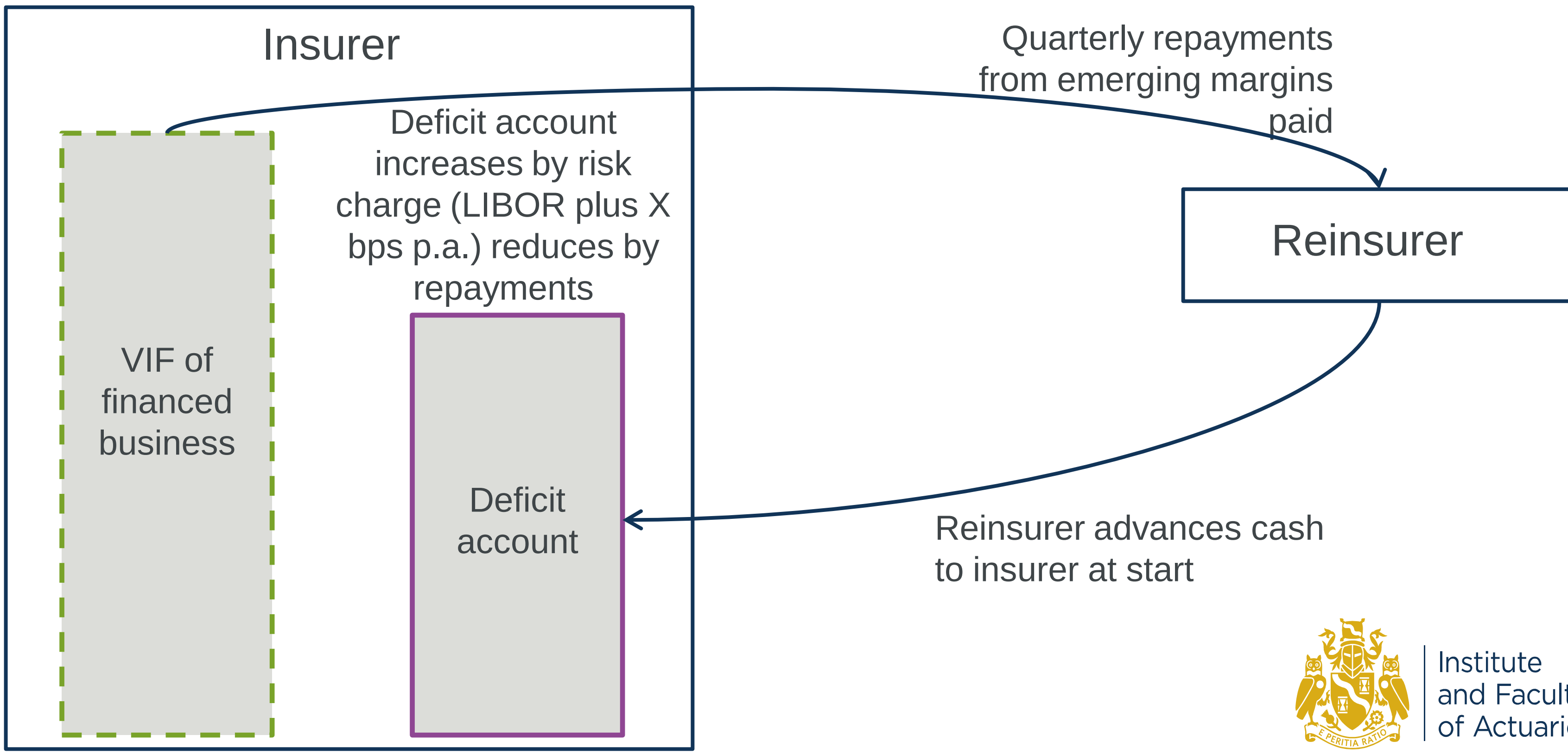
(3) Common types of FinRe

- There are a number of common types of FinRe arrangements:
  - Deficit account
  - Virtual capital
  - Original terms (“OT”) reinsurance (or coinsurance)
- Terminology and prevalence of different types varies between territories
- Deficit account and virtual capital arrangements are often thought of as being pure contingent “financing” arrangements
- OT reinsurance is commonly thought of as being traditional risk reinsurance, but it often also provides financial assistance to the insurer (a hallmark of FinRe)
- All types can be applied to new business or in-force business
- Traditional reinsurance structures (e.g. “stepped” net level risk premiums) can also be thought of as being FinRe in that they provide financial assistance as well as transfer insurance risk

