

# AMERICAN INTERNATIONAL GROUP, INC. ECONOMIC CAPITAL MODELING INITIATIVE

August 2007 Update



## INTRODUCTION

AIG has made significant progress to date on its economic capital modeling initiative and is beginning to incorporate the results into AIG's decision-making processes. This summary describes AIG's economic capital model and addresses the following questions:

- I. What is economic capital?
- II. Why is AIG implementing an economic capital model?
- III. What is the current status and plan for 2007?
- IV. What are the key challenges?
- V. What are the initial results?
- VI. What are the alternatives for utilizing excess capital?
- VII. How do the rating agencies view economic capital?

This update incorporates the progress made by AIG on its economic capital modeling initiative since its May 2007 communication. AIG's major progress includes the following:

- Computed firm-wide economic capital results, using year-end 2006 financial data and certain enhanced methodologies, which confirm the excess capital position disclosed in the March 2007 communication;
- Continued assessment of capital mobility through the organization;
- Initiated a dedicated project to incorporate economic capital considerations into AIG's risk retention and reinsurance purchasing strategies;
- Reviewed and recommended appropriate risk management strategies for a number of new product proposals from Life Insurance & Retirement Services, using economic capital modeling technology;
- Continued substantive discussions with rating agencies concerning AIG's enterprise risk management practices and economic capital modeling initiative;
- Addressed ongoing model enhancements within the technical working group; and
- Engaged a team of external experts to perform an independent review of the economic capital model.

#### I. WHAT IS ECONOMIC CAPITAL?

Economic capital is an assessment of the equity capital required to cover potential, unexpected losses within a target confidence level and timeframe. To be consistent with a strong and stable AA target rating, AIG's economic capital estimates are calculated at a 99.95 percent confidence level and a one-year time horizon. AIG has modeled five major risk categories that are consistent with financial services industry best practices -- property & casualty insurance risk, life insurance risk, market risk, credit risk and operational risk. Required economic capital is compared with available economic capital, defined as the difference between the economic value of AIG's assets and the economic value of AIG's liabilities, in each case across all of AIG's segments.

#### II. WHY IS AIG IMPLEMENTING AN ECONOMIC CAPITAL MODEL?

AIG's new economic capital model will be an important decision-making tool throughout the organization and will refine AIG's view of capital adequacy at multiple levels of the business, e.g., consolidated, business segment and major profit center level. It will provide a consistent and comprehensive framework to discuss capital and performance on a risk-adjusted basis internally

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within AIG and externally with the investment community, credit providers, rating agencies and regulators.

Management will be able to apply the economic capital model and its results to a number of areas. AIG will be better able to assess the relative economic value added by a business, product or transaction to AIG as a whole by comparing risk-adjusted returns to the related cost of capital. Capital efficiency will be measured more accurately with risk-adjusted returns for existing and new businesses. The benefits of portfolio diversification will be quantified and assessed across businesses, risk categories, and geographies. Following are some of AIG's planned applications for economic capital.

- Business Performance: Analysis of operating performance on a risk-adjusted basis using consistent measures across segments.
- Capital and Asset Allocation: Quantitative tool to optimize asset allocation within AIG's global
  investment portfolio and allocate capital to businesses providing the most attractive riskadjusted returns.
- Capital Management: Methodology for optimizing AIG's capital structure and lowering the cost of capital, in part through utilization of capital markets to leverage AIG's capital base more efficiently.
- *Mergers and Acquisitions*: Quantitative inputs into decision-making related to mergers, acquisitions, divestitures and strategic investments.
- *Risk Management*: Approach to analyze economic risks and benefits of investment strategies and risk mitigation through reinsurance and hedging programs.
- Cost of Regulation and Ratings: Framework for analyzing the cost of maintaining capital to meet rating agency and regulatory standards for capital required to be held in excess of the economic capital required to support AIG's risk profile.
- *Product Development*: Detailed approach to develop and price products to meet market demand and to maximize economic returns on a risk-adjusted basis.
- *Management Compensation*: Framework to incorporate the importance of maximizing risk-adjusted returns into management compensation programs.

