

**Report on the Consideration of Equity Index Products in the
Proposed Changes to the Standard Nonforfeiture Law
for Individual Deferred Annuities**

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Executive Summary

The last 6 months have seen a very active discussion by the Life Health Actuarial Task Force (LHATF) about the best way to make changes to the Annuity Nonforfeiture Law (ANFL) in response to the unexpected and unprecedented declines in interest rates over the last year. At the December 2002 meetings in San Diego, the American Academy of Actuaries (Academy)¹ presented a report outlining the impact of this new interest rate environment and the need for action to be taken to reduce the required guarantees in the current ANFL. At that meeting, draft language to amend the ANFL was exposed for comment. One key question that emerged was the best manner in which to provide an offset for equity indexed annuities. The Academy understands the need to quickly resolve any lingering questions in order to obtain legislative consideration in this legislative cycle when all 50 states are in session. Therefore this report was written for LHATF in order to address and review the following three questions:

1. Should there be an offset for Equity Indexed Annuities (EIAs) in the new proposed Annuity Nonforfeiture Law (ANFL)?
2. If so, what choices are there for an offset?
3. Once an offset is chosen, how does one demonstrate product eligibility/qualification for the offset?

For question 1, the Academy of Actuaries recommends that an offset for Equity Indexed Annuities be allowed. The Academy strongly believes there is a need for an offset as long as the product provides a meaningful equity participation guarantee. The EIA offset should be based on an approach that allows product flexibility to meet varying consumer needs.

For questions 2 & 3, the Academy provides various options, lists the pros and cons of each option in order to arrive at the following Academy recommendations:

- The EIA offset should be based upon and reflect the equity benefits provided. Due to actuarial equivalence, the offset may be based either upon an interest spread or an increased premium load depending on which is best suited for the particular product design.
- The EIA offset should only be available if it is supported by an actuarial demonstration requirement that meaningful equity based benefits are being provided, relative to the offset taken. This demonstration would be accomplished by showing that the present value of the offset taken does not exceed the present value of expected equity benefits.
- The actuarial demonstration should be completed at the time a contract is filed, and must be updated as appropriate for equity participation renewal periods. The actuarial demonstration should be kept on file to be available upon regulator request. Some states may require the actuarial demonstration to be submitted with the policy filing or upon any renewal period of guaranteed elements.

¹ The American Academy of Actuaries is the public policy organization for actuaries practicing in all specialties within the United States. A major purpose of the Academy is to act as the public information organization for the profession. The Academy is nonpartisan and assists the public policy process through the presentation of clear and objective actuarial analysis. The Academy regularly prepares testimony for Congress, provides information to federal elected officials, comments on proposed federal regulations, and works closely with state officials on issues. Related to insurance. The Academy also develops and upholds actuarial standards of conduct, qualification and practice, and the Code of Professional Conduct for actuaries practicing in the United States.

- Lastly, we recommend that the law specify that the Commissioner has the authority to develop regulations to reflect changing economic conditions and evolving product designs. This will allow states to respond to new circumstances without needing to change the law.

The value of the actuarial demonstration requirement is that it ensures that the only allowable reductions in guaranteed values are those that are spent on policyholder benefits and, thus, addresses the primary concern of a formulaic solution leading to gaming where values go to agents or companies and not policyholders.

I. Need for an Offset for Equity Indexed Annuities

EIA's are a variation on a traditional fixed annuity. Like a traditional fixed annuity, they provide an interest guarantee, but they also guarantee participation in an equity index. The two key drivers of the guaranteed benefit cost for an EIA are the cost of the interest guarantee and the cost of the guaranteed participation in the equity index. The interest guarantee cost for an EIA is determined by either the period of time until a return of premium is guaranteed or the guaranteed rate and the period over which it is guaranteed. The cost of the guaranteed equity participation is the cost of the option for both the minimum guaranteed equity participation level and for the length of that guarantee period (whether for x years as in an x year point to point design or for each year as for an annual ratchet product design).

Currently, a common EIA product design guarantees a cash value equal to 75% of premium accumulated at 3% interest. This is roughly equivalent to a return of premium (100.8% of premium, to be precise) by the end of year 10. Under the proposed law, with a 3% interest guarantee and a load limited to 87.5% of premium, this return of premium time period would reduce from ten years to only five years and would return 117.6% of premium by the end of year 10.

This return of premium time period is a critical component in EIA product designs, because it is a primary driver of how much the insurer needs to invest in fixed income securities to support that guarantee. Out of the premiums paid into the policy, a large portion supports these fixed income securities, with the balance going towards the purchase of equity benefits. By increasing the portion attributable to fixed income investments, the amount available for equity benefits is considerably reduced.

