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Do You Have a Combo Product With a Secondary Guarantee? If so, Get Ready for PBR

By Kevin Healy and Benjamin Slutsker

Chronic illness acceleration riders have been added to a number of life insurance products in recent years. More than 20 life carriers are in this market, according to LIMRA.¹ These riders allow for a portion of the life insurance death benefit to be accelerated once the insured is diagnosed as chronically ill. Chronic illness is the inability to perform some number of activities of daily living or having a severe cognitive impairment.

Insurance policies with chronic illness features include term, whole life (WL), universal life (UL) and UL with a secondary guarantee (ULSG). In addition, some companies offer chronic illness benefits on fixed premium universal life (FPUL) or current assumption whole life (CAWL) policies with fixed cash value growth that serve as a no-lapse guarantee. With principle-based reserves (PBR) imminent, how do these combo products fit in the new statutory valuation framework?

Currently, combo products require a life insurance reserve as well as an active life reserve (ALR), or policy reserve, and a disabled life reserve (DLR), or claim reserve. The ALR and DLR fund the expected future benefits for the chronic illness portion of the policy. Under PBR, the reserve for individual life insurance policies is equal to the maximum of the net premium reserve (NPR), the deterministic reserve (DR) and the stochastic reserve (SR), subject to exemptions from the DR and SR due to exclusion tests.

Should the chronic illness living benefits be included in the DR and SR for the base policy? The following guidance can be found in the “Riders and Supplemental Benefits” Subsection of the “Reserve Requirements” Section (i.e. Section II) of the National Association of Insurance Commissioners (NAIC) Valuation Manual (VM).

- VM Reserve Requirements Section, Riders and Supplemental Benefits: A.4, “For riders that enhance or modify



the terms of the base contract, e.g., a secondary guarantee rider or a cash value enhancement rider, the reserve shall be valued as part of the base policy.”

- VM Reserve Requirements Section, Riders and Supplemental Benefits: B, “If a rider or supplemental benefit does not have a separately identified premium or charge, all cash flows associated with the rider or supplemental benefit must be included in the calculation of the reserve for the base policy. For example, reserves for a universal life policy with an accelerated benefit for long-term care must include cash flows from the long-term care benefit in determining minimum reserves in compliance with VM-20. A separate reserve is not determined for the rider or supplemental benefit.”

A chronic illness rider that advances the payout of the death benefit to the policyholder, by definition, modifies the terms of the base contract and meets the criteria listed above from VM Reserve Requirements Section, Riders and Supplemental Benefits: A.4. Therefore, the VM requires that such riders are valued along with the base policy, regardless of whether the chronic illness benefits have a separate premium or not.

In addition, VM Reserve Requirements Section, Riders and Supplemental Benefits: B would apply to any riders or features that do not have a separate premium or charge (for example, chronic illness riders using a discounted death benefit approach). In this case, riders also must be valued with the base contract, regardless of the nature of the feature or supplemental benefit.

There are exclusion tests outlined in Section 6 of VM-20 that provide insurers with an opportunity to test for the option to be exempt from the DR and SR calculations. However, policies

classified as term or universal life with secondary guarantees are not eligible for the deterministic exclusion test.² In addition, long duration contracts with no mechanism to pass back unfavorable investment performance to policyholder cash values, such as life insurance policies with certain secondary guarantees, may find difficulty passing the stochastic exclusion test.³

IMPLICATIONS

For the DR, reserve assumptions are based on prudent estimates. This is fairly similar to how long-term care (LTC) assumptions are set today. However, the DR also requires assets be modeled including prescribed assumptions for the interest rate scenario, equity scenario, spreads and defaults.

For the SR on each valuation date, cash flows are projected under stochastic scenarios for interest rates and market returns. The reserve is set equal to the CTE 70⁴ of scenario reserves.⁵ In addition, dynamic assumptions for policyholder behavior that vary by scenario are also required. For example, the use of higher lapse rates may be in order when interest rates increase.

Is your company's pricing model ready for this?

The stochastic analysis applies on each valuation date. For pricing and forecasting, this may require a projection of stochastic analyses at each future point in time. Is your company's pricing model ready to project assets? Does your company have dynamic assumptions for policyholder behavior?

For chronic illness benefits that require significant runtime, future projections of stochastic scenarios may be time consuming and warrant modeling simplifications where appropriate. In addition, modeling simplifications may be needed to run multiple iterations for examining the financial profile for each pricing cell.

Another consideration is that the NPR floor for chronic illness riders is not clearly defined in the VM. One interpretation may be to use the current ALR and DLR statutory reserving method for the chronic illness portion of the NPR, along with VM-20 NPR methodology for the life component of reserves. Actuaries are encouraged to stay aware of emerging best practices and applicable clarifications in regulatory guidance.

