Article from

Product Matters

February 2018

Issue 109

Indexed Variable Annuities: The Next Product Frontier for the U.S. Annuity Market

By Simpa Baiye, Robert Humphreys and David Knipe

Indexed variable annuities (IVAs)—also known as "structured" or "buffer" annuities—are a relatively new product that have drawn interest both among insurers and investors. IVAs have traits insurance companies and customers find attractive, but complex financial reporting and compliance considerations accompany them. In order for actual and potential issuers and other interested parties to better understand the nature of these products, we discuss in this article:

- product design,
- product engineering,
- issuance,
- asset-liability management, and
- accounting considerations across regulatory and GAAP accounting frameworks.

WHAT ARE INDEXED VARIABLE ANNUITIES?

Indexed variable annuities (IVAs) (also known as "structured" or "buffer" annuities) are a relatively new deferred annuity product. An IVA is essentially a deferred annuity that provides equity index-linked accumulation potential with some exposure to downside market performance. IVAs stand in contrast to fixed indexed annuities (FIAs), which provide limited exposure to positive index returns and no exposure to downside performance, and also to variable annuities, which provide full exposure to market performance. Figure 1 demonstrates this design feature by illustrating periodic rates of return (or credited rates) for one IVA design relative to other types of annuities and for various levels of equity market returns.

IVA sales have grown steadily since their introduction to the U.S. annuity market in 2012. Industry sales figures in Figure 2 point to growing market acceptance of these annuities.

Anecdotal surveys indicate that sales growth has been driven by retirees and pre-retirees seeking more attractive accumulation opportunities relative to those offered by fixed annuities and fixed indexed annuities. We thus expect IVAs to feature more in insurers' product lineups in the near future.

IVA DESIGN

IVAs consist of crediting accounts for renewable terms wherein periodic interest credits (positive or negative) are linked to the performance of a reference equity index via a formula. The crediting formula places limits on upside performance that accrues and also provides defined limits on how negative performance is passed on to the contracts. Figure 3 illustrates (assuming that the length of the crediting strategy term is one year) the crediting rate potential for three different crediting designs that are prevalent as of 2017. IVA 1 provides crediting rates that vary directly with the market and up to a predefined limit, along with negative credits that apply to the extent that the market drops below a defined level. IVA 2 provides crediting rates that vary directly with market returns up to a predefined limit with negative credits that both apply as markets drop and level off at a defined loss level. IVA 3 provides a fixed credited rate as long as market returns are zero or greater, along with negative credits that apply to the extent that the market drops below a defined level.

Early redemptions typically involve some upward or downward adjustment to the initial deposit for the interim value of index credits and also potentially for the market value of the bonds backing product reserves.

Traditional variable annuity subaccounts and fixed-rate accounts are often offered alongside IVA crediting options. In some instances, IVAs feature limited insurance guarantees such as guaranteed death benefits or waivers of otherwise applicable contingent deferred sales charges.

PRODUCT ENGINEERING

The financial building blocks for IVAs comprise a bond component and derivatives component made up of complementary positions in equity index options. For IVA strategy 1 illustrated in Figure 3, the IVA effectively consists of a zero-coupon bond, a European call option that is bought, and a European put option that is simultaneously sold. The call option provides the upside index potential, while the put option puts the bond investment at risk should index performance be negative. The performance of this structure is illustrated in Figure 4 under a variety of annual index return scenarios.

