



Institute of Actuaries of Australia

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International Developments in Prudential Regulation of Banks and Insurers

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Agenda

- Introduction
- Systemic risk – Are we asking the right questions ?
- Lessons learned ?
- Behavioural issues ?
- Basel Committee on Banking Supervision Proposals
- Counter-cyclical capital adequacy requirements ?
- US developments - FSOC & Office of Financial Research
- Accounting Standards ?
- Solvency II & Diversification allowances ?
- Transparency & Disclosure ?
- Thoughts on the way forward

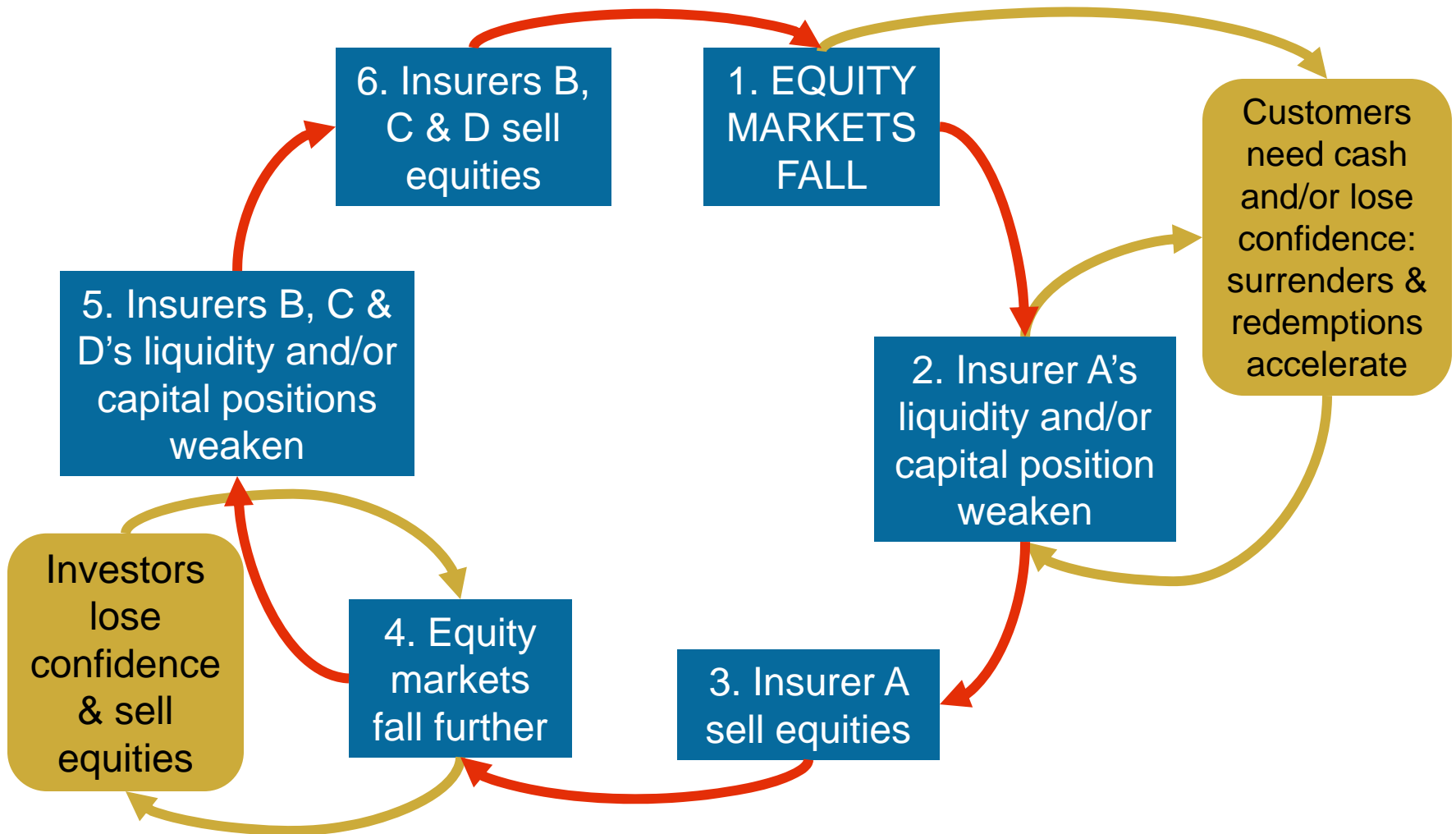
What is systemic risk? (IMF/FSB/BIS)

