



CANNEX RESEARCH

Accumulation Value of Fixed Annuities (MYGA & FIA): Understanding Yields by Product Design

APRIL 2018

CANNEX

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OBJECTIVE

The research in this report is designed to answer a simple question: does the return from a “typical” fixed indexed annuity (FIA) exceed that of a multi-year guarantee annuity (MYGA) fixed rate annuity or do both provide essentially the same return?

This question is germane because of product design differences that make it difficult to ascertain the answer from a cursory inspection. On one hand, the return from a MYGA is explicitly stated as a straightforward rate. On the other hand, the return from an FIA is opaque because it is not a rate at all but a set of conditions with a result that hinges on the market. Investors essentially choose a market they would like to watch—in the form of a single index or a blend—along with a strategy that dictates rules for calculating the result. The two products are analogous to that of a fixed rate bond and a variable rate bond.

In practice, both are fixed rate products but with different performance profiles for the accumulation value of the contract. The return from an FIA can be greater or less than that of a MYGA; the MYGA provides certainty and, under some conditions, even better performance. With this research, we examine the likelihood an FIA will outperform a MYGA and the magnitude and pattern of that difference.

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BACKGROUND

Deferred fixed annuities, often referred to simply as fixed annuities, offer the combination of safe

(guaranteed) growth and safe (guaranteed) income. These products allow investors the option of turning on a lifetime income stream but the flexibility to choose when—and if—to do so. The traditional style of fixed annuity provides returns that are based on fixed interest rates and are similar to products such as bank certificates of deposit (CDs). The most common design is a MYGA that assures a rate for multiple years before it can change. Another innovation to the market, an FIA, is a type of fixed annuity that offers a rate that is associated with an index but integrates performance limits in exchange for yield guarantees.

Given these product descriptions, these two flavors of fixed annuity seem to be quite different. However, both are indeed fixed annuities and are governed by the same general design and oversight principles. All fixed annuities have minimum yield requirements through the non-forfeiture rule, though the minimum can be lower for FIAs.

Amid this ambiguity, CANNEX delved into research to gain better insight into the performance differences between these two types of fixed annuities and see how they actually function within an investor’s portfolio. More specifically, we are able to test the design of the FIA strategies against movements in simulated market scenarios that give results that we can compare against the static performance of the MYGA. The focus of this analysis is purely on accumulation value rather than any form of income guarantee, which is a separate feature that is valuable to many consumers.

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COMPARING APPLES TO ORANGES

What is a “Typical” FIA?

One could argue that there is no such thing as a typical FIA since there is a wide variety of indices and strategies to choose from. In this study, we focused our sampling on products from larger institutions that use the S&P 500 Index. The S&P 500 Index is the only index that is common across all insurers and products in the market. Today, each FIA manufacturer also offers a unique index, some of which are created through a blend of various markets with the objective of providing a slightly higher return than products linked to the S&P 500 Index. Many of these are new with no track record, and the variability in design makes it challenging to conduct a comparison across products.

Why People Choose MYGAs and FIAs

When CANNEX compares the income generated from a deferred income annuity against an income rider attached to an FIA with a guaranteed lifetime withdrawal benefit (GLWB), the quantitative analysis and answer are very straightforward. However, there are many reasons why a consumer might choose one over the other beyond the math. These include behavioral finance (especially the need for control and liquidity) as well as technical reasons involving estate planning, portfolio allocation, and so forth. Similarly, there are some fundamental reasons why a client purchases a MYGA rather than an FIA.

Guaranteed rates in MYGAs are largely offered in a range from one to 10 years. However, people typically purchase these contracts with a duration that is in a sweet spot of between three and five years. With these products, consumers are looking for yield that is generally higher than what they get with a bank CD with the added benefit of tax deferral for non-qualified assets. Here, the focus is on accumulation and these investors prefer to avoid tying up their money for a period longer than five years.

On the other hand, FIA durations generally range between five and 10 years (some even longer), though the sweet spot for these contracts is between seven and 10 years. Many are designed to provide a more competitive return with a longer duration and they also provide the option of an income rider. In fact, our data currently shows that income received from an FIA with a living benefit can actually be much more competitive for some clients than a regular deferred income annuity.

RESEARCH METHODOLOGY

To provide an apples-to-apples comparison between MYGAs and FIAs, we compared products with 7-year guarantees. Furthermore, we selected contracts from six insurers that offered both at that duration and had a relatively competitive yield in the MYGA market.

To determine the range of rates for MYGAs, we used published rates and then calculated an average annualized yield that takes into account possible variations in guaranteed rates over the full period.

For FIAs, which have a market component in the form of the associated equity index calculation, the analysis is more involved. In this case, we used the [CANNEX FIA Analysis Tool](#)SM to derive an average annualized return. The analytic platform uses a simulation engine to test the performance of the strategies under a range of random scenarios. This allows us to come up with an average effective return along with statistical metrics of the distribution of results. We chose strategies that use the S&P 500 Index, which is common to all FIAs. Model assumptions for the S&P 500 Index use an average return of 8.0% with an index volatility of 16%.

In order to gain deeper insight into the pricing dynamics behind MYGAs and FIAs, we elected to compare returns for products from the same insurer. Specifically, we wanted to see how a single insurance company structures and manages MYGAs and FIAs with other variables being equal. The highest rate among FIAs and MYGAs of the same surrender period will ultimately come from two different insurers because of variations

ACCUMULATION VALUE OF FIXED ANNUITIES (MYGA & FIA): UNDERSTANDING YIELDS BY PRODUCT DESIGN

in factors such as pricing strategies, risk policies, and product portfolio mix. We expect greater consistency within the same organization, despite differences in product management. Therefore, our detailed analytics on these products are lateral within a single organization rather than comparing across a broader population of products.

In order to gain deeper insight into the pricing dynamics behind MYGAs and FIAs, we elected to compare returns for products from the same insurer.

RESULTS AND ANALYSIS

Aggregate Average of All Products Sampled

Across the six carriers, we looked at a sample of 14 FIA products. This group provided a variety of strategies and parameters that fairly represent a range of typical offerings in the market. For this sample, we calculated the average annualized rate of return for each 7-year FIA product manufactured by an insurer along with the distribution of returns across 10,000 market simulations for the S&P 500 Index. We then compared the results against the most competitive 7-year MYGA return from the same carrier.

In aggregate, the average rate of return for all MYGAs was 3.08% and for FIAs was 3.26%, as shown in **Exhibit 1**. This represents a difference of only 0.18% in return for FIAs when both are aggregated.

However, it is impossible to draw a conclusion about FIAs as a whole from this high-level view, as the averages conceal the underlying trends based on strategy. Individual performance in our testing varied wildly and ranged from those with extremely low performance to those with high performance.

Exhibit 1

Summary 7-Year Performance of MYGAs and FIAs

	MYGA Effective Rate	FIA			
		Average Return	25th Percentile	50th Percentile	75th Percentile
Company A	3.15%	4.31%	3.09%	4.16%	5.38%
Company B	2.89%	2.67%	1.99%	2.64%	3.34%
Company C	3.25%	3.25%	2.45%	3.23%	4.07%
Company D	3.10%	2.40%	1.55%	2.24%	3.08%
Company E	2.99%	3.37%	2.65%	3.34%	4.09%
Company F	3.12%	3.58%	2.78%	3.46%	4.32%
Average	3.08%	3.26%	2.42%	3.18%	4.05%

Note: Rates from February 28, 2018.

