The Indexed Universal Life Approach

Introduction

Indexed Universal Life (IUL) insurance has existed since the late 1990s, and since then it has grown to be over 50% of all Universal Life insurance premium and over 20% of the total premium for individual life insurance premium.[1] While IUL has become widely sold product, the mechanics of how IUL works are not widely understood. This paper examines what makes Indexed Universal Life (IUL) insurance "tick."

Where does IUL fit?

Indexed universal life products are ideal for clients who have a need for a death benefit coverage and also want the potential for cash value growth without market risk. It occupies the space between current assumption universal life and variable universal life insurance. Today's low-interest rate environment has made universal life less attractive to many consumers, plus the back-to-back recessions of 2000–2002 and 2007–2009 have left other consumers wary of investing directly in the market. These conditions have essentially shined a spotlight on IUL.

Risk profile		
Universal Life	**Indexed Universal Life**	**Variable Universal Life**
◄ CONSERVATIVE ◄	POLICYOWNER RISK PROFILE	AGGRESSIVE ►
• Company-declared interest • Minimum guaranteed interest rate • Securities license not required	• Index-linked interest • Credited interest guaranteed to never be below 0% • Securities license not required	• Market-based performance • Risk of loss • Securities license required

How interest is determined and credited

Purchasing an indexed universal life product is not an investment in the stock market. While interest credited in an index account is based on a selected index, funds are not invested in the stocks that make up each index, therefore an index does not include dividends paid by the underlying companies.

1. As premiums are paid, a portion is used for the costs of life insurance coverage; the rest is directed to an account that earns interest depending on the accounts selected.

2. Policyowners can choose to have premiums allocated to an account that offers a fixed rate of return (called a fixed account), to an index account, or to a combination of both.

3. With an index account, interest credited is linked to the growth (if any) of a stock market index, which is a well-known numerical value used to measure the performance of a group of stocks.

4. When premium is allocated to an index account, an index segment is created, and the beginning value of the index is recorded. At the end of a designated period (also known as an "index period"), the index value is used to calculate the index growth for the index period. The specific calculation depends on the index crediting method.

a. If the index growth is positive, interest is credited to the policy's cash value; the interest for that period is locked in and a new index period begins. Interest credited is subject to an index cap. The cap rate is the maximum amount of interest credit as determined by the movement in the market index.

b. If the index growth is negative, the value in the index account will remain the same. In no case will the interest credited be less than zero percent. This rate is called the floor rate. In this way, Indexed Universal Life provides the opportunity for clients to earn interest based on the upward movement of the selected index but offers downside protection from a declining market.

5. On each monthly anniversary, deductions are made from the account value. The monthly deductions will reduce the amount in the index account and/or the fixed account.

Cap and floor rates in action

Next, we'll examine the cause and effect relationship between the index and the index account using a fictional index. There are three different scenarios that could happen—the cap year, the floor year, and the between year.

The cap year

In the cap year, the index grows beyond the cap rate, so interest is credited at the cap rate. In this example, the index gains 18% for the year. An interest cap of 12% applies, so although the index gained 18%, interest credited to the index account will be 12%.
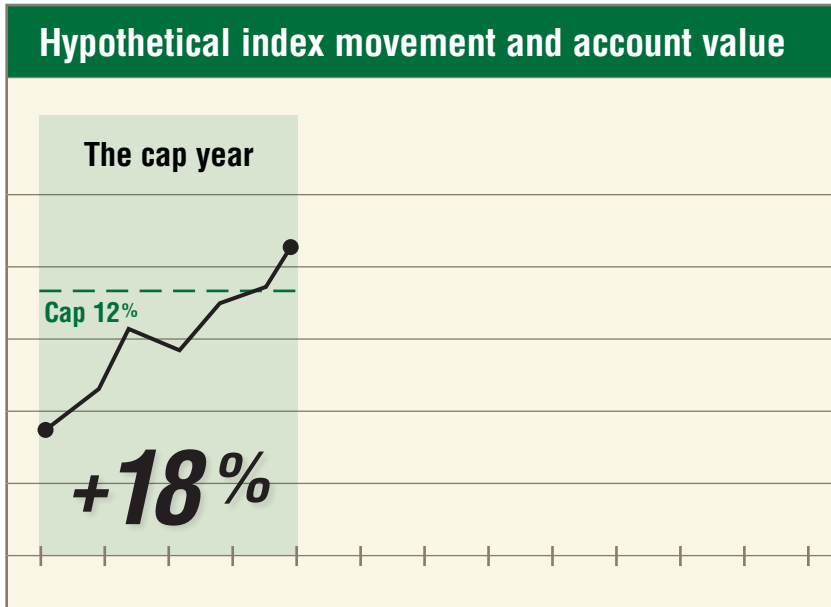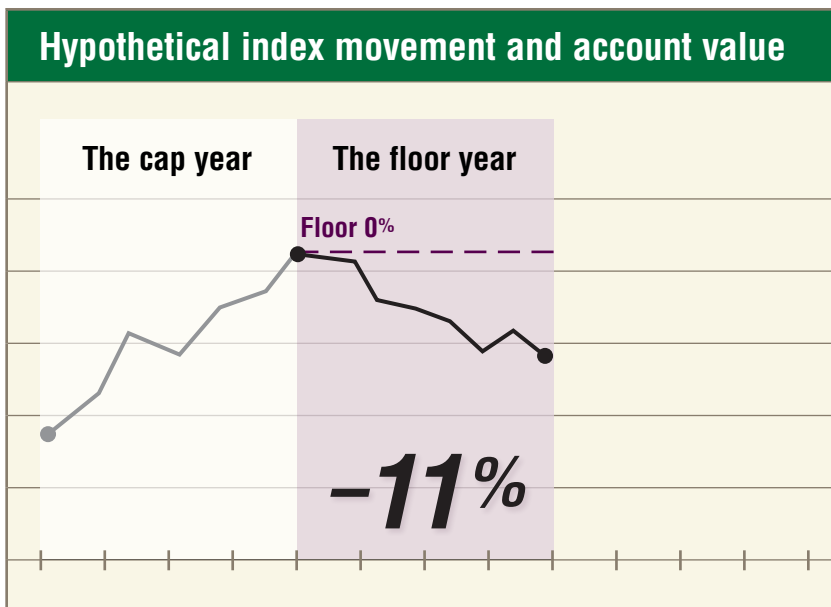
Hypothetical index movement and account value	Account value
The cap year Cap 12% **+18%**	We will assume the index account started with **$50,000** balance. The account grows to **$56,000 (12% growth)** $50,000 +6,000 ——— $56,000

The floor year

In the floor year, the index has negative growth, so the zero percent floor rated comes into effect. At the end of this year, we find that the index is down 11% for the year. However, because of the policy's zero percent floor, interest credited to the index account is 0% instead of −11%.

