RiskMinds Magazine

RETHINKING RISK MANAGEMENT

Navigate regulation. Embrace change. Challenge culture.

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Welcome to our first annual RiskMinds International magazine

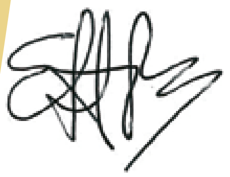
We are excited that over 650 of you have been able to join us this year for our 24th annual conference!

Over the past 24 years RiskMinds International has evolved with the risk management industry – the topics have changed, the speakers have changed (although there are still a few stars who have joined us every year!) and the event has steadily grown to the encyclopaedic proportions that it is today.

We hope you will agree that RiskMinds International really has become the annual gathering for the risk management community and we are working hard to ensure that you have the best experience possible. Whether it is hearing from your peers about the latest industry developments, understanding forthcoming regulatory initiatives, sharing challenges or experiences with people working in the same field as you or making new industry business connections, we hope that the event is a success for you.

With this magazine, we wanted to share some of the recent articles RiskMinds community members have written and let you know about some of our new initiatives. These include FutureRiskMinds, which is aimed at encouraging under-35 future leaders of risk to engage with the community, and Women In Risk, which is aimed at bringing more female voices to the global risk management stage.

Enjoy the conference and our first annual magazine!



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What keeps CROs up at night?

New to RiskMinds International this year is a panel session, bringing together some of the leading CROs to discuss the common "pain points" in the industry today, and ultimately answer the questions, "What keeps you up at night?"

Ahead of this, the RiskMinds team spoke to our panel, and other CROs speaking across the event, to gain an exclusive insight into what is keeping risk managers awake.

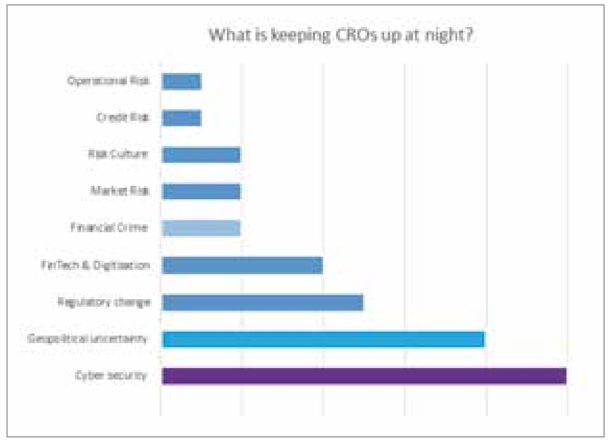
1 CYBER SECURITY

Out of all CROs questioned, 53% responded with Cyber Security as a "top 3" concern.

This isn't surprising, as our dependence on the internet has increased, so cyber-crime has moved from obscurity, into the spotlight for not only the consumer, but also for corporate and international security concerns. Former Scotland Yard Detective Superintendent, Charlie McMurdie, gives it straight, "Cyber-crime is cheap to commit and expensive to defend, criminals operate within the virtual environment and as such are not constrained by real world boundaries. It's not by chance that they exploit the widely differing legal and regulatory regimes in place within different countries."

One respondent elaborated further, "The sheer complexity and exponential growth make cyber-crime one of the most significant risks that keep me awake at night. I have spent a significant amount of time during the past year familiarizing myself with the nature and complexity of the threat vectors. It is incredibly difficult for organizations to protect themselves and I believe we are at a very early stage of the evolution of this risk type. We are bound to see significant incidents over the next few years." Indeed, the recent breach of U.S. credit monitoring firm Equifax, which resulted in the leaking of personal information for around 143 million individuals, demonstrates that the scale and impact of data breaches are only increasing.

Another senior CRO discussed the risk of social hacking within the realm of cyber-security, "Often enough people speak about cyber security, compliance, policies, and procedures, forgetting that after drafting *any* policy they should also work on its effective implementation. It might be quite hard to hack a server, but a poor password policy may result in the very same data breach in a much simpler way." The fact of the matter is, the methods of would-be hackers have not changed dramatically: phishing—increasingly spear-phishing—is still amongst the most popular attack vectors. Simple employee awareness remains a major challenge.



2 GEOPOLITICAL INSTABILITY

The CROs we panelled have a widespread geographical influence and responsibility, and so the current geopolitical climate was an expected top pain point. In fact, one third put it in their top 3 concerns, with some stating specific concerns with Trump and Brexit, and others pinpointing more localised pressures within their own markets.

Delving into this a little further, one respondent said, "In general any risk which is hard to measure and might have systematic effects, like geopolitical risks. When it comes to risks which are hard to measure the complexity of having an effective strategy to mitigate that risk increases exponentially."

Recent election results in Germany, France, and the Netherlands may soothe the nerves of CROs concerned with the rise of right-wing nationalist populism, but that would ignore the strong showings by far-right parties like Alternative for Germany (AfD) and the National Front in France. The forces and attitudes that contributed to the victory of Donald Trump in the U.S. and Brexit in the U.K. are still very much present, and could continue to pose a risk to markets as well as political stability.

3 REGULATORY CHANGE

The third most popular pain point was regulatory change, with over 1/3 of our CROs stating this a pressing concern.

As many in the risk management industry are aware, several new regulations are coming through and are due to go live in the new year, including IFRS9 and MiFID and Volcker. Even for companies well placed to handle the changes needed to implement new processes and requirements, the sheer volume of adjustments necessary is keeping some CROs awake past bedtime.

