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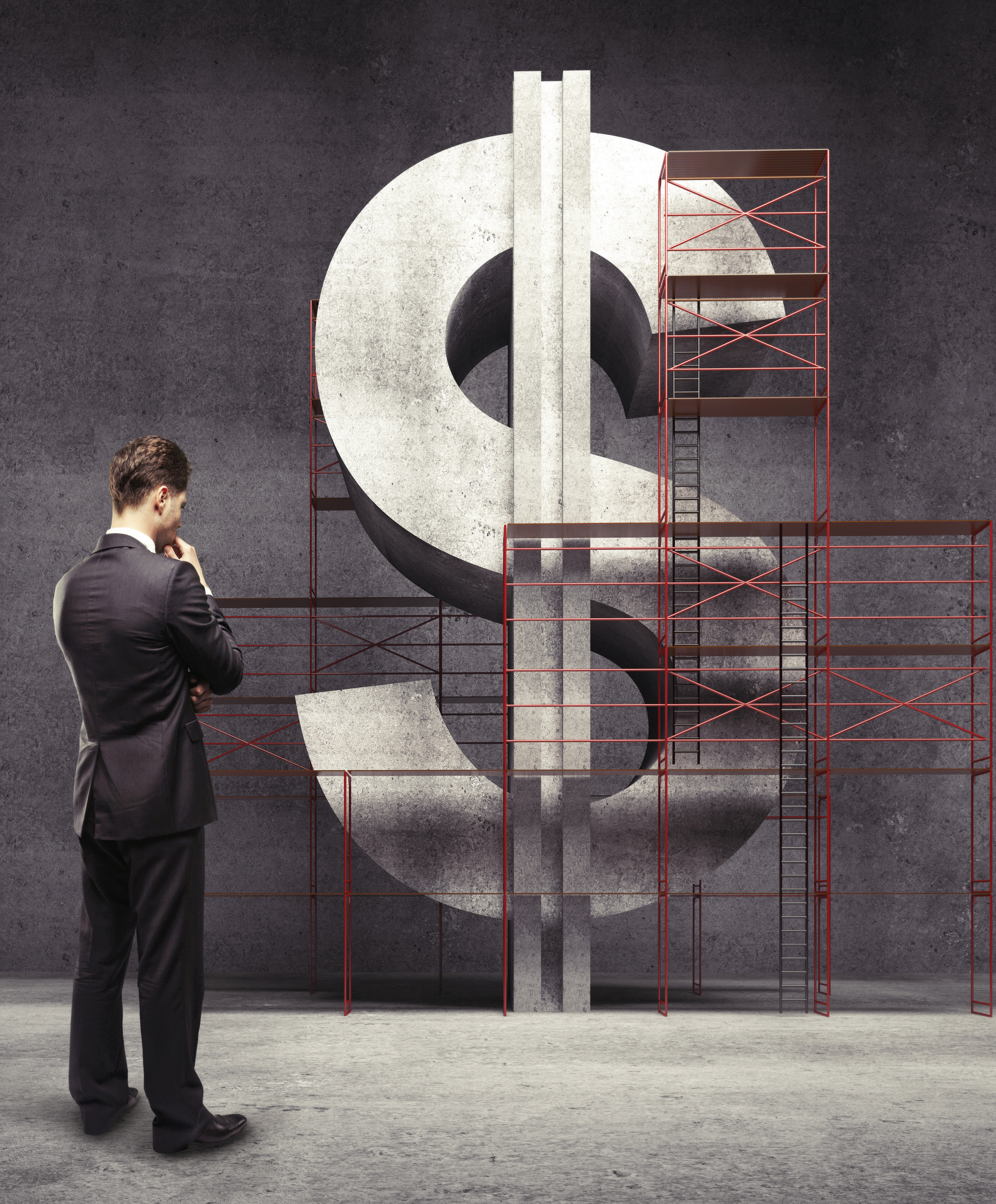

HAVE WE BUILT A BETTER INSURANCE INDUSTRY?

