

ERM

(or everything I know about risk in 45 minutes)

Colin Ledlie

Group Chief Risk Officer

Standard Life

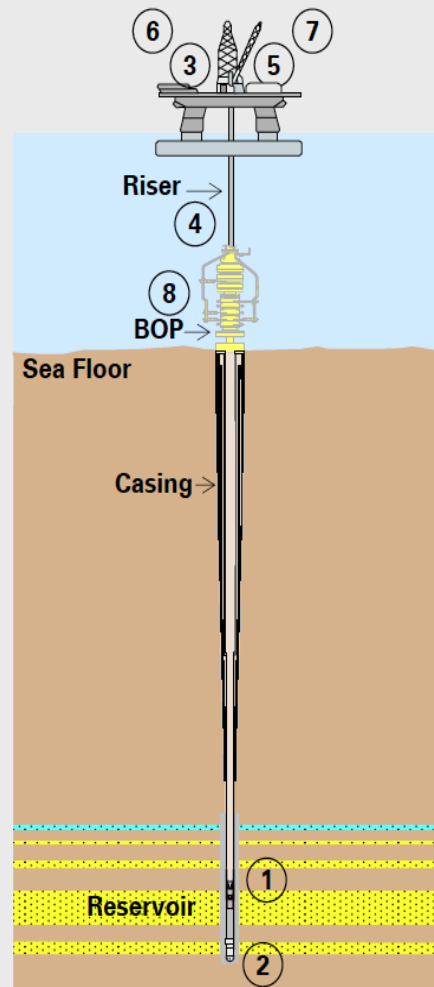
1. Everything Really Matters

BP – Deepwater Horizon Disaster



BP Deepwater Horizon

Summary of Key Findings



Well integrity was not established or failed

- ① Annulus cement barrier did not isolate hydrocarbons
- ② Shoe track barriers did not isolate hydrocarbons

Hydrocarbons entered the well undetected and well control was lost

- ③ Negative pressure test was accepted although well integrity had not been established
- ④ Influx was not recognized until hydrocarbons were in riser
- ⑤ Well control response actions failed to regain control of well

Hydrocarbons ignited on the *Deepwater Horizon*

- ⑥ Diversion to mud gas separator resulted in gas venting onto rig
- ⑦ Fire and gas system did not prevent hydrocarbon ignition

Blowout preventer did not seal the well

- ⑧ Blowout preventer (BOP) emergency modes did not seal well

The team did not identify any single action or inaction that caused this accident.

Rather, an interlinked series of

mechanical failures,
human judgments,
engineering design implementation and
team interfaces

came together to allow the initiation and escalation of the accident

Such systematic failures in risk management that they place in doubt the safety culture of the entire industry

Most, if not all, of the failures at Macondo can be traced back to underlying failures of management and communication

Decision making processes at Macondo did not adequately ensure that personnel fully considered the risks created by time- and money-saving decisions.

Transocean failed to adequately communicate lessons from an earlier near-miss to its crew.

None of BP's ... decisions ... appear to have been subject to a comprehensive and systematic risk-analysis, peer-review, or management of change process

National Commission on the BP Deepwater Horizon Oil Spill and Offshore
Drilling
January 2011

Northern Rock

The Bank of England has agreed to give emergency financial support to the Northern Rock, one of the UK's largest mortgage lenders, the BBC has learned.

However this does not mean that the bank is in danger of going bust, Business Editor Robert Peston says.

There was no reason for people with Northern Rock savings accounts to

PANIC

Northern Rock

C&C meetings - estimates made by staff based on various sources for high impact firms

