



BY MOSHE A. MILEVSKY, Ph.D.

Is the much-maligned annuity

IN THE MID 1990s I CONDUCTED and subsequently published a widely cited research study — jointly with Dr. Steven Posner, who was then working as a derivatives quant for Goldman Sachs — on the nature and magnitude of mortality and expense (M&E) fees charged within variable annuities. As most readers already know, these products are economically similar to mutual funds but classified as insurance products because of various explicit and implicit insurance guarantees; hence they also benefit from tax-sheltered inside buildup. At the time we conducted this research, most VA policies were only offering a basic guaranteed return-of-premium (RoP) death benefit, which meant that at the market's worst you got your money back, and only if you died. These

guaranteed minimum death benefits, or GMDBs as they are abbreviated, were the only relevant financial economic features that distinguished VA policies from their mutual fund cousins.

Yes, during the mid-1990s some companies started offering variable annuities with more lucrative minimum investment returns or maximum anniversary guarantees. These enhanced GMDBs promised that, in the event of death, beneficiaries would be guaranteed at least the premium deposit, increased by up to 7 percent per annum, or a death benefit equal to the best historical anniversary value. But then again, you had to die to get these benefits and many policies were surrendered and lapsed well before the policyholder ever died. More importantly, at the time of our analysis the

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Confessions



actually underpriced?

bulk of VA assets — and especially the policies inside tax-sheltered qualified plans such as 401(k) or IRA accounts — only offered a plain vanilla (return of premium) GMDB.

Back to the above-mentioned study, we examined a comprehensive database which Morningstar graciously provided to us, which included over 400 VA policies and 7,000 investment sub-accounts. We compared the M&E fees being charged — which ranged from 7 to over 140 basis points per annum — to our theoretical model values. These so-called model values were intended to be a proxy for the wholesale manufacturing costs of these guarantees in the derivative markets. Our primary motivation was academic and intellectual curiosity as to whether consumers were getting their money's worth on the

of a VA Critic



GMDBs offered within VAs. To a derivatives trader (or theoretician, such as myself), the embedded options were quite similar to equity put options that grant the holder a right but not an obligation to sell an underlying portfolio at a fixed price on a given date. In the VA case, the maturity date of the option was random — namely, the date of death. We called these securities Titanic options.

And alas our main conclusion was that — if the M&E fee was only meant to cover true risk — the typical VA policyholder was being grossly overcharged for this so-called protection and peace of mind. We found that the basic return-of-premium GMDB was worth no more than 5 to 10 basis points of assets per annum. By the term “worth” we meant that it would only cost the insurance company backing the guarantee 5 to 10 basis points to reinsure or hedge their exposure to this risk. Even the more lucrative — although at that time rare — stepped-up, ratcheted and rolled-up GMDBs were worth no more than 60 basis points at most, and that was only if you were old (and male) enough to be close to death, risk tolerant enough to invest aggressively, and persistent enough not to surrender (or 1035-exchange) your policy prior to death.

In addition to these results, our published study reported on a number of other peculiarities in the VA market. As an example, we found that older (unhealthy) males who invested more aggressively were receiving a guarantee that was much more valuable to them relative to younger (healthy) females who invested conservatively. This was because the odds of dying during a bear market — which was the only way the insurance guarantee would pay off — were much higher for the former group compared to the latter. Yet both groups were paying the *exact same* level of M&E fees. It was akin to traditional life insurance being sold to young and old, healthy and sick, for the exact same premium. Likewise, M&E fees were being charged in-

dependently of the actual asset allocation of the underlying sub-accounts, even though the chances of a bond fund or money market fund being underwater at a random time of death was close to zero. We couldn't help but wonder why weren't sub-account risk fees being pro-rated by the true risk? Anyway, none of this made much sense to us at the time, especially given our training as financial economists where markets and prices are supposed to

reflect costs and benefits. So, we threw our hands up and declared: “Why would anyone buy this?”

And, on the topic of dying, (non-qualified) VA policies do not garner a basis step-up at death. Thus, in stark contrast to most other investments such as mutual funds, exchange-traded funds or even individual stocks, variable annuities were converting lightly taxed capital gains into heavily taxed ordinary income gains. Indeed, you don't need a Ph.D. in finance to realize that this is the wrong direction on the tax-arbitrage diagrams. Yes, there might have been some unique situations in which the tax deferral might make sense, but you had to work really hard to come up with such scenarios. Either way,

that wasn't the focus of our research.

These findings — which were eventually published after scientific review in the prestigious *Journal of Risk and Insurance* in 2001 and subsequently quoted numerous times in publications ranging from *The Wall Street Journal* and *Newsweek* to *Reader's Digest* — were seized upon by investor advocates, financial commentators, regulators and plaintiff lawyers as evidence that variable annuities were overpriced, oversold and unsuitable. At the time, I was quite surprised at the attention this report garnered, since the article itself was full of equations and regressions, which normally don't travel beyond the ivory tower.

In fact, I actually ended up taking the witness stand in a number of related lawsuits and regulatory actions

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to opine that a promise of getting your money back when you die was “kind of pointless” and at the very least could be replicated using cheaper forms of life insurance.