A PANEL OF INDUSTRY EXPERTS REVIEWS FINANCIAL AND RISK MANAGEMENT SEVEN YEARS AFTER THE FINANCIAL CRISIS. COMPILED BY JEFF SCHUMAN AND THE EDITORIAL STAFF

Since the 2008 financial crisis, we've seen an unprecedented focus on financial and risk management. Insurers have invested significant time and money in search of better tools, processes and talent. Regulators and rating agencies have intensified their efforts and evolved their approaches. But what is the payoff? Have we built a better insurance industry?

Contributing Editor Jeff Schuman interviewed three industry experts to get their views on how insurers have changed and whether the industry is better positioned to weather the next crisis. The experts are:

- **Julie Burke, CPA, CFA,** a managing director in Fitch Ratings' North American insurance rating group
- **Fred Crawford,** executive vice president and chief financial officer of CNO Financial Group
- **Rahim Hirji, FSA, FCIA, MAAA,** executive vice president and chief risk officer of Manulife Financial

Schuman: The financial crisis had a dramatic impact on liquidity, as both funding liquidity and asset liquidity came under extreme pressure. How has industry liquidity management changed as a result?

Crawford: Insurance company core asset-liability management (ALM) practices did not change materially coming out of the crisis. In fact, sophisticated insurance company ALM was a key differentiator between banks and insurance company performance in the crisis, as there were almost no liquidity-related hits to insurance company statutory financial strength. Liabilities, even institutional, proved resilient to market volatility. Standard liquidity stress-tests proved manageable and downside scenarios did not ultimately materialize. Since the crisis, many companies have put in place emergency liquidity lines through the Federal Home Loan Bank (FHLB) system; this was not as common pre-crisis. To my knowledge, few if any of these lines were utilized to fund insurance liabilities.

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> *—Julie Burke*

However, while insurance operating liquidity held up well in the crisis, holding company liquidity was more significantly stressed. With the capital markets frozen and debt maturities looming, even A-rated senior debt issuers learned hard lessons on the need for financial flexibility. As a result, insurers now routinely hold 18 months of holding company cash flow needs on standby. Companies are paying more attention to debt covenants, are extending and varying their debt maturities, and are moving early to refinance coming maturities.

Burke: On-balance-sheet liquidity at holding companies—which had been historically targeted at three to nine months on average—has increased to 12 to 18+ months. Assumptions around capital market access have changed—no more "just in time" financing. This shift to prefunding upcoming maturities has conveniently come at a time of record low interest rates. It will be interesting to see if this increased conservatism endures in a higher rate environment.

At the statutory entity level, managements have taken actions to bolster backup liquidity sources via FHLB arrangements and intercompany reciprocal revolving line of credit arrangements to address concerns over policyholder disintermediation and collateral posting requirements on derivative trades. Offshore captives have been re-domesticated or consolidated into domestic statutory entities to address liquidity concerns among other issues. Record levels of catastrophe bonds have been issued by the non-life reinsurance industry. This funded solution substitutes for reinsurance or post-event capital raising activities.

On the asset side, insurers accumulated cash and short-term marketable securities as a defensive measure during the crisis. Over time, this cash was put to work. Ironically, companies have shifted to less liquid assets like commercial mortgage loans, private placements and alternative investments in response to low interest rates. So the industry's asset portfolio is actually less liquid today than before the crisis.

Hirji: Lack of liquidity can bring an organization down overnight, even if the company has sufficient capital. As a result, managing liquidity requires an approach that is different from some other risks where the implications emerge over time and management has time to react. Since the financial crisis, we have stepped up our liquidity risk management frameworks by 1) raising greater awareness of liquidity risk internally, 2) developing additional risk metrics covering both the asset and liability sides of the balance sheet, 3) diversifying sources of liquidity from a funding perspective, and 4) stress testing and liquidity contingency plans.

Insurance companies tend to take a long-term view of many of the risks they face. While that is critical, today there is greater emphasis on understanding our risk throughout the market cycle. Like a roller coaster ride that has the same starting and ending point, we need to ensure we can survive the ride's highs and lows in between.