Source: CANNEX Financial Exchanges

Ranking of Products Sampled

Looking at the results of each individual product sampled across all six insurers, we get a much more nuanced view of performance by strategy. When we sorted these results by the average annualized rate of return for each FIA, a clear pattern emerged based on the type of FIA strategy. Though the effective rates of MYGAs are straightforward performance yields, FIAs require dynamic analysis with results that are not as simple. Instead, our method gives statistical data on strategy performance in a wide variety of market scenarios.

We provide the distribution of results for individual contract designs across the many runs within the simulation. Based on this collection of results, we also calculated metrics to compare each FIA with the returns of the highest returning MYGA from the same insurer. Using the MYGA as a benchmark, we calculated the relative performance of each FIA based on three criteria: the likelihood it will exceed, be similar to, or fall short of the effective rate of the MYGA. We classified results that were within 5% of the MYGA as being similar to the MYGA.

ACCUMULATION VALUE OF FIXED ANNUITIES (MYGA & FIA): UNDERSTANDING YIELDS BY PRODUCT DESIGN

Exhibit 2

7-Year Performance of FIA Strategies

	Index	Strategy	Declared Rate (%)	Cap Rate (%)	Participation Rate (%)	Average Return	Effective Rate of Company's MYGA	Chance the Return of the FIA...		
								is Less Than the MYGA	is Similar to the MYGA	Exceeds the MYGA
Company A	S&P 500	Point-to-Point (Annual)	-	-	45	5.10%	3.15%	18%	5%	77%
Company C	S&P 500	Point-to-Point (Annual)	-	-	40	4.54%	3.25%	25%	6%	69%
Company B*	S&P 500	Point-to-Point (Annual)	-	9.65	50	4.38%	2.89%	15%	5%	80%
Company F	S&P 500	Point-to-Point (Annual)	-	6.10	100	3.58%	3.12%	29%	7%	64%
Company A	S&P 500	Point-to-Point (Annual)	-	6.00	100	3.53%	3.15%	30%	7%	63%
Company D	S&P 500	Point-to-Point (Annual)	-	5.90	100	3.48%	3.10%	30%	7%	63%
Company E	S&P 500	Point-to-Point (Annual)	-	5.85	100	3.45%	2.99%	28%	7%	65%
Company E	S&P 500	Average (Monthly)	-	6.25	100	3.28%	2.99%	36%	9%	55%
Company C	S&P 500	Point-to-Point (Annual)	-	4.50	100	2.73%	3.25%	61%	20%	19%
Company B*	S&P 500	Point-to-Point (Annual)	-	4.00	100	2.60%	2.89%	56%	21%	23%
Company B*	S&P 500	Performance Trigger (Annual)	3.70	-	-	2.58%	2.89%	44%	31%	25%
Company C	S&P 500	Performance Trigger (Annual)	3.75	-	-	2.47%	3.25%	75%	20%	5%
Company D	S&P 500	Sum (Monthly)	-	1.95	100	1.32%	3.10%	90%	3%	7%
Company B*	S&P 500	Sum (Monthly)	-	1.70	100	1.11%	2.89%	94%	2%	4%

*Company B products have a 1% premium bonus in the first year.

Note: Rates from February 28, 2018.

Source: CANNEX Financial Exchanges

ACCUMULATION VALUE OF FIXED ANNUITIES (MYGA & FIA): UNDERSTANDING YIELDS BY PRODUCT DESIGN

As the aggregate averages for both MYGAs and FIAs are very close to each other, it is not particularly surprising that about half of the FIAs exceeded the performance of the MYGA and half did not. There is a clear pattern in the data that shows that strategy type determines which side of the “MYGA line” products are likely to fall.

In this study, the products that on average tend to exceed the MYGA returns have the following strategies:

- Annual point-to-point with a higher rate cap (between 5.85% and 6.10%) and 100% index participation
- Annual point-to-point with no rate cap and an index participation rate less than 100%
- Average monthly return with a high rate cap (6.5%) and 100% index participation

Conversely, the products that on average performed less than their MYGA counterparts include the following strategies:

- Annual point-to-point with a lower cap rate (between 4.00% and 4.50%) and 100% index participation
- Annual performance-triggered with a declared rate
- Monthly sum

Insight into the Behavior of Select Strategies

The high-level data from the CANNEX simulations provides a valuable snapshot of the overall performance of these strategies. In order to better understand the dynamics of some of these strategies, we performed further analysis that reveals more about the situations and market conditions under which they provide a higher or lower return.

In all cases, we focused on actual products that are included in this analysis. To expose the basic workings of the strategy, we use the performance in a one-year

period; this provides a snapshot of the probability of returns in any given year based on a variety of market scenarios. The one-year performance sheds light on the fundamental design that drives the long-term results as market conditions vary. Each year, the annuity return looks similar to this view, but the long-term profile is different because of the aggregation of multiple years as this repeats from one year to the next.

The distribution of results over a seven-year period is the range of total returns based on a variety of market scenarios. This view illustrates what happens as markets fluctuate in subsequent years.

We select market parameters for the simulation to be consistent within the particular index, but we can also tweak these to show what the performance profiles look like if we change our assumptions. In one case, we use a real contract but apply an index with volatility lower than that of the S&P 500 Index to see how this affects the strategy.

Annual Point-to-Point Strategy with a Rate Cap and 100% Index Participation

One of the most common and popular strategies in the market is point-to-point with a rate cap and 100% index participation. Given the range of available rate caps, it is useful to see how the rate cap affects product performance.

The summary results show that this strategy can, on average, either outperform or underperform the MYGA. These results are sensitive to the magnitude of the rate cap. Among the ones included in our analysis, four had higher caps and generally outperformed the MYGA and two had lower caps and generally underperformed the MYGA.

In addition, we wanted to see the effect of an index with lower return and volatility on the profile of results. We tested this scenario on the same annuity with a higher cap that is profiled below.

ACCUMULATION VALUE OF FIXED ANNUITIES (MYGA & FIA): UNDERSTANDING YIELDS BY PRODUCT DESIGN

Higher Rate Cap (6.0%)

The average return for this strategy is 3.53%, which compares to a return of 3.15% for the company’s MYGA. The strategy is more than twice as likely to outperform the MYGA as it is to underperform. **Exhibit 3** includes distributions after one and seven years.

The one-year returns show how this strategy tends to interact with the equity index. The combination of an average return of 8.0% and volatility of 16% means that, with the 6.0% rate cap, the index performance either bumps up against the rate cap or triggers the principal guarantee, which is a 0% return. The concentration of results at the far ends of the spectrum creates a “goal post” effect.