"The burden of regulation is now monumental and potentially having unintended adverse consequences. While much of the regulation was proven to be necessary due to poor industry self-regulation as evidenced by the Global Financial Crisis, the overload of new regulations and their exhaustive implementation can impact the profitability of banks that isn't necessary for a strong well capitalized banking industry. Risk managers can also 'take their eye off the ball' of the commercial risks as they are distracted with the reporting, governance, and bureaucracy of compliance," stated one CRO.

RiskMinds also ran a Regulation Digital Week, highlighting expert opinions on a range of regulations impacting the industry, through webinars and Q&As. Catch up on what was discussed, by visiting the RiskMinds community page – knect365.com/riskminds

OTHER PAIN POINTS

While almost all the CROs agreed on at least one of the above risks as taking up prime real estate in the top three pain points, there were a variety of other responses which were highlighted too.

These include financial crime and fraud, risks arising from digitization and FinTech and traditional credit and market risks.

The left chart shows the full range of responses to the question, and emphasizes the growing number of risks CROs must keep on their radar in order to be effective and ensure a sustainable and profitable business.

FinTech: Taking Transformation by the Horns

We dive into customer-centric innovation via technology transformation with Sonia Wedrychowicz, Managing Director, Head of Singapore CBG Technology at DBS. She discussed this in more depth at Asia's landmark risk management event for banks, insurers and asset managers, RiskMinds Asia, October 2017.

How can technology transformations ramp up customer-centric innovation?

Technology these days is driving our customers' experience by ensuring simplicity, speed and convenience in daily interactions. The innovative solutions are always implemented having in mind the customer view, as we call it - an "outside- in" view. Technology can only be effective in ramping up the customer experience when it is used in conjunction with reimagining the customer journeys and eliminating all the pain- points that customers experience with the current solutions. There is a big difference between "digitising" and "digitalising" the customer experience. In the first case it is a reactive activity of making the current analog experience digital, without really redesigning it and enhancing it using technology. An example of digitization is transforming a paper statement into a PDF file without really changing anything. You can, however, digitalise the customer statement by making it interactive on the mobile application or through an internet banking. This can be achieved by providing automated categorization of transactions (i.e. show how much we spend on food or petrol), enabling to set up budgets for spending or setting up goals for savings.

What are the key technology transformations?

In my opinion, the key technology transformations these days are related to Artificial Intelligence, Biometric Authentication of customers and authorizations of their transactions and Cyber Security. The chat bots powered by Artificial Intelligence will take over a lot of what we call today as "service plus" activities, such as customer requests for blocking and reissuing the credit cards etc., as well as will drive online selling processes.

Biometric customer authentication and transaction authorization will lead to vastly simplifying the account opening process and will make it 100 per cent remote and digital. This move will revolutionize the customer onboarding and make the visit to the branch redundant. At the same time, it should lead to the elimination of signatures as customer biometric verification will make it so much more powerful and secure.

Cyber security is viewed by many as the necessary foundation of technology -led transformation and I fully agree with that view. Simplicity should never jeopardize security and therefore the challenges standing ahead of making the customer experience secure are immense. Technology, however, is also driving that by providing multiple points of security that engage not only the core technical solutions, but also involves the customers in monitoring their accounts e.g. by providing them with a wide span of different alerts and notifications.

How has DBS Bank implemented these transformations with success?

DBS was a pioneer in the banking industry by implementing many of the solutions mentioned before into our internet and mobile applications. Examples include: the biometric authentication of digibank by DBS customers in India and Indonesia, our Virtual Assistant, which is an AI chat bot servicing customers in India and Indonesia. That Virtual Assistant was recently also implemented on Facebook messenger in Singapore. We also integrated two more FinTech companies' solutions to reimagine the transaction authorizations using soft tokens and the transaction search and categorization, mentioned by me before. Each of our new projects starts with defining so called customers' "jobs to be done" i.e. understanding what our customers really want to achieve and then designing the customer journeys around it, always using technology solutions.

What are the key challenges that DBS Bank has encountered with these transformations?

The biggest challenge with any transformation is always related to people. It requires a vast change of the the company culture and can only be achieved by engaging employees at every level - from the top and the bottom. In my personal opinion no real transformation can ever be achieved if it does not have a strong buy in and drive from the top management. We were lucky to have a CEO, who was personally dedicated to make the change into digital happen and so was the whole management team under him. Thanks to that support, the transformation happened across the organization and included not only business, operations or technology but it was equally big in the support units like legal, compliance or HR.

How is the Asian FinTech landscape paving the way for innovation in Financial Services?

I believe that Asia is playing an especially important role in the technology transformation – mostly driven by the Chinese giants - like Alibaba with Alipay, WeChat or Ping An. At the same time, Asia is home to a myriad of different Fintech startup companies that provide innovative solutions for the financial institutions to integrate with. Asian regulators are also very supportive in promoting their innovation that is API – enabled and is allowing the startup Fintech companies to smoothly plug into banking and other financial institutions, thus setting the pathway for Open Banking in Asia.

The New Rules for OTC Derivatives

John Hull is an internationally recognized authority on derivatives and risk management and has many publications in this area; he is currently Maple Financial Professor Of Derivatives & Risk Management at Joseph L. Rotman School of Management at University Of Toronto.

The Leaders' statement issued after the 2009 G-20 meetings included the following para:

"All standardized OTC derivative contracts should be traded on exchanges or electronic trading platforms, where appropriate, and cleared through central counterparties by end-2012 at the latest. OTC derivative contracts should be reported to trade repositories. Non-centrally cleared contracts should be subject to higher capital requirements.

Eight years on, it seems appropriate to review the changes that this has led to.