The risk of disruption of financial services that is

- (i) caused by impairment of all or parts of the financial system, and
- (ii) has the potential for serious negative consequences for the real economy

- Relevant factors in systemic risk assessment:
 - Size
 - Lack of substitutability
 - Interconnectedness
- Features may include:
 - Transmission of risk between financial institutions seeking to improve their own position
 - “Feedback” loops

Systemic risk feedback cycles: falling equities example



Other examples of systemic risk in insurance

- Failure of a major reinsurer impacting reinsured companies
- Failure of non-regulated entities within an insurance group (e.g. AIG) causing external distress
- Lloyds “Spiral” of early 1990s
- Insurers issuing maturity and/or minimum investment return guarantees which create asset liability mismatches



Some causes of systemic risk in insurance

- Excessive focus on individual insurers' positions rather than on the system as a whole
- Lack of firms' (and their regulators) thinking systemically
 - “What if everyone else is doing the same as I am - will we be trampled by the herd?”
- *“As long as the music is playing, you’ve got to get up and dance. We’re still dancing...”*
- *“You can only be as good as your dumbest competitor”*

Some related issues

- Counterparty risk & contagion effects of insurer failure
 - Esp. if insurer providing reinsurance / other guarantees, or has CDS exposure / non-regulated activities in a group
- Liquidity risk / forced sale of portfolio assets
- Non-regulated entities within an insurance group
- Regulatory regimes for multinational groups and respective roles of local and group regulators
- Regulatory arbitrage
- Asset valuation in illiquid markets
- Behavioural risk



Behavioural risk - a CRO's dilemma

- CRO is convinced there is a market bubble about to burst
- What actions can the CRO take to protect the firm?
 - **Ask firm to exit or reduce activity in the exposed business** - But why will management want to give up the firm's profitable market share in a business when competitors are still entering, and probably lose the most talented and expensively-recruited top-performing staff?
 - **Implement hedging strategy using derivatives** - but if the CRO recognises the problem "too early" (say in 2005 for CDOs) this will result in such large losses that the CRO would probably be dismissed
- Conclusion: Need to consider the behavioural foundations of systemic risk – e.g. profit motive, herding, the effects of success & panic sell-offs

Prevention of future financial crises

The G 20's
common
principles for
reform:

- Strengthen transparency and accountability
- Enhance sound regulation
- Promote integrity in financial markets
- Reinforce international co-operation
- Reform international financial institutions

Actuaries
believe
additional
measures are
needed:

- Introduction of more counter-cyclical regulatory arrangements
- Identify regulators to manage systemic risk
- Wider use of comprehensive risk management concepts in banks and non-regulated sector
- Improved use of ERM & risk governance

Need for a dynamic risk sensitive framework

Stability of financial services
Requires principles-based,
Comprehensive and risk-
sensitive regulatory framework

Approach must include tracking
risk measures in unregulated
financial sectors in order to
manage emerging systemic risk

To avoid under-pricing of risk
actuaries favour regulatory
approach that is dynamic and
responsive across all sectors and
national jurisdictions

Major contributor to current
crisis was absence of risk-
sensitive capital charges for
sub-prime lending and CDOs

Traditional approaches failed to
identify real risks and expose
inadequate capital support,
leading to their under-pricing