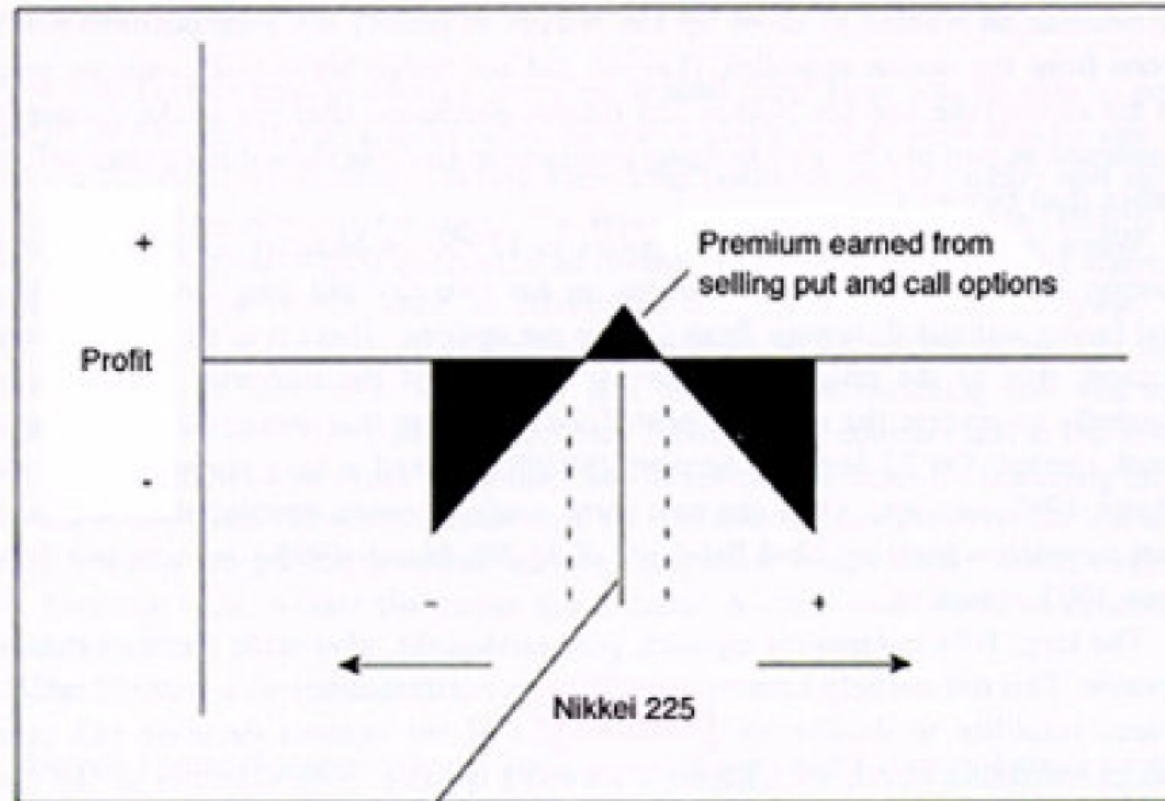
	1 Jan - 9 Aug 2007	2006	2005	Period Total
Average for WIBD firms	13	24	18	55
Average for MRGD firms	22	29	23	74
Average for MRGD excl 5 largest banks	17	22	19	58
Average for 5 largest retail banks	43	59	41	143
Northern Rock	7*	1	0	8

* Out of which five meetings were held on one day and two were by telephone

Risk mitigation programmes (RMP) - data taken from IRM

Number of firms with RMP	37
Number of firms without RMP	1

Barings



Strike price of options,
say 18 500

Key:

----- break-even

Nikkei 225 Index



Kobe Earthquake

Year	Reported Profit	Actual Profit
1993	£ 8.83 m	- £ 21 m
1994	£ 28.53 m	- £ 185 m
1995	£ 18.57 m	- £ 619 m



2. People are very clever...

Video



Video

Sub-prime mortgages

“Guy’s who can’t get a job on Wall Street get a job at Moody’s”

