Index Annuities

# Introduction

One of the ways to classify annuities is to distinguish how the cash value is invested between fixed annuities and variable annuities. Some commentators suggest that that there is also a third type—index annuities. While this might seem reasonable—after all, index annuities certainly look different—it is not correct. An index annuity is a type of fixed annuity. Indeed, it is, in every respect, a fixed annuity, because its value is expressed in dollars, not units that vary in value according to the underlying investments. It is not, in any respect, a variable annuity. To understand why, we must examine how an index annuity works.

But first, it is important to understand the sometimes troublesome matter of its name*.* Index Annuities(IAs)are also referred to as Equity Index Annuities (EIAs) or Equity-Linked Index Annuities (ELIAs). This is because the interest[[1]](#endnote-1) credited to an IA is linked to an external index, which is usually, but not always, an equity index—typically, but not always, the S&P 500.[[2]](#endnote-2) The nature of this linkage—that is, the extent to which changes in the index will be reflected in the amount of interest credited to the index annuity—varies, and often greatly from one IA product to another. There are several—or many, depending upon how closely one wishes to differentiate—basic index annuity designs and dozens of methods of crediting interest. But all of them link the interest to be credited to the annuity contract to changes in the index used for that contract.

A serious problem with the terms equity index annuity and equity-linked indexannuity, according to Jack Marrion, probably the foremost expert in IAs, is that both imply a greater degree of correspondence between movement of the underlying index and interest credited to the index annuity than actually exists in any of the IA designs. Holders of IA contracts may, in attending to those two terms, come to expect the same level of returns—specifically, positive returns—that they could enjoy by holding a more nearly direct investment in the index, such as an index mutual fund, or an exchange-traded fund such as the S&P 500 SPDR.[[3]](#endnote-3) Moreover, both terms virtually ignore two of the most attractive benefits enjoyed by IA owners by virtue of the fact that an IA is a fixed annuity—namely (1) a guarantee of principal and (2) a guarantee of a minimum rate of interest.

For these reasons, Marrion prefers to use the term index annuity, or, better yet, “Fixed Index Annuity” (FIA). In the authors’ opinion, Marrion’s concerns are valid. The last thing any advisor should want is a label for any savings or investment product that is misleading. So, we will dispense with both EIAs and ELIAs. But, with all due respect to

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Jack, we’ll stick with the term index annuity because it is in common usage. It’s also shorter.

# Basics of Index Annuities

An IA is a fixed deferred annuity. Like all fixed deferred annuities, it offers a guarantee of principal and a guaranteed minimum rate of interest.[[4]](#endnote-4) However, unlike traditional fixed annuities, the IA offers the potential for excess interest based, not on whatever the insurer decides to declare, but on the performance of the underlying index. An IA gives the buyer some ofthe gains achieved by the stock index and none of the losses.What do we mean by some? The extent to which the annuity owner participates in the gains realized by the underlying index and when those gains are credited to the annuity, in the form of interest,depends upon the design of the annuity.We will examine the basic designs later in this chapter, but, first, we need to clarify some of the special terminology used in index annuities and to understand the various moving parts that go into the construction of these contracts.

# Index Annuity Terminology[[5]](#endnote-5)

Indexing Method

The indexing method is the approach used to calculate the change in the underlying index, for the purpose of determining the interest to be credited to the annuity.

Term or Index Term

The term or index term of an IA is the period over which index-linked interest is calculated. It is important to understand that “index term” does not mean the duration of the annuity contract itself. The contract duration is the period from inception (issue) to the maturity date, which is often age ninety-five or one hundred. The maturity date is that date at which the accumulated value of the contract must be paid out, either as a lump sum or in the form of regular annuity payments. Many consecutive index terms can occur over the span of the duration of the contract itself.

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Participation Rate

The participation rate is amethod—but not the only method—used to determine how much of the increase in the underlying index will be credited as interest to the annuity. For example, if the index growth over the index term was ten percent and the participation rate is seventy percent, the interest credited will be seven percent (10 percent of 70 percent). The participation rate may be guaranteed by the issuer for a period of time, from one year to the entire term, or may be changeable by the insurer at any time. Some contracts guarantee that this rate will never fall below a stated minimum. The participation rate is one of the moving parts in an IA, allowing the issuing insurer to adjust the interest crediting formula to reflect changes in interest rates and the cost of equity options[[6]](#endnote-6) over the term period.

Yield Spread or Term Asset Fee

The yield spread is another method of reducing the amount of index gain that will be credited as interest to the annuity, thus reducing the risk to the insurer, another of the moving parts. If the annualized growth of the index, over the index term, was ten percent and the yield spread is three percent, the interest credited will be seven percent (ten percent minus three percent). Yield spread is simply another way of limiting the insurer’s risk and annuity owner’s gain—an alternative to the participation rate.

