

Risk Management

Published by the Canadian Institute of Actuaries,
Casualty Actuarial Society and Society of Actuaries

JOINT RISK
MANAGEMENT
SECTION

ISSUE 34 • JANUARY 2016



Currency Risk Management
for Hong Kong Insurers:
prepare for the next unpeg

By Questor Ng

- 3 Chairperson's Corner
By Mark Yu
- 4 Letter from the Editor
By Baoyan Liu (Cheryl)
- 5 The Longer-Term
Investment Implications
of the C-ROSS regime
By Paul Sandhu
- 9 Currency Risk Management
for Hong Kong Insurers:
prepare for the next unpeg
By Questor Ng
- 13 Talking about
Capital and Stress
By Dave Ingram
- 16 ORSA—A Regulator's
Point of View
*By Stephen Manly
and Émilie Bouchard*
- 20 Developing a Robust
Risk Appetite
By Jim Toole and Matt Stahl
- 24 Black Swans and Risk
Management: Prepare
Now for the Unthinkable
By Brenda Boulwood
- 27 Matthew McConaughey
and Risk Management
By Tom Hettinger
- 28 Recent Publications
in Risk Management

Published by



Canadian
Institute of
Actuaries



Institut
canadien
des actuaires



SOCIETY OF
ACTUARIES

Risk Management

Issue Number 34 • JANUARY 2016

Published by the Joint Risk Management Section Council of Canadian Institute of Actuaries, Casualty Actuarial Society and Society of Actuaries.

This newsletter is free to section members. Current issues are available on the SOA website (www.soa.org).

To join the section, SOA members and non-members can locate a membership form on the Joint Risk Management Section Web page at <http://www.soa.org/jrm>

This publication is provided for informational and educational purposes only. The Society of Actuaries makes no endorsement, representation or guarantee with regard to any content, and disclaims any liability in connection with the use or misuse of any information provided herein. This publication should not be construed as professional or financial advice. Statements of fact and opinions expressed herein are those of the individual authors and are not necessarily those of the Society of Actuaries.

© 2016 Canadian Institute of Actuaries, Casualty Actuarial Society and Society of Actuaries. All rights reserved.

2016 SECTION LEADERSHIP

Newsletter Editor

Baoyan Liu (Cheryl), FSA, MAAA
e: cheryl.by.liu@fwd.com

Officers

Mark Yu, FSA, MAAA, CERA
Chairperson

Frank Reynolds, FSA, FCIA, MAAA
Vice Chairperson

Baoyan Liu (Cheryl), FSA, MAAA
Treasurer

Council Members

James Epstein, ASA, CERA, MAAA,
S. Anders Ericson, ACAS, CERA, MAAA
C. Ian Genno, FSA, FCIA, CERA
Robert He, FSA, CERA
Yangyan Hu, FSA, EA
Tom McIntyre, FCAS, CERA, MAAA
Mark Mennemeyer, FSA, MAAA
Kevin Olberding, FSA, CERA, MAAA
Thomas Weist, FSA, FCAS, MAAA

SOA Staff

Kathryn Baker, Staff Editor
e: kbaker@soa.org

David Schraub, Staff Partner
e: dschraub@soa.org

Leslie Smith, Section Specialist
e: lsmith@soa.org

Dave Hunter
Graphic Designer

Chairperson's Corner

By Mark Yu

As I write this article, the Joint Risk Management Section (JRMS) just finished our face-to-face planning session in Chicago. I appreciated the lively discussions and debates of our upcoming 2016 priorities and walked away with a lot of good ideas to be implemented in the coming year(s). Before I elaborate on our 2015 achievements and 2016 priorities, I'd like to extend my appreciations to Lloyd Milani for his leadership. In addition, I want to acknowledge the tremendous support the JRMS received from CAS, CIA and SOA staff members: David Core, Les Dandridge, David Schraub, Ronora Stryker and Leslie Smith. We could not have achieved what we accomplished this year without your support, Thank You!

MAJOR ACHIEVEMENTS FOR 2015:

- **EBSCO Digital library.** JRMS partnered with EBSCO to grant JRMS members access to various risk management books. These e-books can be checked out for a period for two-weeks and please take advantage of this offer. Here is additional information on how to utilize the service: <http://www.soa.org/professional-interests/joint-risk-management/new-jrm-benefit-access-e-library.aspx>
- **Educational Webcasts / Sessions.** JRMS has produced four webcasts as of October 2015 (1. Using scenarios as business stress tests; 2. ORSA Insights: Requirements, Activities, Expectations and Challenges; 3. De-risking or Risk-Shifting? Perspectives of Different Stakeholders; and 4. Validation of Complex Models) and three more are scheduled for the remaining of 2015 (1. Solvency II for North America; 2. Economic Capital Modeling for P&C Companies; and 3. Life). The JRMS sponsored numerous risk management related sessions at SOA, CIA and CAS conferences.
- **Research.** The JRMS committed \$105K for research projects in 2015; six projects have been completed and there are additional ten projects underway. We are interested to hear your ideas and thoughts on research topics; please send your topic ideas to Ronora Stryker at rstryker@soa.org.
- **Town Hall Meeting.** This is a new initiative which took place Nov. 6, 2015. The goal is to utilize the "wisdom of the crowd" to collectively share experience and knowledge on ORSA. This 60-minute virtual town hall format provides a



platform for attendees to exchange their ORSA implementation challenges and best practices. Positive initial feedback has been received.

Priorities for 2016. We will continue to provide various risk management educational opportunities to our members through webinars, seminars and sessions. As mentioned earlier, our research subgroup maintains a list of topics and we are interested to hear your thoughts of additional topics; we are also looking for volunteers to join our research working group. So send me an email if you are interested in getting involved!

Another priority identified from our in-person planning session was to provide networking opportunities to JRMS members. We are planning to host networking events in Hong Kong and New York City; the format and venue have yet to be finalized, so please stay tuned for additional information.

We'd like to hear from you! JRMS exists to serve our members and we will be conducting a member survey to see how we can better serve you. I'd encourage you to participate in the upcoming surveys to tell us your needs.

I am very excited to be the chair of the JRMS for 2016. I look forward to working closely with our council members to further meet the needs of our members. ■



Mark Yu, FSA, MAAA, is enterprise risk and capital management professional at General Re-New England Asset Management in Farmington, Conn. He can be reached at mark.yu@rneam.com.

Letter from the Editor

By Baoyan Liu (Cheryl)

In this first 2016 issue of *Risk Management*, the editor is pleased to offer readers articles from around the globe, from the northern division of the Western Hemisphere, to the other side of the Pacific Ocean, or more adventure to battle against the time to the space.

On the Asia risk side, the newly introduced China's Risk Orientated Solvency System (C-ROSS) has created discussions within the insurance industry. Paul Sandhu from Conning Asia Pacific takes a special look into the longer-term investment implications of the C-ROSS regime.

Continuing with our CRO talk series, we are delighted to invite Questor Ng from Hong Kong to discuss currency risk management within the Hong Kong insurance industry. After the shock of the Swiss franc sudden removal of its currency peg, currency volatility and FX risk management have been on top of the international insurers' agenda. One of the heated discussions is the 32-year old Hong Kong linked exchange rate regime. Questor discusses the HKD currency peg impact on insurance companies and the risk management practice under this system.

Before we flip the pages to North America, let's have a talk on worldwide ORSA. With the advent of ORSA, clear communication between insurers and regulators is increasingly important. But there might be lack of a common language, fundamental confusion exists about the nature of the ORSA. In his article, "Talking about Capital and Stress," Dave Ingram uses a common language to explain the ORSA Guidance Manual, and what ORSA really asks for on risk assessment, capital and stress testing.

ORSA is one year old in Canada. "ORSA—A Regulator's Point of View" shares some feedback from this one year experience from the perspective of OSFI. Emilie Bouchard helped articu-

late Steve Manly's thoughts in this Canadian article. The article highlights some of OSFI's expectations regarding the ORSA process, and provides general feedback and observations from OSFI's reading of 2014 ORSA reports (including KMR) and discussions with insurers.

Having a robust risk appetite is key to the ORSA implementation. Though risk appetite has been widely discussed in recent years, Jim Toole and Matt Stahl from FTI Consulting were still surprised by their recent ORSA webinar survey on risk appetite statement development. In "Developing a Robust Risk Appetite Statement," Jim and Matt map out the steps insurers can use to develop and apply risk appetite effectively. They also share some tips for successful risk appetite implementation.

Next, we share an article on preparing for the unthinkable—"Black Swans and Risk Management" by Brenda Boulwood. Today, most companies realize the often catastrophic impacts from those unpredictable events, and started the Black Swan evaluation as part of their emerging risk management. Brenda Boulwood goes a layer deeper and discusses how companies can both address the unknown and, at the same time, ensure they are agile enough to react when the seemingly unthinkable occurs.

Last, here is the fun trip to space. Tom Hettinger borrows Matthew McConaughey's endurance and brings us on a time travel voyage to the black holes. Tom describes the risks that we see daily as the black holes—difficult to diversify across time. While gravity is the management discipline, it is important to have intra- and inter-year risk management over a multi-year time horizon.

Finally, we provide a list of recent articles and papers that may be of interest to our members. These pieces can provide further information on a broad range of topics.

We would like to give a special thank you to David Schraub and Kathryn Baker for helping us pull together this newsletter together. ■



Baoyan Liu (Cheryl), FSA, MAAA, is senior manager, financial risk management at FWD Life Insurance Company (Bermuda) Limited in Hong Kong. She can be reached at cheryl.liu@fwd.com.

The Longer-Term Investment Implications of the C-ROSS Regime

By Paul Sandhu

The introduction of China's Risk Orientated Solvency System (C-ROSS) focuses insurance companies on linking assets and liabilities to improve capital efficiency. This will require sophisticated risk management tools set in improved decision making frameworks. This innovation occurs as the insurance industry is growing quickly, positioning China as the third largest insurance market globally. In this article we take a look at some of the requirements practitioners will need to consider as they implement a framework for managing the long-term implications of C-ROSS as they pursue their capital efficiency agenda.

The Asian insurance industry continues to see unprecedented growth, even as the overall economic growth in the Asian market is slowing. Developing markets in Asia such as China, India and Indonesia, while very different in their application of insurance and their regulations, are experiencing an expanding middle class and changing demographics pushing growth to double digit rates. China's forecasted 6.3 percent economic growth in 2016 is the lowest in two decades, while its insurance industry continues its growth at more than double this rate.

The investment market in China has gone through a period of turbulence over the past year starting with nearly a 40 percent decrease in the equity market price levels during the earlier half of the year followed by a 3 percent drop in the currency in August. On the interest rate side, the policy rate in China was cut by 25bps with expectation of further cuts, while the U.S. interest rate hike still looms.

The dynamics of the market coupled with the push for sustained industry growth has led China to implement a re-valuation of risk. The CIRC is a key component of this revaluation and will eventually lead to fundamental shifts in the allocation of insurance company portfolios.

China's ability to adapt and incorporate global best practices and innovations, whether it be new investment classes, risk management processes or insurance products, continues at pace.

MAJOR REFORMS IMPLEMENTED

Most recently, China's insurance and market regulators have implemented major reforms that have been the catalyst for a

significant paradigm shift for insurance companies. Two of the policy changes that carry the most fundamental implications to the insurance company investment operations are: (1) easing of restrictions for investment into alternatives and overseas asset classes and (2) growth of domestic markets through creation of new asset classes and expansion of existing asset classes, such as derivatives. This acceleration of market liberalization is allowing Chinese insurance companies to build globally diversified balance sheets with the added benefit of enhanced return through global alternatives and reduced duration gap through access to longer duration debt instruments.

As the currency depreciates, insurance companies that have robust frameworks for foreign investment will be in an advantageous position. We are also expecting a narrowing of the interest gap between China (expected to cut rates) and the United States (expected to hike rates), which will ultimately lower the relatively higher reward when investing in domestic markets vs. foreign markets.

