



Develop Business/Financial Planning

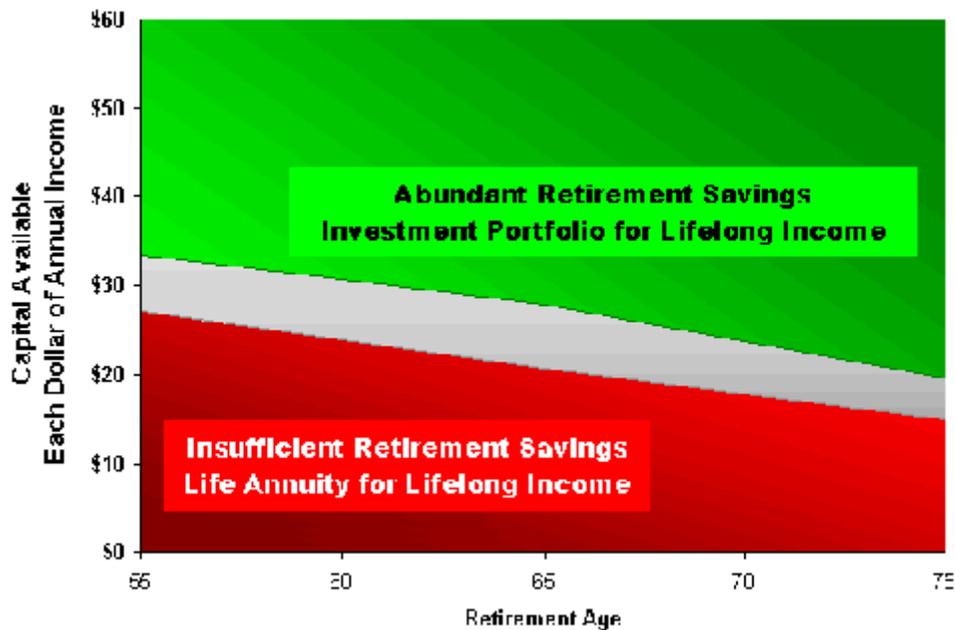
The Zone System for Choosing Combinations of Retirement Income Products, Part 2

By Jim Otar, CMT, CFP
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When clients have merely sufficient savings—neither abundant nor deficient—how do you decide on the right combination of products to use? The Zone System can help you figure out the perfect mix of investment portfolio and annuities that will generate the lifelong retirement income your client needs. Part 2 of a two-part series.

In [Part 1](#), we outlined a system for deciding which products to use to generate lifelong income for a retiring client. People with abundant retirement savings fell into the green zone and could rely on a properly diversified and managed investment portfolio to provide lifelong income. Clients who fell into the red zone, with insufficient retirement savings, should purchase a single-premium indexed life annuity (SPIA) and lower their expenses.

Figure 1: The Zones



Source: Otar & Associates

But what about the gray area between the abundant green zone and the insufficient red zone? Here your client has merely "sufficient retirement savings," and you need to give considerable thought as to what combination of products will generate the lifelong retirement income he needs. Below are some of your choices for designing an income plan that is the perfect mix of investment portfolio, life, and variable annuities:

- Perfect Mix #1: Indexed life annuity and investments
- Perfect Mix #2: Non-indexed life annuity and investments
- Perfect Mix #3: Indexed life annuity and variable annuity
- Variable annuities only

To clarify, an indexed life annuity refers to a single-premium [immediate annuity](#) (SPIA), in which payments are indexed to the CPI or a fixed percentage annually. A non-indexed or straight life annuity refers to a single-premium immediate annuity in which payments remain constant over the life of the retiree.