As the contract progresses through subsequent years, the returns start averaging out, generating a smoother distribution of index returns. Nevertheless, there are spikes across the distribution that result from cumulative times that the S&P 500 Index hit the 6.0%

cap each year, generating identical returns in multiple simulations. Compared to the natural movement of the market, the cap artificially clusters returns at multiples of the cap with 0% return in other years, so there are seven spikes, one for each iteration of multiple years of return at 6.0%.

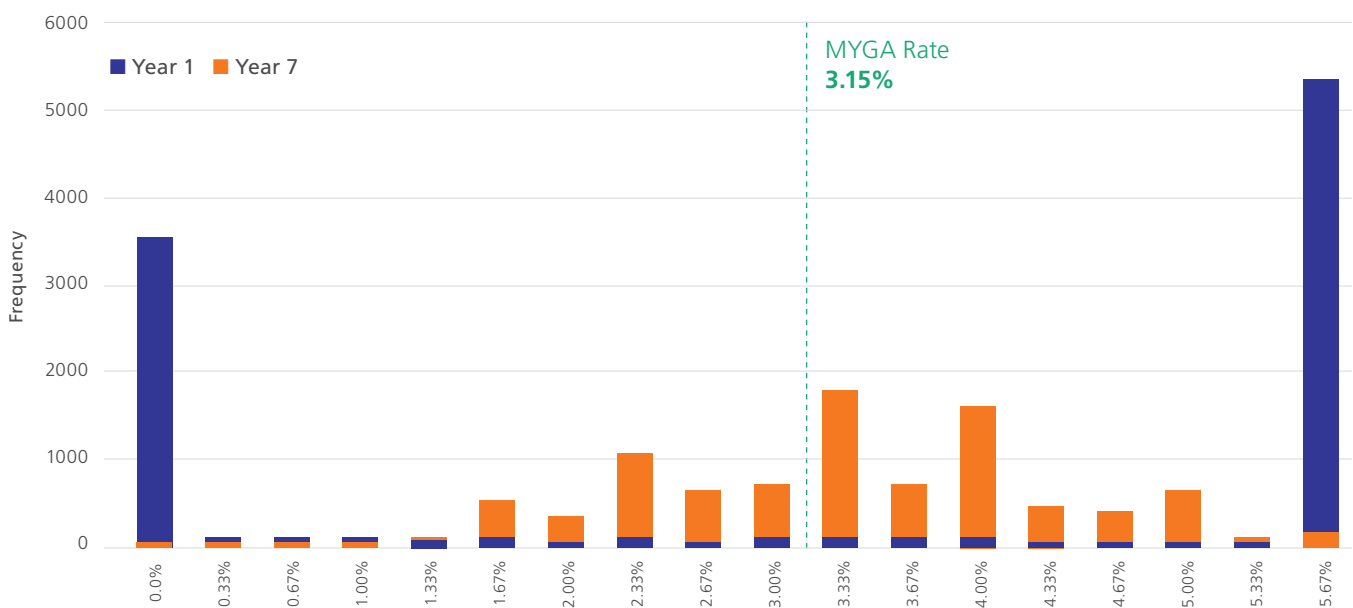
The green line represents the 7-year MYGA rate from the same insurer. The distribution of results is relatively even on both sides of the MYGA line, but the high spikes created by subsequent years of hitting the cap push the average return slightly higher than the MYGA return.

Lower Rate Cap (4.0%)

In a different case, reducing the rate cap gives a lower average return of 2.60% compared with a MYGA rate of 2.89%. While some (23%) of scenarios outperform the MYGA, more than half (56%) had lower returns. Note that this MYGA rate is different from the higher rate cap product analyzed above, as it came from a different insurer.

Exhibit 3

Annual Point-to-Point Strategy with a 6.0% Rate Cap and 100% Index Participation, Years 1 and 7



Note: Simulated FIA returns compare against the annualized rate for a competitive 7-year MYGA from the same insurer.
Source: CANNEX Financial Exchanges

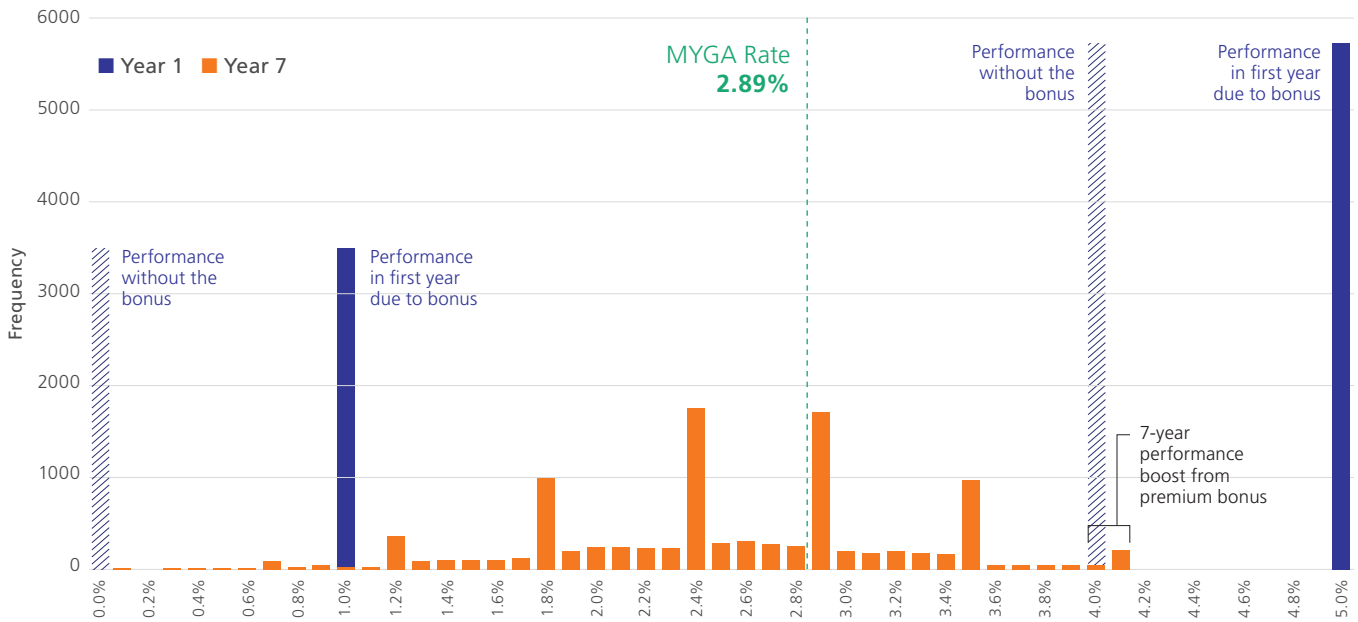
ACCUMULATION VALUE OF FIXED ANNUITIES (MYGA & FIA): UNDERSTANDING YIELDS BY PRODUCT DESIGN

This strategy lowers the rate cap and shares the same basic characteristics with the higher rate cap product, modeled above. However, the goal posts are much narrower, which results in even more periods in which the index hits against the cap. As a result, the average

return is not only lower than it is for the version with the 6.0% cap, but is below the MYGA return, as shown in **Exhibit 4**. There is 1.0% premium bonus in the first year that shifts the goal posts initially. This has a modest effect on maximum returns, allowing the performance