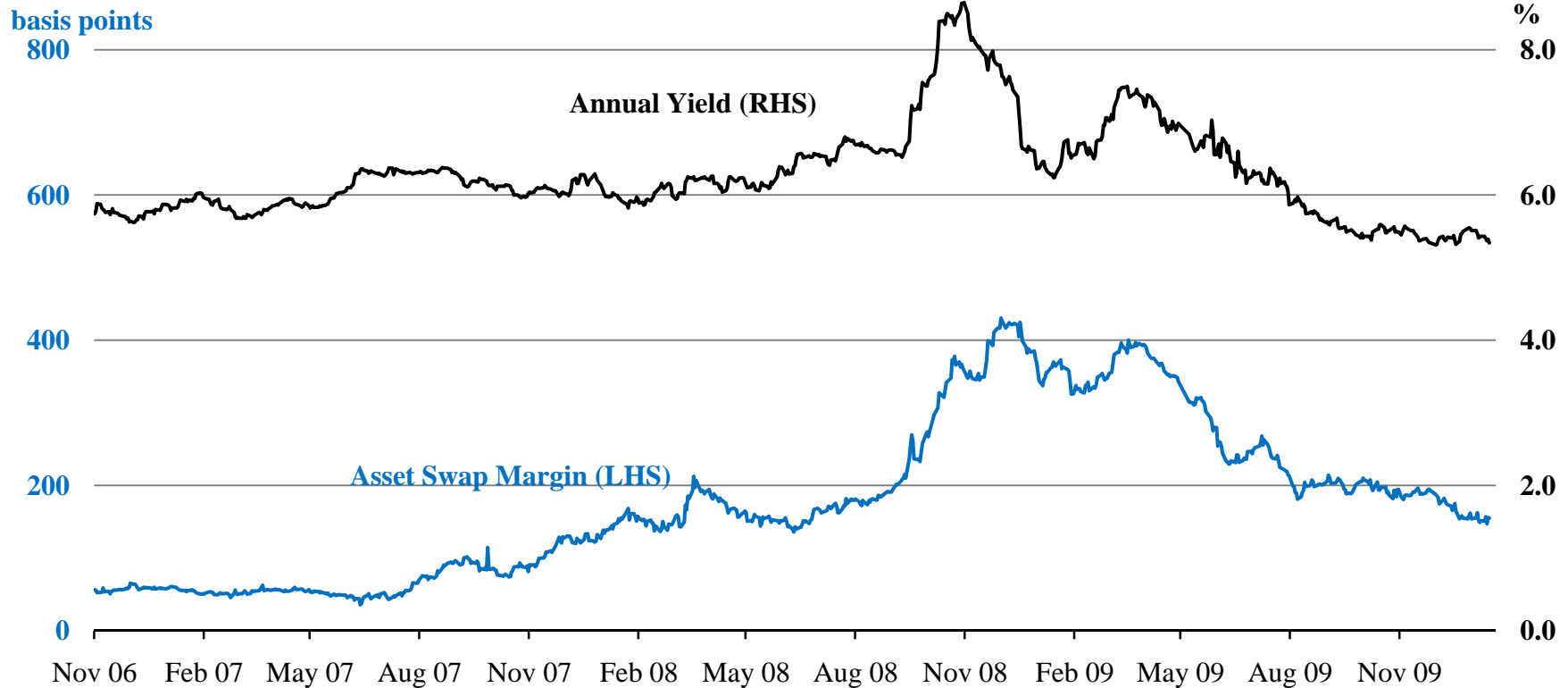
Lessons learned point to some answers

- Over-reliance on monetary policy to control retail price inflation and economic activity
- Risks inherent in asset market bubbles were largely ignored until it was too late
- Expanding credit spreads during the crisis largely neutered effectiveness of lower official interest rates in much of developed world
- Pro-cyclical capital requirements (often caused by inadequate risk models and/or poor risk measures) made the crisis worse
- In some cases there was no capital required at all where it should have been
- **New counter-cyclical tools are needed that adjust capital adequacy requirements for banks and other financial institutions**



US monetary policy: Increasing credit risk margins vs official interest rate reductions

USD Liquid Investment-Grade Corporate Bonds



Source: www.indexco.com. markit iBoxx USD Liquid Investment Grade Index

Basel Committee on Banking Supervision - consultative proposals on capital & liquidity

- Goals for the suite of proposed regulations:
 - More resilient banking sector
 - Better balance between financial innovation and sustainable growth
- Impact assessment under way
 - Want to avoid potential negative effects on bank lending activity that could impair economic recovery
- Timetable:
 - Impact assessment by mid-2010
 - Fully calibrated standards by end-2010
 - Phase in implementation by end-2012, as financial conditions improve
 - Expect grandfathering provisions