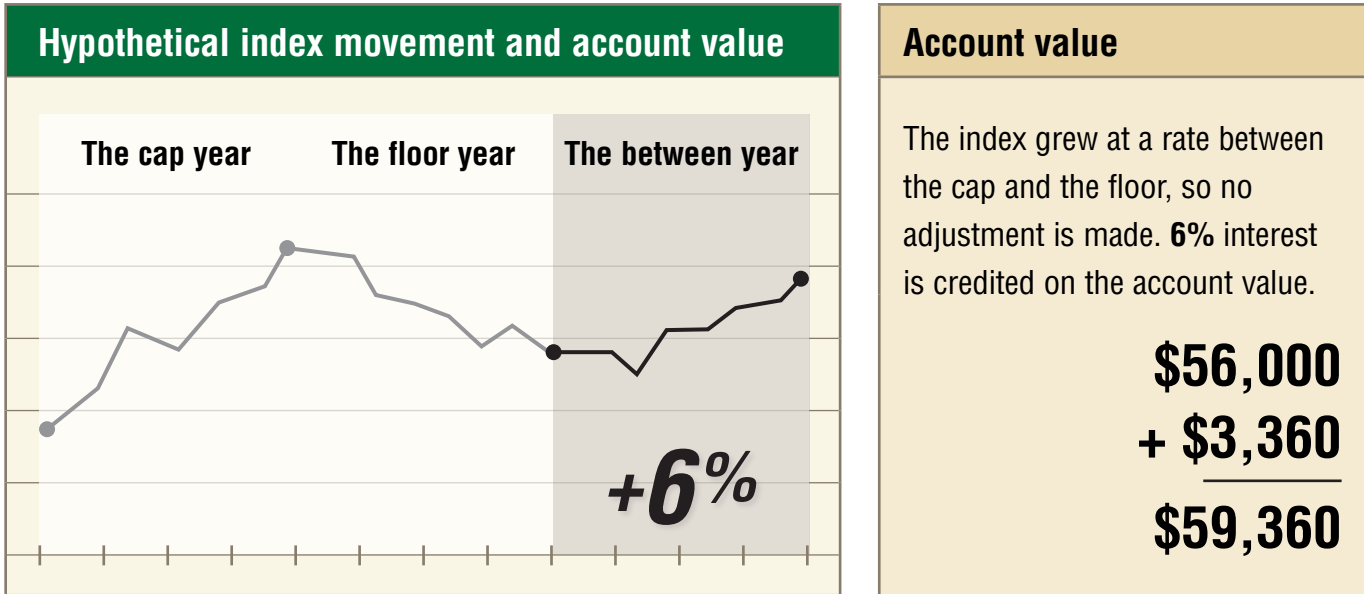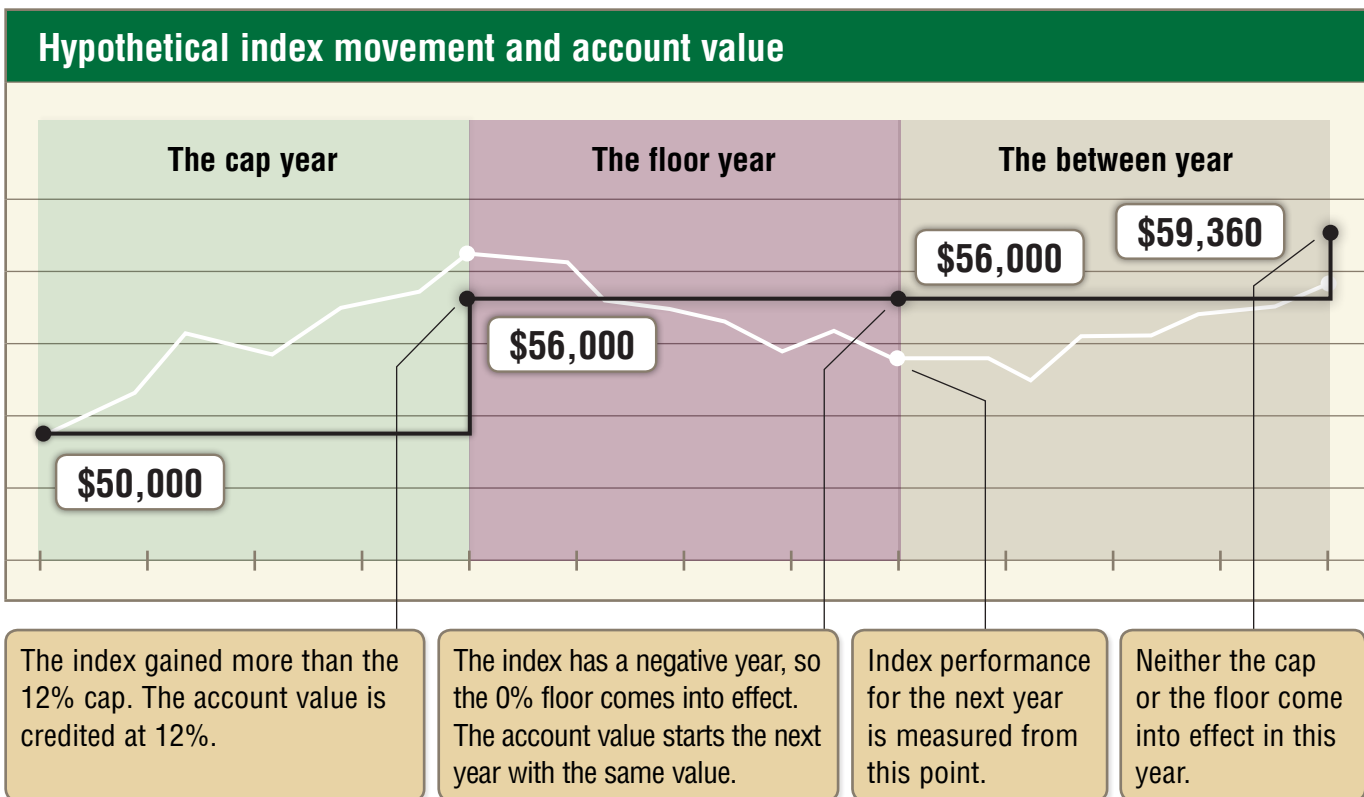| Hypothetical index movement and account value	Account value
The cap year **The floor year** Floor 0% **−11%**	Credited at **0%** instead of **−11%**, the new account value is **$56,000**. $56,000 − 0 ——— $56,000

The between year

In the between year the index grows at a rate higher than the floor rate, but lower than the cap rate. At the end of this year, we find that the index has grown 6%. The cap and floor do not come into effect. Interest credited to the index account is 6%.