Exhibit 4

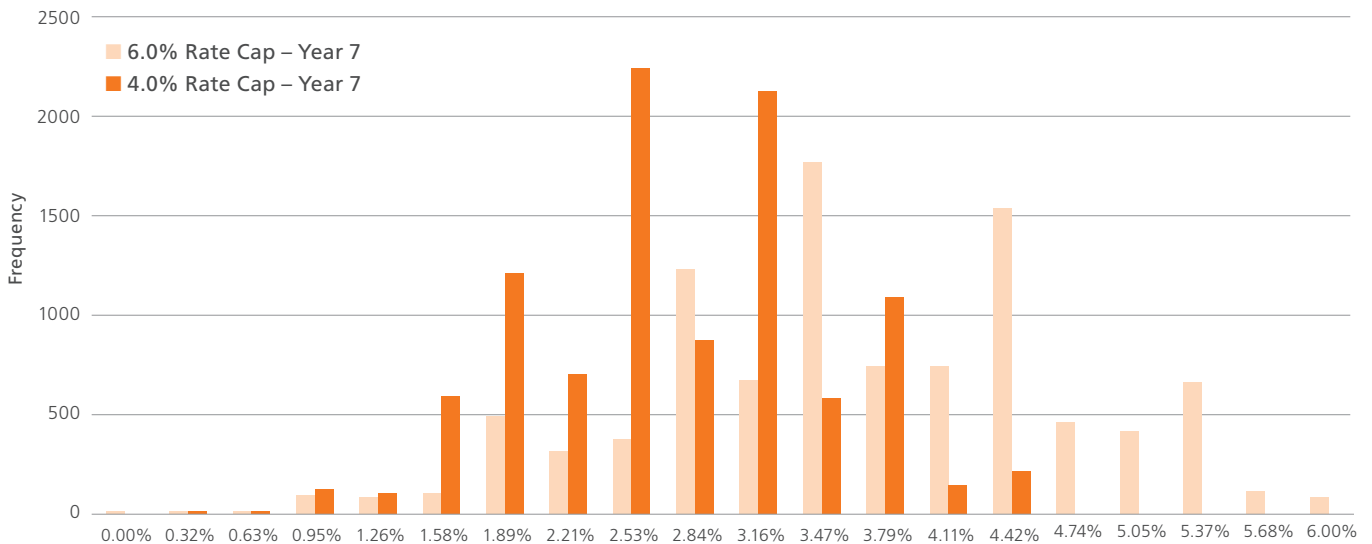
Annual Point-to-Point Strategy with a 4.0% Rate Cap and 100% Index Participation, Years 1 and 7



Note: Simulated FIA returns compare against the annualized rate for a competitive 7-year MYGA from the same insurer. Also, because of a 1.0% premium bonus in the first year, all results in subsequent years are 1.0% less.
Source: CANNEX Financial Exchanges

Exhibit 5

Comparison of 6.0% Rate Cap and 4.0% Rate Cap Point-to-Point FIA Strategies



Source: CANNEX Financial Exchanges

ACCUMULATION VALUE OF FIXED ANNUITIES (MYGA & FIA): UNDERSTANDING YIELDS BY PRODUCT DESIGN

for this product to push above the 4.0% rate cap, as indicated in the figure.

We layer the results for the higher and lower cap strategies to show the difference in performance. Note that each product has a different associated MYGA, with both marked in **Exhibit 5**.

Though we draw valid conclusions about performance based on design elements, this contract is issued by a different insurer from the one that offers the higher rate cap on the same basic strategy. The discrepancy in rates may arise from fundamental practice differences at the two institutions, though the lower rate cap certainly lowers the average yield.

Effect of Volatility on Point-to-Point Strategies

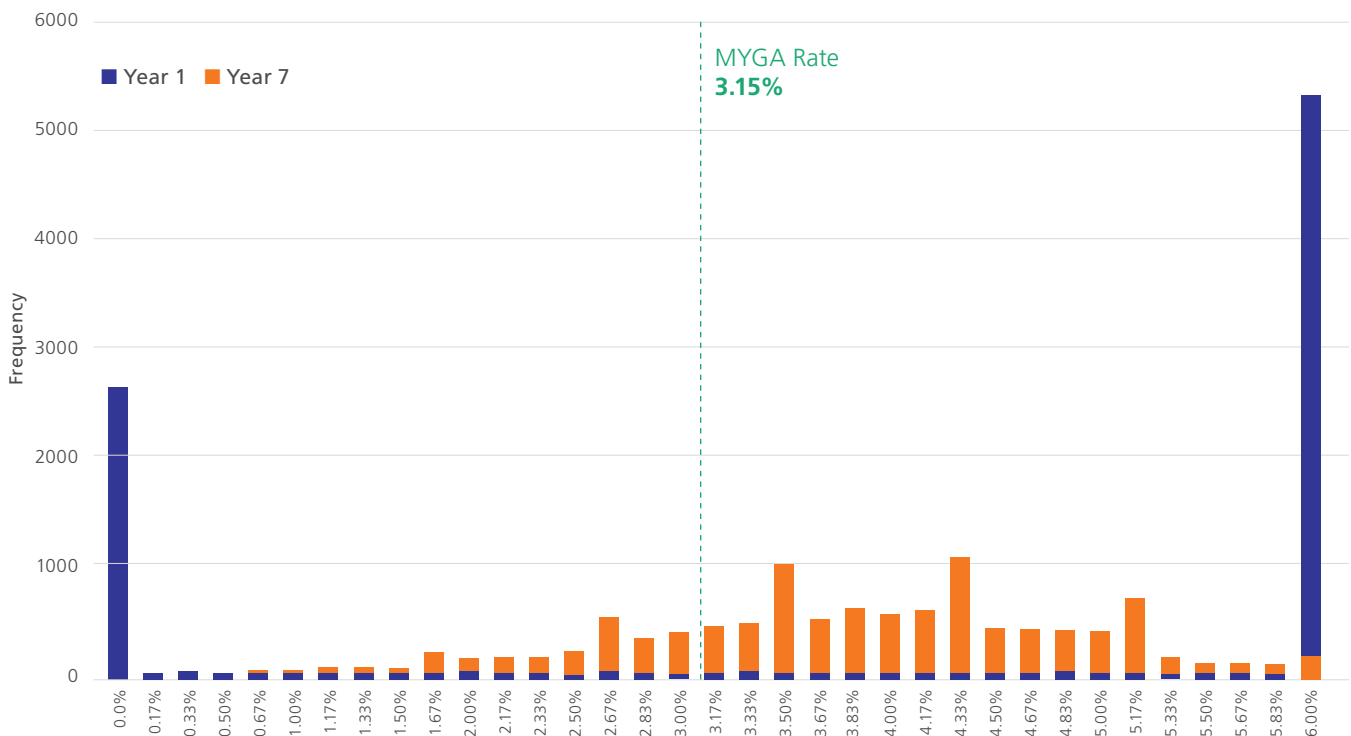
In a theoretical exercise, we used the higher rate cap

product analyzed above to see what happens when we apply a lower-volatility index but continue to use a similar return assumption. Elsewhere in this study, we have consistently used the S&P 500 Index so as to make reasonable comparisons across products. However, it is useful to show the effect of introducing an index with different characteristics than the S&P 500 Index. As mentioned earlier, insurers have focused on introducing new index blends and designs with the intent of offering returns based on less volatility with similar returns. To model this concept, which is shown in **Exhibit 5**, we applied an equity index with a similar return profile as the S&P 500 Index, but we reduced the volatility from 16% to 10%.

