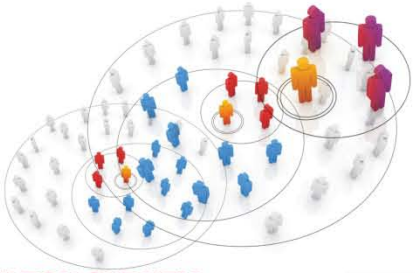
Institute of Actuaries of Australia

BIENNIAL CONVENTION 2011

BEYOND THE MANDATE



10 – 13 APRIL 2011 • HILTON SYDNEY

IFRS Insurance Contracts
Risk Adjustment Education Session

Risk Margins Task Force

Contents - Overview

- Background
- Comparison of ED proposals with current practice
- Alternative risk margin approaches
  - Objectives of risk adjustment
  - Methods outlined in ED
- Next steps
- Appendices

Terminology

- Insurance contracts
- Risk adjustment: an adjustment to a central liability to allow for riskiness of outcome
- Long duration vs long tail

Terminology

- Residual margin: a balancing item to equate initial central estimate plus initial risk adjustment with premium
- Composite margin: a balancing item to equate initial central estimate with premium
- Contract boundary: the point at which future premiums are considered to relate to a future contract rather than the existing contract which is being accounted for

Chronology of developments

- **1997** – IASC embarks on Insurance Contracts project
- **Oct 2008** – Collaboration between IASB and FASB
- **Jul 2010** – IASB issued Exposure Draft
- **Nov 2010** – Submissions lodged by APRA, IAAust and 245 other organisations world wide
- **Jun 2011** – Final position expected from IASB; Board turns over
- **2014-2015** – Expected implementation

	ED Proposed	Life	PHI	GI
Measurement basis	Fulfilment value (conceptually)			
Discount rate	Market consistent, reflecting characteristics of liability			
Cash flows	Limit to acquisition costs able to be deferred			
Risk adjustment	Risk adjustment + residual margin; defined techniques			
Residual margin	Not remeasured; released in line with “carrier”			★
Contract boundaries	Products defined as long term or short term			
Profit volatility	Increased profit volatility for long term business			
Diversification	Limited to diversification within portfolio only			
Disclosure	“Margin” information rather than “volume” information			
Transition	Final standards by June 2011, 3-4 years to implement			★

★ Affects long duration business more than short duration business

Risk Adjustment

	Current	ED Proposed	Comment
Life	None (but see residual margin)	Required using one of three methods (CoC, CTE, CL) Level based on what insurer would rationally pay to be relieved of risk	Significant change
PHI	Similar to GI		General approach OK, but will be more complex than current
GI	Required but method and level unspecified Common confidence levels: 75% to 95% (GPS310 requires 75%)		Diversification under discussion Otherwise current methods OK, but levels may be more consistent Included in liability adequacy test

Residual Margin

	Current	ED Proposed	Comment
Life	MoS releases profit margin in line with profit carrier Re-measured each valuation	Run-off over time (or in line with incurred claims) Not re-measured	Significant change Re-measurement under discussion
PHI	Implied in UEP	As for Life (but note contract boundary)	Conceptual change
GI	None for claims Implied in UEP	None for claims Implied in UEP for short-duration (implicit re-measurement) For long-duration, as for Life/PHI	Explicit residual margin only applies to a few business classes

Profit Volatility

	Current	ED Proposed	Comment
Life	Low volatility Experience assumption changes spread over future profits using carrier	Higher volatility if residual margin not re-measured Experience assumption changes capitalised	Significant increase in volatility
PHI	Some seasonality Generally well understood	Higher volatility if residual margin not re-measured (long-duration contracts only)	Significant implications
GI	Mostly inherent	Higher volatility if residual margin not re-measured (long-duration contracts only) Ability to manage margins reduced	

Transition

	ED Proposed	Comment
Life	Final standards by June 2011, 3-4 years implementation period Co-ordination with other standards under discussion Risk margin but no residual margin for in force business Current margins go to retained earnings Possible timing clash with other projects	Life insurers unable to report expected profits from current business as they emerge in future years Strong lobbying for partial retrospective application, with existing margins as a proxy in some cases, and option for full retrospective
PHI		Private health insurers unable to report expected profits from current business as they emerge in future years
GI		Disruption over in a year or so for short-duration Lobbying for full retrospective application to short-duration Bigger issues for insurers with long-duration business

Summary of world reaction to the ED

Issue	General response	Likelihood of IASB re-visiting ED proposals
Overall	Widespread support for the need for an insurance contract IFRS and for many basic features such as fulfilment value and building block approach	Very unlikely that the IASB will re-visit basic elements of the proposal – fulfilment value approach and building blocks will not change
Risk adjustment	Majority support for risk adjustment and residual margin approach, but significant minority support composite margin approach (mainly North Americans) However, many disagree with details in principles and proposed approaches to determining the risk adjustment	Appears unlikely that IASB will propose composite margin approach (FASB supports this)

Summary of world reaction to the ED

Issue	General response	Likelihood of IASB re-visiting ED proposals
Residual margin	Majority disagree with 'lock in' of residual margin.	IASB staff have recently proposed an approach for 'unlocking' the residual margin which is not dissimilar to current Australian approach for life insurance (MoS) Likelihood of Board allowing unlocking, however, is less clear
Volatility	Significant concern in US and Europe	IASB will likely address this to the extent that volatility is caused by 'accounting mis-matches' (see discount rate below) Volatility caused by 'economic mis-matches' will remain

Summary of world reaction to the ED

Issue	General response	Likelihood of IASB re-visiting ED proposals
Contract boundary	Significant concerns from a number of countries and sub-industries affected by this	ED proposals likely to change
Discount rate	Significant concern in US and Europe	IASB will likely make some changes to allow a broader range of approaches (‘top down’ as well as ‘bottom up’) to determining the discount rate but is unlikely to allow ‘locking in’ of the discount rate
Transition	Significant concerns across the board	ED proposals likely to change

Objectives and characteristics

- Risk adjustment reflects the uncertainty in cashflows arising from insurance contracts, and reflects (per ED) “the maximum amount that the insurer would rationally pay to be relieved of the risk that fulfilment cashflows exceed those expected”
- It does not reflect risks outside of the insurance contract such as investment risk, asset-liability mismatch or operational risk