Cap Rate or Cap

Some index annuities put a maximum value on either the interest rate that will be credited, known as the interest rate cap, or the amount of index gain recognized in calculating the equity-linked interest, or index cap. The marketing material for some IAs that use a cap do not make entirely clear whether an interest rate cap or an index cap is being used. It is vitally important that the advisor, discussing an IA with a cap, understand which method is being employed. Here’s why. Assume the underlying index gains 20 percent in a given year:

1. An IA with a 70 percent participation rate and a 12 percent interest rate cap will credit 12 percent. 20 percent × 70 percent = 14 percent, but the cap limits the interest credited to 12 percent; therefore, the interest credited is 12 percent.

2. An IA with a 3 percent yield spread and a 12 percent interest rate cap will credit 12 percent. 20 percent − 3 percent = 17 percent, but the cap limits the interest credited to 12 percent; therefore, the interest credited is 12 percent.

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3. An IA with a 70 percent participation rate and a 12 percent index cap will credit 8.4 percent interest. The cap recognizes no more than 12 percent of the index movement—12 percent × 70 percent = 8.4 percent.

4. An IA with a 3 percent yield spread and a 12 percent index cap will credit 9 percent interest. The cap recognizes no more than 12 percent of the index movement—12 percent − 3 percent = 9 percent.

Does this mean that IAs with index caps are not as good as those with interest ratecaps? Not necessarily, because IAs with index caps frequently offer higher participation rates or lower yield spreads than contracts with interest rate caps. As Marrion and John Olsen explain in their book *Index Annuities: A Suitable Approach*, “caps are used to boost participation rates or minimize yield spreads. Since they limit upside exposure, the cost [to the insurer] of providing the index-linked interest is less, so participation in caps up to the cap are higher. Caps enable one to get ‘more of most’ instead of ‘less of more.’”[[7]](#endnote-7)

Notably, though, this does represent a trade-off, and depending on the composition of the underlying returns may turn out better or worse; for instance, if returns are routinely greater than the cap in a volatile investment, getting “less of more” (but participating in all of the upside) can still net better results than getting “more of most” (if some is routinely left on the table). Ultimately, advisors trying to decide whether to recommend solutions with higher or lower caps (and the associated participation rates) should consider the return potential relative to the volatility of the underlying investment used to calculate those returns.

# Index Annuity Designs

IAs have been around since the mid-1990s. Initially, the designs (the ways in which contracts recognized and credited interest) were few and relatively simple. With changes in the stock market and consumer attitudes, new designs were introduced. By November, 2000, there were over forty different interest crediting methods.[[8]](#endnote-8) In recent years, most of those designs have fallen by the wayside. Currently, the great majority of IAs sold use one of just a few basic methods.

Annual Point-to-Point (APP)

Like a fixed rate annuity—a conventional fixed annuity—the annual point-to-point method, credits interest each year. The amount of interest credited each year is based

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on the movement of the underlying index during that year, calculated from the ending balance of the index for the previous year (thus, “point to point”). An essential characteristic of annual reset index annuities is that losses are ignored. If the index movement in any year is negative, the contract treats that loss as a zero percent gain and credits zero interest for that year. Another essential characteristic is that, because gain is measured from the index value at the end of the previous year, an annual point-to-point IA can credit interest based on index gain even if that gain is only a recapture of some of previous losses. This is due to the “annual reset” that occurs each year. The beginning-of-year index value, for purposes of determining interest, is “reset” from the prior year’s value (and the reset can be up or down from the prior year!). The annual point-to-point method is usually abbreviated as (APP) and is sometimes referred to as the “ratchet” or “annual reset” method.

Figure 1 illustrates the hypothetical performance of a $100,000 APP annuity with a sixty percent participation rate, and a five percent interest rate cap. In the first three years, the index lost over forty percent; in each of those years, the annuity was credited with zero percent interest (because loss years in the APP crediting method are treated as zero percent gains). In the fourth year, the index gained over twenty-six percent, but that gain had not erased all of the first three years’ losses. Nevertheless, the annuity was credited with five percent interest (due to the five percent cap).

Figure 1

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At the end of the tenth year, the index value was almost twenty-five percent less than at the start; even with dividends (which aren’t used in the index annuity crediting

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calculations), the ending value was nearly ten percent less. By contrast, the annuity value was more than twenty-six percent higher. The S&P® numbers shown are actual historical values from January, 2000 through December, 2009. So, does this mean that one can expect an index annuity to outperform the index itself? Definitely not. First, stocks in an equity index may produce dividends, which, as noted earlier, are not taken into account in IAs, but would be received by investors holding a mutual fund or ETF based on that index. Moreover, this hypothetical illustration, which uses actual values of the S&P 500 Index, is of a highly volatile period, and happens to start from what turned out to be a significant market peak. APP IAs do very well in such a climate, if an investor should be lucky enough to start investing when such a volatile market environment occurs.