Compared against results for the same strategy using the S&P 500 Index, we see that the lower volatility has the effect of smoothing out the spikes from **Exhibit 3** and making the distribution of results on the right

Exhibit 6

Theoretical Product Using Annual Point-to-Point Strategy with a 6.0% Rate Cap and 100% Index Participation Using a Lower Volatility Index, Years 1 and 7



Note: Simulated FIA returns compare against the annualized rate for a competitive 7-year MYGA from the same insurer.
Source: CANNEX Financial Exchanges

ACCUMULATION VALUE OF FIXED ANNUITIES (MYGA & FIA): UNDERSTANDING YIELDS BY PRODUCT DESIGN

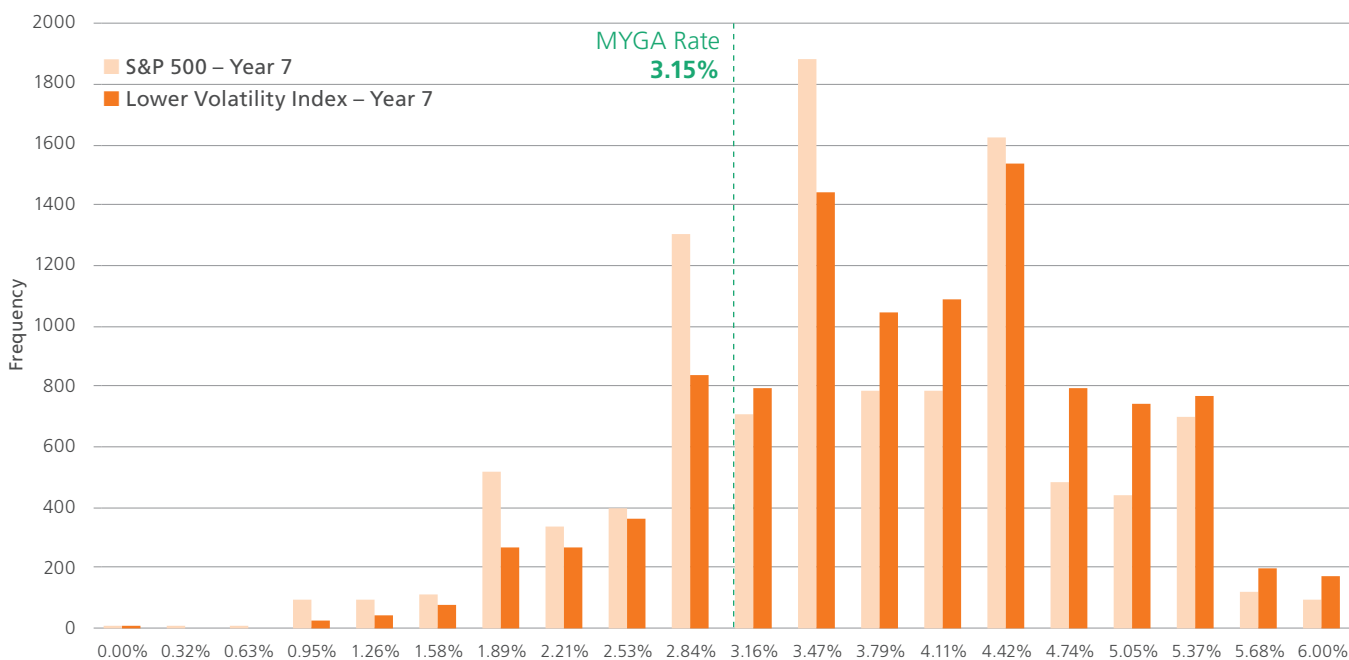
side of the MYGA line more robust. This happens because, with less volatility, the index is not running into either of the goal posts as frequently. Therefore, the market falls more in sync with the structure of the strategy and generates a distribution that shifts further to the right and has an average yield that is much higher than the MYGA line. This effect is exactly what carriers are aiming for as they continue to introduce new proprietary indices.

Exhibit 7 highlights the effect of lowering volatility and making no other changes. In this case, the MYGA line is identical, so the relative change is purely the effect

of the difference in volatility. Both operate within the same bounds because of the identical rate cap, but the profile of returns shifts.

Although there is an advantage to this approach, the challenge is that there is little to no history supporting these novel indices or blends. Furthermore, it can be difficult for the average consumer to understand compared to a simple and well understood market measure like the S&P 500 Index. In addition, these indices may be offered with costs different from their S&P 500 Index counterparts. Insurers modulate cost and risk through fees that are implicit within the

Exhibit 7
Comparison of Lower Volatility on Distribution of Returns



Note: Comparison is based on the same point-to-point strategy with a 6.0% rate cap and 100% index participation.

Source: CANNEX Financial Exchanges

ACCUMULATION VALUE OF FIXED ANNUITIES (MYGA & FIA): UNDERSTANDING YIELDS BY PRODUCT DESIGN

design of the contract, namely through caps, spreads, participation rates, and so forth. These differences make new indices extremely difficult to compare simply by looking at the design characteristics.

Annual Point-to-Point Strategy with No Rate Cap and Lower Index Participation Rate

Based on **Exhibit 2**, lowering the participation rate and raising the cap generates the highest returns relative to the MYGA rate. To take a closer look at this type of product, we chose one with a 45% index participation rate, which is in the middle of the three such products included in our analysis. This contract has an average return of 5.10%, notably higher than the MYGA rate of 3.15%, and it exceeded the MYGA in

