

July 2008

## Financial Features in MetaRisk® v1.6

*In MetaRisk versions 1.5 and 1.6, many new financial features were introduced. The new features, including U.S. statutory and economic financial statements, integrated economic scenarios and reserve volatility, can provide valuable insights to clients.*

### Introduction

MetaRisk versions 1.5 and 1.6 introduced a number of new financial features. Their purposes are to (a) support clients in complying with Solvency II and (b) model the enterprise risks faced by insurers and help InStrat® analysts to better present reinsurance alternatives in a financial context. These financial features include the ability to:

- Show modeling results using U.S. statutory and economic financial statements, including:
  - Mean (average) financial statements
  - Economic capital
  - Distributions around key financial statement measures
- Integrate economic scenarios to model assets
- Demonstrate the impact of reinsurer credit risk on modeled results
- Show the impact of reserve volatility on modeled results
- Approximate A.M. Best's Capital Adequacy Ratio (BCAR)

### Financial Statements

There are two accounting standards that can currently be modeled in MetaRisk: U.S. statutory and economic (labeled "IFRS" in MetaRisk).

**Note:** The financial statements labeled "IFRS" in MetaRisk are actually presented on an economic basis – essentially meaning market-valued assets and discounted liabilities. Therefore, they will be referred to as "economic" rather than IFRS throughout this document.<sup>1</sup>

**Table 1: Comparison of Accounting Standards**

	U.S. Statutory	Economic
Best Estimate Reserves	Undiscounted	Discounted at risk-free yield curve
Reserve Risk Margin	None	Percentage of net discounted reserves
Ceded Reserves	Contra-liability (i.e., net reserves are shown on liabilities exhibit), undiscounted without risk margin	Asset, discounted with risk margin
Bonds	Carried at amortized cost	Carried at market
Real Estate	Carried at lower of cost or market	Carried at market

<sup>1</sup> It is anticipated that International Financial Reporting Standards (IFRS) accounting will gravitate towards economic accounting over time. Regardless of the extent of this trend, economic net worth will be compared to required capital under Solvency II and will therefore be of interest to those performing economic capital modeling. It is also a common basis for evaluating required capital worldwide.

After selecting the applicable accounting standard, there are three further values whose inputs are on the same panel: Average Tax Rate, Current Accident Year (AY), Market Value Margin (MVM)<sup>2</sup> Rate, and Shares Outstanding.

**Average Tax Rate:** MetaRisk uses a simple tax calculation, rather than incorporating the various schemes from around the world. If the sum of Pre-Tax Income and Appreciation is positive, Income Taxes are set equal to the product of Average Tax Rate and Pre-Tax Income, while Deferred Taxes are set equal to the product of the Average Tax Rate and Appreciation on Investments. If the sum of Pre-Tax Income and Appreciation is negative, both Income Taxes and Deferred Taxes are set to zero.

This approximation is incorrect for small negative values, when deferred tax assets are created, and it leads to the understatement of surplus in those scenarios. However, as the adverse tail of the distribution is generally of interest, this approximation is usually appropriate for most analyses. The user, therefore, should enter the approximate ratio of Income Taxes, Current and Deferred, to the sum of Pre-Tax Income and Appreciation.

**Current AY MVM Rate:** MetaRisk uses this input to calculate the MVM for the current AY's loss reserves at the end of the period for economic financial statements. It is expressed as a percentage of the discounted reserve value.

**Shares Outstanding:** This input is used to calculate earnings per share.

The balance sheet amounts from the company's reported financial statements should be entered in the Opening Balance Sheet dialog box. The inputs within this dialog box change depending on the accounting standard selected.

Microsoft® Excel™ templates have been created to populate the opening balance sheet dialog boxes. The templates can be found under MetaRisk Tools on the InStrat menu and are called "OneSource Initial BalanceSheet US.xls" and "Initial BalanceSheet IFRS.xls." The templates can be used to capture the financial statement data in the appropriate layout. The data can be copied and pasted into the opening balance sheet dialog box. The U.S. template can be populated, with a few minor exceptions, from InsLink.