Averaging – Monthly or Daily

The use of averaging can “smooth out” market highs and lows and drive credited interest to the middle-of-market performance during the crediting period. Thus, in a generally rising market, averaging usually produces a lower value than a point-to-point design and, in a falling market, usually produces a higher value. Similarly, an averaging formula can protect the annuity buyer from a dramatic end-of-term market decline, but also may forgo fully benefitting from a dramatic end-of-term market rally.

Monthly Averaging

The amount of interest credited under a monthly average is calculated by first finding the average (monthly) value of the index over the crediting period (typically, one year), determined by simply adding up the index value at the end of each month and dividing by the total number of months. The beginning index value at the start of the period is then subtracted from this monthly average to produce the “index difference.” The index difference is then divided by the beginning index value to produce the gross interest rate. The gross interest rate is then multiplied by the participation rate (often, in monthly averaging contracts, one-hundred percent) to produce the interest rate to be credited to the annuity contract for that period.

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| Exhibit 1 |
| ***Example:*** |  |  |
| Beginning Value |  | 100 |
| Value Period 1 |  | 102 |
| Value Period 2 |  | 103 |
| Value Period 3 |  | 105 |
| Value Period 4 |  | 107 |
| Value Period 5 |  | 104 |
| Value Period 6 |  | 106 |
| Value Period 7 |  | 109 |
| Value Period 8 |  | 112 |
| Value Period 9 |  | 111 |
| Value Period 10 |  | 108 |
| Value Period 11 |  | 107 |
| Value Period 12 |  | 110 |
| Average over all periods |  | 1284/12 = 107 |
|  |  |  |
| (Average Index Value) | - | (Beginning Index Value) | = | (Index Difference) |
| 107 | - | 100 | = | 7 |
|  |
| (Index Difference) | / | (Beginning Index Value) | = | (Gross Interest Rate) |
| 7 | / | 100 | = | .07 |
|  |  |  |  |  |
| (Gross Interest Rate) | x | (Participation Rate) | = | (Interest Earned) |
| .07 | x | 100% | = | 7% |

Daily Averaging

Daily averaging is done in the same way as monthly averag ing, except that the index values are added on a daily basis and the number of data points (to divide by, to determine the average) is the number of days in the year having index values.

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Monthly Sum (Monthly Cap on Gains, but not Losses)

This method was borrowed from a Wall Street principal protection securities idea.[[9]](#endnote-9) It sums the monthly gains and losses, after applying a cap to each monthly gain. Monthly losses are not subject to such capping. The resulting sum is the interest rate that will be credited to the annuity contract. This method is sometimes called “monthly point-to-point,” which can be confusing because, unlike a true APP method, the values in this method are not locked in each month;[[10]](#endnote-10) thus, intra-year losses in some months actually can offset gains in other months, though if the total year’s loss is negative the policyowner still receives a zero percent (non-negative) return due to the principal guarantee of the annuity.

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| Exhibit 2 |
| ***Example*:** MONTHLY CAP 2% |
| **MONTH** | **Actual Return** | **Capped Return** |
| January | +2% | +2% |
| February | +1% | +1% |
| March | -3% | -3% |
| April | +4% | +2% |
| May | +2% | +2% |
| June | -4% | -4% |
| July | -3% | -3% |
| Aug | +1% | +1% |
| Sept | +5% | +2% |
| Oct | +3% | +2% |
| Nov | -1% | -1% |
| Dec | +3% | +2% |
| **AVERAGE** | **10%** | **CAPPED AVERAGE** | **3%** |
| 3% interest would be credited to the contract. |

“Trigger” Method (AKA “Performance Trigger”)

In this method, the index annuity will be credited with a stated interest rate (declared at the beginning of each year) if the index value at the end of the period (typically, one year) is equal to or greater than the value at the beginning of the period, regardless of the size of that index gain.

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For example, if the beginning index value is 100 and the ending value is 102 (a gain oftwo percent), the annuity will be credited with the declared rate whether that rate is more or less than the actual index gain. If the index declines, no interest is credited.

“Inverse Performance Trigger” Method

This method is similar to a Put Option. If the ending index value is equal to or less than the beginning index value, the stated interest rate (declared at the beginning of each year) will be credited to the contract. If the index rose during the period, zero percent interest will be credited.

Notably, neither the performance trigger method, nor the inverse performance trigger method, can produce an interest credit of other than the stated rate or zero.