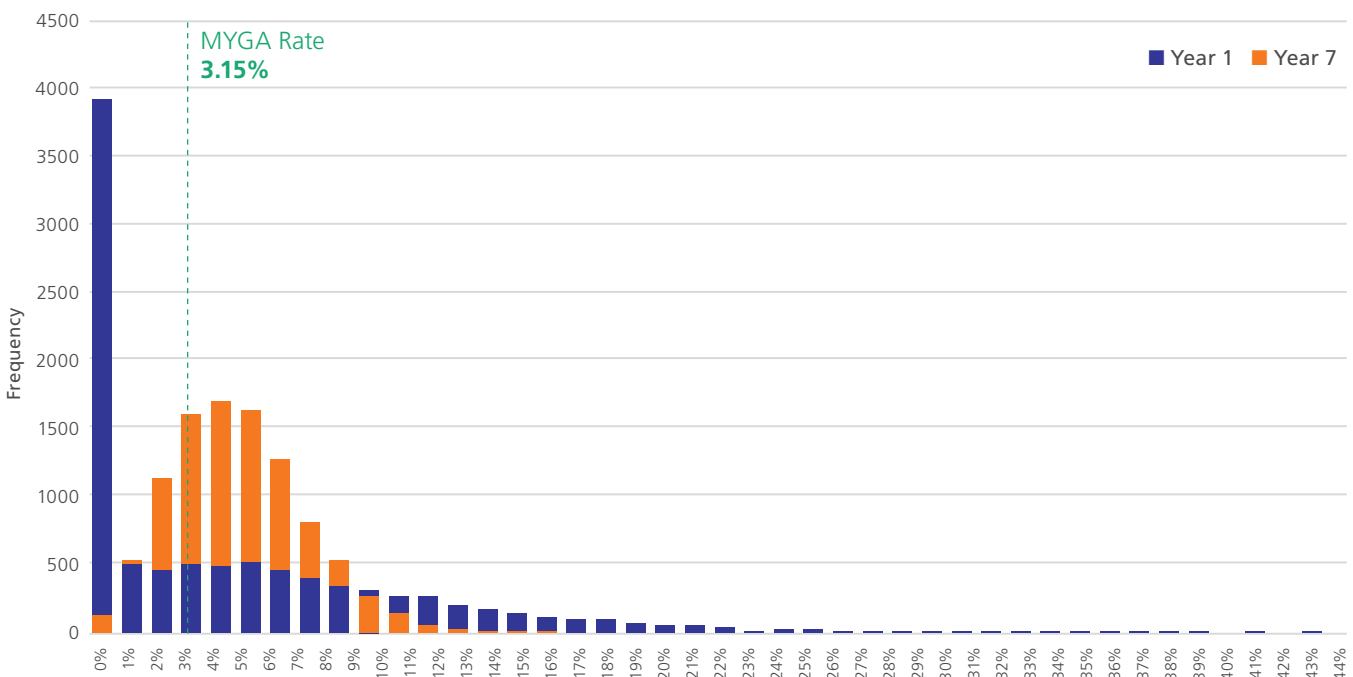
more than three-quarters of scenarios (77%).

The elimination of the cap also removes the right-hand goal post as compared to the results for the products with a rate cap and 100% index participation rate (**Exhibits 3, 4**). Nevertheless, the left goal post is still pronounced due to the contractual guarantee that performance can never be less than 0% in any year, no matter how poor the market.

The difference in performance between the two point-to-point strategies is that one has more upside than the other because it does not have a strict limit on potential gains. The rate cap of one represents a rigid ceiling on gains in any given year, whereas the lower participation on the other modulates returns in all positive years but never places a ceiling on them.

Exhibit 8

Annual Point-to-Point Strategy with No Rate Cap and 45% Index Participation Rate, Years 1 and 7



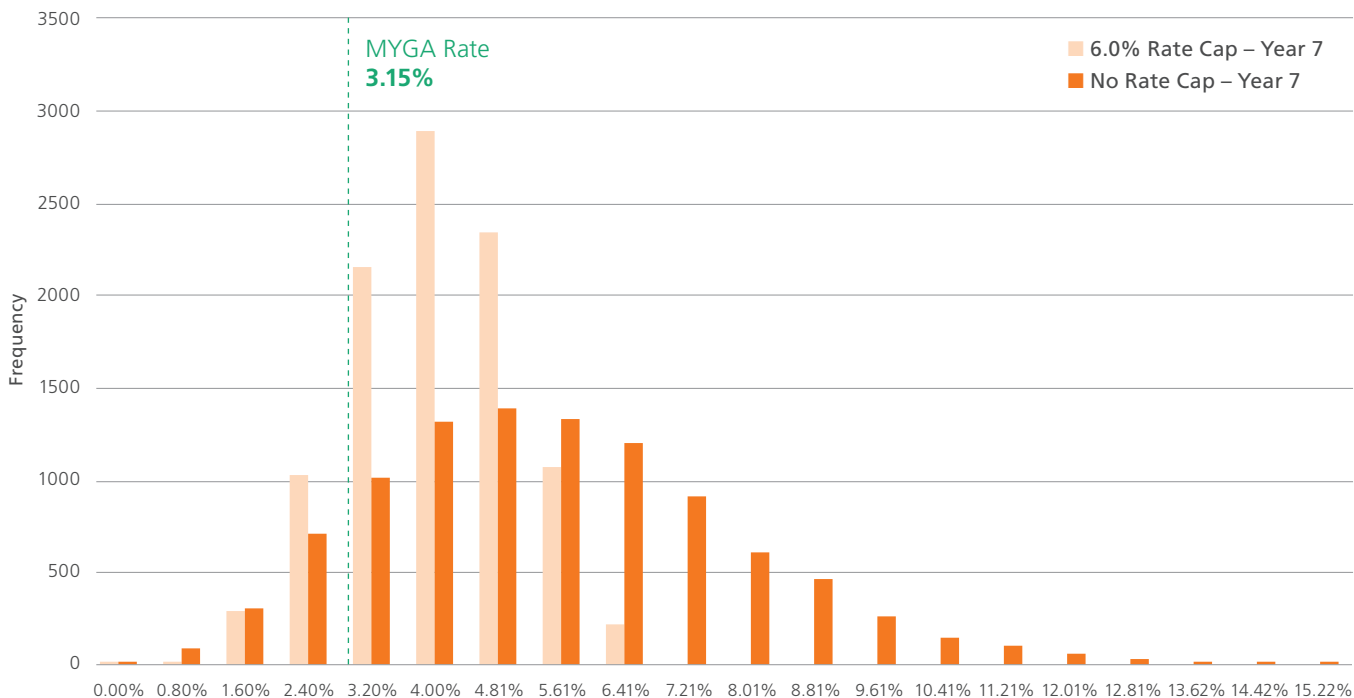
Note: Simulated FIA returns compare against the annualized rate for a competitive 7-year MYGA from the same insurer.

Source: CANNEX Financial Exchanges

ACCUMULATION VALUE OF FIXED ANNUITIES (MYGA & FIA): UNDERSTANDING YIELDS BY PRODUCT DESIGN

Exhibit 9

Comparison of Point-to-Point Strategies: 6.0% Rate Cap/100% Index Participation and No Rate Cap/45% Index Participation



Source: CANNEX Financial Exchanges

However, it is important to understand that this generalization applies only to conditions where the market performs well enough for this upside potential effect to shine through. After all, the participation rate does dampen the contribution in all positive markets even while there is no limit to upside in any given year. Therefore, index returns have to be high enough to take advantage of this effect.

The takeaway from this is that the choice to elect one over the other is legitimately related to outlook on the index. One way to make this assessment is to use a simple formula that provides a “breakeven” point. This figure shows the S&P 500 Index rate above which the formula with no participation performs better in any given year:

$$\frac{100\%}{\text{Participation Rate For Product A}} \times \text{Rate Cap For Product B} = \text{“Breakeven” Index Performance between A vs. B}$$

Using a couple of the cases from above, here’s an example comparing a 100% participating strategy with a 6% cap versus a 45% participating strategy with no cap with the same index:

$$\frac{100\%}{45\%} \times 6.0\% = 13.3\%$$

If the index performs better than 13.3% in any given year, then the partial participation with no cap provides a higher yield. Thus, investor conviction about higher market performance would make that strategy an appropriate choice. Overall, the no-cap strategy looks more like an equity and, over the course of time, generates a smoother distribution of results that mirrors the returns for the reference market but without full exposure.