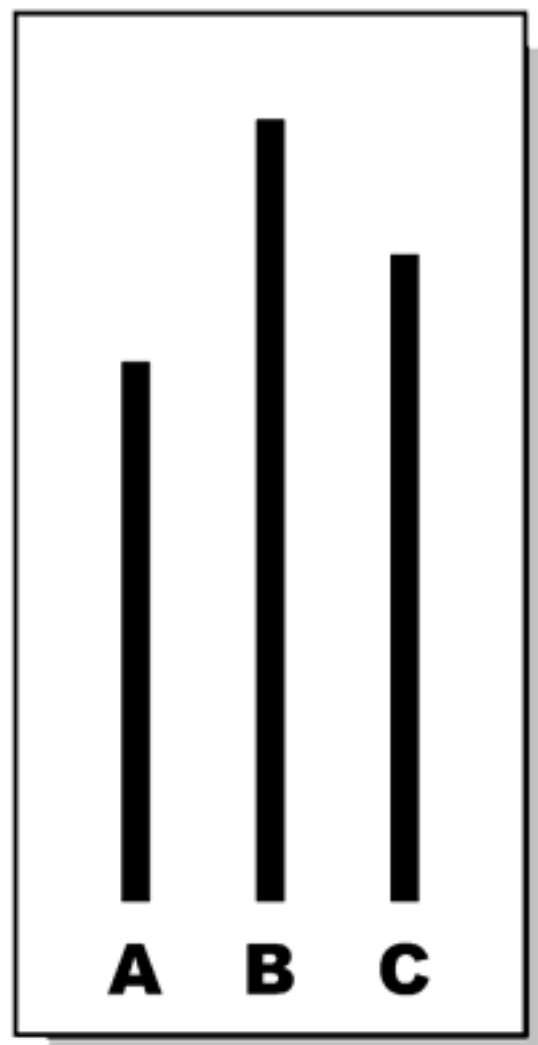
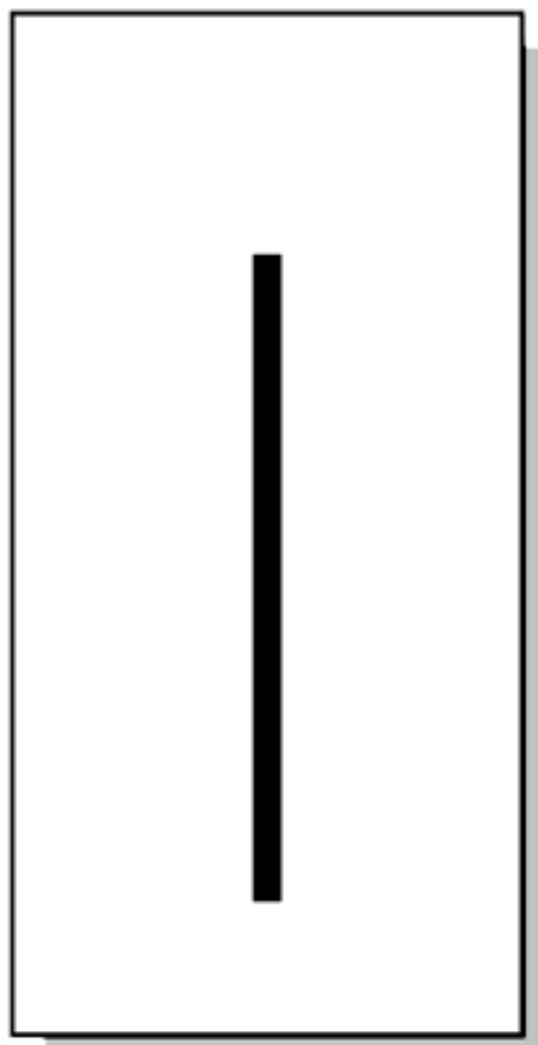
“At the rating agencies the corporate credit people are the least bad”

“Next are the prime mortgage people”

