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Long-Term Care: Hedging Your Bet

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The demographics are there. The need is there. The products are there. So why haven't the sales of long-term care (LTC) products exploded?

The answer to this question is multi-faceted and complex. It includes at least the following:

- The need isn't always recognized ("Medicare or Medicaid will pay." "It won't happen to me," etc.).
- The products are complex and there may be so many options that consumers suffer from "analysis paralysis."
- The companies selling the product have suffered from some instability, in that the players have changed—many have exited—and rate increases have been fairly frequent and often large.

The long-term care product and its administration are complex. Being in the LTC business requires expert knowledge, commitment and understanding of the risks, and a willingness to "gut it out."

Are there tools that can be used to help companies deal with the riskiness of the long-term care product line? This article explores the possibility of using innovations from the financial markets to reduce some portion of the LTC risk and thus encourage the growth of the product.

Background

As stated earlier, the demographics, need and product design all indicate that the stars should be aligned for the success of the LTC product line.

Demographics: While long-term care is not exclusively a product for the elderly—and, in fact, recent sales have trended more to pre-retirees—the risk of needing LTC services increases greatly as a person ages. The well-publicized "graying of America" will stretch public dollars that are available for LTC and will result in greater self-reliance for meeting these needs.

Need: While the probability of becoming disabled enough to need LTC services in any given year varies dramatically by age, sex, marital status and other key factors, various attempts have been made to estimate the lifetime probability of someone needing care. A June 2005 report published by the AARP Public Policy Institute (Cohen, Weingrove, Miller, Ingoldsby) estimated the lifetime probability of developing a disability at 44 percent for males and 72 percent for females. However, not everyone who develops a disability will actually receive long-term care services. Both Milliman and the Agency for Healthcare Policy and Research have estimated that 40 to 45 percent of Americans who reach the age of 65 will require some form of LTC services during their remaining lifetimes. Given the high cost of receiving services (estimated to be in excess of $70,000 per year, nationwide, for nursing home care), the cost of funding even a couple of years of care would deplete the assets of the majority of retirees.

Product: The LTC product has evolved significantly over time, from one that paid for nursing home care only, to today's comprehensive products that pay for care in the insured's home or in an assisted living facility, in

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addition to a nursing home. Multiple options are available on elimination periods, benefit periods, services covered and ancillary benefits. Return of premium and nonforfeiture options alleviate a person's concern that he will die before needing LTC services. LTC riders are also available to be attached to life insurance and annuity products. In fact, the products available to cover a person's LTC needs are so many and so varied that many argue that some simplification may be needed.

In spite of all this, it is estimated that only about 7 to 8 percent of eligible people over age 55 own a long-term care policy, and—while total policies and premiums in force have been increasing—the number of new long-term care policies sold have been declining in recent years, but have shown a slight increase in the first half of 2007. What has caused the recent lackluster sales?

One reason is that—while the need for the coverage has been well documented—that need is something that people do not want to think about. There is a general misunderstanding of what the products cover and a denial of the possibility that "it could happen to me." People still tend to think of the policies as "nursing home coverage" and do not want to think of themselves as needing to be in a nursing home. In addition, they often believe that Medicare or Medicaid will cover them, if such a need arises. While it is true that these public programs cover much of the nation's costs of LTC for the elderly today, eligibility for the Medicaid program, especially, comes at great cost to an individual, in that assets must be divested in order to qualify, and coverage is often substandard to what private insurance would purchase.

One other reason for the reduction in sales in recent years is that the number of companies selling the product has been declining. In the early 1990s, about 120 companies were selling LTC. In the most recent Broker's World Long-Term Care Survey (July 2007), only 23 companies submitted products to be included. While the total number selling is higher than this 23, it is nowhere near the 120 from 15 years ago.

There are a number of reasons why companies have entered and left the LTC market. Some companies determined that the product line took more administrative expertise than they could muster. Some suffered losses from morbidity being in excess of what was expected. Almost all companies have determined that their lapse and mortality rates are significantly lower than they anticipated, resulting in more policyholders persisting into the later policy durations, when claims are higher. (Note: premiums for this policy are issue age based, and thus are lapse supported.) The drop in investment earnings rates in recent years has hurt companies on earlier policy generations, since significant liabilities have been established for the issue-age rated structure, and those liabilities are now earning less than expected. All companies have also felt the surplus strain effects of stringent Risk-Based Capital and statutory reserving requirements on the product.

The reinsurance market for LTC has been used in the past to provide some risk relief to companies, but this market has also tightened in recent years.

Key Long-Term Care Risks

There are many factors that affect the profitability of LTC, including age distribution, sex distribution, percent married, benefit options available, proportion of insureds with inflation coverage, discounts offered for preferred risks, expenses, reserve assumptions, margins built in for adverse deviation, etc. However, most LTC actuaries would agree that the three key risks are: 1) morbidity, 2) lapse and mortality and 3) investment earnings.

Because the LTC product is issue-age rated, and because the LTC claim cost slope is very steep, the morbidity cost of the product is heavily back-ended. A new product sold today might have expected loss ratios (ratio of claims incurred to premiums earned) that are less than 10 percent for several years after issue. However, by about the 20th policy year, it is likely that claims paid out will be in excess of the premiums collected. The average payout of claims over the policy's lifetime (on a present value basis, including the effect of terminations) is generally expected to be in the 50–60 percent range.

