

Supervisory Capacity Building: Actuarial services
Prudential supervision and risk management in insurance

2.2 Insurance failures, causes and risks

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Agenda

- ▶ Risk
- ▶ Causes of failures
- ▶ Taxonomy

Risk

Reasonable statements?

- ▶ All material risks will be addressed
- ▶ To manage a risk it must be modelled
- ▶ ‘We are seeing things that were 25-standard deviation moves, several days in a row’
- ▶ All financial projections (models) are probabilistic statements
- ▶ A risk management process is successful if no (major) risk events occur

Risk ...

- ▶ Possibility of not meeting objectives
- ▶ Degree measured by likelihood and extent to which objectives are not met
- ▶ Impacted by many factors
 - Internal and external

Risk management tools

- ▶ Identify
- ▶ Avoid
- ▶ Retain
- ▶ Reduce
 - Probability, severity, variability, cap etc
- ▶ Transfer
 - (re)insure, hedge, participating, users
- ▶ Exploit
 - Diversify, negative correlations

- ▶ Key issue is how these tools perform under stress

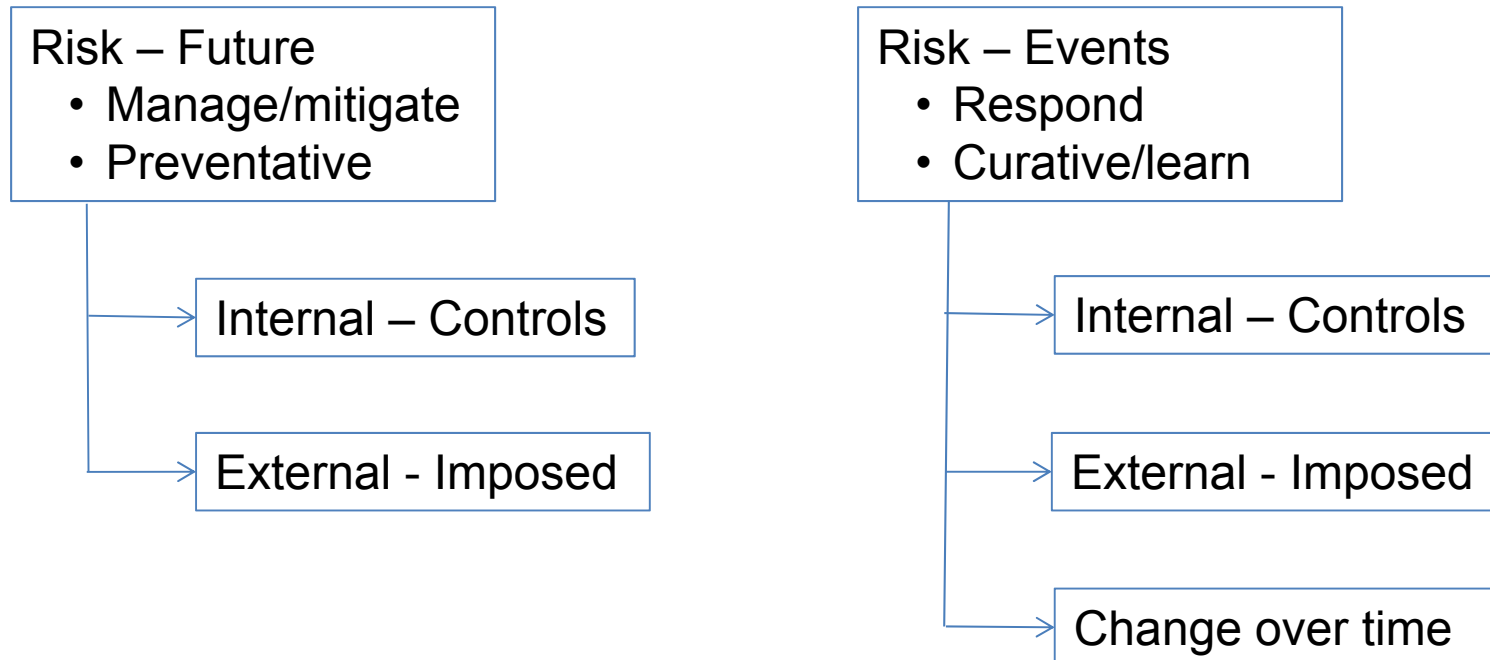
Unknown / uncertain

- ▶ Known risks
 - Identified and quantified ex ante – modelled
- ▶ Unknown risk
 - Identified but not meaningfully quantifiable (currently)
 - Unknown = unmanaged financially
- ▶ Unknowable risk
 - Not identified. Let alone quantifiable
 - Unknowable = unmanageable (financially or otherwise directly)
- ▶ Cannot measure so cannot manage ...
 - Does it make sense to hold NIL reserve for unknown or unknowable risks?