Schuman: The crisis exposed some notable inadequacies in the tracking and management of risk aggregations. Examples included companies with multiple sources of exposure to subprime mortgages. To what extent are insurers doing a better job of breaking down silos and managing risk holistically across the enterprise?

Burke: We have observed a definite heightened awareness of the benefits of identifying aggregations. This may have previously been overlooked due to inability to aggregate data in a helpful way. Companies have instituted more comprehensive governance processes, further developed the chief risk officer (CRO) function and introduced more rigorous board interaction with management and risk function personnel.

Regulatory initiatives such as requirements for Own Risk and Solvency Assessment (ORSA) have further embedded these practices into the fabric of the company. Other tools such as risk registers and risk dashboards have been developed. Third-party tools and enhanced computing capacity have helped the industry move forward in quantifying risk. Overall, companies are touting their risk management. As an outside party, it is difficult for us to fully assess these claims. The proof will come in how companies perform in the next major catastrophe event, asset blow up or market crash.

Hirji: The financial crisis of 2008 has resulted in looking at risk holistically and consistently in organizations. I know at Manulife this is definitely true.

On the investment side, we have a long history of aggregating our risk concentrations for the entire firm on a consolidated, global basis. On a consolidated portfolio basis, we have concentration and diversification limits for single-name connected entities, sectors, industries and locations. We also have restrictions on asset quality. Exposure tracking and management of exposures are done not in silos but with consideration of the enterprise-wide picture.

It's important to note that board-approved concentration limits apply across the firm. All limits are rigorously applied to all business units on an aggregated basis globally.

We continue to improve our data quality and automation. Our central data repository captures investment data from various sources with a range of identifiers related to the types of limits outlined in the company's investment guidelines and policies. The repository is connected to an aggregation system that aggregates exposure to monitor against defined limits on an ongoing basis.

This holistic view is communicated in a transparent and timely way. Aggregated exposures against limits are reported to senior management. In addition, investment and credit risk personnel have access to exposure data via a Web portal.

Crawford: Enterprise risk management (ERM) and modeling have advanced to capture correlated risks on both the asset and liability side. Most ERM practices are, just as the name suggests, enterprise in nature and have very senior and board-level attention to ensure there is no "silo risk management." Unlike banking in some cases, most insurance company board audit committees and risk management committees are combined and include the CFO and CRO at the table in a coordinated fashion.

Modeling has advanced for "looking through" structured securities in order to better understand the collateral and the correlation to other general account and company exposures. Also, companies with significant separate account platforms [variable annuity, variable life, and 401(k)/403(b) businesses] are careful to keep "higher beta" general account investments to a minimum.

Schuman: There's plenty of literature on capital frameworks, but what kinds of changes and improvements have been implemented in real-world practice?

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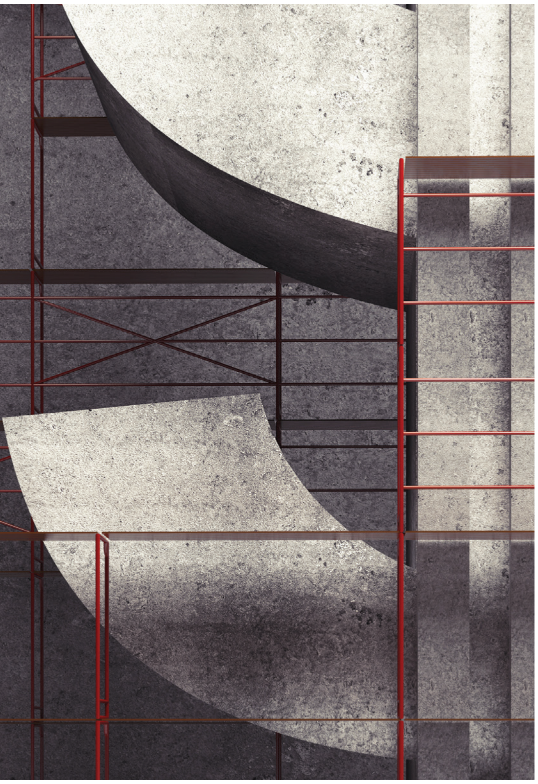
—Rahim Hirji



Hirji: At Manulife, we are regulated globally by our Canadian regulator, the Office of the Superintendent of Financial Institutions (OSFI). In addition, our foreign operations are all regulated by their respective regulators. This provides transparency in all our operations and is something that other jurisdictions should follow. We look at our regulatory capital requirements on both a global and regional basis, as well as on a consolidated economic basis. The development of the ORSA requirement is an important step in that it helps insurers optimize their capital framework by showing the links between risks, strategies and capital all in one place.