Basel proposals: Raising the capital base's quality, consistency and transparency

- Tier 1 capital base must be predominantly common shares and retained earnings
 - Current minimum does not cover (e.g.) deduction of goodwill
 - Currently, banks can hold as little as 2% equity : risk-based assets
- Harmonising Tier 2 capital minimum standard, abolishing Tier 3
- Strengthening capital requirements for counterparty credit risk exposures from derivatives, repos and securities financing activities
 - Will also increase incentives to move OTC derivative exposures to central counterparties and exchanges
- Further convergence in measuring, managing & supervising operational risk

Basel proposals: introducing a leverage ratio

- Underlying feature of the crisis: build up of excessive on- and off-balance sheet leverage in banking system
- Leverage ratio puts a floor under the build-up of leverage
 - Helps to mitigate the de-stabilising & economically damaging risk of de-leveraging
- Leverage ratio proposal also introduces additional safeguards against model risk and measurement error
- Details of the ratio are subject to consultation
- Australian banks potentially at disadvantage due to large % of 50% risk weighted home loans on balance sheets
- Components of the leverage ratio will be harmonised internationally
 - adjusting for differences in accounting
 - ensures comparability



Basel proposals: global minimum liquidity standard for internationally active banks

- Includes a 30-day liquidity coverage ratio requirement
 - To increase global banks' high-quality liquid assets & thus promote short-term resilience to liquidity disruptions
- Underpinned by a longer-term structural liquidity ratio
 - To address liquidity mismatches and provide incentives for banks to use stable sources to fund their activities
- Common set of monitoring metrics to improve cross-border supervisory consistency



Basel proposals: countercyclical capital framework to promote buffers

- The problem: pro-cyclical market failure
 - GFC: some banks kept making large distributions (dividends, share buy backs, compensation payments) *despite* worsening conditions
 - Collective action problem: they were afraid of signalling weakness
 - Yet their actions further weakened themselves and their sector
 - Many banks have now returned to profitability - but have not done enough to rebuild their capital buffers to support new lending activity
- Proposed capital framework measures to help dampen, instead of amplify, economic and financial shocks
 - In good times, conserve capital & promote build-up of capital buffers
 - In periods of stress, these buffers can be drawn upon
- BCBS says further work is needed to fully specify how the proposal would operate

Basel proposals: allowance for expected loss

- Provisioning to be based on **expected losses** (EL) instead of the current **incurred loss** model
 - Reviewing IASB's Exposure Draft for an EL-based approach
 - Less pro-cyclical
 - More forward-looking
 - Captures actual losses more transparently
- Expected loss estimation and provisioning are core concepts to actuaries
 - What opportunities might these changes to bank regulation offer?

Counter-cyclical regulatory arrangements

At a “macro” or systemic level

- Prudential regulatory arrangements
- Should be more dynamic and counter-cyclical rather than pro-cyclical
- Allow for the transparent change of provisioning and capital requirements for market participants - not just interest rates - when early warnings of market bubbles emerge
 - “Shock-absorbers” could provide the capacity to allow transparent draw down of reserves during periods of subsequent market stress rather than having to enforce tougher capital requirements

Counter-cyclical capital adequacy?

- Can this be done at all?
- Who should be responsible for managing it?
- What tools should be used?
- What costs will be imposed and will they be worth it to avoid the busts?
- What financial institutions should be covered in the regime?
- How should we implement it?
- Do we need another inquiry before we do this?
- Will this be enough and what other measures are needed?

Seeing asset market “bubbles” in real time?