The key objective immediately following the crisis was to reduce systemic risk by requiring more collateral to be posted when financial institutions trade with each other. This objective has largely been achieved. Standard transactions between financial institutions are cleared through CCPs and attract both initial margin and variation margin. Non-standard transactions between financial institutions continue to be cleared bilaterally. But, following the 2011 G-20 meeting in Cannes, rules requiring initial and variation margin for these transactions are being implemented.

One result of these changes is that there has been a trend away from customized OTC derivatives toward more standard products. This should reduce systemic risk, but there are potential disadvantages. If dealers are less willing to customize transactions, end users may make less use of derivatives for hedging. One of the reasons that end users require non-standard derivative transactions is to make the transaction match some physical transaction so that the derivative and the physical transaction qualify for hedge accounting rules. The end user may not be willing to enter into a standard derivative if it does not qualify for hedge accounting. Also, there is a danger that the new rules will hinder financial innovation by dealers.

"There has been a trend away from customized OTC derivatives toward more standard products. This should reduce systemic risk, but there are potential disadvantages."

There can be little doubt that reporting all OTC derivative transactions to trade repositories such as the Depository Trust and Clearing Corporation (DTCC) is desirable. It gives regulators the opportunity to recognize situations where unacceptable risks are being taken. It also creates more post-trade price transparency.

No doubt politicians and regulators were greatly influenced by the AIG fiasco. AIG Financial Products entered into many transactions where it guaranteed the AAA-rated securities created from the securitization and re-securitization of subprime mortgages. The performance of AIG Financial Products was guaranteed by its U.S. parent. It was not required to post collateral on its transactions providing AIG's credit rating remained above AA. In mid-September, AIG's credit rating fell below AA and it was unable to provide the required collateral. Only then did regulators become aware of the risks that had been taken. A massive bailout followed.

A situation similar to AIG should never happen again. First, trade repositories would allow regulators to be more aware of the one-sided risks being taken, making it possible for them to step in earlier. Second, a company entering into trades similar to those of AIG would be required to post so much initial margin and variation margin that its appetite for the trades would be greatly diminished.

The least important, and least defensible, of the new regulations for OTC derivatives is the requirement that standard transactions between financial institutions be traded on electronic platforms. The motivation for this seems to be that, if OTC derivatives are traded like exchange-traded derivatives, there will be more price transparency and problems such as those observed during the crisis will be avoided. In fact, the problems during the crisis were caused by non-standard derivatives and there is no requirement that these be traded on electronic platforms.

"There is a danger in trying to trade OTC derivatives in the same way as exchange-traded derivatives... there are important differences between the two."

There was not a serious problem in the way OTC derivatives were traded pre-crisis. It is not clear that there was a lack of price transparency. Industry participants had access to reliable sources of price quotes. In any case, trade repositories should take care of any transparency issues. Trading OTC derivatives in the same way as exchange traded derivatives is therefore not necessary to achieve price transparency.

In addition, there is a danger in trying to trade OTC derivatives in the same way as exchange-traded derivatives. This is because there are important differences between the two. OTC derivatives trade intermittently whereas exchange-traded derivatives such as futures trade continuously. The size of a typical OTC derivative is much larger than that of a typical exchange-traded derivative. There are fewer market participants in the OTC market, but they are more sophisticated than the average participant in exchange-traded markets.

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A final question is whether the effect of the new regulations is to move the too-big-to-fail problem from banks to CCPs. It is certainly true that CCPs are too big to fail. But arguably they are much easier to regulate than banks and therefore are much less likely to fail.

This article is an abbreviated version of an editorial that appeared in Journal of Risk Management and Financial Institutions, Autumn/Fall 2015

Surviving and thriving in the low rates environment

Written by Aymeric Kalife, Head of inforce & product management, group risk management, AXA. Aymeric was a speaker at RiskMinds Americas 2017.

We have been in a low interest rate environment for the last decade. Interest rates have not recovered to pre-financial crisis levels and the normalization from artificially low levels is unlikely until 2018 as illustrated by the huge ($4.6 bn) remaining balance sheet of the Fed.

While not primary driver, low interest rate environment has contributed to drop sales in major life insurance products such as Variable Annuities and General Account products. Although large fixed income allocations help reduce volatility, it becomes more challenging for assets to grow at guaranteed levels in a prolonged low rate environment:

- On the one hand lower interest rates increase cost of capital, reserves from higher present value of expected claims, cost of hedging as options become more expensive
- On the other hand lower interest rates increased difficulty in supporting minimum guaranteed rates in fixed account due to spread compression in general account, and decreased ROEs due to lower net income from higher reserve levels.

Unfortunately, too early expectations after 2009 of rising back up interest rates have pushed most writers to consider growing further and developing more generous thus riskier products at same price, as illustrated by high minimum guaranteed rates and withdrawals (e.g. 5-7% roll-up and guaranteed withdrawal rates, annual / quarterly / daily ratchets for VAs).

