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## Update: Risk Profile, Appetite and Tolerance: Fundamental Concepts in Risk Management and Reinsurance Effectiveness

In April 2009, Guy Carpenter's Financial Intelligence Team published a briefing entitled *Risk Profile, Appetite and Tolerance: Fundamental Concepts in Risk Management and Reinsurance Effectiveness*. That briefing included definitions of Risk Profile, Appetite and Tolerance and how these concepts fit into an Enterprise Risk Management (ERM) framework. It also presented the results of our initial **Risk Tolerance Benchmarking** study, which summarized the information publicly disclosed in this area.

Our update to that study reinforces the conclusion drawn six months ago that (re)insurers increasingly recognize the value of metric-based frameworks and capital models in evaluating their portfolios. Further, as this trend of recognition gains momentum, so does the importance of being able to understand one's place in the rapidly changing risk management space. Accordingly, this briefing revisits the terminology definitions and updates our survey of companies' disclosures in this area.

### Overview

There was continued movement toward more robust enterprise-wide risk management practices in the period following the 2008 financial crisis. With the goal of greater transparency – and in light of criticism of the effectiveness in their historical roles – both regulators and rating agencies have accelerated their emphasis on ERM-related disciplines as part of any capital adequacy dialogue. Further, both shareholders and (re)insurer boards of directors have increased their calls for more effective corporate governance in the quantification and evaluation of risk, in accordance with Guy Carpenter's predictions.

Guy Carpenter remains committed to the concept that advancing the discipline of ERM can help insurers make value-accretive decisions through the improved deployment of capital. Through a thorough understanding of the basic concepts of enterprise-wide risk, the implementation of ERM disciplines, establishment of risk management parameters and the integration of this knowledge into the process of making strategic business decisions, (re)insurers will be better prepared to respond to the internal and external questions relating to risk and capital. More importantly, insurance and reinsurance firms benefit by establishing hedging or reinsurance strategies as part of their ERM processes to drive capital efficiencies and maximize stable risk-adjusted returns.

## September 2009 Update: Survey of Publicly Disclosed Information on Risk Tolerance

Guy Carpenter’s study of the ERM structures and risk tolerances of firms within the industry is comprised of publicly available information – including annual reports, regulatory filings and analyst and rating agency reports. It identifies information from 12 companies domiciled in Europe, six in the United States, nine in Bermuda and eight in the Asia-Pacific region. The firms included in the study are mainly publicly traded ones and have large global operations.

Our initial overall observations, as summarized in our April briefing , were that the public disclosure of companies’ risk tolerances was limited. Based on our review of the available information, the following general observations and trends were identified at that time:

- Of the 35 companies in the April study, all disclose some form of consideration of risk tolerance at the enterprise or risk segment level (such as market/asset, credit or insurance risk).
- Companies were generally increasing the amount of disclosure related to their method and manner of establishing risk tolerance
- Firms generally disclosed the method for measurement, but not the resultant amount or implied level of capital adequacy. Metrics used for measurement varied based on the risk being measured and some insurers used more than one metric.

Our updated survey indicates that there has been some minor narrowing of the variety of disclosure methods by segment, but generally our initial findings regarding disclosure remains unchanged.

**Updated Initial Spectrum of Risk Measurement Methods and Corresponding Level (if disclosed), by Risk Segment that Appeared in Companies’ Public Disclosure**

Method	Group Level Disclosure	Market/Asset Risk	Credit Risk	Insurance Risk
<b>VaR</b>	1:250, 1:200, 1:100	1:200, 1:100, 1:20 + 100 bp sensitivity test	1:250, 1:200, 1:250 Not Disclosed	1:250, 1:200, 1:100 or Return Period not Disclosed
<b>TVaR</b>	Return Period not Disclosed	Return Period not Disclosed	Return Period not Disclosed	Return Period not Disclosed
<b>PML</b>	Return Period not Disclosed	Did not appear	Did not appear	Return Period not Disclosed
<b>Threshold</b>	Did not appear	Max investment by Instrument	Aggregate risk > 3 to 10% of shareholder equity; > 2 to 3% of total inv. portfolio	Max Aggregate Loss, by LOB
<b>Stress Test</b>	Did not appear	+/- % change in market; historical high default rate; +/- yield curve shifts (bp or %)	Did not appear	Did not appear