“Rainbow” Method

As Marrion and Olsen note, the rainbow concept has been used for years in the investment world. The rainbow method is an option basket whose best-performing indices are weighted more heavily than those indices that performed less well. It is a “look back” method because the contract value is allocated based on the ranking of the indices’ performance after the period is over.

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| Exhibit 3 |
| ***Example:***A Rainbow Method using allocations of 35%, 35%, 20%, and 10%. |
| US Stock Index | up 20% |
| Bond Index | down 10% |
| Foreign Stock Index | up 18% |
| Emerging Markets Index | up 5 % |

The best performer was the US Stock Index with a twenty percent gain. The rainbow method uses the highest allocation for that index, thirty-five percent, and credits seven percent. The next best performer, also allocated thirty-five percent, is the Foreign Stock Index at plus eighteen percent and produces a credit of 6.3 percent.The third performer, Emerging Markets, allocated twenty percent, was up five percent, producing plus one percent interest. The worst performer, the Bond Index, was down ten percent, producing, with an allocation of ten percent, a minus one percent credit. The sum of the credits is 13.3 percent, which is credited to the contract, as shown below:

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| Exhibit 4 |
| US Stock Index | up 20% x 35% | = + 7% |
| Foreign Stock Index | up 18% x 35% | = + 6.3% |
| Emerging Markets Index | up 5% x 20% | = + 1% |
| Emerging Markets Index | up 5% x 20% | = + 1% |
| Bond Index | down 10% x -10% | = -1% |
| Total: |  | 13.3% |

Other Interest Crediting Methods

Term End Point

The Term End Point design measures index movements over a period greater than one or two years and does not calculate or credit interest each year. The investor’s return is not known, and cannot be estimated, until the end of the term period, which is typically seven to ten years. The index gain is calculated by dividing the index value at the end of the term by its value at the beginning and then subtracting 1. For example, if the index is 100 at the outset of the contract, and ten years later is 180, the index gain is eighty percent [(180 ÷ 100) − 1]. That gain is then adjusted by applying any participation rate and the resulting interest percentage is multiplied by the initial contract value to produce the interest to be credited. For example, at a seventy percent participation rate, the cumulative interest credited would be fifty-six percent (80% × 70%). Such an annuity, purchased for $100,000, would be worth $156,000 at the end of ten years.

A variation of this design, called Term Yield Spread, works similarly, in that interest is neither calculated nor credited until the end of the period. However, the yield spread is not simply subtracted from the index gain, because the yield spread is an annual figure and the index gain is a cumulative one. Instead, the interest is credited by applying the yield spread to the annualized return of the index over the time period, using this formula:

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| Exhibit 5 |
| Interest Credited = R – Y  |
| R = (E ÷ S)(1/n) – 1 E = Ending Index Value |
| S = Starting Index Value |
| n = number of years in period  |
|  |
| Y = Yield Spread  |

Using the facts above and a yield spread of 3 percent, the interest credited would be 3.054 percent per year [R = (180 ÷ 100)1/10 − 1 = 6.054; interest credited = R-Y = 6.054 − 3.00 = 3.054]. The annuity, at the end of ten years would be worth $135,098 [100,000 × (1 +.0354)10]. What if the index were lower at the end of ten years than at the outset (or higher, but less than the guaranteed value)? Then the contract would not use that final index value, but would, instead credit the guaranteed interest rate to the initial index value for each year of the term.

The APP and Term End Point designs are the two basic types of IAs. However, there are manyvariations on those themes. We will not attempt to describe all of the variations out there,[[11]](#endnote-11) but we will look now at certain features that are common to several, or even all, IAs.

High Water Mark

In this variation on the Term End Pointdesign, index-linked interest, if any, is credited based on the difference between the starting index value and the highest value of the index—usually, at policy anniversaries—during the period. This method is rarely used in currently issued contracts because the cost of the options is higher, and so index participation would have to be much lower than for other interest crediting types.[[12]](#endnote-12)

# Index Annuities Provisions

Guaranteed Interest Rates

Some IAs guarantee the crediting of a minimum amount of interest to the owner’s entire investment. Others guarantee it to only a percentage—often, eighty percent or ninety percent—of that investment. The latter arrangement can produce confusion as to the minimum interest the annuity owner is guaranteed to receive. For example, many older

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contracts guarantee three percent interest on ninety percent of the amount invested. (Newer policies have lower guarantees, such as two percent interest on 87.5 percent of premium).This may appear to mean that the interest rate guaranteed is an annual compound rate of 2.7 percent credited (90% × 3%) to the amount invested. This is not correct! The principal on which the three percent interest is credited is only ninety cents for each dollar invested. Thus, on a $100,000 single premium, the guaranteed future value at the end of ten years would be FV = PV × (1 + i)n = $90,000 × 1.0310 = $120,952. The compound rate of return required to produce $120,952 at the end of ten years, if one invests $100,000 today, is 1.92 percent [(120,952 ÷ 100,000)1/10 − 1]. The effective guaranteed minimum rate on the entire amount invested is, thus, 1.92 percent, not 2.7 percent.