However, as interest rates have remained persistently low and volatile, fundamental de-risking measures have been implemented by most life insurers:

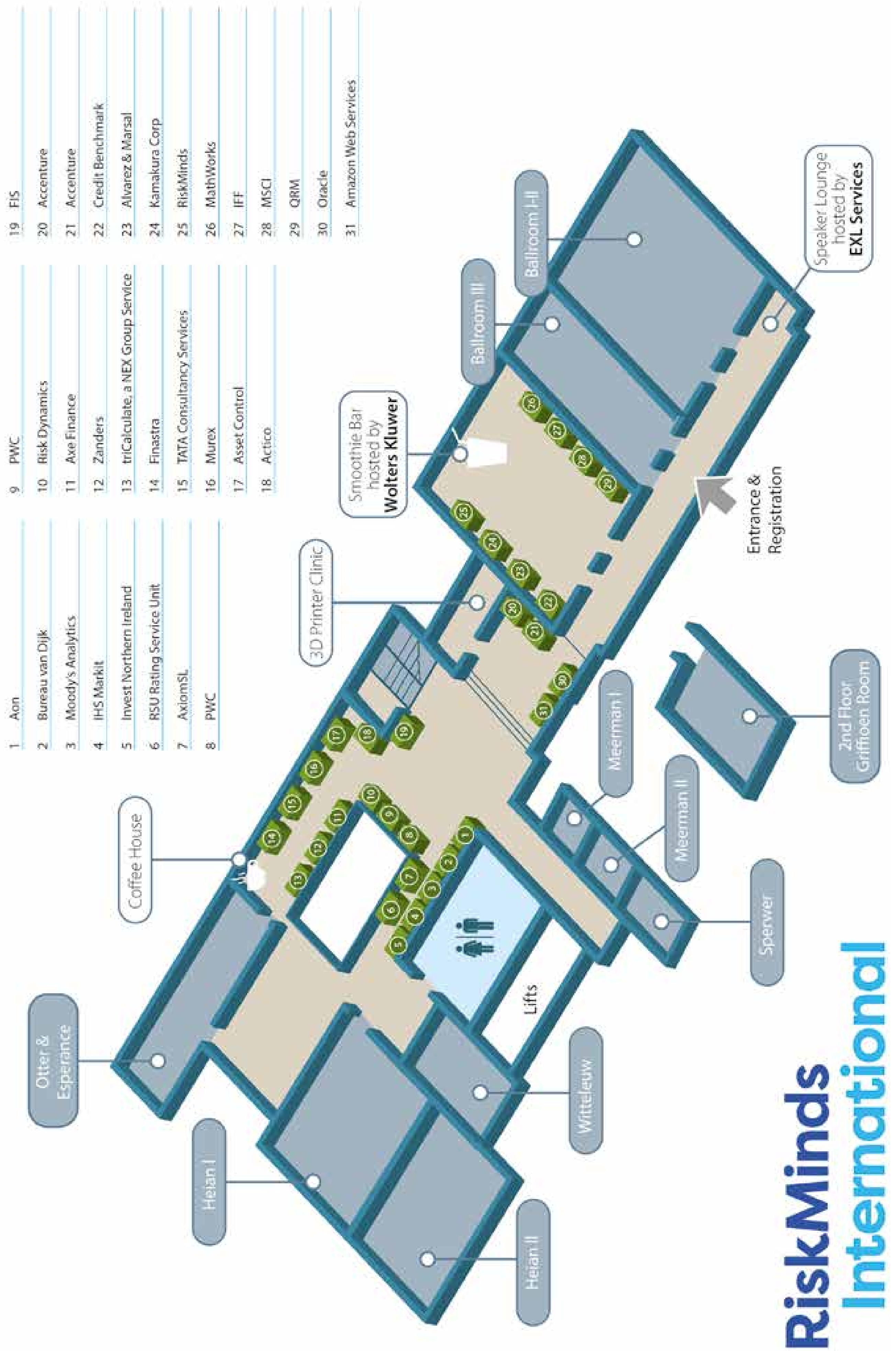
- Product designs de-risking: higher fees (M&E and riders); lower benefits (lower roll-up rate, lower frequency of ratchets, lower guaranteed withdrawal rates; stricter asset allocation limits (Higher mandatory minimum allocation to fixed / balanced accounts); restriction in ability of policyholders to "time the market"; restriction in number of equity funds; increased use of "tracker" funds; stricter governance in product approval process; possibility for the insurer to increase fees at discretion.
- Most life insurers have also improved their risk management practices: increased use of volatility hedging; adding macro hedges to protect against steep interest rate drops

Such de-risking has not only provided healthier margins for new business, but has also strengthened life reinsurance markets. But it cannot fully mitigate the impact of persistently low interest rate environment, as illustrated by higher cost of hedging Variable Annuities, and difficulty in supporting rates in fixed account due to spread compression in General Account.

Still further solutions remain in order to survive and thrive in the low rates environment:

- Decelerate distribution of Variable Annuities and General Account sales until interest rates mean-revert to sustainable long term levels is reasonable.
- As persistent low interest rates have increased customers' concerns about fees triggered drastic changes in their behavior (lower lapse and partial withdrawals), retrieving resiliency in profitability requires to develop customer centric designs within a "rational" framework which balances benefits vs. fees.
- Buyout initiatives which provides compensation to policyholder in exchange for product.
- Develop alternative products such as Fixed Index Annuities which not only suffers less from guaranteed rates thanks to Market Value Adjusters and reset of guaranteed rates after short guarantee periods, but also benefits from Equity upside potential as illustrated by the 75% S&P500 growth since 2013.

Find out more about the go-to risk management event in the Americas for banks, insurers and asset managers, RiskMinds Americas in Boston www.riskmindsamericas.com



In the spotlight: Regulation

Why the renewed interest in stress testing?

Riccardo Rebonato is Professor of Finance at EDHEC Business School and author of journal articles and books on Mathematical Finance, covering derivatives pricing, risk management and asset allocation.