Regulatory capital is based on the "average" insurer. As insurers become more complex, "standard" regulation and regulatory capital become less applicable and institution-specific assessments, such as ORSA, become more relevant. ORSA is a useful tool for reconciling internal models with regulatory models by clearly identifying why an internal assessment may be different from regulatory capital, and showing the underlying differences between economic capital uses and regulatory capital uses, both at a global level and within specific business activities.

Regulatory capital focuses on solvency, in the interest of policyholder protection. However, management must address all stakeholders, including customers and shareholders, and reconcile the regulatory view with the broader management view. The process of developing an ORSA report helps insurers to clearly articulate risk management practices, how the practices relate to actual risks taken and how much capital should be held given various scenarios. The fact that management is able to articulate clearly its view of its risks and its capital needs builds confidence in stakeholders of the company's ability to manage its business.

In addition to all of this, a rigorous stress-testing framework is crucial to understanding the risks we face.

Crawford: Formal risk appetite statements have matured, and they govern strategic and financial risk decisions. Stress testing has improved, with the most notable advancement being formal and sophisticated scenario testing developed out of real-world probabilities. We now have the benefit of live experience with financial and operational risk exposures as well as policyholder behavior, which has previously been actuarial guesswork. Pre-crisis there was already significant sensitivity testing; the real advancements are in scenario planning and compound event testing.

There is now much more attention to strategic risk management and how this differentiated the winners from the losers during the crisis. Are we too concentrated in any one or two businesses? Is our core franchise exposed in terms of product performance and distribution viability? Often the difference in surviving is the ability to raise strategic capital and contain ratings-driven impacts. This requires that the overall health of the franchise remain intact despite an economic crisis. Can the company eventually earn its way out of a capital deficit? Not if the core business model has been paralyzed.

Burke: There has definitely been a search for the holy grail of capital frameworks—a single capital regime that will work for all insurers in all product lines in all regions. That seems to be the aspiration of the International Association of Insurance Supervisors' (IAIS') global capital standard. Our view is that capital analysis is best assessed as a mosaic, including risk-based and nonrisk-based measures. Factor-based, stochastic, marketconsistent and risk-neutral approaches all have their strengths and weaknesses.

At Fitch, we have our own proprietary insurance capital model—Prism—that is designed to work with the data available in various insurance markets. In the U.S. property and casualty sector, it is a fully stochastic model driven off the plethora of granular data in statutory filings. Our U.S. life Prism model is a hybrid factor-based and stochastic model driven off data available in statutory filings and analyst input for key items not in the filings. For the Europe, Middle East and Africa (EMEA) region, our Prism model is purely factor-based driven off consolidated International Financial Reporting Standard (IFRS) statements. In addition to our proprietary models, we also look at regulatory risk-based capital (RBC results in the United States, Minimum Continuing Capital and Surplus Requirements (MCCSR) in Canada, Solvency II in EMEA and nonrisk-based measures like premiums to capital and liabilities to capital to assess capital.

Notable changes in industry practice since the financial crisis include a better understanding of the interplay and correlation of individual risks, a heightened awareness of model risk and an emphasis on the capital impact of deterministic stress testing.

Schuman: The industry has long debated the merits of diversification vs. specialization. Some of the companies most impacted during the crisis were among the most diversified, and we've subsequently seen more specialization. Is this trend a net positive or negative for the industry's risk profile?

Burke: We have always said that all else being equal, bigger is better and more diversity is better. The challenge is that all else is never equal. Diversity can be done well and can be done poorly. This is the same with specialization. Execution is the key. The big risk is often in the transition from one to another. For instance, many life companies exited certain business lines after the crisis. Conversely, many reinsurers are trying to diversify into other businesses because of the current challenges in their sector. Over the long term, these strategies may be successful. However, in the near term there is significant risk in exiting existing business lines or entering new ones.