AIG's new economic capital model has augmented a review of certain specific business issues and development of new business strategies. For example, economic capital analysis is being increasingly incorporated into the assessment phase for mergers, acquisitions and divestures. In the reinsurance area, economic capital considerations are being embedded to develop optimal risk retention and reinsurance strategies. In the Asset Management segment, enhanced funding and investment strategies for AIG's new Matched Investment Program have been developed. In the Life Insurance & Retirement Services segment, new modeling capabilities have been developed for product development, pricing and hedging strategies for living benefits in the variable annuity business. For life insurance products in Asian markets, an enhanced asset-liability management strategy is being developed and implemented for long duration liability structures and low interest rate environments in certain markets.

# III. WHAT IS THE CURRENT STATUS AND PLAN FOR 2007?

Since mid-2005, AIG has been developing a firm-wide economic capital model that incorporates financial services industry best practices, maintains consistency with regulatory frameworks and reflects AIG's distinct global businesses. Utilizing stochastic simulation techniques, where appropriate, AIG has enhanced its existing models and developed new models working collaboratively with business executives, actuaries, accountants and risk professionals.

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During 2006, AIG produced initial results for required economic capital at the consolidated, business segment and major profit center levels, using year-end 2005 financial data. AIG also carried out detailed analyses for selected businesses and products where economic capital results were applied for decision-making.

Throughout 2007, AIG continues to enhance the methodology and provide further assurance regarding the completeness of the economic capital results and the relevance of the model's results in driving business decisions. AIG has established a dedicated internal technical working group representing key competencies and business units across the organization to review and address ongoing methodology enhancements to the economic capital model. AIG recently completed its analysis of firm-wide economic capital requirements using year-end 2006 financial data and certain enhanced methodologies. AIG is in the process of calculating mid-year 2007 results and plans to calculate year-end 2007 results (in early 2008), employing further enhancements in its methodologies. These calculations are expected to provide further evidence of the robustness and accuracy of economic capital results and the level of potential excess capital within AIG. In addition, AIG has engaged a team of external experts to perform an independent review of the appropriateness and adequacy of the model, as well as the robustness of the operational processes. AIG expects to incorporate the economic capital model and its results more fully into decision-making processes throughout the organization over the next few years.

#### IV. WHAT ARE THE KEY CHALLENGES?

Developing a consistent and comprehensive model for a global organization like AIG involves a number of challenges related to model consistency, data requirements and assumptions and organizational communication.

- Model Consistency: Substantial internal discussion, external assistance and model prototyping
  will continue to be required to ensure a consistent methodology for AIG's different lines of
  business which have very different risk profiles. Model consistency is a pre-requisite for
  aggregation across different lines of business.
- Data Requirements and Assumptions: Since economic capital modeling involves estimating unexpected losses at a very high confidence level, AIG has expended and will continue to expend significant effort in gathering available data and developing assumptions and parameters to support simulation-based modeling.
- Organizational Communication: A considerable amount of time and effort will continue to be spent communicating the terminology, purpose, approach and initial results at various levels of the organization around the world. Incorporating this enhanced decision making tool into the organization world-wide will take time to achieve.

While these challenges have influenced the pace of work, efforts to address them have been incorporated into AIG's implementation plan.

## V. WHAT ARE THE INITIAL RESULTS?

The initial results based upon year-end 2005 financial data supported management's view of AIG's overall capital strength and excess capital position. Excess capital is defined as the surplus of available economic capital over required economic capital. Analysis of AIG's firm-wide economic capital requirements using year-end 2006 financial data and certain enhanced methodologies affirms that at year-end 2006, on a conservative basis, AIG had excess capital in the range of \$15 billion to \$20 billion, as AIG has previously disclosed. Furthermore, year-end 2006 results reinforce management's view that AIG continues to generate excess capital as a result of its profitable diversified and global operations.

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AIG derives significant benefits from its diversification across its lines of business, risk categories and geographies. Diversification benefits significantly reduce required economic capital and, thus, increase AIG's estimate of excess capital. AIG measures its diversification benefits across its different business segments (General Insurance, Life Insurance & Retirement Services, Financial Services, and Asset Management) and across risk categories (property & casualty insurance, life insurance, credit, market, and operational risks).