Hypothetical index movement and account value

| The cap year | The floor year | The between year |

+6%

Account value

The index grew at a rate between the cap and the floor, so no adjustment is made. **6%** interest is credited on the account value.

$56,000
+ $3,360
_____
$59,360

Putting it all together with annual reset

For the purposes of this example, we'll assume that these years happen in the order shown below, although they can and do occur in any order throughout the lifespan of a policy. The zero percent floor rate and the index starting value are reset each year. Let's take a look at what that means in the graph below.

Hypothetical index movement and account value

| The cap year | The floor year | The between year |

$50,000

$56,000

$56,000

$59,360

The index gained more than the 12% cap. The account value is credited at 12%.

The index has a negative year, so the 0% floor comes into effect. The account value starts the next year with the same value.

Index performance for the next year is measured from this point.

Neither the cap or the floor come into effect in this year.

The above hypothetical scenarios use a fictional index and do not include dividends. For simplicity, the policy illustrated does not include policy charges, nor ongoing premiums which may or may not offset policy charges.
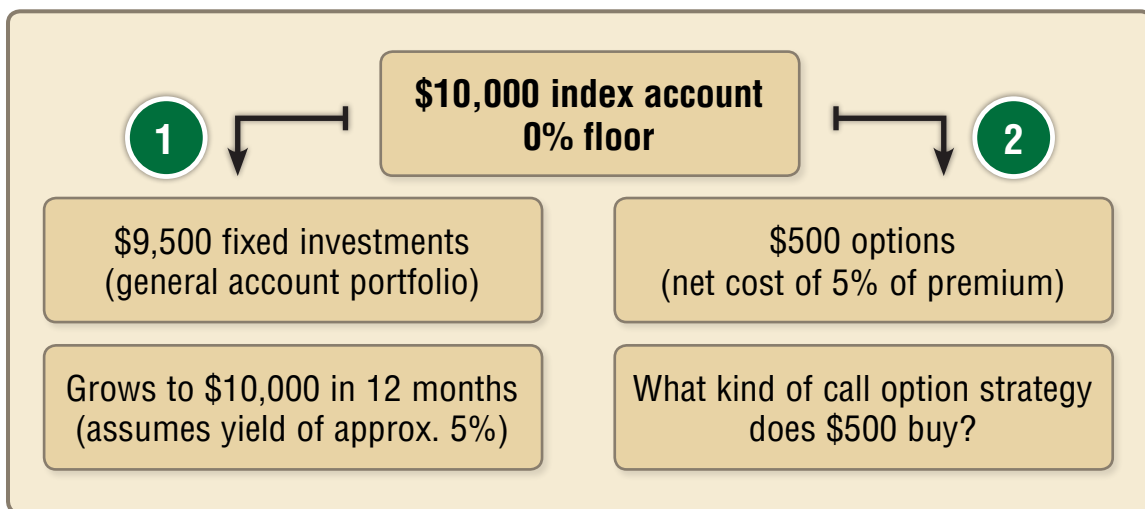
IUL mechanics

How insurance companies invest premium

As we explored earlier, an IUL policy's index account is linked to the performance of an index, with a cap and a floor. Exactly how does that linkage happen? Below is simplified diagram of a how an insurance company invests the client's premium in the general account while at the same time providing upside potential to the consumer. Assume a client were to pay $10,000 of premium into an IUL policy. Here's what happens:
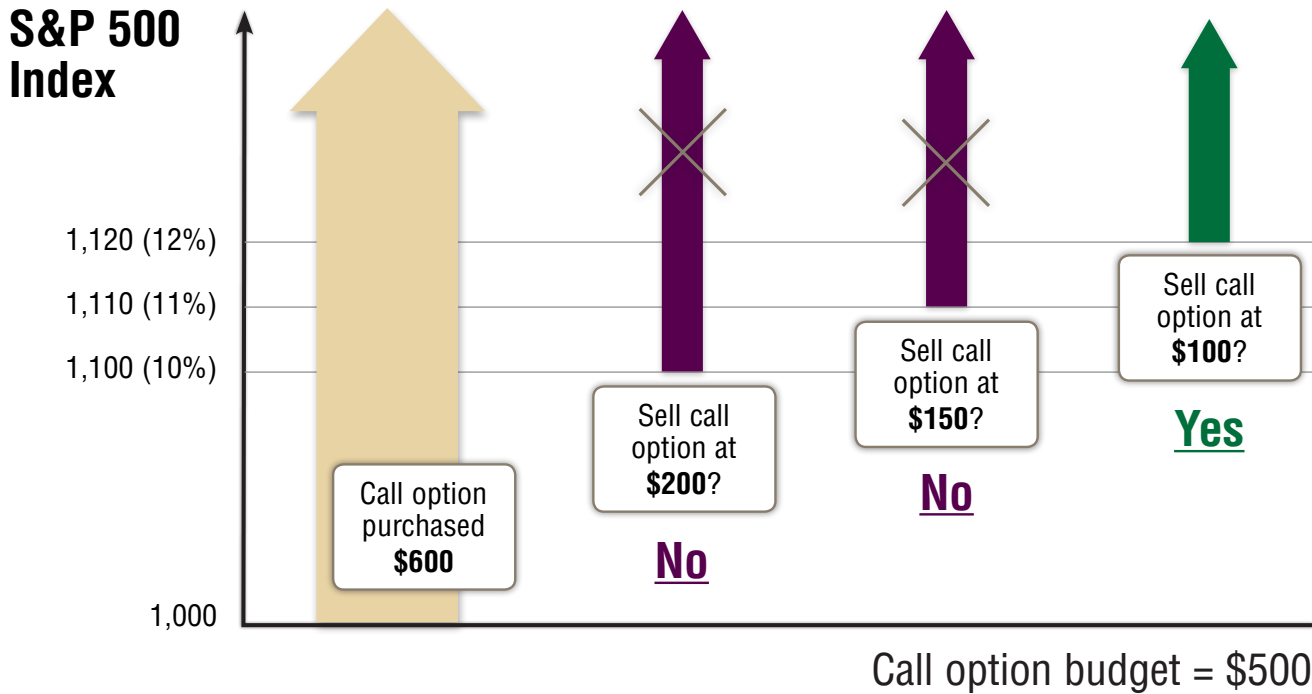
1. The insurance company invests approximately $9,500 of the premium into fixed investments such as high-grade corporate bonds that become a part of the insurance company's general account. In this example, we will assume the general account portfolio as a whole is yielding 5%. This amount will grow to $10,000 in one year, guaranteeing the index account's floor rate.