Will that guaranteed minimum interest be paid if the owner of the annuity surrenders the contract before the end of the term? No, because guaranteed interest is almost always credited at the end of the surrender period and not each year. The owner surrendering an annuity that is not an annual reset design, or one that otherwise vests interest—as some high water mark designs do—will generally receive no index-linked interest, if surrender occurs prior to the end of the term. In this case, the individual would simply receive a return of the original premiums paid, and any guaranteed interest payable if applicable. Moreover, surrender charges may apply.

It should be noted that the crediting of only guaranteed interest to an index annuity contract is very unlikely. Over a period of many years, an index annuity has only to experience a few good years in order for its average return to exceed the guaranteed minimum. Average returns have been substantially higher.

Advantage Compendium, a firm owned by Jack Marrion, tracks such returns and the following data were taken from his reports.

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| Exhibit 6 |
| Actual Annualized Returns for Index Annuities |
| 2008-2013 | 4.9% |
| 2007-2012 | 3.27% |
| 2006-2011 | 4.06% |
| 2005-2010 | 3.89% |

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This does not ensure, of course, that future returns will be in the same ranges. Nonetheless, through a range of market outcomes, the contracts all had at least a few years good enough to beat the minimum guarantee.

Surrender Charges

Surrender charges in IAs work just like the surrender charges in other annuity contracts. However, the size of the charges, and the length of time during which they apply, is generally higher in IAs. Some IAs do not impose surrender charges as such, but base the surrender value on the guaranteed minimum amount, based on crediting of interest to less than the full investment. This has the same effect as a declining surrender charge over the first few years of the contract.

Free Withdrawals

As is typically the case with both conventional fixed and variable annuities, IAs usually permit withdrawals of up to a specified percentage of the cash value each year without imposing surrender charges.

However, if the prospective buyer of any deferred annuity feels that there is a significant likelihood of a need to tap the money in that annuity before the expiration of the surrender charge period, we suggest that a deferred annuity may not be appropriate in the first place. As was noted, surrender charges in IAs typically are higher and last longer than those in other annuity contracts, so an early distribution in excess of the amount permitted under the free withdrawal feature could be subjected to a stiff penalty. Moreover, any distribution, whether surrender charges apply or not, could be subject to the ten percent early distribution penalty. Furthermore, as discussed earlier, an early partial surrender could cause forfeiture of any accumulated equity-linked interest, or guaranteed minimum interest, to the extent attributable to the withdrawal taken. In short, the authors believe that annuities in general, and IAs in particular, are of questionable appropriateness when liquidity is an issue.

Premium Bonus

Many IAs offer a premium bonus, whereby the contract owner is credited with an additional percentage of the premium actually paid, which will earn interest on the same basis as paid premium, provided that the contract is not surrendered before the end of the term. However, this bonus is not free. Often, contracts offering a premium bonus require higher surrender charges, longer surrender charge periods, or a lower

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participation rate compared to contracts without the bonus. In some contracts, the difference is not reflected in lower benefits for the owner, but rather, in a lower commission paid to the selling agent. .

Required Annuitization

Some IAs require the contract to be annuitized for certain benefits to be payable, or provide lower levels of benefits, such as participation rate, for contracts that are surrendered for a lump sum—even if held to the end of the required term. The value of annuitization is, as will be discussed in a later chapter, a very controversial issue in the financial services community.

Notwithstanding the controversial aspects of annuitization (which some take so far as to suggest annuitization is “never” appropriate), the authors do not subscribe to the widespread belief that it is always a bad decision. However, it seems only logical to observe that, whatever value the annuity owner places on annuitization, an obligation to take proceeds in that form would not be attractive to a rational investor in the absence of some benefit not available without that requirement. A few contracts not only require annuitization for the contract holder to receive the entire account balance; that is, they impose surrender charges on withdrawals and lump sum surrenders that never expire, but impose that same requirement upon beneficiaries. Fortunately for consumers—and, in the authors’ opinion, for the insurance industry, too—such contracts are becoming increasingly rare.

# How Can the Insurance Company Do All This?

A question often asked by consumers is, “how can the insurance company do all this?” This, meaning the guarantee principal plus a minimum rate of interest and participation in exceptional upside movements in the underlying index. Where’s the catch? When this question is asked, it usually means that the advisor has done a poor job of explaining how the index annuity works. It may look too good to be true. This is certainly true when the advisor has said something like “with this annuity, you get the upside of the equity market, but with no downside risk.”