Source: Guy Carpenter & Company, LLC

- The most prevalent disclosed Risk Tolerance methods continue to be Value at Risk (VaR) and stress testing.
- Disclosures related to market/asset risk (measured with some form of VaR, max loss, or percent impairment threshold) are still the most commonly found in our survey (See below).

In the table below, the percentage of study participants with affirmative disclosure statements about tolerances for each type of risk are compared between our current and prior studies. As indicated, there are more combinations of region/risk type for which there was an increase in disclosure (shown in green) than a decrease in exposure (shown in red), though we predominantly observed no change.

Percentage of Study Participants with Affirmative Disclosure by Segment/Region

Region	Study Version	Group Level Disclosure		Market/Asset Risk		Credit Risk		Insurance Risk	
		Method	Level	Method	Level	Method	Level	Method	Level
Europe	Current	67%	50%	75%	8%	67%	0%	75%	17%
	Prior	42%	25%	58%	8%	42%	0%	50%	0%
USA	Current	33%	17%	83%	33%	50%	0%	17%	17%
	Prior	17%	17%	67%	33%	33%	0%	17%	17%
Bermuda	Current	33%	0%	56%	44%	67%	22%	33%	33%
	Prior	0%	0%	56%	44%	33%	22%	11%	11%
Asia/Pac	Current	63%	13%	50%	38%	38%	13%	25%	0%
	Prior	38%	13%	50%	38%	38%	13%	25%	13%

Source: Guy Carpenter & Company, LLC

Our updated survey indicates little change from year-end 2007 to year-end 2008 in the level of disclosure of ERM “structure” characteristics, such as having a Chief Risk Officer (CRO), reporting relationships, a risk committee, or reporting lines into the board. The exception to this consistency is in Bermuda, where the level of Structural disclosure has increased.

- In our previous survey, European companies tended to disclose more structural ERM information than companies in other regions, with Bermuda and Asia-Pacific companies previously disclosing the least about their ERM structural elements. In our updated survey, Bermuda companies are now relatively close to European (re)insurers in their level of structural disclosure. Asia-Pacific and the United States continue to lag behind their European and Bermudian peers.

It is important to restate our opinion that the low disclosure identified in both the original and updated surveys **does not** suggest that the firms do not have the roles noted. Rather, it highlights that the firms included in the study do not disclose this structural element if it exists.

**Percentage of Study Participants with Affirmative ERM Structure Disclosure by Type/Region**

Region	Study Version	Group CRO	CRO Reports to Board	CRO Reports to Risk Committee	Group Risk Committee	BoD Resp
Europe	Current	67%	33%	42%	92%	92%
	Prior	67%	58%	42%	83%	100%
USA	Current	33%	17%	17%	33%	67%
	Prior	50%	17%	17%	50%	67%
Bermuda	Current	89%	22%	44%	67%	56%
	Prior	44%	0%	22%	44%	67%
Asia/Pac	Current	25%	13%	0%	75%	50%
	Prior	25%	13%	13%	75%	76%

Source: Guy Carpenter & Company, LLC

With respect to disclosure of actual capital in excess of target capital, specific disclosure of companies' opinion or position is rarely seen beyond references to adequacy. The only exception is occasional reference to capital management activity, such as share buybacks, that is indicative of an opinion on level of capital the company hold.

The disclosure of capital allocation and modeling method at the group level continues to appear most often in Europe. We believe this trend has been and will continue to be driven by Solvency II.