- Conventionally this was regarded as a fallacy, but in March 2000 we saw
 - **Valuing Wall Street** - Andrew Smithers & Stephen Wright, and
 - **Irrational Exuberance** - Prof. Robert Shiller
 - Both then said “Stockmarkets are over-valued”(and were proved right)
 - **Wall Street Re-Valued** - Andrew Smithers - March 2009
 - Demonstrates that “q”and “CAPE”can measure over/under valuation of equity markets as a whole
 - Asserts that central banks can and should adjust policy when they consider asset markets to be over valued

Systemic Risk Indicators (examples)

- Leverage in the economy – household debt/GDP
- Leverage in institutions – total assets/capital
- Money supply measures (especially growth of these)
- Volatility, turnover & bid spreads in major financial markets
- Credit spreads
- Growth in derivatives markets – particularly options
- Equity dividend yields
- Major changes (especially concentrations) in market sectors
- Real interest rates – actual or implied
- Commercial real estate yields or IRRs
- Residential property affordability – median price/AWE
- Commodity prices
- Corporate profit margins
- Bonus levels paid by financial firms

Most already available & used – more holistic approach



Dynamic capital adequacy is one way forward and can take various forms

Formula-based

- Can be tailored for insurer types (and for banks and other market participants by relevant regulators)
- Consistent with existing life insurance resilience reserving in some jurisdictions
- Easier to implement
- Formulae based on market levels
- People can see what's coming
- Government retains more control
- Could be implemented by national prudential supervisors with government approval

Discretionary

- Implemented by an independent authority (e.g. a central bank) in consultation with prudential regulator(s)
- Provides another tool to manage economy other than just monetary policy and fiscal policy
- Lines of authority/control are not obvious / clear – policy will be required
- Analogous to existing operation of monetary policy by central banks

How a formula based approach could work

Current Life Insurance Resilience Reserves

Class	Prescribed Yield Change
Equities	+/-0.5% + (0.4 x Yield)
Property	+/-2.5%
Interest Bearing	+1.3% + (0.25 x Swap rate) - 0.2% + (0.25 x Swap rate)
Indexed Bonds	+/-1.0%



How the formula based approach works: equities example

	Dividend \$	Current Yield	Current Value	Adjusted Yield	Adjusted Value	Capital Req'd	Capital as a % of Value
Now	100	4.0%	2,500	6.1%	1,639	861	34%
Later	100	3.0%	3,333	4.7%	2,128	1,206	36%
Change			833			345	41%

Discretionary vs formula based - related issues

- In good times, insurers have been over-optimistic about the costs of providing financial guarantees (“disaster myopia”)
- North America: introduction of capital requirements for variable annuities caused re-pricing
 - Insurers: “but the premiums are too low to support cost of hedging”
 - Did market have a stronger view of the level of the risk?
- Timing - What if market bubble bursts just as guarantees are due to mature, or just after guarantees are issued?
- Are such market risks insurable?
 - Claims are not independent

If counter-cyclical capital requirement existed - would regulators also suffer “disaster myopia” in the good times?

- ▶ Formula-driven approach would address this
- ▶ Need to test resilience to extreme scenarios

Wider Use of Risk Management Concepts

At a “micro” or individual regulated entity level

- The risk management framework of any entity providing financial or insurance guarantees - including banks – should include key concepts of a “control cycle” approach to the measurement and management of risk for assets and liabilities, including:
 - incorporating allowance for extreme event outliers
 - specific financial condition reporting (beyond just accounting)
 - independent sign-off on liability and loan loss provisioning for regulatory purposes by professionals (such as actuaries) subject to a professional codes of conduct and disciplinary processes
 - mandatory reporting of “Probability of Sufficiency” of provisions

Risk Governance

Improved use of ERM & risk governance

- Improved risk governance processes being adopted by all financial market participants to more consistently measure, apply, stress test and transparently report risk indicators
- Underlying concepts should be applied by all financial market participants - consistent with principles outlined in IAA paper on Enterprise Risk Management and recent IAIS Standards

Direction of US reform: maybe two-part approach to systemic risk oversight?