Although there are line items for the gross and ceded loss reserve amounts on the opening balance sheet, these fields cannot be edited directly in the opening balance sheet dialog box. Rather, the net and ceded reserve amounts are entered via reserve components on the Design Surface. The balance sheet will sum the initial values of all reserve components in a given variation to populate the gross and ceded reserve fields in the initial balance sheet.

Before simulating, the user should confirm that the incoming balance sheet is valid (i.e., total assets equal the sum of total liabilities and surplus), as indicated in the lower right corner of the input box.

<sup>2</sup> Solvency II technical provisions (reserves) are defined as being the risk-free discounted value of best estimate liabilities plus a market value margin.

### **A.M. Best Capital Adequacy Ratio**

BCAR values input pane is available for users who would like to capture an approximation of BCAR in timeline or cumulative distribution function (CDF) reports. BCAR value dialog box requires the entry of percentages calculated as the net required capital for each risk category (i.e., total invested assets, net reserves, net premium, and reinsurance recoverables) divided by the corresponding financial statement values. These percentages should include all factors that affect the risk charges, including the growth and diversification factors for premium and reserves, the reinsurance dependence factor for credit risk, and the spread of risk factor for assets. BCAR value percentages input into MetaRisk do not vary as the mix among different categories (e.g., reserves or net premium by line of business or credit ratings of reinsurers) changes in different simulations.

The user also needs to provide the net catastrophe probable maximum loss (PML) which is defined as the greater of the 1-in-100 year wind event or the 1-in-250 year earthquake event on a per occurrence basis including the cost of any reinstatements.

**Note:** While the other BCAR factors will seldom vary across variations for a particular insurer, the net catastrophe PML can vary significantly if there are differences in the catastrophe reinsurance structure. Users should ensure that the PML is correct for each variation.

As with the opening balance sheet dialog box, there is a Microsoft® Excel™ template on the InStrat menu that can be used to estimate the items needed for BCAR values screen. The template is called “BCAR Financials MR.xls.”

To have MetaRisk calculate BCAR results:

- Open the Initial Values menu under Financials in MetaRisk’s model construction view’s Inventory tree
- Click on “more...” next to BCAR values at the bottom of the Details pane for the Financial Statements dialog
- Check the “Calculate BCAR” check box. Checking this box causes all BCAR reports to be run automatically; the reports are not available as selections in the CDF reports
- Fill in the BCAR risk charge percentages and PML

### **Economic Scenario Generator**

Economic Scenario Generator (ESG) files are created quarterly for selected domiciles, calibrated on different dates, and applicable to different periods of analysis. These files can be used by MetaRisk to generate investment income and adjust market values of invested assets.

As an alternative to importing an ESG file, a single yield curve may be entered and used for stress testing purposes or to obtain financial statements with a static economic model. If a user-specified yield curve is used, the appreciation of stocks and property and stock dividends are set to zero. Also, the single yield curve is used for the beginning yield curve and is then shifted by one year for the ending yield curve. An imported ESG file will override any manually input yield curve.

**Note:** The ESG files provided with MetaRisk are considered reasonable and are designed to give the user a sense of which variables are typically included in ESGs and indications of the distributions for those variables. ESG calibration is a complicated exercise, involving the skills of financial engineers. While the MetaRisk ESG files can be relied upon for a reasonable first approximation of investment risk, users of the output – be they Guy Carpenter analysts or external licensees – should understand fully Guy Carpenter & Company LLC’s (“Guy Carpenter’s”) calibration process and assume ownership and responsibility for the appropriateness of the ESG file itself before reporting the implied investment risk results to any stakeholders.

