FIA EDUCATION SERIES

NAFA has created this series to promote education on how FIAs work and important factors to consider when buying one.

ANNUITY CREDITING STRATEGIES:

PARTICIPATION RATE STRATEGY

JULY 2020

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LETTER FROM THE CEO

On behalf of NAFA, the National Association for Fixed Annuities, I would like to introduce you to the latest in the Fixed Indexed Annuity Education Series, designed to help consumers better understand the inner workings of fixed indexed annuity (FIA) products and to develop an awareness of how they might fit into financial and retirement plans. We hope this educational series helps demonstrate how FIAs can provide enhanced returns for consumers, while limiting downside or losses with their guaranteed minimum interest rates, a concept which becomes extremely important when planning for retirement.

Fixed indexed annuities, just like traditional fixed annuities, are insurance products that provide downside protection from loss of principal, with a guaranty that the interest earned on the annuity contract can never go below zero. In a traditional fixed annuity, the interest that the annuity can earn is locked in for a set period defined by the product and generally in annual increments. In an FIA, the return or rate is determined based on an interest crediting formula or method established by the issuing insurance company that is linked to the performance of a market index, such as the S&P 500.

This educational series will provide information on different crediting methods and product strategies that clients can utilize to help them provide for their respective financial needs and mitigate risks to their savings as well as providing a source of stable retirement income. This report provides an analysis of one such crediting method: the point-to-point participation rate.

NAFA is the premier trade association exclusively dedicated to fixed annuities. We are committed to providing information and education regarding the value of fixed annuities and their benefits to our members, journalists, and the general public to help Americans plan for a lasting and safe retirement.

Charles J. DiVencenzo, Jr.
President & CEO

The FIA Education Series is produced on behalf of NAFA by CANNEX Financial Exchanges., Ltd. CANNEX is a leading provider of annuity pricing and analytics.

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WHAT IS A CREDITING STRATEGY?

A **fixed indexed annuity (FIA)** is a type of fixed annuity that uses the performance of an index to determine the interest that gets credited. A key characteristic that makes fixed annuities attractive is that they will not lose money from market performance. An FIA is no different, even though its interest is tied to an index. Because these annuities promise that they will never lose money, the trade-off is that insurance companies must limit the upside potential. The different ways of calculating the interest based on the performance of the index are also known as **crediting strategies**.

Each crediting strategy has characteristics that affect how much the interest will be. These and other variables influence what fits the goals of the annuity buyer. Common crediting strategies include cap, participation rate, spread, monthly average, and monthly sum.

The crediting strategies can be used on a variety of different indices. Some of the indices are common ones that most people are familiar with, like the S&P 500 or the Russell 2000. Others may be less common and may be designed to have consistent returns or lower variability. No matter what, all FIAs use a crediting strategy to determine what the interest will be at the end of each crediting period.

