SOCIETY OF ACTUARIES

Article from:

Reinsurance Section News

August 2005 – Issue 56

A NEW MARKET FOR REINSURERS

by David DiMartino

Retirement income planning is hot. *The Wall Street Journal, Journal of Financial Planning, Kiplinger's Magazine, Money* and others regularly publish articles addressing the need for baby boomers to plan not only the accumulation phase of their retirement, but also the income phase.

Many financial services organizations are allocating significant resources to develop tools, products and services designed to manage the income needs of those who have invested a lifetime accumulating for their retirement. One mutual fund complex invested $70 million for new services devoted to income management;[1] another organization announced the acquisition of a private company that develops and distributes products for the retirement income market;[2] and another press release announced the teaming up of a mutual fund company and an insurance company to offer products that can mitigate the risk of retirees from running out of money.[3]

One way insurance companies can participate in the growing retirement income planning market is by offering immediate annuities where the insurance company agrees to make regular payments to an individual for the rest of his or her life, in exchange for a single premium deposit.

The purpose of this article is to discuss some of the challenges insurance companies face when participating in this immediate annuity market, and to suggest ways reinsurers could be of service to the direct writers of immediate annuities.

The immediate annuity market can be divided into two major categories: variable immediate annuities and fixed immediate annuities. Variable immediate annuities pay benefits that depend upon the investment performance of funds inside the annuity. The income amount will fluctuate with the investment performance. The rest of this article will focus on fixed immediate annuities, where the payment amount is determined at issue, and is guaranteed by the insurance company. Today, fixed immediate annuities are the lion's share of the immediate annuity world.

When the source of funds for the single premium deposit comes from outside the insurance company, the product is called a single premium immediate annuity (SPIA). The source of funds can also come from an existing deferred annuity contract or life insurance contract. This is often referred to as an annuitization of an insurance contract. Both SPIA and annuitizations will be referred to as immediate annuities.

Payments from immediate annuities are typically monthly, quarterly, semi-annual or annual. The timing of the first payment is usually within one year of the single deposit being received. Payments are normally level. However, contracts with payments that increase over time are also common. The increase in the payment may be tied to some predetermined formula such as compounding at a fixed rate of interest, or tied to an index such as the rate of inflation.

The term of the payment may be for the life of the individual. When he or she dies, the payments stop. This is called a life-only immediate annuity. There are other variations, such as an immediate annuity

[1] J. Hechinger, "Fidelity to Help Retirees Spend, Too," July 10, 2004, *The Wall Street Journal.*

[2] Kathie O'Donnell, "MassMutual Announces Golden Retirement Acquisition," July 18, 2005. *MarketWatch News.*

[3] Vanguard Launches Lifetime Income Program, October 13, 2003, *Business Wire.*

that will pay the longer of a certain number of years or for life. Immediate annuities can also be sold with no life contingency. The payment is for a certain term, such as ten years. Another popular variation is the joint immediate annuity. The joint immediate annuity would continue to make payments as long as one of two people is alive, which is a common option selected by married couples.

The table below provides annuitization and immediate annuity sales as reported by LIMRA.[4]

Table 1: Immediate Annuity and Annuitization Market ($ Billions)

	1997	1998	1999	2000	2001	2002	2003	2004
Deferred Assets Annuitized	8.8	8.3	8.3	10.8	9.2	7.1	11.1	8.2
Immediate Annuity Sales	3.0	2.4	2.9	3.8	4.3	5.4	5.3	5.6
Total	11.8	10.7	11.2	14.6	13.5	12.5	16.4	13.8

Today's market may not be considered significant to the total fixed and variable deferred annuity market; however, many insurance companies and financial services organizations are committing significant resources to retirement income planning due to the changing financial needs of the baby boom generation. According to a LIMRA Market Study[5], by 2010 there will be close to 40 million Americans age 65 or older. By 2025, the estimate is that nearly 63 million Americans will be 65 or older. LIMRA estimated that the potential immediate annuity market could be over $114 billion among current retirees, and could grow another $37 billion among those who plan to retire in the next five years, and another $50 billion among those who plan to retire in more than five years.