Figure 1
Annuity Returns Comparison

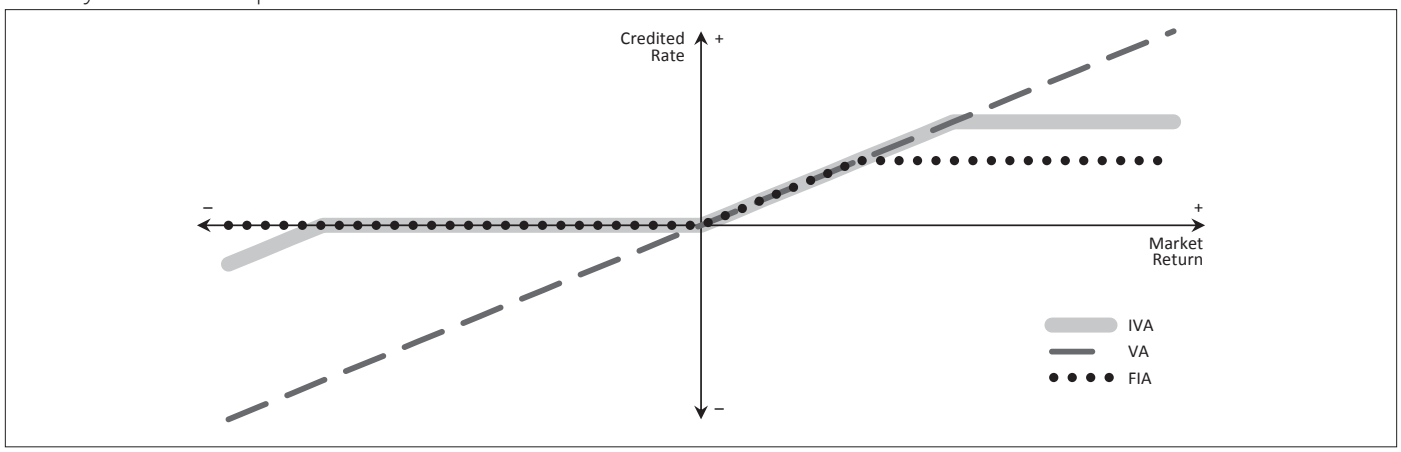
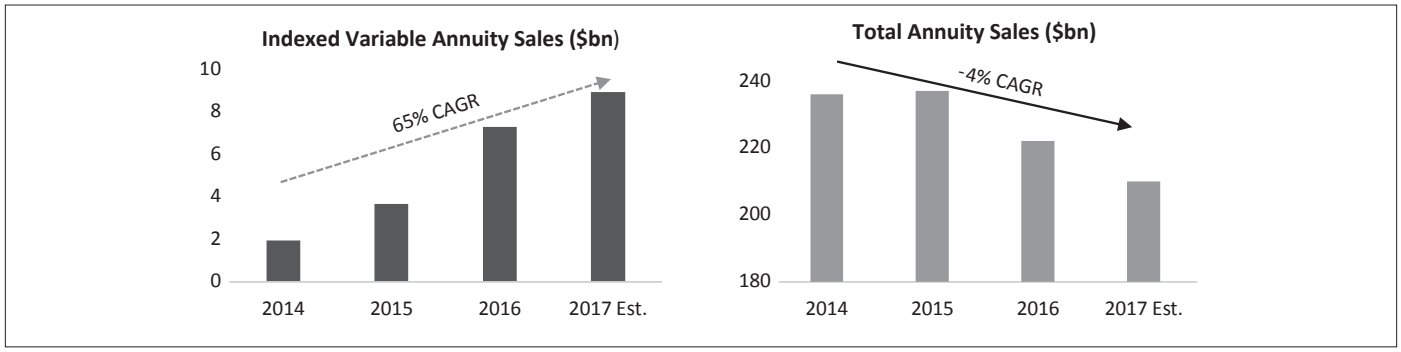