Given this expanding list of market variables, insurance companies in China have realized that an integrated framework for risk management and strategic asset allocation will be necessary in order to allow them to make decisions to optimize their projected capital under the C-ROSS regime

COMPANIES ARE ENHANCING ERM AND SAA FRAMEWORKS

In the midst of this new frontier of investment, C-ROSS introduces an expansive solvency framework that will require insurance companies to calculate their capital position using a holistic methodology covering both sides of the balance sheet.

At the cross between market liberalization and heightened capital guidelines, companies are enhancing their Enterprise Risk Management (ERM) and Strategic Asset Allocation (SAA) frameworks that allow them to take advantage of growing opportunities in the market while managing enterprise risks.

The key component in a well formed and robust ERM/SAA framework is its ability to bridge the gap between the business units by capturing the overall mission statement of the insurance company and transforming it into a quantifiable and transparent set of decision making metrics. This framework will allow a wider and deeper view of the company dynamics with respect to the investment portfolio and allow senior management to make key decisions.

Using sophisticated stochastic modeling techniques, companies can explore the impact of C-ROSS projected forward in time, in order to determine how to make investment decisions today to maximize their expected benefit tomorrow.

MODELING THE “TAIL” IS AN ESSENTIAL REQUIREMENT FOR TODAY’S RISK MANAGEMENT

As seen in other markets as recently as in the 2008 Financial Crisis, asset classes tend to “influence” one another through stronger correlations during tail events, ultimately causing a domino effect across the balance sheet. The ability for the modeling framework to produce this dynamic stress analysis is essential.

In developing markets, the lack of historical data on investment classes tends to make it difficult to model future tail behavior. However, the fact that these markets exhibit more volatility than developed markets makes these models even more essential. As such, it is important to incorporate the expertise of market practitioners and asset managers in order to supplement the historical data available. Equally important is the ability to conduct stress tests on the tail in order to understand the sensitivities to the portfolio and ultimately to the overall capital position.

Stochastic projection of the capital into the future allows companies to make decisions today for a higher level of capital efficiency tomorrow

ADVANCED MODELING FRAMEWORK TO SUPPORT IN-DEPTH ANALYSIS

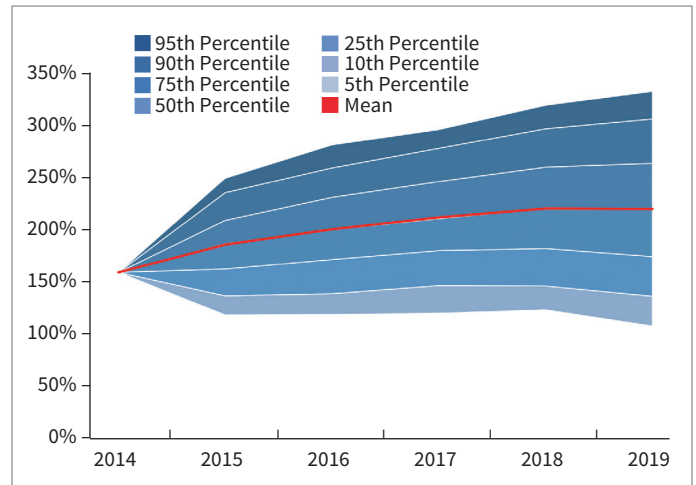
Modeling C-ROSS into future time periods stochastically involves building a sophisticated model capable of incorporating both sides of the balance sheet by connecting the assets to the liabilities. It also involves having a framework that is able to factorize the C-ROSS specifications so that the calculation can be re-done over projected scenarios and over future time periods. This ability to “factorize” is a key consideration so that the calculation is still consistent with the core principles of C-ROSS.

Another fundamental aspect of the model is having a robust Economic Scenario Generator (ESG) that has enough flexibility to incorporate the specific market variables in China which has the market dynamics calibrated properly and validated through actual market practitioners. The Chinese market is in a state of growth and liberalization, which requires an ESG capable of evolving through the projection horizon as the market is expected.

PROJECTING SOLVENCY RATIOS

Figure 1 shows the projections of C-ROSS over a five year horizon using such a model. The mean shows the expected reported solvency position over five years. An important issue being outlined in the projection is that the tail (bottom 5th percentile) moves very close to 120 percent (down from 170 percent). Analyzing the multiple scenarios and their projected asset/liability interactions which caused this level of capital deficiency would lead to the basis of a risk appetite statement and a market based trigger system used in our monitoring of market risks.

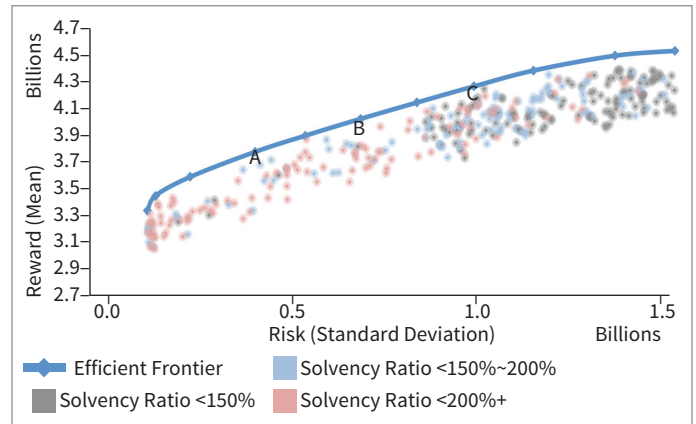
Figure 1
Solvency Ratio – Current Investment Strategy



OPTIMIZE C-ROSS USING THE EFFICIENT FRONTIER

In order to analyze multiple investment strategies applied within the C-ROSS projected framework we utilize an advanced genetic search algorithm which seeks to maximize the effective area of the convex hull in order to draw the Efficient Frontier (EF). The figure shows how various investment strategies plot in terms of their risk/reward trade-off under the C-ROSS regime.

Figure 2
C-ROSS ALM Efficient Frontier - Profit in 5 Year



TAIL ANALYSIS TO IDENTIFY THE SAA

Once the EF is identified a key focal point is the tails of the capital projection. As the allocation to higher risk asset classes increases we see that the tail risk also decreases to a certain point before the expected benefit no longer outweighs the increased risk. This allows us to choose our “risk limit” and identify the corresponding investment strategy.

Figure 3
Tail Analysis

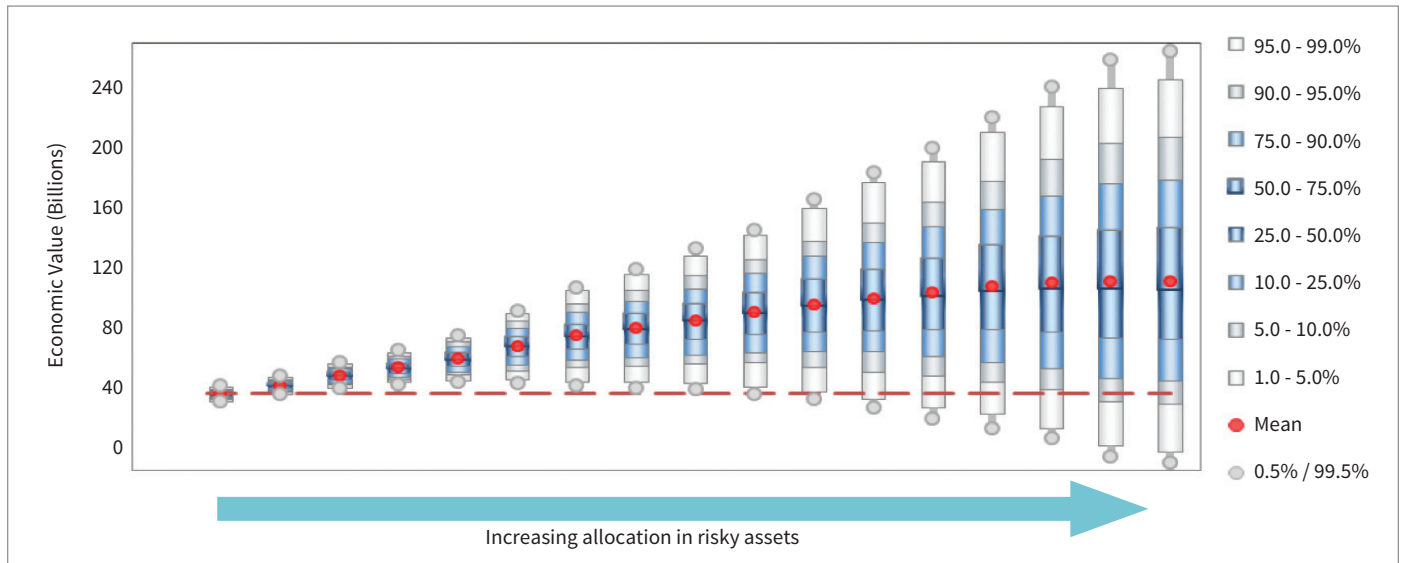


Figure 4 goes deeper into the analysis and plots the mean of the solvency ratio over time for three investment strategies. In the figure, strategies B and C are both subject to a lower solvency ratio starting position than strategy A because of the increasingly higher exposure to foreign assets and the higher initial equity hedging cost. However, strategy B has a higher solvency ratio

than strategy A in three years as it is utilizing the benefits of the foreign investment strategy being applied to the portfolio. This illustrates that the incremental risk taken at the initial time period is eventually overcome later in the projection. The same cannot be said for strategy C which cannot overcome the higher costs for hedging and the increased foreign currency risk.

Figure 4
Solvency Ratio

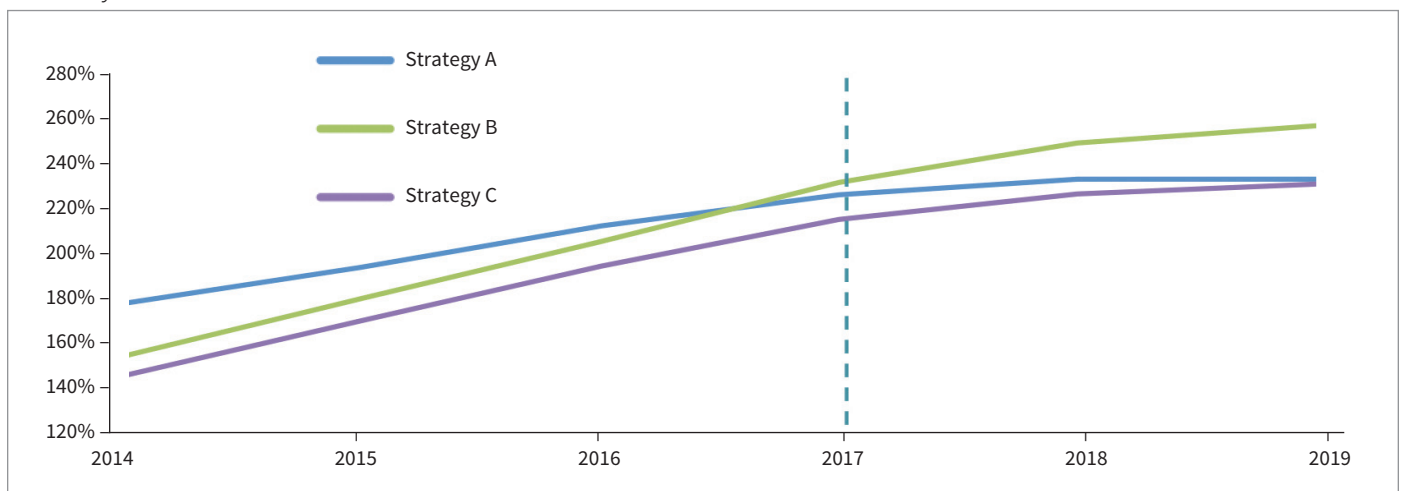


Table 1
Asset allocation of investment strategies in Figure 2 & Figure 4

Strategy	A	B	C
Fixed Income	79 percent	74 percent	68 percent
Stock	7 percent	7 percent	7 percent
Foreign Assets	4 percent	9 percent	15 percent
Others	10 percent	10 percent	10 percent
Percent of Equity Hedged by Derivatives	0 percent	25 percent	75 percent
Solvency Ratio (initial)	180 percent	156 percent	148 percent
Solvency Ratio (in 5 years)	235 percent	259 percent	233 percent

A STRATEGIC FRAMEWORK THAT CONNECTS AND ENHANCES THE DECISION MAKING FRAMEWORK

The advent of C-ROSS will have fundamental long-term implications to how insurance companies manage their businesses on both sides of the balance sheet. Market uncertainty still prevails and the globalization of the market expands the list of variables that need to be accounted for when building an efficient/well-diversified portfolio. As in developed markets, the ability to make decisions today to enhance the available capital of the

The dynamics of the market coupled with the push for sustained industry growth has led China to undergo a revaluation of risk which in turn has led to higher level of market uncertainty.

insurance company in the future will form the basis for success and growth in an already rapidly growing and competitive market. The incorporation of advanced modeling techniques and sophisticated frameworks that model both sides of the balance sheet in a holistic and connected way is increasingly necessary and will allow senior management to make the critical decisions to achieve success in this dynamic and innovative market. ■



Paul Sandhu, ASA, is head of Risk and Capital Management Solutions, Asia Pacific, at Cathay Conning Asset Management in Hong Kong.

