Generator of Economic Scenarios (GOES) (E/A) Subgroup

Equity-Treasury Linkage Background and Review of Relevant 2023 Fall National Meeting Comments

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NAIC NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

Equity-Treasury Linkage Background

- In GEMS® there is a functional linkage between the Overnight Treasury Yield and the drift factor for the equity fund price. Therefore, the expected equity fund total returns will rise and fall with changes to the starting short maturity interest rate levels.
- This is a departure from the currently prescribed Academy Interest Rate Generator (AIRG) that does not have this functional equity-Treasury linkage.
- It is difficult to see strong relationships between equities and Treasuries because the equity market is so volatile. However, investors typically demand equity returns in excess of those offered by risk-free assets to compensate for bearing risk.

American Council of Life Insurers

ACLI is concerned about the equity returns currently being produced by the Generator. First and foremost, interest-equity linkages, namely the equity risk premium and the interest-equity correlation assumptions, should only be implemented when there is statistically significant historical evidence that supports such modeling assumptions. **We believe the historical data suggests such linkages are not statistically significant.** The inclusion of interest-equity linkage serves to increase the complexity of the model without any corresponding benefit. Further, we believe that robust low rate and low equity scenarios may be achieved without modeled linkage. **Adjusting equity parameters to stabilize long-term equity return in a changing rate environment is not an appropriate solution.**

Second, inappropriate relationships in the Generator could lead to counterintuitive results: the interest-equity linkage could potentially lead to an excess requirement for capital in an extreme conditions or down markets; the capital the insurer had built up to that point should be the necessary cushion rather than requiring the company to inject additional capital. Additionally, **inappropriate relationships could lead to significant variance in reserves and capital, which impairs a company's ability to practice sound asset liability management and other risk management activities and for regulators to adequately assess the strength of the companies under their authority.**

Note: Bolded emphasis from NAIC Staff

Equitable

Equitable supports a structural linkage between interest rates and equity returns via an equity risk premium.

Conceptually, the constant equity risk premium (ERP) approach, as utilized in the GEMS model, reflects the fact that a rational investor would demand expected equity returns in excess of those offered by risk-free assets to compensate for bearing such risk. A phenomenon where variations in risk free interest rates create highly varied, and at times even negative, equity risk premia. This result is a "real world" model that inarguably fails "real world" common-sense investor principles.

Historically, we analyzed the relationship between interest rate and equity returns based on the 20-year UST rate and the S&P 500 index return, and the analysis indicated a positive relationship between the two. Exhibit A below shows the historical 20-year US treasury rates and the annualized 20-year return of the S&P index in the following 20year period. We note that, in performing analysis regarding the relationship of interest rates and equities, it is important to look at the relationship between interest rates and future equity returns, not short-term relationships, as the valuation of insurance liabilities requires long-term projections. The data clearly evidences a high correlation between current interest rates and future equity returns. This is strongly supportive of a positive relationship between interest rates and equities as in the proposed Conning scenarios, as evidenced in Exhibit B, which shows a positive correlation between the average UST 20year rates and 20-year projected cumulative Large Cap returns based on field test Scenario 1A (orange line). This is not existent under current AIRG model (black line). ***[Note: See attached comment letter for exhibit]***

Note: Bolded emphasis from NAIC Staff

Nationwide

We would like to reiterate that no material deficiencies have been identified with the current Academy equity model. As such, maintaining consistency with the current equity model would be beneficial in understanding impacts to reserve and capital and avoiding unjustified movements. We are in favor of more complete equity acceptance criteria being defined with consistency to the current equity model along with satisfying the stylized facts defined.

Note: Bolded emphasis from NAIC Staff

Steve Strommen

I applaud continued use of the existing calibration criteria.

I would note that the criteria do not depend on starting conditions such as the starting level of interest rates. This is an important decision, because the model Conning put forward does produce scenario sets that depend very strongly on the stating level of interest rates.

Note: Bolded emphasis from NAIC Staff