2. The insurance company uses the remaining $500 of premium to purchase a "bull call spread." This purchase is actually a series of purchases and sales. It starts with a purchase of a call option on the S&P 500 that is in-the-money. An in-the-money call option will provide a gain should the change in the S&P be positive at the end of the index period, generally one year later.

Hypothetical example of a policy at issue

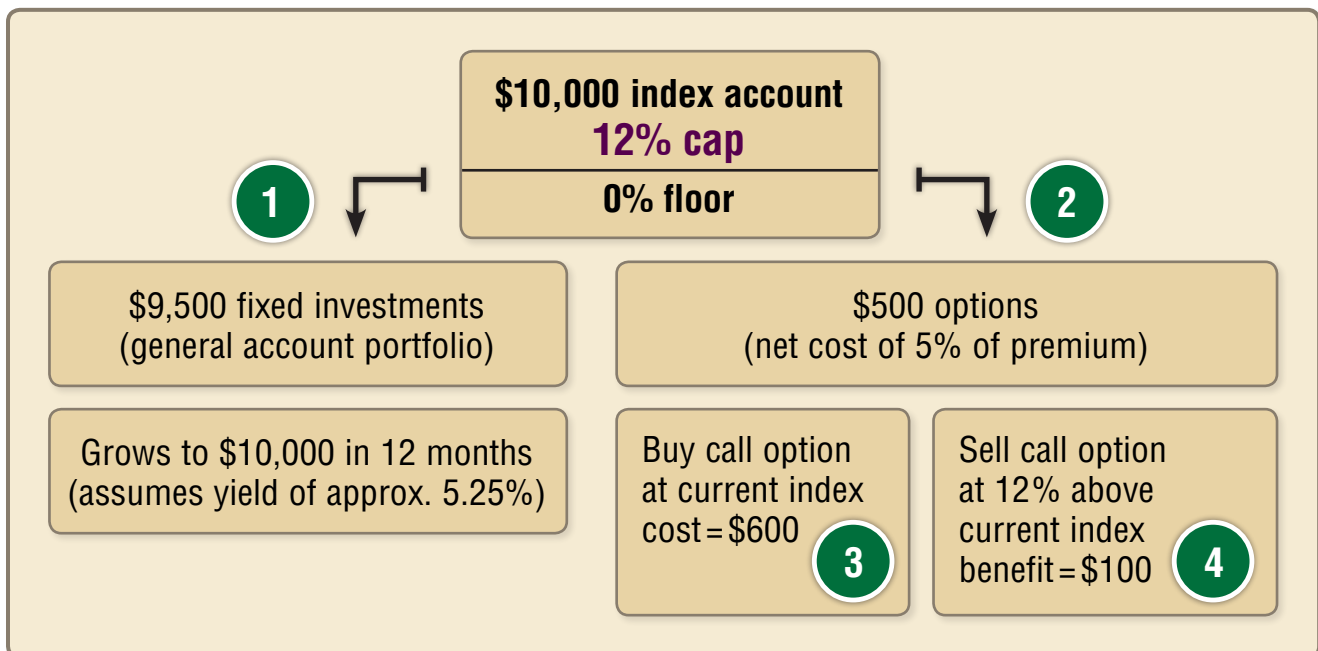|	
1 →	**$10,000 index account 0% floor** ← **2**
$9,500 fixed investments (general account portfolio)	$500 options (net cost of 5% of premium)
Grows to $10,000 in 12 months (assumes yield of approx. 5%)	What kind of call option strategy does $500 buy?

3. If the insurance only bought this one in-the-money call option, the sky would be the limit to the upside potential. However, this type of call option is generally expensive. In this example, we will assume this call option costs $600, which is $100 more than the amount the insurance company has to work with.

4. To make up this difference, the company sells a call option to somebody else. That person or entity would participate in gains beyond a certain point.