### **Creation of the ESG Files**

Guy Carpenter has engaged Algorithmics Inc. to license its economic scenario generator to provide example scenarios for use with MetaRisk. MetaRisk’s ESG files have been calibrated using Algorithmics’ Algo Scenario Engine (ASE) and contain data on the treasury yield curve, stock returns and dividend yields and total property returns. ESG files may be found in the MetaRisk section of the Instrat page on GC Portal. Each ESG file is named based on number of simulations, calibration date, analysis start date and domicile. For example, the ESG file “100k - 20080331 calibration - 20080401 start - US[1].esg” contains 100,000 samples calibrated using data through 31 March 2008, starting 1 April 2008, for the United States.

The current scenario generation process models five sets of economic indices: treasury yield curves, inflation, equity prices, equity dividends, and a global property index. The interest rates and equity dividends are modeled using a mean reverting log-normal model. Inflation, as expressed by the Consumer Price Index (CPI), is measured using a mean reverting normal model, and equity prices and property are modeled using a growth log-normal model. Each of these models is calibrated with historical time series data.

Treasury yield curves are modeled for eight currencies: U.S. Dollar (USD), Great Britain Pound (GBP), Japanese Yen (JPY), Euro (EUR), Swiss Franc (CHF), Swedish Krona (SEK), Norwegian Krone (NOK), and Danish Krone (DKK). Each treasury yield curve has eight different points (three-month, one-year, two-year, three-year, five-year, 10-year, 20-year and 30-year). The interest rates are calibrated with indices of the historical values of the treasury yield curves at the above time points.

**Note:** As of this briefing’s publication (July 2008), MetaRisk ESG files only have treasury yield curves; all bonds are effectively treated as government (default-free) bonds. For the bond portfolio, therefore, only market value risk is modeled. Neither credit risk nor the spread over the risk-free rate for non-government bonds is modeled.

Although each point on the yield curve is modeled separately, there is a correlation matrix applied across all risk factors in each scenario. Because a correlation matrix is used for modeling, the yield curves in some scenarios are “bumpier” than would be expected in reality. The current ESG files include treasury yield curves for only one currency. When foreign exchange is introduced into the ESG files and MetaRisk, treasury yield curves from more than one currency will be included in each ESG file.

Guy Carpenter’s current scenario generation process models equity prices and dividends for five indices to approximate the following global markets: US, UK, Japan, Europe, and emerging markets. The United States returns are estimated using the S&P 500, while the FTSE 100 is used for the UK. For Japan, the Nikkei 225 is used, with the Dow Jones Euro Stoxx 50 for Europe and the MCSI Emerging Markets index for emerging markets. Returns for all five indices are included in each ESG file.

Inflation is measured for the same eight currencies, as are interest rates, and is calibrated with CPI indices from each domicile. Although not currently accessible to users in MetaRisk, the data is in the output file from the Algo ESG software.

Guy Carpenter uses Barclay’s USD Global Property Index to calibrate the property model. However, there is not a long enough time series of data available on this index, and the returns have been quite high over the time period captured. The result is that property returns may be overstated in our scenario sets; in the very short term, Guy Carpenter plans to find a more suitable index or override this index with more realistic calibration data.

Although Guy Carpenter creates ESG files from the Algo software, the user can attach any file containing economic assumptions in the prescribed format. When working with sophisticated clients, the user is encouraged to discuss the possibility of obtaining its economic scenarios and adapting them to the MetaRisk file format.

### **Reinsurer Credit Risk**

MetaRisk allows the entry of a company’s reinsurer default credit risk – i.e., the risk of loss from non-payment of reinsurance claims – separately for the current AY and for incoming ceded reserves. Reinsurer default results in a reduction in ceded losses from the simulated amount, either for the Current AY or in the reserves. Net Incurred Loss on the financial statements is calculated using ceded losses net of reinsurer defaults.

Both the Prior and Current AY Credit Risk CDF distribution files should contain percentage values that represent the percentages of the reinsurance recoverables that will default in the simulated calendar year. MetaRisk calculates the Mean and Coefficient of Variation (CV) for each credit risk from the distribution in the Input CDF dialog box and displays these values in the Details pane.

