

Operational Risk Appetite



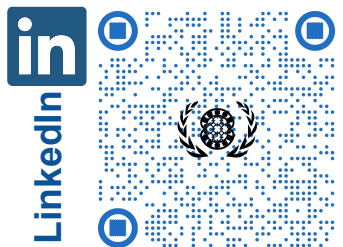
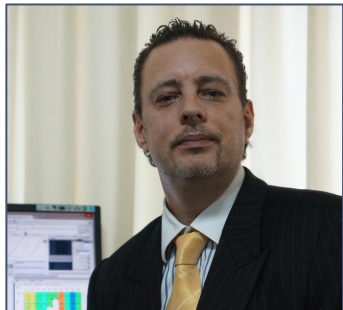
The amount and type of risk we are prepared to seek, accept or tolerate in pursuit of our objectives



Some targets are inherently more risky than others

**THE
INSTITUTE OF
OPERATIONAL RISK** 

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Martin Davies

SME Banking & Risk Management

Banking | Markets | Corporate Finance | Structured Finance

25 Years experience

Martin is a **risk framework architect** who designs **risk, pricing, measurement systems** and **products** for banks, brokerages, exchanges, energy houses and manufacturing companies. He has more than twenty years' experience developing bespoke **reporting, valuation** and scorecard solutions for institutions with a particular focus on **operational** and **credit risk** but also product control. He is comprehensively versed in **corporate finance, markets, treasury services, structured products, cash management, trade** and **project finance**.

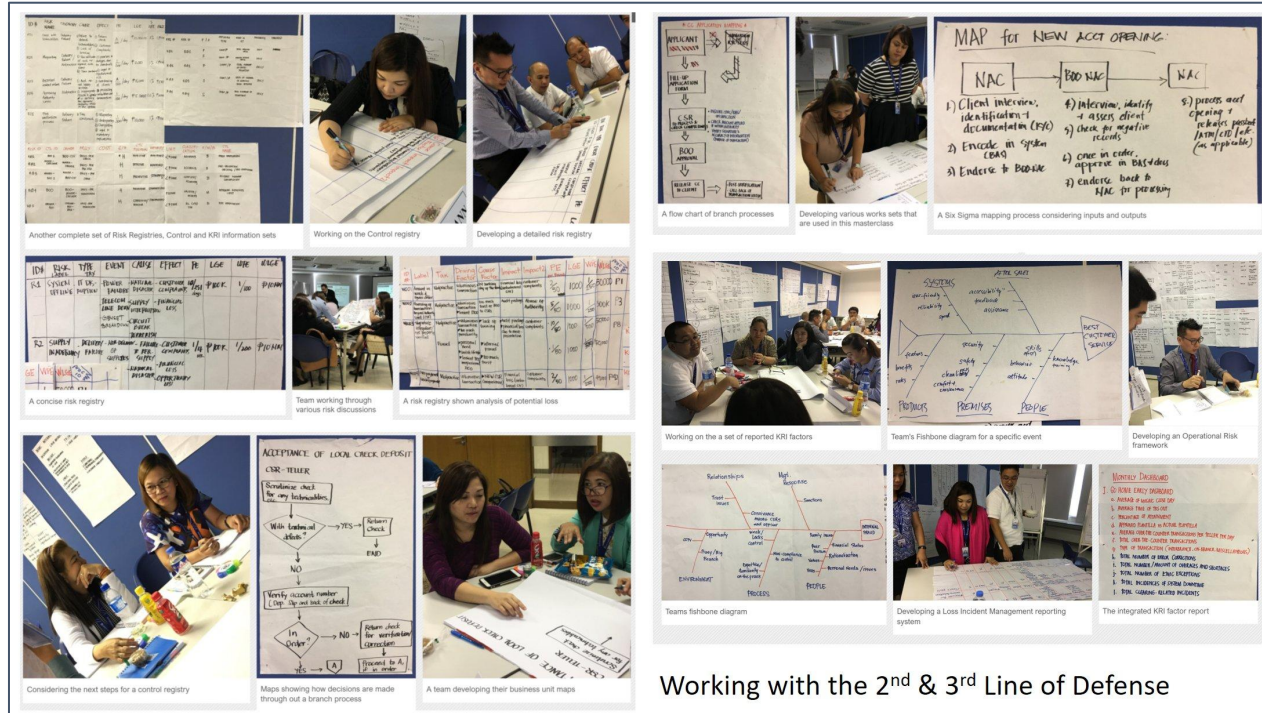
He has worked with some institutions performing **operational audits**, exposure to **complex processing environments** and performed **investigations** into operational events. A solid background in **risk assessment** and strong knowledge in various **quantification methods** for measuring product / **risk performance**. Involvement in the design and operationalization of new facilities and involved in **business process redesign** to reduce cumulative effects of error on processing environments. Martin not only understand various aspects of **operational risk** including **quality control, stress testing** and **fragility modelling**, he is also well versed in **financial risk modelling, due diligence** and **valuation**. Enterprise level **risk assessment**, including contracts, **credit risk, strategy** and designing **optimised solutions** for **control hazards** across the **supply chain**.

Worked with regulators, exchanges, development banks and tier one international banks and accredited with the American Academy of Financial Management on structured finance, project finance, credit & operational risk.

“Martin is a diverse hands on risk manager who works across risk management top to bottom. //”

Causal Capital

Who is Causal Capital & what we do



What we do

Causal Capital is a Risk, Finance and Project Management training and consulting business that offers clients various services including:

- ❖ Off the Shelf & Bespoke Training
- ❖ Consultative Knowledge Transfer
- ❖ Risk Framework Development
- ❖ Risk System Gap & Assurance Reports
- ❖ Next Generation Risk Management

Our Clients

Our clients range from large multinational conglomerates, governments, regulators and education bodies through to small local businesses looking to improve the quality of their decision making oversight infrastructure.





Operational Risk Appetite

A Framework for Risk Appetite

Webinar

A systematic way to allow individual risk appetites to be expressed and governed across an organisation

Risk Appetite



With all endeavours always start out with a definition

✓ IOR Inspired **Appetite** Definition

!! *The amount and type of risk that an organisation is prepared to seek, accept or tolerate. //*

✓ MD Inspired Risk **Tolerance** Definition

!! *How much uncertainty / volatility / risk a system can absorb before it fails. //*

✗ ISO 73:2009 **Tolerance** Definition

!! *An organization's or stakeholder's readiness to bear the risk after risk treatment in order to achieve its objectives. //*

Don't make these definitions unnecessarily complicated and stay close to a dictionary explanation to ensure the meaning remains natural and neutral.

The number of people that misinterpret the natural language of definitions is unbelievable as we can see.

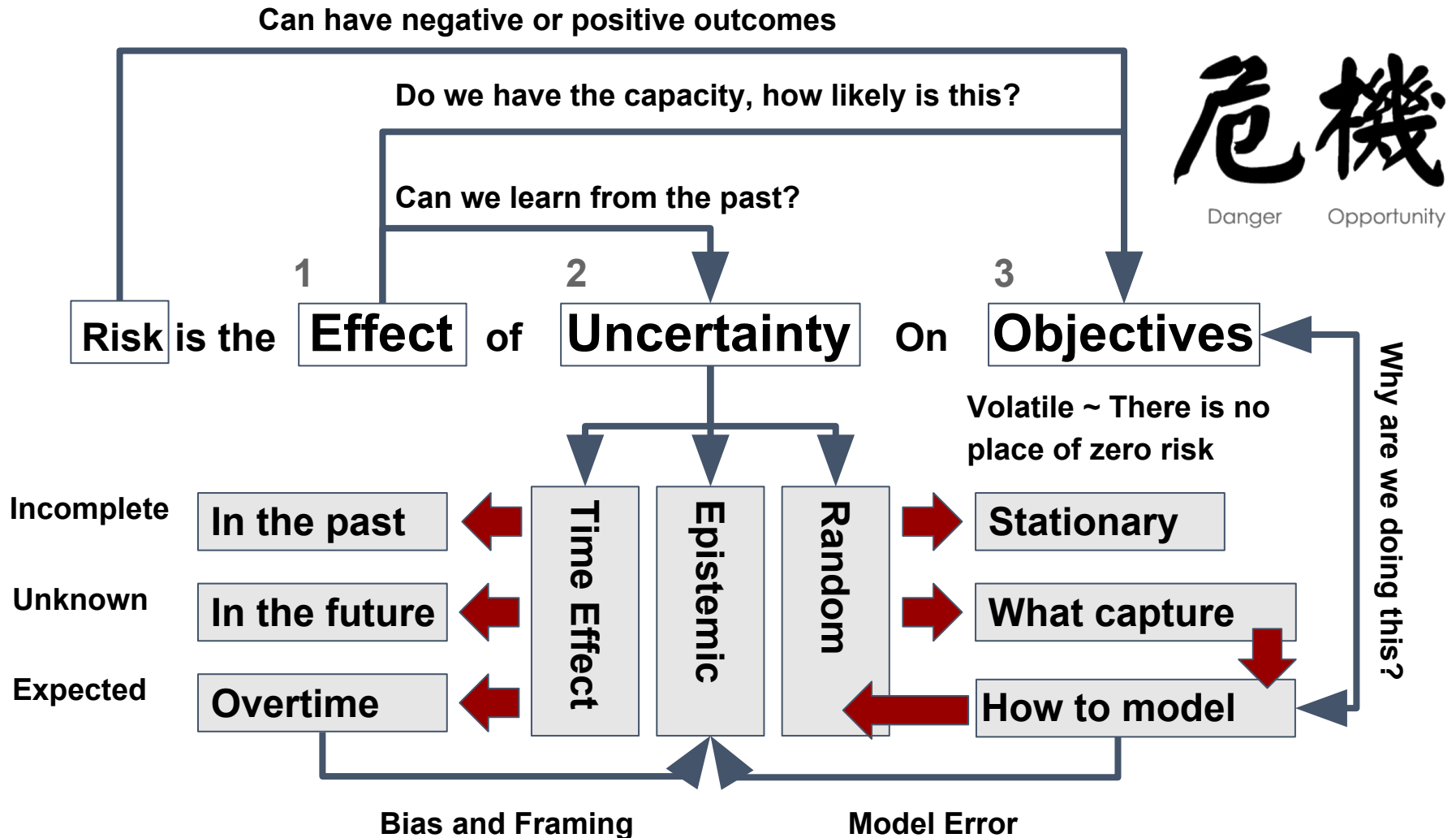
It follows ...