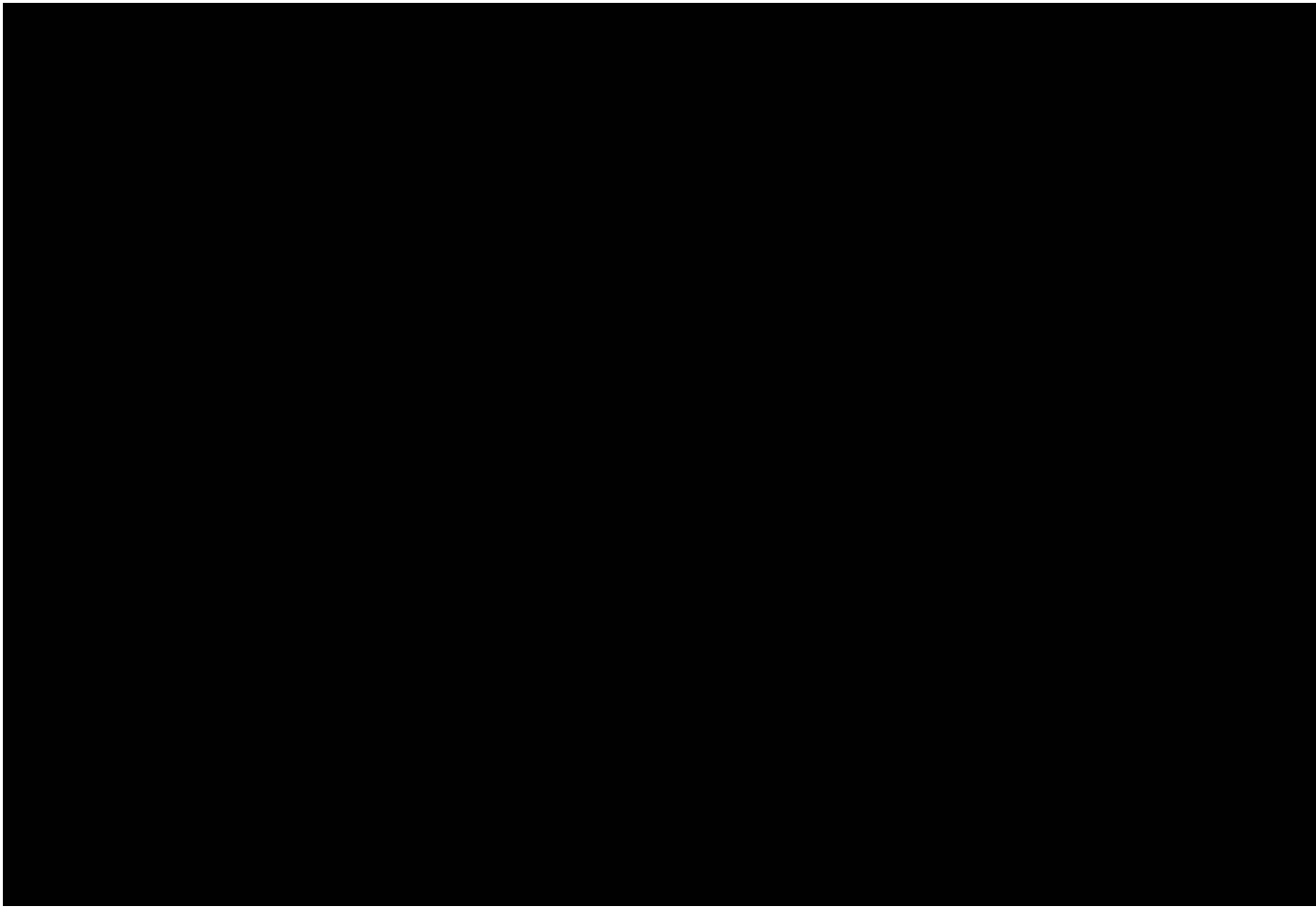
“Then you have the asset-backed people, who are basically like brain-dead”