Figure 2
Annuity Sales by Year



Source: LIMRA Secure Retirement Institute

Figure 3
IVA Crediting Strategies

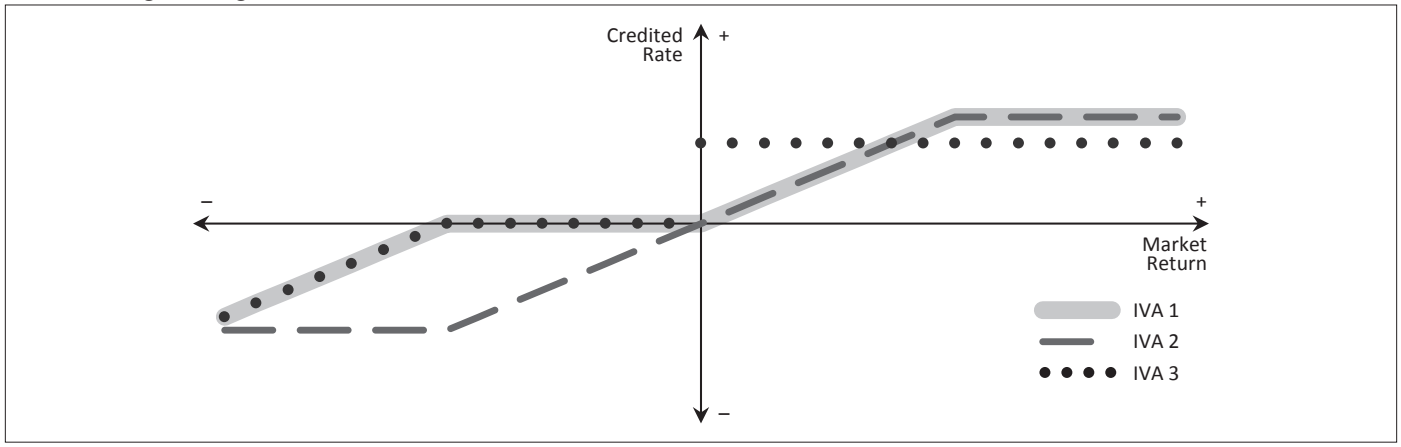
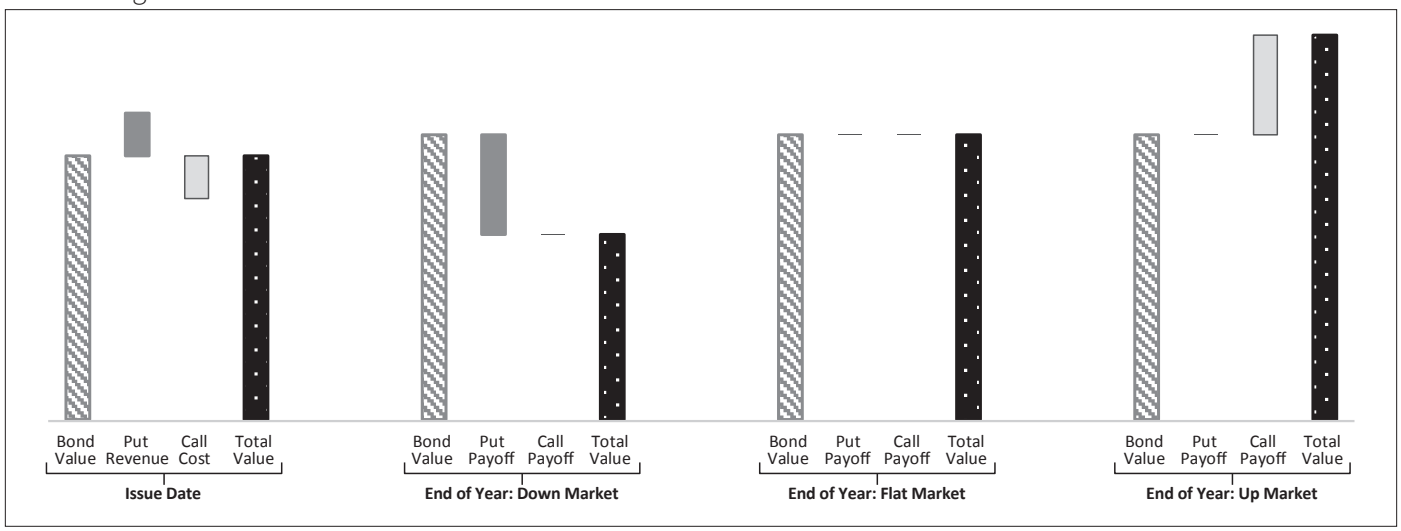


Figure 4
IVA Building Blocks



The decomposition in Figure 4 helps clarify how insurers could manage IVA risks. It also provides a clear path towards interim redemption value calculations for policyholders.

Insurer profit margins come from explicit product fees, spreads on investments made with premium deposits, and differentials (if any) between the revenue generated from the sale of derivatives (that provide downside exposure) in excess of purchase prices of options that provide upside market potential.

ASSET-LIABILITY MANAGEMENT

Bond Component

Insurers can hedge the bond component by investing contract deposits in fixed income securities. Fixed-income investments generate yield that accrues to the insurer and for which the insurer may take some credit, interest-rate, and liquidity risk. The duration, liquidity and credit risk of the bond investment should reflect product design, the likelihood of withdrawals and redemptions, and the ongoing need for collateral to back any derivatives traded to fund index-linked crediting.

Derivatives Component

Interest crediting can be hedged by simultaneously purchasing call options with the proceeds of a simultaneous sale of put options. The anticipated yield on fixed-income investments may also contribute towards the purchase of call options. Call options can be purchased on an exchange-traded or over-the-counter (OTC) basis.

Put options can be sold on both an exchange-traded or OTC basis to derivatives dealers. Put options could in theory also be traded internally to meet the demand for put options to support the hedging of existing variable annuity guarantee business.

Regulatory requirements can have a meaningful impact on the extent to which economic asset-liability management can be practiced. Regulation 128 in New York, as an example, effectively places constraints on investments made with IVA product deposits. Such regulatory limits on asset-liability risk tolerances could indirectly influence product design options and asset-liability management alternatives.