Institute and Faculty of Actuaries

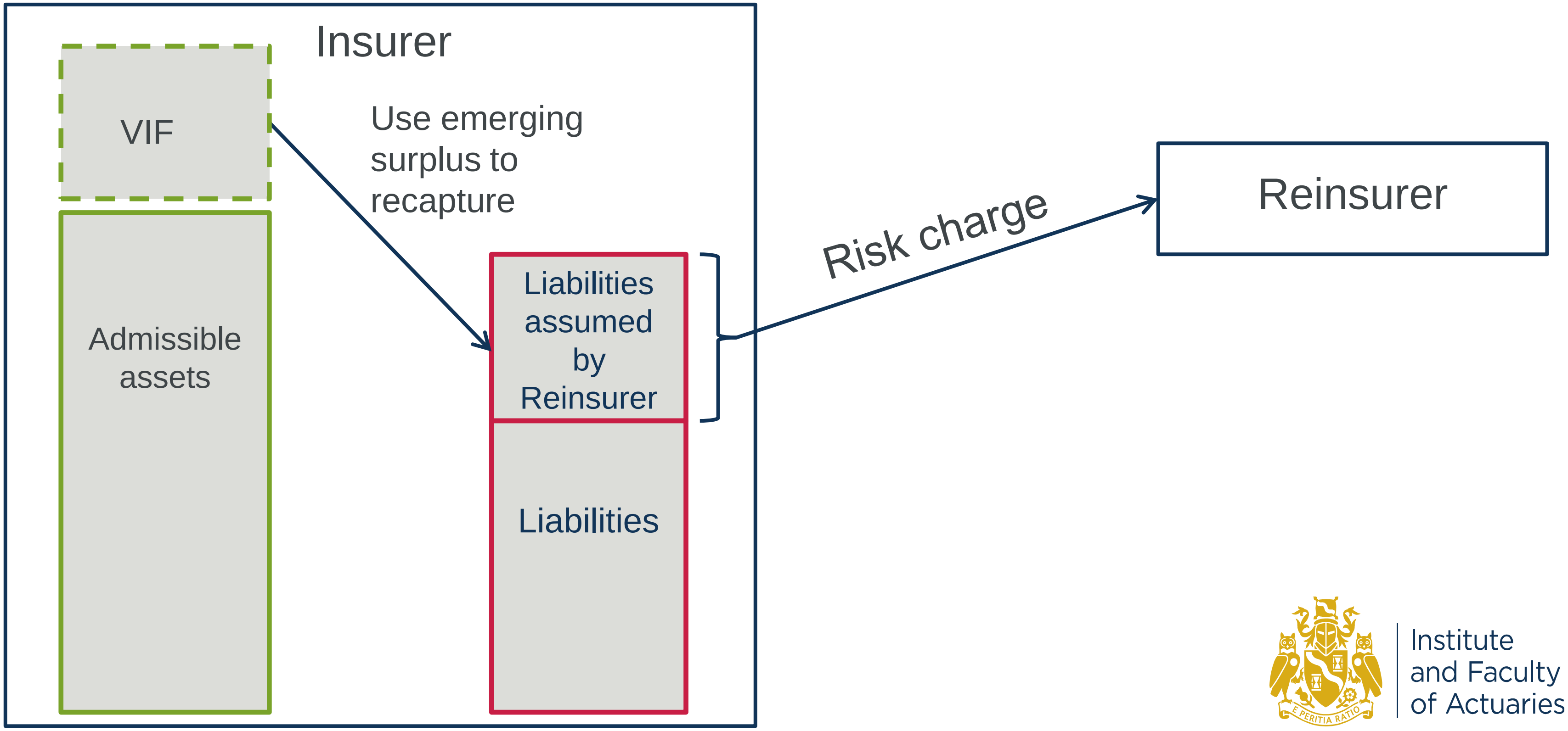
(3) Common types of FinRe – Deficit Account

- CASH (FINANCING) ARRANGEMENTS
  - Operating on the asset side of the insurer's balance sheet by the provision of cash
  - No expected impact on liability side (as repayments are contingent) or required capital



(3) Common types of FinRe – Virtual Capital

- NON-CASH (FINANCING) ARRANGEMENTS
  - Operating on the liability side of the insurer's balance sheet by reinsurer assuming certain liabilities and hence creating additional free assets
  - No significant expected impact on required capital



(3) Common types of FinRe – OT Reinsurance

- MIXED ARRANGEMENTS (i.e. SOLVENCY RELIEF PLUS FINANCING)
  - Operates on both liability side and the asset side (if upfront commission provided) of the insurer's balance sheet
  - Usually proportionate reducing impact on required capital