LINKED-BENEFIT PRODUCTS

Linked-benefit products are similar to chronic illness riders but also include, for an additional cost, a separate pool of money available to pay claims once the life insurance benefits are exhausted. One might argue that the extension rider does not enhance or modify the terms of the base contract. As such, the extension rider may be considered a "supplemental benefit" in the VM⁶ and may be valued separately from the base contract, in which case the DR and SR may not be required.

SUMMARY

To recap, as a first step, the exclusion tests should be performed for the DR and SR, including the chronic illness rider cash flows with the base policy projections.

If a product group fails the exclusion tests, the insurer should start planning how to model chronic illness riders and the base policy on a combined basis. Review Section 2.G of VM-20, which allows for simplifications, approximations and modeling efficiency techniques if the company can demonstrate that the use of such techniques does not understate the reserve by a material amount.

If your company has a chronic illness rider on a traditional life insurance product or on a flexible-premium product with a secondary guarantee, you may want to start preparing for how to value the chronic illness rider under PBR including valuation, pricing, forecasting and documentation. If further modeling and implementation efforts are required, you may wish to start early to meet the mandatory regulatory PBR effective date of Jan. 1, 2020. ■



Kevin Healy, FSA, MAAA, is corporate vice president & actuary at New York Life Insurance Co. He can be reached at kevin_healy@newyorklife.com.



Benjamin Slutsker, FSA, MAAA, is corporate vice president & actuary at New York Life Insurance Co. He can be reached at benjamin_slutsker@newyorklife.com.

ENDNOTES

- 1 Individual Life Combination Product Sales Experience Double-Digit Growth in 2015, LIMRA Study, April 25, 2016
- 2 Policies may not be eligible for the deterministic exclusion test based on criteria listed in VM-20: Section 6.B. A group of policies pass the deterministic exclusion test if the sum of valuation net premiums for all future years is less than the sum of gross premiums for such policies. Further requirements are listed in Section VM-20: Section 6.B.
- 3 There are multiple methods allowed for the stochastic exclusion test, which are listed and described in VM-20: Section 6.A.
- 4 CTE 70 represents the conditional tail expectation (CTE) at the 70th percentile, or the average of the values for the top 30 percent of scenario reserves in the distribution.
- 5 Scenario reserves are set as the greatest present value of accumulated deficiencies, as described in VM-20: Section 5.
- 6 Supplemental benefits are described in VM Reserve Requirements Section, Riders and Supplemental Benefits: A.1.

The Possible Effects of Negative Interest Rates on the U.S. Life Insurance Industry

By Richard de Haan and Simpa Baiye

The persistent low interest rate environment in the United States has impacted life insurers for far longer than many expected. However, with potentially rising economic headwinds, negative nominal interest rates, as experienced in some developed economies, are more than merely a hypothetical possibility for the United States. Negative interest rates challenge life insurers' value, profitability and solvency, and affect their product strategy and pricing, product portfolio management, financial reporting, and investment management and asset adequacy.

BACKGROUND

Eight years after the great financial crisis of 2008, U.S. treasury rates remain at multi-generational lows. Federal Reserve Bank and Treasury programs of various types have kept rates at levels intended to spur lending and overall economic growth. Central banks in much of the developed world have kept rates at even lower levels. Low rates have driven down anticipated returns on fixed income investments for both life and property and

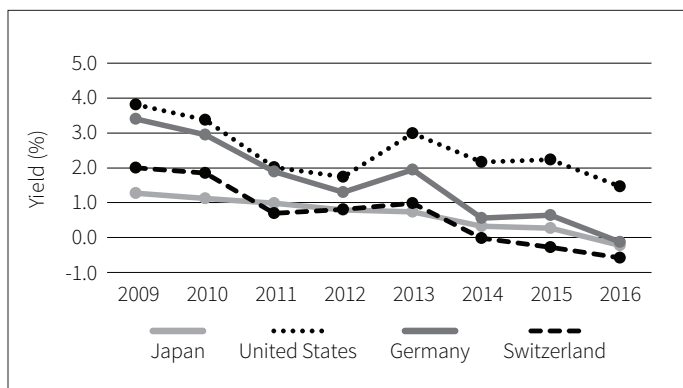
casualty insurers in a number of developed economies and have even resulted in the need to rehabilitate some life insurers. In Germany, for example, near zero or negative yields on sovereign bonds have put German insurers with significant exposure to fixed-income intensive, guaranteed-return insurance products under significant pressure. Moreover, investors' flight to safety in the wake of Britain's plans to exit the European Union has put further pressure on U.S. treasury rates.

