SOCIETY OF ACTUARIES

Article from:

International Section News

February 2004 – Issue No. 32

Mexico News for Q2, 2004

Dynamic Solvency Testing Has Arrived in Mexico

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Circular S-20.12 (Dynamic Solvency Testing) was published in the Diario Official (official publication by the CNSF, the Mexican insurance Commissioner), on May 11, 2004, making its content official regulation. All Mexican Insurance companies must test their current and projected surplus positions in relation to the minimum required capital using a set of scenarios (described below). Note that this regulation applies for both life and non-life operations. For the purpose of this article, the insurance company is referenced as the insurer.

An English summary of this new regulation follows as is described in the May 11, 2004 publication by the CNSF:

I. Definitions
1. Dynamic Solvency Testing—evaluation of the sufficiency of capital with respect to the minimum required capital levels, under a series of scenarios.
2. Financial Condition on a certain date—the ability to meet liabilities and contractual obligations.
3. Financial Position on a certain date—the financial state of the company's assets, liabilities and capital.
4. Scenarios—the consistent set of assumptions that reflect reasonable tendencies of the various variables that effect the insurance operations.

II. Solvency Tests
1. Recent and Actual Financial Information —Insurance companies are required to use at least three years of historical information [for assumption development]. If no history is available, companies are allowed to use market information.
2. Dynamic Solvency Evaluation
   a) Insurer must test the impact of the scenarios in relation to the required minimum capital levels.
   b) The objective of the tests are to identify:
      i. Possible risks that could affect the insurer's financial condition.
      ii. The actions the insurer should take to reduce the probability that these risks materialize, and
      iii. The actions the insurer must take in case the adverse risks materialize.
   c) The objective of solvency evaluation is to identify risks detected by the insurer that could have an impact on financial results and formulate preventive actions accordingly.
3. Satisfactory Financial Condition is achieved, if throughout the projection period:
   a) The insurer is able to meet all its future obligations, under the baseline scenario as well as under the adverse scenarios tested.
   b) The insurer, under the baseline scenario, is able to meet the minimum capital requirement levels.
4. Projection Period – Should start with the most recent financial balance sheet at the start of the evaluation date. The projection period must be sufficiently long to capture all adverse effects and for management to react to these risks. For the life insurance business, the minimum projection period is five years. For the non-life insurance business, the minimum projection period is two years.
5. Scenarios—The insurer should include a baseline scenario, at least three adverse scenarios, an integrated scenario, and the statutory scenarios, the latter are prescribed by the CNSF. Each scenario must take into account:
   a) The policies in force as well as the policies expected to be sold during the projection period [note: later on this document, it calls for filing of expected sales for the next five years, so it is unclear as to how many years of new business should be included],.
   b) Other current or future complemen tary operations that may impact the insurer's minimum capital requirement levels.
6. Baseline Scenario—Is defined as a realistic set of assumptions to be used during the projection period. It should be consistent with the insurer's business plan. If the assumptions are not consistent with those used in the business plan, the actuary must point this out in his/her dynamic solvency report.
7. Adverse Scenarios—Must be feasible and which could have an adverse effect on the insurer's financial condition. The insurer may change the underlying adverse scenarios over time as experience unfolds or requires adjustments accordingly.
   a) The actuary responsible for the solvency testing must select the scenarios. At least three scenarios

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should be defined which incorporate the most significant risks. These scenarios must be described and included in the dynamic solvency report that must be submitted to the insurer's board of directors.

b) For the life insurance business, the adverse scenarios used in the dynamic solvency testing must consider the following risks:
   i. Mortality
   ii. Morbidity
   iii. Interest rates
   iv. Persistency
   v. Asset and liability matching
   vi. Decrease in asset values
   vii. New business
   viii. Acquisition and maintenance expenses
   ix. Reinsurance
   x. Statutory requirements, and
   xi. Other risks [to yet be clarified by the CNSF, but the circular wording seems to imply information that could result in future inflows or outflows].

c) For the non-life insurance business [P&C and health], the adverse scenarios used in the dynamic solvency testing must consider the following risks:
   i. Frequency and severity
   ii. Morbidity
   iii. Rate making
   iv. Reserve deficiencies
   v. Inflation applicable to each line of business
   vi. Interest rates
   vii. Premium volumes
   viii. Acquisition and maintenance expenses
   ix. Reinsurance
   x. Decrease in asset values
   xi. Statutory requirements, and
   xii. Other risks [to yet be clarified by the CNSF, but the circular wording seems to imply information that could result in future inflows or outflows.]

d) To determine if a risk is relevant and feasible, sensitivity tests must be performed for each risk class, analyzing its impact on the sufficiency of capital. The actuary must determine the level of variations of these risks considered in the baseline scenario and those that impact the financial condition. The actuary must judge if the risks are relevant for the projection period.