ONLINE ACCESS TO CAS EDUCATIONAL PROGRAMMING

The University of CAS (UCAS) provides a variety of educational content through recorded educational sessions from CAS meetings, seminars, and webinars.

New! Interactive Online Courses available through UCAS include an Introduction to Statistics and Simulation.



Visit casact.org/UCAS for more information.

Currency Risk Management for Hong Kong Insurers: prepare for the next unpeg

By Questor Ng

The Swiss franc peg was introduced in 2011 in response to investors buying up substantial amount of the currency as a safe haven asset. On Jan. 14, 2015, the Swiss franc was trading around 1.2, at the minimum exchange rate of 1.20 francs to the euro cap. On Jan. 15, with no hints from the central bank, the Swiss government announced the removal of the three year old Swiss franc to euro ceiling policy. The euro dropped as low as to 30 percent against franc, plunged to 0.85 francs per euro at one point. The central bank also cut its main interest rate to -0.75 percent—a move further into negative interest territory.

The sudden death of the Swiss franc ceiling policy demonstrates the kind of currency volatility and impact when a currency peg is removed. The market, then, turns the discussion to the other fixed exchange rates system—Hong Kong’s 32-year old peg with U.S. dollar.

THE HISTORY

In 1982, the negotiation between China and the United Kingdom over Hong Kong’s sovereignty spurred huge capital outflows and drove consumer confidence down. The collection of events eventually resulted in “Black Saturday,” when the Hong Kong dollar exchange rate was at an all-time low. In response to the currency crisis, Hong Kong abandoned the floating exchange rate system since 1974, and pegged its currency against the U.S. dollar at a fixed rate of HKD7.80 to USD1.

In 2005, Hong Kong committed to limiting the currency’s decline to HK\$7.85 per dollar and capping gains at HK\$7.75. On several occasions, the rate has moved towards the lower limit of 7.75 before the Authority intervened, purchasing tens of billions in foreign currency in order to adjust the rate accordingly.

This system has been quite successful in stabilizing the currency and establishing the city’s financial credibility. Hong Kong’s economic achievements are impressive. The continuous stream of capital inflow has made Hong Kong an international business, trade and financial hub.

32 years had passed. On the other hand, increasing evidence suggests that the currency peg also contributes to underlying

Because of the currency peg system, the exchange rate move between 7.75 and 7.85, a pretty narrow range. Hence, so far, the FX mismatch risk is very well contained.

social, economic and political conflicts in Hong Kong. Many analysts are now speculating as to should the HKD be de-pegged.

THE INSURANCE INDUSTRY UNDER THE CURRENCY PEG

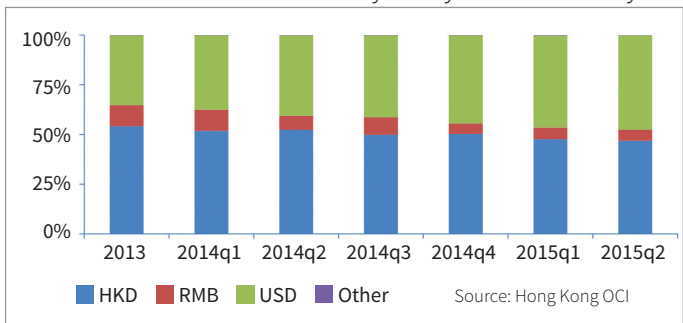
The insurance industry in Hong Kong has a long history of 170 years. There are over 150 authorized insurers. In 2014, the total gross premiums of the Hong Kong insurance industry increased by 13.3 percent to HK\$339 billion. If the currency peg is removed suddenly, there would possibly be material impact on the industry.

The liability side

Individual life insurance, mainly participating business, is the dominant line of long-term insurance business, making up over 90 percent of the total business. In general, the long-term business has a liability-duration around 15-20 years. Under the current low interest rate environment, companies are facing the challenge of lengthened liability duration and a low investment yield.

Insurance benefits, as a result from its multi-currency capital market development, are issued in different currencies, particularly in HKD, USD, and RMB. Based on the recent Hong Kong OCI statistics, USD issued policies has gradually gaining momentum. It replaced HKD and became the most issued policy currency in Q2 2015.

Figure 1
Hong Kong Long-Term Insurance Direct Individual New Business Annualized Premiums by Policy Issued Currency



The investment side: fixed income market

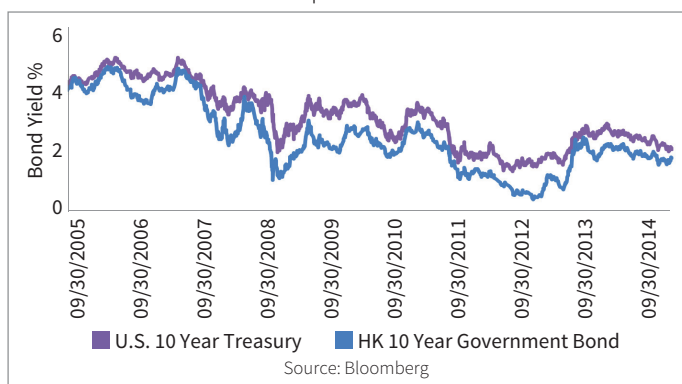
Hong Kong’s debt market is relatively small compared to its equity markets. Eighty percent of the bonds issued and traded are in OTC markets. The Government Bond Program was implemented in 2009. Twelve issues of institutional bonds totaling HK\$66.5 billion and three issues of inflation-linked retail bonds totaling HK\$30 billion were outstanding at the end of 2014. As a result, the Hong Kong debt market is still facing the reality of limited availability, illiquid, lack of long-term maturity products and relatively high credit risk. Under such environment, insurance companies have difficulties to look for perfect match HKD long-term assets to back their liabilities.

One alternative for insurance companies is to buy USD fixed income assets. There are high quality USD fixed income assets with long maturity, sound credit rate, higher yield in a more efficient and liquid markets. It is within the industry norm that life insurance companies have over 70 percent of their fixed income asset invested in the USD nowadays. However, this comes with a currency mismatch problem which has been kind of ignored as HKD is pegged with USD.

The ALM and currency mismatch

Hong Kong’s interest rate has been at the 2 percent neighborhood in the past eight years, but U.S. fixed income still offers over 2-3 percent yield. Invested in the U.S. asset essentially increases the yield for the par business and becomes market practice.

Figure 2
10 Year Interest Rate Comparison: U.S. and HK



In the insurance industry, roughly around 50 percent of liability is denominated in HKD, while over 70 percent of asset is in the USD, i.e., part of the HKD liability is backed by USD asset. Because of the currency peg system, the exchange rate move between 7.75 and 7.85, a pretty narrow range. Hence, so far, the FX mismatch risk is very well contained. While some insurers choose to set up the currency hedging program, others embed the risk with more prudent provisions. The current regulation has not factored in such risk in the capital requirement.

IS IT TIME TO RE-PEG?

When the peg was first introduced, the United States was a key trading partner of Hong Kong. The HK economy was experiencing a tremendous GDP growth at about 9 percent. Nowadays, China has become the top trading partner. Hong Kong’s economy growth has slowed down and the interest rate has decreased below 2 percent.

For a number of years, any calls for Hong Kong to unpeg to the USD were deflected with a single word: stability. One of the Hong Kong Monetary Authority (HKMA)’s primary objectives is to ensure the stability of the currency. On several occasions, the exchange rate has moved towards the lower limit of 7.75 before the Authority intervened, purchasing tens of billions in foreign currency to maintain the exchange rate. Hong Kong’s exchange fund has become one of the world’s largest official reserves, reaching an all-time high of US\$345 billion in September 2015.

Many analysts are currently speculating as to when the HKD will be de-pegged, either at a lower USD rate, or even to the Chinese RMB or perhaps a basket of currencies. However, it is not only an economic or finance issue, but also political considerations have to be balanced.

The business environment

Increasing evidence suggests that the currency peg contributes to underlying social, economic and political conflicts in Hong Kong.

The USD has undergone a period of weakness after financial crisis, which has led to a high cost of Hong Kong imports, particularly in the critical food sector, given that Hong Kong imports 90 percent of its food. The city’s consumer prices increased 3.3 percent in 2015 year over year, after increasing by 4.4 percent in 2014. The inability to adjust interest rates due to the peg also leads to upward pressure in all kinds of commodities, especially in the property market.

Also, Hong Kong’s weak currency has a particular magnified impact next to the stronger RMB as integration with the mainland has accelerated in recent years. The depressed local currency was supercharging the huge arrival of mainland visitors and pressuring local prices upwards.

The capital markets

For decades, the United States had been the largest domestic export destination of Hong Kong. Starting from 2003—after the conclusion of CEPA—mainland and Hong Kong broadened the economic cooperation of the two sides, expanding market and facilitating trade and investment. And since 2005, mainland had replaced the United States to become the largest destination of Hong Kong’s domestic exports—an average 36 percent. Also, in

The sudden death of Swiss franc ceiling to Euro demonstrates the kind of currency volatility ... The market, then, turns the discussion to the other fixed exchange rates system—Hong Kong's 32-year old peg with US dollar.

the past decade, mainland became Hong Kong's largest destination of re-exports and supplier of imports.

Early this year, hot money from mainland then pushed the Hong Kong stock market with average daily turnover to triple the usual amounts. Chinese investors twice used up their daily quota purchasing Hong Kong equities within one week in April through the stock connect. The strong inflow of southbound funds, make the 32-year peg under pressure. The monetary authority has to spend its reserve to defend the peg.

Furthermore, since the Hong Kong dollar is pegged, its monetary policy follows the United States involuntarily. HKMA has been forced to match ultra-low U.S. interest rates, even at the expense of a high inflation rate, and Hong Kong property prices have increased dramatically as a result. The unaffordable property and widening income inequality has becoming a wider problem of the new Hong Kong generation.

THE CHALLENGES AND RISKS

Peg and re-peg is like a double-edged sword. As the environment changes overtime, such fixed pegs contribute to so many problems mentioned above. But re-pegging is not an easy move neither. This may create more problems than it solves.

Financial and political

Despite being the one of the world's most-traded currencies, HKD is not especially tradable because of the peg. Economists say it is better to let it float. Once de-pegged, the HKD might temporarily lose value if the HKMA lags behind the Federal Reserve in terms of matching interest rates. However, as discussed above, there are also strong storylines for the HKD to appreciate as a result.

And the issue is more than just economics. Both China and Hong Kong are eager to maintain stability in Hong Kong. HKMA firmly believes changing the peg would hurt investor confidence, which could trigger catastrophic capital outflow.