The MetaRisk Tools option under the InStrat Excel Menu has the authorized Credit Risk template. Members of InStrat’s Financial and Capital Advisory (FCA) and Actuarial Best Practices (ABP) can advise you further about the usage of this template.

## **Reserves**

When modeling a company's financials, MetaRisk allows the entry of various reserve amount components, including reserve development risk – the risk that net reserves will develop differently from the amounts recorded in the financial statements. Reserve risk, as used in MetaRisk, is the change between the beginning balance sheet and the end of the simulated calendar year in the undiscounted estimate of the net of reinsurance amount to make claim payments after the beginning balance sheet date. Reserve risk should exclude credit risk.

Reserves may be entered at whatever level of detail the user desires – for example, modeling the total reserves as one MetaRisk reserve component or having individual MetaRisk reserve components by line of business. Reserve components may also be connected by copulas or indices to induce correlation amongst themselves or with loss causes.

Frequency is set by default with a scheduled frequency of one reserve “development” (increase or decrease) per year in the middle of the period and generally will not be changed.

The CDF distribution file represents the change in the estimate of the undiscounted cost to settle all claims unpaid at the beginning of the year, net of all reinsurance, between the beginning of the year and the end of the year. MetaRisk calculates the mean and CV from the distribution in the Input CDF dialog box and displays these values in the Details pane.

The default payout pattern for these reserves is a constant payout pattern of 20 payments with a delay interval of one and will generally need to be modified. A Proportional Payout Pattern component may be dragged on to the Reserves component on the Design Surface, and a payout pattern may be set in the Payment Fraction dialog box.

The MetaRisk Tools option under the InStrat Excel Menu has the authorized Reserve Volatility templates for both U.S. and Europe (Solvency II). Members of ABP can advise you further about the usage of these templates.

## **Reports**

### ***Timeline Section of Reports Explorer***

MetaRisk has the ability to show financial statements under various realizations that have occurred during the simulation. To capture this data, the “Enable Financial Statements” checkbox in the timeline reports tab of the Reports dialog box must be selected before running the simulation. The default setting returns the financials under the first 10 realizations. There is the option to change the number of captured simulations or to capture realizations based on various user-defined criteria.

To see the financial statements based on various user-defined criteria, these steps should be followed:

1. Under the Timeline Reports in the Reports dialog box, select “Return realizations (and financial statements, if applicable) based on criteria.”

2. Under “Select a component,” select the desired financial statement component. The list shows all components available in the model, regardless of variation (Specific variations may be individually simulated if necessary).
3. Under “Select a report,” select the desired report from those available based on component selected.
4. Under “Select a criterion for report value,” specify the condition for the criterion. Enter the cutoff value, such as a Value at Risk (VaR) threshold from the CDF Statistics pane of a previously-run report. Conditions include various Boolean operators.
5. Specify the desired number of returned simulations that meet the selected criteria.
6. At any time, the tab may be reset to the default value of returning the first 10 realizations by clicking “Reset;” otherwise, click “OK.”

**Note:** If timeline reporting is disabled, or if none of the realizations meet the selected criteria, MetaRisk will not display a timeline or financial statements in the Report Explorer pane.

The financial statement reports are generated automatically under the timeline section of the Report Explorer when financial statements are enabled. The financial statement reports include:

- Balance sheet
- Income statement
- Cash flow
- Ratios and risk measures

*For a complete list of data items found on each of the above reports, please see the Appendix.*

“BCAR Statements” is an optional report under the timeline financials, which is generated only if “Calculate BCAR” was enabled in the Initial Values section of the Inventory.

## **Financials Section of Reports Explorer**

### ***Standard Capital Requirements***

The Standard Capital Requirements pane is generated when the Solvency II report set is selected in the CDF Reports tab of the Reports dialog box before running the simulation. The Solvency II report in MetaRisk can be used to advise clients where and how reinsurance can be used to benefit Solvency II, or it can be used to validate or supplement a client’s own modeling for Solvency II. This report shows the Solvency Capital Summary and other measurements that constitute the Solvency Capital Requirement (SCR). It also compares MetaRisk’s simulated values for Basic SCR, Operational Risk, and SCR Total to the QIS standard values.