- Risk Appetites that exceed maximum upper thresholds or tolerance levels are dangerous places to operate.
- Setting Risk Appetites for those who have skin in the game by those who don't is an immoral activity.
- Ignoring Risk Appetites altogether is quite simply negligent.

So many different industry accepted definitions ~ Risk Managers must be clear with what they truly mean, define your terms!

Risk Definition

Risk is an intangible asset, part of the domain of uncertainty



Source of Confusion I

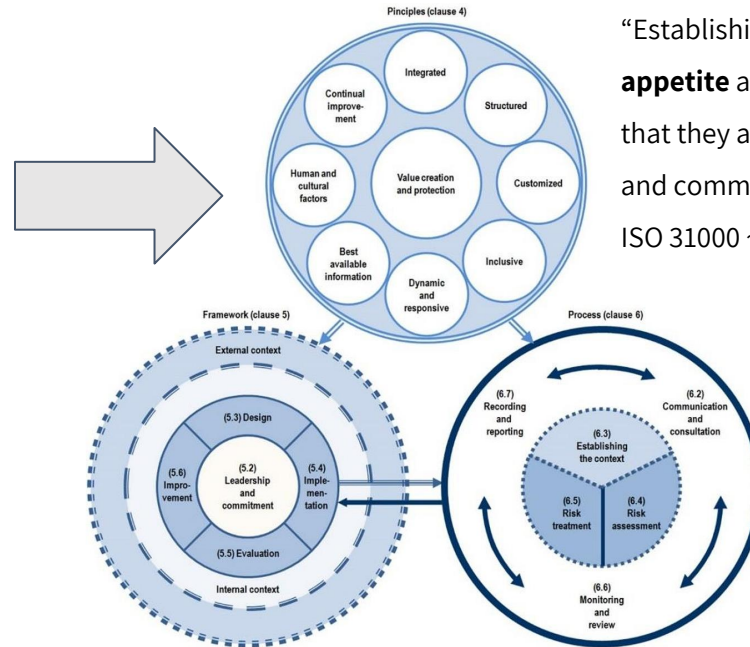
Political Lobby ERM & 31000 Community Fractured



ISO 31000 Practitioners reject the concept of Risk Appetite. //

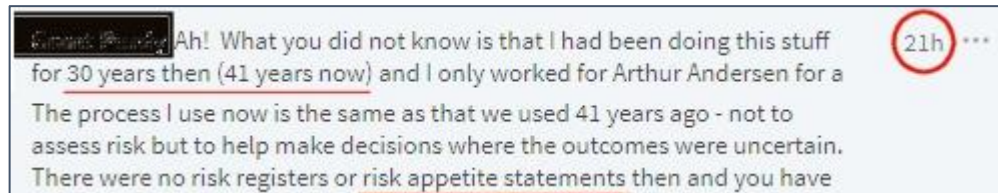
When ISO 31000 released its inaugural interpretation of a risk management framework in 2009, the enterprise risk management community was fractured and for good reason ...

- ISO 73 Definitions were not consistent with industry or standard practice. No real life case studies existed.
- The ISO 31000 guideline makes no mention to risk appetite but ISO 31010 Risk Assessment techniques certainly does.
- Risk Appetite is a well established ideology in strong risk management fields such as banking, investments, finance, markets and other applications of risk such as in the military.
- Some members of the ISO 31000 community lobbied risk appetite be translated to “levels of risk” and “risk attitude” to differentiate ISO doctrines away from other risk practices.
- New ISO 31000 Drafts have seen many members of the ISO community backtrack and flip on their earlier beliefs to begrudgingly embrace various concepts including risk appetite.



“Establishing risk criteria, **risk appetite** and **risk tolerance**, ensuring that they are understood, articulated and communicated to stakeholders” | ISO 31000 ~ 2017

Even today, only hours ago, confusion continues ...



Senior ISO 31000 practitioners not aligned with ISO 31000

Source of Confusion II



Different agendas and interpretations of risk

!! Depending on who you are, your culture, your operating environment ... Your interpretation of what a risk is will be different to what it may be to someone else, even under the same conditions. //

	Negative Risk	Zero Risk	Positive Risk	Risk is truly	Risk Models
Compliance Focus	Risk is only bad	Strive for 100%	NA	Failure to be Compliant	Rarely modelled
ERM with a Safety Focus	Risk is always bad	Zero Incident Goal	Positive Risk Absurd	Errors Injuries Incidents	Some models but often $P \times I$
Financial Risk Management	Out of the Money	Zero Risk Absurd	In the Money	Volatility Uncertainty Opportunity	Stochastic Coherent Methods

As some practitioners of risk management only see risk as having negative attributes, it is understandable that proposing an appetite for anything negative is quite simply bizarre.

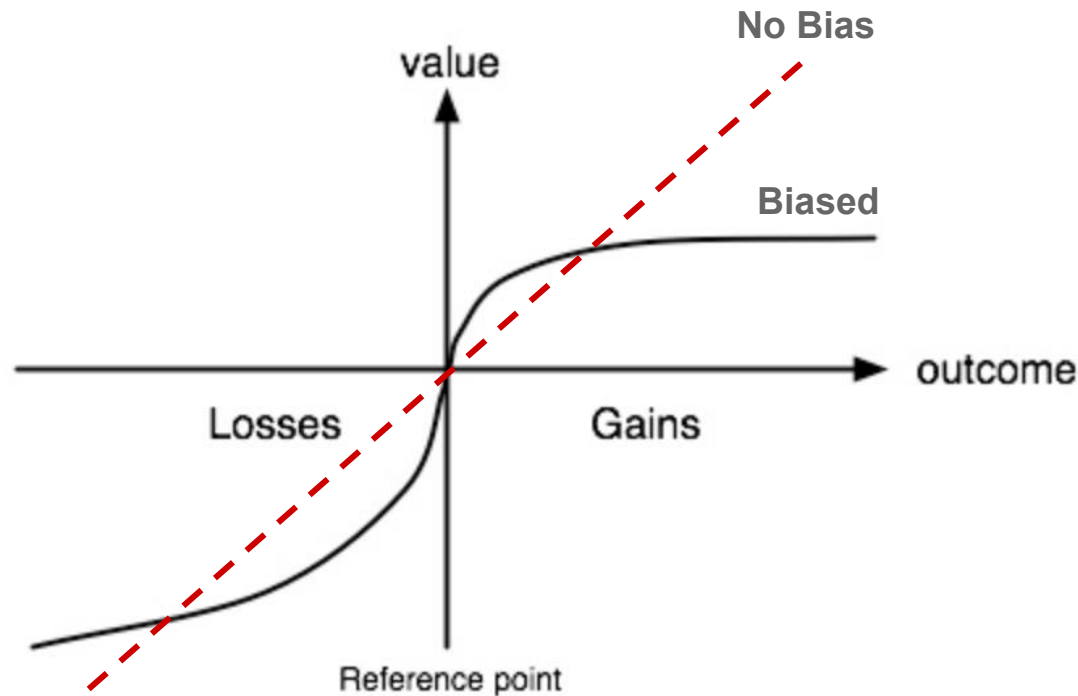
One way forwards here is for enterprise risk managers to improve their knowledge in the world of finance, just as an example. Considering ERM units often report risk in terms of currency, this would surely be useful. Other solutions include practitioner or standards boards developing and publishing suitable models on risk appetite from adjacent risk disciplines.