That is just not true! The index annuity owner does not “get the upside of the equity market,” but only a portion of that growth. The portion of any index growth an individual gets is determined by the various limiting factors, or the moving parts, in the contract design. These moving parts are essential for the issuing insurer to limit its loss

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exposure. After all, it is guaranteeing the purchaser’s principal from any loss of principal and a minimum rate of return, if the contract is held for the full term.

Typically, the insurer purchases a combination of bonds and call options on the underlying index to guarantee the funds required to meet its obligations under the contract. The greatest part of the purchaser’s premium is invested in bonds, in sufficient amount to provide the dollars needed to meet the insurer’s minimum obligations. The remainder is used to buy

those call options. The price of the call options, to fund the indexed-linked interest, and the cost and yield of the bonds, to fund the contractual guarantees, together determine how many options the insurer can purchase with a given premium. If option prices at a particular time are low—because expected index volatility is low—and bond yields are high, it might be possible for the insurer, at that time, to purchase enough index options to provide the annuity owner with one-hundred percent of the performance of the index, in addition to guaranteeing principal and the minimum interest rate.

But in the last few years, such has not been the case. Interest rates are near historic lows and option prices are relatively high, because index performance is expected to be more than usually volatile. So, at this time, insurers do not have enough left over from an IA purchaser’s premium, after purchasing the bonds required, to buy enough index options to give that purchaser one-hundred percent of the index performance on the premium invested. For that reason, today’s participation rates and cap rates are relatively low and yield spreads are relatively high, although both are better today (from the perspective of a potential buyer of an IA) than they had been only a few years earlier. Issuers of IAs are still not purchasing options for all possible growth at this time because they can’t. But they don’t need to because today’s participation rates, caps, and yield spreads limit the amount of that growth they’re obliged to credit to their annuities.

This is precisely why, when an annuity owner is limited to a sixty percent participation rate or a cap of, say, five percent, and the index goes up fifteen percent, the insurer does not keep the excess return above the nine percent it would credit under a sixty percent participation rate or the five percent it would credit under the cap. And it does not purchase enough options to get one-hundred percent of the growth on the entire amount of that annuity owner’s premium. There is no need to do so, nor is there enough paid-in premium left over, after purchase of the bonds, to do so. The insurer does not keep that excess because it does not receive it.

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But why can’t the insurer guarantee the level of the various moving parts (e.g., the cap rate, participation rate, and yield spread)? It may guarantee some of these factors, but it cannot guarantee all of them and expect to remain in business. Why?

It is because financial markets change. Interest rates change and, with them, the cost of the bonds the insurer will purchase to meet minimum contractual guarantees. Likewise, the cost of index options also change, increasing with the volatility, or expected volatility, of the index and the length of time over which they are exercisable. If an insurer chooses to guarantee the participation rate, cap rate, or yield spread for the entire term, it cannot offer as high a

participation rate and cap rate, or as low a yield spread, as if it reserves the right to adjust those factors periodically because it will not be able to purchase as many options since the cost of those options will be higher. For these reasons, nearly all IAs do not guarantee all of the moving parts for the entire term. This is particularly true of annual reset contracts, where the insurer will need to continue purchasing call options in the future at an unknown cost.

Because the issuing insurer can adjust these moving parts periodically, to reflect changing economic realities, it is essential that the advisor choose an insurer with a good record of renewing these rates so as to treat existing contract holders fairly. The authors strongly suggest that advisors ask the issuer of any IA, or fixed annuity for that matter, they are considering for a history of renewal rates.

# Which Index Annuity Design Is Best?

Perhaps the most common question asked by advisors who are considering IAs for their clients is, “which kind is best?” In the authors’ opinion, the only reasonable answer is, “it depends”. As Marrion and Olsen point out, any crediting method can produce the best return for a given period. There are, however, certain general observations that one can make regarding index annuity policy designs.

Annual Point-to-Point

With an annual reset index annuity, the purchaser knows how much her annuity is worth at the end of each year. Interest is calculated, credited, and locked-in each year. Future decreases in the index will not reduce the annuity value. The biggest trade-off to this is that the participation rate, cap rate, or yield spread is likely to be lower than in other designs. These contracts generally excel in markets with high volatility, although such

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volatility tends to increase option costs and reduce participation rate or increase yield spread.

The high water mark design protects the annuity owner from a decline in the index at the end of the term, which could wipe out much, or even all, of the gain previously experienced, but not credited. However, the rates for the various moving parts are likely to be less attractive than for a contract with a point-to-point design with the same term.

Term End Point

The Term End Point design does not allow the purchaser to know the value of the annuity until the end of the term. However, the rates for the moving parts are likely to be greater than for other policy designs with the same term. In addition, because many or all of the bonds and call options are put in place when the contract is acquired, point-to-point contracts tend to have fewer moving parts that may be changed after the contract is initially acquired.