Sovereign interest rates in many developed economies have shown little sign of rising. In fact, figures 1 and 2 show that rates in a number of developed economies are already in, or are headed toward, negative territory. For the United States, the future direction is less certain, although there are mounting pressures that increase the possibility sovereign rates in the United States might go negative, particularly in the first 10 years of the yield curve. Pressures include the flow of capital from developed economies with near zero or negative rates seeking greater positive yields and more attractive credits in the United States (increasing demand increases price, lowering fixed income yields). Also, as waves of retiring baby boomers seek guaranteed returns, and as pension plans increase their allocations to fixed income to manage pension-funding risks, the demand for guaranteed yield is also likely to suppress and even drive yields on debt into negative territory.

The possible impacts of negative nominal treasury rates on product development and pricing product portfolio management, asset adequacy, financial reporting and investment management in the U.S. life insurance industry are as follows:

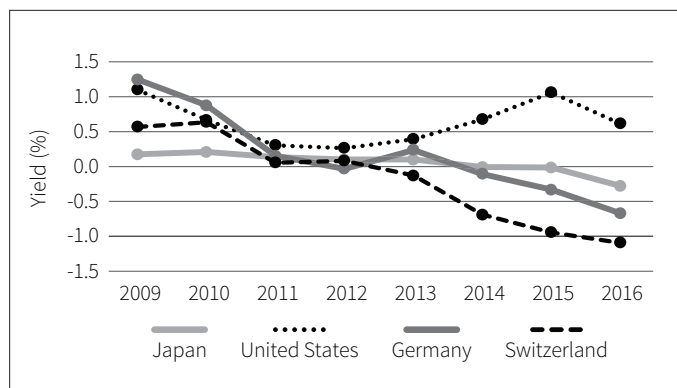
- **Product development.** U.S. standard non-forfeiture laws largely put a floor on interest rate guarantees. In the absence of substantial revisions of the law to account for the possibility of negative interest rates, insurers would likely need to manage this regulatory constraint by offering longer rate

Figure 1
10-Year Sovereign Yields (Rates Through June 30, 2016)



Sources: CNBC Finance, Investing.com

Figure 2
Two-Year Sovereign Rates (Rates Through June 30, 2016)



Sources: CNBC Finance, Investing.com

guarantee terms (where state insurance laws or interstate product compacts allow) or by simply taking or lengthening portfolio yield terms relative to rate guarantee terms. Taking on more asset-liability risk in itself is bound to make rate guarantees less capital efficient and thus more expensive to offer from an economic standpoint. More expensive rate guarantees may result in insurers offering policies with less guaranteed rate elements. Insurers also would likely seek the option to reset rate guarantees much more frequently than they have historically.

Low interest rates in the United States, coupled with the rising equity markets that have been punctuated by periodic market crashes, have made and will continue to make equity-indexed life insurance and annuities an attractive proposition for policyholders. As sovereign rates fall and go into negative territory, insurers will look to find ways to offer insured products without making substantive interest rate guarantees. As a result, structured equity participation products that offer participation in the equity markets while limiting downside losses may increase in popularity.

As insurers reach for yield to avoid the impact of negative benchmark rates at the short end of the yield curve, it is likely they will limit their long-dated guarantee offerings to payout annuities and whole life insurance to meet non-forfeiture requirements and still earn sufficient interest margins.

Insurers also may choose to offer more credit risk guarantees as they reduce their exposure to interest-rate guarantees. Institutional products such as stable-value wraps, for example, allow insurers to make credit risk guarantees with little rate guarantee risk. Insurers may look for ways to offer such products on a retail basis.

- **Product pricing.** Public companies typically price products to earn an internal rate of return of 10 percent or more. The equity investor community implicitly sets this rate based on its broader expectations about risks and rewards for financial services companies relative to lower return and lower risk opportunities. Negative interest rates could lower investor expectations about the risk premium for financial services companies and hence result in a realignment of expectations of product and, ultimately, sector returns. Mid single-digit risk-adjusted return targets may not be an uncommon pricing target for insurance products in a negative interest rate environment.

Recent deals activity by certain Asian investors confirms this. The desire for positive returns in the U.S. insurance market relative to near-zero or negative rates in Japan has served as motivation to make acquisitions. This activity also has raised the valuations of life insurance companies (at the margin)

Low interest rates in the United States...will continue to make equity-indexed life insurance and annuities an attractive proposition for policyholders.

relative to the unchanged or lower profitability expectations for their in-force businesses.