Source of Confusion III

Stakeholder Bias Adjust for Perception



There is another problem ... People don't weight uncertainty that has negative outcomes or potential gain with the same measurement stick. They can be overly risk averse or unrealistically optimistic, they can be biased. //



$$V = \sum_{i=1}^n \pi(p_i) v(x_i)$$

where V is the overall or expected utility of the outcomes to the individual making the decision, x_1, x_2, \dots, x_n are the potential outcomes and p_1, p_2, \dots, p_n their respective probabilities and v is a function that assigns a value to an outcome.

Prospect Theory was created in 1979 - 1992 by Daniel Kahneman and Amos Tversky as a way to psychologically improve accuracy for describing how people form decisions when facing uncertainty. People weigh their choices based on what they chance to lose, how much they can afford to lose, what they have experienced, their religion, culture, duration of risk and many other factors. Over the years many of the systemic risks including the Global Financial Crisis were centred around the paradoxes of poor decision making as an outcome of weak perception.

Financial Risk Context

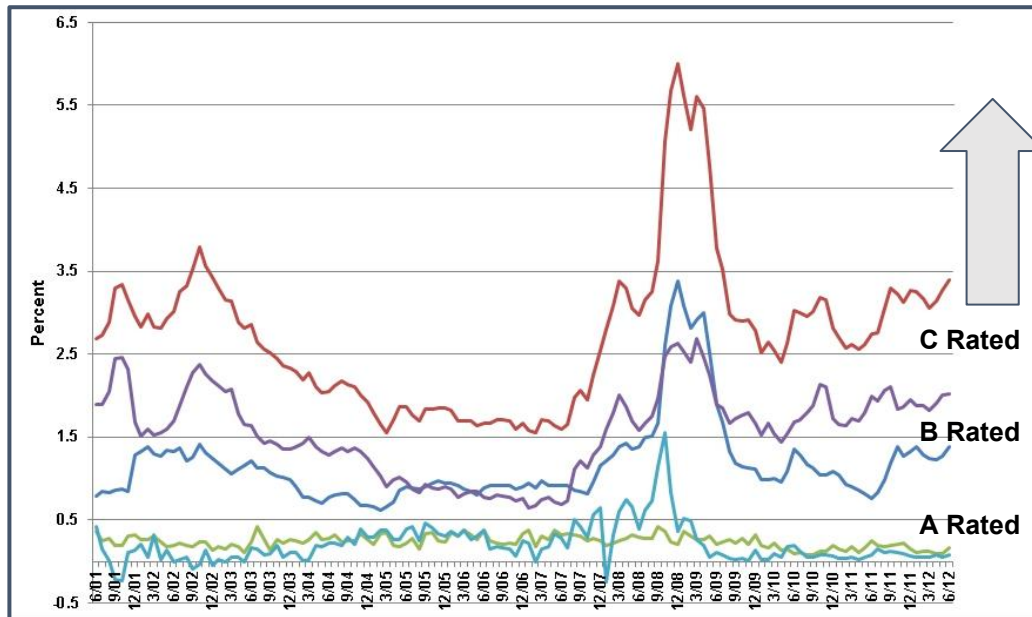


Chosen risks including investment & credit risk will have appetites

original rating	probability of rating after five years (percent)							
	AAA	AA	A	BBB	BB	B	CCC	Default
AAA	72.39	21.69	4.74	0.86	0.20	0.08	0.01	0.02
AA	2.49	66.45	25.05	4.45	0.75	0.51	0.09	0.18
A	0.39	8.19	68.22	18.05	3.19	1.32	0.18	0.50
BBB	0.16	1.72	16.80	60.61	13.16	4.68	0.79	2.08
BB	0.13	0.53	3.81	19.50	44.77	19.84	3.09	8.34
B	0.06	0.42	1.62	4.15	15.18	46.97	6.54	25.15
CCC	0.34	0.20	1.21	3.05	6.33	18.10	12.36	58.51
Default	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00

Jump to Default

Risk Increases



Risk Increases

Yield Increases

In the world of finance, high-risk investments are also valuable! Concisely, poor quality ratings tend to yield more to investors. This confuses a lot of people away from finance but the reason under this phenomenon is very simple.

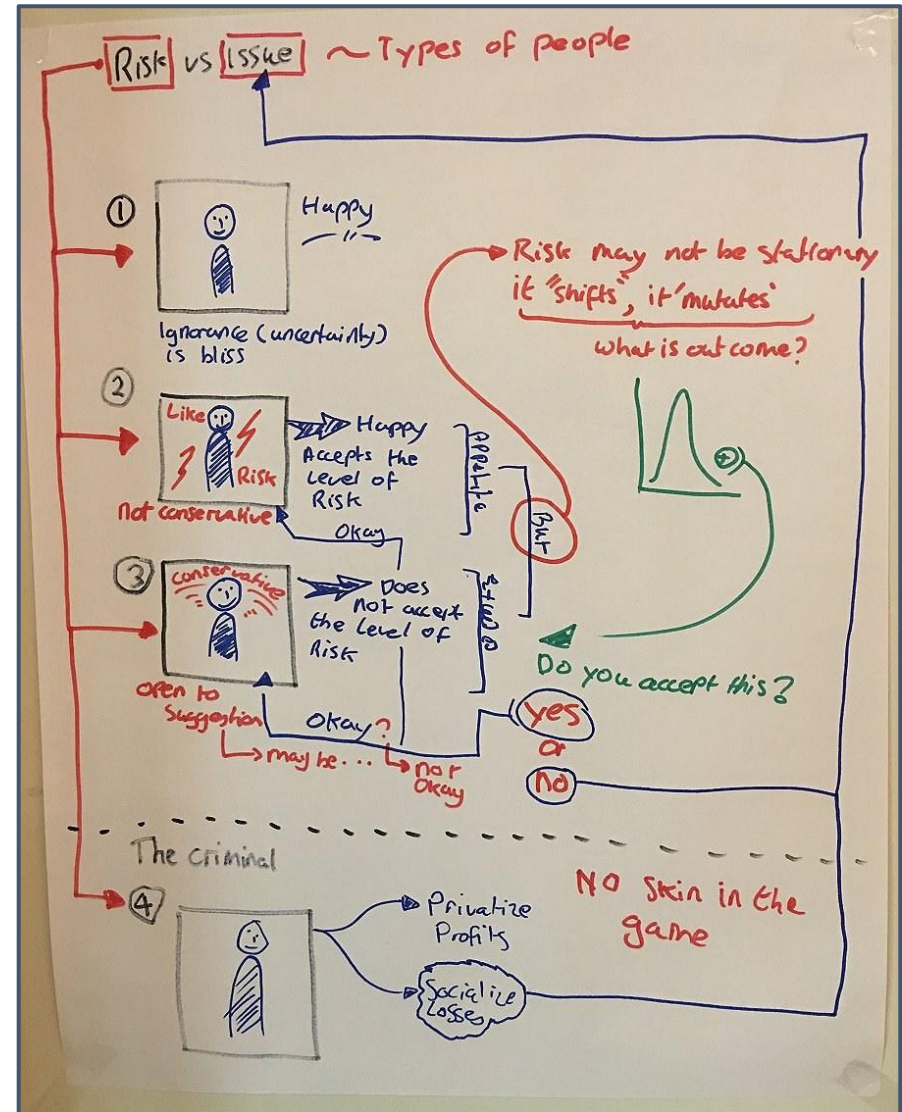
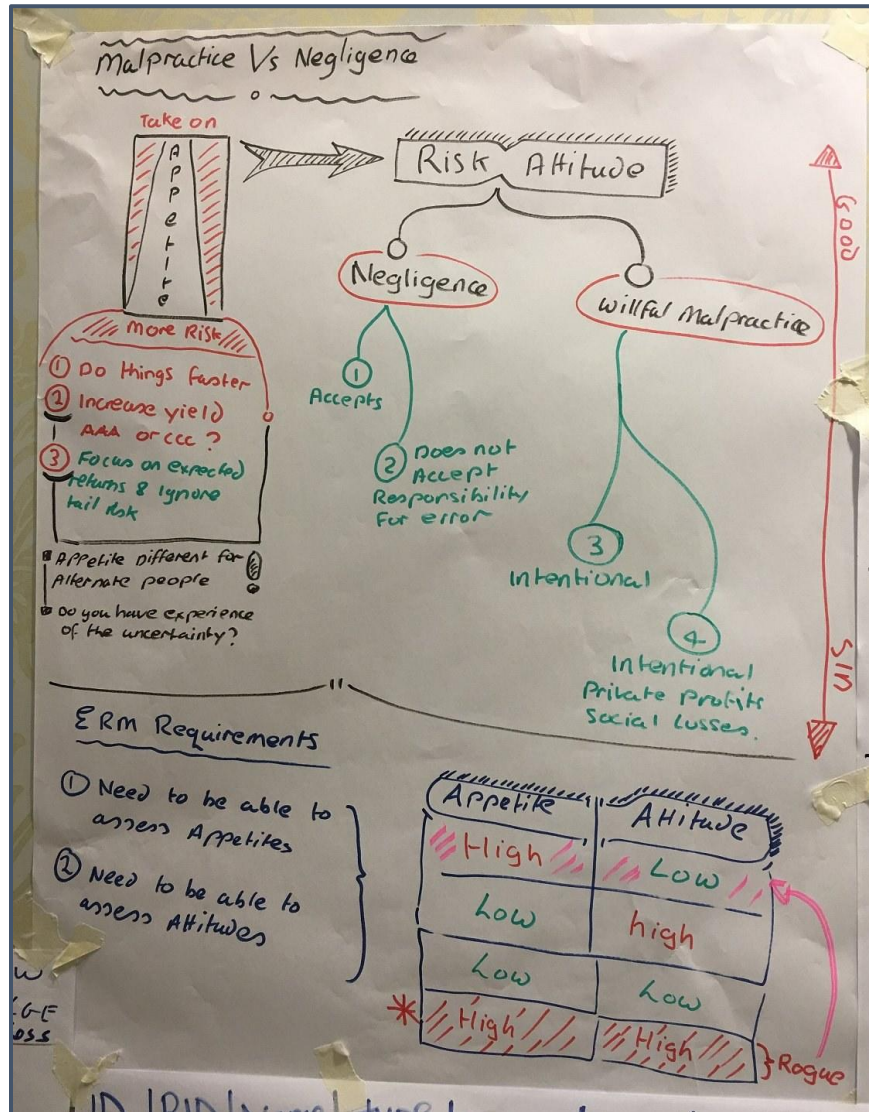
Say you were given two investments, one being low risk and the other high risk, the high-risk investment has to pay more back to you as an investor (yield) to attract your interest away from the low-risk benchmark alternative.