Let's consider if re-pegging of the HKD becomes a possibility, what would the alternatives be? Some possible outcomes would be:

- Adapt a free float system
- Re-peg to a basket of currencies (like the Singapore currency board system)
- Re-peg to the Chinese RMB
- Revalue the USD peg to an appropriate level

But it's too early to draw such conclusions. The Hong Kong economy is too small to adapt to a free float system. To revalue the peg to another level may only be able to reduce but not solve the current problems. Re-pegging to a basket of currency also has many challenges, especially the transparency in how such a basket is defined. There are chances the basket also deviates from the fundamentals of the Hong Kong economy, etc.

As a matter of fact, there are many benefits from China's economic growth in the past two decades. Hong Kong is a well-known launching pad for international firms seeking to enter or exit the Chinese mainland, and its fortunes are increasingly related to those of China. Bankers and analysts in general believe the only reason for the Hong Kong dollar to re-peg would be to peg itself to the RMB. However, a peg with the RMB will not happen in the near future as the currency is not yet freely convertible. The inclusion of the RMB in the IMF's Special Drawing Rights basket could be seen as a favorable signal on that direction. Even if this happens one day, there are still other technical problems. For example, over the last few years, the RMB has appreciated against USD. If the HKD were to be re-pegged to the RMB, it would need more than 2 trillion RMB assets to replace the HKMA's US\$345 billion foreign reserves, which exceeds the amount of current RMB assets in Hong Kong's offshore market.

Impact on insurance industry from risk perspective

With regard to the implications for the average Hong Kong life insurers, the effects of a revaluation of the currency are both short-term and long-term.

Predicted by Bill Ackman in his 2011 presentation, the HKD may experience a 30 percent appreciation if re-pegged. Under a 30 percent appreciation, the currency volatility spike up, immediately followed by a downward pressed interest rate movement. This leaves a large hole for ALM managers to fill.

As part of liabilities are backed by USD asset, when HKD appreciates, there will be an immediate material loss if FX risk is not properly hedged. Even with proper FX hedge and no immediate financial impact, the future yield movement will become more volatile and very difficult to manage volatility and substantially increased cost of hedging. When the U.S. / HK spreads widen or the HK yield drops, decreases in valuation interest rates and investment returns should not be a surprise. And this, in return,

impacts the financial where higher reserve and risk capital are required. The pressure can be amplified for those products with substantial guaranteed features.

In regards to the in-force participating business, the companies may not have choice but to lower dividends/crediting rates. This may trigger massive lapse that heighten liquidity risk within a short timeframe. For new money and new business, competition is also heightened, companies are looking harder for ways to enhance yield or de-risk the product by innovative product design.

Risk mitigation

To deal with this coming problem, several areas need attention and action immediately:

In-force business requires a detail sensitivity analysis on FX risk. Scenarios such as 20–30 percent devaluation in either currency plus 50–150 bps lower future investment return could be tested. Sensitive blocks of business should then be identified and potential remedies considered versus long-term objectives. Remedies can vary, depending on company financial strength and objectives. They could consider reinsurance arrangement, matching FX and future yield with derivatives, and to certain extremes, cutting future dividend for participating business, etc.

For new business, business strategy would be affected not only limited to the currency mix of production, but also to the extent of efficient deployment of risk capital. Basically, effort is required to drive for proper mix of currencies from new business. This

mix should be derived from the expected investment in turns of currency. In case there is still a gap, appropriate allowance for the future FX volatility, yield gap and heightened risk capital requirement should be factored in the pricing process. Lower the product guaranteed, as well, to make the product more transparent to policyholder would also reduce any surprise and dispute in the future.

From the investment side, looking for ways to enhance yield is one basic thing all companies are doing. Including consideration of FX mix would make the investment process more comprehensive. Government should also assist the industry by promoting the development of a deeper local bond market.

CLOSING REMARKS

While the peg is still an integral part of Hong Kong’s economy and daily life, China’s RMB is not fully convertible, economists believe that re-pegging would probably not occur within the near future. But the clock for the risk managers in the insurance firm is ticking. ■



Questor Ng, FSA, is chief risk officer at FWD Life Insurance Company in Hong Kong. He can be reached at Questor.ng@fwd.com.

Talking about Capital and Stress

By Dave Ingram

Perhaps in the past, conversations about capital and stress have been private. Amongst insiders who all understood the unspoken parts of the conversation. Or, more likely, these conversations rarely happened. Either way, here we stand. With the advent of ORSA, insurers and regulators are called upon to communicate with each other on these topics but without a common language.

If we create a common language, it will be more likely that what an insurer's management says about their objectives regarding level of security and the resulting level of capital might be understood by the regulators reading the ORSA. And with a common language, insurers whose business depends on risk taking, not on maximizing security, can communicate with regulators who are tasked with preventing the second coming of a global financial crisis about realistic levels of risk taking.

But before we get to Capital and Stress, let's acknowledge the fundamental confusion that exists about the nature of the ORSA. This confusion comes about because there is disconnect between the title, "Own Risk and Solvency Assessment" and the actual work that is wanted. For the longest time, I had the impression that the word "Solvency" meant that a firm had assets that were greater than the liabilities. A solvent company had a net worth that is greater than zero. So under that definition, a solvency assessment should take 10 seconds. Check the balance sheet. Yep. Assets are greater than liabilities. Assessment complete.

Under the U.S. insurance regulatory regime, the Risk Based Capital system is used to determine minimal capital levels. Insurers with capital less than the Company Action Level of Risk Based Capital must be placed under the control of the insurance commissioner. Insurers that have capital less than the Authorized Control Level of Risk Based Capital will have a long discussion with their supervisor and might be brought under control by the regulator.

Now, the term Risk Based Capital is itself confusing to many. It is actually not a measure of capital. It is a measure of risk. It is an estimate of the amount that a company might lose in the future under certain specified future adverse conditions. An "amount that a company might lose in the future under certain specified

If we create a common language, it will be more likely that what an insurer's management says about their objectives regarding level of security and the resulting level of capital might be understood by the regulators reading the ORSA.

future adverse conditions" is a definition for a broad class of risk measures. If you calculate such an amount and the company then holds unrestricted funds in the amount of the risk calculated, then the firm is secure against loss events such as those that formed the basis of the risk calculation.

So before the ORSA, many had come to think of the two levels of RBC as a "Solvency" standard. Under that view, an ORSA would be a process to check whether the actual capital of the insurer was or was not higher than the RBC. And in fact, a large fraction of insurers developing their first ORSA Summary Reports for submission to their insurance department are performing just that test.

But the ORSA Guidance Manual actually asks something quite different.¹ What they ask for is something that could broadly be called a Capital Adequacy Assessment. That is, a process of determining whether capital is adequate for the security standard of the insurers.

It is interesting to note that the ORSA Guidance Manual requires that an insurer specify in great detail the Security Standard, but there is no documentation of the NAIC specifying such details regarding the RBC! Many insurers have been as muddled as the NAIC about the details of their own risk capital standard. Specifying the actual risk tolerance and the resulting risk capital standard is one of the more difficult steps in the ORSA process for management teams at many insurers.

With clearer terminology, perhaps the task would be easier. Most insurers can be observed to have operated for long periods of time at a relatively stable capital level relative to the size of the company.

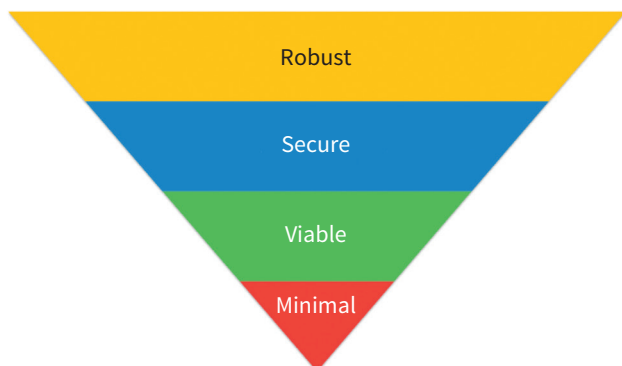
There are effectively four broad levels of capital:

- Minimal – enough capital to survive under normal volatility, small margin of safety, no resilience. A major loss event would render these insurers below the company action level of RBC or even totally insolvent. These insurers effectively

- use the regulator’s risk based capital authorized control level as their risk capital standard.
- Viable – enough capital to provide for a single major loss event and to avoid reaching minimal level with “normal” volatility. These companies generally operate comfortably in a market where customers are not focused on assessing their insurer’s financial strength. Sectors like personal auto and health insurance.
 - Secure – enough capital to satisfy sophisticated commercial buyers that you will pay claims in most situations by providing for maintaining a viable level of capital after a major loss event. These insurers would expect to raise capital to get back to the Secure level after a major loss event.
 - Robust – enough capital to maintain a secure level of capital after a major loss. A few reinsurers operate at this level of capital as well as a few direct writers who have a long tradition of operating at the highest level of security. These insurers would not expect to need to raise capital even after a major loss event, but would expect to be able to build surplus back to the Robust level via earnings.

These capital levels are generally maintained for many years and are thought of as fundamental to the self-definition of the insurer. They are often then closely linked to rating targets and reinsurance purchasing. These four statements could be used or modified to state an insurer’s risk strategy and tolerance. Notice that in all but the lowest category, a major consideration is the position of the insurer after a major loss event. This is in stark contrast to many of the largest banks where the objective, at least prior to the financial crisis, was to close the books each night with capital as close as possible to the required level with no margin whatsoever for losses.

Using this language, the process for the ORSA is turned on its head. Instead of forcing managers to develop a risk tolerance statement and risk capital standard in the foreign language of statistical models, they can think in terms of aligning their capital with the insurer business strategy, as they have been doing forever, and leave translation into statistical terms to the modelers.



So when the modelers are translating a security standard along the lines of the above into statistical terms, they will then be performing one of the three basic types of risk assessments that might be referenced in the ORSA.

1. Risk Assessment for purposes driving the risk mitigation and control activities as well as determining the impact of those activities,
2. Risk Assessment for purposes of determining risk capital standard,
3. Risk Assessment for purposes of assessing impact of adverse environment.

Section 2 of the ORSA, titled “INSURER ASSESSMENT OF RISK EXPOSURES” asks for risk assessments in normal and in stressed environment. We would take this to mean that the risk assessment in the normal environment is a proof of plan viability. The insurer should show that they have adequate capital under their plan to meet their own risk capital standard. That would mean performing a risk assessment of type 2 from the list above to a projection of the company balance sheet under the future plan for risk taking. The look at risk assessment under a stressed environment would mean to perform risk assessments of type 3 from the above list and then in addition assess the risks with type 2 assessments to determine if the capital is still adequate.

That seems clear enough until you contemplate what needs to be the level of stress? Is the level of stress absolute or relative? For instance if two companies do similar business but one has a Secure risk capital standard and the other has a Viable risk capital standard, should they be looking at similar stress scenarios or would be insurer with the Viable risk capital standard look at less severe scenarios?

Here is another place where clearer language could be a great help. In general, stress testing is open-ended and un-defined. But for both discussions with various internal audiences and especially for discussions between insurers and regulators reviewing the ORSA as well as for discussions between regulators, a common language about stress tests needs to be used.

It is very helpful if the language about stress testing would include terminology for several different levels of stresses such as:

- Normal Variability – Stress falls within expected range for a normal five year period which is not necessarily the most recent five years.
- Historical Worst Case – Worst run of experience in the past 20–25 years. That run may last for months or years. These scenarios may be consistent with Normal Volatility or they might be Realistic Disasters. Usually that is discernable



based upon how much worse they are than the next worst case.

- Realistic Disaster – Worst experience that is reasonably expected in the future (even if it has never happened).
- Future Worst Case – Maximum plausible loss that could occur even if you believe that likelihood is extremely remote.
- Multiple Scenarios – where combinations of scenarios are considered. Many of these will be combinations of realistic disaster scenarios. These combinations will almost always be a Future Worst Case.

Ultimately, this can then be simplified down to three levels of adversity:

- Normal Volatility that can be managed via risk management processes and absorbed into earnings.
- Realistic Disasters that cannot be absorbed into earnings but must be absorbed into capital. These stresses are the focus of capital management and capital adequacy assessment. They are considered to be remote but plausible adverse events. For the purpose of the ORSA, one important “disaster” to consider might be an extreme surge in sales that radically increases the amount of risk without increasing the capital fast enough.
- Worst Case scenarios are those that are highly unlikely. These scenarios are tested primarily out of curiosity, and the test results may or may not drive any risk management actions because they are so remote.