Payments to Reinsurer

- Policyholder premiums
- Reserve transfer (if any)
- Interest on reserve deposit
- Clawback of initial commission (if any)

Insurer

Reinsurer

Payments to Insurer

- Policyholder claims
- Deposit-back of reserve (if required)
- Initial and renewal commission

Institute and Faculty of Actuaries

(4) Characteristics of FinRe for insurers and reinsurers

Insurer “Outcome” Profile

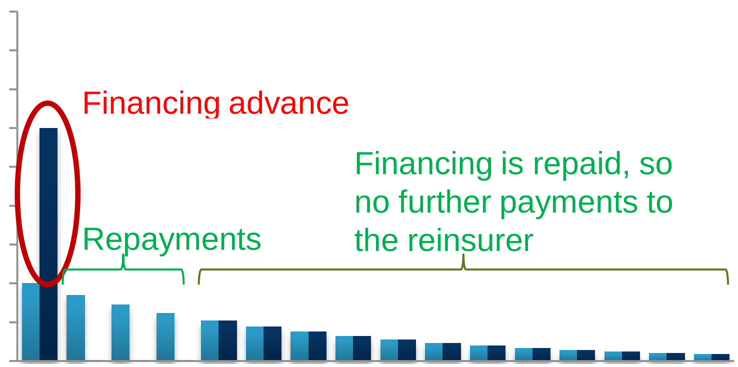
Insurer cashflows without FinRe

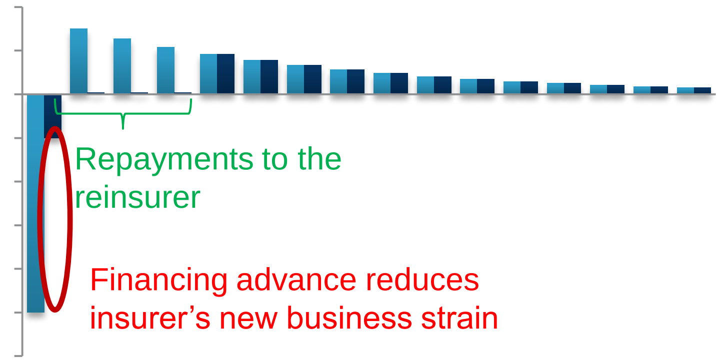
Insurer cashflows with FinRe

Existing business

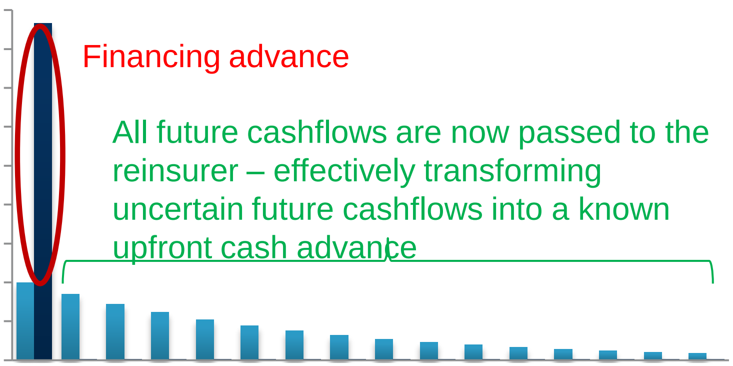
New business

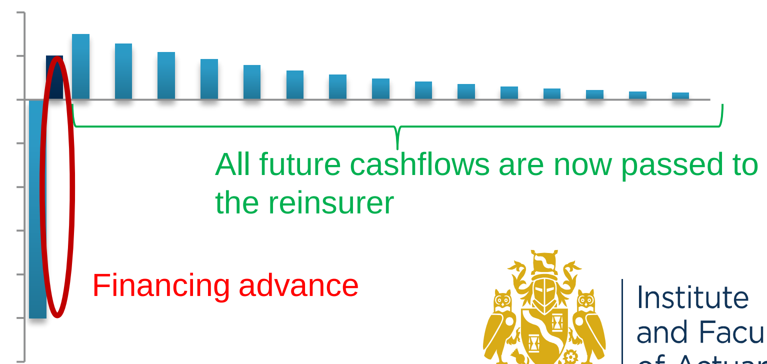
- **Deficit account**





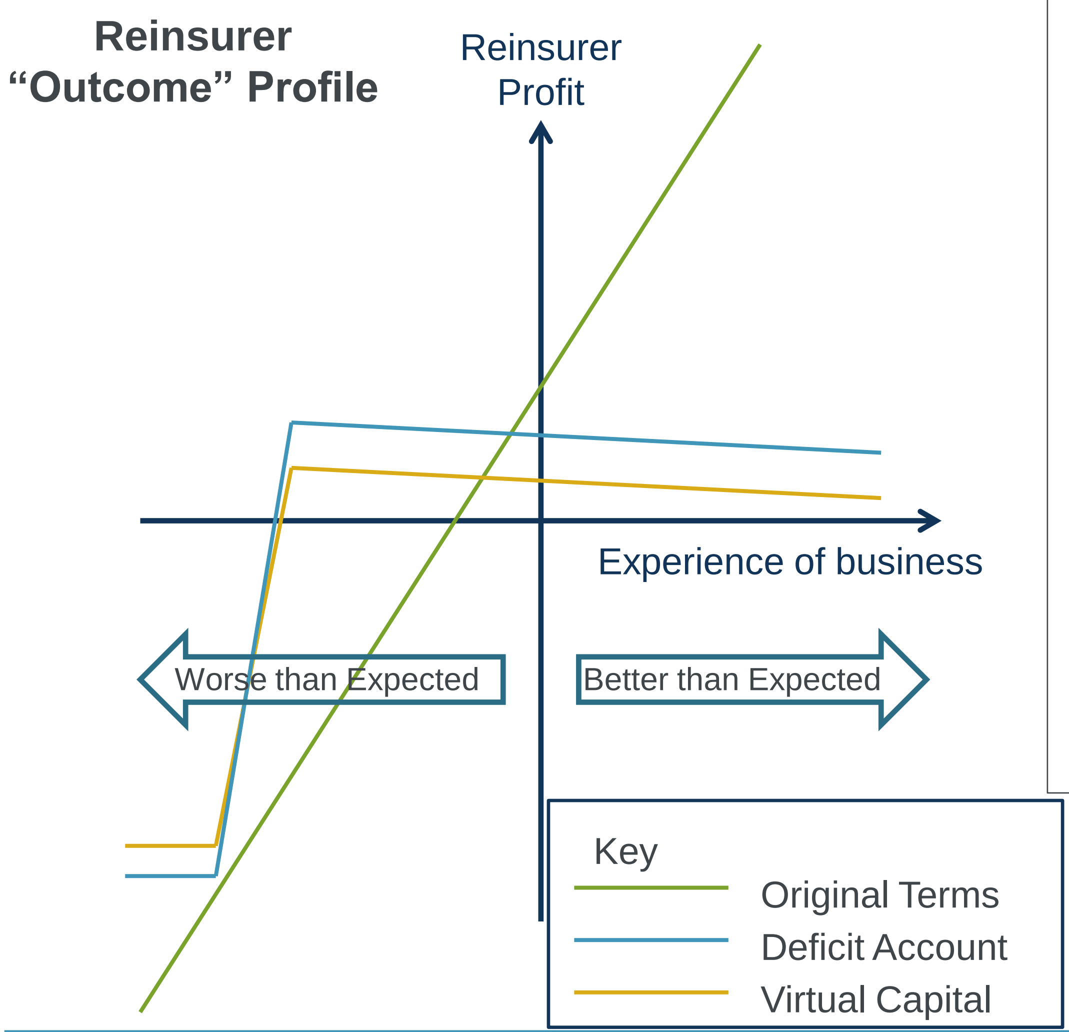
- **OT structure**





Institute and Faculty of Actuaries

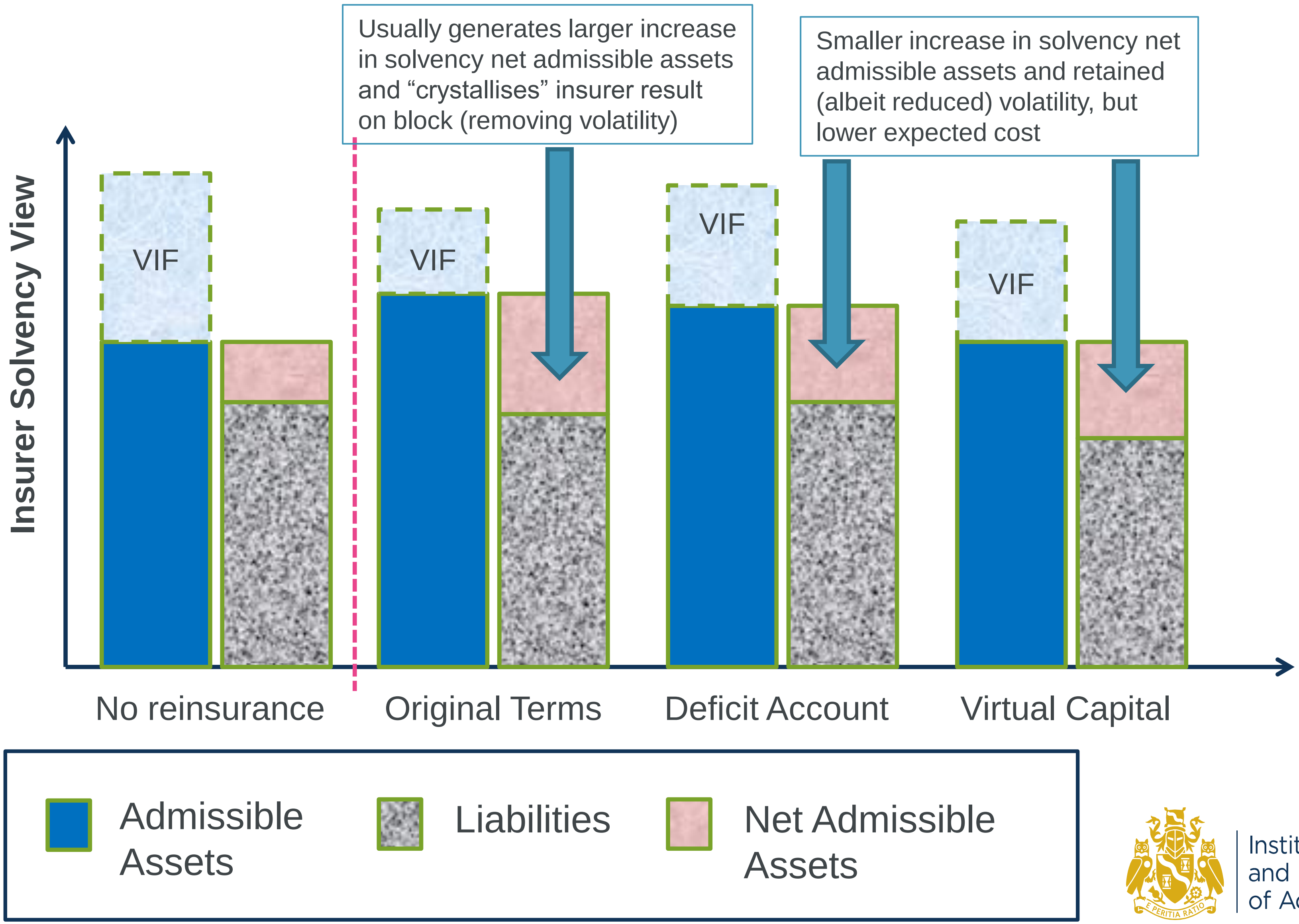
(4) Characteristics of FinRe for insurers and reinsurers