In the diagram to the left, C Rated companies are paying more interest on borrowed funds than A-Rated companies; they also have a higher probability of defaulting at any point of time during the investment.

Where to invest in this opportunity space is part of an investor's Risk Appetite.

Risk Appetite Behaviour

Causes that bring risk appetites us to a point beyond conciliation



Case Study : Failure

The transocean catastrophe was a failure of risk~control appetites



BP, Transocean Deep Water Horizon explosion

Malpractice and Negligence are not the same things and Risk Attitude makes a big difference.

Risk Attitude is NOT Risk Appetite. Actors behave differently when they have skin in the game and there is a reason why the Three Lines of Defense stands ~ to assign accountability.

Under the US Clean Water Act, a ruling of negligence would have meant BP was liable to pay \$1,100 per barrel of oil spilled; gross negligence increases the penalty to \$4,300 per barrel.

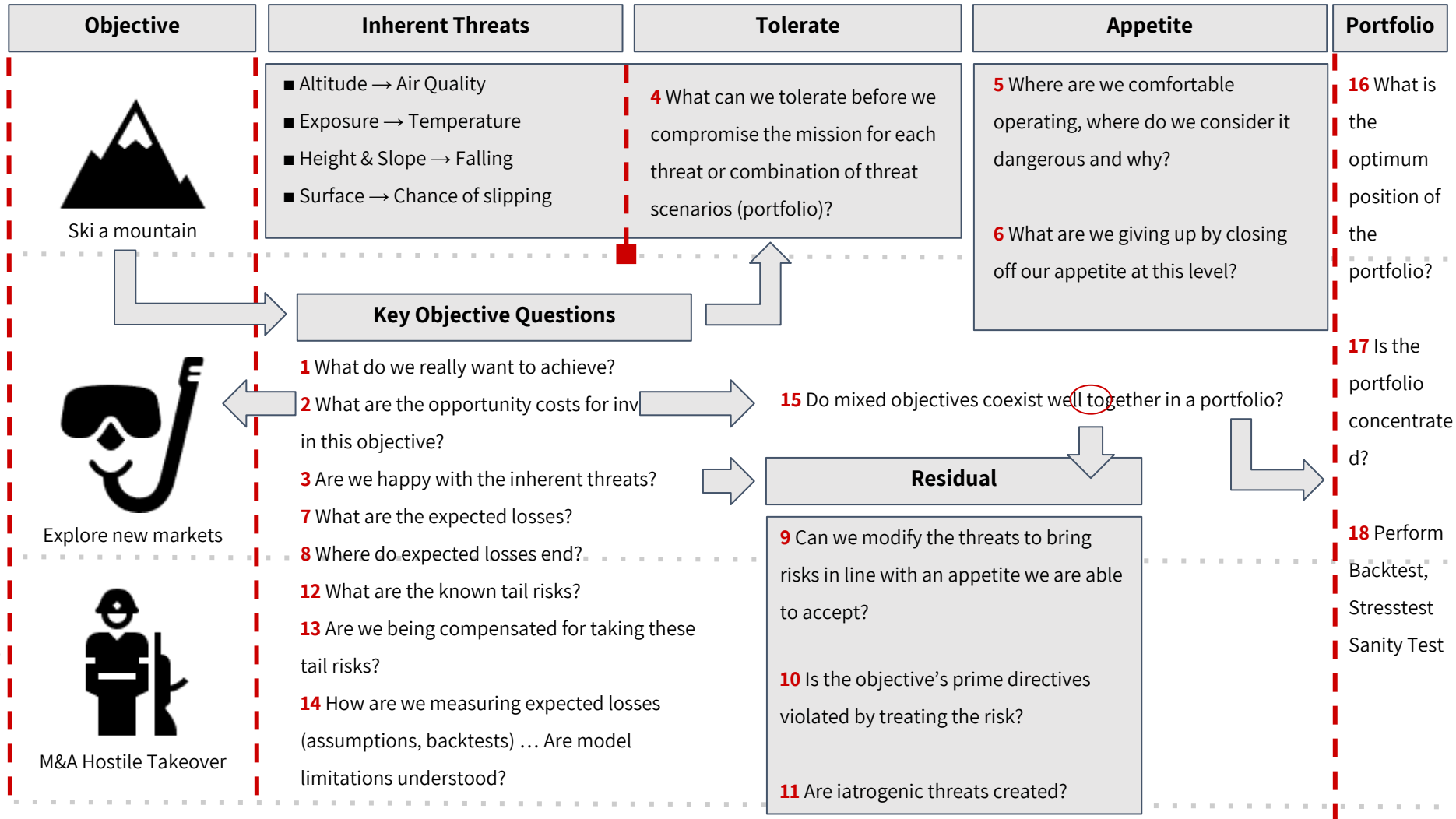
More Information here [\[LINK\]](#).

