Grandma's Longevity Insurance

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Most retirees are hesitant to annuitize their variable annuity (VA) contracts – or for that matter to voluntarily purchase immediate annuities with their IRA, 401(k) and other liquid wealth – because they fear losing control and/or believe they can "do better" with other investment alternatives. Oddly enough, when people within a traditional Defined Benefit (DB) pension plan are coaxed to "switch into" a money-purchase Defined Contribution (DC) pension plan and give-up the implicit life annuity, most turn the offer down, while others react violently and litigiously. It seems there is a fog of confusion surrounding the financial benefits from annuitization. So, motivated by the need to *keep it simple*, in this article I describe a simple tale that can illustrate the pedagogical benefits of annuitization and longevity insurance, while positioning the product firmly within the realm of investment risk and return.

The 95-year old Bridge Club

My 95-year old grandmother loves playing bridge with her four best friends on Sunday every few months. Coincidentally, the five of them are exactly 95-years old, are quite healthy and have actually been retired – and playing bridge -- for 30 years. Recently this game has gotten somewhat tiresome and my grandmother has decided to juice-up their activities. Last time they met, she proposed that they each take $100 out of their purse wallets and place the money on the kitchen table. "Whoever survives to the end of the year, gets to split the $500…" she said. "And, if you don't make it, you forfeit the money…Oh yeah, don't tell the kids."

Yes, this is an odd gamble, but you will see my point in a moment.

In fact, they all thought it was an interesting idea and agreed, but felt it was risky to keep $500 on the kitchen table for a whole year. So, the five of them decided to put the money in a local bank's one-year certificate of deposit paying 5% interest for the year.

So what will happen next year? According to statistics compiled by actuaries at the U.S. Social Security administration, there is a 20% chance that any given member of my grandmother's bridge club will pass-on to the next world during the next year. This, in turn, implies an 80% chance of survival. And, while virtually anything can happen during the next 12 months of waiting – actually, there are 120 combinations, believe it or not -- the odds imply that *an average* four 96-year olds will survive to split the $525 pot at year-end. (I sure hope grandma is one of them.)

Note that each survivor will get $131.25 as their total return on the original investment of $100. The 31.25% investment return contains 5% of the bank's money and a healthy 26.25% of "mortality credits". These credits represent the capital and interest "lost" by the deceased and "gained" by the survivors.

The catch, of course, is that the average non-survivor forfeited their claim to the funds. And, while the beneficiary's of the non-survivor might be frustrated with the outcome, the survivors get a superior investment return. More importantly, they ALL get to manage their *lifetime income risk* in advance, without having to worry about what the future will bring.

I think this story does a nice job of translating the benefits of longevity insurance into investment rates of return. Personally, I find no other financial product that guarantees such high rates of return, conditional on survival.

In fact, this story can be taken one step further. What if my grandmother and her club decided to invest the $500 in the stock market, or some risky NASDAQ high-tech fund, for the next year? Moreover, what happens if this fund or sub-account collapses in value during the next year and falls 20% in value? How much will the surviving bridge players lose? Well, if you are thinking “nothing” that is absolutely the correct answer. They divide the $400 amongst the surviving four and get their original $100 money back.

Such is the power of mortality credits. They subsidize losses on the downside and enhance gains on the up-side. In fact, I would go so far as to say that once you wrap true longevity insurance around a diversified portfolio, the annuitant can actually afford and tolerate more financial risk.

Of course, real live annuity contracts do not work in the way described above. My grandmother’s “tontine” contract is renewable each year and the surviving 96-year olds have the option to take their mortality credits and go home. In practice, annuity contracts are for life and these credits are spread and amortized over many years of retirement. But the basic *insurance economics* underlying the contract are exactly as described above.

What about 55-year olds?

A natural question to ponder is whether this life-roulette game would yield such high returns at younger ages, and the answer is no. The enclosed table provides a rough estimate of the relative magnitude from annuitizing – with true life annuities -- at different ages. You can see that at age 55 the mortality credits are less than one percent, or a mere 55 basis points. At age 65 the number increases to 83 basis points, which is still nothing to get excited about. To put these numbers in context, if a recent retiree or their advisor thinks they can earn 83 basis points more than the pricing rate used by the annuity vendor, they are better-off not annuitizing today and managing the money with a systematic withdrawal plan, themselves. This “benchmark” or “hurdle” rate of return can be used to assess the relative benefits from annutization at different ages. Note that by the mid 80s it becomes virtually impossible to beat – what I like to call -- the implied longevity yield. To put it crudely, too many are people are dying.

In sum, pension/life annuities provide a very unique and peculiar kind of insurance. It is virtually the only insurance policy that people acquire during the course of their life, but actually hope to use! While we are all willing to pay for home insurance, disability insurance or car insurance, we never actually want to exercise or use the policy. After all, who wants their house to burn down, leg to break or car to crash, G-D forbid. Yet, the “insurable event” underlying pension annuities is living a long and prosperous life. Perhaps this is why the industry has yet to achieve the level of success in marketing and selling these products – they are still accustomed to scaring us. Hopefully, simple tales like the above can help retirees and their financial advisors understand the benefits, risks and returns from buying longevity insurance. I certainly plan to buy one…in forty years.

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Value of Unisex Mortality Credits: What must you earn -- above the pricing rate -- to justify NOT annuitizing?

Age of Annuitant	Spread Above Pricing Interest Rate (in Basis Points = 1/100 %)
55	35
60	52
65	83
70	138
75	237

Age of Annuitant	Spread Above Pricing Interest Rate (in Basis Points = 1/100 %)
80	414
85	725
90	1256
95	2004
100	2978

Source: The IFID Centre calculations
Assuming 40m/60f (static) Annuity 2002 Table at 6% net interest.

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