We also saw in the crisis that size can bring complexity and that there are challenges in righting the ship once it starts to stray off course. In addition, we saw many large companies lose market access in the crisis. Thus, in the past diversified companies used their diversity and size as a justification to take more risks. So every incremental risk was small relative to the company. But when aggregated, these risks were very large. Today, this is seen as a less viable approach.

Crawford: There are differing schools of thought, but I would argue strongly for two fundamental principles that relate to each other: diversification and effective and reliable risk transfer. For example, if a company is concentrated in a line of business, it is naturally more exposed to a narrow set of events. This necessitates holding more capital and a fluid ability to transfer risk in the capital or reinsurance markets. The industry has become more exposed to the capital markets through asset-intensive products and has assumed greater tail risk via secondary guarantees. As a result, it's become clear that some of the risk needs to be transferred back to policyholders, into the capital markets via derivatives or into reinsurance markets.

Diversity in significant product lines can be a negative to the degree you are expanding

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into areas where you have less understanding of the risks, have less market power or lack a "right to compete." These are important considerations, but it is still dangerous to maintain a concentrated business model in the financial service industry, period. Note the poor performance of the mono-line guaranty companies in the crisis.

Hirji: When we go into a particular line of business, we need to have a core level of competence to manage it well. When we look at businesses that are a good fit from a diversification perspective, a key question we ask is whether we will be able to manage them well and provide the level of management attention that is appropriate. As we diversify more and more, it is important to ensure that we don't end up with too many peripheral businesses that are outside our area of competence.

The trend in the industry toward strengthening risk management frameworks and risk culture will help ensure that, whether firms specialize or diversify, they will have sufficient management competencies in place. In this sense, I would say the trend toward strengthening risk management is positive, as firms continue to seek a balance between diversification and specialization.

Schuman: Historically, strategy and capital allocation decisions weren't always sufficiently sensitive to risk; companies sometimes simply pursued the highest potential returns. Are strategy and capital allocations now better informed by risk? Do CROs and chief actuaries now have seats at the strategy table?

Crawford: Yes, capital models and capital allocation methodologies are better informed by risk. This is shaping behavior and influencing significant strategic moves. Capital as it relates to risk and exposure is at the heart of recent closed-block run-off transactions and related mergers and acquisitions activity. Capital allocations have been revisited in recent years to reflect experiences during the crisis, rating agency expectations and a more advanced understanding of tail risk.

And, absolutely, CROs and chief actuaries now have seats at the strategic table. They often chair senior-level risk committees that include the CEO and business presidents, and they share responsibility for informing the audit/risk committees of the board. The key risk positions are also assuming more responsibility for rating agency relationships and are slowly becoming more active with investors, although still in the background compared to CEOs and CFOs. I think however, if you were to sample interview several CROs, they would tell you more needs to be done to ensure CROs and ERM are embedded in strategic decision-making. Formal risk appetite statements, board influence, rating agencies and now regulators are also driving progress on this front (ORSA is an example).

Hirji: At Manulife, all major strategic decisions are assessed against the company's risk appetite. Both the chief actuary and the chief risk officer (myself) have a seat at the strategy table, and we are involved in all major decisions. We consider it essential that diverging views are heard, discussions are meaningful and we reach the best strategic decisions possible.

Burke: It does appear that the risk officers have a seat at the strategy table and have the ear of the board. The question we have is: Will the structures that were put in place in response to the crisis endure as memories fade? We have seen the pendulum swing between periods of

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excess caution and excess exuberance in this industry. Ultimately, it is a competitive industry and companies will have to take risks to remain viable.

Schuman: We've been talking about the industry response to the last crisis, which is important, but what about the next crisis? Do you see any key emerging risks that are different from what we've focused on historically?