Key Question Flow



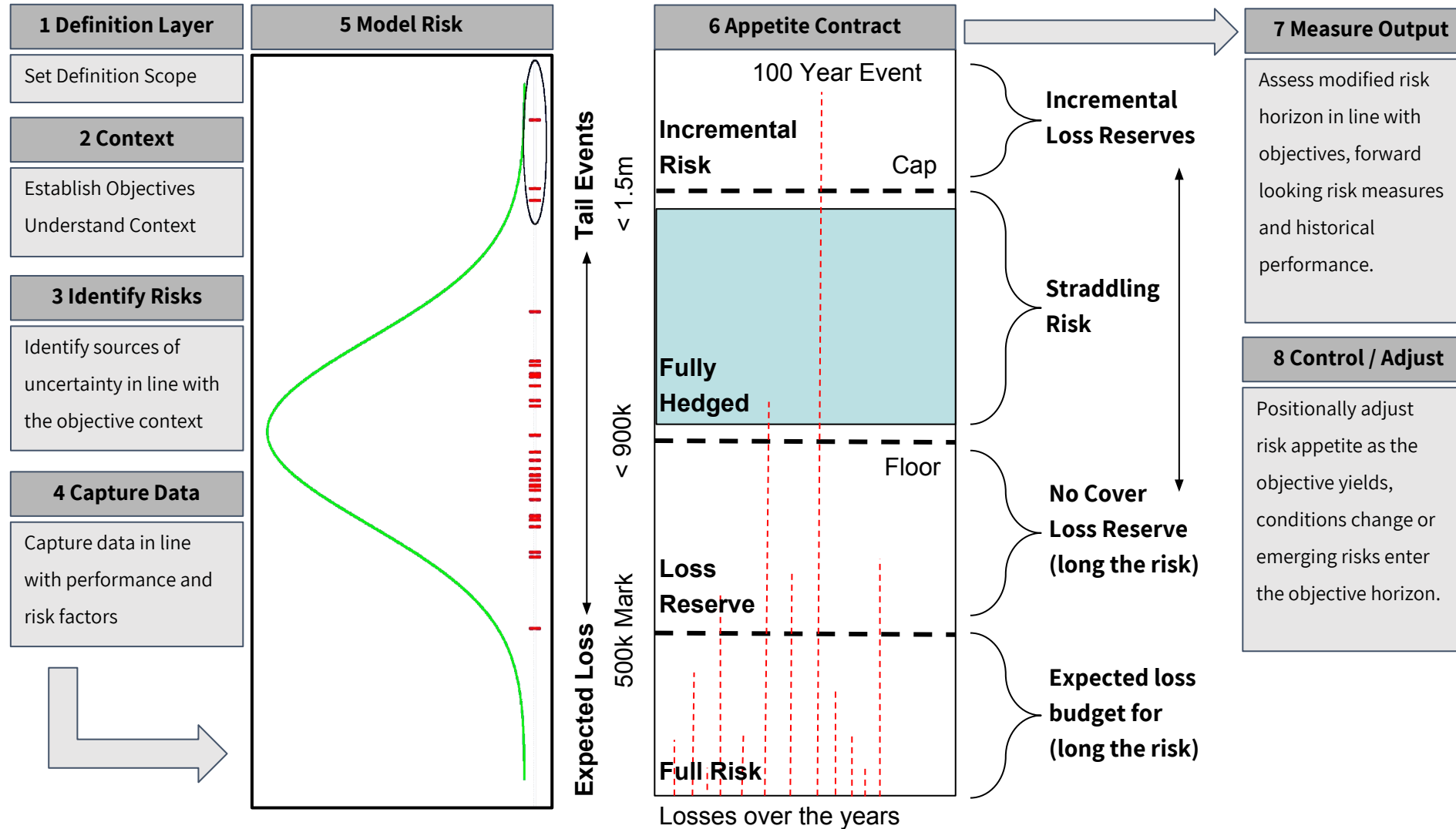
Typical question set that needs to be put to stakeholders

Each objective comes with its own set of threats and opportunities



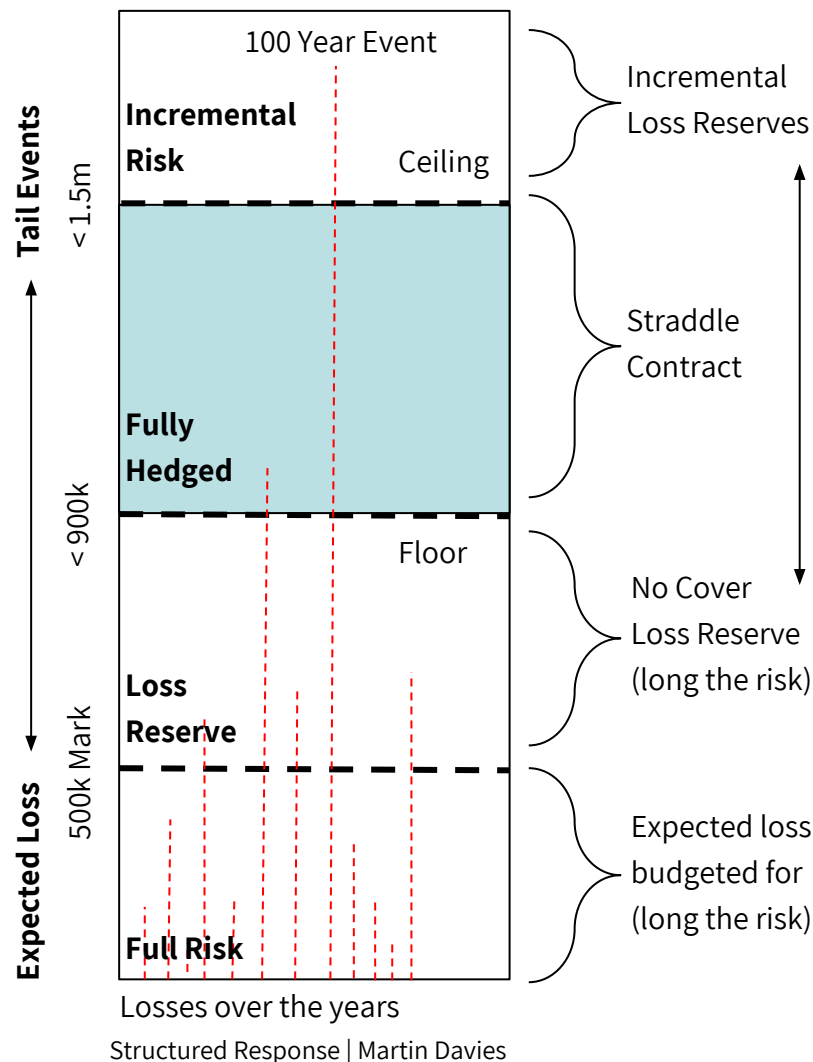
8 Finite Risk Appetite Steps

A simple approach for assessing a stakeholder's risk appetite



Structured Risk Response

Effective Risk Appetite framework results in structured risk responses



In the example to the left, a business faces losses that are randomly distributed over different periods of operation from stormy weather. If the risk manager takes no action, there will be some years when the losses are very large, so large that the business may not even be able to remain solvent.

If the manager insures for all losses from the 10k limit up (just as an example), the insurance premiums are going to be potentially worse than the actualized risk experienced over the average year. This is not optimum or effective because it transfers too much risk to the 2nd party.

By carefully setting different thresholds throughout the range of potential losses, the business can balance premiums for cover and reduce their uncertainty inline with their appetite for risk.

In the full risk area below the 900k threshold, the business reserves for losses or prices these costs into the operating cost model of the business. In the blue banding, the company is fully hedged but above that, losses are incrementally charged. It is important to note that the insurance premiums are lower with this model because the total exposure the insurance company faces is now capped by the straddle contract. The use of Extreme Value Theory allows for this structured risk solution to be designed with “*relative pricing accuracy*” reducing loss exposure but in an effective way and optimised way.

Comparing Risk Treatment Structures

Mixing contracts in the same asset class can have very different effects



[RA]

What is the cost

What do you expect

What is the likely downside

Are you aware of the tail threats

How long to wait

The portfolio effects of multiples risks across multiple objectives will alter risk appetites substantially.

Risk appetites need to be considered at aggregate levels and that will require consistent reporting.

Buying a single call contract for Oct 18 in belief that oil will rise ... How does it feel?

Order Description	BUY +10 /CLV8 1/1000 OCT 18 /LOV8 71 CALL @.66 LMT [TO OPEN]
Break Even Stock Prices	71.66
Max Profit	Infinite
Max Loss	\$6,600.00 (not including possible dividend risk)
Cost of Trade including commissions + fees	\$6,600.00 + \$22.50 +\$15.10 ⓘ = \$6,637.60
Buying Power Effect	(\$6,746.00)
Resulting Buying Power for Stock	\$186,508.00
Resulting Buying Power for Options	\$93,254.00

Buying a single vertical contract for Oct 18 in belief that oil will rise but without greed ... How does it feel?