ACCUMULATION VALUE OF FIXED ANNUITIES (MYGA & FIA): UNDERSTANDING YIELDS BY PRODUCT DESIGN

Monthly Strategies with Opposite Dynamics

There are two different styles of strategies that use monthly calculations but, due to key design elements, also have divergent performance dynamics. Whereas the one is extremely sensitive to volatility, the other ameliorates it.

Monthly Sum with a 1.70% Rate Cap and 100% Index Participation

There is a monthly sum strategy included in our analysis that has an average return of only 1.11%, which lags behind the MYGA return of 2.89%. This strategy underperformed the MYGA in 94% of simulations.

Despite having a rate cap, **Exhibit 10** shows there is no right-hand goal post because the strategy uses a cap that applies on a monthly basis, so 12 periods have

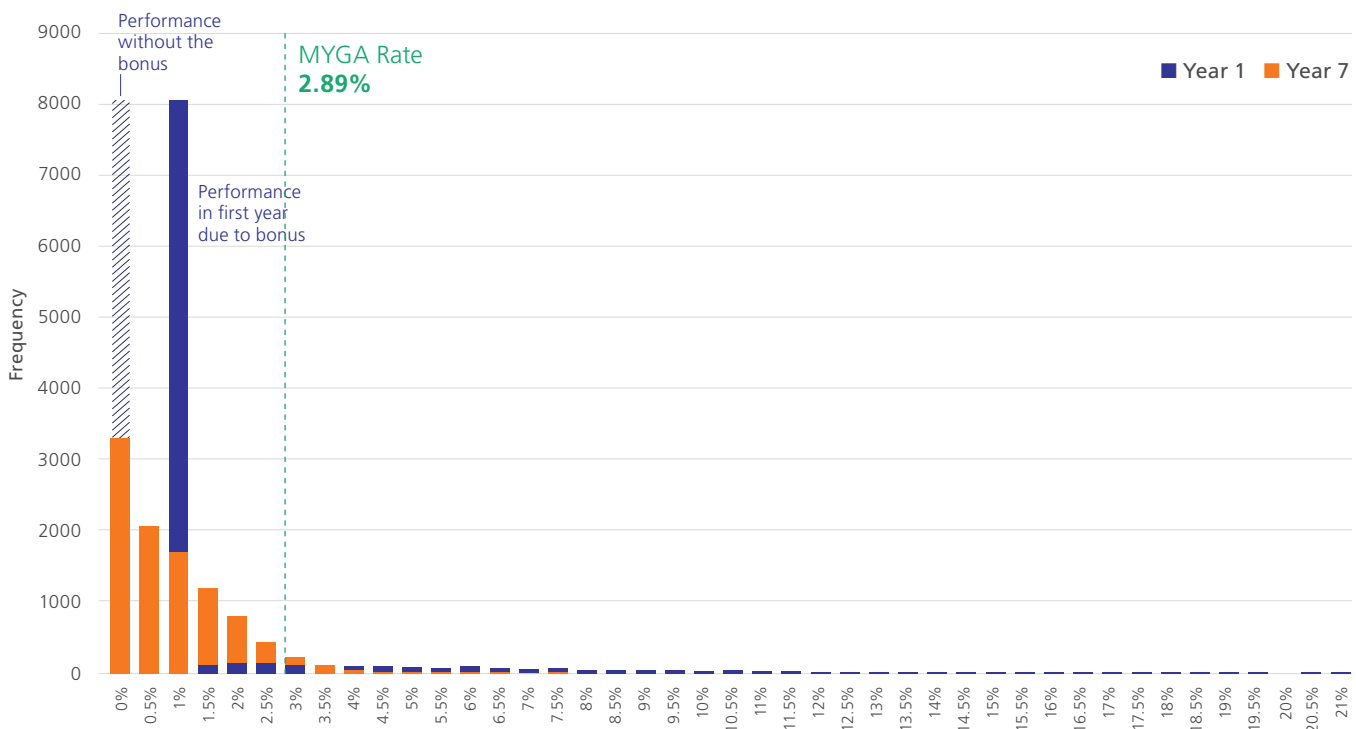
elapsed at the end of the first year. This repetition smooths results even more than we see after seven years with annual strategies.

The structure of this strategy is to calculate the returns each month, apply the cap, and then add those results together for the year. At this point, a negative net return would trigger the premium protection guarantee. With a monthly cap of 1.70%, the maximum potential net gain for the year is 20.4%, which is astonishingly high compared to the caps on any annual strategy.

This very high return potential belies the performance in our simulations. Unlike annual strategies, where the ceiling also comes with a floor, this monthly strategy applies a ceiling, but there is no floor. The potential to log negative returns in interim periods means that the return is exposed to significant downward volatility at the same time it is limited in recapturing

Exhibit 10

Monthly Sum Strategy with a 1.70% Rate Cap and 100% Index Participation, Years 1 and 7



Note: Simulated FIA returns compare against the annualized MYGA rate for the 7-year MYGA with the highest rate from the same insurer. Also, because of a 1.0% premium bonus in the first year, all results in subsequent years are 1.0% less.

Source: CANNEX Financial Exchanges

ACCUMULATION VALUE OF FIXED ANNUITIES (MYGA & FIA): UNDERSTANDING YIELDS BY PRODUCT DESIGN

gains in very positive periods; in the event of a major downturn, 100% of monthly losses are included in the net calculation while only 1.70% of positive gains can contribute to recovery in any given month.

The investment conviction that would make this strategy most appealing is the belief that markets will be consistently positive and not highly volatile over the period of the term.

Monthly Average with a 6.25% Rate Cap and 100% Index Participation

There is a single monthly average strategy in our study that has similar returns as point-to-point strategies. The average return is 3.28%, greater than the 2.99% MYGA return, and exceeds the MYGA in 55% of cases.