Averaging

Crediting methods using averaging generally have higher participation rates and/or caps than those methods without averaging. On the other hand, averaging drives numbers to the middle. In a generally rising market, averaging usually produces lower interest crediting than would be produced using the final value (an unaveraged point-to-point design). The reverse is also true; in a declining market, averaging will produce greater interest crediting than the unaveraged point-to-point method.

In practice, this creates a challenge as to when averaging methods are appropriate. If, during the index crediting period, the index rises substantially over most of the period but declines sharply at the end, averaging performs well. In the reverse scenario, averaging performs worse (than a straight point-to-point design).

Monthly Sum

In the Monthly Sum method, the “best case” scenario would be where the index increases each month by precisely the cap rate. With a two percent cap, that scenario would produce an annual crediting of twenty-four percent. A “worst case” scenario would be a “raging bull” for eleven months—a fifty percent gain, for example—followed by a disastrous December—a decline of twenty-two percent or more. The maximum “capped” gain would be twenty-two percent (eleven months x two percent), which the December decline would wipe out entirely.

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In general, investors should avoid the monthly sum methodology if they are bearish on markets, as a significant decline can wipe out most or all of a year’s worth of monthly-capped gains. Monthly sum contracts will tend to perform best in environments with less volatility and a gentle upward tilt to market returns.

Which Index Crediting Method Will Perform Best?

The authors are often asked this question by advisors. Of course, the question of “which crediting method will perform best?” presumes that there is a “best” method. In the authors’ opinion, the most that one can say is that in certain scenarios, some methods may outperform others. If the investor has a very specific view about the direction of markets, it may be possible to align a crediting method to certain anticipated market scenarios, though this isn’t always feasible.

For instance, in a raging bull market, an interest crediting method that gives the greatest percentage of index growth but as little recognition as possible of index losses should perform best. The APP method, especially if the “interest rate spread” rather than a participation rate is used, should do well, and either should do better than the monthly averaging method. In this scenario, the Monthly Sum method COULD produce even better results if there are no months of significant losses. (e.g., a “best case” scenario for the monthly sum method with a three percent cap on gains could produce a thirty-six percent return, but that is extremely unlikely (we did say that this scenario is a “RAGING bull” one).

In a mediocre, “sideways” market, Monthly Averaging may perform well because that method typically has higher caps than the Monthly Point-to-Point method. By contrast, the APP method may do poorly (especially if the final ending value is either less than, or only slightly higher than, the beginning of year value). The Monthly Sum method would likely do poorly in this scenario, especially if the loss months are greater than the gain months. If monthly gains and losses are quite small, the Trigger method should do best if the stated interest rate (payable if the month-end value is at least equal to the beginning-of-month value) is higher than the actual monthly gains.

In a “bear” market, the Inverse Performance Trigger method will perform best, as it credits interest when there are monthly losses, but not when there are gains, while an APP is unlikely to create much value (if the end-value is anticipated up front to be below

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the starting value). Of course, we should recognize that if one expects an extended bear equities market, a fixed rate annuity or bonds might make more sense in the first place.

Jack Marrion and John Olsen also address this issue of comparing various crediting methods in their book, Index Annuities: A Suitable Approach (Olsen & Marrion LLC, 2010). The following excerpt is used by permission.

Different Methods & Different Markets

IAs have been around for less than twenty years and several individual crediting methods have an even shorter history, so we do not know how the different crediting methods would have performed over the long term. However, we can calculate the hypothetical returns of different reset structures over the past fifty years to get an idea of how they would have performed. While we do not know what crediting rates might have been over the last fifty years, we do know that annual reset point-to-point structures have often had actual participation rates of forty-five percent or less for quite a while. So by plugging a forty-five percent participation rate into every up year of the last fifty years of S&P 500 returns (annual reset index annuities treat down years as zeroes), we can determine that the annualized average return over all of the ten-year calendar year periods is 5.2 percent. We can then use this average return for the Annual Point to Point (APP) design and see how high the index participation rates for other designs would need to be in order to equal the return produced by the 45 percent APP method. There is not a particular reason for using ten year periods; we simply picked ten years for illustrative purposes.

If you could have purchased an index annuity for every ten-year period since 1960, with this forty-five percent APP annual reset structure, your annualized interest rate would have been 5.2 percent, and your overall effective rate would have been seventy-four percent. The chart below gives examples of other types of IA interest crediting factors that would have given the same annualized return and effective rate. This gives us a “level playing field” of existing interest crediting factors all would have earned an annualized 5.2 percent interest rate.