Perfect Mix #1

This approach combines an investment portfolio with an indexed life annuity. The first question is: How much life annuity is required, and how much of the money remains in the investment portfolio? We need to know only three numbers for the Perfect Mix #1 formula:

Percent annuity required = $100 \times (AM - AC) / (AM - CO)$ where:

- AM is the asset multiplier from Table 1 (below)
- CO is the cost of life annuity from Table 2 (below)
- AC is the available capital per dollar of income required, calculated as client's retirement assets divided by annual income required

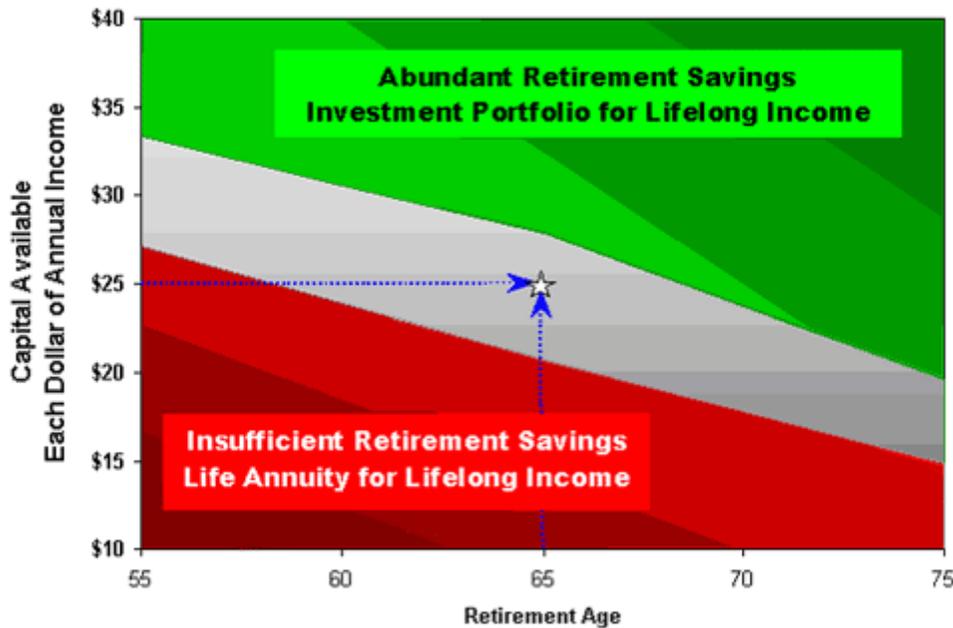
Retirement age	Capital required at the start of retirement for each dollar of annual withdrawal (Indexed to CPI)
55	\$33.30
65	\$27.80
75	\$19.60

Source: Otar & Associates

	Female	Male
55	\$27.10	\$24.90
65	\$20.70	\$18.80
75	\$14.90	\$13.80

Let's look at an example: Jane, 65, is just retiring. She wants her money to last until she is 95. She has retirement savings of \$500,000. She needs \$20,000 from her portfolio. The available capital for each dollar of annual income is \$25, calculated as \$500,000 divided by \$20,000. Plot that against age 65. The intercept—where the two arrows meet—is in the gray area on Figure 2 below. Jane has neither abundant nor insufficient savings. Therefore, she has sufficient savings, provided that she exports some of the risk to an insurance company in the form of a life annuity or a variable annuity, or some combination of both.