The full picture

► Perspectives

- Entity – inside looking out
- Broader – outside looking in. Jurisdictional or global



Varying nature

- ▶ Speculative Risk (gambling)
 - Possibility of gain or loss
 - Voluntary - situation may be deliberately created

- ▶ Pure Risk (insurance)
 - Indemnity - one sided (loss or no loss)
 - Involuntary
 - Often insurable

- ▶ Range in between

Insurable risk

- ▶ Quantifiable, definable (beforehand)
 - Measured probabilistically
 - Sufficient exposure to permit pooling
 - Consequences in financial terms
- ▶ Fortuitous
 - Lack certainty – timing or occurrence
 - Out of control of insured - moral hazard
- ▶ Not threaten public interest
- ▶ Not catastrophic to insured population
- ▶ Risks taken on by, not risks faced by insurers

Risk – management or avoidance

- ▶ Risk often does not go away, it just changes where and how it emerges
- ▶ The ‘do nothing option’
 - Often a high risk choice
- ▶ Inherently statistical in nature
 - There are no guarantees
- ▶ Essence of insurance is risk management
- ▶ There WILL be risk events - management
- ▶ ‘This will never happen again’ - avoidance

Traditional (actuarial) risk focus

- ▶ Assets
- ▶ Liability determination (reserving)
 - Guarantees
- ▶ Asset / Liability management
- ▶ Pricing
- ▶ Factor based capital, and capital management

- ▶ Direct balance sheet impacts
 - 'Total balance sheet'

'Modern' (actuarial) risk focus

- ▶ Enterprise risk management
 - Holistic over enterprise – not siloed
 - Reflects interactions

- ▶ Complex
 - 'Internal' models and stress tests
 - Risk based capital (and in other areas)
 - Supervisory challenges – move from specify to assess

- ▶ Risk (principles?) not rules based supervision
 - Paradigm shifts

ERM

- ▶ No uniform definition – continues to evolve

- ▶ Key features
 - Objectives – need be set to manage to
 - Process - culture, people, tools
 - Value - strategic & long term creation
 - Top down – Board and all levels
 - Risk appetite – target(s) to risk manage to
 - Manage - not avoid - risks
 - Comprehensive – ‘all’ risks
 - Portfolio – different approach to individual RM

Risk – summary – its tough stuff!

- ▶ ERM and ‘risk based’ are good ideas, but tough and resource hungry in practice
 - Industry focus - Business as Usual (BaU)
 - Supervisory focus – Not BaU (adverse stresses)
- ▶ Understanding does not necessarily imply should do
 - Need reflect own environment, industry and capacity
- ▶ Cannot measure everything so there is always a key role for professional and supervisory judgement
- ▶ Humans tend to have little intuition into risks and statistics, including those who are ‘professionals’

Causes of failures

Empirical evidence: causes of insurer failure



The Sharma report

- ▶ 2002, EU, analysis of failures and near failures
- ▶ Management issues seem root cause of all failures
 - Increased focus on underlying internal causes
- ▶ Risks interact in complex ways
 - Seek understand causal links and unexpected correlations (under stress) – review groups risk maps
- ▶ Moving to risk based approach has benefits, but increased need for judgment and ‘more subjective assessments
- ▶ Get right balance between prescriptive rules, principles, incentives and diagnostic tools

Causal chains

- ▶ Risks are linked in causal chains
- ▶ Example
 - Risk of adverse claims development may arise from poor risk selection (underwriting risk)
 - May in turn arise from poor underwriting policy or controls (underwriting systems and controls risk)
 - May itself be due to lack of experience (management risk)
- ▶ Aim to identify root causes to support taking preventative actions
 - Focus on the disease, rather than the symptoms

Possible flow

Poor, inadequate or inappropriate management decisions made

- Note the importance of cultural and behaviour

Sets the context for failure – underlying internal causes



External causes trigger stresses

- Reactions may be inappropriate or inadequate, reflecting poorly prepared people, inadequate processes, weak systems etc
- May make matters worse – late detection, wrong reaction etc



