Risks and Rewards Newsletter

February 2003 – Issue No. 41

Use of Structured Advances in Risk Management

by Jay Glacy, Jr.

Editor's Note: This report has been prepared from original sources and data believed to be reliable, but no representation is made as to its accuracy, timeliness or completeness. Please consult with your investment professionals, tax advisors, accounting experts or legal counsel as necessary before relying on this material.

Life and health insurers often issue policies that obligate them to accept a stream of renewal premiums that may extend far into the future. Long-term care insurance (LTC) and long-term disability income insurance (LTD) are good examples of such products. Since such an insurer is required to invest future premium dollars at uncertain interest rates, it must utilize conservative interest assumptions in product pricing as a means of protecting itself. This conservatism may either harm the product's appeal in the marketplace or cause it to deliver diminished value to the policyholder. Further, resort to the usual armada of interest rate risk-management tools can fail because the renewal premiums of these products are "off balance sheet" and hence may not appear in duration and convexity statistics in the insurer's asset/liability reports.

An insurer exposed to this form of interest rate risk suffers "margin compression" should interest rates decline, especially for sustained periods of time. The earnings rates on its investments slide as lower-yielding assets are added to the portfolio at the same time higher-yielding assets mature or prepay. The insurer's ability to reprice the product through premium rate increases or credited rate reductions may be limited due to contractual or regulatory reasons. And policyholders, understanding that their policies are now priced above market, become more hesitant to lapse or otherwise curtail renewal premiums.

Historical Mitigation Methods

An insurer facing this situation might enter into an interest-rate swap to convert uncertain future interest rates to a fixed basis. (An interest-rate swap is an arrangement whereby two parties agree to exchange periodic interest payments.) A number of insurance companies are active users of swaps and other derivative contracts in the swap family for managing interest rate risk. An LTD writer, for example, might enter into a swap that requires it to pay a floating rate (usually LIBOR-based) and receive a fixed rate of interest. However, for other companies, the use of derivatives may be inappropriate or undesirable. These companies may not possess the infrastructure or expertise needed to manage derivatives or may be unable to comply with the challenging FAS 133 requirements for achieving favorable financial statement presentations.

As an alternative, companies may pursue so-called holistic risk solutions that attempt to locate or create offsetting positions elsewhere in the balance sheet. For example, the LTD writer may also decide to enter the deferred annuity markets understanding that these annuities exhibit countervailing risk dynamics. As rates decline and the LTD product suffers margin compression, deferred annuities begin to develop capital gains. This derives from the fact that deferred annuities typically require assets to have longer duration than liabilities as the price of market entry. Conversely, as market interest rates increase, deferred annuities underperform while LTD writers enjoy higher than anticipated investment rates.

In reality, holistic solutions are difficult to achieve since the objective of arranging the balance sheet to realize holistic benefits may conflict with a company's business objectives, its administrative capabilities or its actual sales statistics. Fortunately, alternative risk management solutions exist for LTD writers that may be preferable.

FHLB Advances As a Solution

Thanks to recent passage of the *Gramm-Leach-Bliley Act*, insurers now have access to low-cost loans called "advances" offered by the 12 individual banks of the Federal Home Loan Bank (FHLB) system. To access FHLB advances, an insurer must pledge high-quality mortgage or other real estate-related assets as collateral in the amount of the desired advance. These are assets that typically already reside in the insurer's balance sheet in significant numbers. Banks can then satisfy the particular financing needs of the insurer by structuring advances at specific maturity points.

Many insurers are already familiar with the use of FHLB advances for backstop liquidity purposes or to grow the balance sheet through strategic reinvestment of advance proceeds. But FHLB advances can also supply valuable risk management benefits. By carefully structuring an advance to mature coincident with the anticipated premium inflows generated by insurance products, a company can largely eliminate future net cash flows and consequently the need to invest them in uncertain capital markets.

How Structured FHLB Advances Protect

An example bests illustrate this concept.

turn to next page

Structured Advanced Illustration

	A	B	C	D	E	F	G	H
1		Advance	Discount	Product	Advance	Bond	Net	Net
2	Year	Spots	Factors	5.50%	3.98%	6.50%	Cash Flow	Income
3	0				475	-475	0	
4	1	3.00%	0.9709	100	-131	31	0	12
5	2	3.50%	0.9334	100	-131	31	0	16
6	3	4.00%	0.8890	100	-131	31	0	21
7	4	4.50%	0.8384	100	-131	31	0	26
8	5	5.00%	0.7833	-458		506	48	31
9								
10								
11								
12								

Advance maturities

Investment of advance proceeds

Excess cash flow

Consider a simplified and hypothetical five-year insurance product that requires premium payments of $100 at the end of the first four years followed by a benefit payment at year five equal to the premiums accumulated at 5.50 percent. The insurer knows that if interest rates fall and remain low over the five-year period this could harm its ability to meet the agreed-upon benefit payment of $458. So, working with its local FHLB, it structures an advance such that the stream of renewal premiums from the insurance product, together with interest income from the investment of advance proceeds, are sufficient to repay the staggered advance maturities. Net future cash flows are eliminated. In this way, the insurer becomes indifferent to the path future interest rates take.

In this example above, the advance maturities (the stream of $131 repayments to the bank) are solved-for amounts. The advance of $475 taken by the insurer is deployed in a bond assumed to yield 6.50%. At the end of the five-year period positive net cash flow appears. The Net Income column depicts how the transaction might appear in an income statement. Note that these earnings depictions only represent the performance of the advance/bond package and exclude the economics of the insurance product.

This application of FHLB advances to reshape liability profiles critically depends upon the predictability of cash flows. Policy lapsation or premium suspension can disrupt the expected pattern of product cash flows, especially in response to elevated levels of market interest rates, and cause net negative cash flows to materialize. Conversely, should rates fall, a callable bond purchased with advance proceeds could be retired prematurely.

Additional Benefits of Structured FHLB Advances

The foregoing illustrates the potential for structured advances to serve as potent risk management tools. Beyond the power of structured advances to reshape the liability profile, their use can confer potential additional benefits upon an insurer.

First, since the individual banks of the FHLB system are exempt from federal and state income taxes and from registration of their securities with the SEC, they are able to pass along this "subsidy" in the form of lower cost of funds. While pricing among the twelve Banks varies, sometimes widely, advance pricing can be superior to competing alternatives, especially for insurers lacking top-rung credit ratings.

Second, the combination of structured advances and the simultaneous investment of advance proceeds is the linchpin in reshaping the liability profile. Since the bond purchased in this trade does not back an insurance liability, less liquid issues like asset-backed securities, can be utilized. This can often be at an attractive yield spread.

Finally, advances can be more benign liabilities than insurance liabilities. Excepting convertible advances, banks do not have the right to put the liability back at inopportune times for the borrower. Because of this, advances typically are more capital-friendly than insurance liabilities.

Conclusion

Commercial banks and thrifts have long recognized the benefits of establishing relationships with the FHLBS. Increasingly, insurance companies are learning about these benefits as well. When used to reshape its liability profile, FHLB advances offer the life or health insurer a rare win-win—the opportunity to reduce its interest rate risk exposure while simultaneously enjoying attractive investment returns on advance proceeds. This is an opportunity that every insurer should consider.

Anson J. (Jay) Glacy, Jr., ASA, CFA, is Vice President and Actuary at General Re – New England Asset Management, Inc. based in Farmington, CT. He can be reached at jglacy@grneam.com.