Michael Lewis – The Big Short

3. and very stupid



Video



Video

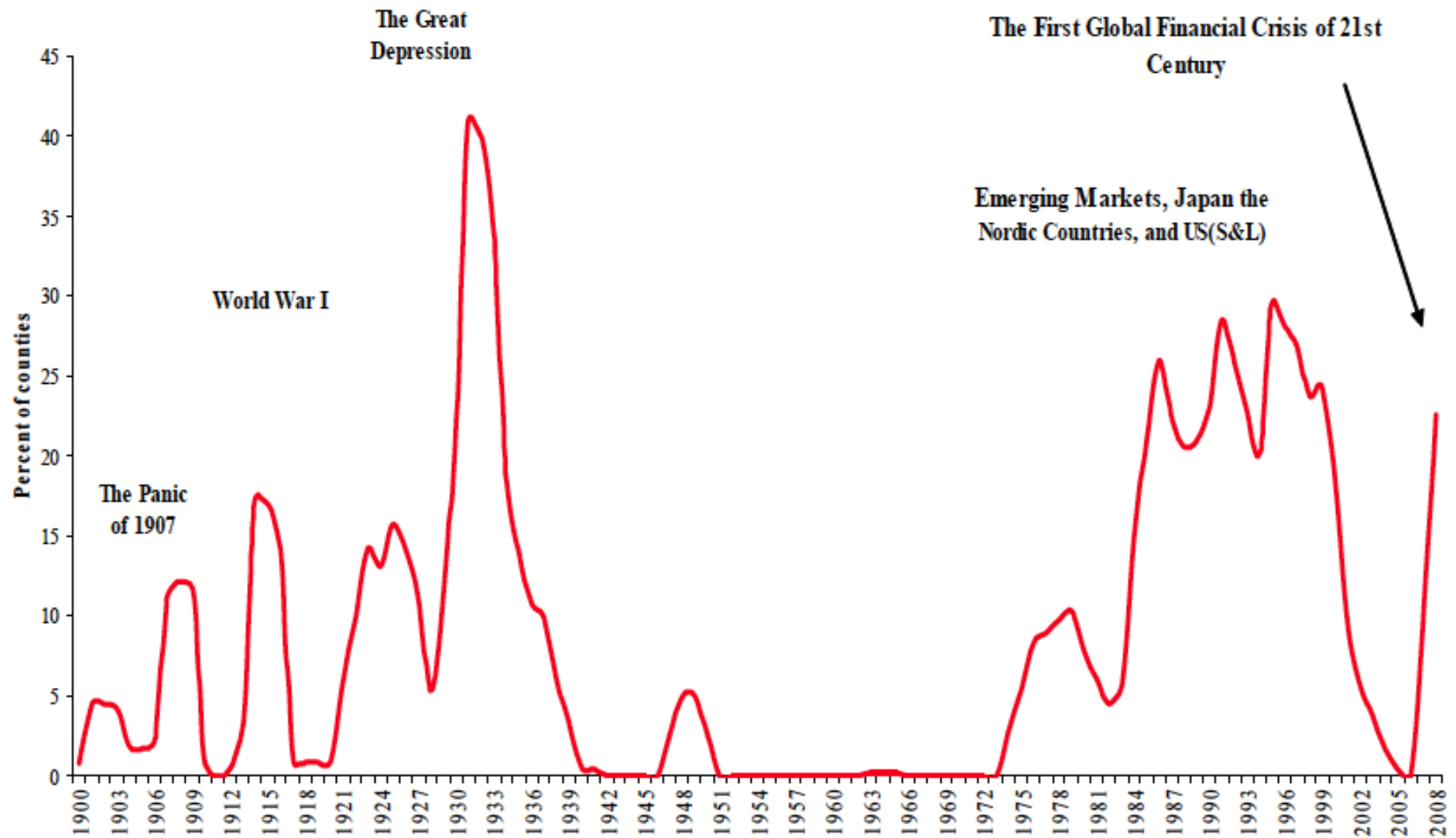
Bias	Description
above-average effect	the widespread tendency to categorize oneself as "above average".
accountability bias	the tendency to form thoughts based on considerations of accountability to others.
affect heuristic	hastily judging objects or people by an immediate feeling of "goodness" or "badness".
anchoring/adjustment	failure to adjust sufficiently from initial anchors, even when the anchors are arbitrary.
anthropomorphism	tendency to ascribe human motives or characteristics to nonhuman objects.
availability heuristic	salient memories override normative reasoning; most fundamental heuristic of all?
base rate neglect	neglect of background frequencies in favor of salient anecdotal evidence.
biased evaluation	double-standards in evaluation of evidence, attribution of hostile motives to critics.
Barnum effect	tendency of people to accept general descriptions as uniquely relevant to them.
causal schema bias	pervasive tendency to categorize salient events based on causal relations.
certainty illusion	an overweighted desire for 100% confidence or certainty.
contagion/similarity	"once in contact, always in contact", "stigma", "karma", other magical thinking.
confirmation bias	the bias to seek out opinions and facts that support our own beliefs and hypotheses.
conjunction effect	systematic overestimation of conjunctive probabilities.
durability bias	durability bias in affective forecasting.
emotional amplification	expect lots of emotion when an salient event's causes were abnormal or mutable.
egocentric attribution	attributing success to oneself, failures to others (consciously or subconsciously).
false consensus effect	inclination to assuming that your beliefs are more widely held than they actually are.
fundamental comp. bias	tendency toward automatic contextualization (personalization) of problems.
framing effects	disparities in estimates when an identical problem is presented in a different way.
frequency bias	weakness with percentages, strength with frequencies.
gambler's fallacy	pervasive false beliefs about the nature of random sequences.
groupthink	the pressure to irrationally agree with others in strong team-based cultures.
homogeneity bias	exaggerated conclusions about large populations based on small samples.
honoring sunk costs	"throwing good money after bad", pouring resources into failing projects.
isolation effect	disregard of components that choice alternatives share, overfocus on differences.
planning fallacy	consistent overoptimism regarding completion times for a given project.
reflection effect	risk-aversiveness with respect to potential gains, risk-seeking with respect to losses.
representativeness	"like goes with like", the tendency to blindly classify objects based on surface similarity.
selective recall	the mostly accidental habit of remembering only facts that reinforce our assumptions.
susceptibility bias	optimism in assessments of personal safety and the effectiveness of precautions.