Order Description	BUY +10 VERTICAL /CLV8 1/1000 OCT 18 /LOV8 71/71.5 CALL @.14 LMT [TO OPEN/TO O.]
Break Even Stock Prices	71.14
Max Profit	\$3,600.00
Max Loss	\$1,400.00 (not including possible dividend risk)
Cost of Trade including commissions + fees	\$1,400.00 + \$45.00 +\$30.20 ⓘ = \$1,475.20
Buying Power Effect	(\$1,451.00)
Resulting Buying Power for Stock	\$197,098.00
Resulting Buying Power for Options	\$98,549.00

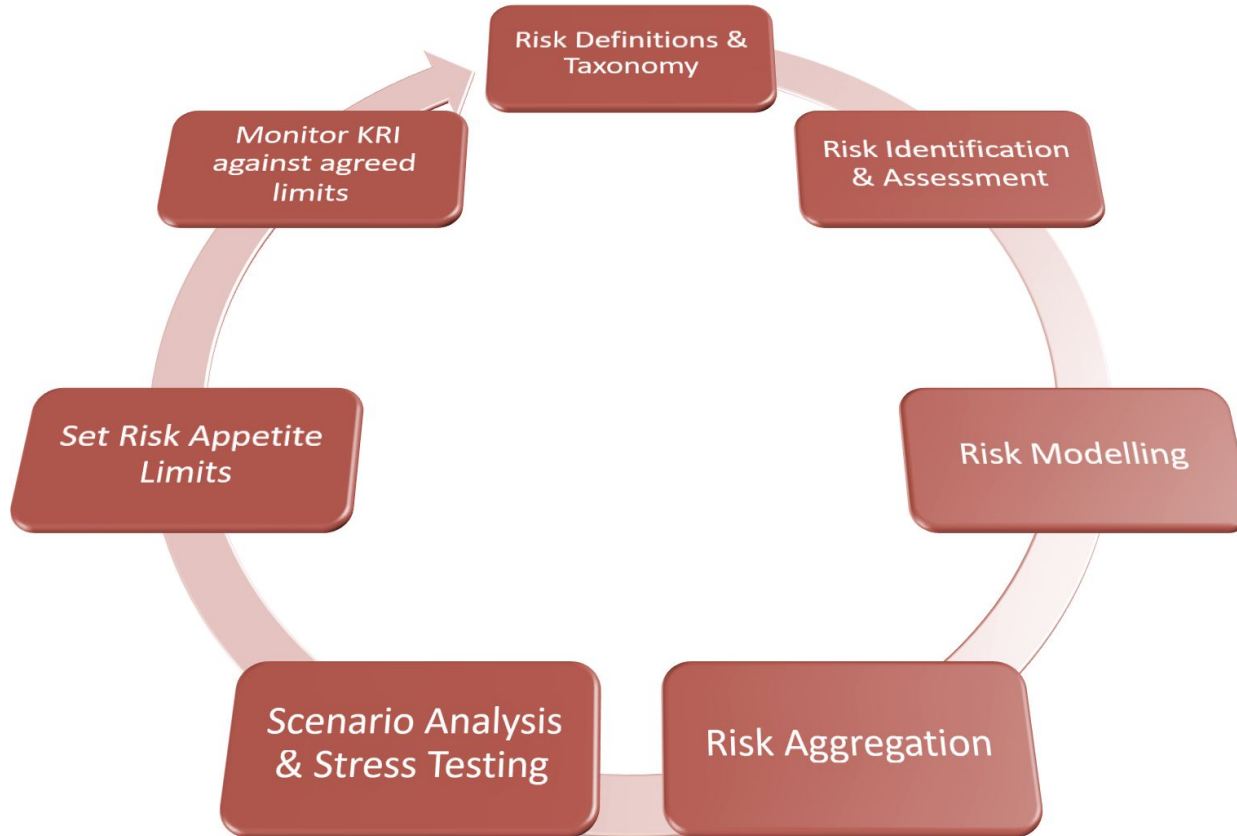
What happens if we break our vertical contract apart without netting the effects ... How does it feel?

Order Description	SELL -10 /CLV8 1/1000 OCT 18 /LOV8 71.5 CALL @.50 LMT [TO OPEN]
Break Even Stock Prices	72.00
Max Profit	\$5,000.00
Max Loss	Infinite
Cost of Trade including commissions + fees	credit \$5,000.00 - \$22.50 - \$15.10 ⓘ = credit \$4,962.40
Buying Power Effect	(\$24,582.00)
Resulting Buying Power for Stock	\$150,836.00
Resulting Buying Power for Options	\$75,418.00

Risk Appetite Process



Risk Managers will need to modify their risk management process



Process of Risk Appetite | Martin Davies

The formal management of risk appetites will end up being a process that is inserted into existing risk management practices.

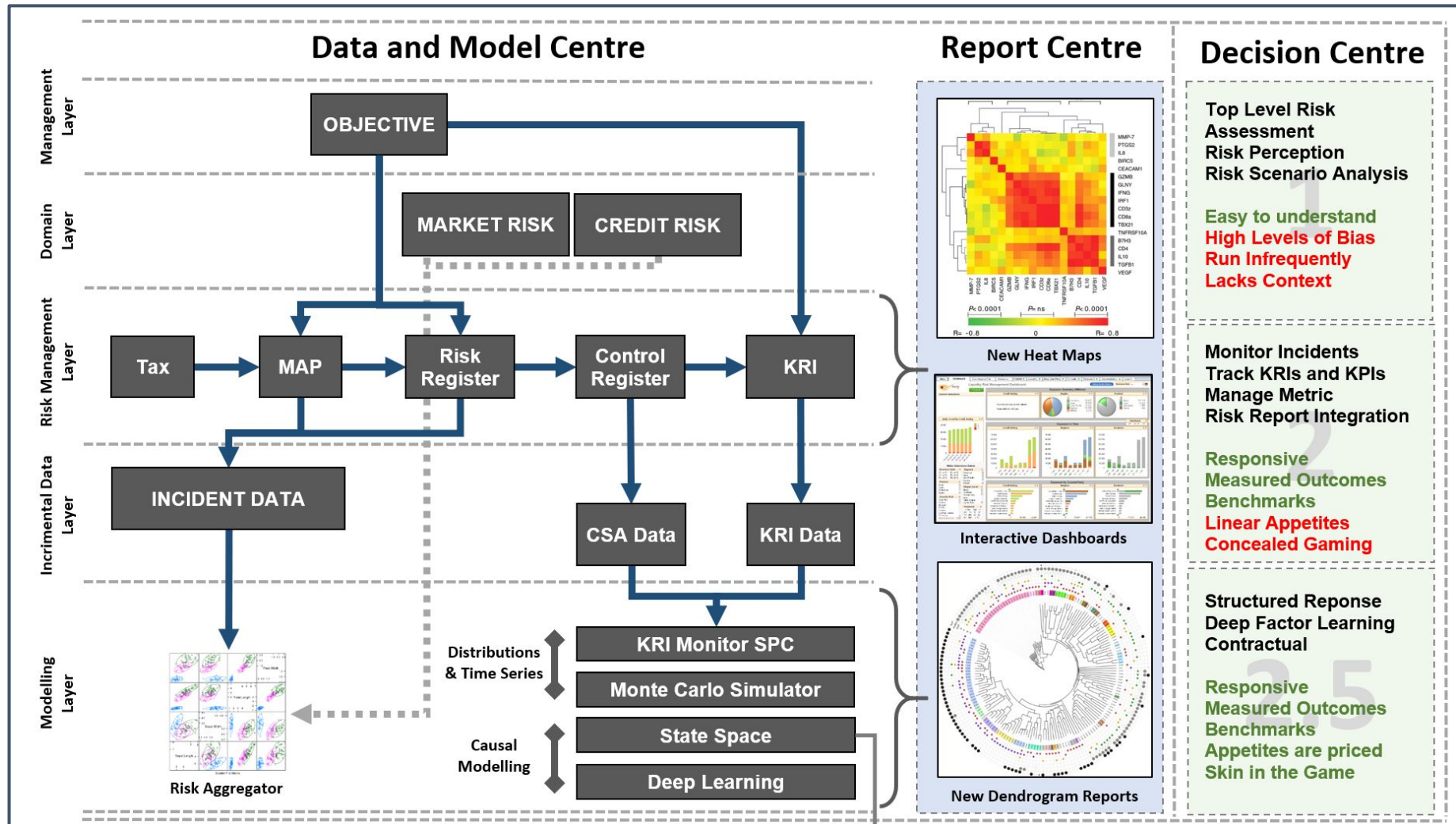
Risk Appetites work at a business unit management level as nothing more than limits which are agreed, monitored and reported upon.

Risk Appetites at a board level will require consolidated and aggregated reports like Economic Capital to be in place.

For companies that are measuring Risk Adjusted Return on Capital, the process of risk appetite is much more straightforward to manage.

Framework Elements

Risk Appetite cannot be ascertained without a functioning Risk Framework



Bottom Up Case : MC Simulation



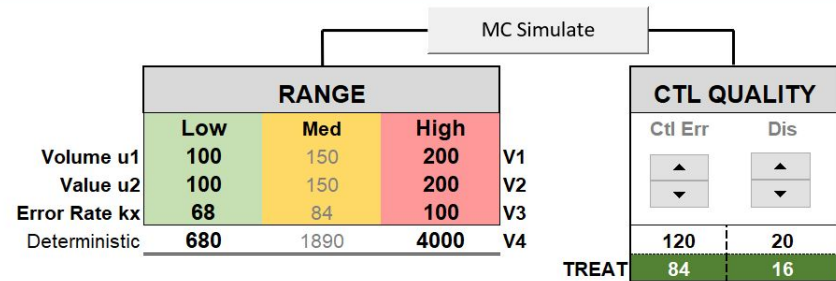
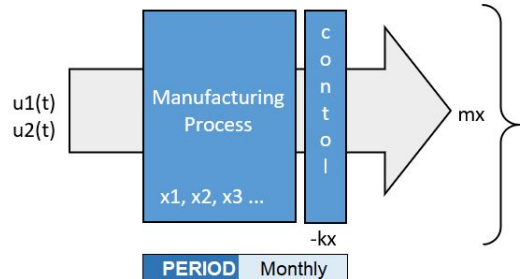
Assessing the downside from the operation of a control

Simulation Example

Spreadsheet model [\[LINK\]](#)

Part 1 - The Business Situation

Imagine we have a manufacturing plant which is processing various inputs to create a special product. However, things don't always work out as planned because of errors in our detection control. Unfortunately, this allows faulty products to be released to our clients which results in losses.