For example, if you had purchased an annuity with a one-hundred percent APP and an 8.45 percent interest cap (where you would never have earned more than 8.45 percent interest in a given year), your overall annualized return would have been 5.2 percent. An index annuity using monthly averaging with a seventy-six percent participation rate

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|  |
| --- |
| would have also averaged a 5.2 percent annual return. We can do this analysis for other crediting methods, including daily and monthly averaging:Exhibit 7 |
| What Is Required to Produce the Same Annualized Return |
| **Crediting Method** | **Effective Rate** |
| Annual Pt-to-Pt | 45% | 74% |
| Monthly Averaging | 76% | 74% |
| Daily Averaging | 80% | 74% |
| Annual Pt-to-Pt | 100% with 8.45% cap | 74% |
| Monthly Cap  | 3.05% cap on monthly gain | 74% |
| Monthly Averaging | 100% less 2.75% yield spread | 74% |

If we could have deposited the same amount of money into annuities using each of these different index annuity crediting methods over the last fifty years, our overall returns would be the same for each crediting method. We are not saying this is what the index participation would have been; only that these crediting factors all yield the same returns over the last half-century of market data.

The lesson here is that simply choosing the annuity with the lowest spread, the highest rate, or the best cap will not ensure you of getting the highest return.

# Guaranteed Living Benefit Riders

Given the enormous popularity of Guaranteed Living Benefit riders in variable deferred annuity contracts, it was only a matter of time until issuers of fixed annuities—including IAs—got into the game. In 2006, the first Guaranteed Lifetime Withdrawal Benefit was offered as a rider on an index annuity. By the end of that year, seven index annuity carriers were offering GLWBs, with more carriers considering the addition of these benefits.[[13]](#endnote-13)

It should be noted that payments from all GLWB riders will, for many years, represent only a return of the investor’s own principal. With the limited volatility and principal guarantees applicable to IAs in the first place, investors may not actually end up

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“ahead” (receiving more than their own contract values) with such guarantees unless their withdrawal periods are long enough (possibly several decades) to fully recover principal and any growth that could have been obtained with fixed income investments anyway.

As to other living benefits in IAs, no IA, to the authors’ knowledge, offers a Guaranteed Minimum Income Benefit (GMIB) because the guarantee of principal in an IA makes a guaranteed minimum annuitization benefit unnecessary.

1. The gain realized in an index annuity is interest, not dividends or capital gains. [↑](#endnote-ref-1)
2. The S&P 500, or S&P 500 Composite Price Index, was created by the Standard & Poor’s Company in 1923. The S&P 500 is “calculated using a base-weighted aggregate methodology, meaning the level of the Index reflects the total market value of all component stocks relative to a particular base period. Total market value is determined by multiplying the price of its stock by the number of shares outstanding.” See “S&P 50th Anniversary” at:
http://www2.standardandpoors.com/portal/site/sp/es/la/page.topic/indices\_500anniv/2,3,2,2,0,0,0,0,0,1,1,0,0,0,0,0.html. [↑](#endnote-ref-2)
3. SPDR is the exchange symbol for the S&P 500 Index Fund, an exchange traded fund, and stands for Standard & Poor’s Depository Receipt. [↑](#endnote-ref-3)
4. The guaranteed rate of return for IAs can sometimes be as low as zero percent. Most guarantee a rate of at least three percent, which might be credited to only a percentage, such as eighty percent or ninety percent, of the premiums received. [↑](#endnote-ref-4)
5. Some of the material in this section was taken from *the Buyer’s Guide To Equity-Indexed Annuities*, prepared by the National Association of Insurance Commissioners, reprinted by the Illinois Division of Insurance at:
www.ins.state.il.us/Life\_Annuities/equityindex.htm. [↑](#endnote-ref-5)
6. Purchase of equity call options is the usual mechanism used by issuers of IAs to guarantee the funds to pay the equity-linked interest. However, other methods may be used, or the insurer may go naked and self-insure that equity-linked interest payment liability. See Marrion and Olsen, *Index Annuities: A Suitable Approach* (Olsen & Marrion, LLC, 2010, www.indexannuitybook.com), Chapter 2. [↑](#endnote-ref-6)
7. Marrion and Olsen, *ibid.,* p.59. [↑](#endnote-ref-7)
8. Advantagecompendium.com. [↑](#endnote-ref-8)
9. Marrion and Olsen, ibid., [↑](#endnote-ref-9)
10. Marrion and Olsen, ibid. [↑](#endnote-ref-10)
11. See Marrion and Olsen, ibid.. for a detailed discussion of the different types of interest crediting methods*..* [↑](#endnote-ref-11)
12. Marrion and Olsen *ibid*. p. 51 [↑](#endnote-ref-12)
13. Jack Marrion, *A Look At Annuity And Securities GLWBs* (Advantage Compendium, August, 2008, available at www.indexannuity.org). [↑](#endnote-ref-13)