Risk management, prudential macro- and microregulation, portfolio allocation and, in general, the strategic analysis of financial and economic outcomes share the common unstated assumption that the past conveys useful statistical information about the future. Indeed, a large part of contemporary finance rests on modern portfolio theory, which in turn places at center stage the statistically determined vector of asset expected returns and their covariance matrix. In normal market conditions, the frequentist techniques that underpin these statistical analyses work well, and are perfectly justifiable. In these contexts, the role played by domain knowledge and subjective inputs to the determination of the statistical quantities of interest is limited – and often regarded with suspicion.

In recent years policy makers, regulators, portfolio managers and economic agents in general have been faced more and more frequently with situation of quasi-Knightian uncertainty. Take, as a salient example, the possible demise of the Euro. It is not clear what patches of past history could be relevant to provide 'objective'

> *Unprecedented financial and macropolitical events seem to have visited the third millennium with disconcerting regularity.*

(frequentist) guidance about the expected outcomes of economic and financial variables. In these situations, subjective judgement and expert domain knowledge are forced to the fore. One enters the relatively unchartered territories of stress testing and scenario analysis. As unprecedented financial and macropolitical events (or at least the fear thereof) seem to have visited the third millennium with disconcerting regularity, it comes to little surprise that there should have been a renewed interest in tail events in general, and stress testing in particular.

Read the full article at knect365.com/riskminds

Critical Implementation Issues for IFRS9

David Grüenberger, a leading IFRS9 expert in the regulatory area, and Head, Accounting & Regulatory Monitoring at Austrian FMA, discusses the key challenges for IFRS9 implementation.

IFRS9 gets increasingly important from a supervisory perspective. ESMA is starting to publish recent IFRS-enforcement decisions on critical areas around stage transfers and loss definitions. EBA has conducted its second impact study and published the final IFRS9 implementation study. The new stress testing methodology just came out, now focusing on IFRS9 provisions.

Although many critical implementation issues have not been outspoken and challenged up to now, accounting enforcers and banking supervisory are now actively using and enforcing IFRS9.

The most striking and challenging advancement is probably the new stress testing methodology. EBA established a completely new concept of a forward-forward-looking simulation, where banks simulate how they would calculate forward looking ECLs as of future balance sheet dates. The probabilistic nature of stress tests will also make simulations of IFRS9 (eg the staging) probabilistic. In addition, the "perfect foresight assumption" aligns the specifications of the stress scenarios with the accounting scenarios.

Another key topic are the triggers used to determine stage transfers. A wide variety of approaches have appeared recently and many auditors remain hesitant to communicate where they plan to set the boundaries, although some new Big-4 commentaries try to define clear limits. Accounting enforcers have brought up some key topics, like the so-called "absolute triggers", and organized EU-wide supervisory clearance on which triggers are be acceptable and which clearly not. A similar topic brought up for EU-supervisory clearance was the treatment of IBNR losses in the context of IFRS9, which were apparently neglected by some banks. Even though banks are now quite advanced in their implementation of IFRS9, they will need to check and perhaps update their approaches based on recent accounting enforcement decisions, especially if they had adopted very generous interpretations of IFRS9.

For more insights on IFRS9 go to knect365.com/riskminds

What is the state-of-play on resolution planning?

Daniel Mccarthy is a Head of Unit, Resolution Planning and Decisions at the Single Resolution Board. He leads the resolution teams for banks based in the Netherlands and Belgium, comprising of a portfolio of sixteen banks including EU and US GSIBs, as well as other large and domestically focussed banks.

In 2016, the SRB drafted and adopted 92 resolution plans, covering the majority of 138 banking groups under our direct remit. This was an important starting point, defining core elements of a Resolution Plan including: determining the conditions for resolution or normal insolvency, the critical economic functions, membership of FMIs, interconnections and separability, the resolution point of entry, the preferred resolution tool(s), an indicative MREL calculation, maintaining operational continuity in resolution and a 1st resolvability assessment.

This work was achieved through the establishment of Internal Resolution Teams (IRTs) comprising the national resolution authorities in each jurisdiction a banking group had either a subsidiary or material branch in the Eurozone. For the eight EU GSIBS and other EU banking groups with operations outside the Eurozone, CMGs and Resolution Colleges were held to discuss the Group resolution plan with the host authorities and agree priorities for 2017.

Following the adoption of the plans, the IRTs have begun the detailed work alongside the banks to ensure the operational capabilities are in place to implement the plan in the event of a group's failure. By its nature, this is a 'front-loaded' exercise involvement many functions within a bank to ensure a coherent and integrated plan is in place. In response, a number of banks have taken the decision to establish a dedicated Recovery and Resolution team under the Finance or Risk functions, responsible for preparing and implementing an annual resolution work programme with specialist work streams to enhance resolvability, with quarterly progress reporting to the Board. We expect other banking groups will follow a similar approach to derive the synergies from this exercise.

In practical terms, the resolvability assessment identified a number of common potential impediments facing banks: the operationalisation of the bail-in tool; maintaining operational continuity of shared services and IT processes; access to FMIs in resolution; meeting funding needs in resolution; having sufficient MREL in terms of quantity, quality and location etc. To support this work, the banks in conjunction with the IRTs are working to define a series of technical notes and playbooks identifying the steps and procedures to be followed to implement the preferred strategy.