The LIMRA Market Study made a number of assumptions to arrive at a $200 billion market. A key one is the amount that retirees would allocate to immediate annuities as a percentage of their total available retirement assets. LIMRA used 20 percent. This is reasonable in light of what financial advisors are recommending when retirees make investment allocations. It is not unusual to see conservative asset allocation recommendations include 20-50 percent in bonds. Personal-finance columnist Jonathan Clements has suggested that investors think about investing a portion of their bond allocation into immediate annuities. He suggested readers consider investing 25 percent of their assets in immediate annuities, as a substitute for their bond allocation[6].

Mortality is one of the significant assumptions in pricing immediate annuities. The risk is not that the customer dies sooner than pricing expected (which is what worries life insurance and deferred annuity pricing actuaries), but that the customer lives longer than expected.

For example, suppose a male age 65 needs $2,000 a month of income for the rest of his life. Let's also assume the mortality table used assumed the life expectation for the 65 year old male is 20 years, and the profit goal was 3.50 percent of premium on a pre-tax basis with those requirements along with a set of investment assumptions, an actuary may price that the required premium deposit at $300,000. Assuming the same set of pricing assumptions and profit goals, but increasing the expectation of life by one year, the required premium deposit would increase to $308,100, which is an increase of 2.7 percent. Stated another way, by being off one year on the expectation of life mortality assumption can wipe out more than 75 percent of the present value of insurance company profits.

Another significant assumption in pricing immediate annuities is the investment yield assumption. It is common to price immediate annuities by discounting

continued on page 34

[4] D. Beatrice, "The 2004 Individual Annuity Market Sales," *LIMRA*.

[5] M. Drinkwater, "The Annuitization Market," *LIMRA's Marketfacts Quarterly*.

[6] J. Clements, "Retirement Isn't a Time to Retreat," February 1, 2004, *The Wall Street Journal*.

A New Market for Reinsurers from page 33

cash flows based on spot rates. In practice though, the investment department may only have reliable investment yields for a 20-year horizon or so. The pricing actuary will then need an investment assumption to fund cash flows past the 20-year mark. Starting with the previous example of a required deposit of $300,000, suppose the investment yields supporting cash flows in years 21 and later were reduced by 1 percent. The required deposit increases to $306,700, an increase of 2.2 percent. Stated another way, being off 1 percent on the investment yields that support the very long cash flows can wipe out more than 60 percent of the present value of profits.

So what can reinsurers do to become part of this $200 billion market? An analogy to term insurance seems appropriate. Reinsurers with their size, capital and expertise with underwriting and understanding of mortality have been able to help insurance companies of all sizes and means become competitive in the term insurance market. Maybe reinsurers with their expertise and understanding of mortality and investing can help insurance companies of all sizes and means become more competitive in the immediate annuity market. They can do this by providing reinsurance where it is needed most, reducing longevity and reinvestment risk.

Reinsurance arrangements for immediate annuities are described in the *Life Insurance Products and Finance*, by Atkinson and Dallas, 2000.[7] One type is coinsurance. This allows the insurer and reinsurer to share in all the risks of the immediate annuity. Another is reserves-released reinsurance. Designed for immediate annuities, the reinsurer pays the insurance company a benefit equal to the reserves expected to be released by death, and the insurance company pays the insurer equal to the reserves actually released by death plus some charge. These types of treaties have their pluses and minuses.

Atkinson and Dallas also described a third type of reinsurance contract that may actually get to the heart of what the immediate annuity market needs most, and that is described as tail reinsurance.

David L. DiMartino, ASA, MAAA, is senior managing actuary with Integrity Life Insurance Company in Louisville, Ky. He can be reached at *david.dimartino@integritycompanies.com*.

Here is a typical scenario. A direct writer of immediate annuities may be confident of its mortality and investment assumptions used in pricing an immediate annuity for the first 20 years of a contract, but desires reinsurance for the payments thereafter. For example, for a male age 65 who chose a 10-year certain and life annuity, the direct writing insurance company would pay reinsurance premiums to a reinsurer who would provide some percentage of the monthly benefit after 20 years or so, if the annuitant lives that long.

With this type of tail reinsurance, there are several ways the contract could be structured, depending on the needs of the direct writer. For example, at the time the contract is issued, the direct writer could pay a lump sum reinsurance premium to the reinsurer. In this instance, the reinsurer invests the proceeds and waits 20 years to see if there will be any forthcoming claims.