Objectives and characteristics

- It is to be reported in an explicit manner; separate from future cashflows and the discount rate
  - This does not preclude the use of replicating portfolios in valuing an insurance contract, but the risk adjustment must not include any risk that is captured in the fair value of the replicating portfolio
- Risk adjustments should reflect: high severity events and the shape of distributions; contract duration; uncertainty in estimates; and the extent to which emerging experience reduces uncertainty

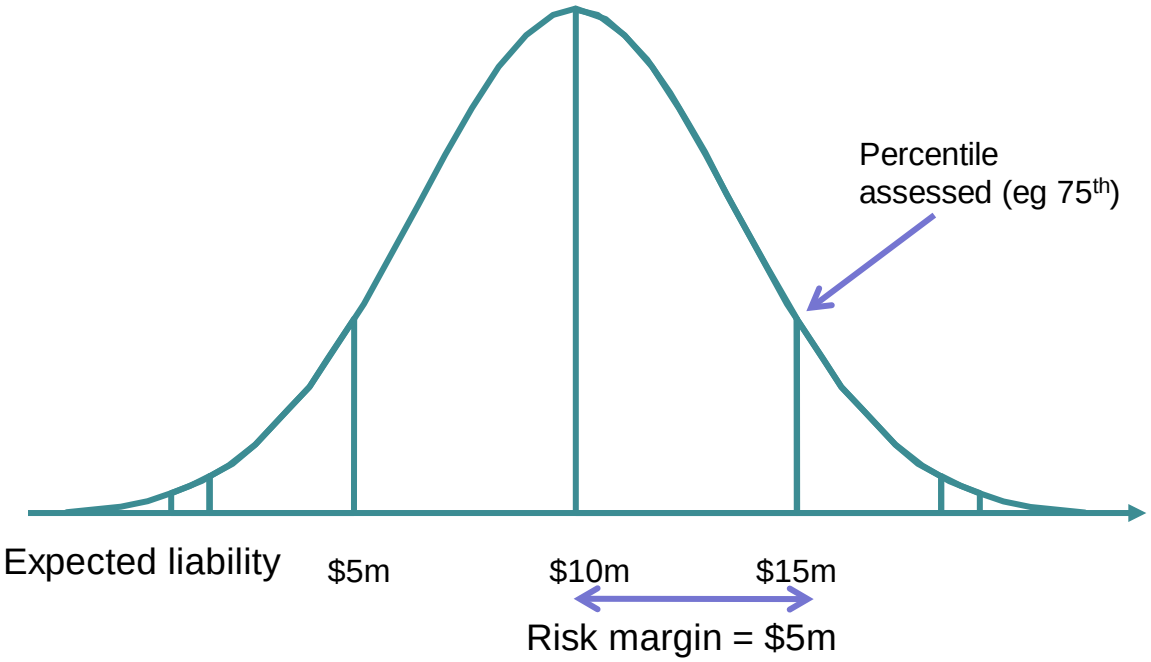
Objectives and characteristics

- A residual margin will also be calculated at inception if the insurance liability including risk adjustments is less than 0, and is calibrated to eliminate any gains at inception

Methodologies for calculating risk adjustment

- Per the ED, insurers may **only** use the following techniques for calculating risk adjustments:
  - Confidence level (CL)
  - Conditional tail expectation (CTE)
  - Cost of capital (CoC)
- Other methods were considered and dismissed

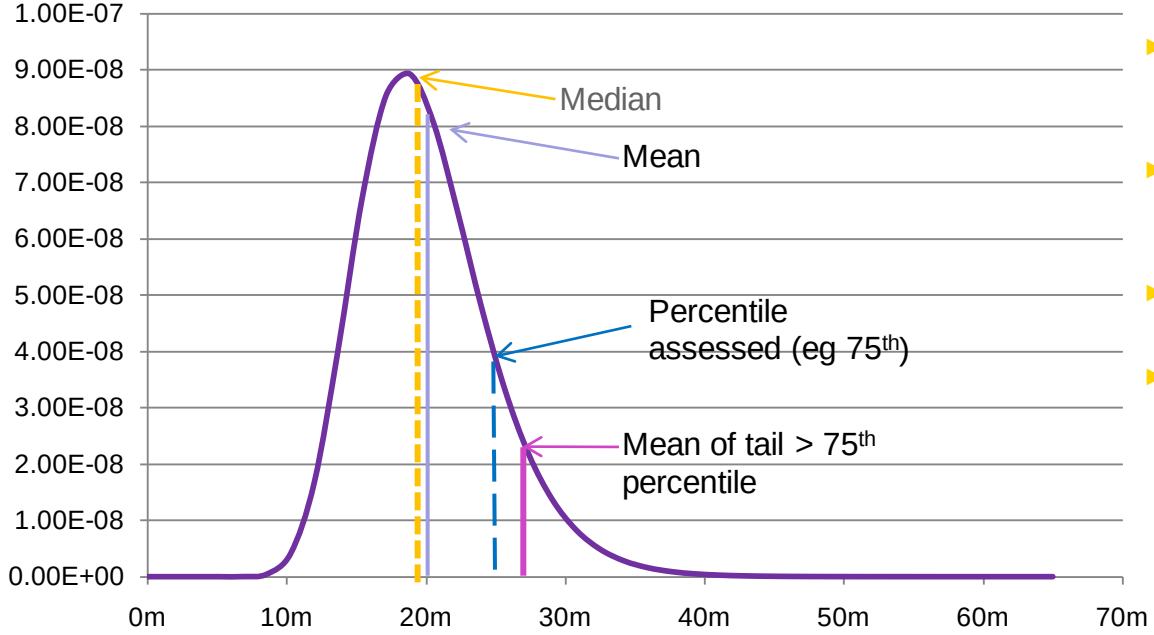
Confidence level approach



Confidence level approach

	Advantages	Disadvantages
Confidence Level	•Transparency •Ease of communication •Relative ease of calculation •Comparable to others using the same approach provided it is accompanied with sufficient disclosure (i.e. distribution and percentile used)	•Only simple for Normal claims distribution •Skewed distributions complicate the calculation •Ignores outliers & extreme losses in the tail •No objective basis for setting the level •A single basis may not be appropriate across all lines of business