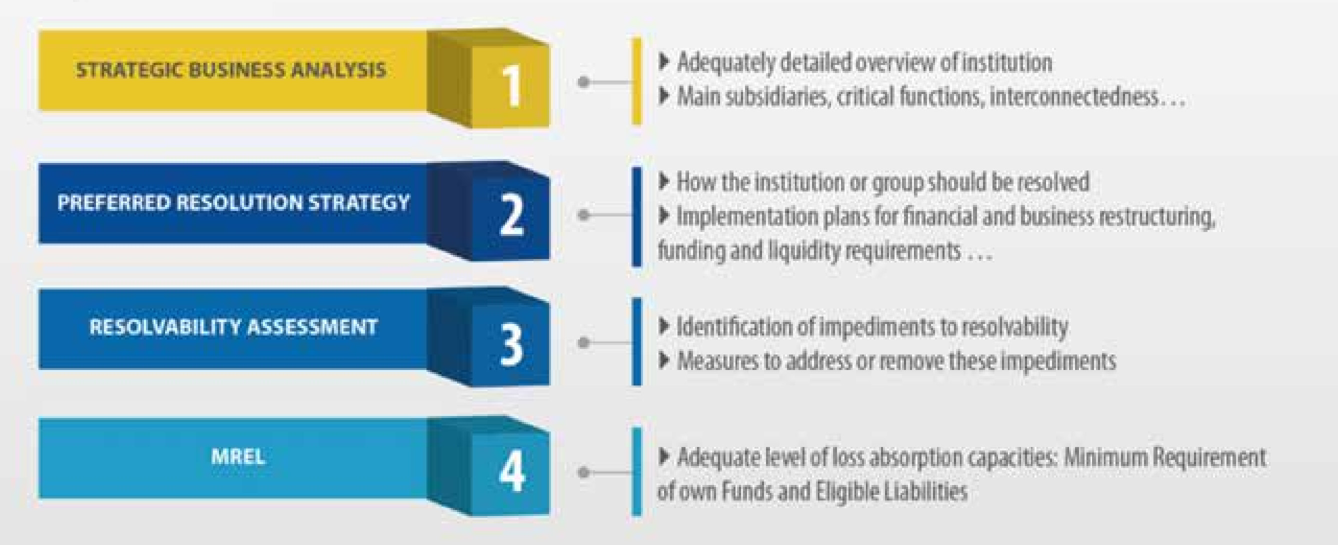


Figure 1: Overview of the Key Elements of a Resolution Plan

Source: SRB

Get the full story at knect365.com/riskminds

WomeninRisk

An interview with Katja Rieger, former head of orgaisation development risk management, Swiss Re

As part of the WomeninRisk series by RiskMinds, we had the opportunity to speak with Katja Rieger, Managing Direct at Ripple Effect and a respected thought leader within the Risk community. Here's what she had to say:

Why do we see such few women in Risk leadership?

I can only speculate, and some of the reasons are the same as for other leadership roles: lack of sponsorship, bias in hiring or promoting etc. And one reason is certainly, that there have not been that many senior role models. We know by now, that as many women finish their studies with the required qualifications. And I am certain, that at entry level, there is gender parity. Fortunately, I know more and more very competent women becoming CROs, which helps. But it's just a start.

What needs to be done to see a more inclusive and diverse community of Risk leaders?

Combatting bias is certainly one thing, that should be done. There is still a lot of this unconscious attitude, that women are not as good in science as men. And very often risk management job descriptions heavily favour the technical, mathematical and modelling skills. Of course this bias has been proven wrong, but if we don't tackle it, women may still face challenges in getting accepted for the technical positions.

Can women bring a difference to risk culture?

I don't think we should generalise that women have more emotional intelligence. But I can absolutely say, that emotional intelligence in leaders is a prerequisite for a strong risk culture. If you can read between the lines, you can spot when people don't buy in to the values. Emotional Intelligence can help as well in spotting the potential for fraud or other challenges to a sound risk culture.

What are the important traits for a future leader (past vs present) and why are more women likely to experience exit or a slowdown than men in their career?

The most important leadership traits are people skills. The higher you rise, the less you need to be the technical expert. The ability to empathise, to communicate well, to develop your people and to energise them to do the right thing are all skills, that we need. Both men and women have those skills, but in the past other skills may have brought more chance for promotion, e.g. winning (as in I win/you loose), negotiating versus collaborating, controlling versus coaching. Fortunately this kind of leadership style is waning, which may mean, that in future more of the right men and women will have those leadership positions.

What is emotional leadership? Can emotional leadership give an advantage to women managing risks?

We are all emotional, men and women, artist or mathematician. Even the most technically minded actuary will be prone to heuristic and bias, because this is simply how we are wired as humans. The challenge is, that very often we are not aware, that we are not as rational as we think. And with that lack of awareness we become victims of our own biases. So my credo is, that we need to connect with our emotions to become better leaders, but never let ourselves be high-jacked by them.

> *Fortunately, I know more and more very competent women becoming CROs, which helps. But it's just a start.*

Katja is on the advisory board for RiskMinds Insurance www.riskmindsinsurance.com and a regular RiskMinds speaker

Profiling our FutureRiskMinds

New for 2017, we are launching an initiative aimed at bringing fresh faces and new risk management perspectives to the prestigious RiskMinds conference series.

Why does RiskMinds want to encourage new risk managers to join the discussions?

Typically, only the most senior risk managers and academics join the events, which is fantastic for the event's reputation and the quality of the discussions. However, we are aware that the ticket price prohibits up-and-coming risk managers who will be the future leaders of finance from taking the chance to meet with the current industry heads. We want to mix things up a little and bring in some fresh perspectives, so we have created 20 FutureRiskMinds passes which are free and are won by submitting a research paper or 500-word blog on the future of risk management.

Submissions came from far and wide, and showcased up and coming risk managers across the industry. Our editor picked 4 top pieces, which demonstrated unique vision and leadership.

From goalkeeper to coach: Working with machines to manage risk

We welcome Stefan Heise, Product-Owner Cluster IC at Commerzbank AG, to discuss his thoughts on developments in risk.