Indeed, I still stand behind those results, even if it means that I occasionally come face-to-face with disgruntled insurance industry executives who believe that our results were misguided, for one reason or another. Remember, I never said that variable annuities were evil, dangerous or unsuitable. *Our basic position was that for many investors, a similar financial economic outcome could be achieved at a lower cost.*

However — and this is the point of this article — in the last few years that I have been observing this industry, I am seeing an enormous shift in the way VA policies are being designed, priced and marketed to the public. It is now time for me to update my official position on these instruments.

In fact, after spending quite a bit of time poring over some of the more recent designs as well as talking to actuaries, regulators and advisors, I’m not even sure these instruments deserve the old (and maligned) name of variable annuities.

This isn’t your grandmother’s variable annuity!

Regardless of what you want to call these increasingly heterogeneous products, it seems the relative value pendulum has swung in the opposite direction. I can no longer claim that you are being overcharged for these guarantees or that you can achieve similar goals at a lower cost. It would be very difficult and expensive to bake a living benefit in your kitchen.

Living Benefits Have Replaced Death Benefits

Nowadays, VA policies are not being manufactured as an investment to *die* for but as an investment to *live* for; they certainly are not being marketed as a primary tax shelter. Increasingly cheaper term-life insurance and lower capital-gains tax rates have rightfully taken the

wind out of those sails. Currently the sales story is about a sustainable retirement income that will last a lifetime and beyond. *The annuity has finally returned to its roots; it is providing longevity insurance.*

Indeed, when you take into account the new living benefit riders such as guaranteed minimum withdrawal benefits (GMWBs), guaranteed minimum accumulation benefits (GMABs) and guaranteed minimum income benefits

(GMIBs), these “FinSurance” products (a blend of finance and insurance) are creating a different type of protection. Despite the odd sounding acronyms, all of these riders include put options on the capital market. They protect the owner in the event that something goes awfully wrong during the early part of their retirement or when they start generating income. And, after the market meltdown earlier this decade, this so-called “sequence of returns” risk might not seem as remote as during the euphoria of the late ’90s. Indeed, markets don’t have to go down and stay down to ruin your retirement. All you need is a bear market at the wrong time, and the sustainability of your income can be cut in half.

This leads me to my main point, which is that I’m now

getting exceedingly worried that some insurance companies are not charging *enough* in pure M&E fees, or that they are not using those fees to properly hedge and protect themselves.

Yes, this sounds like an odd thing to say given the position of my earlier study. But, when I analyze the extra rider fees charged in the name of these living benefit guarantees, I can’t help but wonder why Wall Street’s investment bankers charge so much more for the same type of derivative security — essentially long-term put options — when they are purchased on a stand-alone basis.

In fact, when I obtained some pricey quotes for buying stand-alone put options to protect a hypothetical retiree’s lifetime income, I first thought it was the derivatives dealers and option market makers that

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were overcharging! But, after some careful analysis, the same mathematical models that told us a decade ago that basic death benefit guarantees were overpriced are now telling us that many living benefits are underpriced.

As an example, a colleague of mine, Dr. Thomas Salisbury, and I recently published a study in the actuarial journal *Insurance: Mathematics and Economics* in 2006 demonstrating that the GMWB rider, which charges an extra 30 to 50 basis points, might actually cost between 75 and 160 basis points to hedge in the capital markets. And that number does not even include any insurance company profit margins, commissions and transaction costs. Indeed, the options exchange — which is the only other place an investor can buy similar investment crash protection — often charges five to 10 times that number during periods of market stress.

More importantly, by promising a lifetime of retirement income, insurance companies are taking on longevity risk — a risk that most defined benefit pension plans are running away from in droves. This situation cannot be sustainable for very long. Unless the insurance company offering and backing the guarantee places restrictions on the sub-account portfolios that policyholders can hold within the VA, these same companies are placing themselves at risk.

My worry is compounded by the occasional (discrete) inquiry from an ex-student or business associate who manages an offshore hedge fund who actually wants to purchase VA policies in bulk, not as a tax shelter or to provide retirement income, but in order to arbitrage the insurance company. Obviously they must be sniffing something fishy!

Note that I am not necessarily advocating that insurance companies act in tandem to raise or increase the fees on these riders, and I don't think the U.S. Justice Department would take lightly to such a suggestion either. Rather, I am simply arguing that the living benefits arms race is leading to promises and guarantees that might become difficult to keep.

In sum, there is more than a trillion dollars sitting in VA policies. My crude back-of-the-envelope calculations indicate that roughly a quarter of these are old-style VA policies whose guarantees are (still) worth no more than a few basis points of assets. But the rest of this money is allocated to VA policies with living benefit options that might end up haunting their issuers for many living years to come.

Not many people in the U.S. are aware that the oldest and most prestigious insurance company in the United Kingdom, Equitable Life, had to close its doors to new business in December of 2000 and was pushed to the brink of insolvency because of living benefit promises it had made decades earlier, but could not afford to keep as interest rates declined and longevity increased far more than expected. Over half a million British policyholders are still fighting for what they thought was guaranteed.

So, if you are a financial planner, investment advisor or insurance representative who is selling a VA with living benefits — because you want to help protect your client against a number of retirement

hazards — your due diligence process should involve asking some tough questions about corporate risk management philosophy, credit ratings, hedging and reserving strategies in addition to reviewing the fine print on asset allocation restrictions.

Over the next few months, as this Retirement Income University course progresses, I plan to explore the analytic side of the evolving market for generating a sustainable retirement income. **B**

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