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An Important Matter Related to Combination Life/LTC Insurance Products

By Bruce Stahl, Elizabeth Dinc and Brian Kelly

A Monday morning quarterback would most likely insist that long-term care insurance carriers should have held more capital in the 1990s. Fast forward: could the same be true for today's combination life/LTC insurers?

In 2012, Milliman Inc. prepared a study for the Society of Actuaries (SOA) Long Term Care Insurance Section and the ILTCI Conference Association. The study sought to quantify the internal natural hedge of combination life/LTCI and annuity/LTCI products.

Three types of plans were compared—standalone LTCI, life with LTC riders, and annuities with LTC riders—for issue ages 55, 65, and 75, over a maximum benefit period of six years. The combination plans incorporated both acceleration of benefits (AB) and extension of benefit (EOB) riders. Both assumed a 5 percent compound inflation option. A handful of sensitivities were assumed to quantify the value of the natural hedge.

Statutory returns and after-tax profits for each type of plan were examined and quantified for two scenarios: a two-year AB providing approximately 4 percent of the face value per month with a four-year EOB, and a three-year AB with a three-year EOB. The study did not measure the value of the AB separately from that of the EOB. Comparing the two options advanced the notion that the natural hedge may favor the acceleration benefit, as the natural hedge in the 3-year/3-year scenario, where the acceleration benefit comprised a larger component of the total LTC benefit, turned out to be the stronger one.

A CLOSER LOOK

We thought that separately measuring the AB and EOB risks by using a principles-based economic capital (PBEC) approach might increase our understanding of the financial risks of life/LTC combination policies.

Our analysis tested three scenarios: mortality alone, mortality with AB, and EOB alone; using the following assumptions:

1. **Type of policy:** Single premium life policy.

2. **Age at issue:** Age 60.

3. **Marital status:** 60 percent were married with a reasonably healthy spouse, and 40 percent were either not married or did not have a reasonably healthy spouse. ("Reasonably healthy spouse" was defined as one who can apply for LTC coverage and would be accepted.)

4. **Automatic increasing benefit features:** No increasing daily and lifetime maximums.

5. **Benefit periods (lifetime maximum):** The AB and EOB were assumed to pay out at the maximum permitted per month in all months. Many combination policies assume the AB can be up to either 2 percent or 4 percent of the face. The AB period was assumed at 50 months for up to 2 percent of the face and 25 months for up to 4 percent. The EOB period was assumed at six additional years.

6. **Utilization:** Utilization was assumed at 100 percent.

7. **LTC incidence (claims) rates:** Because policyholders are generally assumed to want to preserve their life policy's death benefit, we used incidence rates that were lower than standalone LTCI incidence rates. We assumed that average

AB claimants tend to enter claim status at a later point of disability than the average traditional LTCI claimant, trying to preserve the death benefit. While still applying lower incidence rates for policyholders with an EOB, we assumed the incidence rates were not as low as those with an AB alone. These policyholders may not be as inclined to preserve the death benefit, as doing so would mean forgoing the EOB.

8. **Recoveries:** All claim terminations were assumed to be due to death, as combination policy claimants are generally less likely to recover their health due to their delay in entering initial claims.

9. **Active life mortality:** Various multiples of the 2000 Annuity Table were used, depending on the policyholder's sex and the policy duration, in line with mortality assumptions generally used for traditional standalone LTC.

10. **Disabled life mortality:** This assumption was set significantly higher than the active-life mortality assumption and was in line with assumptions generally used for traditional standalone LTCI.

11. **Lapse rate:** Buyers were purchasing a combination life product to plan for potential LTC needs, so no one was assumed to have borrowed from the policy or to have used its non-forfeiture benefits.

12. **Claims administration expense:** 4 percent of paid claims, inflating 3 percent per year from inception.

13. **Death benefits:** These equaled the policy face amount minus any claims paid.

14. **Interest rates:** Present value calculations assumed the same interest rate expectations for all stochastic runs.

We stochastically measured the required PBEC for the death benefit alone, for the AB with the death benefit, and for the EOB alone.

We found that the PBEC amount needed for both the morbidity and mortality components of the AB was smaller than what would have been needed for the mortality component alone. This is not to say the AB had no value, as the median scenario with AB and mortality had higher present value of future cash flow amounts than did that scenario with mortality alone. Yet the difference between the present value of cash flows for the extreme scenario we selected for the PBEC calculation and the median scenarios was smaller for the policy with the AB than for the standalone life policy without LTC benefits.

In contrast, the morbidity risk component of the EOB alone showed a very large difference between the value of the selected extreme scenario and that of the median scenario. This difference was due to two facts: no other benefits are reduced when the EOB payments are being made, and there is no ability to increase premium rates. Essentially, this rider's risk behaves like that of a traditional standalone LTC policy, but with a very lengthy elimination period and guaranteed premium rates. Extended benefits have no natural hedge with other benefits.

Our analysis suggests that at a minimum, quantifying capital requirements for combination life/LTC products would help manage the risk associated with having EOB riders. Further analysis is needed, including measurement of a range of additional risks and diversification across risks. An analysis of asset and interest rate risks could also be quite beneficial, but how important those two risks might be would depend on policy structure as well as any reinsurance protection. ■

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