Adverse financial outcomes (prudential focus)

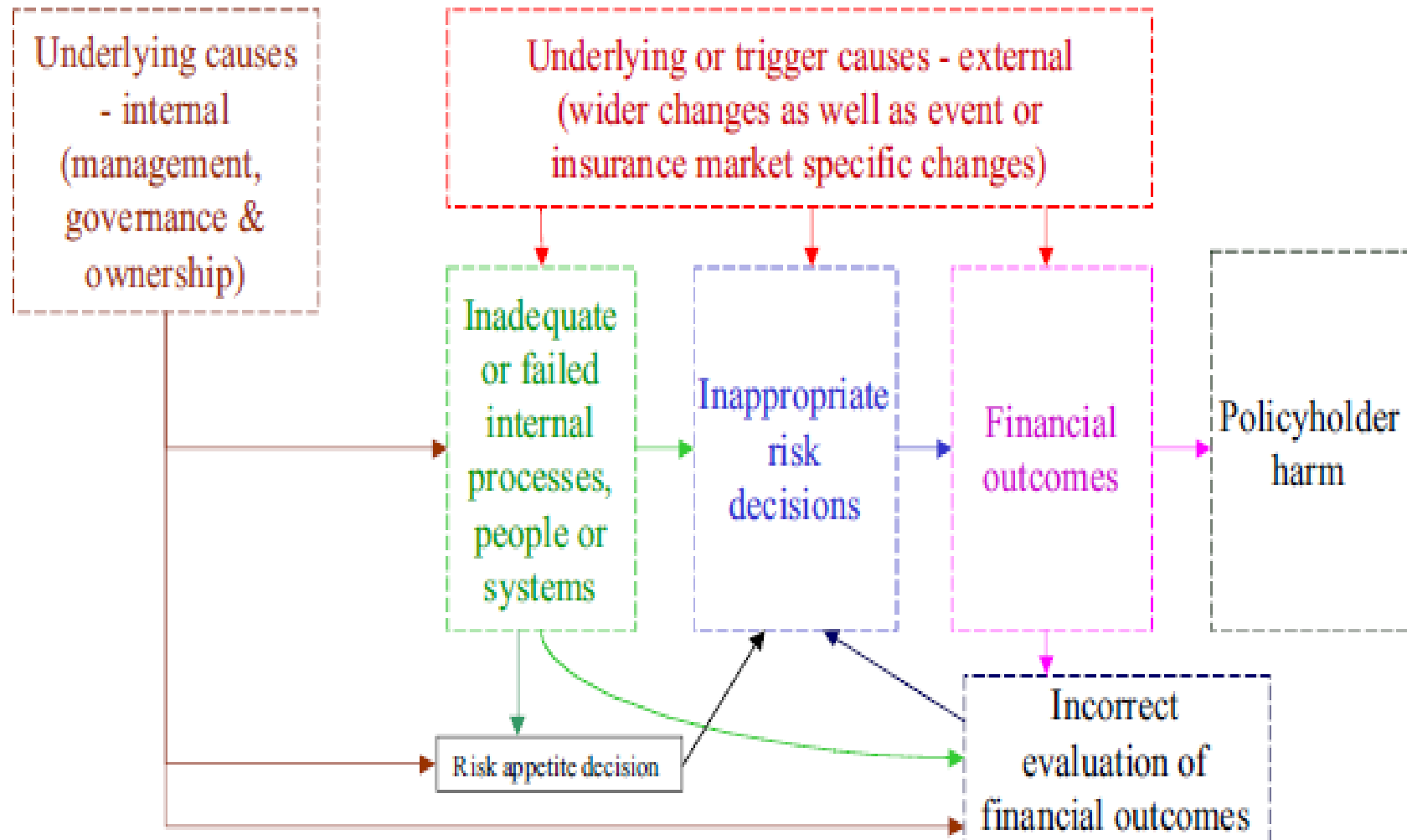
- May flow on to further adverse outcome, reputation, new business etc