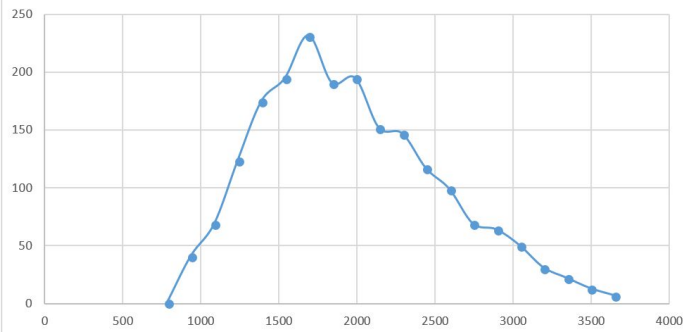


Part 2 - Stochastic Perspective from Simulation

DATA TABLE	
Number of Samples	1995
Lowest Occurrence	784.8
Highest Occurrence	3645.6
Step	150.56842

MC Simulate

Simulation Outcome



STRATIFICATION SET

QTR	Magnitude	Frequency
1	5%	784.8
2	10%	935.368421
3	15%	1085.93684
4	20%	1236.50526
5	25%	1387.07368
6	30%	1537.64211
7	35%	1688.21053
8	40%	1838.77895
9	45%	1989.34737
10	50%	2139.91579
11	55%	2290.48421
12	60%	2441.05263
13	65%	2591.62105
14	70%	2742.18947
15	75%	2892.75789
16	80%	3043.32632
17	85%	3193.89474
18	90%	3344.46316
19	95%	3495.03158
20	100%	3645.6

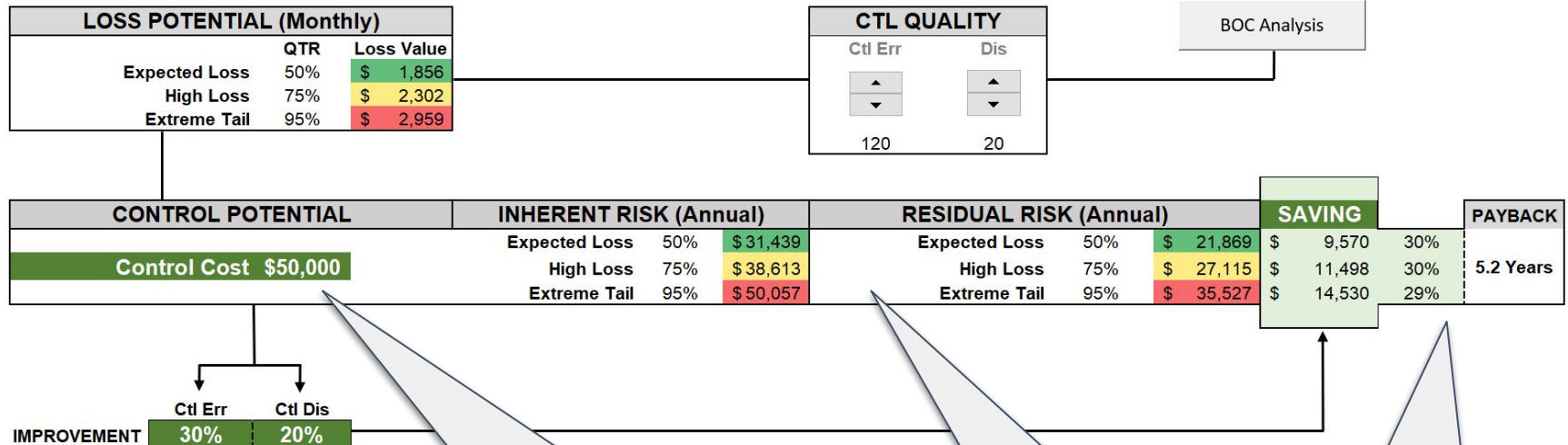
In our demonstration we evolve the State Space concept through a Monte Carlo model that generates an outcome based on a set of commercial variables. In this example a business manager will need to define these commercial variables before inserting the factors into a Monte Carlo simulation as shown. Please note that a single risk or control failure has many outcomes not one risk level!

Bottom Up Case : Benefit of Cost



If you don't have the Risk Appetite, can you benefit from the cost?

Part 3 - Treatment Decision Centre



A business manager sets the outcome from a control improvement.

The cost for the risk treatment is also inserted into the model. In this case that cost is a one of upfront fee.

The Monte Carlo engine will then run two simulations, one to calculate the Inherent Risk and the other to calculate the Residual Risk after the treatment is applied. The Monte Carlo model convolutes the state space variables between these two places.

By comparing the inherent and residual risk against the control investment cost, it is possible to calculate the Payback. It is important to note that decisions should be made by considering expected and unexpected loss positions (shown above).

Not all risks should be treated, especially when the payback is long or the Benefit of Cost is negative. It is also possible that some risks are too expensive to operate given the commercial yield from an objective. All of these considerations form part of the process of a Cost Benefit Analysis and will help stakeholders make decisions on their risk appetite ... ie select a set of treatment options that suit them.

In the Banking Domain

Simply reporting without Risk without 'Appetite Adjustment' is a FAIL



APS 330 Table 20 - LCR disclosure template

	31 Dec 15 Total	31 Dec 15 Total	30 Sept 15 Total	30 Sept 15 Total
Starting from January 1	2015	2016	2017	2018
Minimum LCR	60.0%	70.0%	80.0%	90.0%
				100.0%
Particulars	Total unweighted value (average)	Total weighted value (average)		
High quality liquid assets				
1 Total high quality liquid assets	N.A.			534,184.8
Cash outflows				
2 Retail deposits and deposits from small business customers, of which:	2,166,232.6			195,869.9
(i) Stable deposits	415,068.1			20,753.4
(ii) Less stable deposits	1,751,164.5			175,116.4
3 Unsecured wholesale funding, of which:	843,829.9			416,069.0
(i) Operational deposits (all counterparties)	144,097.4			36,024.3
(ii) Non-operational deposits (all counterparties)	661,388.5			341,700.8
(iii) Unsecured debt	38,343.9			38,343.9
4 Secured wholesale funding	N.A.			-
5 Additional requirements, of which:	407,404.9			61,117.7
(i) Outflows related to derivative exposures and other collateral requirements	8,782.9			8,782.9
(ii) Outflows related to loss of funding on debt products	414.8			414.8
(iii) Credit and liquidity facilities	398,207.2			51,920.1
6 Other contractual funding obligations	49,265.9			49,265.9
7 Other contingent funding obligations	1,940,289.6			97,014.5
8 Total Cash Outflows	N.A.			819,337.0
Particulars	Total unweighted value (average)	Total weighted value (average)		
9 Secured lending (e.g. reverse repos)	-			-
10 Inflows from fully performing exposures	245,792.4			193,081.9
11 Other cash inflows	38,273.5			21,435.5
12 Total Cash Inflows	284,065.8			214,517.4
13 Total HQLA	N.A.			534,184.8
14 Total Net Cash Outflows	N.A.			604,819.6
15 Liquidity coverage ratio (%)	N.A.			88.32%



Sufficiency of these static reports ...

These reports are compliant with local regulation and only for 30 days which is reported disparately throughout a year !!!

The prime directive of LCR in its very essence or purpose can't be satisfied this way.

What is missing?

1

No modelling of volatility, seasonality, trend or stress

2

No modelling or understanding of cash flow dependency

3

No banded (limit response) policy for liquidity constraints

Without these additional components, the banking systems aren't any safer and even with them, how much safer can be anticipated. Structural change might be needed inline with the LCR reporting system.