Looking at the figure below, the arrows indicate the different kinds of call options that might be available. The insurance company could sell an option that is out of the money until the index reaches a 10% gain from its current level, which is 1,100 in this example. The sale of this call option generates $200 to the insurance company. The insurance company only needs $100, so it can sell the call option on the far right, which is a 12% out of the money call option. Therefore, because anything above 12% growth is passed on to somebody else, the cap on the index account is set at 12%. Neither the life insurance company nor the client participate in any gains above 12%.
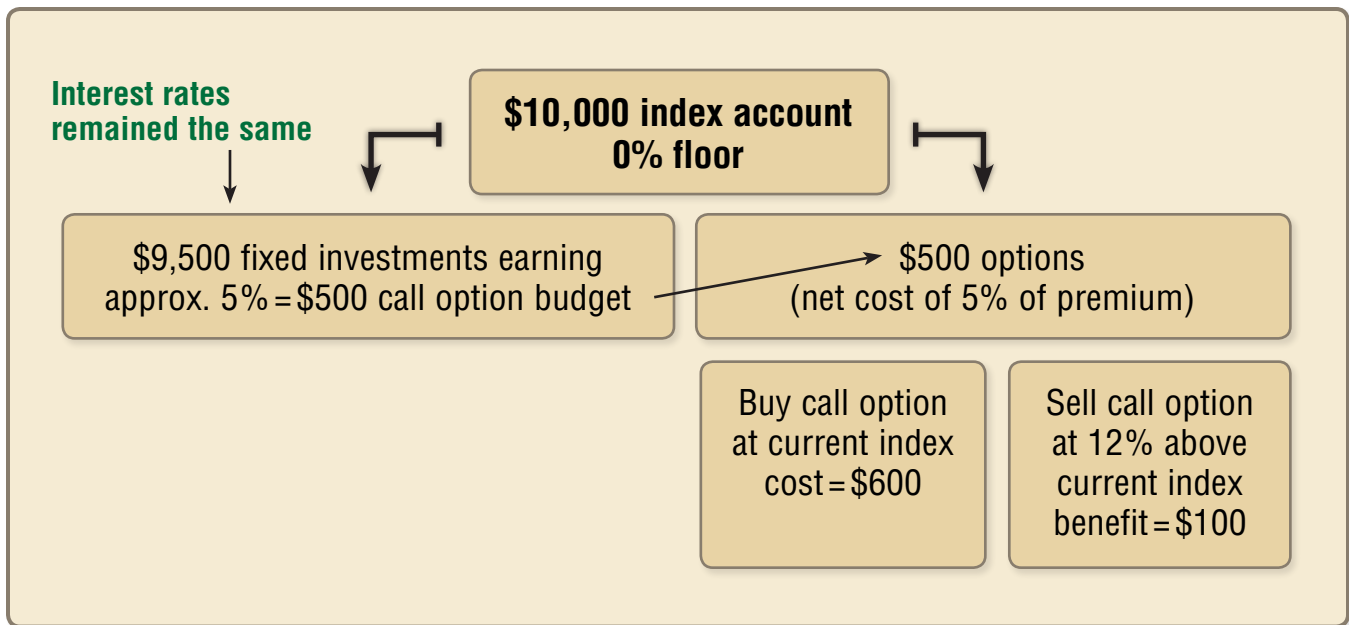
S&P 500 Index

1,120 (12%)
1,110 (11%)
1,100 (10%)

1,000

Call option purchased **$600**

Sell call option at **$200**? **No**

Sell call option at **$150**? **No**

Sell call option at **$100**? **Yes**

Call option budget = $500

Hypothetical example of a policy at issue

$10,000 index account
12% cap
0% floor

1

$9,500 fixed investments (general account portfolio)

Grows to $10,000 in 12 months (assumes yield of approx. 5.25%)

2

$500 options (net cost of 5% of premium)

Buy call option at current index cost = $600 **3**

Sell call option at 12% above current index benefit = $100 **4**
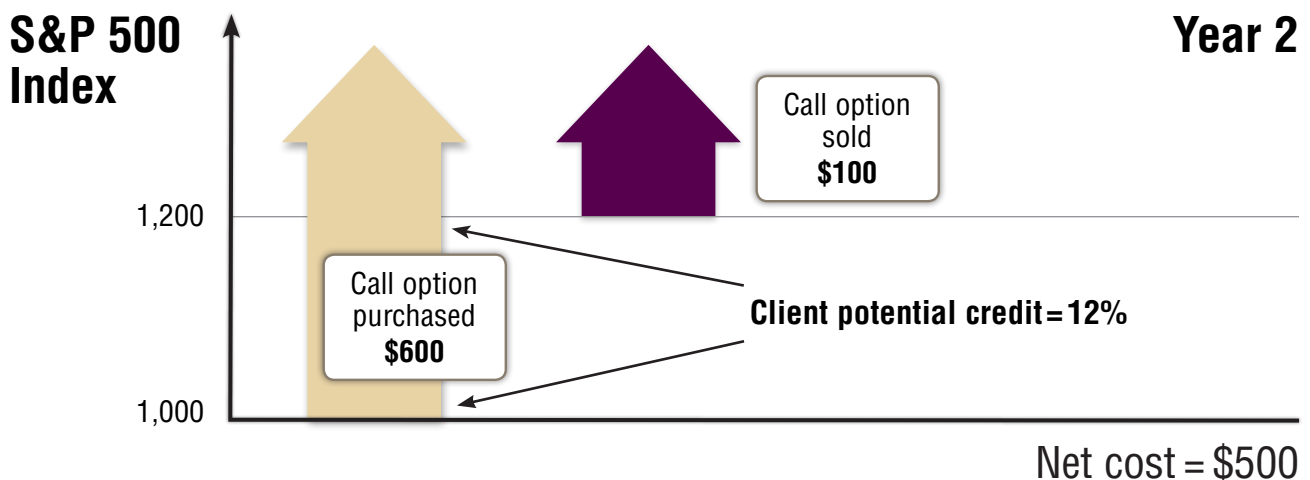
The mechanics of changing cap rates

The interest rate environment has significant effect on where an insurance company sets cap rates. We will look at the effect of interest rate changes and option pricing on our hypothetical example. We will first consider what happens when rates don't change. It is now policy year two and interest rates have not changed on the general account. The $9,500 that was placed in the general account has grown to $10,000 due to the general account portfolio's 5% yield. If the general account is still yielding 5% in policy year two, the insurance company would repeat the same actions as in policy year one. Take a look at the figure below.

Hypothetical example of a policy — year 2

Interest rates remained the same

$10,000 index account 0% floor

$9,500 fixed investments earning approx. 5% = $500 call option budget

$500 options (net cost of 5% of premium)

