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Actuaries and Risk Management Role after the Credit Crunch

By Peter Au

The Pacific Rim Actuaries' Club of Toronto is committed to serving the actuarial community in Toronto. The club meets three times a year, two of the activities are dinner meetings with an invited guest speaking on some actuarial topics. The other activity is a summer barbecue function. The club also organizes two business workshops each year which aim to provide members with relevant materials to improve their soft skills. In addition the workshops can be used to satisfy Continuing Professional Development (CPD) requirements.

The club is now 16 years old and has been fortunate to host many speakers from Canada and other countries. As the keynote speaker at our annual Chinese New Year Dinner in February 2008, Mr. Nick Dumbreck (then president of the Institute of Actuaries) said that the actuarial profession could position themselves as the natural choice for complex risk management work. The risk management practice should not only apply to insurance companies, but it could extend to all financial institutions. He talked about the circumstances of several insolvencies that have occurred during the last 15 years in his presentation: Actuaries as Risk Managers.

This February, the club was delighted to have Mike Lombardi, past president of the Canadian Institute of Actuaries and managing principal of Tillinghast-Towers Perrin, to speak on a timely topic—What went wrong? Actuarial Perspectives on the Global Financial Crisis.

CAUSES OF THE CREDIT CRUNCH

Mike began by examining the causes of the credit crunch. The crisis started with real estate bubbles in the United States that were swapped all over the world. He highlighted four main reasons leading to the financial tsunami.

- **Liberal monetary policy.** After the 9/11 and dot-com crises, the interest rate had been suppressed to an arbitrarily low level for too long. Coupled with the multiplier effect, the bubble eventually became unmanageable.
- **Boom in the housing market.** The low interest rate environment created a strong demand for mortgages. Traditional banks were unable to keep up with demand, and therefore securitized the loan portfolios to generate more lending capacity with the assistance of investment banks and insurance companies.
- **Relaxed lending practice.** Financial institutions, driven by a short-term incentive system, engaged in aggressive lending practice. Their business model changed from "originate-and-hold" to "originate-and-distribute," and those financial institutions would not suffer any loss as a result of relaxed underwriting standards under the new business model.
- **Inaccurate credit ratings.** Rating agencies had conflicts of interest when issuing credit ratings on securitized investment products, because they were paid by the product originators. Also, the assumptions of the credit models were based on historic data, which were inappropriate if systemic risk came into play in the financial crisis.

VICIOUS CYCLES BETWEEN FORECLOSURE AND BANK INSTABILITY

The value of those derivative products is contingent on home prices. As housing prices decline, negative home equity is created, which encourages more home owners to forfeit their mortgages. The home owners return back their mortgages to banks, and the banks liquidate foreclosed homes at a loss. As involuntary

"Self-regulation sometimes becomes no regulation."

Standing left to right - Paul Chow (President) presented a trophy to Mike Lombardi (Guest speaker) who spoke in the Chinese New Year Meeting 2009.

foreclosures increase, the housing prices are pushed down further.

Meanwhile, the mortgage default reduces mortgage payments, and affects the value of derivative products. Bank's required capital is eroded, their lending capacity is slashed. The money velocity is being slowed down, and it affects the whole economy. Unemployment rate rises, and triggers more mortgage defaults.

Banks suffer double jeopardy. The economic loss is accentuated by the bank's leveraging. The higher the leverage, the larger the magnifying effect. Those investment and commercial banks with high leverage (>25) failed, and required governmental intervention.

IMPACT ON INSURANCE COMPANIES

Insurers are suffering from deteriorating capital ratios. Low current yields mean higher reserve levels are required. The depressed equity market erodes surplus level, and increases unrealized capital losses. For those insurers underwriting guaranteed investment products, those guaranteed options are "in-the-money" now, and insurers have to put aside more reserves.

Insurers are short of cash, but it is difficult to raise debt or additional capital in the current economic environment. For those who have not hedged against fee income, a decline in equity value means lower fee income.

The adverse situation is hoped to be reversed and reserves can be released when the equity market recovers.

Actuarial Perspectives on Risk Management

After considerable thought and discussion to strengthen the risk management system, the actuarial profession is proposing the following.

Global Risk Designation. Knowledge is a foundation of risk management. The Society of Actuaries identified core knowledge and skills, and created a new designation, CERA, to equip members for the emerging risk management practice. The SOA is also working with the International Association of Actuaries (IAA) to develop a globally recognized risk management designation to strengthen the brand recognition of the new designation.

The PRACT Executive Committee and Mike Lombardi (Guest speaker)
Front row, standing left to right - Houston Cheng, Amie Lee, Si Xie, Vivian Yip
Back row, standing left to right - Peter Au, Steve Chan, Tyler Zeng, Alex Zaidlin, Alan Wong, Paul Chow, Edmund Guan, Mike Lombardi, Benny Wan

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Risk Culture. You get what you paid for. Financial institutions have to review the current compensation system, and make sure that incentive pay must be aligned with risk. The chief risk officer must not only report to C-level management, but also be independent and subject to professional standards.

Accounting and Regulations. A global accounting standard is needed to prevent accounting arbitrage and avoidance of regulations across countries. Regulations are suggested to be counter-cyclical, and capital requirements are nicely to be dynamic and responsive to changing risks.

More Coherent Risk Measures. Conditional Tail Expectation (CTE) is a better measure than Value-at-Risk (VaR), because CTE measures the expected tail risk.

OPEN QUESTIONS

Mike's presentation was very apt and well received. It sparked lively discussion with the audience. His full presentation was recorded and posted on the club's Web site. For those who missed Mike's presentation, you have a second chance to view it again.

The Pacific Rim Actuaries' Club of Toronto welcomes all readers whether living locally or visiting Toronto, and is very grateful for the many insurance companies, reinsurers, consulting firms, accounting firms and software companies who have been loyal supporters of the club for many years. Information on future meetings is available on the club's Web site (http://www.pacificrimactuaries.ca/) □