8. Integrated Scenarios
   a) In some cases the adverse scenarios may be associated with a low probability of occurring [and presumably low impact or severity on the financial condition of the insurer]. In these cases, it is not necessary to construct integrated scenarios that combine two or more adverse scenarios.
   b) In other cases, the probability associated with a scenario may be close to that of the baseline scenario. In these cases, an integrated scenario should be developed that combines the adverse scenarios with the highest probabilities, with an adverse scenario of low probability. The adverse scenario selected that has a low probability should be the one that has the most financial impact for the insurer and that can be combined with the adverse scenario described above.

9. Statutory Scenarios—Are defined as scenarios composed of a combination of assumptions that could impact the financial conditions of an insurance company in the Mexican market. These scenarios will be determined by the Insurance Commissioner's office (CNSF) and will consider the evolution of the insurance industry as well as the economic conditions of the country. These scenarios will be communicated annually in official regulatory releases.

10. Correlation Effects
   a) To ensure the consistency within each scenario previously described above, the actuary must consider the correlation among the selected assumptions. Although the selected assumptions may be appropriate, they may require adjustments due to correlation effects.
   b) The correlation effects should include the effects of statutory requirements [one example would be statutory investment requirements], as well as policyholder behavior, especially if the adverse scenarios are such that the insurer is unable to meet the minimum required capital levels.
   c) The correlation effects should also incorporate the insurer's reaction ability when facing an adverse situation. The reactive actions should include:
      i. The efficiency of the insurer's management information systems
      ii. The disposition the insurer has demonstrated in the past when making difficult decisions under adverse conditions, and
      iii. The external circumstances that are assumed in the scenario.

11. Scope of the Dynamic Solvency Tests and the Appointed Actuary's Report
   a) The actuary's report must include the baseline and adverse scenarios tested

as well as comments related to each identified risk.

b) The report must also contain the statutory scenarios as well as those scenarios where the insurer fails to meet the minimum required capital levels. The report should advise the board that additional capital infusions may be required, should the adverse assumptions materialize [and presumably the ranges of capital infusions required under each failed scenario]. The report should also include alternative ways of reducing the risk such as obtaining more reinsurance coverage or reducing future sales

c) The results for each scenario included in the report should not include the effect of extraordinary actions taken by the insurer or the regulatory authorities.

d) In case of adverse scenarios, the report should indicate the actions required by the insurer to mitigate the risks.

e) The report should include the results for each projection period by scenario. Results are: gains and losses by line of business, the required capital, balance sheet and solvency margin.

f) Extraordinary Test—In case an extraordinary event takes place following the last solvency report and the event is such that it could have a material impact on solvency, then the actuary is compelled to perform an extraordinary test and file a new report. The actuary should not wait until the annual report is due to perform this test.

g) The dynamic solvency testing and report are the responsibility of a licensed actuary and should be carried out according to the following guidelines:

1. The test must be performed annually after closing of the financial statements.
2. The actuary must research and identify the main factors affecting solvency, perform the analysis and file a report.
3. The CEO and actuary must present the actuary's report to the board of directors during the first six months of the following year.
4. If an extraordinary test is performed, the CEO and actuary must also present this report to the board of directors.
5. The actuary's report must include an actuarial opinion with language similar to that of the actuarial opinion in the United States. (not included here, but it is included in the CNSF's circular).
6. The statutory scenarios provided by the commissioner's office will be available 45 days after the year-end closing.
7. The actuary's report containing the results of the statutory scenarios must be submitted to the commissioner's office by July 31 of the following year.
8. The following information must be filed with the commissioner's office by March 31 of each year. Note: The insurer should mark which information is deemed confidential, otherwise it may be deemed as public information:
   1. The anticipated annual premium sales for the next five years by line of busi ness and within each line of business, split by type of insurance coverage for P&C and health, and type of insurance for life (individual, group and collective).
   2. Same as item 1 above, but for retained premiums.
   3. Same as item 1 above, but for acquisition expenses.
   4. Same as item 1 above, but for operating expenses.
   5. Same as item 1 above, but for expected claims ratios.
   6. The anticipated structure of the asset portfolio for the next five years. Transition Rules The insurer must perform its first test using 2004 year-end information. The results and actuary's report must be filed by July 31, 2005. The insurer must submit its first set of information as outlined in item VII above by September 30, 2004.

Author's Note: This new regulation has prompted the formation of a working group by actuaries of several companies. The objective of this group is to evaluate the contents of this regulation for discussion with the CNSF in order to clarify several items that are unclear or are open for interpretation.

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