FAIL

Risk Appetite Reporting Solution



If you want to solve risk appetite problems use a risk dashboard

Managing Liquidity at Head Office & Consolidated					Scenario: Business-as-usual ...			
Flows per period					Flows btw 1st of mth below until	Flows btw 1st of mth below until	Flows btw 1st of mth below until	Flows btw 1st of mth below until
2010	5	3	Next N cal. dys frm	From N+1 cal. dy 'til	30. Jun 10	31. Jul 10	31. Aug 10	30. Sep 10
2010	5	9	1. day of forecast	EOM in F7 below				
Outstanding as of								
Until EOM: May								
Changes in Assets + Liab (A1+...+A5)								
OS Loan portfolio, gross					-131.623.696	-304.336.564	-17.603.211	-210.089.959
Original Principal current loans					-139.096.838	-206.177.100	-188.237.545	-165.891.566
Other Investm. & Assets								
NET disposable Vault Cash consolidated (C+D1-D2)					36.837.999	-218.951.463	-171.586.873	-325.895.302
Outst. in Short-term Investments					378.000.000	123.000.000	170.000.000	170.000.000
Outst. in Short-term Debt					0	0	0	0
Liquidity Management Institute (via HO) with Market:								
Csh OUT (+) / IN (-) via "Short-term Investm."					83.000.000	255.000.000	-47.000.000	
Csh IN (+) / OUT (-) via "Short-term Debt"								
Cumulative flows from Liq. Mgmt with Market:					-36.000.000	219.000.000	172.000.000	172.000.000
NET Vlt Cash Head Office after final LiqM					837.999	48.537	413.127	-153.
NET Vlt Cash Consolidated after external LiqM (D+E1+E2)								
CB Reserve Ratio, Consolidated					48,1%	26,8%	27,4%	
Current or Liquidity Ratio, Consolidated					100,3%	100,0%	100,2%	

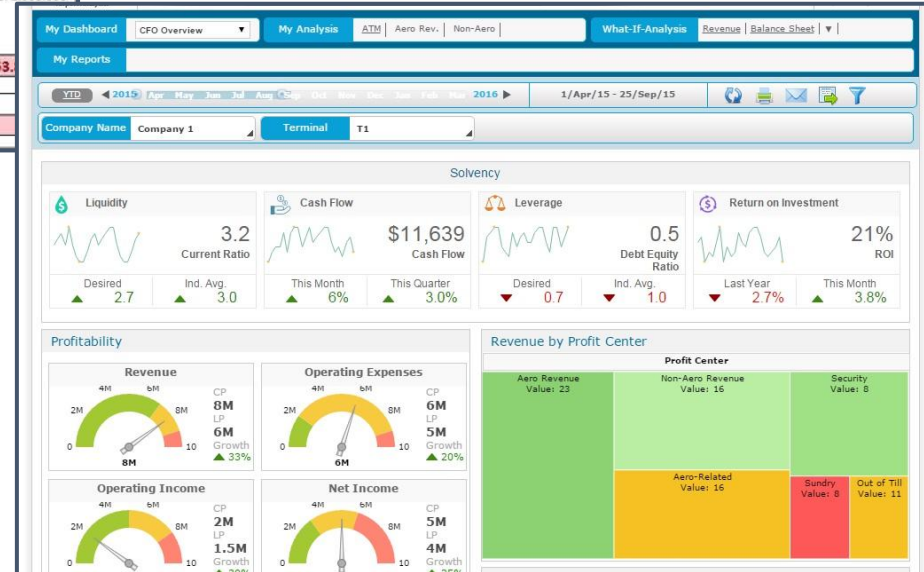
The reporting of funding liquidity has been a major feature of the new Basel III requirements but most banks are not going beyond the tabular reports that are being recommended.

While this shows compliance, it lacks an integration to policy response and it is this integration which will lead to improved funding liquidity management.

Dashboard reports will allow treasury, ALCO and risk management teams to see the types of problems they may be facing from market events along with their funding options.

Actions taken to change the liquidity profile should also be recorded.

Specific policy responses for treatment of liquidity 'states' or conditions should also be planned before a bank navigates itself into an illiquid position.



Recommended Risk Guidance



Setting Risk Appetite Statements without the framework is a FAIL

Risk Level Matrix				
LIKELIHOOD	CONSEQUENCE			
	Severe	Major	Moderate	Minor
Almost Certain	Extreme	Extreme	Very High	High
Likely	Extreme	Very High	High	Medium
Possible	Very High	High	Medium	Low
Unlikely	High	Medium	Low	Low

A likelihood and consequence matrix must be developed for each risk assessment to define what each level of likelihood and each level of consequence means in relation to the objective against which the risk assessment is being conducted. This supports the practical application of the risk appetite statement below.

Risk Appetite

<Organisation Name> will not accept risks with a risk level of Very High or Extreme and requires all risks to be controlled so that no risk levels are greater than High.

Risk Escalation

When current risk levels are assessed as Very High or Extreme, the employee responsible for the objective against which the risks are identified, must notify/escalate this issue to the next level of management/governance. ie Team Leader, Manager, General Manager, CEO, Board.

It is expected that such notification will include detail on what is being done in response to the situation or what needs to be done to bring the risk level down to an acceptable level.

The sample Risk Appetite statement approach shown to the right is a TOTAL FAIL. It's a cut and paste of guidance that doesn't consider the context of the objectives for an organisation, it is based off a Risk Matrix that is being used to measure risks using methods that are not coherent.

Any statements around the risks being taken in this context are insincere and not useful for ascertaining whether a company is making informed choices that are inline with their chosen appetite for risk.

What is most disappointing is that this way to assess appetites for risk is very common, misleading and not helpful. I wonder why risk management departments bother at all.

FAIL

Regulatory Interest



New Regulations as a consequence of failures during the GFC

- a) Establish a [**process for communicating**] the RAF across and within the financial institution as well as [**sharing non-confidential information**] to external stakeholders (e.g. shareholders, depositors, fixed income investors);
- b) be driven by [**both top-down board leadership**] and [**bottom-up involvement of management at all levels**], and embedded and understood across the financial institution;
- c) facilitate [**embedding risk appetite**] into the financial institution's [**risk culture**];
- d) [**evaluate opportunities for appropriate risk taking**] and act as a [**defence against excessive risk-taking**];
- e) allow for the risk appetite statement to be used as a tool to promote robust discussions on risk and as a basis upon which the board, risk management and [**internal audit functions**] can effectively and [**credibly debate and challenge**] management recommendations and decisions;
- f) be [**adaptable to changing business and market conditions**] so that, subject to approval by senior management and the board as appropriate, opportunities that require an [**increase in the risk limit of a business line**] or legal entity could be met while remaining within the agreed institution-wide risk appetite;
- g) cover [**activities, operations and systems**] of the financial institution that fall within its risk landscape but are outside its direct control, including subsidiaries and [**third party outsourcing suppliers**]; and
- h) be [**consistent with the principles**] in this document.

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Risk Appetite Statements



Risk Appetite Statements are a FAIL

- FAILED** a) include key background information and assumptions that informed the financial institution's strategic and business plans at the time they were approved;
- FAILED** b) be linked to the institution's short- and long-term strategic, capital and financial plans, as well as compensation programs;
- PARTIAL** c) establish the amount of risk the financial institution is prepared to accept in pursuit of its strategic objectives and business plan, taking into account the interests of its customers (e.g. depositors, policyholders) and the fiduciary duty to shareholders, as well as capital and other regulatory requirements;
- WORKABLE** d) determine for each material risk and overall the maximum level of risk that the financial institution is willing to operate within, based on its overall risk appetite, risk capacity, and risk profile;
- WORKABLE** e) include quantitative measures that can be translated into risk limits applicable to business lines and legal entities as relevant, and at group level, which in turn can be aggregated and disaggregated to enable measurement of the risk profile against risk appetite and risk capacity;
- COMPLEX** f) include qualitative statements that articulate clearly the motivations for taking on or avoiding certain types of risk, including for reputational and other conduct risks across retail and wholesale markets, and establish some form of boundaries or indicators (e.g. non-quantitative measures) to enable monitoring of these risks;
- WORKABLE** g) ensure that the strategy and risk limits of each business line and legal entity, as relevant, align with the institution-wide risk appetite statement as appropriate; and h) be forward looking and, where applicable, subject to scenario and stress testing to ensure that the financial institution understands what events might push the financial institution outside its risk appetite and/or risk capacity.

Recommended Reading

Leading Risk Management Reading on Risk Appetite



Item	Publication	Published By	Link
1	Operational Risk Sound Practice Guidance	Institute of Operational Risk	LINK
2	Principles for An Effective Risk Appetite Framework	Financial Stability Board	LINK
3	Risk Appetite Frameworks spot the genuine article	Deloitte	LINK
4	Framework and challenge of practical implementation	Institute of Actuaries	LINK
5	Developing the Risk Appetite Framework	Institute of Actuaries	LINK
6	Risk Appetite Market Study	Grant Thornton	LINK
7	Risk Appetite Case Study for IT and Processing Centres	Causal Capital	LINK
8	Australian Risk Policy Risk Framework	Australian Risk Policy Inst	LINK

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