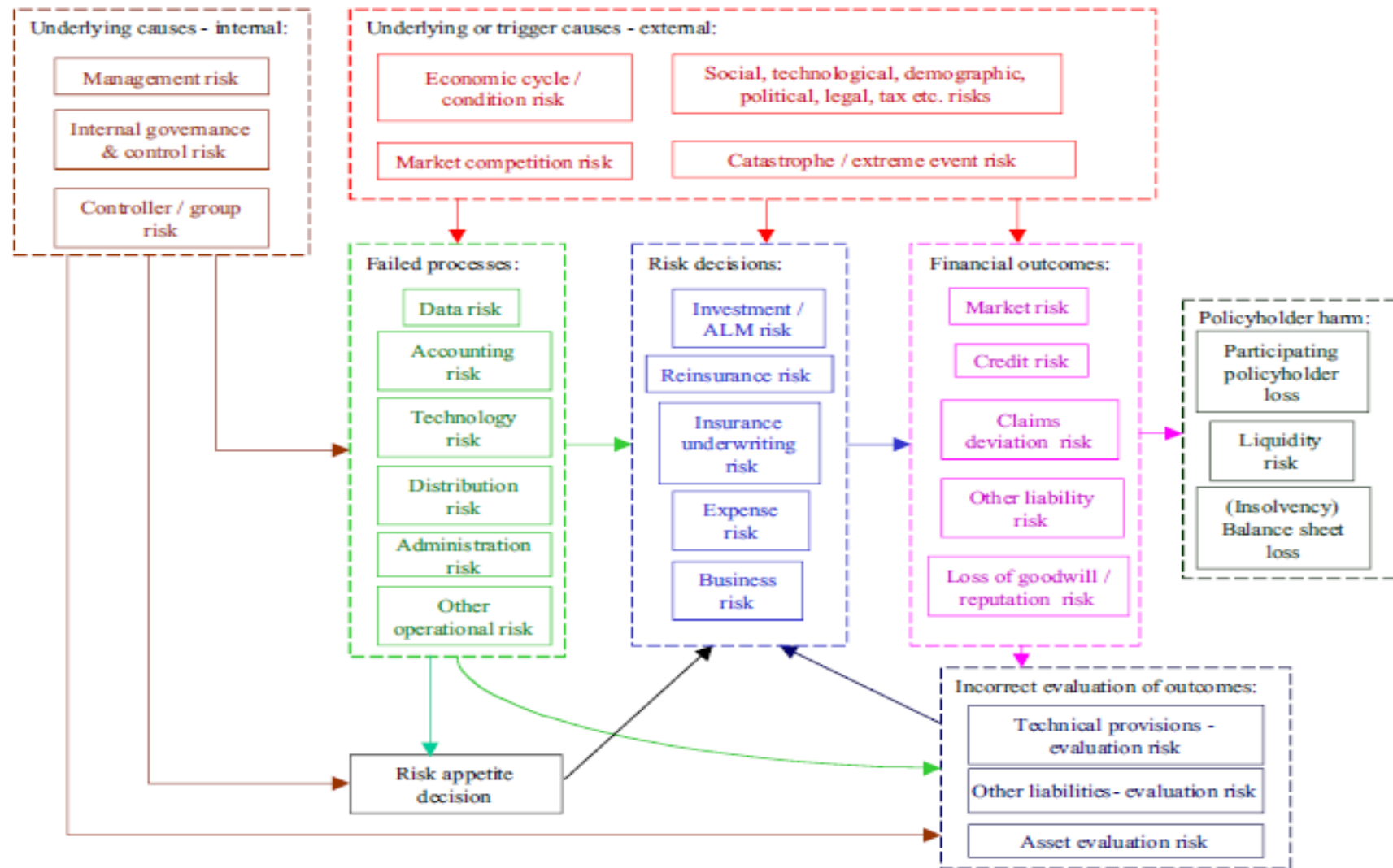
Policyholder interests materially adversely impacted