Office of Financial Research (OFR)

- Objective is to provide regulators with the data & analytic tools needed to predict, prevent and contain future financial crises
- OFR concept has bipartisan support

Financial Stability Oversight Council (FSOC)

- Comprises heads of existing US regulatory agencies
- Makes decisions about the information fed in by the OFR

Possible development of the OFR? (Bill now before the US Senate)

- OFR mandate would be to support the community of financial regulators by:
 - Collecting financial market data and standardising how it is reported
 - Performing applied long-term research
 - Developing tools for measuring & monitoring systemic risk
- Some concerns: how independent will the OFR be of the Federal Reserve and of Treasury?
 - Crucial that the OFR has very wide scope to investigate and make recommendations



IASB / FASB: Dec 2009 progress towards agreement on Acct Standards

- Tentatively decided that current assessment of the insurer's obligation should use:
 - the unbiased, probability-weighted average of future cash flows expected to arise as the insurer fulfils the obligation;
 - the time value of money;
 - a risk adjustment for the effects of uncertainty about the amount and timing of future cash flows; and
 - an amount that eliminates any gain at inception of the contract [“residual margin”]
- The boards also tentatively decided that:
 - the risk adjustment should measure the insurer's view of the uncertainty associated with the future cash flows
 - the measurement of an insurance liability should not be updated for changes in the risk of non-performance by the insurer
- IASB / FASB proposals for initial expenses now appear to be moving towards a “solvency” view

Insurance Accounting Standard AASB1023 in Australia since 1 Jan 2005

- All assets at market value, through Profit & Loss A/c
- Full prospective assessment required for liabilities based on prospective expected loss (unearned premium used as a proxy for pre-claim liabilities)
- Discount insurance liabilities at risk-free interest rates
- Risk margins mandatory for insurance liabilities
- Mandatory disclosure of central (best) estimates of insurance liabilities as well as liabilities with risk margins
- Mandatory disclosure of Probability of Sufficiency (PoS) of insurance liabilities with risk margins
- Mandatory disclosure of sensitivity of insurance liabilities to key assumptions e.g. inflation, claims severity, claim frequency

Mandatory disclosures - a vital component

Further insurance challenges in EU

- Solvency II development has improved insurers' capacity to cope

BUT

- Solvency II based on one year VaR (99.5%) risk measure
- This relates capital required to (recent) historic volatility, introducing pro-cyclicality - as periods of low risk will lead to low Economic Capital outcomes that will not be adequate when higher volatility emerges (as in 2008-09)*
- Economic Capital will generally increase as volatility rises
- **Considerable care will need to be exercised when approving “Internal Models”**

* See Andrew Haldane (BoE) “Why Banks Failed the Stress Test” Paper - 13 Feb 2009

Diversification Allowances

- A point of difference with the banking industry
- Material impact on Economic Capital outcomes
- Considerable debate about :
 - Methods of calculation
 - Dependencies / Correlation between various risks
 - Level within a group where calculation is applied
 - Disclosure of assumptions and impacts
 - Interaction with capital fungibility and group capital
- Difficulties separating individual company stress events from impacts on company of systemic stress events



G20 context highlights the challenge ahead

- Intentions are shared but varying implementation options
- Capital adequacy way forward generally accepted, but details not yet agreed
- Views on global accounting standards are becoming less divergent
- Government guarantees for banks need coordinated winding down globally
- Fragile global economy suggests decisions and implementation timeframes will not be imminent - especially for the “Framework for Strong, Sustainable & Balanced Growth”
- Dangers inherent in reform fatigue as crisis fades



What does the wider “To Do” list look like?

- Banks and insurers deemed “too big to fail” need to accept tougher new capital adequacy rules that increase the cost to them of risky behaviour
- Originators of securities will also need to keep more “skin in the game”, retaining a minimum stake in securitised assets and/or off balance sheet vehicles
- Accounting standards must adapt to allow banks to set aside loan provisions based upon expected losses when loans are written rather than waiting until bad debts are actually realised
- Bonus payments need to reflect the risks taken to earn profits (and the capital employed to do so) and long term rather than short term performance
- Global financial imbalances must be resolved – currencies must be allowed to float while major developed economies work through their debt de-leveraging
- None of this will be easy - the “devil” really will be in the “detail”

In Conclusion

- Systemic risk remains prevalent
- Dynamic (formula driven?) capital adequacy regime required
 - to avoid under-pricing of risk
 - to mitigate behavioural risk
- Meaningful disclosure and use of standards will be key to achieving increased stability, reliability, consistency and comparability