### ***Mean Financials***

Unlike timeline financial statements, which are calculated based on a single realization of the model, the mean financials display the average values of all financial variables in a financial statement format.

Selecting “Enable financial statements” in the Timeline Reports dialog, or choosing any CDF under Financials in the CDF Reports dialog, will automatically cause the Mean Financial Statements report to be generated. The report includes the mean values from the Income Statement, Cash Flow and Balance Sheet CDFs and is presented in the Financial Statement form under the Financials section of the Report Explorer.

Mean values are not available for Ratios and Risk Measures.

### ***Financial Statements and Ratios and Risk Measures***

In addition to the Standard Capital Requirement and Mean Financial reports, the Financials section of the Reports Explorer will also display the CDF captures of data items from the balance sheet, income statement, cash flow, ratios and risk measures, and BCAR results. For a complete list of data items found on each of the aforementioned reports, please see the Appendix.

**Note:** Selecting “Enable financial statements” will not automatically result in individual CDF capture for financial variables. CDF captures must be selected individually for any financial variables for which distribution information is required.

The CDF reports will be generated for the data items selected prior to running the simulation. BCAR CDFs are created automatically if “Calculate BCAR” is selected on the BCAR initial values screen. To select a financial CDF report, the user should:

1. Open the Reports dialog box.
2. Click CDF reports.
3. Click Financials.
4. Under Financials the following components will appear: Income Statement, Cash Flow, Closing Balance Sheet, or Ratios & Risk Measures.
5. As the various components under Financials are selected, the reports available will appear under Applicable Report Sets/Reports.
6. Select the report(s) and/or report set(s) desired from those available for the selected component. (Press SHIFT+click or CTRL+ click to select multiple reports.) Selecting a report will display its calculation formula under Report Formula.
7. Click Add Report to add the selected report(s) to the list of Added CDF Reports to be generated when simulating.
8. To remove reports from the list to be run, select them in the list and click Remove Report.
9. After selecting all desired the reports, click OK and run simulations.

After the simulation is completed, the selected CDF reports are categorized in the Financials section of the Reports Explorer under the component from which it was generated (e.g., balance sheet, income statement, cash flow, or ratios and risk measures). If a report was not selected from a particular component then that component name will not appear in the Report Explorer.

In addition to the reports selected in the CDF Reports dialog box, if the BCAR calculation was enabled then the CDF reports for BCAR Results will be available in the Financials section of the Report Explorer.

The CDF Graph pane and the CDF Statistics pane will open when selecting from among the various reports available. To see the results of a single variation, select the report from the Financials section under the particular variation found on the Report Explorer. If more than one variation has been run, selecting the report from the Financials section under the Cross-Variation Comparisons will allow for comparison across variations.

### Contacts

Questions regarding the financial features in MetaRisk may be directed to any member of the Financial and Capital Advisory listed below.

<b>Susan Witcraft</b> , Managing Director, Minneapolis	+1 952.832.2143
<b>Frank Achtert</b> , Managing Director, Munich	+49 89.28.66.03.361
<b>Iain Boyer</b> , Managing Director, Norwalk	+1 203.229.8807
<b>Julia Chu</b> , Managing Director, New York	+1 917.937.3052
<b>Michelle Harnick</b> , Managing Director, New York	+1 917.937.3125
<b>Joan Lamm-Tennant</b> , Managing Director, Norwalk	+1 203.229.8815
<b>Dave Lightfoot</b> , Managing Director, Seattle	+1 206.621.2929
<b>Don Mango</b> , Managing Director, Morristown	+1 973.285.7914
<b>Eddy Vanbeneden</b> , Managing Director, Brussels	+32 2.674.98.11
<b>Mike Wynne-Jones</b> , Managing Director, Seattle	+1 206.621.2906
<b>Gina Carlson</b> , Senior Vice President, Minneapolis	+1 952.832.2224
<b>David Flandro</b> , Senior Vice President, London	+44 20.7357.3267
<b>Debbie Griffin</b> , Senior Vice President, New York	+1 917.937.3119
<b>Jeff Bellmont</b> , Vice President, Minneapolis	+1 952.832.2157
<b>Sebastien Portman</b> , Vice President, Zurich	+41 44.285.9322