- Other stakeholders may also be adversely impacted

Sharma high level risk map



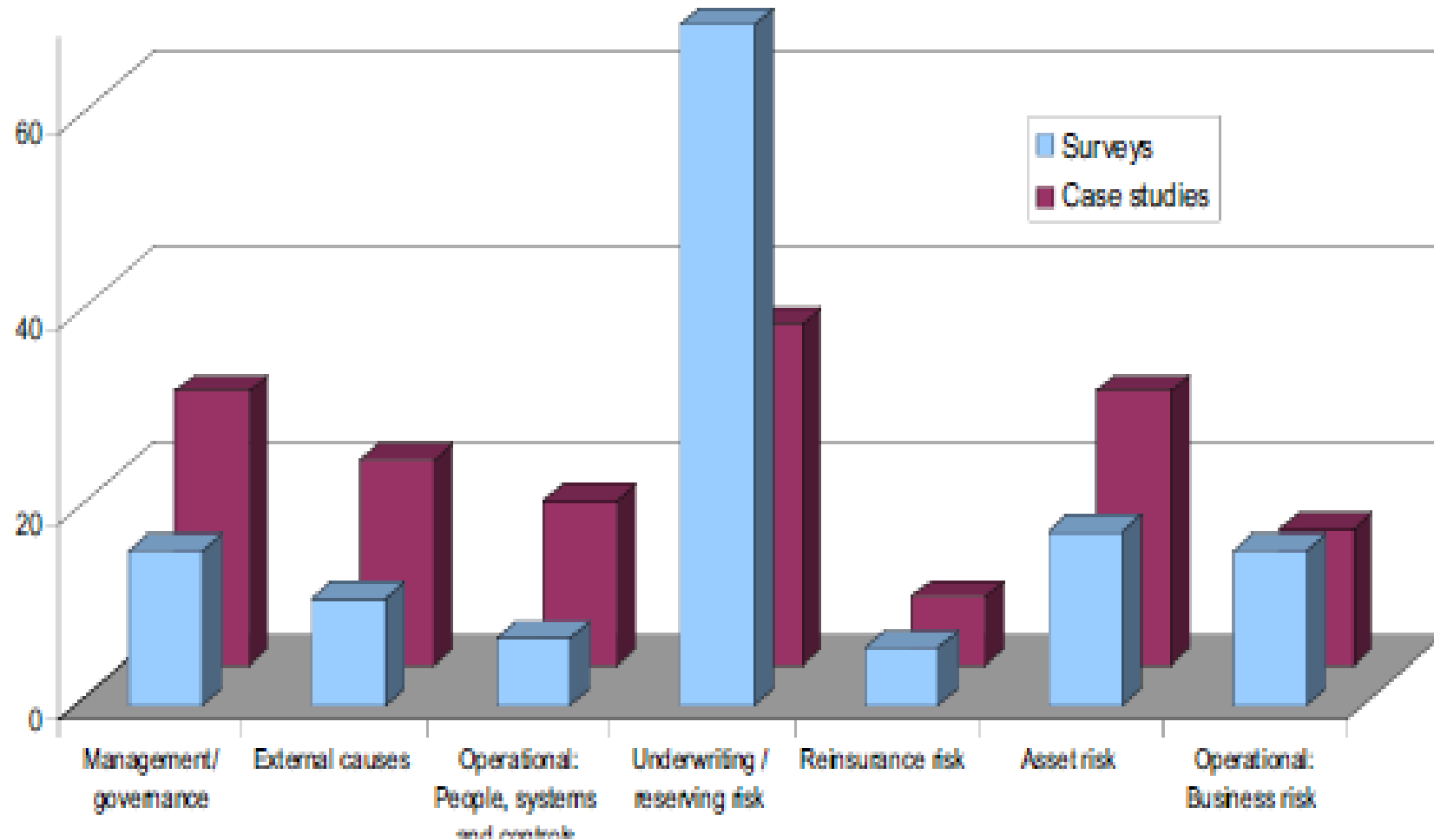
Sharma more detail (generic) risk map



Commentary

- ▶ Traditionally firms and supervisors have focused mainly on technical outcomes
 - That is results and financial position (historical)
 - These are the later stages in a causal chain
 - Earlier analysis and intervention may be valuable to all parties
- ▶ Suggests much of the causal chain falls under a broad definition of operational risk – not always a focus of industry or supervisors
- ▶ Operational risk
 - Inadequate or failed people, process (and/) or systems and adverse external events
 - In particular, includes
 - Management and governance issues, controls and strategic decision making
 - Planning for adverse external events;
 - Use and validation of models and other evaluation methods and tools
 - Other risks such as administration, outsourcing, reputation or legal risk

Main causes identified



Commentary

- ▶ All case studies had significant underlying management or governance causes
 - Many had significant systems and controls issues
 - Widespread underwriting and asset problems arose due to these weaknesses
 - Combination of poorly managed risks made the firm particularly vulnerable to adverse external events

- ▶ Four forms of management problem
 - Incompetence, straying outside their field of expertise or uncritically following herd instinct;
 - Excessive risk appetite or objectives that are at odds with prudent management of the business;
 - Lack of integrity
 - Lack of autonomy and inappropriate pressure e.g. from parent company.