Conditional tail expectation approach



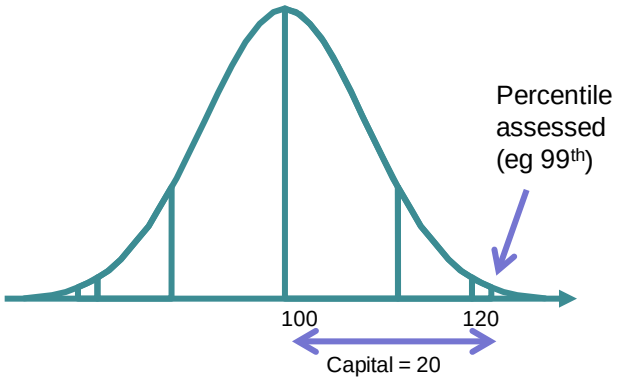
- In this example, median = $19.4m, mean = $20m, 75th percentile = $22.8m
- CTE is the mean of losses above the chosen percentile. In this case CTE(75) = $26.4m
- So risk margin on CTE(75) basis = $6.4m ($2.8m using CL approach).
- The CTE(75) amount [solid pink line] is closer to the 75th percentile [dashed blue line] for more symmetric distributions and further away for more highly skewed distributions

Conditional tail expectation approach

	Advantages	Disadvantages
Conditional Tail Expectation	•Captures the tail risk not captured under CL approach •Reflects the fact that the tail of an insurance contract is the riskiest part of the distribution	•Requires support for the shape of the distribution and percentile to apply •More complex calculation than CL approach •Conceptually more difficult to communicate than CL •No objective basis for setting the level •A single basis may not be appropriate across all lines of business •Only comparable to others using CTE with same distribution and percentile

Cost of capital approach

Step 1



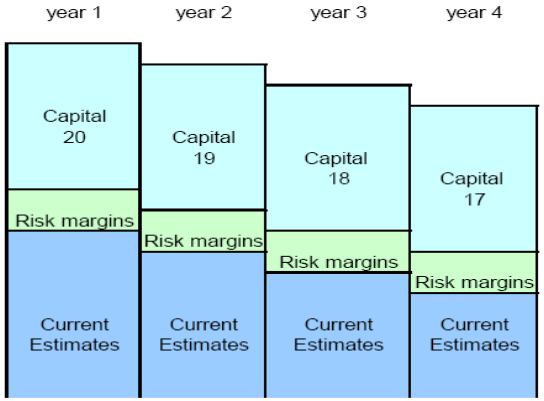
Calculate capital based on estimated distribution and confidence level

Step 2

Calculate cost of capital for each year based on the capital factor and capital amounts.

e.g. Year 1 CoC = 6% x 20 = 1.2

Step 3



Discounted value of cost of capital amounts = risk adjustment

Cost of capital approach

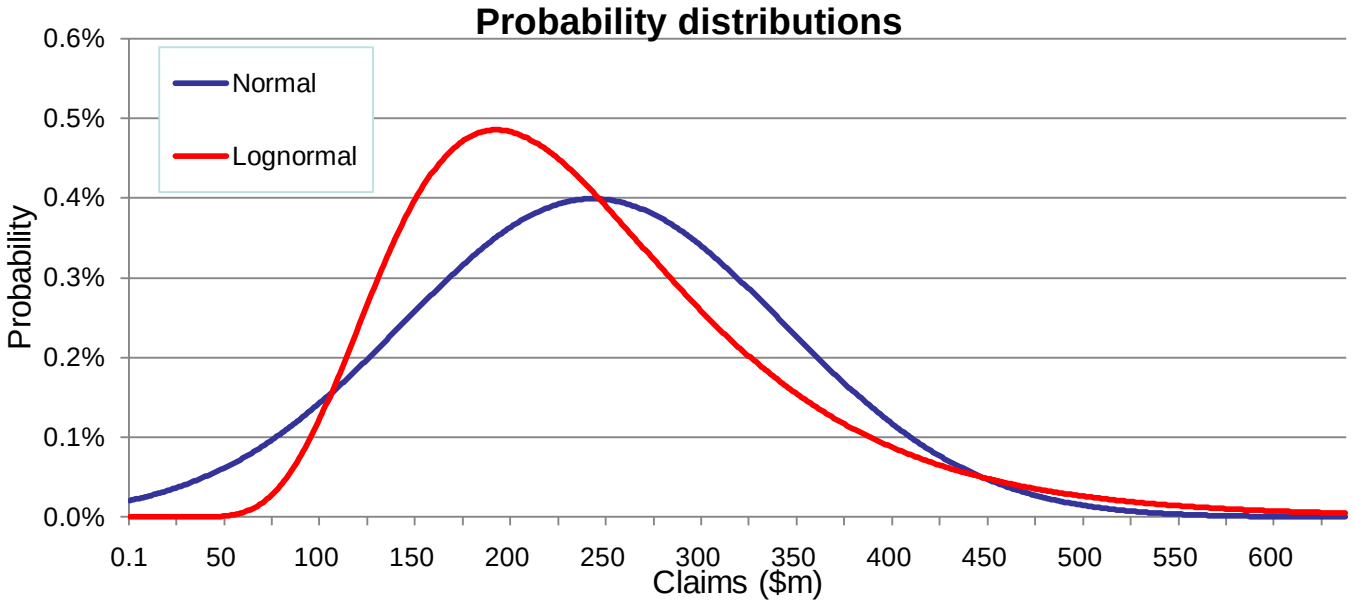
	Advantages	Disadvantages
Cost of Capital	•Reflects almost the entire distribution as the confidence level is set at a high degree of sufficiency and hence takes into account low-frequency high-severity losses •Takes into account release of capital over life of contract – so reflects how the risk associated with the contract changes over time •Relates to a tangible business metric linked (in theory) to the way the portfolio is run •Possible to apply consistent confidence level and capital rate to a variety of portfolios •Can objectively set levels	•Requires a loss distribution and percentile to determine projected capital amounts and also a parameter for the cost of capital – i.e. needs one additional parameter compared with other approaches •Most complex calculation of the three •Likely to be difficult to compare to others using CL / CTE approaches •May also be difficult to compare to others using CoC approach (but will depend on disclosures)

Selection of technique to adopt

- The selection of the most appropriate technique depends on the nature of an insurance contract and judgement must be applied in making the selection considering that it must:
  - be reasonably implementable and auditable
  - allow performance to be benchmarked against other insurers