To illustrate by example, consider a 10-year point-to-point EIA which can be surrendered at the end of year 10 with no surrender charges. (While point-to-point designs are less common than the annual ratchet design, they are easier to illustrate conceptually, which is why a point-to-point design is used for this example.) At the end of year 10, the policyholder will receive the greater of (a) the minimum amount required by the ANFL; or (b) the premium paid plus a portion of the gain realized in the equity market over the 10-year life of the contract. The equity return will equal the actual return of some index (such as the S&P 500) multiplied by a participation rate. The participation rate will be determined by the amount of funds available to purchase hedging securities. This is a relatively straightforward ten-year point-to-point design.

For each of the following cases, assume that the company receives a premium of \$1000. The company will first invest enough money in fixed investments to support the minimum guarantees embedded in the policy. The company will then use the remaining amount to purchase equity benefits. The four cases are as follows:

- Case 1 – The policyholder is guaranteed at least the return of paid premium at the end of year 10.
Case 2 – The policyholder is guaranteed at least 101.5% of paid premium at the end of year 10.
This equates to 87.5% of premium accumulated at 1.5% interest.
Case 3 – The policyholder is guaranteed at least 106.7% of paid premium at the end of year 10.
This equates to 87.5% of premium accumulated at 2.0% interest.
Case 4 – The policyholder is guaranteed at least 117.6% of paid premium at the end of year 10.
This equates to 87.5% of premium accumulated at 3.0% interest.

Case	Nonforfeiture Interest Rate	Amount Guaranteed at the End of Year 10	Amount Needed in Fixed Investments to Support Guarantees	Amount Available to Purchase Equity Benefits	Resulting Participation Rate Available for Equity Benefits
1		100% of Premium	\$709	\$291	100%
2	1.5%	101.5% of Premium	\$720	\$280	98%
3	2.0%	106.7% of Premium	\$756	\$244	91%
4	3.0%	117.6% of Premium	\$834	\$166	77%

Assumptions are below.²

In the above example, Case 4 is what will result from the proposed ANFL in more typical historic interest rate environments if there is not an EIA offset (i.e., where the nonforfeiture interest rate equals 3%). Case 1 is what is currently allowed under the ANFL.

Guaranteed interest values are enhanced for the policyholder in Case 4. In fact, the guaranteed interest values are the same for the EIA in Case 4 and a traditional fixed annuity under the proposed ANFL. Guaranteed equity participation is enhanced in Case 1. Actual return (current values) will vary depending on the performance of the equity index.

A 3% nonforfeiture rate, in conjunction with the proposed maximum 12.5% loads, will require companies to shift money away from supplying equity benefits and towards supporting higher interest rate guarantees. A maximum nonforfeiture interest rate of 1.5% would be nearly consistent with the common product design under the current ANFL. *It is important to note that, as interest rates rise, the insurer still must provide these guarantees at the cost of providing higher equity participation.*

Early EIA product designs utilized 10% loads with 3% guarantees. There was also some initial mispricing of some of the products and benefits offered, due to underestimating the cost of the index guarantee. This led to a move throughout the industry to different combinations of product benefit levels and designs. These designs enabled the companies to stay competitive in the

² Assumptions – Option costs are based on Black-Scholes Pricing Formulae using assumptions as of the writing of this document:

Return on fixed income investments less expenses:	3.5%
Risk-free rate:	4.0%
Dividend Yield:	1.7%
Equity Market Volatility:	20%

These assumptions are not meant to be true across all interest rate environments. They are used to represent that while at any given point in time, these returns may be different from previous periods, at any specific point in time, the defining of different allowable minimum rates will impact the available benefits for equity participation.

market with higher equity benefit participation rates, while avoiding the adverse mispricing surprises of some early entrants.

These different combinations of product designs include:

- Higher loads available under the flexible premium product designs
- The use of spread fees to reduce the otherwise obtained equity performance credited values
- The use of caps to limit the total increase in policy values due to equity performance

Changing the loads on the flexible premium product to 87.5% means that, without an offset for equity index products, companies will face the dilemma of using the following choices in all interest rate environments:

- Increase spread fees
- Lower caps
- Decrease participation rates

All of these choices will lower the EIA benefits to consumers. Thus, if there are no equity index adjustment provisions in the new nonforfeiture law, then there will be reduced benefits and more limited product offerings for those who want guaranteed access to equity participation in all interest rate periods.