POINT-TO-POINT PARTICIPATION RATE STRATEGY

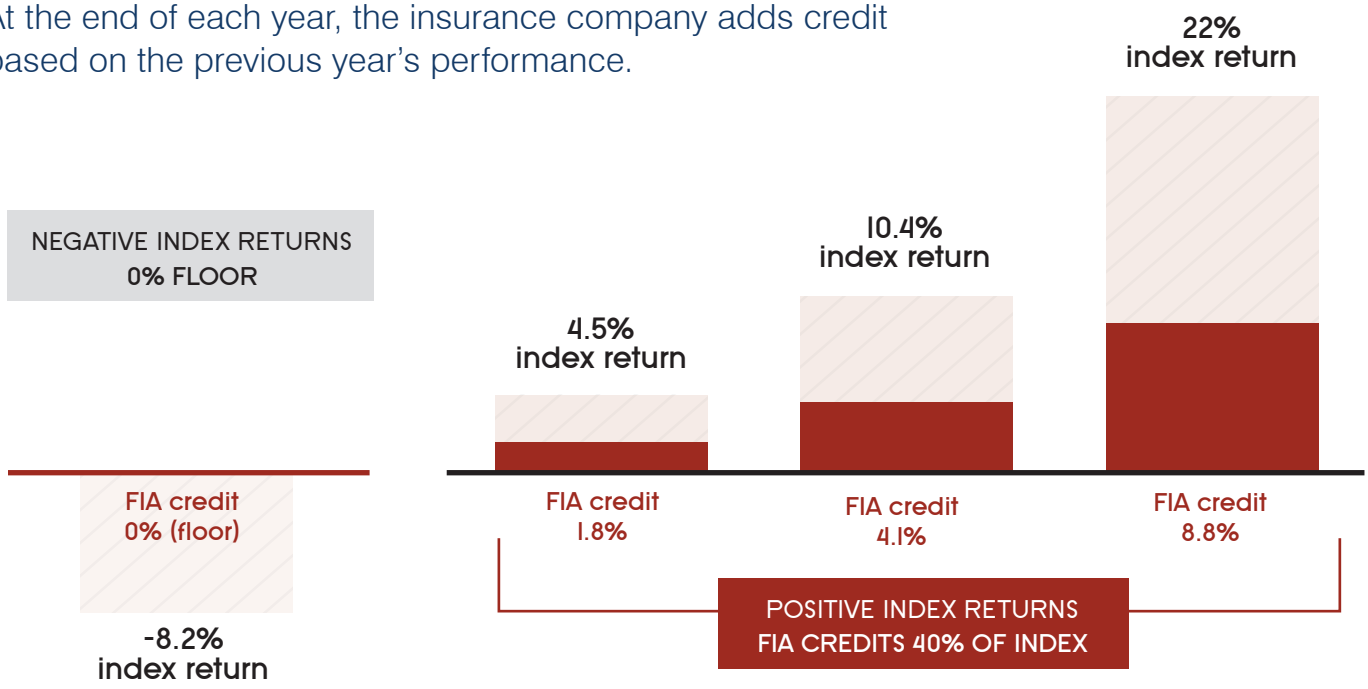
The **point-to-point participation rate strategy** measures the performance of the index from one point in time to another, usually starting the day you purchase the contract until a year later and then repeating the measurement every year[1]. The strategy then uses a "participation rate" that is a percentage of index gains that determines the amount of credited interest, so it increases in proportion to the

[1] Some strategies measure over more than one year, but we use one year for our examples because it is the most common.

index. The participation rate may be below 100% or above 100%, depending on the nature of the index itself. As with all FIAs, the interest in any year cannot go below 0%, no matter how much the index loses.

INTEREST CREDITING EXAMPLES

At the end of each year, the insurance company adds credit based on the previous year's performance.



You can see from these examples that the FIA credit changes in direct proportion to any positive performance in the index. At the same time, the floor protects the investor from any losses.

Those are the basic mechanics, but what can a buyer expect from a participation rate strategy? Although performance in the past does not predict what will happen in the future, we often look at historical results to get an idea of how an index has behaved in the past. We can look at a specific sequence of results to see how much interest a contract will credit along the lifetime of the contract. Here, we look at what happens over seven years because that is how long many contracts last.