- OT reinsurance with initial commission akin to equity financing in that reinsurer gets "closer" to actual outcomes of the business (benefiting from upside as well as being subject to full downside)
- Deficit account akin to debt financing in that reinsurer's best outcome is to get repaid and earn charge, and downside limited to loss of financing
- Virtual capital similar (in non-cash sense) in that reinsurer's best outcome is earning charge and maximum downside is fixed monetary amount

Institute and Faculty of Actuaries

(4) Characteristics of FinRe for insurers and reinsurers



Institute and Faculty of Actuaries

(4) Characteristics of FinRe for insurers and reinsurers

- A variety of different FinRe structures possible, each with their own characteristics and hence impact on insurers' and reinsurers' financial and risk metrics
- Not proposing to compare and contrast reinsurance and non-reinsurance capital solutions in detail here, but some plus points we often hear for reinsurance:
  - Can be more readily tailored to insurer circumstances and need (e.g. provide new business financing for amounts needed when they are needed thereby eliminating "advance cost")
  - Avoids the need to set up and get additional vehicles authorised
  - Deal with a single counterparty, reducing deal complexity
  - Minimises external costs (e.g. lawyers, actuarial consultants, possible rating agency)
- But to keep a balance, other solutions might be appropriate when much larger amounts are sought by the insurer, or certain risks have a lower cost provider
- Take-away is that most appropriate solution depends on many factors (not least accounting and tax considerations) so worth expending effort on optimal structuring