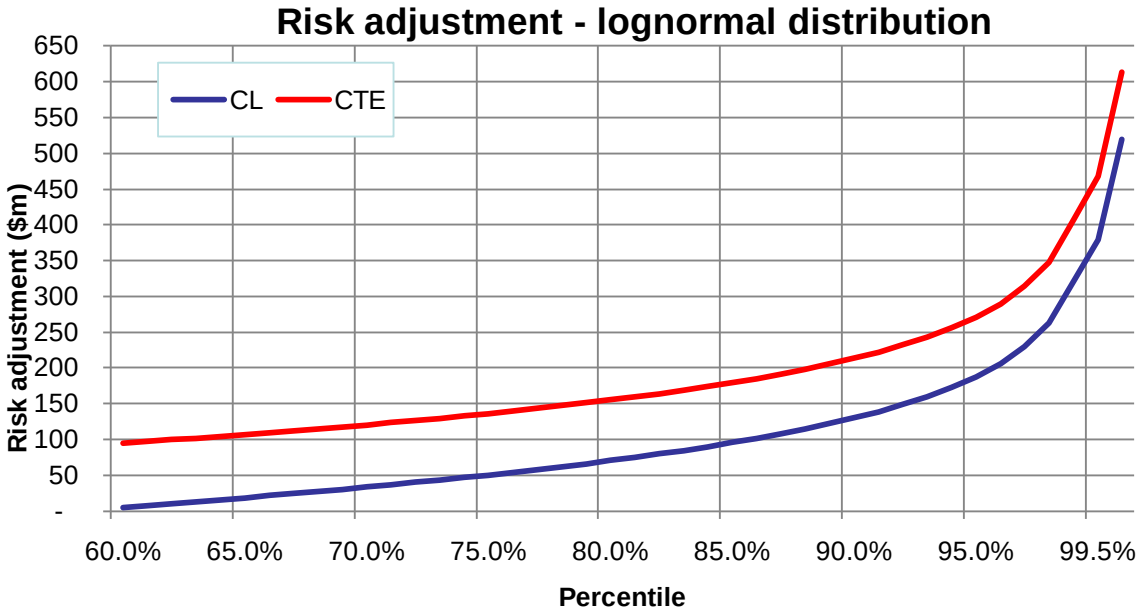
Examples – impact of technique

- Consider lump sum claims with a mean of $243m and SD of $100m



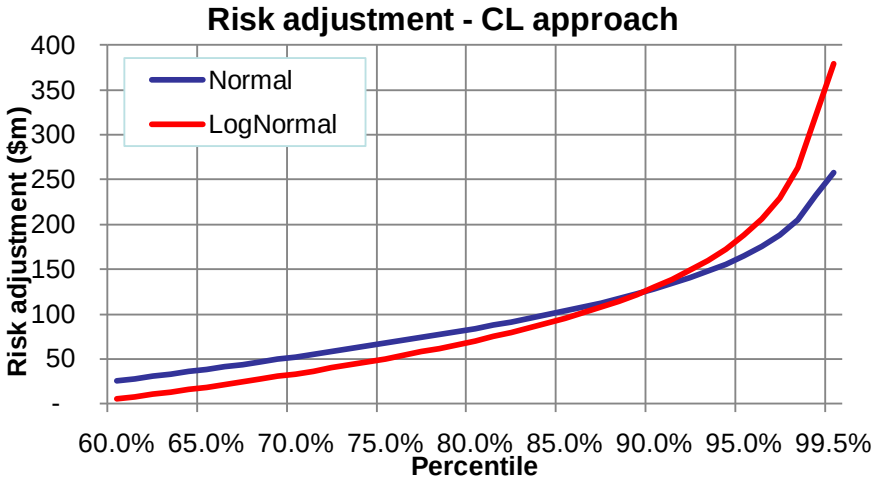
Examples – impact of technique

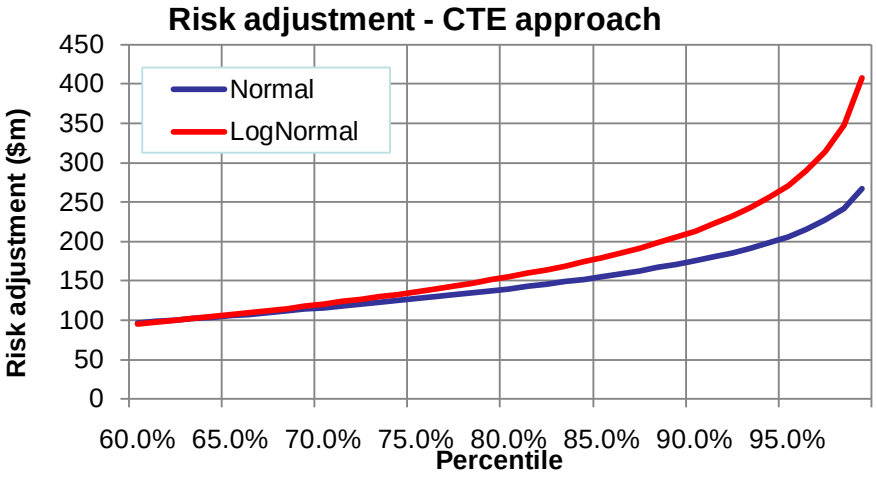
- Risk adjustment will differ depending on the technique chosen and the distribution...



Examples – impact of technique

- Risk adjustment will differ depending on the technique chosen and the distribution...





Residual margin

- A residual margin eliminates any gain at inception of an insurance contract, and arises when the insurance liability calculated at inception (including risk margin) is less than zero
- It is calculated at inception as the difference between expected premiums, and expected claims and (included) expenses plus risk adjustments
  - Could be very large if significant acquisition and overhead expenses are not included

Residual margin

- The residual margin will capture a number of elements including:
  - Recovery of acquisition costs not allowed for in the liability (i.e. non incremental acquisition costs)
  - Renewal expense allowances not allowed for in the liability (e.g. overhead expenses allowed for in pricing)
  - The value of any risks reflected in pricing that are not fully captured in the risk adjustment (e.g. acquisition, strategic risks)
  - Product profit margins (above risk margin) allowed for in pricing
  - Potentially policyholder related tax on investment income

Residual margin

- Per the ED, this residual margin will be released over the coverage period in a way that reflects the passage of time, or the payment of benefits and claims if they are incurred in a pattern significantly different from that of the passage of time
  - This runoff pattern is locked in at inception, except that it is reduced if fewer policies than expected continue; it is not adjusted if more than expected continue
  - Interest is accreted