Figure 2: The Gray Zone
Sufficient Retirement Savings = Combined Products

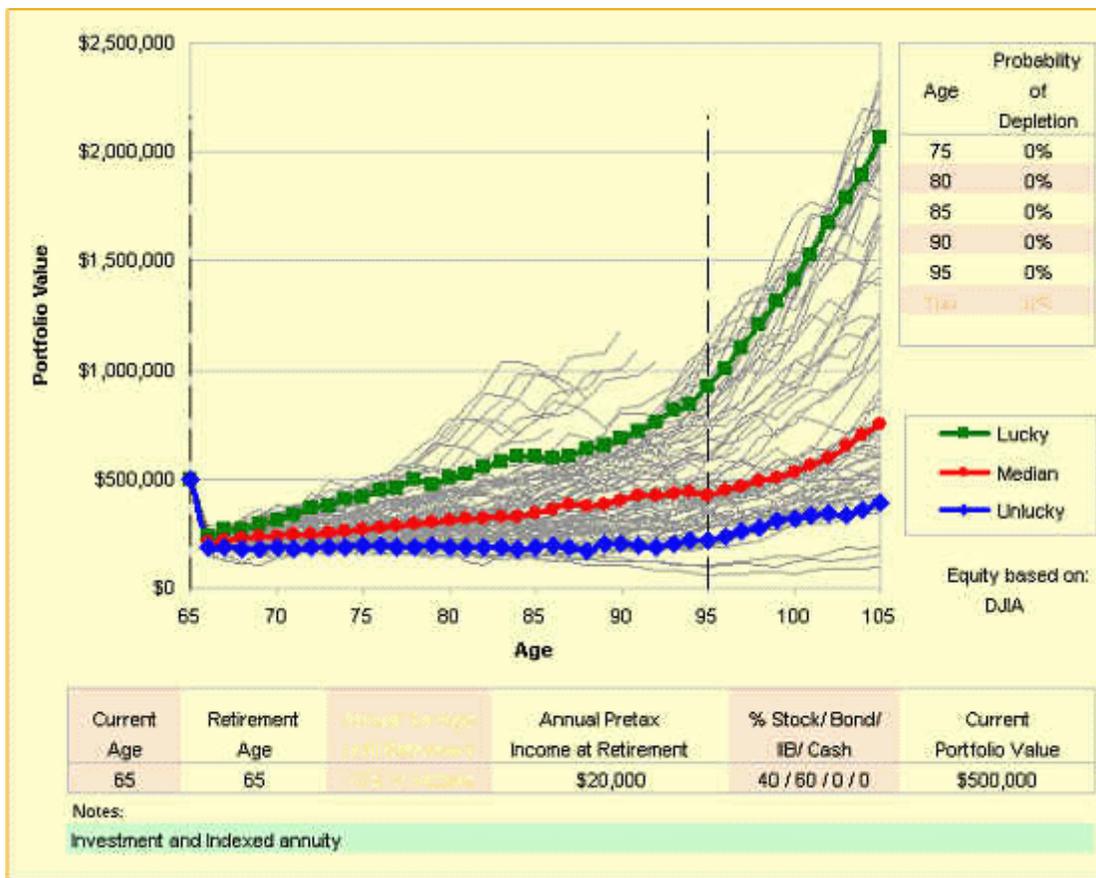


How much of her money should go to buy a life annuity? At age 65, the AM is \$27.80. The CO is \$20.70. Her available capital per dollar of income (AC) is \$25. Plug these numbers into the Perfect Mix 1 formula:

$$\text{Percent annuity required} = 100 \times (27.80 - 25.00) / (27.80 - 20.70) = 39\%$$

Therefore, Jane should buy an indexed annuity for \$195,000, calculated as 39% of \$500,000. The rest of the money, \$305,000, stays in her investment portfolio. She would then have a lifelong income, as shown in Figure 3 below. The probability of depletion by age 95 is 6%, which is well below an acceptable level of 10%.

Figure 3: Probability of Depletion of Indexed Annuity + Investment



Source: Otar & Associates

The Perfect Mix #2

This combines an investment portfolio with a non-indexed life annuity. The Perfect Mix #2 formula is:

$$\text{Percent annuity required} = \text{AF} \times (\text{AM} - \text{AC}) / (\text{AM} - \text{CO})$$

where:

- AM is the asset multiplier from Table 1
- CO is the cost of indexed life annuity from Table 2
- AF is the age factor from Table 3 (below)
- AC is the available capital per dollar of income required, calculated as client's retirement assets divided by annual income required