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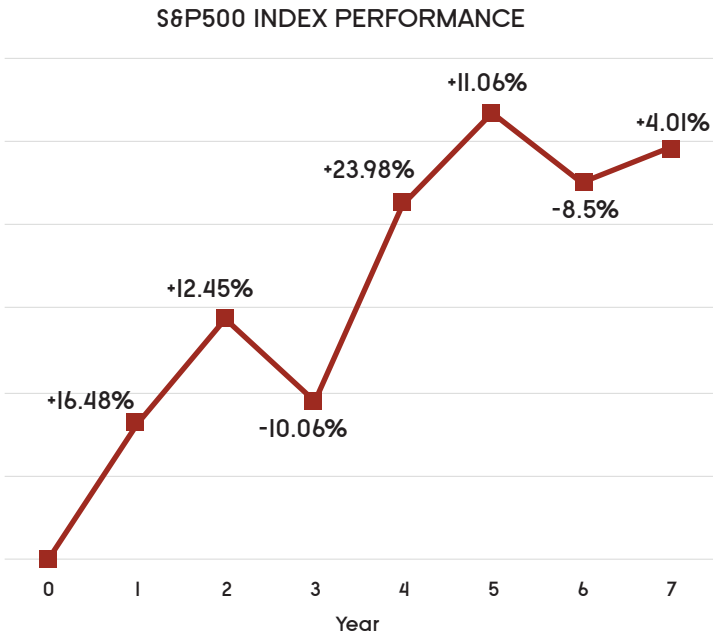
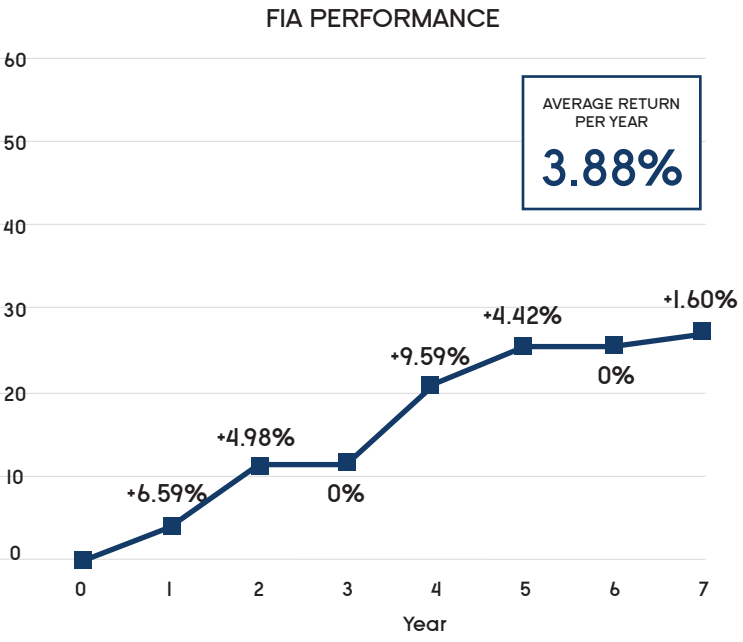
To understand how much credit someone might get at the end of the contract, we can look at historical index performance and then use the crediting strategy to calculate the interest in each year. We repeat that for seven years. The repetition is important because it smooths out the results, balancing the effect from years with very high or very low credited interest.

TWO-STEP PROCESS

In this example, we pick the S&P 500 because it is available on all FIAs and it is one that many people are familiar with. We select a 7-year period from the index performance that has years of both gains and losses to show how the FIA credits interest.