Residual margin

- Potentially a MAJOR ISSUE for long term business
  - significance of issue depends on other decisions such as extent of deferrable expenses and contract boundaries
- Can lead to large profit volatility
  - not remeasured so impact of assumption changes on future cash flows capitalised and fully reflected in current period profit
- Requires business to be tracked by cohort within each product group for accounting purposes, adding complexity

Next steps

- IASB still committed to 30 June 2011 delivery date
  - may only provide final decisions, with draft standard to follow
  - exact standard wording may be subject to review
- Implementation expected to be some years away
- Please provide particular concerns or issues to RMTF (if related to risk margins) or IASC (for other issues)
- RMTF will produce an information note
- Print out this pack for additional info in the Appendices

Appendices

- Overview of ED
- Current practice:
  - summary of current approaches to risk margins adopted by Australian insurers noting standard practice, any options/discretions available, how margins are set at issue and how they play out over life of a contract
  - comments on other markets

Questions

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Appendices

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  - comments on other markets

Insurance contracts

- Background
  - The initial implementation of IFRS did not include a standard covering insurance contracts. IFRS 4 permitted continuation of existing local GAAP recognition and measurement policies which will be replaced by the new standard.
  - The IASB issued an exposure draft in July 2010. The draft was open for comment to IASB until 30 November 2010 (AASB one month prior).
  - Mandatory adoption not expected to be before January 2013
  - There are still significant differences in opinions between IASB and FASB as well as between individual members of the Boards.

Insurance contracts

- This paper's focus is on significant changes being considered which will materially affect insurance results. These include:
  - change in assumptions to immediately flow through the P&L rather than future margins, significantly increasing volatility of disclosed profits for life insurance businesses
  - limits on acquisition costs to be deferred, with other acquisition costs expensed as incurred
  - transitional arrangements will capitalise all future profits expected on the current portfolio of contracts
  - General overheads and potentially policyholder tax on investment income outside measurement fall into residual margin

Insurance contracts

- Key Concepts
  - Short-term contracts (<12mths) are valued using OSC and UPR
  - Long-term contracts are valued based on a discounted cash-flow projection with a risk adjustment
    - If there is an expected loss, it is capitalised immediately
    - If there are expected profits, these are defined as the “Residual Margin”, and are released over the expected term of the contract
      - The residual margin is fixed at the outset of a policy and does not change (implied but not explicitly addressed in ED, and stated in Basis for Conclusions)
      - Variances in actual experience vs expected emerge but changes in experience assumptions are capitalised in the year they occur
      - If there are unexpected withdrawals, the residual margin in respect of these policies is released at the time of withdrawal
    - Risk adjustment is applied to net cash-flows

Insurance contracts

- Risk Adjustment
  - Maximum amount the insurer would rationally pay to be relieved of the risk that the ultimate fulfilment cash flows exceed those expected
  - Reassessed each valuation – change directly to P&L
  - Three allowable methods
    - Confidence level
    - Conditional tail expectation
    - Cost of Capital
  - No indication of HOW these methods would be applied in practice
    - Current practice in Australia typically applies a risk margin to the claims/expense component of future cash-flows, not net cash-flows

Life		Current	ED Proposed	Comment
Level of measurement		Best / central estimate. Risk adjustment not included in current model	Fulfilment value (conceptually)	Introduction of the risk adjustment represents the largest conceptual change for life insurers. No accumulation approach.
Discount rate		Liabilities where benefits are/aren't contractually linked to the backing assets: earning rate on backing assets /risk free rate	Similar to current approach	Not a significant change, although explicit reference to liquidity adjustment in the proposed standard may require life insurers to consider their approach (for those not already considering liquidity of liabilities). In these cases, the rate used will not necessarily be exactly government bond or swap rate.
DAC		All acquisition costs able to be deferred	Limit to acquisition costs able to be deferred	P&L impact as non incremental acquisition costs will now be expensed as they are incurred
Risk adjustment		No allowance for risk margin above best estimate	Risk adjustment + residual margin Techniques for estimating risk adjustment defined (CoC, CTE & CL)	Significant change for life insurers. Methodology and approach will need to be carefully considered. Included in LAT.
Residual margin		Profit margin set at inception and re-measured each period. Released in line with most appropriate carrier for product type	Non re-measurable residual margin proposed. Released in line with most appropriate carrier for product type	Inability to re-measure residual margin will increase profit volatility as non-economic assumption changes impact the P&L in the year they are incurred
Contract boundaries		Products generally considered to be long term	Products defined as long term or short term – with implications for profit measurement and volatility	Potential to impact yearly-renewable style products depending on where the IASB lands on the definition of "short term" contracts.
Profit volatility		Generally less volatile due to regular re-measurement of profit margins.	Increased profit volatility – with potential tax impacts – for long term business	Significant increase in profit volatility as non-economic assumption changes impact the P&L in the year they are incurred
Diversification		Diversification within "Related Product Groups" reflecting portfolios with similar characteristics	Limited to diversification within portfolio only	Not a significant change, but depends in part on the level at which new "portfolios" are set compared to current RPGs
Disclosure		Volume information shown in P&L (premiums, fees, investment income). Margin information included in notes to the accounts	Removal of volume information, inclusion of margins information	The format of accounts will change for life insurers.
Transition			Final standards by June 2011, 3-4 year implementation period. No residual margin for in force business	Recognising future profits in retained earnings results in life insurers not being able to report expected profits on the current portfolio for all future years

Current practice – Australia – Life Insurance

- Background of Margin on Services (MoS)
  - Designed to recognise profits over the life of the contract in line with the provision of services. No profit at inception – future profits included in the policy liability
  - Proxy for 'services' is a defined profit carrier (or carriers)
  - The profit carrier (usually one) is identified as the most suitable driver to deliver the profits over the life of the policy when they actually emerge. (For example, for pure risk business the carrier may be expected claim payments or premium payments)
  - Policy liability is remeasured each year using updated current assumptions
    - Changes to economic assumptions impact the policy liability (and hence profits) in the year they are made (except for par business)
    - Changes to non economic assumptions are absorbed into the PV future profits component of the policy liability and affect future profits, but not current period profits (except in the case of loss recognition – where no future profits are available to absorb changes to assumptions)