Burke: One only needs to follow the news to see potential emerging risks such as cyber risk, pandemic risk, severe weather patterns, global conflict and local unrest. That said, it is impossible to identify the next crisis. But one should always be on the lookout for areas of excessive or above-market average growth. This would be true on the investment side of the balance sheet (what are the "hot" asset classes), as well as a "hot" product or product feature.

Crawford: Cybersecurity is top of the list these days as an emerging risk that impacts all financial services companies with sensitive customer data. Fortunately, there have been significant advancements in protection software and monitoring, and commercial insurance markets are providing affordable coverage to help with "capital at risk."

Global natural resource risk is emerging as an issue, most recently reflected in oil/energy prices and energy security exposures in the industry. Water shortages and global demographic shifts are being studied for their future impact on the markets.

We're periodically reminded of pandemic risk, a risk that entails both actuarial and operational components, given potential workforce issues.

Hirji: The industry has done a lot in terms of emphasizing risk management at all levels of the organization. The importance of the CRO role has been elevated, and risk is a key topic of discussion at major boards globally. However, there will always be "unknown unknowns," which by definition are impossible to predict. The best safeguard with regard to managing the next crisis is having this type of strong risk management culture and related processes in place.

One of the key emerging risks is the low interest rate environment globally. Capital is entering new markets and asset categories, in search of yield. This, combined with current monetary and fiscal policies globally, gives rise to concerns about asset bubbles.

Schuman: Bottom line, is the insurance industry of 2015 better positioned for future crises and why? What do you see as the biggest opportunity for future improvement?

Hirji: Yes, the insurance industry is better prepared. There is no question that actions ranging from additions to capital, a stronger focus on risk management and a variety of regulatory changes have better positioned the industry to withstand future crises.

The biggest opportunity for future improvement is to make sure that risk management activities don't just create an additional burden but add real value to the organization, our shareholders and our customers. This means that risk managers need to become business partners. While new risk management activities can create more policies, more checklists and more paperwork, the focus should always be on confronting real issues of risk and not just "ticking the boxes." The cost of risk management activities is worth it when it leads to institutions being better governed

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We are not confident that the new layers of regulation will really help in averting another crisis. Regulators seem to have an uncanny knack for adding cumbersome complexity to address the last problem.
—Julie Burke

and having better business decision-making at all levels of the organization, which in turn improves business growth.

A second area is with regard to international regulation. I support the ComFrame initiative, in particular the qualitative aspects and the principle-based approach. In my position as CRO working with countries worldwide, I welcome ways that allow us to meet regulatory requirements in a more efficient way. However, since a level playing field has a direct impact on a company's growth, it's important that initiatives are implemented in a way that applies equally to all insurers. Achieving this will require good collaboration among national regulators and dialogue between the regulators and the industry.

Burke: We [at Fitch] think industry advances in risk management practices and procedures are real and should benefit the industry in the next crisis. We do also see a big opportunity for companies to further improve public disclosure of risk exposures and stress-testing results.

Our sense is if a crisis came today, the industry would be better prepared since the last crisis is still fresh enough where certain conservative practices are in place. But one would think the environment for the next crisis, almost by definition, would follow a period of prosperity in which the financial community, in general, starts letting its guard down. We are not as convinced the insurance industry will really be better off at that point.

We are not confident that the new layers of regulation will really help in averting another crisis. Regulators seem to have an uncanny knack for adding cumbersome complexity to address the last problem. Another question is whether or not governments will act again to contain the crisis. Bank bailouts, fiscal stimulus and expansive monetary policy dampened the severity and length of the last crisis. Future crises will likely be different so it is difficult to predict.

Crawford: The industry is better positioned than in the past, particularly around core ERM areas of asset risk, ALM, stress testing, scenario planning, modeling and risk governance. Risk appetites have become integral to corporate strategies and are part of active board dialogue and the regulatory and rating agency review processes.

I believe there is still room for advancement in modeling and related model governance. This is now a focus of companies designated for enhanced regulatory oversight as Systemically Important Financial Institutions (SIFIs). Most cyber security professionals will tell you there is a need for continuous improvement as hackers grow in number and have enhanced their techniques to penetrate corporate data.

Schuman: Thank you to our panelists for their participation and insights. A

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