Clarifying Uncertainty

by Stephen P. D'Arcy

Actuaries need to play a vital role throughout the entire Own Risk Solvency Assessment (ORSA) process. Actuarial involvement should begin when the firm starts to make decisions about what tools to develop to assess its solvency appropriately, continue through the model building and testing stage, and culminate with the interpretation of the output from this process. During the initial and interim steps, actuaries will be working with accounting, finance, management information systems, underwriting and other areas to develop and test assessment tools. However, actuaries should assume full responsibility for interpreting the output, as this will require clarifying uncertainty, an area in which the actuarial profession is uniquely qualified. The ORSA approach will succeed only if its stakeholders—board members, employees, investors, policyholders, regulators and the public—understand the risks the firm is taking.

Standardization of reporting is an important factor in the success of ORSA. If firms are free to report the data in whatever manner they choose, a bewildering array of reports will be produced; and comparisons among firms, or even for one firm over time, will be impossible. Accountability is another key element. The person certifying the reports needs to be accountable for the validity of the information. This presents a significant challenge, as the relevant information is not a single verifiable value. Measuring uncertainty is very different from measuring such items as premiums, assets or other values that can be confirmed by totaling individual components. When dealing with uncertainty, there must be professional standards that define the obligations of the person certifying any reports, and these standards should reflect the complexity of the process.

Given the importance of the ORSA reports, the need for verification of the results, and the challenges that go into evaluating the validity of the reported values, what, then, should the required reports include? The following prospective information should be publicly reported annually for any firm under ORSA:

1. Projected 25th percentile, median and 75th percentile values of net income for the firm over the next year.
2. Probability of the firm incurring a loss (negative net income) over the next year.
3. Probability of the firm's surplus falling below regulatory minimum values based on risk-based capital or other established standard within the next year (financial impairment).
4. Probability of the firm's surplus falling to zero over the next year (insolvency).
5. Firm's ending surplus based on the 1/1000 outcome (0.1 percent) over the next year.
6. Narrative report explaining the results of the ORSA process, the above listed measures, and any relevant situations that are not included in the model (e.g., the breakup of the euro).
7. Name and professional qualifications of the person certifying these values.

In addition, in order to readily assess the validity of the reporting process, a retrospective evaluation needs to be included in the ORSA report. Each firm should report the net income for the current year in terms of the percentile value of actual results compared to projected results using the process that was in place for the preceding year. For example, if the actual results were exactly the median value projected in the ORSA report the prior year, then this value would be 50 percent. If the results were below the median value and only 10 percent of the prior year's projected results indicated a lower net income, this value would be 10 percent. In addition, the name of the person certifying the prior year's re-

port should be included. This information should be repeated in subsequent years' reports until a history of 10 years is included. When this decade of data is available, it will be relatively easy for stakeholders to assess the validity of the firm's ORSA reporting process. The retrospective percentile values should be distributed around 50 percent, with only occasional large deviations from the median.

When this retrospective report is available, stakeholders will be able to assess the past performance of an individual based on all the firms for which that person has certified the ORSA reports. They can then use this information to determine the confidence they place in current reports from that individual. For example, if one individual has a consistent pattern of low retrospective percentile values, then regulators may focus attention on firms for which that person has certified reports. This would provide an early warning signal for regulators that would allow them to allocate resources efficiently. Conversely, investors may place a market premium on a firm that relies on an individual with a record of retrospective percentile values around or above 50 percent to certify its ORSA reports. In addition, the professional association of the person certifying the reports will be able to review that individual's performance to determine if an investigation is warranted that could lead to counseling or discipline.

When ORSA is initially introduced, there will be no historical reports to use as a validity gauge. A firm might apply the current model to the prior year's data to generate the distribution needed to determine the retrospective percentile for the last year. This could be a useful approach to provide some assurance that the current process is reasonable, but this approach should not be used for the retrospective percentiles. The retrospective reports need to be based on the approach actually used each year to project the next year's results. The approach used to generate these values each year will change as firms improve the process and modify input parameters. However, those certifying the results need to produce the retrospective percentile based on the projections actually made each year in order for the process to be accountable.

In addition to the single year reports suggested here, firms may choose to project results for additional years. This information, which may be useful, should not be used as the basis for the standard prospective and retrospective reports. For one, the uncertainty involved in modeling future results increases dramatically the more distant the time frame projected. Second, the further in the future that is projected, the longer it takes to assess the results. Therefore, the standard reports should focus on a single year.

One drawback of the single year projection is the timing involved in generating the reports, having regulators review them and then, if needed, acting on them in time to have a useful effect. If the following time frame is used, this should minimize this problem:

1. Firms should be able to produce the projections for the following year no later than Dec. 1 of the preceding year, giving the individuals providing the certifications at least three months to review and request modifications, if needed.
2. Firms should have the actual net income for the preceding year by Feb. 15 of the current year. This value simply needs to be measured against the projected results produced one year earlier to generate the retrospective percentile.
3. Final reports would be submitted by March 1 of the current year, which is the current National Association of Insurance Commissioners (NAIC) filing requirement for annual financial statements.

4. If it would take too long to review the financial data submitted by all firms to determine which situations merit immediate attention, there could be a requirement that firms provide a special report to their home regulator if certain conditions are met, such as the probability of financial impairment exceeding 20 percent or the probability of insolvency exceeding 5 percent. These reports could also be due on March 1.

The actuary's key role in the ORSA process should be to quantify the uncertainty surrounding the future financial results of the firm. Actuaries have the skills needed to perform such a task. By providing relevant standardized reports that clarify the uncertainty in terms easily understood by all stakeholders, the actuary will provide an essential element in the ORSA process. Holding the individual performing the certification accountable to the professional standards underlying this role will create both an incentive to perform this task in line with these standards and a lever to withstand pressure from others to relax these standards for short-term gain. The result will be to enhance the financial security of the insurance industry at a time when all financial institutions are facing stakeholders skeptical about their financial condition.

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