Buy call option at current index cost = $600

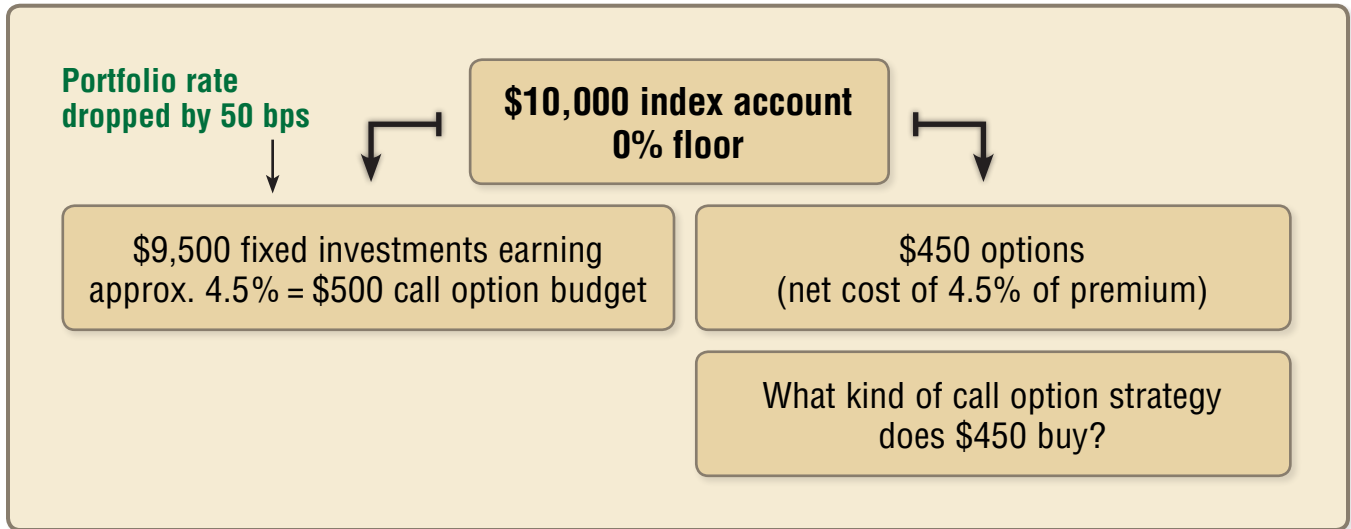Sell call option at 12% above current index benefit = $100

The next figure shows essentially the same scenario as in policy year one if we assume that option costs have not changed. However, if the in the money option (beige) were to get more expensive than $600, the insurance company would need to sell a more expensive out of the money option (purple), which would require the insurance company to lower caps. The start of purple arrow illustrating the out-of-the-money option would reach further down below the 1,200 index value. This option would be more expensive because it has a higher probability of being in the money by year end.

S&P 500 Index

Year 2

Call option sold **$100**

1,200

Call option purchased **$600**

Client potential credit = 12%
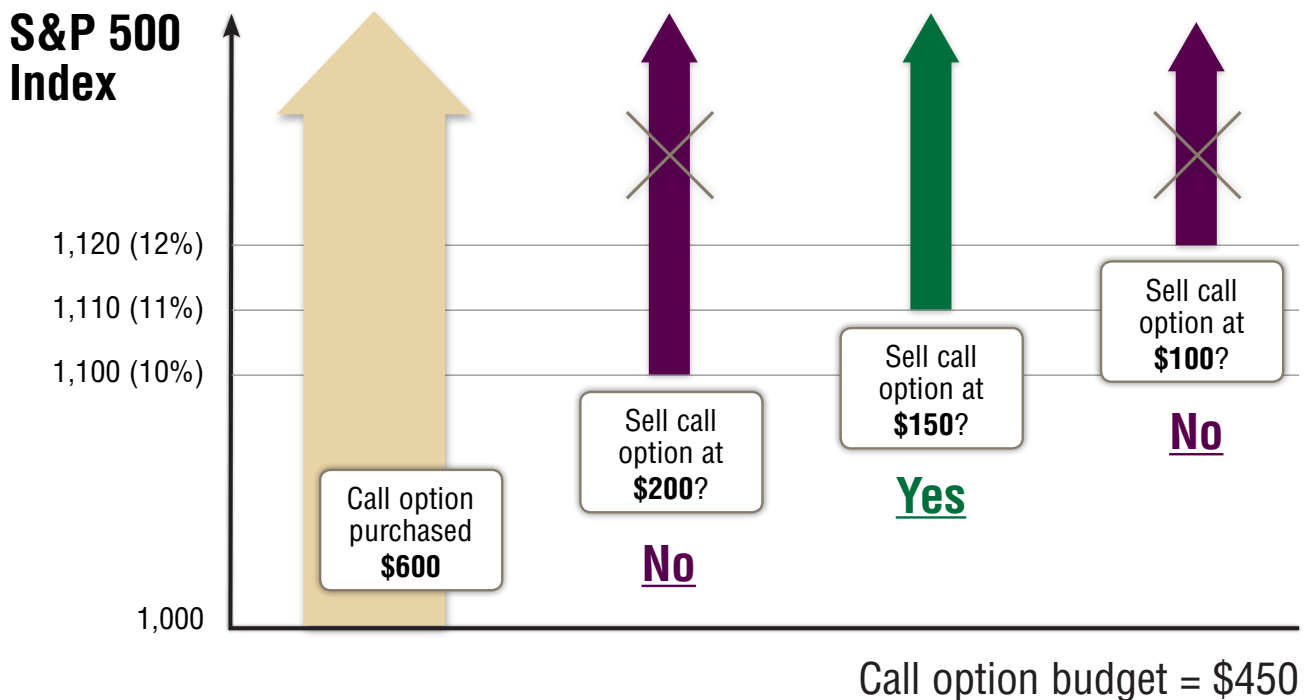
1,000

Net cost = $500

The effect of declining yields

Consider what would happen if the general account portfolio yield has decreased to 4.5% before the start of policy year three. Assuming a $10,000 premium, the insurance company would need to allocate $9,550 to the general account to create the zero percent floor, leaving a smaller call option budget of 4.5% or $450. The figure below illustrates this scenario.