5. Don't Listen to the Singing of the Sirens

6. Blind Spots

7. Short Memories

Proportion of Countries with Banking Crises, 1900-2008
Weighted by Their Share of World Income



8. Don't invest in what you don't understand

9. How do you really make money...

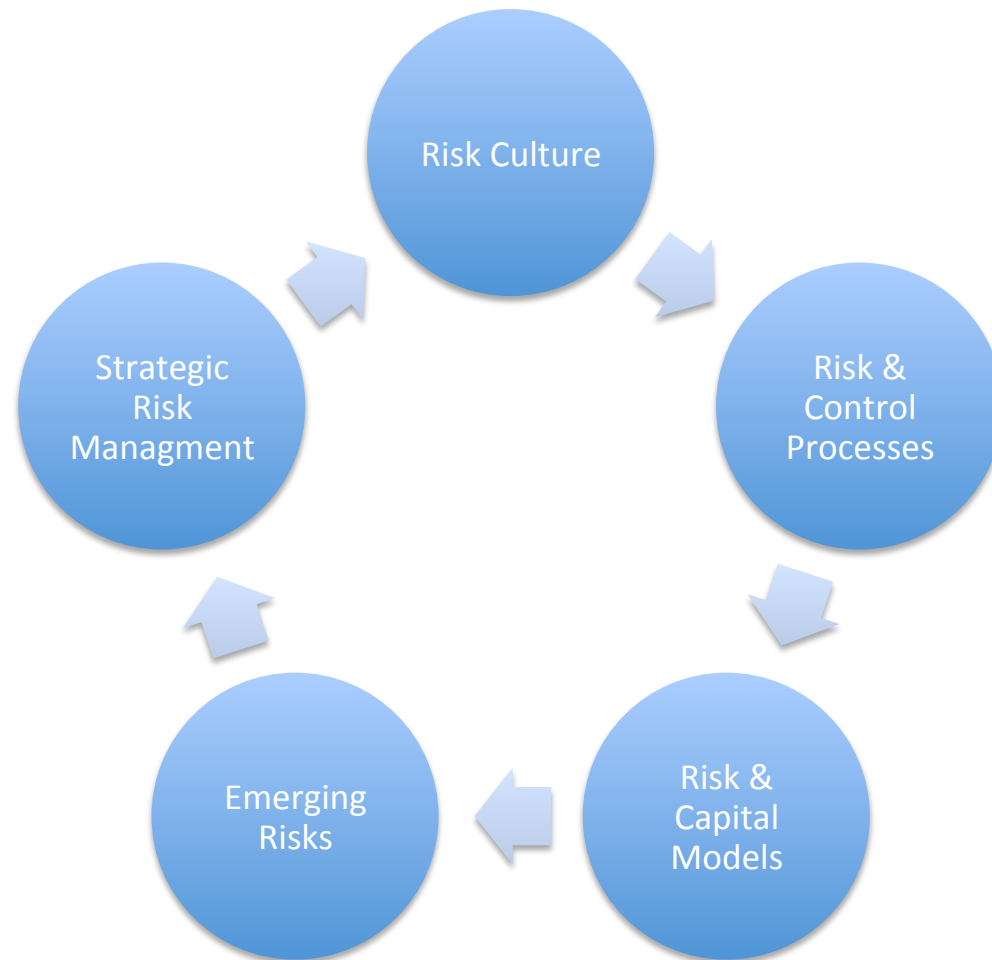
10. Listen !

The Risk Function



Compliance says no!

Getting to YES



Risk Language

- Governance
- 3 Lines of Defence
- Roles & Responsibilities
- Delegations of Authority
- Policy
- Risk Appetite
- Risk Tolerances & Limits
- Control Self Assessment
- ICA or ICAAP

Good Risk Management is:

- Led by the CEO
- Watched over by the Board
- Owned by everyone in the business
- Supported by a second line of defence
- Quality assured by Audit

Good business and risk management are one and the same and, at its heart, great risk management is about great conversations in order to drive better informed decisions.

Philip Scott

Thank You

Great Books about Risk

- Enterprise Risk Management – Lam
- Practice Note on Enterprise Risk Management for Capital and Solvency Purposes in the Insurance Industry – International Actuarial Association
- Fooled by Randomness – Nassim Nicholas Taleb
- The Big Short – Michael Lewis