**Appendix: Reports Available under the Five Financial Components**

Type of Report	MetaRisk Financial CDF name
Income Statement	Gross Written Premium
Income Statement	Ceded Written Premium
Income Statement	Net Written Premium
Income Statement	Gross Earned Premium
Income Statement	Ceded Earned Premium
Income Statement	Net Earned Premium
Income Statement	Gross Underwriting Expenses (including ULAE)
Income Statement	Ceding Commissions
Income Statement	Net Underwriting Expenses (including ULAE)
Income Statement	Gross Current AY Loss & ALAE
Income Statement	Ceded Current AY Loss & ALAE
Income Statement	Uncollectible Reinsurance on Current AY
Income Statement	Net Current AY Loss & ALAE
Income Statement	Gross Prior AY Development
Income Statement	Ceded Prior AY Development
Income Statement	Uncollectible Reinsurance on Current AY
Income Statement	Net Prior AY Development
Income Statement	Gross Losses & ALAE
Income Statement	Ceded Losses & ALAE
Income Statement	Net Losses & ALAE
Income Statement	Underwriting Gain
Income Statement	Underwriting Loss
Income Statement	Investment Income
Income Statement	Pretax Income
Income Statement	Income Tax
Income Statement	Net Income
Income Statement	Unrealized Capital Gains
Income Statement	Deferred Taxes
Income Statement	Change In Surplus

Type of Report	MetaRisk Financial CDF name
Cash Flow	Gross Premium Collected
Cash Flow	Ceded Premium Remitted
Cash Flow	Gross Expenses Paid
Cash Flow	Ceding Commission Collected
Cash Flow	Gross Current AY Paid Loss & ALAE
Cash Flow	Ceded Current AY Paid Loss & ALAE
Cash Flow	Net Current AY Paid Loss & ALAE
Cash Flow	Gross Prior AY Paid Loss & ALAE
Cash Flow	Ceded Prior AY Paid Loss & ALAE
Cash Flow	Net Prior AY Paid Loss & ALAE
Cash Flow	Gross Paid Loss & ALAE
Cash Flow	Ceded Paid Loss & ALAE
Cash Flow	Net Paid Loss & ALAE
Cash Flow	Cash Flow from Underwriting
Cash Flow	Interest & Dividends
Cash Flow	Cost of Assets Purchased
Cash Flow	Income Tax Paid
Cash Flow	Change in Cash
Closing Balance Sheet	Total Cash and Invested Assets
Closing Balance Sheet	Uncollected Premium
Closing Balance Sheet	Other Assets
Closing Balance Sheet	Total Assets
Closing Balance Sheet	Gross Loss & ALAE Reserves
Closing Balance Sheet	Ceded Loss & ALAE Reserves
Closing Balance Sheet	Net Loss & ALAE Reserves
Closing Balance Sheet	Gross Unearned Premium Reserves
Closing Balance Sheet	Ceded Unearned Premium Reserves
Closing Balance Sheet	Net Unearned Premium Reserves
Closing Balance Sheet	Other Liabilities
Closing Balance Sheet	Total Liabilities
Closing Balance Sheet	Net Assets
Closing Balance Sheet	Total Liabilities and Net Assets