Looking deeper into the company disclosure, while more companies are disclosing risk measurement methods, levels of risk tolerance, and ERM structural information, the general quality of disclosure remains unchanged. As we review disclosure by type of company, we continue to see no apparent distinction between insurance and reinsurance companies. Combined operations (i.e., those that include both insurance and reinsurance within the corporate operating structure) appear to provide more details in their disclosures and descriptions of their risk and capital models for their insurance, market/asset and credit risk, both individually and at the group level. Examples of methods, as stated, include:

- Mix of risk-based capital models and scenario testing, sometimes include the International Monetary Fund (IMF) stress tests
- Economic-based capital modeling
- Risk-based capital modeling, such as for the UK Financial Services Authority (FSA)

## Risk Profile, Risk Appetite and Risk Tolerance

As part of Guy Carpenter's commitment to advancing the discipline of ERM, we continue to observe that the definitions of Risk Profile, Risk Appetite and Risk Tolerance vary considerably in professional articles and position papers across the (re)insurance industry. In its efforts to resolve this ambiguity, Guy Carpenter considers the following definitions standard in its advisory work:

**Risk Profile:** the broad parameters a firm considers in executing its business strategy in its chosen market space.

*Example: Risk Profile* is essentially the market space in which a firm *wants to participate* (e.g., lines and classes of business, claims handling and expense structure)

**Risk Appetite:** the level of uncertainty a company is willing to assume given the corresponding reward associated with the risk. A company with a high risk appetite likely would accept more uncertainty for a higher reward, while a company with a low risk appetite would seek less uncertainty, for which it would accept a lower return.

*Example:* Consistent with its stated risk profile, a firm evaluates how much profit potential is available and the cost of mitigating uncertainty to develop its **Risk Appetite**. A "moderate" **Risk Appetite** maybe defined by a firm as "a target return on equity of 10 percent," a "retention of net catastrophic risk less than or equal to its peers" or the "avoidance of excessive underwriting volatility, asset risk, or operational risk."

**Risk Tolerance:** a stated amount of risk a company is willing and/or able to keep in executing its business strategy – in other words, the limits of a company's capacity for taking on risk.

*Example:* Given the risk appetite of a firm, it establishes a set of **Risk Tolerances** to properly articulate its capacity for assuming risks. A firm's risk tolerances could be expressed as a "high probability of maintaining an A rating," establishing the "quarterly impact from non-catastrophe underwriting results not greater than 10 percent of forecasted earnings," or "net 1:100 probable maximum loss (PML) limited to 10 percent of capital."

## Anticipated Change – Increased Scrutiny of Risk Appetite and Risk Tolerance

We noted in our original briefing that we anticipated that regulatory, capital market and legislative influences would cause a rapid increase in pressure on company management to recognize the risks of their enterprises. In the period that follows from the 2008 financial crisis, we remain committed to the concept that, despite the limited public disclosure of ERM related information, increasing external demands will drive firms in our industry to recognize the value of metric-based ERM frameworks and capital models in evaluating their portfolios.

It is no longer in dispute that advancing the discipline of ERM can help insurers improve the deployment of capital, drive capital efficiencies and maximize stable risk-adjusted returns. It is also clear that the growth of initiatives such as Solvency II represent an environment of heightened regulatory scrutiny and disclosure demands.

Companies' disclosure of details about their approaches to ERM will result in a more efficient marketplace and allows risk bearers along the entire insurance supply chain – from original insureds through reinsurers –to make more educated decisions regarding their risk transfer and mitigation approaches and therefore their capital. With the importance now placed on counterparty credit risk as a result of last year's financial crisis, disclosures will provide a better sense of a risk-assuming company's financial strength.

We believe that (re)insurers continually seek to understand the market and environment in which they operate. This is likely to be particularly true in the ERM space, in the aftermath of the recent financial crisis. Accordingly, we intend to continue to monitor disclosure trends and update the Risk Tolerance Benchmarking Study annually, to provide the necessary information for our clients' to be successful in a rapidly changing marketplace.

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