INDEX PERFORMANCE → **FIA INTEREST CREDIT BASED ON HISTORY**



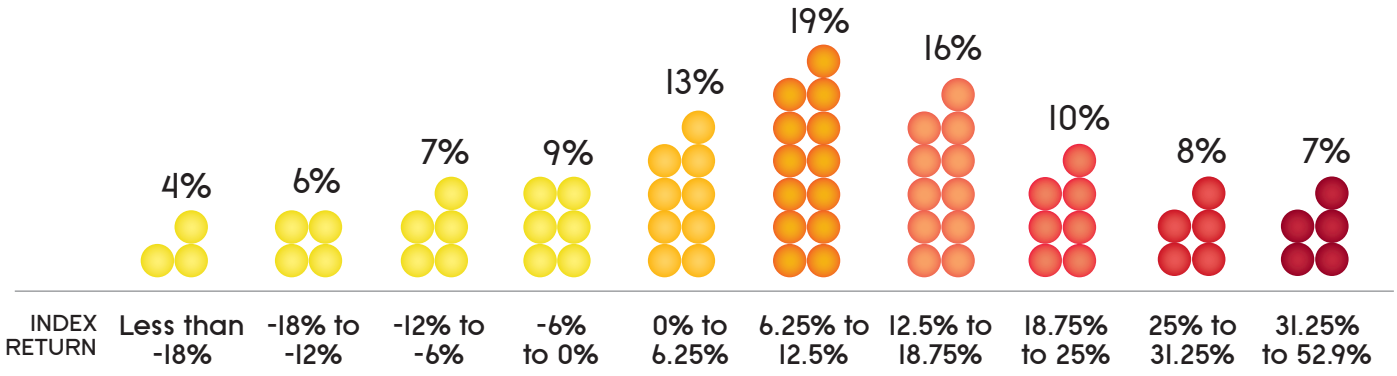


This shows us what happens based on a single sequence, but it doesn't give us a good idea about the distribution of historical results. How often did the index have losses or gains? Also, how do these results affect the credited interest from the FIA?

For this, we look at historical returns based on one-year periods starting at the beginning of every month from 1950 through the end of December 2019. After all, people buy annuities throughout the year and results can vary significantly even from one day to the next. With so many different one-year periods, we can look at statistical information based on this history. Similar analysis can be performed on other indices as well.

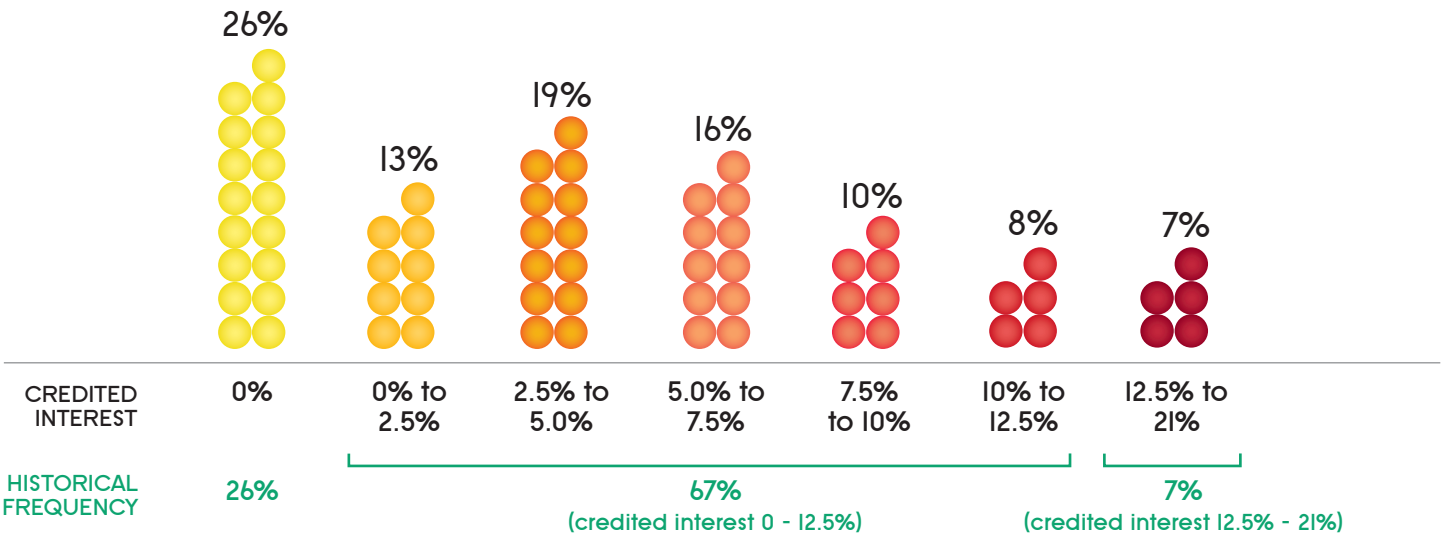
We'll use this historical data to understand how the participation rate crediting strategy works. Let's take a look at what happens to the index in one year based on this information. In the figure below, we stack balls based on how many times the index performance fell within a certain range in our historical analysis. All of the results that are 0% or less are yellow. The positive results are represented by shades of orange to red, with red being the highest results.