What does the future customer expect from a state of the art credit approval banking approach? Customers are increasingly less willing to wait days or hours for their credit approval. Online banking portals educate customers to get quick answers to their requests. Hence, it's not a matter of time whether complex credit decisions will be granted in real time by smart algorithms; instead the question is rather how fast the classic credit decision processes will be completely replaced by algorithms and how long customers will accept credit decisions with a response time of more than 10 seconds? Is this a creeping process of 10-15 years or will the expectations already have changed in two years? Regardless of future customer needs, risk management in the financial industry will change dramatically.

Future credit approvals will be granted by self-learning algorithms. This means that the entire decision-making process, its execution and the portfolio monitoring will be mostly run automatically.

Leaving behind case by case, rating or scoring based decisions, the future credit approvals will be granted by self-learning algorithms. This means that the entire decision-making process, its execution and the portfolio monitoring will be mostly run automatically. The process includes for example loan request, granting, contract creation, payout, permanent review of decision algorithms and continuous portfolio monitoring with regard to cluster risks, fraud prevention or risk-relevant behavioral analysis. For less complex credit decisions, this already happens today. With each learning iteration this approach can be improved and applied to more complex financial products. Furthermore, this development will reduce the number of classic credit decision makers.

Subsequently a new type of risk manager will emerge connected with according hiring and training needs. Although ideal-typical self-learning algorithms can act autonomously these must be further developed and above all monitored. In the initial period of self-learning credit decisions, the technical rules must be reviewed on a recurring basis. In addition, new decision patterns have to be trained, e. g. for new products. The task of the next generation of risk manager is to deal with a field of tension. On the one hand they have to extend the limits of self-learning algorithms on the other they have to limit the automated decision making process and control it from a risk/return perspective. Because future credit decisions are made 24/7 in real time and expected to occur in higher numbers compared to current situation, the monitoring must work congruently with as little failure incidences as possible. If for example a new pattern of fraud occurs on a weekend it is necessary to recognize and subsequently block automatically. This makes further self-learning algorithms necessary, which monitors the first mentioned decision-making algorithm independently.

The task of the next generation of risk manager is to deal with a field of tension.

An adequate risk management has always been a success factor for the current balance sheet or even for the continued existence of a bank. This principle remains in place despite the current massive changes foreseen for the near future. However, this important area of financial services is already becoming increasingly computerized which means that future risk manager will become a goalkeeper coach for the automated system instead of being the goalkeeper themselves.

Two key themes integral to the future risk landscape

Sunkanmi Ogunneye, Strategic Risk at RBS tells us how the industry is evolving.

The pace of innovation and disruption in the financial services industry is creating new opportunities for organisations. With new opportunities come new risks, both foreseen and unforeseen, and this inevitably alters the nature of risk management as we traditionally know it.

Risk management is evolving in response and is headed to a future where, by embracing technology, automation and analytics, it will enhance organisational strategy and operational effectiveness. I believe two key themes will be integral to the future risk management landscape:

1) Greater level of insight and wider risk coverage and;

2) Proactive risk management creating proactive relationships with customers

Greater level of insight and wider risk coverage

In the future, risk management will be interdisciplinary, with wider risk coverage. The progress being made in data insights and AI & automation will create and enhance a wide range of customer-centric solutions, such as answering queries; managing finances and predicting customer behaviour. Risk management will also benefit from development in these spaces. Progress in data & analytics will lead to more detailed insights and therefore more successful business decisions. Efficiency and accuracy in risk processes will improve once AI and automation is embedded into the risk management framework of financial services integration.

As data insights and AI & automation become the "normal" way of working, risk will have to expand operations into spaces such as behavioural science, social media, biometrics and quantum computing. This will require a more varied pool of talent in the risk management area, and will inevitably impact the role profile of the Chief Risk Officer (CRO) of the future. Today, organisations largely employ those with traditional financial services backgrounds for the CRO role. The CRO of the future, depending on the risk management landscape, could come from a big tech, social media or behavioural science background. Failing this, risk management functions may require the creation of a CRO equivalent role which addresses non-traditional risks that become inherent risks in the way financial services organisations operate.

Proactive risk management creating proactive relationships with customers

Future risk management will not be seen as an impediment to achieving strategic goals, but an enabler to achieve these goals by strengthening customer relationships and ensuring the best possible customer outcomes. Risk will be proactive with data, detecting when key changes are occurring in a customer's life. This will enable the proactive identification of customer needs, without the customer having to inform their bank, and thus build a stronger and more nuanced customer relationship. This is in great contrast to risk management of today, which tends to be reactive or retrospective when addressing the issue of customer needs and whether they are being met.

There are numerous ways in which future risk management will fundamentally differ from the function as it is today. With the volume and diversity of innovation occurring today, it is inevitable that risk management will also have to change in how operates, and will in turn add more value to businesses.

The Future of Risk Management

Here's what Harriet Morris-Sloane, Manager, Group Risk Governance and Appetite at HSBC Bank told us:

Over recent years risk teams in the financial services industry have grown in both their importance and remit to take their place centre stage in the decision making process. Thankfully gone are the days when risk management was viewed as a 'backwater' function sat in the corner of the darkest office in the building. The future of risk is one of broader coverage, collaboration, business focused support and adaptability.

The exponential growth of risk is, in part, a consequence of the 2008 economic crisis, an increase in regulations and fines and an acknowledgement that as an industry we could do better. But it is also due to the subsequent value add demonstrated by dynamic risk functions. Words and phrases such as "risk appetite" and "controls" are used in the lexicon of everyday business. Risk now means more than traditional credit risk, with increasing focus on non-financial risks now being integral to day-to-day decision making. This is a trajectory that will continue over the years to come with increased focus on newer areas such as sustainability and model risk.

