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Editor's note: Scott J. Witt, FSA, MAAA, ended a promising ten-year actuarial career at The Northwestern Mutual Life Insurance Company in 2004 to become a fee-only insurance and actuarial advisor for Katt & Company. He founded Witt Actuarial Services in 2007. He provides independent advice to his clients. He receives no compensation other than hourly fees paid by his clients. He also serves as an expert witness in insurance litigation. He holds an undergraduate degree in mathematics and computer science from Montana Tech, and a master's degree in statistics from Oregon State University. I invited him to submit this article, and he approved my editing. The article appeared originally in the November 2008 issue of *The Insurance Forum*. Our issues are available only in hard copy, but we do not anticipate making this special reprint available in hard copy. For a complimentary electronic reprint of the article in the form of a PDF, please contact the author at scottwitt@wittactuarialservices.com, or contact us. Permission is hereby granted to print the article from the PDF, provided the article is printed in its entirety.

VARIABLE UNIVERSAL LIFE—BUYER BEWARE!

by Scott J. Witt

Perhaps the most frequent problem encountered in my practice is the overutilization and/or mismanagement of variable universal life (VUL) policies. If the unique risks presented by these policies were better understood, I think the vast majority would be drastically altered or not purchased at all.

The allure of high investment returns enables agents and consumers to delude themselves into thinking a VUL policy is an appropriate long-term solution. This approach can be disastrous when a consumer wants a level death benefit.

An Example

Consider a man aged 48 in excellent health. He is considering the purchase of a VUL policy with an illustrated level death benefit of \$5 million. An annual premium of \$34,700 until age 100 is illustrated to produce a cash value (and death benefit) of \$5 million at age 100, based on an assumed level gross annual rate of return of 10 percent.

A Monte Carlo simulation illustrates the major problem with this approach. Assume investment returns in fact average 10 percent on a compound

basis. Now simply introduce historical volatility into the analysis. By randomly generating investment returns consistent with those parameters and a date of death based on mortality consistent with the insured's risk classification, one can determine the hypothetical death benefit at the time of death for each outcome.

In 35 percent of the outcomes the death benefit is larger than the desired \$5 million, and in 33 percent of the outcomes the death benefit equals the desired \$5 million. However, in the other 32 percent of the outcomes, the policy lapses before the insured dies!

The Explanation

This phenomenon is explained by the interplay between investment returns and mortality charges. This is poorly understood even by sophisticated professionals because the dynamics differ from other financial instruments. Insurance companies compute a mortality charge by multiplying the net amount at risk (the death benefit minus the cash value) by the mortality rate. It is widely recognized that mortality rates increase with age, but the role of the net amount at risk is less understood. Smaller-than-expected

investment returns suppress cash value growth and cause larger-than-expected net amounts at risk. This in turn produces larger-than-expected mortality charges, further suppressing cash value growth.

Once a policy goes “under water”—becoming subject to the negative interplay between smaller-than-expected investment returns and larger-than-expected mortality charges—the policy is unlikely to get back “above water” without a large cash infusion. Left unchecked, the result is policy failure or prohibitively large premiums.

The flip side of this phenomenon occurs when a policy gets “above water” and starts benefiting from the positive interplay between larger-than-expected investment returns and smaller-than-expected mortality charges. Here the pleasant outcomes of larger-than-expected death benefits and/or smaller-than-expected premiums may be realized.

More Bad News

While the above paints a bleak picture for VUL, the story gets even worse. Future returns may average below 10 percent and/or volatility may be worse than historical measures. Also, human nature suggests policyholders are apt to take premium holidays precisely when they should be dumping additional money into the policy. Furthermore, they may be unable or unwilling to pay even the scheduled premiums because of losses in the rest of their portfolio. Finally, many policies are past the point of no return long before the policyholder or agent realizes that trouble is brewing. Generally the premium required to get derailed policies back on track is shockingly large.

There is yet another consideration. VUL policies are exempt from the National Association of Insurance Commissioners’ model Life Insurance Illustrations Regulation, which was adopted by most states in the 1990s to address the illustration games being played throughout the industry. Because they are not covered by the regulation, VUL illustrations frequently contain illustration enhancements that have little chance of coming to fruition. Consumers often confuse the illustration with the product, and that can be particularly damaging with VUL.

Other Matters

Two other points are worthy of mention. First, paying premiums monthly instead of annually helps slightly. In the above example, the failure probability decreases from 32 percent to 26 percent when monthly premiums are paid.

Second, shorter premium-paying periods produce higher failure rates. For instance, if annual premiums sufficient to illustrate \$5 million of cash value at age 100 were paid for 17 years only (until age 65), the failure probability would increase from 32 percent to 36 percent. And if only a single premium is paid to illustrate \$5 million of cash value at age 100, the failure probability would increase to 41 percent.

Conclusion

Individuals may be drawn to traditional whole life partly because they have long-term protection needs. However, when individuals succumb to the temptations of VUL, they often fail to realize that the solution resembles gambling more than insurance.

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