HISTORICAL ONE-YEAR INDEX PERFORMANCE (1950 - 2020)



That shows us about the index itself, but the FIA credited interest is different. First, we'll take all the yellow balls that are 0% or below and put them in a single pile because the FIA guarantees it will never credit less than 0%. We leave the other columns alone because the credited interest of the FIA is in direct proportion to the index performance. We've also added a bar that shows the range of credited interest within each column to show how that result varies based on how the index itself performs over that period.

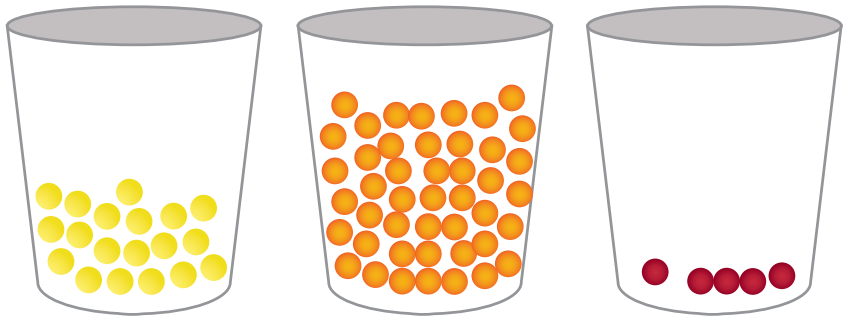
HISTORICAL FREQUENCY OF INTEREST AFTER ONE YEAR



Here, we see that there is a huge pile of yellow balls and smaller piles of the rest. This gives us an idea of what happened historically in any given year but doesn't tell us the whole story about how the participation rate strategy performs over time because the performance is based on the sequence of many years.

UNDERSTANDING YIELDS FOR MULTI-YEAR CONTRACTS

To illustrate how this affects the credited interest, let's perform an experiment. Imagine that the balls get sorted into buckets based on color as a way of viewing the different groups of result. Remember that each orange and red ball is a different value. One thing that you notice is that about a quarter of the balls are yellow and give no credit, which usually happens when the index itself loses value. Two-thirds of the results cluster in the buckets that represent a 1-year FIA credit between 0% and 12.5%. A small portion sit in the red bucket, which is when the FIA credits between 12.5% and 21%, which is the maximum based on the historical data but should not be seen as a strict limit. Though there are few balls in the red bucket, the FIA credit is very high and can make a big difference in the total credit over the life of the contract.