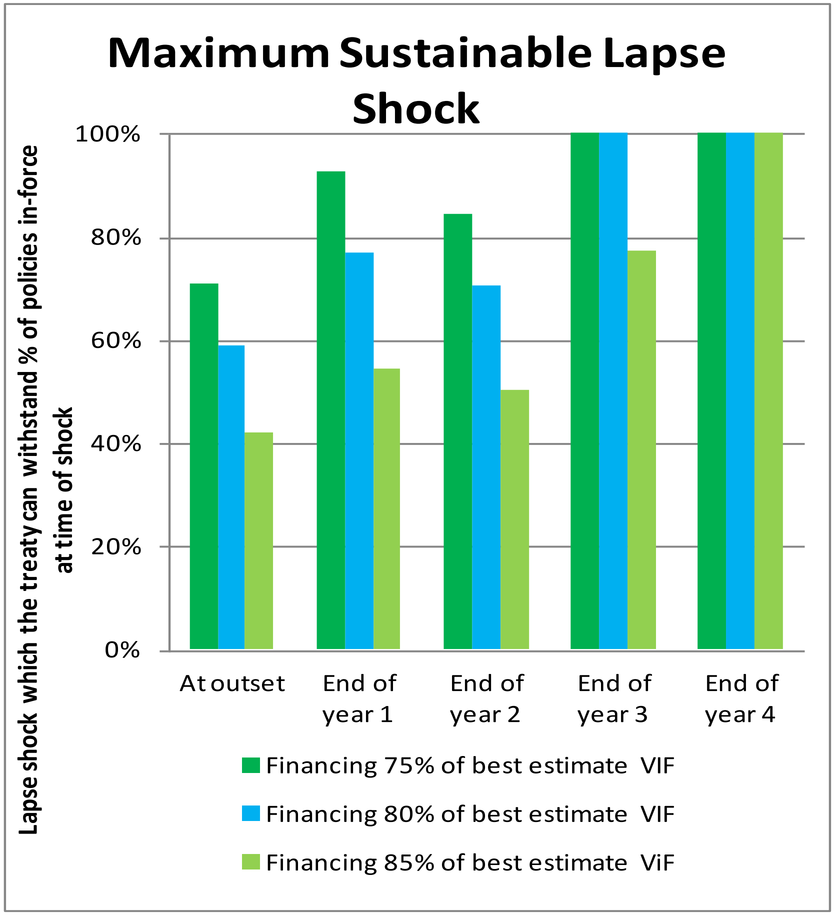
Institute and Faculty of Actuaries

(5) Analysis of typical risks in FinRe transactions – Persistency risk

- Policyholder behaviour can influence the amortisation of the deal
- Policyholder behaviour risk is typically the frequency with which policyholders surrender, lapse or make their policy paid-up
- Some deals have protection against adverse persistency as a result of the product design:
  - Initial commission claw-back from intermediaries, and/or;
  - Surrender penalties
- Where persistency risk is ceded to the reinsurer deterministic stresses (instantaneous and prolonged persistency shocks and combinations) are utilised to understand the impact on the repayment profile
- Qualitative consideration is made of internal (e.g. process changes with insurer) and external factors (e.g. regulatory changes) that may impact the future persistency experience
- Also, the reinsurer will look for the insurer to retain an economic interest in the financed business to motivate it to manage policyholder behaviour to maximise the profitability of that business

Institute and Faculty of Actuaries

(5) Analysis of typical risks in FinRe transactions – Reinsurer's appetite for persistency risk



