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BY LEON ANDERSON – SPECIAL ADVISOR

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Should Regulators be Involved in Setting Probable Maximum Loss Levels for the Industry?

Definitions

What do we mean by Probable Maximum Loss (PML)? Right away it is clear that we are referring to a probability or likelihood of an outcome; there is uncertainty. So, I would define PML as *the expected (probable) maximum loss that the insurer will sustain from a particular event or group of events (risk).*

I present below another definition from an expert in the field:

"The PML for a specified financial interest is that proportion of the total value of the interest which will equal or exceed, in a stated proportion of all cases, the amount of any financial loss to the interest from a specified event or group of events." – John S. McGuinness, "is Probable Maximum Loss (PML) A Useful Concept?" PCAS LVI, 1969

The Caribbean is exposed to two major catastrophes, windstorms and earthquakes. Last year, the region suffered the full force of at least three major windstorms and there is the threat that there will be more in the future, spurred on by climate change. The region is also exposed to earthquakes; in 2010 Haiti felt the crushing impact of an earthquake which climbed to 7.1 on the Richter scale. Where and when will the next big one strike? In this environment of uncertainty insurers are expected to fulfil the promise to settle claims on the happening of an event. The promises can only be satisfied if the business is sustained. To achieve this goal, the management of insurance companies must prepare for these major risks through the adoption of comprehensive and effective risk management. Assessing PML is integral to effective risk management.

The regulator may intervene in special cases, for example the initial adoption of the risk-based Minimum Capital Test (MCT) by Jamaica when the regulator, the Financial Services Commission (FSC), collaborated with the insurance industry in setting the minimum capital standards. We experienced challenges in setting the catastrophe risk standard. The companies were advised that the FSC would accept the results of internal models once the models were acceptable to the FSC. Alternatively, a default model which included conservative return periods for earthquake and windstorm catastrophes was set by the regulator.

Risk Management

Management is responsible for the performance of the insurance company and ought to be judged by results. It is essential, therefore, that management have a comprehensive understanding of the types of risks to which their companies are exposed. They should understand the, "characteristics and interdependencies, the source of the risks and their potential impact on the business" (ICP 16, Enterprise Risk Management for Solvency Purposes). It is the duty of management, therefore to employ cutting-edged management tools and practices to achieve optimal results. While the company's management team has the primary responsibility for risk management, the Board of Directors must play a strong and effective oversight role in ensuring that risks are effectively managed. I fully support Julie Dickson when she said that, *"Perhaps the greatest importance to sound risk management is strong governance by a company's board of directors. Boards must be engaged in questioning and understanding the factors that affect the company's performance and make sure that planning and preparation for the unexpected is occurring, appropriate to the size and complexity of the company and the risk it assumes."* Julie Dickson, Superintendent of OSFI Canada, to the National Insurance Conference of Canada, September 23, 2013.

The board of directors and management are in the best position to undertake this process as they are in control, they manage the company and should know all the weaknesses, strengths and environmental factors to which the company is exposed. They know the business of the company and so it is their job (duty and responsibility) to manage the risks; no one external to the company, for example, the regulator, has this intimate association. Management is responsible for identifying, assessing and measuring and adopting strategies to mitigate risks. In other words, there must be a policy, approved by the board of directors, for managing risks. The policy should clearly state the strategy for managing all relevant and material categories of risk.

In this process it is vital that the insurer's risk appetite and risk tolerance are assessed, thereby effectively determining the company's risk capacity. Management must understand the relationship between risk appetite and risk tolerance and the required capital of the company. Tools such as scenario models and stress testing should be employed in assessing the likely impact of adverse changes in risks exposure on the company's capital.

The following is a list of some of the major risks:

- Underwriting risk
- Catastrophe risk (taking into account climate change)
- Market risk (pricing and interest rate)
- Liquidity risk

Management, having computed the PML of the company, is now able to finalise the company's reinsurance and retention policy and strategy.

Capital Adequacy

Having assessed and measured the risks, management should be in a better position to assess the capital requirement of the company. The capital should be adequate for regulatory purposes, but it must be stressed that regulatory capital is the minimum set by the regulators and includes a component for PML to be used in a standard capital test computation. This standard is set, in the case of Jamaica, after extensive collaboration with the insurance industry. The companies should aim to operate in such a manner that the companies' capital exceeds the regulatory capital in order to insure against slippage. Risk management strategies, like stress testing and Asset Liability Management should be employed to assist in arriving at the required capital. Internal risk modelling tools, for the companies that have them, are also useful tools in this regard.

The Regulator

What is the role of the Regulator? In the Caribbean, the regulator sets the minimum capital requirement for the insurance companies. The Regulator's role is to ensure that a reasonable and acceptable basis is adopted in computing PML by each company consistent with effective risk management strategies. The regulator should only intervene and overrule if the process is not deemed to be on a prudential basis.

Insurance companies in the more developed markets are now required to compute their own solvency under a regime called, "Own Risk and Solvency Assessment" (ORSA). The process requires implementation of sound risk management and corporate governance. While Regulators and insurers in the Caribbean may not be able to implement ORSA fully, there are many aspects that should be adopted. The Jamaican Regulator is embarking on a Quantity Impact Study (QIS) that will include the reviewing of the solvency and capital requirements considering the changes in International Financial Reporting Standards (IFRS) and Insurance Core Principles and is likely to include ORSA in future regulations.

Conclusions

Management should compute the PML in the assessment of material risks that may impact their companies' capital. The regulator, in special circumstances, may collaborate with the industry in setting PML for major catastrophes, such as windstorms and earthquakes. Knowledge of PML is vital in establishing risk mitigation strategies, like reinsurance. The company's risk appetite will inform its retention policy and PML plays no small role in the total risk retention package. PML, therefore, is an integral component in a company's risk management strategy. The insurance company has the primary responsibility in determining its PML.

Leon Anderson
Special Advisor, Financial Services Commission
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