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Risk's remit will continue to broaden, with risk managers advising across a wide range of matters, from the use of machine learning in credit to cyber threats. Whilst some of these risks sit within traditional 'bread and butter' work of risk management, some are new untested areas of risk. One of the challenges will be to support and enable our front line colleagues to deliver their objectives in that fast paced, more ambiguous environment whilst not compromising on risk standards. To do this, appropriate risk management structures and frameworks must be in place, supporting us to meet those challenges with clear thought and appropriate due process.

The impact of technology is an example of new risks presenting both challenges and opportunities. Fintechand AI are set to shake up the industry, and technological advances have set new consumer expectations as well as new ways to manage risk. Risk managers must be agile enough to keep pace with changes whilst continuing to support their stakeholders and innovative enough to change alongside their client-facing colleagues in order to be seen as business enablers and to stay relevant in the years to come.

Fintech and AI are set to shake up the industry, and technological advances have set new consumer expectations as well as new ways to manage risk.

The impact and co-dependency of risks are also becoming ever more intertwined. The future of risk is one of much stronger collaboration and interdependency. Risk management teams will need to provide a 'joined-up' approach across traditionally siloed areas in order to trouble shoot, share information and better predict second order impacts of possible events.

A broader remit, less clarity, and the fast pace of change will require risk management to be agile in its response; risk management teams have to be able to support, and at times pioneer changes, and feel comfortable operating and advising in uncertainty and ambiguity.

Disrupting the disruption

Here's what Rob Tuffnell, Director of Credit Risk Management, Europe & Asia, CIBC World Markets has to say:

In the field of credit risk, the much used phrase by Greek philosopher Heraclitus "change is the only constant in life" is becoming progressively more prevalent as disruption takes hold across multiple industries, making extending credit over a longer time period and placing reliance on uncertain forecasts, increasingly difficult.

Whilst newspaper column inches focus primarily upon the impact of technologies driving the fourth industrial revolution, disruption comes in many forms, and is starting to impact historically non-cyclical and stable industries, where from a risk perspective, you probably wouldn't have expected to encounter significant losses.

We need to understand whether people in our institutions know what disruption looks like.

Our world is in a state of flux. As well as political uncertainty and technological advances, society as a whole is facilitating an environment where disruption can thrive. By way of example, millennials drink less alcohol, and embrace technology more than their elders did. Consequently coffee shops have replaced pubs on the high street, and app only banks are breaking down the market share of their bricks and mortar peers.

So how can you approve 5 year money in such an environment? Even if we approved now, would we approve a refinance request in the future? Are the forecasts supporting a request actually any good?

None of us have a crystal ball, and we are always susceptible to one off events catching us by surprise (e.g. impact of 9/11 on the aviation industry). Disruption is therefore a given. But whilst disruption is perceived as a progressive and futuristic event, as risk professionals, adhering to proven and well-established mitigation strategies will help us manage disruption head on.

Looking forward 10 years and anticipating changes as to how we might lend, driven by wider disruption, should be embedded into the company culture, and not just a box to tick in credit applications.

The 'three line of defense' model is vital in our efforts to do this. We need to understand whether people in our institutions know what disruption looks like. Do we question our clients as to how they will cope with change? Do our clients employ the right people to navigate this change? Are they playing an active part in adapting to change, or are they heading to the corporate graveyard to join the likes of Kodak and Blockbuster Video? Speak to those we lend to and ask sensible yet challenging questions. If our first line is not doing this, it is the role of the second line to speak up and ask them to do so.

As individual institutions we should constantly question whether our credit policy remains relevant, to ensure we are proactive towards disruption. Rather than wait for the first loss, anticipate which clients and sectors may be most vulnerable and act accordingly. Techniques first encountered in the classroom such as SWOT and Porter are key to understanding which segments of our portfolios are likely to be hit first. We can then change and influence policy and lending guidelines accordingly.

Finally, engagement across all lines of defense is key. Looking forward 10 years and anticipating changes as to how we might lend, driven by wider disruption, should be embedded into the company culture, and not just a box to tick in credit applications. Asking questions and making decisions now when the impact may or may not materialize can be difficult, but is for the long-term benefit of our stakeholders and shareholders.

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Meet the RiskMinds team

We want to deliver a valuable, useful and memorable experience for the risk management community. Are we succeeding? Are there areas we can improve? Please let us know!

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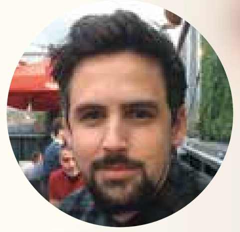

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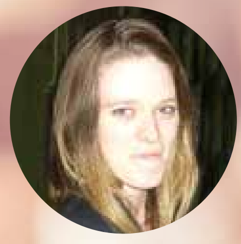

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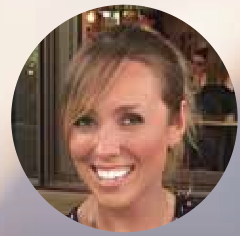

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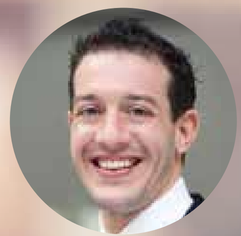

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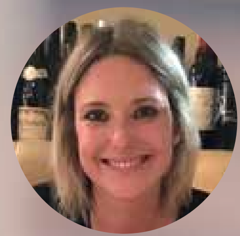

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