LTC claims levels have varied fairly significantly from company to company, depending on underwriting, claims practices, etc. The underlying probability distribution and potential statistical variation of LTC claims is largely unknown. However, while the likelihood of a 10 percent variation in morbidity is difficult to determine, it's obvious that such a swing would cause a 6 percent swing in pre-tax profit margins (assuming a 60 percent loss ratio), which would put a significant dent in most companies' profit margins.

The second key risk on LTC is the termination risk, which can be affected by both voluntary lapsation and the mortality of the policyholders. Both have been significantly lower than originally expected. Voluntary lapse rates have approached levels of 1 percent or less, and mortality has been declining. If ultimate lapse rates were originally expected to be 2 percent and actually end up to be 1 percent, the premium could need to be increased 10–20 percent or more, depending on the proportion of the business that has inflation coverage and the average issue age.

Lastly, the interest rate that is earned on the sizable assets that build up on LTC policies will significantly affect profitability and thus present a significant risk for an insurer during times of declining rates. Again, depending on average issue age and the proportion with inflation coverage, a one percentage point decline in interest rates could result in premiums needing to be increased 10–20 percent.

Looking for hedging solutions for these risks outside of traditional channels may hold the key for addressing some of the issues surrounding the LTC market.

Morbidity and Mortality Risks

The morbidity and mortality risks, which have traditionally been confined to the insurance company portfolios, are now finding their way into portfolios of sophisticated investors like hedge funds. These risks can now be stripped and repackaged into securities that can be sold to investors who have an appetite for this kind of risk. These developments are creating avenues for banks to offer derivative contracts which can offset some of the morbidity and mortality risks in an LTC insurance portfolio.

The most common insurance derivatives in the marketplace are:

1. *Mortality Swaps.* These are financial contracts where one party can swap actual mortality rates, typically linked to policies in an insurance portfolio, for expected mortality rates, thus taking out any mortality-related uncertainty in the cash-flow stream. Any deviation from the expected mortality rates is transferred to the party that is willing to absorb the risk for a price. This gives flexibility to the LTC insurance provider to pass off any excess risks in its portfolio to another party, thus creating a more sustainable and competitive business model.

2. *Cash Flow Swap.* This is another form of insurance derivatives where the expected payout on an insurance policy at an expected time or over an expected time period in the future can be exchanged for a fixed lump sum amount at a fixed time in the future or now.

These swaps can be tailored to more closely meet the risk management needs of an LTC insurance portfolio.

Investment Earnings/Interest Rate Risk

An LTC portfolio is typically characterized by mismatches between future cash inflows and outflows. Premiums are received on existing and new policies on an ongoing basis well into the future, which have to be invested in assets that mature around the expected payout dates on these policies. The expected payout dates and the amounts can only be estimated at best in the beginning, but the assets which will be available to invest in the future are not known. In addition, the insurers are committed to increasing the benefit amounts by a known fixed rate or by the actual inflation rate derived from the CPI (Consumer Price Index) to adjust for the increase in cost of living. In financial terms, the LTC insurance provider is committed to paying a fixed rate on a forward contract. Interest and inflation rates move up and down with the economic cycles and thus can significantly affect the profitability of the LTC insurance provider.

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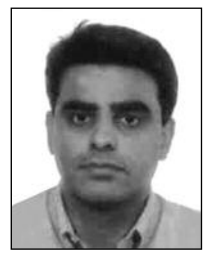

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Financial market innovations, can provide solutions to mitigate most of these risks.

1. *Interest Rate Swaps.* These are financial contracts between two parties where one party agrees to exchange pre-determined fixed rate interest payments with floating rate (e.g., LIBOR) interest payments on an agreed principal amount for a fixed period of time. These contracts are very commonly traded and are one of the most liquid instruments in the marketplace. They are also available on a forward starting basis where the exchange of payments starts at an agreed time in the future.

   An LTC insurance provider can use Forward Interest Rate Swaps to lock in future interest rates. It can then replace these contracts with assets funded by future premiums. The LTC insurance provider also has the flexibility to structure these contracts such that they match the asset/liability profile of their portfolio.

2. *Swaptions.* These are options on interest rate swaps, which provide the LTC insurance provider the right to lock in a fixed rate but not the obligation to do so. The type of swaption typically used is called a "receiver swaption," which is the option to get into an interest rate swap where the buyer receives a fixed rate for a fixed period of time. If the rates rise in the future, the contract will expire at no loss to the insurer and the insurer can buy assets which will yield a higher rate. However if the rates decrease in the future, the insurer can exercise the option to get into an interest rate swap where it receives a higher rate.

3. *Inflations Swaps.* These are financial contracts between two parties where one party pays a fixed inflation rate in exchange for the realized inflation rate for a period of time, thus eliminating any uncertainty related to future inflation. Most LTC products have fixed benefit increases of 3–5 percent, supposedly to hedge future inflation increases. CPI has been growing by 3 percent on average for the past 20 years, indicating that products may be over-priced for inflation. Conversely, there is no reason to assume this pattern will continue for the next decades—if inflation floats above 5 percent, current LTC products won't provide enough protection. It's a double-edged sword. More and more LTC insurers are developing products with benefits linked to CPI and the financial market offers the opportunity to completely hedge this risk by using inflation derivatives.

To have a more palatable risk profile, LTC insurance providers can use the products mentioned above as building blocks to develop robust hedging strategies which offset the risks in their portfolios. Employing sophisticated approaches through these products, insurers can offer more competitive and flexible solutions to address the LTC needs of their customers. ❋