Retirement age	Age Factor
55	100
65	130
75	75

Source: Otar & Associates

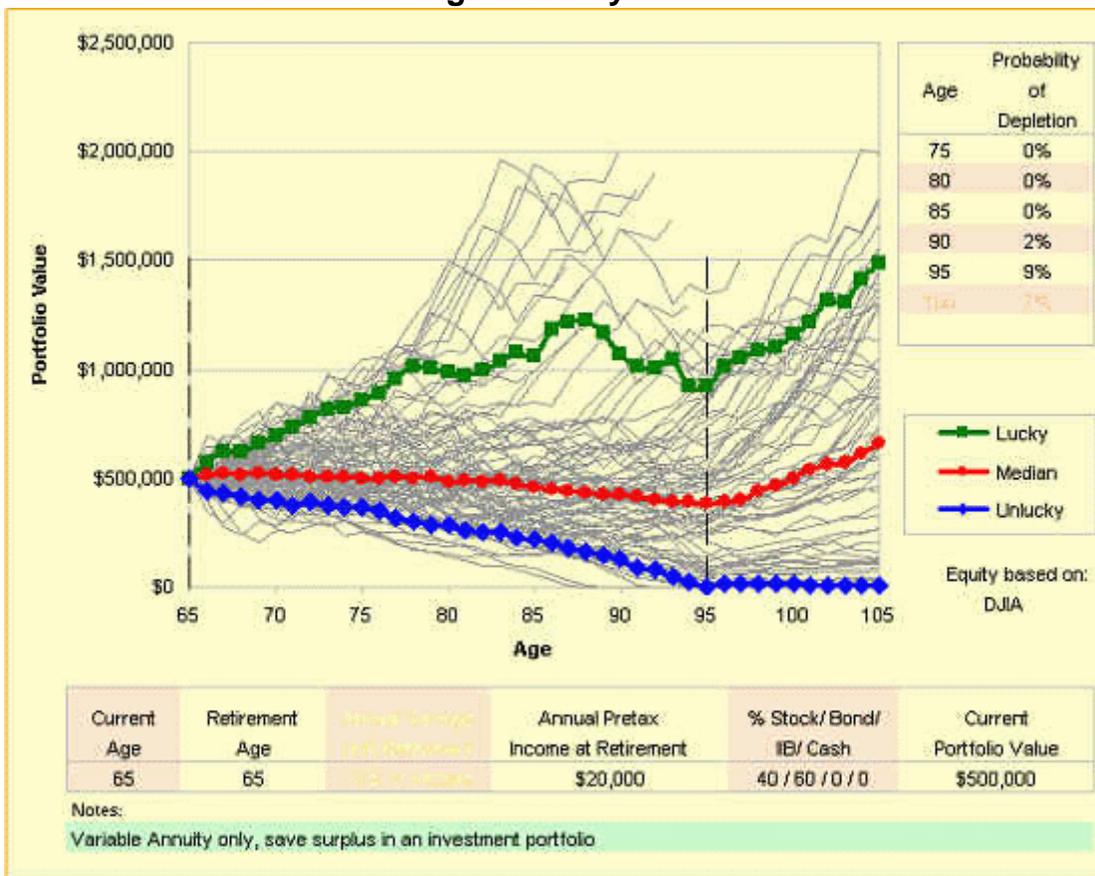
The age factors for ages 55 and 75 are lower than for age 65. That's because, for a time horizon until age 95, retiring at age 55 allows more time for portfolio growth. As for retiring at 75, the annuity payout is higher and the need for inflation protection is less because of a shorter time horizon until age 95.

Continuing with Jane as an example, remember that her available capital for each dollar of annual income is \$25:

$$\text{Percent annuity required} = 130 \times (27.80 - 25.00) / (27.80 - 20.70) = 51\%$$

Therefore, Jane should buy a non-indexed (straight) annuity for \$255,000, calculated as 51% of \$500,000. The rest of the money, \$245,000, stays in her investment portfolio. She would then have lifelong income as shown in Figure 4 below. The probability of depletion by age 95 is 4%, which is well below an acceptable level of 10%.

Figure 4: Probability of Depletion of Investment Portfolio + Straight Annuity



Source: Otar & Associates

It is possible that in some cases the calculated annuity percentage may exceed 100%, especially when the client is near the red zone. This indicates that even when the client places all her money in a non-indexed annuity, she may have to cut back her expenses somewhat in the later years.