Current practice – Australia – Life Insurance

- Background of Margin on Services (MoS) continued
  - Calculations are normally carried out by combining polices into Related Product Groups which are grouping of products where those products are considered by the actuary to exhibit benefit characteristics and pricing structures sufficiently similar to justify grouping for the purposes of profit margin calculations, loss recognition or reporting
  - There is no need to tranche or separately record each year's new business
  - Subsequent calculations such as the recalculation of profit margins or the onerous contract test are done at the related products group level i.e. treating the business as one pool
  - Re-measurement and reporting differences between actual and expected experience in P&L limits ability to manage profit through assumption setting

Current practice – Australia – Life Insurance

- There are two important variations to note:
  1. Accumulation approach – can be adopted if the Appointed Actuary can demonstrate it meets the principles of the Valuation Standard
  2. A more complex process applies for participating and discretionary business, where the methodology needs to allow for policy owner entitlements as well as shareholder entitlements. However the principles are the same as those described above
- Life investment contracts
  - Contracts written through life companies but without 'significant insurance risk' (such as investment linked contracts) are classed as investment contracts and valued under AASB 118 (IAS 18) and AASB 139 (IAS 39). Under IAS 18, upfront fee revenue is commonly deferred and recognised as revenue in line with services, similar to the principles of MoS for insurance contracts
  - It is worth nothing that under IAS 18, if expectations of future revenue change, this is not recognised in the current year, similar to MoS. Hence the 'locked in' approach to residual margins proposed by the ED is not consistent with the current revenue standard

Current practice – Australia – Life Insurance

- How margins play out in practice
  - Normally each year, that year's profit margin emerges smoothly into profit in line with the profit carrier
  - Exception if onerous contract test applies
  - In a year, profits consist of the sum of:
    1. Release of profit margins
    2. Current year experience profits / losses
    3. Investment profits on surplus assets or due to mismatching

Current practice – Australia – Life Insurance

- Points of Difference to Exposure Draft (ED)
  1. The BEL component of the policy liability is likely to be quite similar to the current estimate of future cash flows which is the first part of the ED calculation (except for overhead expenses and policyholder tax on investment income).
  2. MoS adopts a composite style margin (profit margin), whereas the ED proposes a risk margin and a residual margin.
  3. The 'onerous contract test' is different in that the ED test includes the risk margin whereas MoS is based on the BEL only.
  4. Both methods generally have a 'no profit at inception' rule but differ in two ways:
     - Under MoS full acquisition expenses are included in the calculation, whereas the ED utilises incremental acquisition expenses only (at the portfolio level). In the ED, the balance of acquisition costs is expensed when incurred.
     - Under MoS anything above the BEL is "profit", whereas the ED includes a risk margin.

Current practice – Australia – Life Insurance

- Points of Difference to Exposure Draft (continued)

5. There is no provision for an accumulation approach under the ED for long term contracts. Short term contracts (with a coverage period less than one year) will be valued for pre claims liability based on a method that is similar to the accumulation approaches currently adopted for some life insurance contracts.
6. Under the ED, the current estimate of future cash flows and the risk margin are remeasured each year, but the residual margin is not remeasured. It is fixed at the inception of the contract, and amortised generally over the coverage period of the contract. This differs from MoS where the profit margin is remeasured each year. The effect is that any change in non economic assumptions will translate into a change in policy liability and a consequent direct impact on the profit and loss.
7. The ED proposes that the risk margin be determined at 'portfolio level' – insurance contracts that are subject to broadly similar risks and managed together as a single pool. This may differ to the current Related Product Groups used under MoS.

Current practice – Australia – Life Insurance

- Points of Difference to Exposure Draft (continued)

8. For residual margins, the level of aggregation proposed by the ED is lower than that for the risk margin. The residual margin will be aggregated within portfolios by similar date of inception of the contract and by similar coverage period.
9. Following from (8), the way the residual margin is determined and run off under the ED will necessitate tranching – ie the residual margin for each year's new business will have to be separately identified and run off over the life of that cohort of business.

PHI		Current	ED Proposed	Comment
Level of measurement		Typically a central estimate with a margin for risk	Fulfilment value (conceptually)	Conceptual change for health insurers
Discount rate		Short term liabilities: many health insurers do not discount due to materiality	Risk-free rate relevant to nature and term of liabilities	Not a significant change: may require additional calculations for some, if material
DAC		Many insurers do not calculate or report due to materiality	Limit to acquisition costs able to be deferred	Likely to be fewer companies reporting DAC
Risk adjustment		Risk margin above best estimate, generally to provide a specified probability of sufficiency	Risk adjustment + residual margin Techniques for estimating risk adjustment defined (CoC, CTE & CL)	Current approach for most will remain appropriate, however term of projection, and hence complexity, will increase (refer Contract Boundaries)
Residual margin		No residual margin – profit arises as premium earned	Non re-measurable residual margin proposed. Released in line with provision of cover or expected incurred claims	Understanding "lifetime contract profit" will require a conceptual change for many health insurers (refer contract boundary issues)
Contract boundaries		For LAT considered to be the period until the next rate increase (typically 1 April, some allow for rate protection periods)	PHI products currently defined as long term with implications for profit measurement and volatility	Insurers will be required to project **all** expected future cash-flows. Significant lobbying has occurred against this definition
Profit volatility		Some seasonality – but generally well understood	Increased profit volatility – with tax impacts for for-profit insurers	Will depend upon whether PHI is considered long- or short-term in the final standards, refer contract boundaries
Diversification		Many insurers now project LAT for hospital and general treatment combined	Limited to diversification within portfolio only	It is likely that current arguments for a single LAT test may be valid to consider the business as a single portfolio
Disclosure		Volume information shown in P&L (premiums, fees, investment income)	Removal of volume information, inclusion of margins information	The format of accounts will change significantly for private health insurers
Transition			Final standards by June 2011, 3-4 year implementation period. No residual margin for in force business.	Recognising future profits in retained earnings results in PHI not being able to report expected profits on the current portfolio for all future years

Current practice – Australia – Health Insurance

- Standard practice
  - Most, but not all, health insurers in Australia utilise relatively simple methods to calculate risk margins
  - Usually based on a confidence level approach
  - There is one key paper in the industry, however adoption is non-mandatory:
    - "Risk Margins for Outstanding Claims Liabilities in Health Insurance", Searle & Wall (2007), provides a framework for determining risk margins, as well as benchmarks based on their examination of a number of insurers