Some combined risk scenarios may be Realistic Disasters, though many will be Worst case scenarios.

With the idea that it is reasonable for an insurer to prepare for a Realistic Disaster Scenario, but not practical to be prepared for

all Worst Case scenarios. Not practical because the insurance would cost too much and less insurance would be sold.

With such a common language relating to stress tests, the results of the stress testing and the response to those results can be simply and comparably explained.

The outcomes of stress testing fall into a pattern that will be the same across all insurers.

- An insurer should be able to withstand normal volatility without any lasting reduction to capital.
- An insurer should be able to withstand a Realistic Disaster for most of their risks without a game changing impairment of capital, i.e., it would be realistic for them to plan to earn their way back to their desired level of capital. For the most significant one or two risks, a Realistic Disaster may result in Capital impairment that requires special actions to repair. Special actions may include a major change to company strategy.
- An insurer can usually withstand a Worst Case scenario for most of their risks with the likelihood that for some, there will be an impairment to capital that requires special actions to repair. For the largest one or two risks, the insurer is unlikely to be able to withstand the Worst Case scenario.

Those three statements are in fact a requirement for an insurer to be said to be effectively managing their risks.

So the ORSA and any other stress testing process should result in the development of the story of what sorts of stresses require special management actions and what types result in failure of the insurer. And for an insurer with a risk management program that is working well, those answers should be known for all but one or two of their risks. Those would be the second and third largest risks. An insurer with a perfect risk management program will not have very much daylight between their first, second and third largest risks and therefore may well be able to survive some worst case scenarios for even their largest risks. ■

ENDNOTE

¹ Perhaps that is why, after getting the entire world to adopt the awkward ORSA terminology, the Europeans have abandoned it in favor of a new term, “Forward Looking Assessment of Own Risk”. Dropping the misapplied Solvency word.



David Ingram, FSA, CERA, FRM, PRM, MAAA, is EVP and head of ERM Advisory Services at Willis Re in New York, N.Y. He can be reached at dave.ingram@willistowerswatson.com.

ORSA— A Regulator’s Point of View

By Stephen Manly and Émilie Bouchard

Assessing their own risks and capital needs to reduce the risk of insolvency is not a new concept for life and property and casualty (P&C) insurers, but supervisory expectations (e.g., Solvency II in Europe) and industry best practices have evolved over time, especially in recent years. In Canada, since Jan. 1, 2014, the Office of the Superintendent of Financial Institutions (OSFI) has required each federally regulated insurer to carry out an Own Risk and Solvency Assessment (ORSA) and to present their process and results in a report to its board of directors (board).

OSFI does not approve an insurer’s ORSA, but in its normal course of supervisory monitoring, may review the ORSA process, including reports to the board. Similarly, ORSA reports are not normally required to be submitted to OSFI, except for the initial reports prepared in 2014. However, each insurer must annually complete an OSFI-prescribed Key Metrics Report (KMR) and submit it to OSFI.

This article highlights some of OSFI’s expectations regarding the ORSA process, and provides general feedback and observations from OSFI’s reading of 2014 ORSA reports (including KMR) and discussions with insurers.

ORSA AND ERM FRAMEWORK

OSFI’s Corporate Governance Guideline states that “*A FRFI [federally regulated financial institution] should have a Board-approved Risk Appetite Framework that guides the risk-taking activities of the FRFI.*” While enterprise risk management (ERM) focuses on the management of risks toward a well-defined risk appetite, ORSA is one tool, among others, used by an insurer to guide risk-taking activities and focuses on risk identification and solvency. ORSA is a process by which an insurer identifies its material risks, assesses its capital needs and determines or changes its internal capital target. The ORSA report and KMR are outputs and documentation of the process.

The oversight of the ORSA process is the board’s responsibility. The board should gain comfort with the reasonableness and appropriateness of the ORSA results in the context of board-approved risk appetite and risk limits.

ORSA is one tool, among others, used by an insurer to guide risk-taking activities and focuses on risk identification and solvency.

ORSA BENCHMARKING

OSFI has performed a preliminary review of more than 125 life and P&C ORSA reports, focusing on expectations from [Guideline E-19](#)¹ (“Own Risk and Solvency Assessment”), approaches used by insurers, qualitative assessments and KMR filings. Observations are broadly similar in the P&C and life industries.

Different approaches adopted by insurers for the ORSA process are reflected in the types of ORSA reports prepared. In fact, OSFI has found that insurers are largely taking one of three approaches:

- Treating ORSA as a compliance exercise: These ORSA reports generally tend to be short and to the point, with little information that would be useful for strategic planning or understanding of the institution’s risk profile.
- Communication or risk summary: These ORSA reports generally provide a qualitative discussion and typically include a reasonable amount of details on methodology and critical assumptions.
- Description of process and conclusions: Many ORSA reports described the process at length. A few were also very technical in nature.

Reports ranged from four pages to over 200 pages, with a number of reports being descriptive in nature.

Here is a summary of a number of key findings:

LINK TO INTERNAL TARGETS

Most (67 percent) of the ORSA reports identified internal capital targets, but only 25 percent of those targets were equal to the internal capital target shown on the KMR. This suggests that many insurers were not, contrary to OSFI’s expectations (as stated in [Guideline A-4](#),² “Regulatory Capital and Internal Capital Targets”), using the ORSA to establish their internal capital targets. It was noted that many insurers kept their internal capital targets at pre-2014 levels, without explanation on how it tied to the ORSA.

Operating levels of capital and Tier 1 internal capital targets (for life insurers) were usually not discussed in the ORSA reports.

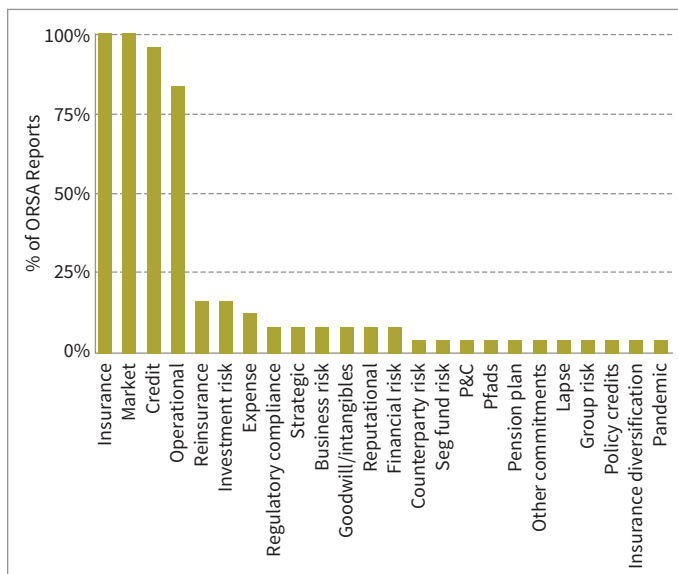
RISK IDENTIFICATION

There was no standard definition of risk categories, attesting to the diversity of views on risk. For example:

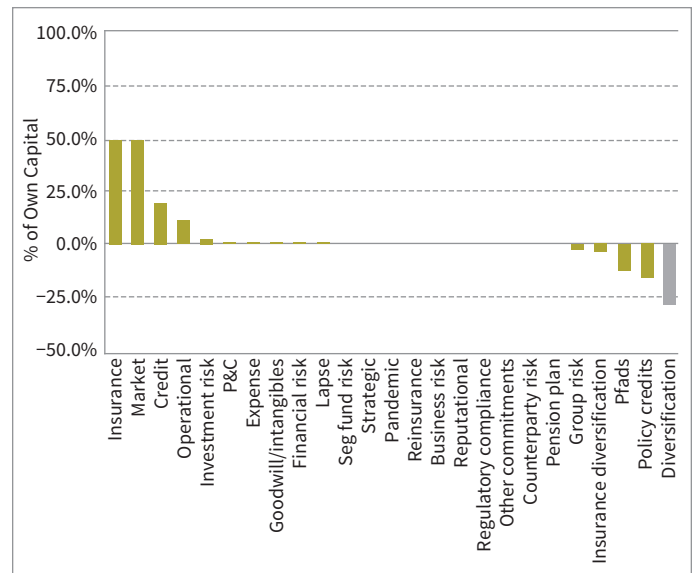
- Insurance risk:
 - o In some cases, catastrophe risk or reserving was a separate risk category.
 - o Some definitions included reinsurance risk.
- Credit risk:
 - o In many cases, it was strictly reinsurance counterparty credit risk.
 - o Credit risk sometimes included policyholder and broker counterparty credit risk.
 - o Other definitions were investment-based.
- Market risk:
 - o Foreign exchange risk was sometimes included in market risk or as a separate category.

Given this diversity of views on risk, adding up and comparing own capital by risk categories at an industry level may not be meaningful.

In the life ORSA reports, as an example, a total of 24 risk categories were separately identified, as follows:



Here is how life insurers assigned their own capital to these 24 risk categories:



QUANTIFICATION METHODOLOGY

Some ORSA reports provided a good overview of methodologies or provided a reference to supporting documentation. Having said this, DCATs,³ MCCSRs⁴ and models (VaR,⁵ CTE⁶) were often referenced, but an explanation of how these integrate in the ORSA process was sometimes lacking.

STRESS TESTING OWN CAPITAL

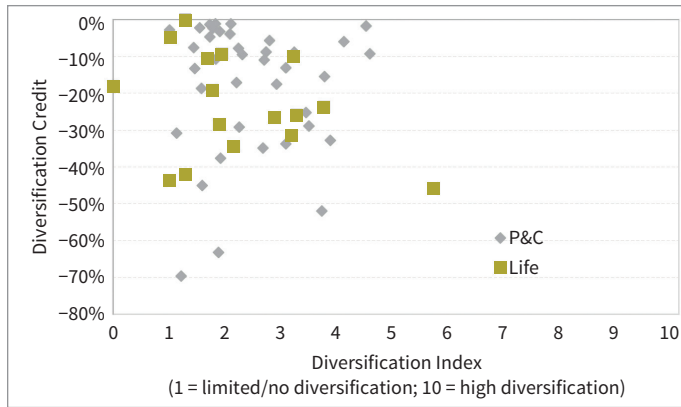
Only a small number (13 percent) of ORSA reports included insurers' own capital for stress testing scenarios. Some ORSA reports included an amount to bring the ORSA capital to the internal capital target level. This amount is necessary in situations where an insurer has determined that its own capital needs are not sufficient to meet external or third-party capital expectations (e.g., credit rating agencies, OSFI and other regulators).

The primary severity (confidence) level (used by more than 40 percent of all insurers) was 0.995 (1-in-200) and some insurers used different severity levels for different risks.

DIVERSIFICATION METHODOLOGY

OSFI found that 16 percent of the reports used the correlation approach of OSFI's current regulatory capital requirements (MCT⁷/MCCSR). For most of the other reports, representing nearly half of all ORSA reports, however, the diversification methodology was unspecified.

Seventy percent of ORSA reports identified taking diversification credits, with maximum credits of 70 percent for P&C and 46 percent for life insurers. The following graph shows diversification credits as a proportion of the insurer’s own capital:



As can be seen from the chart above, a number of less diversified or less complex institutions (i.e., those showing a low diversification index value) are fairly aggressive in taking diversification credit, while some more complex institutions are not.

OTHER OBSERVATIONS

Most insurers have not yet fully incorporated their ORSA processes as part of their ERM or strategic planning.