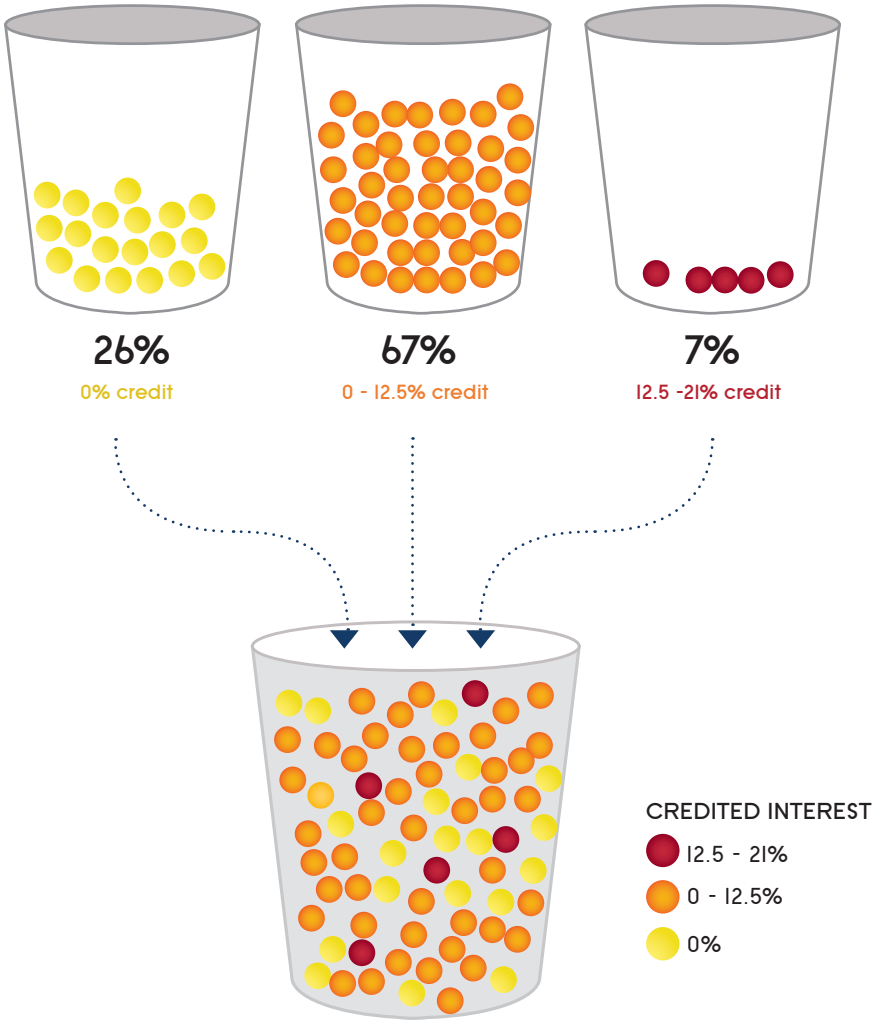


	26%	67%	7%
CREDITED INTEREST	0% credit	0-12.5% credit	12.5-21% credit

PARTICIPATION RATE STRATEGY

Now, we pour all of the balls into a single bucket. Each year, we randomly pick a ball from the bucket and then put it back before picking another one the next year.

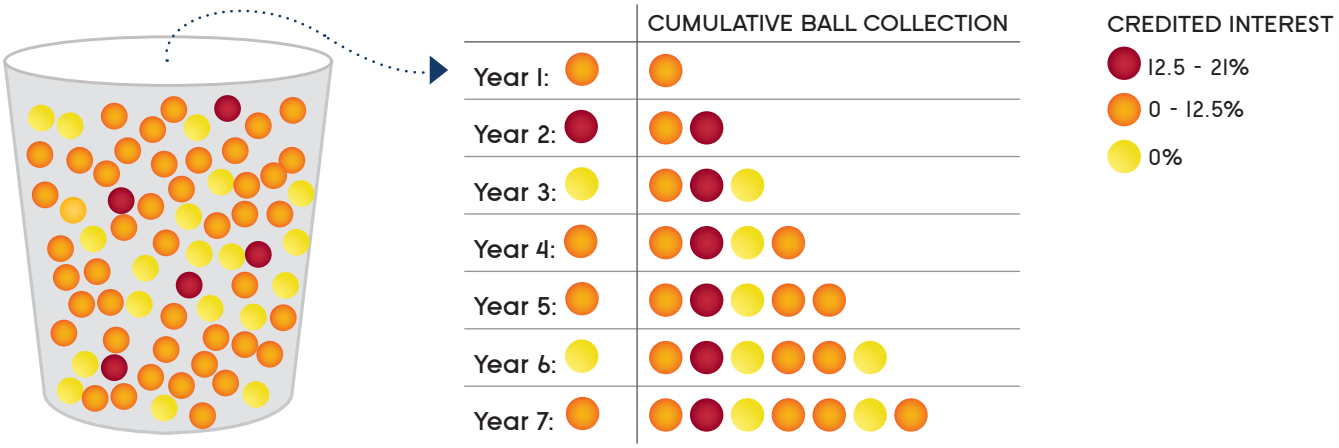
For a 7-year contract, we repeat this process so we have picked balls seven times. The cumulative effect then gives us the total annualized account credit over the life of the contract. Two-thirds of the time, we pull out an orange ball, but sometimes we get a red ball. In this historical data set, credit on the red ball ranges from 12.5% to 21% in a single year, based on the 40% participation rate.