Current practice – Australia – Health Insurance

- Typical approach for determining the risk margin for OSC
  1. Compare the ultimate monthly claims to that estimated in development month 0
  2. Examine the distribution of the difference and determine the mean and variance. If the distribution approximates a normal distribution, use a CL approach to determine the risk margin. (Most seem to find a normal distribution is appropriate.)
  3. The risk margin adopted will depend upon the timing of the OSC calculation adopted in the accounts. If one, or two, month's hindsight it applied, a smaller dollar margin is generally applied (as there is significantly less uncertainty).
     1. Some apply a smaller percentage adjustment to the entire provision
     2. Others apply a larger percentage margin to the component that is still uncertain (ie unknown at the valuation date)
     - The second approach tends to produce more variable results

Current practice – Australia – Health Insurance

- Approaches for determining the risk margin for the Liability Adequacy Test
  - There are a wide variety of approaches adopted across the industry. Some allow only for factors impacting the individual insurer, whereas others have a broader outlook. At present, there is no consensus in methodology
  - Most approaches however apply a margin to the claims and expense components of a cash-flow projection
- Options/discretion
  - The calibration of risk margins differs between PHIAC reporting and financial reporting. Main differences are:
    - PoS – neither PHIAC nor financial reporting requirements specify a probability of sufficiency. (i.e. insurers are "free" to choose own PoS, some insurers chose 90% or above). In fact, the PHIAC standards are based around the determination of a margin, rather than a specified level of sufficiency. The margin applied comprises three components including: a specified base amount, a component relating to the size of the insurer (formulaic) and a discretionary component reflecting the past and expected future stability of the insurer.
    - Unexpired risk – PHIAC requires the calculation of a Renewal Option Amount, based on a prospective cash-flow, where premiums are as projected, prospective claims costs have the specified margin added and expenses have half the margin applied. Financial reporting is unearned premium subject to LAT (as for general insurers)

Current practice – Australia – Health Insurance

- How margins play out over life of a contract
  - Business is typically valued as a portfolio – with many now combining hospital and general treatment for the purpose of the LAT. The constructive obligation is taken to run until premiums can next be altered, which in most cases is the following April. It is assumed that premiums will be adjusted to avoid the requirement to hold a LAT reserve at this time.
  - There is therefore no real consideration of how margins change over the life of a contract.

Proposed Accounting – Health Insurance

- Contract duration
  - Under the ED, health insurance would be treated as a long-term contract. This has a number of significant implications for private health insurers – and differences from current practice
  - The business would need to be projected by cohort (possibly based on year of joining, to approximate individual policies) – not as a single portfolio. It is possible that separate risk margins may be required for each cohort
  - The average term would expand from the period to the next rate increase to the length of time a customer is expected to retain the policy (possibly many years – and this assumption may have to vary by product and customer profile)
  - The definition of the contract boundary and whether health insurance ends up classed as long term or short term is a key issue for health insurance and it is not certain at this stage where the IASB will land on this issue.
- Risk adjustment
  - The risk-adjustment will apply to net cash-flows, rather than the claims and expense lines
  - The expenses projected will be “incremental expenses” (e.g. claims handling expenses), not total business expenses

Proposed Accounting – Health Insurance

- Residual margin
  - The residual margin will be set to ensure zero profit at inception, and will be released over the life of the policy, or a set period. This is a significant difference to current practice
- Transition
  - If the ED proposals are adopted, the capitalisation of all future profits on the existing portfolio at transition would mean that private health insurers have no planned profits for the remaining life of these policies on the majority of their book
  - This would significantly increase the volatility in reported profits for the next 10 years
  - However, at this stage it is not certain where the IASB will land on this issue and some changes may be made to the ED proposals in the final standard

GI		Current	ED Proposed	Comment
Level of measurement		UEP - DAC (undiscounted) Central estimate with a margin for risk	Discounted net UEP with LAT (short) Fulfilment value (claims, long & LAT)	Similar to GPS 310 for long duration lines
Discount rate		Risk free (Commonwealth Bond yield curve used in practice)	Risk-free rate relevant to nature and term of liabilities	
DAC		Separate	Built-in. Limit to acquisition costs able to be deferred	Similar effect. Monitor next iteration for portfolio acquisition costs
Risk adjustment		Risk margin above best estimate, generally to provide a specified probability of sufficiency	Risk adjustment + residual margin Techniques for estimating risk adjustment defined (CoC, CTE & CL)	Current approach for most will remain appropriate
Residual margin		Implied in UEP. None for claims.	Non re-measurable residual margin proposed. Released in line with pattern of exposure for class of business	N/A for short-tail & claims Monitor next iteration for re-measurement
Contract boundaries		"Renewal" is new contract	Products defined as long term or short term – renewal with constrained premiums may be long	Significant lobbying has occurred against this definition (constrained premiums). Monitor next iteration
Profit volatility		Mostly inherent.	Non re-measurement of residual may add volatility – only long duration.	
Diversification		Risk adjustment conceptually for whole entity. LAT by class.	limited to diversification within portfolio only. LAT by cohort.	Monitor next iteration
Disclosure		Volume information shown in P&L (premiums, fees, investment income)	Volume basis for short duration Margin basis for long duration	The mixture will be a problem Monitor next iteration
Transition			Final standards by June 2011, 3-4 year implementation period. No residual margin for in force business.	Short duration disruption over in a year. Longer problems for long duration. Monitor next iteration.

Current practice – Australia – General Insurance

- Claims, liability adequacy (AASB 1023) and premium liabilities (GPS 310)
  - currently 2 main frameworks for industry practice of risk margins in GI
  - adoption is non-mandatory for both; both are currently used in the industry.
  - papers that outlined the two main frameworks are as follows:
    - "Tillinghast paper", Bateup & Reed (2001), provides a framework as well as benchmarks by class of business to calibrate parameters required in that framework. Another paper (the "Trowbridge paper") by Collings & White (2001) was published around the same time covering largely similar topics;
    - "Risk margin taskforce paper", IAAust Risk Margins Taskforce (2008), provides a more evolved and elaborated conceptual framework (rather than an update of the benchmark parameters from 2001), and recognises a high degree of judgement is still required in applying the framework.
  - variations of frameworks and other approaches may also be acceptable.