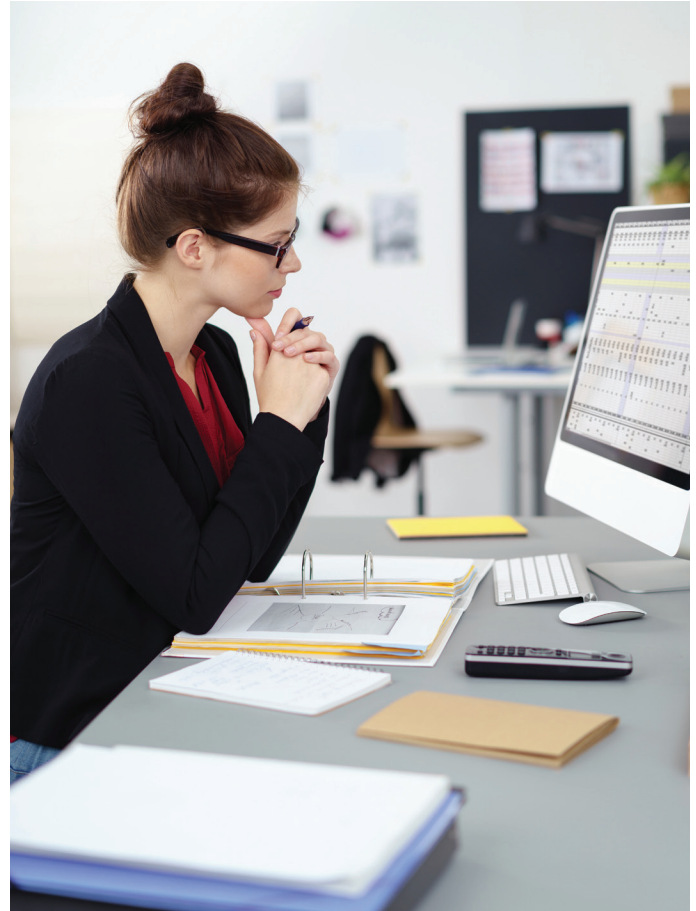
Although most insurers referenced in their ORSA reports their ERM processes, policies related to risk, risk appetite and tolerances, as well as their DCAT, only half of them referenced emerging risk processes and the issue of capital fungibility (quality of, or access to, capital was rarely discussed) and only a few referenced (or used) reverse stress testing.

Many insurers included in the ORSA reports a gap analysis of their ORSA processes. Insurers have indicated several future planned enhancements, including improvements to their models and stress testing, more research on understanding their risk profiles, better quantification of operational risk, enhanced understanding of aggregation and diversification, as well as better integration with ERM processes and business planning.

REVIEW OF KEY METRICS REPORT

The KMR is an OSFI requirement and must be filed annually by insurers with their OSFI lead supervisors. For the KMR, insurers must comply with the following:

- The KMR template should not be modified.
- All figures should be consistent with figures included in the ORSA report. (KMR is a summary of how insurers have related their risks to capital.)
- Must be submitted to OSFI within 30 days of the ORSA report being discussed with the board or chief agent.



In reviewing the filings, OSFI found that most of them had deficiencies, including amounts not reconciling to, or inconsistent with, the amounts in the ORSA report (e.g., internal capital targets shown on the KMRs being different from the internal capital targets identified in the ORSA reports), as well as insurers modifying OSFI’s KMR template. Instructions for completing the KMR have since been updated, in part, to provide better clarity to insurers on preparing this report.

SUPERVISORY FEEDBACK

Although OSFI may be in a good position to recommend enhancements to an insurer’s ORSA report, it has no plans to do so. The primary reason for this is because ORSA is meant to be each insurer’s **Own** Risk and Solvency Assessment. If OSFI were to make specific suggestions to individual insurers, it would inadvertently substitute its judgment for that of the insurers. Moreover, it is very difficult to assess an ORSA process solely on one or two output documents. As such, OSFI will not comment on the structure of an ORSA report, specific risks identified or the general content of the report.

Having said the above, supervisory feedback may be provided in certain circumstances. For example, if:

- There is clear inconsistency with Guidelines A-4 or E-19 expectations (e.g., ORSA process is not used to set an internal capital target).
- There is inconsistency in reporting between the KMR and the ORSA report (e.g., numbers do not align).
- The insurer does not have an annual process in place to update the ORSA.
- An objective review plan has not been identified.
- There are methodological concerns with the internal capital target setting (e.g., methodologies around diversification, etc.).

Given that ORSA was only introduced in 2014, insurers' ORSA processes are expected to improve and mature in the coming years. It is recognized that it may take some (undefined) time to get ORSA processes to where they need to be. Generally speaking, more time may be required for smaller insurers, while less time may be required for larger ones. ■

ENDNOTES

- ¹ <http://www.osfi-bsif.gc.ca/Eng/fi-if/rg-ro/gdn-ort/gl-ld/Pages/e19.aspx>
- ² http://www.osfi-bsif.gc.ca/Eng/fi-if/rg-ro/gdn-ort/gl-ld/Pages/a4_gd.as
- ³ Dynamic Capital Adequacy Testing.
- ⁴ Minimum Continuing Capital and Surplus Requirements.
- ⁵ Value at risk.
- ⁶ Conditional tail expectation.
- ⁷ Minimum Capital Test.



Stephen Manly, FCIA, FSA, FRM, is director, Actuarial Division for the Office of the Superintendent of Financial Institutions, Canada. He can be reached at stephen.manly@osfi-bsif.gc.ca.



Émilie Bouchard, FCIA, FSA, is staff fellow, Canadian Membership for the Society of Actuaries. She can be reached at ebouchard@soa.org.

Save the Date

ermssymposium.org

April 6-8, 2016
Crystal Gateway Marriott
Washington, DC

ENTERPRISE RISK
MANAGEMENT SYMPOSIUM

Developing a Robust Risk Appetite Statement

By Jim Toole and Matt Stahl

This article is a redistribution of an article first appearing in Carrier Management Magazine, April 21, 2015.

* * *

In a recent Own Risk and Solvency Assessment webinar conducted by FTI Consulting, more than 50 percent of attendees stated they had not adequately defined risk appetite as part of their ORSA implementation plans. Since understanding risk appetite is the key to implementing a risk management program aligning business activities with strategic goals, this figure is surprising.

WHAT IS A RISK APPETITE STATEMENT?

A risk appetite statement documents the types and amounts of risk an organization is willing to accept in order to achieve its business objectives. An organization's strategic goals should be the driver of its risk philosophy, which is defined through a disciplined process that involves setting risk preferences, articulating specific risk tolerances (e.g. high, medium and low), then establishing risk guidelines, rules, policies and controls. The strategic goals are linked with the company's primary corporate financial objectives, for example to achieve an underwriting profit of a certain level, preserving capital adequacy, maintaining liquidity or protecting franchise value.

Accordingly, without a risk appetite statement, there is insufficient basis for managing risk. Developing a risk appetite statement, although straightforward in concept, requires significant knowledge of the business and specific expertise in the disciplines of risk management. In this article, we provide practical guidance for understanding how to develop and apply an effective risk appetite statement.

DON'T PUT THE CART BEFORE THE HORSE

Moving forward in the correct sequence is important. For example, what if a company stated that they had a robust risk manage-

EXECUTIVE SUMMARY

A risk appetite statement is the cornerstone of risk management. Here the consultants map out the steps insurers can use to develop and apply risk appetite effectively.

ment framework in place, but were struggling to articulate risk tolerances as part of completing their ORSA Summary Report? And what if the reason for the struggle was because there was no clear view as to what a risk appetite statement should look like?

As a standard practice, risk tolerances should be defined in conjunction with developing a company's risk appetite statement. This example situation would beg the question, "How could the company have a 'robust risk management framework in place' without first having gone through the exercise of creating a risk appetite statement that aligned business activities with the overall strategic goals of the organization?" The answer of course is that it could not, and is a reason why this particular company would likely receive lower marks from rating agencies and regulators with respect to their ERM effectiveness, and more importantly, could be underexposed to desired risks and overexposed to unwanted risks.

WHAT A RISK APPETITE STATEMENT MIGHT INCLUDE

Organizations measure different risks in different ways. Some risks are difficult to quantify so they are measured in simple, qualitative terms. Other, more readily measurable risks are quantified numerically. Quantitative assessments might be related to specific financial objectives such as risk adjusted return on capital ("RAROC"), earnings volatility, loss ratio, debt ratio or ratings, to name a few. Qualitative assessments might be related to reputation among customers and peers, management strength or ability to comply with various jurisdictional regulations.

Regardless of a company's strengths and specific strategic objectives, a well thought out risk appetite statement should:

- Come from the top and be reviewed and approved by the board of directors at least annually.
- Be in line with the organization's strategy, objectives and key stakeholder demands.
- Cover all key risks, discussing risk preferences both in terms of risks that are sought out and risks that should be minimized.
- Clearly document risks as part of a risk register, including risk-specific definitions, risk owner, how and how often each risk will be measured, assumptions related to each risk, judgment on severity and likelihood, and speed at which risks could manifest.
- Recognize that losses occur and are part of business but include loss tolerances that are reflective of overall business objectives.

- Reflect the human and technological resources needed to measure and manage the company's risks in a timely fashion.
- 4. Get board approval and buy-in at many levels within the company's organizational structure.

DEVELOPING A RISK APPETITE STATEMENT

Developing a risk appetite statement is a complex endeavor and is both art and science. The steps in its development include:

1. Start with the firm's overall strategic and financial objectives.
2. Determine the company's risk profile. This can be handled through the construction of a risk register comprised of the risks the company wishes to pursue to achieve its goals as well as risks that are inherent to the line(s) of business it is in.
3. Set tolerances for exposures and potential losses. Exposure tolerances might be in terms of economic capital associated with a given risk category. Loss tolerances might be in terms of incurring a loss stated as a percentage of shareholder equity or some other metric.

As a simplified example, consider a firm whose only business activities include securities trades made to support an investment portfolio. It has set as its financial objective that it wishes to maintain investment returns of approximately 15 percent.

It then moves on to constructing a risk register that is in line with its business and has determined that the firm faces exactly two risks:

- Market risk, which it has determined it wishes to pursue to achieve its financial objectives, and
- Fraud risk, which it views as inherent to this type of business and that it wishes to minimize.

Included in the risk register are risk definitions, risk owner, how and how often each risk will be measured, assumptions related to each risk, estimated severity and likelihood and speed at which risks could manifest. The sample risk register is shown below in Table (1).

Table 1
Risk Register

Risk Type			Risk Assessment and Control				Rating Scale			
Risk Type	Risk Owner	Definition	How Measured	How Often Measured	Assumptions	Risk Control Measures	Inherent Severity	Inherent Likelihood	Risk Type Direction	Risk Type Velocity
Market Risk	Trading Desk Manager	Threat to company assets or financial position due to unfavorable movement in market prices	Measured by the implied volatility associated with each security, individual trading desk portfolio, and aggregate company portfolio	Weekly	Implied volatilities are based on observed market prices and calculated via a Black-Scholes model	1. Board oversight via direct reports from Trading Desk Manager 2. Formal investment manager agreements 3. Investment guidelines 4. Monitoring by Trading Desk Manager	High	High	Mature: High and will remain high	Steadily Emerge
Fraud Risk	Internal Audit	Threat to company assets or financial position due to unethical or illegal behavior	Measured by losses associated with identified events	Annually	Risk has been quantified by examining the financial impacts of 10 different deterministic scenarios developed by management. 2 of the 10 were considered high impact	1. Board oversight via direct reports from Internal Audit 2. Formal employee training and confirmation of policies 3. Monitoring by Internal Audit	Medium	Low	Emerging	Rapidly Emerge

The firm then defines its appetite associated with each risk in the risk register which includes targets, limits and action items for breaches. See Table (2).

Table 2
Risk Appetite

Risk Type		Targets and Limits		Actions
Risk Type	How Measured	Target	Limit	
Market Risk	Measured by the implied volatility associated with each security, individual trading desk portfolio, and aggregate company portfolio	15%	12% - 20%	Trading Desk Manager steps in to ensure actual securities held fall within guidelines
Fraud Risk	Measured by losses associated with identified events	Zero Tolerance	Zero Tolerance	Management performing background checks, monitoring, and possible appropriate disciplinary action up to and including termination.