The Perfect Mix #3

This combines a variable annuity with an indexed life annuity. The Perfect Mix #3 formula is:

Percent annuity required = $100 - \{67 \times [1 - (AM - AC) / (AM - CO)]\}$ where:

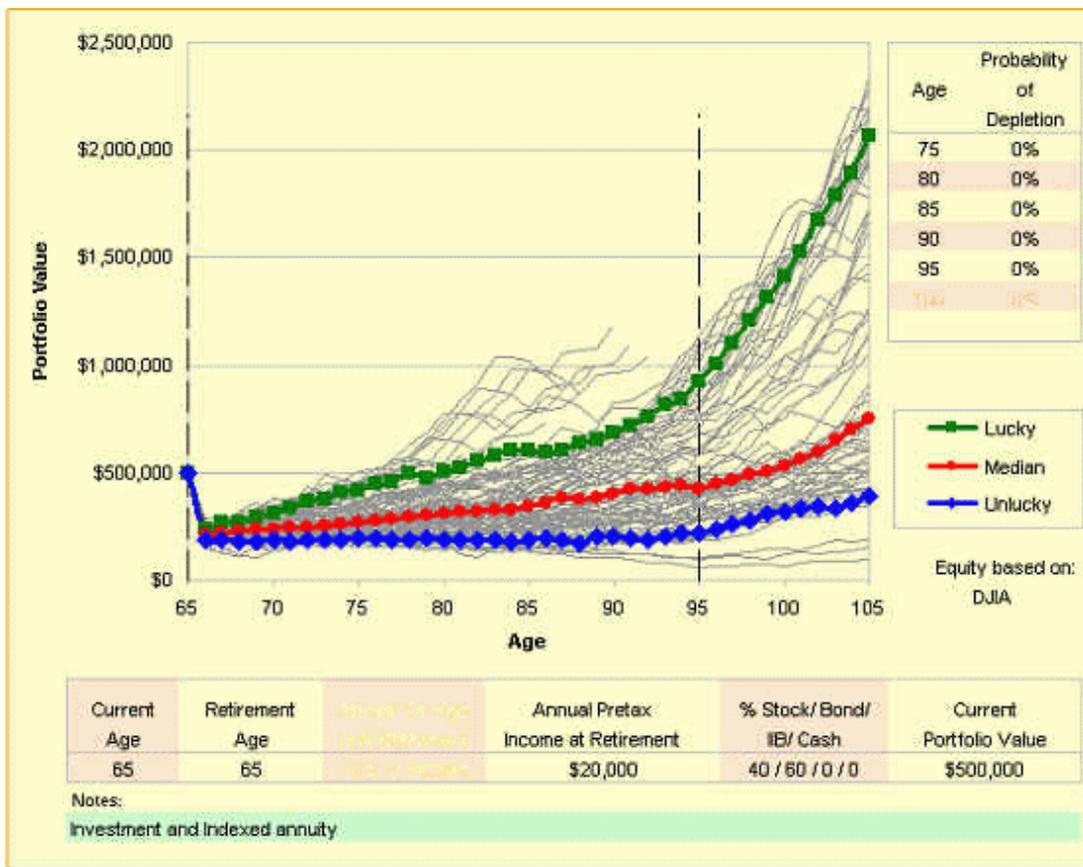
- AM is the asset multiplier from Table 1
- CO is the cost of life annuity from Table 2
- AC is the available capital per dollar of income required, calculated as client's retirement assets divided by annual income required

Once again, let's look at what Jane should do:

Percent annuity required = $100 - \{67 \times [1 - (27.80 - 25.00) / (27.80 - 20.70)]\} = 59\%$

Therefore, Jane should buy an indexed annuity for \$295,000, calculated as 59% of \$500,000. The rest of the money, \$205,000, buys a variable annuity with 5% guaranteed withdrawals. She would then have lifelong income, as shown in Figure 5 below. The probability of depletion by age 95 is 0%. She will have surplus income for many years. However, in the later years, there is a small chance that she will not have the full income. The surplus is saved for those lean years.

Figure 5: Probability of Depletion of Investment Portfolio + Indexed Annuity



Source: Otar & Associates

It is important to note that all formulas in these Perfect Mix calculations are based on current annuity payout rates indexed at 3% annually. Annuity rates will vary by interest rates and many other options selected for a specific client. You will need to update Table 2 to suit your client's case and redraw the border for the red zone.

Variable annuity only

Now we can turn to variable annuities (VAs) with guaranteed withdrawals. Here are the basic guidelines: VAs should be used only in the gray area and in a narrow band in the neighboring green area. If you use VAs in the red area, the starting amount of periodic income will be less than what the client needs. Furthermore, it is highly likely that the client's purchasing power will drop significantly over time.