As expected based on the rate cap, **Exhibit 11** shows that the results after the first year have the goal post form of the point-to-point strategies. Similarly, there are spikes after seven years that represent multiple years where the index bumped into the rate cap. However, the results are more tightly concentrated with fewer results

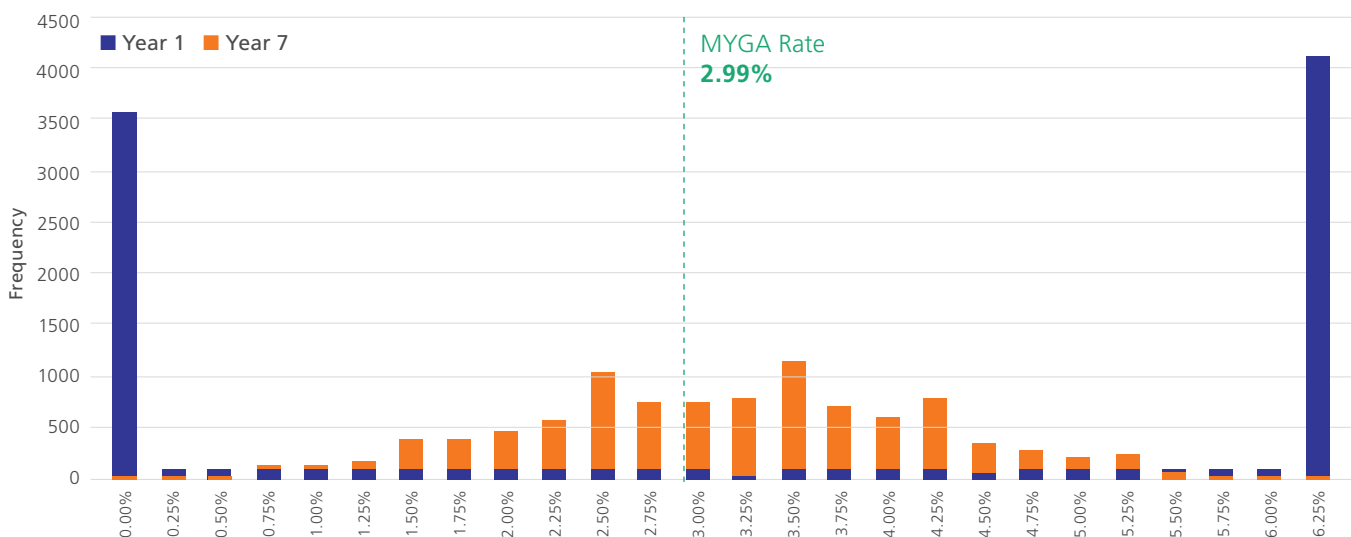
at the extremes of the distribution, providing greater predictability.

The monthly average strategy measures performance based on the percentage change between the starting value and the average of a monthly snapshot during the term of the strategy. With an annual term, this method takes the index value at the end of each month, calculates a 12-month average, and then subtracts the starting value from the beginning of the term to arrive at a percentage change.

Unlike the monthly sum strategy, this calculation method reduces the effect of volatility. Furthermore, the rate cap applies at the end of the 12-month period rather than each intermediate period, as is the case with the monthly sum method. Monthly gains and losses are both fully included before the cap takes effect, which accounts for the volatility smoothing effect we see with this strategy. From a consumer perspective, this type of strategy is appealing for those that want to boost yield relative to a MYGA but are concerned about the effects of volatility.

Exhibit 11

Monthly Average Strategy with a 6.25% Rate Cap and 100% Index Participation, Years 1 and 7

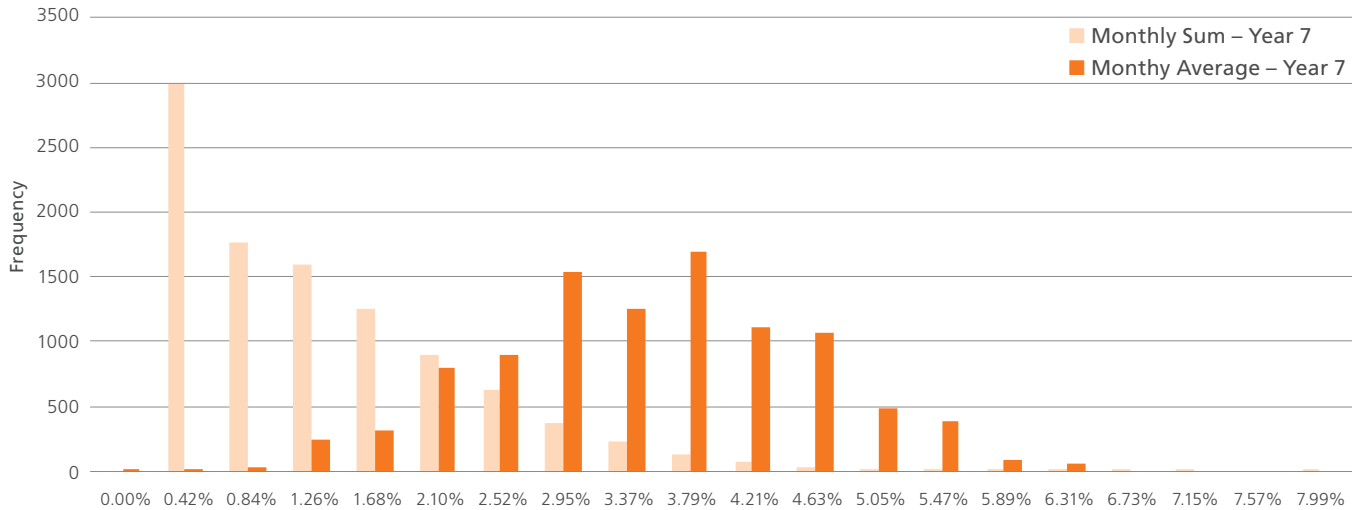


Note: Simulated FIA returns compare against the annualized rate for the 7-year MYGA from the same insurer.
Source: CANNEX Financial Exchanges

ACCUMULATION VALUE OF FIXED ANNUITIES (MYGA & FIA): UNDERSTANDING YIELDS BY PRODUCT DESIGN

Exhibit 12

Comparison of Monthly Sum and Monthly Average Strategies



Source: CANNEX Financial Exchanges

SUMMARY

This study was designed to answer a very high level and simple question: how much return can one generally expect to receive from an FIA versus a MYGA? Of course, this generalization comes with some analytical trade-offs, which we have also sought to address by examining differences in FIA strategies and how they behave within our model. To add additional context to today’s market, we noted earlier in this report that there are innovations within the FIA category which look to optimize the upside return of these fixed products. Though we do include the use of lower volatility indices in this current study, this subject deserves separate and detailed treatment.

For the purposes of accumulation, the bottom line is that FIAs can allow investors to have greater yields that are based on equity markets yet do not move in scale with those markets. To put it another way, they are a decidedly fixed income product with an arms-length relationship to equities. Different crediting strategies

have specific characteristics that make sense if an investor has certain convictions or concerns about the markets. These provide opportunities for investors to seek more upside and they may even, on average, provide a few additional percentage points of yield. Nevertheless, no design or innovation alters the fact that these are fundamentally fixed annuities, even if they are now available in a variety of flavors

[FIAs] are a decidedly fixed income product with an arms-length relationship to equities.

However, this is not the full story for FIAs; the proliferation of income benefits has created a niche in which they can excel at providing guaranteed income. This analysis specifically examines the accumulation side and direct comparison with MYGAs, but in practice they do not necessarily compete directly with these straight declared rate products.



ABOUT CANNEX

CANNEX supports the exchange of **pricing information** for annuity and bank products across North America. We provide financial institutions with the ability to evaluate and compare various guarantees associated with retirement savings and retirement income products.

Our **quantitative research** team provides methodologies that help optimize the selection and allocation of annuity and insurance guarantees in support of retirement programs and practices.

Our pricing and analytic services can be deployed to support a variety of processes, including:

- Research & Market Intelligence
- Financial Planning & Education
- Sales & Compliance
- Transaction Processing
- Product Service & Administration

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