Type of Report	MetaRisk Financial CDF name
Ratios & Risk Measures	Net Loss and ALAE Ratio
Ratios & Risk Measures	Net Expense Ratio
Ratios & Risk Measures	Combined Ratio
Ratios & Risk Measures	Net Income to Net Assets
Ratios & Risk Measures	Total Return on Net Assets
Ratios & Risk Measures	Earnings per Share
Ratios & Risk Measures	Net Current AY Loss and ALAE Ratio
Ratios & Risk Measures	Net Reserve Development to Surplus
Ratios & Risk Measures	Pretax Return on Revenue
Ratios & Risk Measures	Net Investment Income Ratio
Ratios & Risk Measures	Operating Ratio
Ratios & Risk Measures	Net Investment Yield
Ratios & Risk Measures	Total Return on Invested Assets
Ratios & Risk Measures	Gross Written Premium to Surplus
Ratios & Risk Measures	Net Written Premium to Surplus
Ratios & Risk Measures	Net Reserves to Surplus
Ratios & Risk Measures	Reinsurance Recoverables to Surplus
Ratios & Risk Measures	Net Leverage Ratio
Ratios & Risk Measures	Ceded Leverage Ratio
Ratios & Risk Measures	Gross Leverage Ratio
Ratios & Risk Measures	Business Retention
Ratios & Risk Measures	Premium Risk (Underwriting) Prior AY
Ratios & Risk Measures	Premium Risk (Underwriting) Current AY
Ratios & Risk Measures	Premium Risk (Underwriting) Total
Ratios & Risk Measures	Market Risk
Ratios & Risk Measures	Credit Default Risk
Ratios & Risk Measures	Total Risk
Ratios & Risk Measures	Year End Asset Adequacy Ratio
BCAR Results	BCAR Net Required Capital
BCAR Results	BCAR Adjusted Surplus
BCAR Results	BCAR

## **About Guy Carpenter**

Guy Carpenter & Company, LLC is the world's leading risk and reinsurance specialist and a part of the Marsh & McLennan Companies. With 50 offices worldwide, Guy Carpenter creates and executes reinsurance solutions and makes available capital market solutions\* for clients across the globe. The firm's full breadth of services includes line of business expertise in Agriculture; Aviation; Casualty Clash; Construction All Risk and Engineering All Risk; Excess and Umbrella; Life, Accident and Health; Marine; Medical; Political Risk and Trade Credit; Professional Liability; Property; Retrocessional; Surety; Terrorism and Workers Compensation. GCFac®, our dedicated global facultative reinsurance unit, provides the placement strategies, information and timely market access that are critical to obtaining strategic facultative reinsurance. In addition, Guy Carpenter's InStrat® unit utilizes industry-leading quantitative skills and modeling tools that optimize the reinsurance decision-making process and help make the firm's clients more successful. Guy Carpenter's website address is [www.guycarp.com](http://www.guycarp.com).

\* Securities or investments, as applicable, are offered in the United States through GC Securities which is a division of MMC Securities Corp., a US registered broker-dealer and member FINRA/SIPC. Main Office: 1166 Avenue of the Americas, New York, NY 10036. Phone: (212) 345-5000. Advice on securities or investments in the European Union is provided through GC Securities Ltd., authorized and regulated in the U.K. by the Financial Services Authority. Reinsurance products are placed through qualified affiliates of Guy Carpenter & Company, LLC. MMC Securities Corp., GC Securities Ltd. and Guy Carpenter & Company, LLC are affiliates owned by Marsh & McLennan Companies. This communication is not intended as an offer to sell or a solicitation of any offer to buy any security, financial instrument, reinsurance or insurance product.

Guy Carpenter & Company, LLC provides this report for general information only. The information contained herein is based on sources we believe reliable, but we do not guarantee its accuracy, and it should be understood to be general insurance/reinsurance information only. Guy Carpenter & Company, LLC makes no representations or warranties, express or implied. The information is not intended to be taken as advice with respect to any individual situation and cannot be relied upon as such.

Readers are cautioned not to place undue reliance on any historical, current or forward-looking statements. Guy Carpenter & Company, LLC undertakes no obligation to update or revise publicly any historical, current or forward-looking statements, whether as a result of new information, research, future events or otherwise.

Guy Carpenter Briefing

© 2008 Guy Carpenter & Company LLC