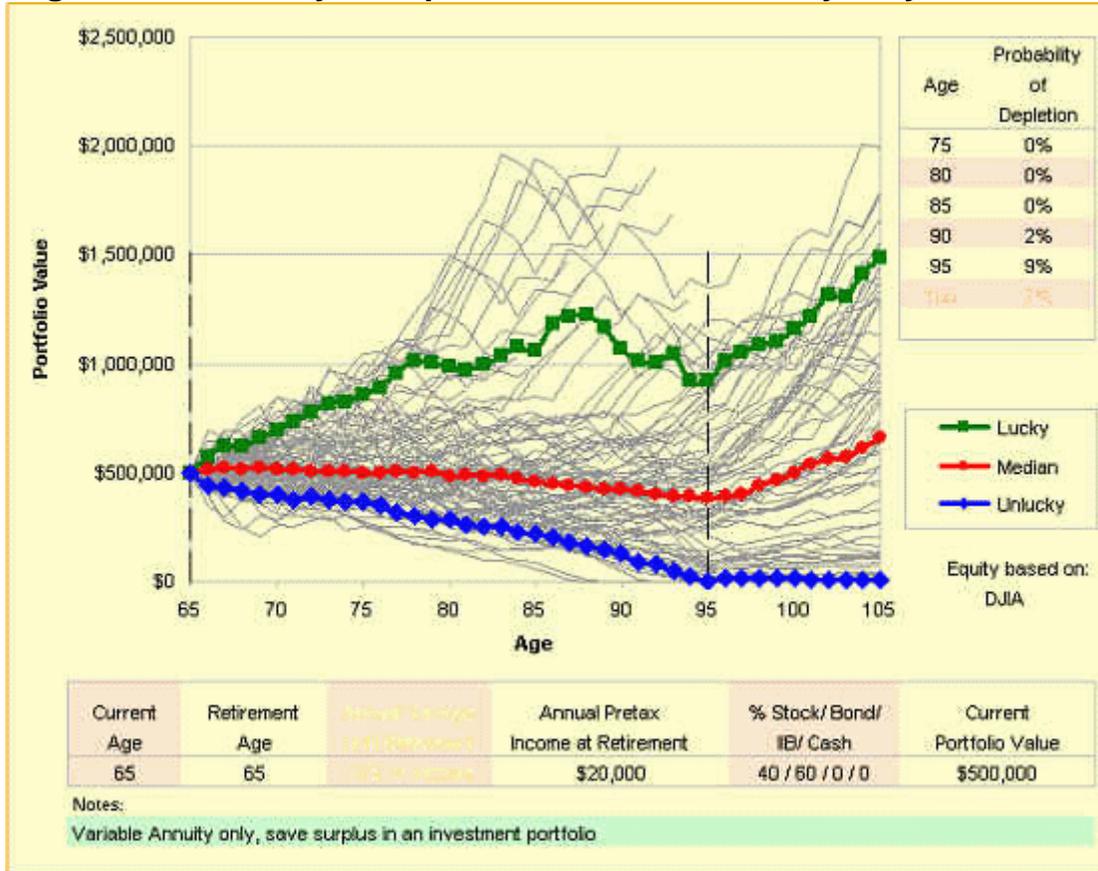
On the other extreme, if you buy VAs deep in the green area, you will be wasting too much of the client's money to buy a [longevity insurance](#) that she does not need. The further the client is in the deep green area, the more the money is wasted in a VA.

Let's see what could happen with Jane using variable annuities only. Her retirement savings are \$500,000. She needs \$20,000 from her portfolio. She places all her money in a variable annuity. It will provide her with \$25,000 annually. She will have a surplus of income in the first several years. In most available VAs, you would want to take out the full guaranteed

withdrawal amount each year because you would not get a credit in future years. This surplus is saved for future years, if and when the variable annuity does not reset higher sufficiently for the inflation.

Jane's probability of depletion by age 95 is an acceptable 9%, as shown in Figure 6.