Hypothetical example of a policy—year 3

Portfolio rate dropped by 50 bps

$10,000 index account 0% floor

$9,500 fixed investments earning approx. 4.5% = $500 call option budget

$450 options (net cost of 4.5% of premium)
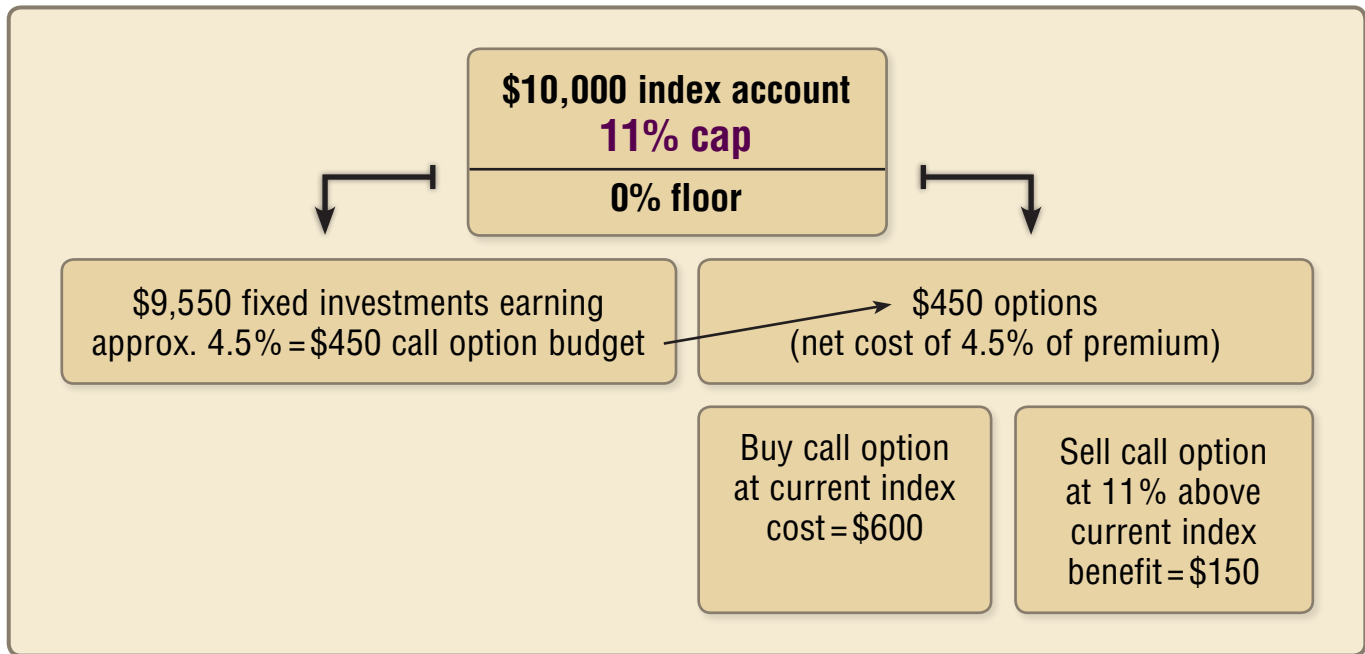
What kind of call option strategy does $450 buy?

The following figure illustrates the year three option purchase scenario. The insurance company would purchase a call option for $600 and simultaneously sell a call option that is 11% out of the money because it generates $150 of income. This results in a lower cap of 11% on the index account.

S&P 500 Index

1,120 (12%)
1,110 (11%)
1,100 (10%)

1,000

Call option purchased **$600**

Sell call option at **$200**? **No**

Sell call option at **$150**? **Yes**

Sell call option at **$100**? **No**

Call option budget = $450

The next figure below illustrates the mechanics for a scenario where the call option budget is reduced.

Hypothetical example of a policy — year 3

$10,000 index account
11% cap

0% floor

$9,550 fixed investments earning approx. 4.5% = $450 call option budget

$450 options
(net cost of 4.5% of premium)

Buy call option at current index cost = $600

Sell call option at 11% above current index benefit = $150

The effect of low interest rates on the portfolio rate

So what happens in a long-term low interest rate environment? The impact can be substantial if "current rates" stay low for a long period of time and the insurance company continues to invest in those low rates. As time goes by, the general account of the insurance company's portfolio gets watered down because of new investments that the insurance company is buying in that low rate environment. The low interest rate environment will likely continue to challenge insurance companies for the foreseeable future.
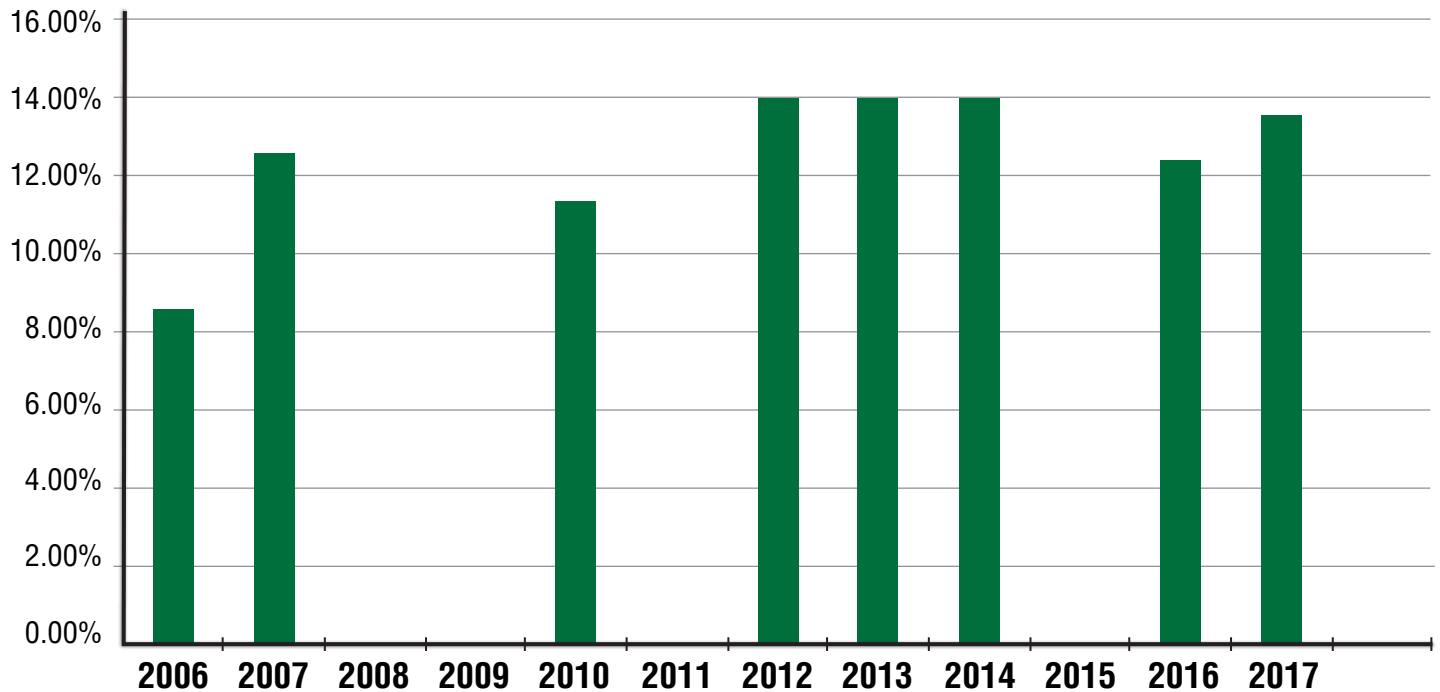
The effect of market volatility

One of the major components that determines the price of options is the volatility in the stock market. The "VIX Index" measures stock market volatility. As market volatility rises, the price of options rises. As options get more expensive to buy, pressure to lower the index account's cap rate rises. The options budget might not be enough to afford purchasing the call option for a high cap, even with selling a call option to make up the difference. There might not be a buyer for the high-priced call option the insurance company would need to sell.

