Article from:

ARCH 2014.1 Proceedings

July 31-August 3, 2013

On Negative Option Values in Personal Savings Products

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Option values are generally considered to be strictly positive as they provide the holder with the right – but not the obligation – to execute a transaction. This paper argues that this may not be true within personal savings products even if the holder is a value maximizer, due to differential tax treatments.

More precisely, we show that when accounting for taxes, the objective functions of the investor and the issuing counterparty may differ. Thus, (not) exercising an option could be beneficial for both parties, at the possible financial expense of a third inactive party (the government).

We first illustrate the possibility of negative option values in a simple two-period model. Then, we present a practical example of a Variable Annuity, where a common death benefit guarantee may indeed yield a negative marginal value to the insurer.

Our findings suggest a potential source of profit for life insurers in addition to risk diversification: By assisting policyholders in using the tax-deferred growth opportunities within modern personal savings products more effectively, for the joint benefit of both insurer and policyholder.