Or, at the time the contract is issued, the direct writer would pay a quarterly reinsurance premium as long as the customer is alive, for up to 20 years. Then the reinsurer would start paying claims thereafter.

And there could be options on settling the claims. A reinsurer could take over the payments as described above, or the reinsurer could make an agreed upon lump sum settlement at the end of 20 years to extinguish the reinsurance contract.

Because of the variety of ways to create a tail reinsurance contract, these contracts could be structured to meet the specific needs of the direct writer: some may be concerned more about longevity and not reinvestment risk; some may be concerned more about investment; some may be more concerned about surplus strain. The variability in the timing of premiums, expense reimbursement allowances, and the exact nature of the reinsurance claim settlement allows reinsurers to tailor their contracts to the unique needs of the insurance company.

In the normal course of writing immediate annuities, investment yield assumptions change. This change in investment yield assumptions means the

[7] Atkinson, David B. and James W. Dallas, 2000. *Life Insurance Products and Finance*, p. 678-80. Schaumburg, Ill.

direct writer would frequently change its factors used to quote new business. It can be a complex process to update these factors, and it makes sense to automate this process as much as possible.

For a reinsurer wanting to enter into this tail reinsurance market, automation makes sense as well. So the best way for a direct writer to work with a reinsurer may be through the Internet.

Either on a facultative or automatic basis, direct writing insurance companies would need updated information from reinsurers in an easy-to-access format so that reinsurance costs could quickly be included in an annuity quote prepared by the direct writer. Of course, much needs to be worked out in advance between the direct writer and the reinsurer about the type of business that would be reinsured, age limits, amount limits and other factors. One of the most advanced ways for this exchange to take place is for the direct writer to access a reinsurer's automated reinsurance quote machine and grab the data electronically. The direct writer would then incorporate the reinsurance cost and benefits in the calculation for its new business quoting.

There are other trends in the fixed immediate annuity market that would also make for interesting business for reinsurers. Insurance companies are coming to market with deferred immediate annuities. The primary benefit is not a cash surrender value but an income stream that doesn't start immediately, but could be deferred for a period of two to 20 years or more. This has been referred to as longevity insurance. Also, the concept of using underwriting to determine payout amounts is getting more mention now than ever before. Both these trends seem to suggest that the need for reinsurance expertise will continue to expand.

I work for a direct writer of fixed immediate annuities. It would be interesting to explore these opportunities with a reinsurer. Someone please call. ✺

REINSURANCE
NEWSLETTER OF THE REINSURANCE SECTION

Number 56 • August 2005

This newsletter is free to section members. A subscription is $15.00 for nonmembers. Current-year issues are available from the Publications Orders Department. Back issues of section newsletters have been placed in the Society library, and are on the SOA Web site, *www.soa.org*. Photocopies of back issues may be requested for a nominal fee.

Expressions of opinion stated herein are, unless expressly stated to the contrary, not the opinion or position of the Society of Actuaries, its sections, committees or the employers of the authors.

The Society assumes no responsibility for statements made or opinions expressed in the articles, criticisms and discussions contained in this publication.

Newsletter Editor
Richard Jennings, FLMI, ACS
Phone: (416) 852-4861
E-mail: *Richard_Jennings@manulife.com*

Officers
Chairperson
Michael E. Gabon, FSA
Vice-Chairperson
Lawrence S. Carson, FSA
Secretary/Treasurer
John O. Nigh, FSA

Council Members
Craig M. Baldwin, FSA
Richard K.M. Lau, FSA
Henry B. Ramsey, III, FSA
Timothy J. Tongson, FSA
Mark R. Troutman, FSA
Larry Warren, FSA

SOA Staff
Clay Baznik, Director of Publications
Phone: (847) 706-3568 • Fax: (847) 273-8568
E-mail: *cbaznik@soa.org*

Joe Adduci, DTP Coordinator
Phone: (847) 706-3548 • Fax: (847) 273-8548
E-mail: *jadduci@soa.org*

Society of Actuaries
475 N. Martingale Road, Suite 600 • Schaumburg, IL 60173
Phone: (847) 706-3500 • Fax: (847) 706-3599 • Web: *www.soa.org*

Copyright © 2005
Society of Actuaries • All rights reserved
Printed in the United States of America

Society of Actuaries