Current practice – Australia – General Insurance

- Calibration of risk margins – broad steps
  1. Assess central estimates of the liability reserves for each class of business
  2. Assess coefficients of variation (“CoV”) of the reserves
  3. Select distribution for the present value of claims
  4. Select probability of sufficiency (“PoS”)
  5. Assess risk margin by class of business before diversification
  6. Assess correlations for each pair of classes of business and assess diversification benefit
  7. Assess the overall diversified risk margin for the whole portfolio
  8. Apportion diversification benefit by class of business

Current practice – Australia – General Insurance

- Calibration of risk margins differs between APRA reporting and financial reporting. In simple terms, the main differences are:
  - PoS – APRA requires 75%, financial reporting unspecified (i.e. insurers can choose own PoS, some may select 90% or above)
    - Other calibration approaches possible for accounting but percentile must be disclosed
    - Note current APRA standard is in “percentile” terms
    - Margins weaker than GPS 310 may be questioned on audit
  - Diversification – APRA allows up to licensed entity level (i.e. diversification between classes of business is allowed within an entity), financial reporting further allows diversification across entities of the same “group”
  - Unexpired risk - financial reporting is UPR less DAC subject to LAT, which requires a risk margin, but PoS is not specified and not tied to claims PoS, and excludes post-balance date events; regulatory accounts have recently been aligned to be same as financial accounts, however, capital requirements effectively consider premium liabilities with risk margin at 75% PoS and include post-balance date events

Current practice – Australia – General Insurance

- How margins play out over life of a contract.
  - Level and mix of uncertainty can vary over the life of a contract – check if can be assumed stable for simplicity.
  - Occurrence risk ceases on transition from premium liability to claim liability. Usually expects higher CoV for premium liabilities than for claim liabilities.
  - Relative uncertainty decreases as more information becomes available and increases as more predictable claims are settled. The balance between these offsetting trends is not obvious.
  - The most common approach is to assess uncertainty for premium and claim liabilities for the portfolio as a whole, assuming variations over development average out. Other things being equal, CoV is expected to be stable.
  - For portfolios in advanced run-off, there is often recognition of risk development and adjustment to CoV are made. The form and calibration of the adjustment vary greatly in practice.

Current practice – Australia – General Insurance

- Unearned premiums (AASB 1023)
  - Actuarial involvement is not mandatory.
  - Premium (net of government charges only) is typically earned evenly over the policy exposure period (365ths).
    - Adjusted if risk is non-uniform.
    - No discounting.
  - Acquisition costs deferred as an explicit deferred acquisition cost (DAC) asset.
    - Recovered in proportion to earned premium.
  - Subject to liability adequacy test.
    - Expected present value plus risk margin, as in previous slides.
  - Reinsurance – mirror image of direct.

Proposed Accounting – General Insurance

- Pre-claim liability (short-duration business)
  - Premium (net of deferrable acquisition costs) is typically earned evenly over the policy exposure period (365ths).
    - Adjusted if risk is non-uniform.
    - Discounted (if material)
  - Acquisition costs restricted.
    - Direct to contract in ED.
    - Subsequently extended to direct to portfolio – status of overheads not fully clear
    - (FASB excludes costs for unsuccessful sales).
  - Subject to liability adequacy test.
    - Expected present value plus risk margin, as in previous slides.
    - No residual margin.
  - Reinsurance – mirror image of direct.

Proposed Accounting – General Insurance

- Pre-claim liability (long-duration business)
  - Four building blocks
    - Expected value of future contract cash flows
    - Discount for time value of money – typically "risk-free" for GI
    - Risk margin – to reflect entity-specific view of value of risk
    - Residual margin – to eliminate negative liability at issue
  - Acquisition costs restricted.
    - Direct to contract in ED.
    - Subsequently extended to direct to portfolio – status of overheads not fully clear
    - (FASB excludes costs for unsuccessful sales).
    - Excluded costs appear in residual margin
  - Reinsurance – mirror image of direct.
- Claim liability and LAT for short-duration
  - As above but without residual margin

Proposed Accounting – General Insurance

- Contract cash flows
  - No great change from current Australian practice, except for acquisition costs
  - Status of overheads not fully clear
  - Contract boundary issues – some renewals now accounted for as new contracts may be caught as part of same contract, extending cash flows using expected rates of renewal
- Discount rate
  - No great change from current Australian practice
  - In principle should adjust for any asset liquidity premium not needed for liabilities – minimal for most GI
  - Cannot be adjusted for non-performance risk of insurer

Proposed Accounting – General Insurance

- Risk margin
  - "*The risk adjustment shall be the maximum amount that the insurer would rationally pay to be relieved of the risk that the ultimate fulfilment cash flows exceed those expected*"
    - One-sided test – excess of loss premium – should allow for offsetting value of up-side
  - Three techniques allowed
    - Confidence Level (CL), Contingent Tail Expectation (CTE), Cost of Capital (CoC)
  - Diversification limited to the "portfolio"
    - This restriction does not sit comfortably with "what the insurer would rationally pay", as it can be argued that the impact of entity-wide diversification and reinsurance should be incorporated
    - This conflict can cause arbitrary parameters to be adopted for the CL, CTE or CoC calculations
- Residual margin
  - Only applicable to long-duration business
  - See Life Insurance for discussion

Current practice – other markets

- US GAAP for long-duration insurance contracts includes an adjustment that is similar to a risk adjustment: provision for the risk of adverse deviation (PAD); actuaries generally use a factor adjustment (5% to 10%) to best estimate assumptions
- Canadian GAAP for life insurers uses the Canadian Asset Liability Method (CALM); the insurance liabilities include margins for adverse deviation (risk adjustments) for each assumption used in measuring the insurance liability
- Most insurance regulators use either explicit or implicit risk adjustments in determining solvency; for example, in Switzerland a cost of capital approach is used in determining a risk adjustment, while Solvency II has also proposed use of the cost of capital approach
- Risk margins may also be reported voluntarily as part of supplemental information, for example EEV / MCEV
  - real world embedded value includes a risk margin above the risk-free rate in determining the risk discount rate
  - market-consistent valuation incorporates a “market” price of risk in a liability measurement (eg for investment risk, by calculating the liability with reference to a portfolio of replicating assets)

Features of the different approaches

	Confidence Level	Conditional Tail Expectation	Cost of Capital
Transparency/comparability	Yes	Moderate	No
Ease of calculation	Yes	Moderate	No
Works well for normal distributions	Yes	Yes	Yes
Works well for skewed distributions	No	Yes	Yes
Captures outliers & extreme losses	No	Yes	Yes
Existence of objective basis for selecting the level	No	No	Yes
Relates to a ‘real’ business metric	No	No	Yes
Single basis appropriate for all business lines	No	No	Yes
Takes into account release of capital & how risks change over time	No	No	Yes