- *Inter-segment diversification* is the difference between the required economic capital for AIG on a consolidated basis and the sum of the respective required economic capital amounts for the business segments if they were standalone entities. This diversification derives from different business segments having different risk profiles suggesting that their extreme-case losses will not occur simultaneously.
- Inter-risk diversification arises due to the fact that correlations are imperfect among different risk categories, such as insurance, credit and market risks. For example, it is highly unlikely that an extreme-case loss from insurance risk would occur simultaneously with an extreme-case loss in the investment portfolio. Inter-risk diversification exists within a business segment and for AIG as a whole.

Initial results indicate that both inter-risk diversification and inter-segment diversification are significant for AIG. Specifically, AIG identified two key inter-segment diversification benefits: (i) diversification between property & casualty insurance risks and life insurance risks and (ii) market risk reduction due to the offsetting asset-liability duration profiles of the Life Insurance & Retirement Services segment versus those of other business segments.

## VI. WHAT ARE THE ALTERNATIVES FOR UTILIZING EXCESS CAPITAL?

As a result of the need to meet rating agency and local regulatory requirements, not all of the estimated excess capital in the business units is readily available to be re-deployed or distributed. For example, largely as a result of regulatory restrictions, approximately 90 percent of consolidated shareholders' equity was restricted from immediate transfer to AIG parent at December 31, 2006. In addition, various frictional costs, such as taxes, may be incurred when moving excess capital from one jurisdiction or legal entity to another. Efforts have been undertaken to analyze capital mobility throughout the organization. Over time, these analyses, combined with efforts to increase the awareness of both rating agencies and regulators of the merits and efficacy of AIG's new economic capital model and the significant effect of portfolio diversification, may allow additional flexibility concerning the mobility of excess capital. These issues will be addressed within AIG's broader capital management strategy. Based upon the updated economic capital results and continuing analysis of the factors described above, AIG will consider a number of alternatives to utilize excess capital:

- Growth Initiatives: AIG will evaluate utilizing its strong capital position to pursue business
  opportunities yielding attractive risk-adjusted returns by providing new products, more
  capacity, higher risk retention and richer product features.
- Mergers, Acquisitions or New Business Opportunities: AIG will evaluate opportunities in mergers and acquisitions or new businesses that provide competitive advantages and generate risk-adjusted returns above AIG's cost of capital.
- Stock Repurchases and Dividends: AIG will consider returning excess capital to shareholders through share repurchases and/or increases in shareholder dividends.



#### VII. HOW DO THE RATING AGENCIES VIEW ECONOMIC CAPITAL?

AIG's overall business is highly dependent on ratings from the major rating agencies. AIG began reviewing its economic capital modeling methodology with the agencies in the latter part of 2006. During the first quarter of 2007, AIG completed a first round of substantive conversations concerning its economic capital initiative with four major rating agencies. AIG's presentations were well received, and AIG believes they have formed a solid foundation for further discussions with them concerning the breath and depth of its economic capital modeling initiative and management's commitment to use the results increasingly in its decision-making. As AIG continues to enhance its models and incorporate the results of the independent review, AIG will continue discussions with the rating agencies concerning its enterprise risk management processes, economic capital methodologies and its model results for their consideration in the rating process.

Each agency has its own method of evaluating capital which is in varying stages of development. The agencies are also developing frameworks for evaluating individual companies' economic capital modeling and the strength of their enterprise risk management practices. AIG's estimate of excess capital incorporates diversification benefits across its many businesses, products and geographies. AIG intends to emphasize this aspect of economic capital modeling in future discussions with the rating agencies given that their current models vary regarding the extent to which diversification benefits are incorporated. It is not clear when or to what extent the rating agencies will rely more significantly on AIG's economic capital model as a supplement to their own proprietary capital models.

## **CONCLUSION**

AIG will need to balance (i) capital requirements to support the growth of existing and new businesses which meet AIG's risk-adjusted return expectations, (ii) market demands to return capital to shareholders, and (iii) regulatory and rating agency capital requirements. Balancing near-term and future opportunities will always require AIG to maintain capital in excess of that required to support its growth initiatives and target risk level.

Increasingly, AIG will use the results of the economic capital model as an effective tool in managing the competing demands for capital, optimizing risk-adjusted returns for AIG's investors and maintaining the capital strength required to support AIG's businesses and future growth opportunities.