Figure 6: Probability of Depletion of Variable Annuity Only



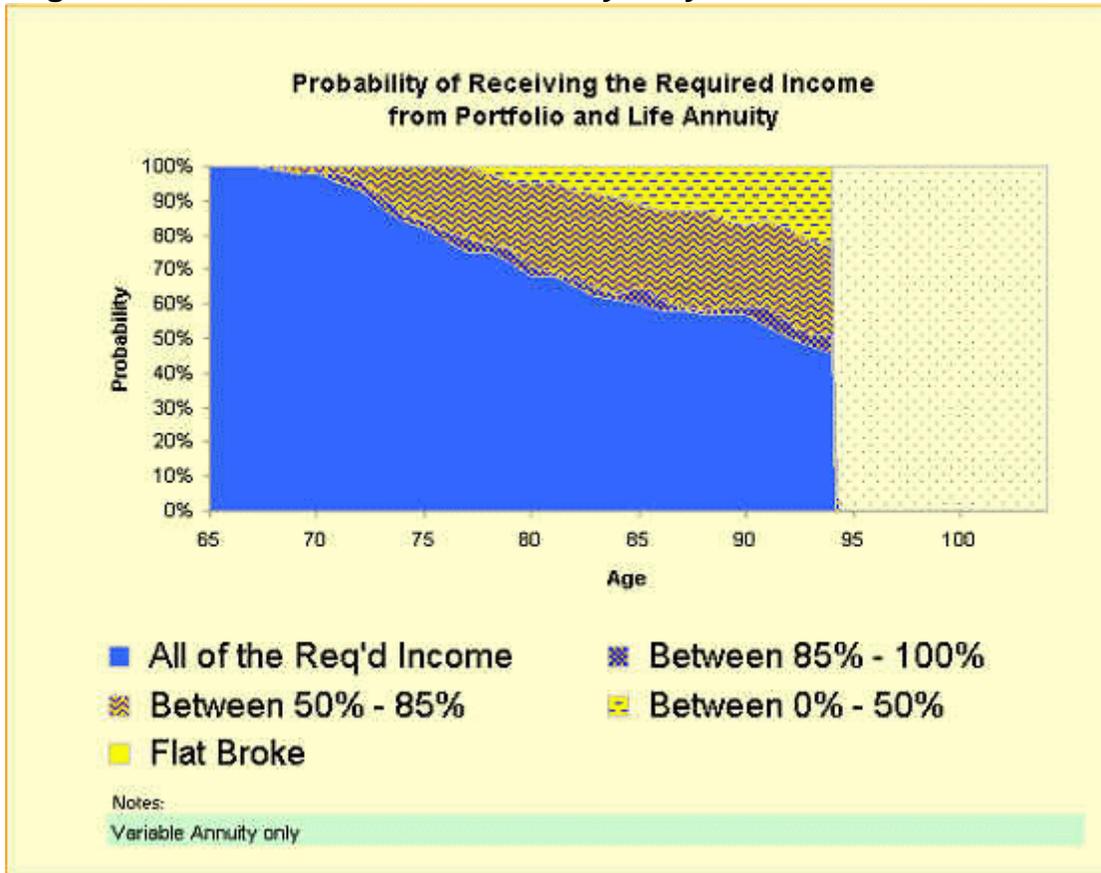
Source: Otar & Associates

However, don't be misled by the asset profile alone. In retirement planning, the asset picture is only part of the equation. There is also the cash flow picture. According to market history, the probability that Jane will receive, at age 94, her required income—adjusted for inflation—is as follows:

- 100% of required income: 46%
- Over 85% of required income: 51%
- Between 50% and 85% of required income: 26%
- Less than 50% of required income: 23%

Yes, she will have guaranteed income, but it may be only a small fraction of what she needs, as Figure 7 shows.

Figure 7: Cash Flow—Variable Annuity Only



Source: Otar & Associates

The ideal situation for using of variable annuities is when the client is in the gray area close to the green area, or when she is just inside the green area.

The Zone System

Of course, there are many other considerations for complete [retirement planning](#). And each case is different. However, implementing a methodical approach based on actual market data will help you make better purchasing decisions. It will also help you successfully design a retirement plan that clients can enjoy for a lifetime.

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