RISK APPETITE – BOTH GAS PEDAL AND BRAKE

If a risk appetite statement has been developed to enable a firm to achieve its strategic and financial objectives, it will still be of no benefit if it gathers dust on a shelf without day-to-day practical meaning. Financial reporting and performance monitoring will need to be formalized in order to ensure that daily activities are in line with company objectives.

Let’s return to our two-risk example with the simplified financial objective of 15 percent returns. At month-end, a report was generated that showed financial results were below target. Analysis revealed that it was due to misalignment of the rank and file daily activities versus what the risk appetite laid out:

- On the market risk side, rather than a 15 percent implied volatility, recent safe positions acquired now had the portfolio at a level below the established target range. In other words, the company was **underexposed to desired risk**.
- On the fraud risk side, a rogue employee had embezzled funds from the company’s portfolio. In other words, there was an **overexposure to undesired risk**.

A reverse scenario could also have occurred where returns were above target. Was it due to solid performance by the Trading Desk Manager? Or was it due to excessive risk taking that looks

good today, but has actually exposed the company to riskier positions than it wants? The risk appetite statement acts as both a gas pedal and brake, therefore, tying individual financial incentives to not just an outcome, but also to sticking to the game plan will help to ensure the tone at the top is being followed.

TIPS FOR SUCCESSFUL IMPLEMENTATION

- Make sure your risk appetite statement reflects the “tone at the top”. Modern enterprise risk management starts with company risk culture that is established by the board and executed by senior management.
- Buy-in will need to be achieved at many levels within the organization. People will need to understand and believe in the merits of the risk appetite that has been set at the top.
- Albert Einstein said, “Make things as simple as possible, but not simpler.” There is a certain level of complexity that will be required for each organization’s risk appetite statement, which will vary from company to company, but simpler statements will often be more easily understood and implemented.



- Be sure to capture all key risks, desired and undesired, including risks that are chosen to achieve business objectives through risk/reward and risks that are inherent to business activities.
- Make it challenging, but achievable given the organization's specific skill sets.
- Monitoring and reporting mechanisms must be in place in order to ensure daily business activities are reflective of the adopted appetite. The best risk appetite statement does nothing if it is simply filed away and forgotten.

SUMMARY

Determining an organization's risk appetite and having a robust risk appetite statement is the cornerstone of risk management, and should be considered a dynamic tool that continuously guides an effective risk management process. The steps outlined above can help organizations understand, develop and effective-

ly apply risk appetite as a core component aligning business activities with strategic goals.

The views expressed in this piece are those of the author(s) and are not necessarily the views of FTI Consulting, its management, its subsidiaries, affiliates or other professionals. ■



Jim Toole is a managing director in the Global Insurance Industry Practice within the Forensic & Litigation Consulting segment of FTI Consulting.



Matt Stahl is a senior director in the Global Insurance Industry Practice within the Forensic & Litigation Consulting segment of FTI Consulting.

Black Swans and Risk Management: Prepare Now for the Unthinkable

By Brenda Boulton

Editor's Note: This article was originally published on www.garp.com in September 2015 and is reprinted here with permission from GARP.

* * *

How does a seemingly impossible event become a harsh or startling reality? In business, its occurrence may not be as random, infrequent or unpredictable as one might be led to believe.

At the 2015 MetricStream GRC Summit¹ in Washington, D.C., Nassim Nicholas Taleb,² best-selling author of *The Black Swan* and *Antifragile*, discussed this concept in great detail. According to Taleb, Black Swans are events with very low probability of occurrence, yet come with extreme and often catastrophic impact when they do happen.

In the risk management and compliance space, Taleb argued that our corporations, industries, and economies have become very fragile – a breeding ground for a Black Swan event to occur and to have devastating and lasting impact.

Major historical events – such as the sinking of the Titanic, the 1987 stock market crash, 9/11 and even the 2010 BP oil disaster – all possess the three textbook characteristics of Black Swan events: rarity, widespread impact and retrospective predictability. However, in the last 10 years in particular, it seems that Black Swan events have increased in terms of both their volume and velocity. We have witnessed a crippling financial crisis; several devastating natural disasters; unprecedented accidents and acts of terrorism; and political upheaval and turmoil in nearly all corners of the globe.

At the same time, smaller and more isolated events are beginning to take a bigger toll. Just ask any company that has faced a data breach or found itself involved in a highly publicized or embarrassing corporate scandal. A reputational hit, particularly in today's age of social media, can be just as damaging as a financial one. Consequently, I would argue that Black Swan events are becoming more common than theory would have previously suggested.

I believe this to be true for a few reasons. Firstly, technology innovation has transformed not only the ways that we connect and

consume information but also the way that businesses operate and serve their stakeholders. Despite new opportunities, this has introduced unprecedented points of weakness and vulnerability.

Complacency or comfort with the status quo is another major factor here. In an effort to meet compliance requirements and regulatory obligations, companies have often adopted rigid, structured policies, procedures and controls. While effective to a certain degree in minimizing and protecting against potential losses, Taleb's school of thought would argue that those environments that are too tightly-controlled are in fact more at risk to unpredictable scenarios.

So what does this mean for risk managers, as well as for the risk management function of your organization? In a recent article, *The Next Frontier of Operational Risk Management*,³ I touched briefly on the need for companies to consider and forecast Black Swan events as part of their larger enterprise-wide risk management strategy. Too few companies are doing this effectively today.

Let's now go a layer deeper and discuss the best ways companies can both address the unknown and, at the same time, ensure they are agile enough to react when the seemingly unthinkable occurs.

BROADEN YOUR DEFINITION OF BLACK SWANS

In addition to considering incidents of varying size and scope as described above, there are other factors that companies must also ponder when conducting Black Swan risk assessments.

One important area to evaluate is the way in which businesses operate. Consider the following examples:

- For decades, it was commonplace for many large American corporations to practice inversion. By acquiring or merging with a foreign entity in a lower tax country, organizations could reduce taxes on revenue made in the U.S. However, this practice came under intense scrutiny when the Treasury Department and IRS issued new guidance in September 2014⁴ to curb corporate tax inversions.

This unexpected change to something that had been considered a widely-practiced approach years before sent shockwaves through corporate America. So much so that just one month later, pharmaceutical research and development company AbbVie backed out of a \$55 billion merger (the year's biggest planned deal) with Ireland-based Shire. In the end, AbbVie paid \$1.64 billion to Shire for walking away from the deal, and received a boatload of negative publicity as a result.

- Switzerland was long viewed as an enviable tax haven for the privately wealthy, but all of that changed in the blink of an

eye amid a massive tax scandal in 2009. That year, the country's largest bank, UBS, was ordered to pay \$780 million in fines,⁵ penalties and restitution, as well as to turn over the names of approximately 250 clients suspected of tax evasion to avoid criminal indictment by the U.S. government.

Soon thereafter, the Foreign Account Tax Compliance Act (FATCA)⁶ took effect, requiring both individuals and financial institutions to report their offshore financial accounts and assets. These factors historically changed the way that international banks and individuals manage their assets.

While these two examples may not be of the same massive scale as commonly cited Black Swan events, both caused seismic shifts and new realities for both the companies involved and the industries to which they belonged.

ASSUME NOTHING TO BE TRUE

The saying that “hindsight is 20/20” is especially true when evaluating Black Swan events. One of the biggest challenges associated with the identification of Black Swan events is the lack of historical data to help companies forecast future incidents. Keeping this in mind, how can risk managers overcome this hurdle?

I've previously detailed the importance of identifying, evaluating and assessing emerging risks⁷ as part of a comprehensive risk management strategy. To understand how Black Swan events could manifest in the future, risk managers working within the emerging risks process must be particularly attuned to trends impacting both their own industries and other markets. Essentially, assumptions about your business strategy and current operations must be continuously questioned and evaluated.

Disruptive industry transformations are happening all around us at lightning speeds. For example, a recent story in *The Economist*⁸ detailed how Silicon Valley start-ups are influencing a financial technology revolution, and how these organizations therefore have the potential to disintermediate the financial services industry.

The energy sector in the midst of a similar transformation that has seen consumers become less and less reliant on utilities. In fact, the traditional energy transmission and distribution model is being challenged by the accessibility of alternative energy sources, such as solar panels for commercial properties and residential homes.

Lastly, consider the impact of companies such as Airbnb and Uber. Both of these start-ups have not only completely disrupted the hospitality and transportation industries, respectively, but they have also begun to take market share away from city and country tourism boards around the world. Indeed, recognizing this trend, the French government has exerted pressure on Airb-

nb, which will collect tourist taxes⁹ (as of October 1, 2015) from all Paris stays, passing the revenue directly to the city.

This brings me to an important point: organizations can no longer assume that the core things they know about their businesses are true. For example, people no longer have to go to a bank to take out a mortgage on a home. Moreover, college students can now buy digital textbooks (instead of going to the campus bookstore), and the medical community is seeing the rise of telemedicine, reducing the need for traditional office or hospital visits.

Nearly every industry, in fact, is experiencing a disruptive transformation that would have been viewed as an impossibility just years ago. It is therefore essential for risk managers to watch mega trends inside and outside of their organizations and industries, enabling them to both learn from others' experiences and to provide the context needed to identify the next big potential events that will make an extreme impact on theirs.

RECOGNIZE THE IMPACT OF EMERGING RISKS AND CONTROLS

Most organizations today are in the early stages of evaluating potential Black Swan events as part of their emerging risk capture and classification processes.

However, in order for this effort to be truly effective, the risk management function must have an active process in place to identify, monitor and manage emerging risks. It cannot be a one-time or once-per-year review; it must be continuous.

Controls put in place to safeguard against emerging risks must also be evaluated and refined frequently, based on new trends, market projections and the evolving risk appetite of the business.

This topic is particularly concerning for large organizations. Typically, these are the companies that face intense regulation and have therefore put in place as many controls as possible to make them less susceptible to crisis. In doing so, however, many have been inadvertently lulled into believing that the controls themselves will protect the business and prevent harm.

When this happens, it is easy for managers to become set in their ways: i.e., they become too reliant on the controls themselves as protection, and, as a result, are unable to respond and react in an agile manner when unforeseen crises occur. Consequently, companies – as well as the markets they serve – in fact become more fragile.¹⁰

While seemingly contradictory, consider how this dynamic has impacted the financial services sector. At an economic level, the reaction to the 2008 financial crisis was to introduce more regulations; to reduce the number of entities that could transact; and to require most derivatives to clear through a central clearing

house (among other changes). At the time, these were deemed as necessary and appropriate responses; however, many now argue that these limitations have actually made the financial system more fragile to unforeseen risks than it ever was before.

PUT BLACK SWANS INTO PRACTICE

There are several impactful things that risk managers can do to advance their efforts around identifying and planning for potential Black Swan events — both on a large scale and a smaller scale.

In addition to putting continuous focus on the identification and classification of emerging risks, companies are advised to go a step further and apply scenario analysis against a list of potential events to determine their impact on the business, customers, stakeholders and industry at large.

Companies also need to recognize that there is inherent risk in the comfort of complacency. To reduce this, organizations should gain an independent view of the events that may cause extreme impact to their company or industry. This can be done in a variety of ways: e.g., by bringing in external experts or consulting teams; by chartering and/or evaluating market research; and by analyzing third-party data to help identify hidden or under-considered areas of future weakness or vulnerability.

Furthermore, controls is another area that requires serious consideration and careful refinement. While most companies would agree that it's cost-prohibitive to be perfectly controlled, the level of optimal residual risk companies are willing to assume varies vastly.

In the same vein, some experience in smaller, lower-impact crisis events may actually prove beneficial for the organization long-term. The more practice risk managers and employees have when things go wrong, the more agile they can be when a Black Swan event presents itself.

What's more, companies must insist on innovation in their risk management program: what proved successful three to five years ago certainly cannot be expected to perform in the same way in 2015 and beyond.

Here are three suggestions for achieving innovation in risk management:

1. Acknowledge that controls are not perfect and that events will occur. People understand how to deal with unexpected events because they have practiced. Reactions to small disruptions can help train people to react to the larger events.
2. Question and test the old tried and true markers for risk. This requires embracing new sources and inputs for risk identification — from employees, customers, systems, big data and much more.