North American's IUL

How have North American's Indexed UL products fared? Let's take a look at North American's original IUL product, the first generation of Builder IUL®. The chart below shows the actual index credits credited since inception.

Actual index credits

As you can see, North American's Builder IUL has had multiple times where the zero percent floor has come into play over the past decade. Undoubtedly, while earning zero percent in any given year isn't an exciting prospect, it may be less disheartening than receiving an annual statement showing a market loss.

However, the real question is whether the product performed as well as it was illustrated when sold. The next graph compares actual credits to an illustrated rate of 8.08%. Throughout the ups and downs of the market, and even in the current low interest rate environment, North American's Builder IUL has performed as illustrated back when it was first sold in 2006.

Account value performance
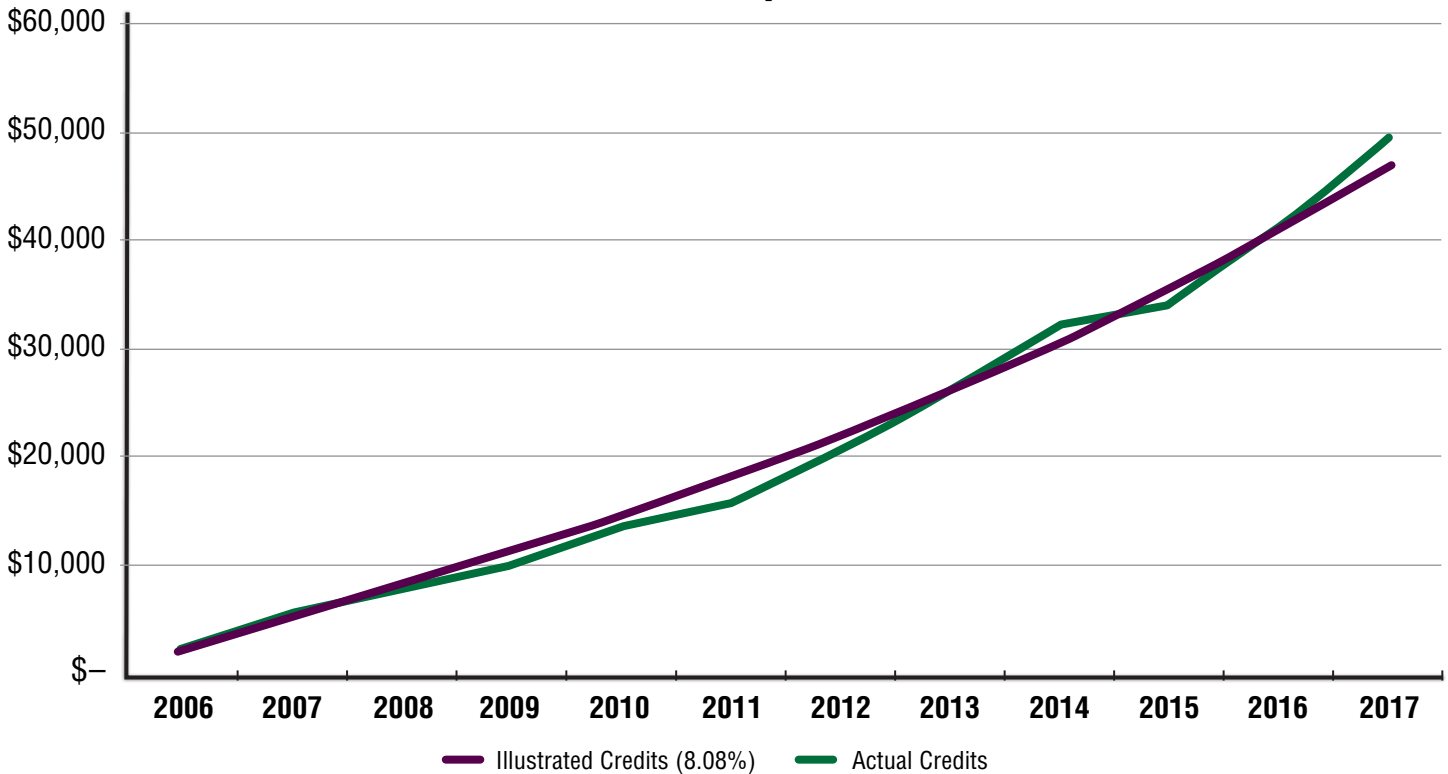
Source: Internal calculations, July 2018.
Builder IUL (Gen 1) Issued October 1, 2005, Male Preferred Plus Issue Age 45
Death Benefit = $145, 000, Annual Premium = $3,000 allocated to S&P 500 Annual Pt-to-Pt

Key points to remember

In conclusion, this paper has examined the following items:

- Where Indexed Universal Life insurance fits in the broad spectrum of life insurance products.

- How interest is credited within the policies index account.

- How interest caps and floors affect the interest crediting.

- The mechanics of the investments that create a zero percent floor and the index cap.

- The external forces, such as low interest rates and market volatility, which affect cap rates.

- And finally, how North American's Builder IUL has persisted through low interest environments and volatile markets, yet has continued to perform as illustrated.

Now it's time to put this knowledge to use. Put the protection and power of North American's indexed universal life products to work for your clients. Contact Sales Development at 800-800-3656 ext. 10411.

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THE S&P 500® COMPOSITE STOCK PRICE INDEX
THE S&P 400® COMPOSITE STOCK PRICE INDEX

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