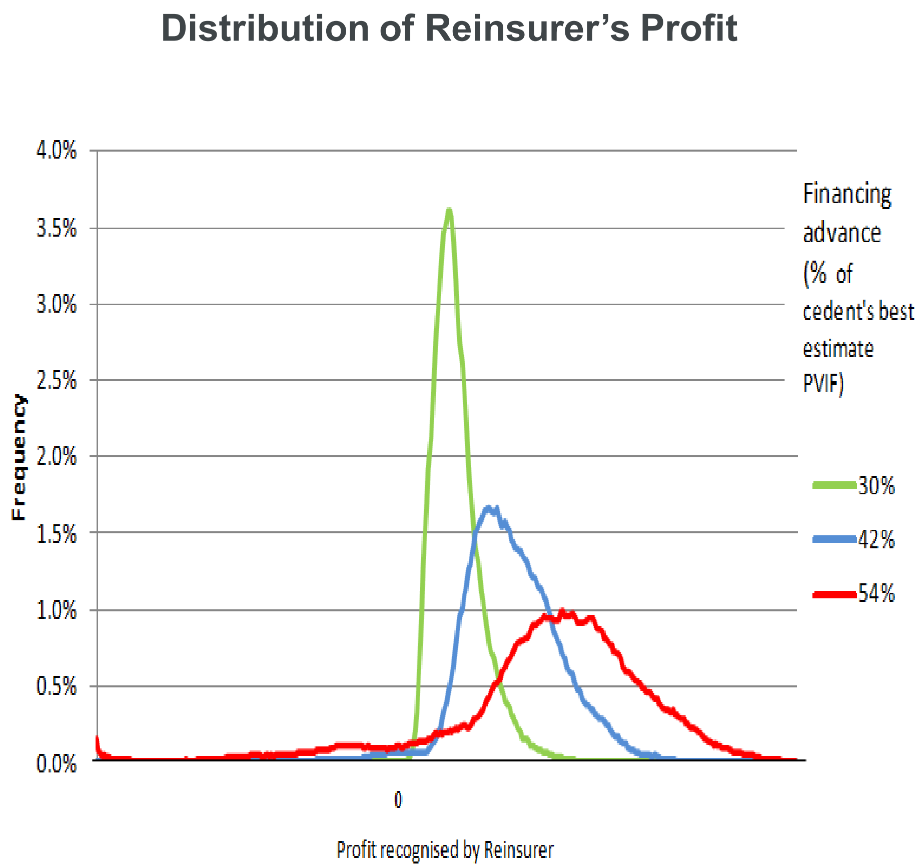
- The reinsurer will set the financing advance to ensure the lapse risk is within appetite
- Example of a lapse risk profile of a block of protection business with some lapse protection resulting from initial commission clawback
- For this example, a financing advance of 75% to 85% of best estimate VIF was contemplated with a financing advance of 80% of the VIF deemed to achieve the optimal balance of risk and reward
- With this financing advance, the arrangement can withstand circa 60% of the business lapsing at treaty commencement and the financing would still be repaid
- This is just one example of the analysis of lapse risk which the reinsurer will conduct

Institute and Faculty of Actuaries

(5) Analysis of typical risks in FinRe transactions – Market risk

- Financing repayment may be influenced by market performance and so contains some degree of market risk
- For example market risk can arise when:
  - financing unit-linked savings business where a component of the repayments arises from policyholder charges expressed as a percentage of funds under management
  - financing protection business when the repayments include an allowance for interest earned on the mathematical reserves held by insurer in respect of the business
- The reinsurer will utilise stochastic projections to examine the robustness of the deal to market risk
- The reinsurer will set the financing advance to ensure that the arrangement is repaid in the vast majority of scenarios

(5) Analysis of typical risks in FinRe transactions – Reinsurer's appetite for market risk



- The financing advance (as % of VIF) plays a vital role in the level of market risk
- This figure illustrates the distribution of reinsurer's profit recognised for a cash financing treaty for a block of unit-linked saving policies which contain market risk over 2,000 market performance scenarios
- The distribution of the reinsurer's profit expands as the amount of financing increases
- Critically, the left most tail representing losses to the reinsurer gets fatter and wider indicating losses are more frequent and more severe when advancing more financing.

Institute and Faculty of Actuaries

(5) Analysis of typical risks in FinRe transactions – Credit risk

- For cash financing deals particularly, the reinsurer will acquire credit risk exposure to insurer – this is often the dominant risk for reinsurer's in typical (UK at least) cash financing deals
- The reinsurer will carry out a full credit risk assessment of the insurer (and the group of which it is a part) to form a view on the extent of the credit risk
- Local insolvency rules applicable to the insurer are a key element of the assessment
- A quantitative assessment will reflect, where available:
  - The insurer's credit rating
  - Any quoted CDS spread or bond yields of the insurer or its parent
- Deals can be structured optimally to reduce credit risk or include elements to mitigate the risk:
  - Offsetting clauses in respect of other business in-force between insurer and reinsurer where exposure is typically in the opposite direction
  - Collateral arrangements
  - Trust structure to enshrine reinsurer's right to receive repayments
  - Parental guarantees (not so common)

Institute and Faculty of Actuaries

(5) Analysis of typical risks in FinRe transactions – Other risks

Biometric risk

- Treaties can be designed to both transfer biometric risk and to provide financial assistance (e.g. deficit account financing can include material risk claims if present in portfolio financed)
- However, insurers may wish to separate risk reinsurance and financing arrangements to maximise its flexibility in how it manages its business
- Any biometric risk in a FinRe treaty will be assessed utilising the reinsurer's standard approach

Regulatory changes

- If regulatory uncertainty is an issue for the insurer then the financing arrangement can include a recapture option (which usually comes with a defined charge)

Operational risks

- FinRe arrangements are designed to be relatively simple to administer to minimise operational risk
- Often the repayments will be defined to mirror the insurer's existing reporting process (e.g. surplus from regulatory return with permissible adjustments)