PRODUCT ISSUANCE

The statutory product form for an IVA would in most cases be a modified guaranteed annuity (MGA) or a variable annuity. MGAs are effectively deferred variable annuities which guarantee a rate of return only if held for a defined period. Modified guaranteed annuities are subject to regulations which impact (among other things) product features, the creation of guaranteed separate accounts for IVAs, and the market valuation of assets backing reserves.

Inherent in the product design for IVAs is the possibility that policyholders may lose part or all of their initial deposits at contract maturity. For this reason, IVAs require registration under the 1933 securities act. Issuance under securities laws is complemented by the establishment of non-unitized, guaranteed separate accounts which house assets backing reserves. These separate accounts need to comply with relevant state laws.

Transfers between the separate account and the insurer's general account (as permitted) can be used to fund reserve requirements, ongoing derivative collateral requirements, provide insurer margins, and pay policy benefits.

US STATUTORY ACCOUNTING

The valuation of IVA insurance liabilities under SAP involves classifying the product within the appropriate valuation framework. IVA product design and ancillary features could be subject to valuation under Actuarial Guideline 43 (AG43) for insurance entities not effectively domiciled in New York. However, AG43 guidelines do not provide explicit prescriptions for the valuation of indexed variable annuities. As such, the specific path towards fulfilling valuation requirements would ideally consider both annuity minimum valuation standards and any conflicting interactions with economic asset-liability management. IVAs issued out of legal entities effectively domiciled in New York would have reserves computed in accordance with Regulations 151 and 128.

The valuation of investments backing IVAs in the separate account would be at market value, unless otherwise permitted by regulators. To the extent that reserves produced by the guideline do not share the same market sensitivity with assets backing the same, balance sheet volatility and redundancies may occur.

US GAAP ACCOUNTING

Valuation of IVA insurance liabilities under GAAP needs to take into account the embedded derivative inherent in the crediting design. As a result, ASC 815-15, which provides guidance on embedded derivatives, would apply and involve identifying the host contract and embedded derivative components of the product. The host contract would be accounted for as a debt instrument, typically at amortized cost, while the embedded derivative would be measured at fair value through income. An alternative method involves valuing the entire contract (both host contract and embedded derivative) using fair value principles by electing the Fair Value Option based on ASC 825, financial instruments.

Derivatives employed in hedging[1] the crediting option would be measured at fair value through the income statement. Fixed income investments backing the IVA contract would typically be classified as available for sale (AFS) or trading, or the fair value option could be elected. An AFS classification for fixed income securities involves recording unrealized gains or losses in other comprehensive income and would be least inconsistent with a host contract that is effectively measured at amortized cost, while a trading securities classification or the election of the fair value option for fixed income instruments and accounting for derivatives at fair value would be consistent with fair valuing of the entire annuity contract under ASC 825. A trading classification, or the election of the fair value option for the relevant fixed income securities would bring all realized and unrealized gains and losses into earnings.

IMPLICATIONS

Industry sales for indexed variable annuities should continue to grow as more insurers launch competing products in the growing IVA space. The design and risk-management approach for IVAs need to balance customer needs and insurer risk appetite.

Fixed income investments and margins from the trading of derivatives are key sources of profits for insurers. Accordingly, the optimal investment and derivatives-use strategy for an insurer will need to reflect product design and risk appetite, and requires detailed analysis.

A careful analysis of accounting and valuation approaches should occur with a clear view of the economic risk-management approach. This analysis will serve to minimize inconsistencies between GAAP and SAP accounting measures for both assets and IVA liabilities.

In conclusion, IVAs represent the next potentially sizeable opportunity for insurers to provide tax-deferred savings opportunities that meet the risk tolerances of a growing segment of pre-retirees. We anticipate continued product innovation in this space with the introduction of newer and more complex crediting designs. Product transparency will need to remain paramount as insurers manage legal and compliance risks that could come with the proliferation of these products.

For more information, please contact the authors of this article. ■

Simpa Baiye, FSA, MAAA, is director, Actuarial Services at PricewaterhouseCoopers LLP. He can be reached at *Simpa.baiye@pwc.com*.

Robert Humphreys, FSA, is manager, Actuarial Services at PricewaterhouseCoopers LLP. He can be reached at *Robert.humphreys@pwc.com*.

David Knipe is director, Capital Markets Accounting and Advisory Services at PricewaterhouseCoopers LLP. He can be reached at *David.knipe@pwc.com*.

ENDNOTE

1 The above does not refer to a formal designation of the hedge relationship in accordance with ASC 815, Derivatives and hedging.