- **Product portfolio management.** Insurers will face much greater pressure on margins earned from legacy blocks of annuity and insurance premiums with high minimum rate guarantees. Negative rates may encourage insurers to offer buyouts on products (e.g., fixed annuities) with larger rate guarantees than they currently offer or can offer in at least the near-term future. To do this successfully, insurers would need to conclusively show policyholders the value of taking upfront gains in lieu of holding onto their attractive rate guarantees.
- **Product risk disaggregation.** The process of unbundling product risks on a component by component basis may play a more prominent role in helping companies manage their businesses. Reinsuring or transferring interest rate risks to parties willing and able to assume such risks may present new opportunities for insurers to manage the risks of their legacy businesses. They will need to evaluate and minimize risk-transfer counterparty risks in this process. They likewise will need to weigh the benefits of these potential opportunities both for formulaic regulatory reserves and asset-adequacy reserves.
- **Product-line disaggregation.** Divestitures or spin-offs of underperforming closed blocks of business or specific lines of business could become the favored approach to dealing with interest-rate sensitive lines of business that drag down insurer earnings and capitalization ratios as rates fall. This could present a new wave of opportunity for private-equity buyers of insurance business and for public-equity investors who can set an appropriate bid for prospective returns on interest-sensitive products.
- **Asset adequacy and capital requirements.** U.S. life insurers periodically assess the adequacy of assets backing reserves under moderately adverse interest rate scenarios to identify possible gaps between assets on hand and liabilities as they come due. They typically evaluate anticipated cost of minimum interest rate guarantees on life insurance,

long-term care and annuities via the assessment process' rate scenarios. The possibility of negative interest rates could lead regulators to change asset-adequacy testing scenarios and effectively place additional surplus strain on insurance companies. The Federal Reserve's increased focus on stress testing also could drive companies to consider and model the impact of negative rate outcomes.

Another impact to consider is the valuation and credit rating of underlying investments. Write downs of book value and credit downgrades will reduce available statutory capital, increase risk-based capital requirements and place additional pressure on insurer capitalizations. This could lead to insurer credit rating downgrades and scaling back or shutting down ratings-sensitive lines of business. Insurer ratings downgrades also may make it more expensive for insurers to refinance their debt. And, while negative rates may offset higher debt refinancing costs resulting from downgrades, such offsets will be less meaningful for insurers that are more exposed to rate guarantees.

- **Financial reporting.** Negative rate scenarios have statutory asset adequacy and capital implications that could result in additional reserves needing to be held in respect of minimum rate guarantees. Public companies also would need to re-evaluate their generally accepted accounting principles (GAAP) reserving, deferred acquisitions costs (DAC) investment yield assumptions and loss-recognition/recoverability testing processes under U.S. GAAP to account for the possibility of negative interest rates. Insurers would need to review and retool interest-rate scenario generators that support these testing processes to account for negative interest rates along the yield curve. Insurers also would need to review their enterprise reporting, valuation and administration systems for both assets and liabilities to ensure consistent reflection and reporting of negative interest rates and their financial impact.
- **Investment management.** As we previously noted, negative interest rates will put more pressure on insurers who take on more credit, equity and duration risk in search of yield. State regulations on insurer asset allocation and the impending reduction in risk-capital requirements for below-investment-grade securities will help temper credit risk pressure. However, structured equity participation products—many of which pay equity-linked coupon income and come with a principal guarantee—may take on a more significant place

in insurer portfolios despite their higher surplus-volatility implications relative to traditional fixed income.

Insurers may look to take on more duration risk but most likely with the option to shorten portfolio durations if the need arises. They may obtain this option through the trading of interest rate options; accordingly, they would need to carefully evaluate derivatives trades of this nature to determine their fit with investment portfolios.

CONCLUSIONS

The consequences of possible negative U.S. treasury rates pose a significant threat to life insurer value, profitability, financial reporting and solvency. Negative rates require a thoughtful re-evaluation of insurer product strategies to offer meaningful value to current and future customers. In particular:

- Insurers may have to earn the margins they hitherto earned on interest rates by taking more traditional insurance risks, de-emphasizing interest rate guarantees and taking more credit risk.
- Negative interest rates would effectively lower capitalization ratios more significantly for insurers that offer long-dated interest rate guarantees.
- Insurers may need to manage their capital in respect of in-force business via reinsurance, by modifying their investment management strategy, through product buyback offers and/or product portfolio sales.

Even though the possibility of negative interest rates may be somewhat remote, life insurers should determine the range and severity of potential impacts on their business, and develop strategies and plans to execute should negative interest rates ever become a reality. ■



Richard de Haan is U.S. Life Actuarial Leader at PWC. He can be reached at richard.dehaan@pwc.com.



Simpa Baiye is director, Life Actuarial Services at PWC. He can be reached at simpa.baiye@pwc.com.