Supervisory toolkit

- ▶ Sharma proposes tools to address each of the 7 main risk areas (see 'Main causes' chart) operating mainly at one of 4 levels
 - Organisation and governance
 - Strategy and decision-making
 - Monitoring and flow of information
 - Investigation and corrective action

- ▶ Sharma report contains extensive list of tools in each of these 28 cells
 - Although we are post GFC, approach remains relevant even if detail an focus may be enhanced

New(er) examples of failures ...

▶ ...

▶ ...

References

- ▶ McDonnell W, 'Managing Risk: Practical lessons from recent "failures" of EU insurers', FSA Occasional Papers 20, 2002. See www.fsa.gov.uk
- ▶ Sharma R et al, 'Prudential Supervision of Insurance Undertakings', Conference of Insurance Supervisory Services of the Member States of the European Union, 2002. See http://ec.europa.eu/internal_market/insurance/docs/solvency/impactassess/annex-c02_en.pdf

Taxonomy

Taxonomy

- ▶ Use a structure to categorise risks
 - Tiered from broad to granular
- ▶ Value in the categorization process itself
 - Supports discussion and understanding interactions
- ▶ No single 'right' answer
 - Need consistency and completeness
- ▶ There as few new risks
 - May change priority and impact over time
 - Changes often (but not only) driven by technology

- ▶ Example – 'cyber risk' (and current focus on it)

Risk categories

- ▶ Underwriting
- ▶ Credit
- ▶ Market
- ▶ Operational
- ▶ Liquidity
- ▶ Other
- ▶ Application

See: IAA WP for IAIS (2004), Basel II

Underwriting risk

- ▶ Insurers assume risk, perils & processes
- ▶ Risks:
 - Underwriting process
 - Pricing
 - Product design
 - Claims
 - Economic environment
 - Net retention
 - Policyholder behaviour
 - Reserving

Credit risk

- ▶ Default, change in credit quality of security issuers, counter-parties, intermediaries
- ▶ Risks:
 - Business credit
 - Invested asset credit
 - Political risk
 - Sovereign risk

Market risk

- ▶ Level or volatility of market prices of assets, including options
- ▶ Risks:
 - Interest Rate
 - Equity and Property
 - Currency
 - Basis
 - Reinvestment
 - Concentration
 - Asset/Liability Management
 - Off-balance sheet

Operational risk

- ▶ Inadequate or failure of internal process, people or systems or external events
- ▶ Risks (Basel 2):
 - Internal fraud
 - External fraud
 - Employment practices & workplace safety
 - Clients, products & business practices
 - Damage to physical assets
 - Business disruptions and systems failure
 - Execution, delivery and process management

Key Operational risk areas

- ▶ Corporate culture and accountability
- ▶ Internal risk management frameworks
- ▶ Business continuity planning
- ▶ Outsourcing
- ▶ Fraud management
- ▶ IT including e-commerce and systems migrations
- ▶ Key personnel risk

Liquidity risk

- ▶ Insufficient liquid assets to meet obligations as they fall due
- ▶ Risks:
 - Liquidation value – poor market conditions
 - Affiliated company – hard to sell/drain
 - Capital markets – insufficient funding

Other risks

- ▶ Strategic / Business
- ▶ Reputational
- ▶ Systemic
- ▶ Regulatory/political change
- ▶ Distribution (& competition)
- ▶ Expense
- ▶ Contagion & related party
- ▶ Extreme events
- ▶ Changing social attitudes

Application risk

- ▶ Theory + Application = Success
 - Not only need to know what to do, but need to do it
- ▶ Weakest link in the chain the key
- ▶ Multiple approaches – no single ‘correct’
- ▶ Volatility of reality
 - World an inherently risky place
 - Cannot – should not seek - cater for all risks
 - Limit coverage eg 1 in 200 years
- ▶ Failures will happen

Application risks

- ▶ Governance and culture
 - Process and its execution
 - Regulator and those regulated
 - Key risk is entity management
- ▶ Model errors
- ▶ Evaluation 'trap'
- ▶ Regulatory prescription - detail
- ▶ Balanced approach
 - Reflect needs of multiple stakeholders
 - Independence – regulatory capture

Perspectives

- ▶ Regulatory
 - Reduce risk failure
 - Worst case
 - Intervention triggers
- ▶ Business
 - Best estimate
 - Market forces – external judgements
- ▶ Inherently different



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Thank you ...

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