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Ageing gracefully

Variable annuities and guaranteed minimum benefit policies have been huge marketing successes and are the latest global buzzword, but there is much to learn from the US experience in how to manage the risk properly

The retreat of the state and the employer from the role of sponsor and underwriter of retirement provision is a global phenomenon. Led primarily by the US, the burden of retirement planning is falling increasingly in the individual and this is ushering in a new generation of products designed to provide stability, flexibility and performance over the long term.

Variable annuities (VAs) and guaranteed minimum benefit (GMB) policies have evolved from traditional unit-linked policies to address precisely this market. Retaining the long-term accumulative nature of unit-linked policies, where an individual's contributions (single or recurring) are invested into mutual funds over an extended period, they add financial-performance guarantees to provide the long-term security. The resulting combination of performance, transparency and protection makes GMBs the ideal cornerstone of a retirement plan, customisable either for niche or mass-market appeal through simple fine-tuning of product design.

From a marketing perspective, VA and GMB policies have been a runaway success in the US, by far the most advanced market in the world for these products. US life insurers now collect in excess of $130 billion of VA premiums a year with a market growth rate consistently in excess of 12% over the last decade. Furthermore, sales have proven extremely resilient to market downturns with even the burst of the dotcom bubble failing to make a significant dent on sales – customers appeared to be unfazed by the perilous condition of capital markets at the time, reassured both by the long-term nature of their investment and by the presence of a performance guarantee to cushion them from further falls.

From the insurer's perspective, and at a corporate level, the picture has been more complex. While the undoubted commercial success of the products has been good for both initial profit margins and for marketing as a whole, risk management of the embedded guarantees has often been a headache. At first, with purely actuarial models still prevailing as the primary means for determining the value of the guarantees, the profits shown from sales of GMB policies were only as good as the actuarial assumptions that went into the models and these could vary significantly from insurer to insurer.

Moving forward to today, three significant trends have changed this picture dramatically. On the one hand, the sophistication of derivative modelling technology has advanced to such a point that there is a far more readily determinable 'market price' for the embedded guarantees and a number of investment banks that would be willing to sell them to the insurer. Secondly, insurance regulators worldwide are catching up with the rapid evolution of these products and are beginning to impose increasingly stringent and consistent valuation methods across the industry. Finally, both equity analysts and rating agencies have woken up to the risk accruing to the insurance company as a guarantor of GMB policies

Evolution of GMB policies in the US

In the mid 1980s, US insurers began introducing single-ratchet GMDBs to their unit-linked policies, guaranteeing a minimum return on death based on a locked-in performance of the funds in the policy. Gradually, the GMDBs became increasingly sophisticated with multiple ratchets, resets and roll-ups added to the offering.

The big leap came in the early 1990s, when insurance companies began to offer policies with GLBs attached. Policyholders could benefit from financial performance guarantees during their lifetime and GMB policies became mainstays of individual retirement planning. The first GLBs guaranteed a minimum income for life based on contributions into the policy (GMIB). Gradually, further guarantees were added, with GMABs and then GMWBs (a guaranteed withdrawal right giving the policyholder the ability to draw down a minimum guaranteed amount from the policy at any during a fixed term). Features such as ratchets and roll-ups were also added to each of these individual guarantees.

The turn of the century brought the first combinations of these different guarantees into a single policy with GMAB-GMWB mixes and finally, as recently as 2005, GMWB policies lasting for the life of the insured were introduced, effectively combining the features of all three key guarantees – GMAB, GMIB and GMWB.

and have begun to penalise those companies not actively hedging these risks with adverse recommendations to their clients and rating downgrades.

Today, there is a broad recognition that GMB guarantees cannot be priced on purely actuarial models when the largest components of risk are capital-markets based and those markets are using zero-arbitrage models to determine prices. That is not to say that actuarial models have no place – two key characteristics of these policies are not traded in the capital markets and, therefore, remain actuarial risks that are best managed on a more traditional insurance model. These are mortality/longevity risks (inherent both in traditional guaranteed minimum death benefit (GMDB) and more indirectly in guaranteed minimum income benefit (GMIB) and guaranteed minimum withdrawal benefit (GMWB) for life) and customer behaviour.

The last of these presents the single greatest difficulty for insurers. Through a GMB structure, a policyholder essentially

purchases a series of financial options, and capital markets methodology dictates that these options have a market price at which market participants would be happy to transact. However, the basis of this market price is that the option will be 'optimally' exercised whereas, in practice, individual policyholders rarely do so, either because they are not in possession of the same sophisticated financial models as financial institutions or because they have exogenous non-financial influences on their decision-making (for example, an unexpected need for liquidity). This means that, while the insurer can determine a market price for an embedded guarantee based on market parameters, introducing assumptions of non-optimal customer behaviour assumptions into the pricing would necessarily push the price downwards. A further level of sophistication would recognise that customer behaviour and capital markets are not uncorrelated – policyholders are more likely to require liquidity from a GMB policy when their other investments have reduced in value.

While there is no absolute and all-encompassing solution to these issues, it is clear that:

- the best modelling and risk management approach combines a zero-arbitrage evaluation of the capital market risks with an actuarial assessment of expected mortality and customer behaviour;
- passing capital market risks on to investment banks has both a direct impact of reducing regulatory reserving requirements (giving significantly greater market penetration for a given balance sheet exposure) and an indirect impact of being looked on benignly by equity analysts and rating agencies; and
- careful product design can significantly mitigate the influence of non-optimal customer behaviour on the value of the embedded guarantee, bringing about a convergence of the 'optimal' market value and the 'real-world' value of the guarantees

On a commercial level, the global buzz around GMBs has risen steadily, initially to Japan and Taiwan but, over the past two years, increasingly throughout Europe and South-east Asia. They are recognised as the natural successor to with-profits policies, able to offer similar performance guarantees (and many different guarantees besides) but without the twin handicaps of inflexibility and intransparency of those products, not to mention the financial burden to the insurer. There are few multinational life insurers that are not already active or closely looking at GMBs and, in one guise or another, they are almost certainly about to become a hyper-growth product area in most key developed markets in which they do not already exist.

This presents a unique and enormous opportunity for life insurers. The US experience has demonstrated that GMBs can be the antidote to the faltering support of employers and the state for old age. Furthermore, the added transparency of GMBs fits in well with our increasingly sophisticated and information-rich society where individuals are no longer prepared to blindly entrust their hard-earned money to a large insurance company. However, the US experience has also demonstrated the need for active hedging of the capital market risks, underscored by regulators, equity analysts and rating agencies that enforce such an approach. The increasing sophistication of the derivatives markets has improved the position for both the customer and the insurer. This is because it has made it possible for insurers to lay off the key risks of GMB policies to the market, thereby optimising the customer proposition and maximising market penetration while minimising reserving requirements. This can present a truly attractive proposition for the insurer.

Glossary of Terms

GMAB Guaranteed minimum accumulation benefit – a guaranteed minimum fund value at the end of a fixed-term policy

GMDB Guaranteed minimum death benefit – a guaranteed minimum fund value payable in case of death of the insured

GMIB Guaranteed minimum income benefit – a guaranteed minimum annuity payable for life

GMWB Guaranteed minimum withdrawal benefit – a guaranteed right to draw down a minimum amount from the policy on a periodic basis, regardless of underlying fund performance

GLB Guaranteed living benefit – collective term for GMAB, GMIB, GMWB and any combination thereof

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