3. Use a somewhat pessimistic lens. This is necessary for companies to picture worst-case scenarios; to imagine how they would react to such events; and to determine the actions they would take as a result. An effective risk manager should mirror the approach of an adept business leader who expands to new markets, takes on new hires and sells new product - all without knowing the perfect outcome.

Expect the unexpected and challenge the expected.

PARTING THOUGHTS

Despite what movies or popular fiction might tell us, an overwhelming majority of Black Swan events are in fact within the realm of our control. For risk managers, this means that increased attention must be paid to efforts that aid in the identification of events that may lead to widespread - and seemingly abrupt - change or disruption.

This effectively requires (1) an expanded definition for Black Swan events; (2) the knowledge of mega trends impacting your industry and those around you; (3) active identification and evaluation of emerging risks and controls; and (4) continuous innovation in risk management programs to diverge from the status quo.

While no company can predict the future, those who shore up their efforts now will be better able to anticipate the unexpected; have the opportunity to create and practice contingency plans; and potentially be in a position to thrive (not just survive) in the face of the next Black Swan event. ■

ENDNOTE

- 1 <https://www.grc-summit.com/>
- 2 <http://www.fooledbyrandomness.com/>
- 3 http://www.garp.org/#!/risk_intelligence_detail/a1Z4000002vwX6EAI
- 4 <http://www.treasury.gov/press-center/press-releases/Pages/jl2647.aspx>
- 5 http://www.nytimes.com/2009/03/04/business/worldbusiness/04swiss.html?_r=0
- 6 <https://www.irs.gov/Businesses/Corporations/Foreign-Account-Tax-Compliance-Act-FATCA>
- 7 http://www.garp.org/#!/risk_intelligence_detail/a1Z4000002vI9EEAU
- 8 <http://www.economist.com/news/leaders/21650546-wave-startups-changing-financefor-better-fintech-revolution>
- 9 <http://money.cnn.com/2015/08/26/news/companies/airbnb-paris-tax-tourist/>
- 10 <http://www.wsj.com/articles/financial-markets-becoming-more-fragile-says-bank-of-england-1427384563>



Brenda Boulwood is the senior vice president of industry solutions at MetricStream.

Matthew McConaughey and Risk Management

By Thomas Hettinger

Ok now that I got your attention, maybe a spoiler alert of sorts. If you have seen “Interstellar” you will be familiar with Mr. McConaughey’s battle against time as he travels through space to save the human race, not to mention get back to his daughter.

The fact is, Matthew (I am sure he will allow me to call him that) had viewed time in a different frame of light until he approached a black hole and it sped up. Prior to his interactions with the black hole, Matthew and “his” universe had interacted with time consistently. *One minute* to Matthew was *one minute* to his daughter. The black hole warped that and *one minute* to Matthew became *years* for his daughter. While he is no longer able to navigate time with the control he had desired, he discovers gravity is his one constant in interacting across time and uses it to communicate to his daughter and eventually save the world.

How does this tie into risk and risk management? In my world of insurance and reinsurance, it is easy to assume that business interacts with time in a consistent manner. We have seen companies enter into multi-year deals assuming that time will be the great diversification factor and if one year strays from the target, the others will balance it back out. We, unfortunately, do not have to get into a spaceship to encounter black holes that warp time and create risk for our companies. These black holes arise every day in the form of pressures such as: competitive, top line growth, staff expertise, and regulatory to name a few. Unfortunately, what happens in insurance and reinsurance, is not a speeding up of time (bad years do not improve quickly) but instead a slowing down of time and bad years dragging out. These “risk” black holes make it more difficult to diversify across time.

So where is our “gravity” in insurance and reinsurance? Well it is rather simple—our “gravity” is management discipline. While not a single item, it does embody six core disciplines that when maintained with integrity, a company is more likely to survive a black hole: pricing, underwriting, mitigation/hedging, claims, monitoring, and staff development. If a company fails on any one of these items it is like a spaceship losing an engine and trying to steer away from a black hole. It may be possible but you will put pressure in areas you did not intend and potentially not avoid the impeding danger.



I would like to point out the importance of all of these items working together over a multi-year time horizon, to make time a true diversification tool. The fact is, prior to any of this happening, the management team of a company needs to define an operating structure that allows for these disciplines to communicate effectively and seamlessly across each other. A key component to that would be the company’s risk appetite statement.

Think of it as Matthew’s launch and travel plan into outer space. Would you jump in a rocket and hit the ignition switch without a plan? As I sit here and think about it, Matthew and his fellow astronauts failed in having a robust enough risk appetite statement before setting off to save the world. Had they fleshed this out more, they would have at least been aligned in making their risk decisions around the black hole.

Considering this, I would propose that intra- and inter-year risk management should be tools that do not work alone, but in conjunction with each other, as well as, with the six areas of management discipline. As the company encounters one or more of the different types of “risk” black holes, the different disciplines should adjust and the intra- and inter-year risk management should regulate around those changes. Blindly assuming time will heal all wounds will send you directly into a black hole with no escape. ■



Thomas Hettinger, ACAS, CERA, MAAA, is managing director at Arch Reinsurance Company in Hoffman Estates, Ill. He can be reached at thettinger@archreco.com.

Recent Publications in Risk Management

As an ongoing feature in *Risk Management*, we will provide recent publications we find noteworthy to our readers. Please send suggestions for other publications you find worth reading to dscbraub@soa.org, or cheryl.by.liu@fwd.com.

ORSA Process Implementation for Internal Stakeholders

CAS, CIA, SOA

<https://www.soa.org/Files/Research/research-2015-orsa-survey-report.pdf>

Policyholder Behavior in the Tail Joint Risk Management Section Working Group Variable Annuity Guaranteed Benefits 2015 Survey Results

SOA

<https://www.soa.org/Files/Research/research-2015-pbitt-va-report.pdf>

Extreme Events for Insurers: Correlation, Models and Mitigation Study

SOA

<https://www.soa.org/research/research-projects/life-insurance/2015-report-on-extreme-events-for-insurers.pdf>

Front-Page Risks: Risks Commonly Occurring and Reported in the Canadian News

CAS, CIA, SOA

<https://www.soa.org/Files/Research/Projects/research-2015-04-front-page-risks.pdf>

CALL FOR VOLUNTEERS: ERM KNOWLEDGE BASE EDITORIAL BOARD

Though the auspices of the International Actuarial Association's (IAA) ERM committee, a project is underway to create an ERM Knowledge Base—a one stop place to learn about Enterprise Risk Management as it pertains to actuaries. This database will contain articles, papers, presentations, and the like across a broad spectrum of risks and risk management concepts and will draw on information from across a wide variety of countries. The Knowledge Base will be accessible through the IAA web site.

A dedicated committee has been working on the structure and implementation of this Knowledge Base for some time. We are now in the process of collecting and organizing the references to be included in the Knowledge Base. This is where your help is needed. In order to have a library of information that is sufficiently robust we require the input of actuaries familiar with different risks and geographic locations.

We are looking for volunteers who are interested in advancing ERM knowledge throughout the actuarial profession. Specifically, volunteers will be asked to identify appropriate resources that can be referenced by the Knowledge Base and complete a simple template so that the reference can be loaded into the Knowledge Base.

If you are interested in expanding ERM knowledge within the actuarial profession, please contact Michele Goldberg at michelegoldberg928@yahoo.com.

2015 Report on the Current State of Enterprise Risk Oversight: Update on Trends and Opportunities AICPA

https://www.aicpa.org/interestareas/businessindustryandgovernment/resources/erm/downloadabledocuments/aicpa_erm_research_study_2015.pdf

Emerging Risks Barometer 2015 – ACE European Risk Briefing ACE

<http://www.acegroup.com/global-assets/documents/Europe-Corporate/Risk-Briefing/2015-07-07-Emerging-Risks-Barometer-final--PUBLISHED.pdf>

COLLABORATIVE

At the Casualty Actuarial Society, we believe that collaboration is the key to success. We are proud to foster a community of risk professionals collaborating towards a common goal — solving today's risk-oriented challenges. Learn more about how we are working together — and partnering with others — to create solutions for the property and casualty insurance industry at casact.org/collaboration.



**100 Years of Expertise,
Insight & Solutions**

www.casact.org





SOCIETY OF
ACTUARIES

INVESTMENT
SECTION

2016 Investment SYMPOSIUM

New York, NY
March 14-15

*Know the impact of today's decision on your
company's financial future.*



Register by Feb. 15 to save \$200.

SOA.org/2016InvestmentSymposium

Co-sponsored by the Professional Risk Managers' International Association and the Society of Quantitative Analysts

Articles Needed for Risk Management

Your help and participation is needed and welcomed. All articles will include a byline to give you full credit for your effort. If you would like to submit an article, please contact David Schraub, JRMS Staff Partner, at dschraub@soa.org. The next issues of Risk Management will be published:

PUBLICATION DATES	SUBMISSION DEADLINES
March 2016	January 1, 2016
August 2016	May 1, 2016

PREFERRED FORMAT

In order to efficiently handle articles, please use the following format when submitting articles:

- Word document
- Article length 500-2,000 words
- Author photo (quality must be 300 DPI)
- Name, title, company, city, state and email
- One pull quote (sentence/fragment) for every 500 words
- Times New Roman, 10-point
- Original PowerPoint or Excel files for complex exhibits

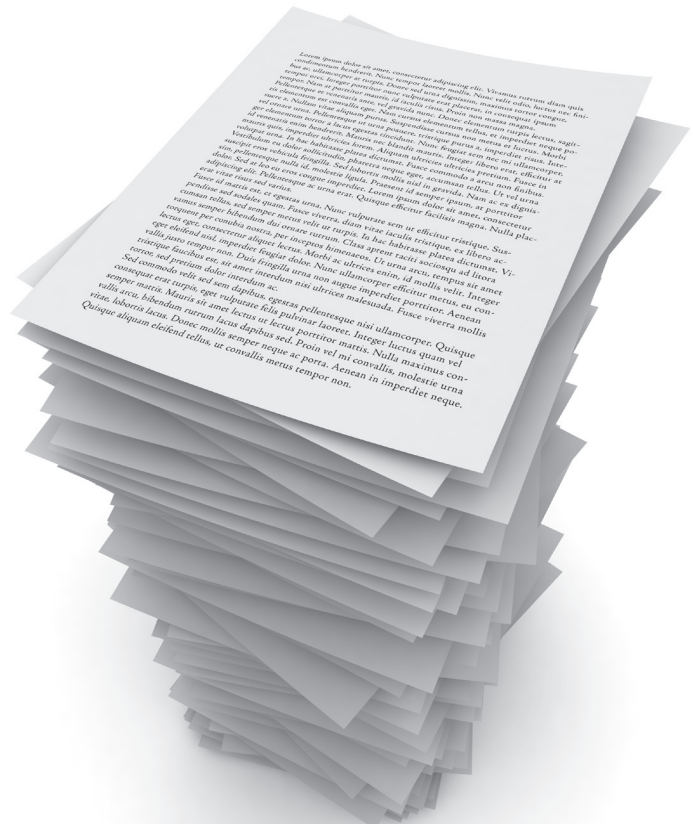
If you must submit articles in another manner, please call Kathryn Baker, 847.706.3501, at the Society of Actuaries for help.

DO YOU HAVE A RISK MANAGEMENT QUESTION?

Ask us! Please send us your questions (dschraub@soa.org) and we will publish the questions and answers for everyone's benefit.

MEMBERS SPEAK!

Love an article or strongly disagree with the opinion developed in another paper? Please share any comments or feedback on the JRMS newsletter with David Schraub at dschraub@soa.org.





SOCIETY OF ACTUARIES

475 N. Martingale Road, Suite 600
Schaumburg, Illinois 60173
p: 847.706.3500 f: 847.706.3599
w: www.soa.org

NONPROFIT
ORGANIZATION
U.S. POSTAGE
PAID
SAINT JOSEPH, MI
PERMIT NO. 263