EACH YEAR, WE RANDOMLY PICK A BALL FROM THE BUCKET AND THEN PUT IT BACK BEFORE PICKING ANOTHER ONE THE NEXT YEAR.

PARTICIPATION RATE STRATEGY

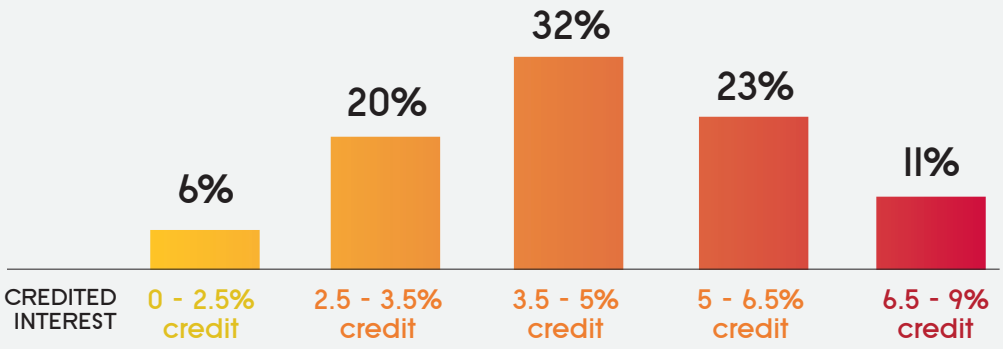
Here is an example of what might happen each year as we pick balls out of the bucket.



The red balls are the ones that can really increase the crediting rate in line with changes to the index, even if you only get one year with a red ball.

Moving back to the historical returns, we can look at the distribution of results after all of the 7-year periods we looked at.

HISTORICAL FREQUENCY OF 7-YEAR INTEREST



Given the credited interest from all of those historical sequences, the average annual yield for this FIA after seven years is 4.57%. Years with high credits can raise the total yield, as we see here. Historically, we see in the stack of red balls

on the right that one in ten 7-year contracts gave an annualized credit between 6.5% and 9.0%, which is significantly higher than a typical guaranteed fixed rate. Of course, bear in mind that it is also possible that FIA returns are lower than a guaranteed rate, as we also see in the historical results.

EVALUATING PARTICIPATION RATES

The example we just looked at uses the S&P 500, a common equity index. You may encounter a different index that also uses a participation rate but one that is much higher, even 100%, 150%, or more. The characteristics of an index that offers such a high rate are different and it may use a strategy that does not rely primarily on equities. The important thing is to understand how the index typically performs in different conditions and how that will affect the FIA strategy credit.

For example, an index with a very high participation rate may have a stable return profile that will perform consistently in many different market conditions. Greater consistency could mean that you might never see a year with a very high FIA credit but also fewer years with no credit.

When you consider purchasing an FIA that uses a participation rate, it is important to understand the specific index and how it might behave both on its own and within the structure of the FIA.

WHEN YOU CONSIDER PURCHASING AN FIA THAT USES A PARTICIPATION RATE, IT IS IMPORTANT TO UNDERSTAND THE SPECIFIC INDEX AND HOW IT MIGHT BEHAVE BOTH ON ITS OWN AND WITHIN THE STRUCTURE OF THE FIA.

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WHAT CAN YOU EXPECT FROM A PARTICIPATION RATE STRATEGY?

What do you expect to get out of the FIA? Any FIA guarantees that the account value will not lose money from index losses. The annuity may credit higher interest than a bank CD or a declared rate fixed annuity. Anyone who buys one has to tolerate the possibility that the actual credit may be lower than those alternatives, too.

With a participation rate strategy, the FIA credit each year moves the same way as the index's positive returns. Of course, years with negative index returns will not reduce those gains no matter how low they go. All of the positive movements in the value are reflected in the FIA annual credit. This allows this crediting method to follow the trend of the index while also protecting against years with losses.

The point-to-point participation rate strategy is one of various crediting strategies available on an FIA. This series will explore different strategies as well as factors that are important when considering the benefits of an FIA.