Reputational Risk

- Reinsurer will need to be satisfied with purpose of transaction and insurer's motivation, particularly that all aspects of relevant regulatory and accounting rules are adhered to

Institute and Faculty of Actuaries

(6) Regulatory perspective

- Not practical to cover individual regulator attitudes in detail here (and we might not be best placed to give definitive view as our clients generally have the direct access)
- Regulator views on financing and solvency relief vary by territory, but in general terms:
  - Financing allowed in most markets
  - Solvency relief allowed in all markets
- Most territories require some form of approval from regulator before insurer can count such transactions as contributing to capital resources for solvency purposes:
  - Certainly pays to build any prescribed time for regulator approval into deal timeline!
- Concern regarding transactions that result in capital outflow from regulated insurers
- Regulators do change their attitude to particular FinRe transactions over time:
  - For example, in the UK, with changes to INSPRU in 2010 that effectively prohibited insurers from taking credit for non-cash FinRe transactions for solvency purposes

Institute and Faculty of Actuaries

(7) Typical deal progression

- Assume insurer has appetite / need to complete a FinRe deal and runs tender process to establish best market solution / terms available:
  - Enquiry to reinsurers around their appetite to participate
  - Issues tender pack to participants following NDA
  - Tender pack typically contains various financial / experience reports and cashflow projections from own model (best estimate and various sensitivities for key risk factors)
  - Reinsurers analyse information provided taking into account their own financial assessment criteria to respond to tender
  - Response usually indicative at this stage (if response time period is limited)
  - Insurer selects participants to complete due diligence and offer binding terms, including usually a mark-up of term sheet containing all relevant commercial terms
  - Important for reinsurer to be able to get authorisation quickly within stipulated time scales
  - Insurer selects tender winner and works with to turn term sheet into reinsurance treaty
  - Transaction completes via treaty signing and payment of any initial advance
- Timescale to complete depends critically on deal size and complexity but might be expected to be in range of 6-12 weeks typically.

Institute and Faculty of Actuaries

(8) Key commercial aspects of reinsurance treaty

- Reinsurance treaty is contract between insurer and reinsurer that documents all relevant criteria by which FinRe transaction is operated (initially and on-going)
- Nuances between transactions, but articles which usually provoke most debate:
  - Representations and warranties
    - Not enter into competing arrangements
    - Behave as if not financed
  - Data protection (but not so hotly debated as for traditional reinsurance arrangements)
  - Treaty termination and recapture
    - Limited conditions under which reinsurer can terminate and recapture
    - Scale of charges on voluntary termination and recapture
  - Portfolio transfer restrictions (e.g. explicit reinsurer permissions required)

Institute and Faculty of Actuaries

(9) Overview of current / recent market activity

Source: Munich Re

- Capitalisation of banks that own insurance companies:
  - Spain and Portugal
  - Italy
- Relief on Solvency I:
  - "Solvency QS" : France, Germany, Belgium, Netherlands
  - "Cash Financing" : UK
- Solutions for reserve increases due to interest rate guarantees:
  - Germany
- Little or no FinRe activity in Scandinavia

Institute and Faculty of Actuaries

(9) Overview of current / recent market activity

- Insurer view
  - Alternative to sale of underlying blocks of business, so retain customer base and transactions generally more within own control and hence timescales - an OT structure is particular suitable to achieve this
  - Driven by capital pressures (particularly in Spain / Portugal), but transactions in a number of territories as insurers look to generally improve solvency and other metrics
- Reinsurer view
  - Appetite for VIF monetisation if inherent credit risk and market risk can be controlled
  - Strong appetite for solvency relief deals with minimal market and interest risk
  - Less appetite for portfolios of disability insurance
  - Purely financially motivated deals are structured with a view to reduce pandemic risk

Institute and Faculty of Actuaries

(10) Summary

- Broad spectrum of FinRe structures available to meet a wide variety of insurer's needs:
  - Create additional free assets
  - Improve profit recognition
  - Improve quality of capital
- The reinsurer must gain a deep understand of the insurer's unique requirements and the features of the insurer's business to ensure the FinRe arrangement is optimally structured
- This requires both insurer and reinsurer to work closely together
- Working on this basis a FinRe structure can be implemented relatively quickly
- Engaging with regulator at an early stage is key for FinRe structures that are a new component of the insurer's capital resources
- Solvency II is on the horizon, what implications that has for what we have run through in this presentation is a presentation in itself!

Institute and Faculty of Actuaries

Institute and Faculty of Actuaries

Financial Reinsurance

Thank you for listening.

Any questions?