EIAs provide dual guarantees in the form of index participation in addition to straight interest guarantees. The value of these index participation guarantees should be recognized and should be available to offset part of the straight interest guarantee or the premium load that is otherwise available. These offsets create aggregate comparable guaranteed value in EIAs and traditional fixed annuities.³

Finally, the cost of a floor guarantee is greater for a product in which annual crediting can be as low as zero than it is for a product in which interest is certain to always be positive. EIAs face this greater risk and, consequently, should have lower interest guarantees in order to equalize the insurer's floor risk between EIAs and traditional fixed annuities.

II. Choices For the EIA Offset

To produce a level playing field in the ANFL between a traditional fixed annuity (with its single guaranteed interest rate) and an EIA (with two guaranteed components), the ANFL should have an adjustment to provide for the additional equity index guarantee. But what options are there for the form of the adjustment?

There are two primary avenues to provide an offset for EIAs. The first is to require a lower nonforfeiture interest rate for EIAs and the second is to allow a larger load for EIAs. The following alternatives will use either one (or a combination) of these two choices:

1. Cap EIA Interest Rate at 2% – Current LHATF draft (Interest Rate Offset)

³ See Footnote 4 for discussion on a possible exception to the aggregate value equivalence for a limited number of plans.

The proposal here is that EIAs would use the same Treasury based index traditional fixed annuities, but that the range of allowable minimums would be capped at 2% instead of 3%.

Pro:

- Allows more nonguaranteed equity benefits for EIA products than the no offset option (though still less than under current law). With this cap, equity benefits are reduced from what is allowed in the current law, but by only 9% (in the point-to-point example) vs. the 23% in the no offset option above.
- Reflects the reality that a product that can credit 0% interest in any year has a greater risk of hitting a given floor than a product that always is crediting more than 0%. The lower EIA floor places the insurer in a similar risk position for straight annuities and EIAs.

Con:

- Although simple, this proposal's simplicity only provides a temporary, inexact solution that will lead to inconsistent results in different economic environments. Today's interest index is in the 1.3-1.7% range. Thus, EIA products in this environment (and lower interest rate environments as well) are having to grant an additional equity guarantee above the interest rate guarantee required of traditional fixed products. Thus, this solution is best suited to when interest rate levels require higher nonforfeiture rates.
- Some regulators have a concern that the 2% cap never "floats up" in higher interest rate environments.
- Some have expressed a concern that companies will put a minimal equity component in a product to qualify for the lower guarantee, especially in higher interest rate environments (however, this can be addressed with a quantitative test that must be satisfied).
- May be difficult to administer unless a good definition of an EIA product is created.

2. No Interest Rate Cap – Use 1-3% range, but add another 100 basis point reduction to index for EIA products (Interest Rate Offset)

This proposal would keep the minimum interest rate range the same for both traditional fixed annuities and for EIA's, but would allow another 100 basis point reduction to the Treasury defined index used to set the minimum rate for EIAs.

Pro:

- Delays the impact of having to reduce or "squeeze" equity benefits to a higher interest rate environment.
- Provides increased guaranteed interest benefits in higher interest rate environments.
- Allows 2% cap to "float up" in higher interest rate environments.

Con:

- Extra 100 basis point reduction is just an estimated value at this point.
- Once the rate "caps out" at 3% in higher environments, it still imposes an additional "cost" to policyholders with EIAs, because there is a cost to provide the equity guarantee on top of the cost to provide the 3% interest rate guarantee. Thus, this option still reduces nonguaranteed EIA benefits for consumers by 23% (see the point to point example), while increasing guaranteed interest benefits by 17% in all economic environments where the nonforfeiture rate is at 3%. Therefore, in this option too, the effort to promote viable product offerings in

low interest rate environments leads to reduced benefits and product offerings in higher interest rate environments.

- Some have expressed a concern that some products will have a minimal equity component to qualify for the lower guarantee, especially in higher interest rate environments.
- Although the structure brings consistency to the insurer's floor risk for straight annuities and EIAs for moderately low interest rates, it causes floor risk cost to become disproportionately high for EIAs at high interest rate levels. This is not an insignificant cost, insofar as EIAs can face 0% interest crediting even in high interest environments.
- Some have expressed a concern that EIA point-to-point designs should have a termination value prior to the end of the point-to-point period due to the lower guaranteed rate.⁴ (Current estimates are that less than 10% of the market uses the point-to-point design.) This would only be a concern when the extra 100 basis points gave a minimum rate below the 3% cap.

3. Reduce EIA rate to ½ of non-EIA rate, but Require Actuarial Demonstration. (Effectively is an Interest Rate Offset with a certification)

This proposal has two parts:

1. Have the guaranteed nonforfeiture interest rate be capped at 1.5% for EIA's instead of the 3.0% for traditional fixed annuities;
2. Permit a policy to utilize the capped rate only if it is demonstrated that the policy's capped rate combined with the market value of the guaranteed equity option exceeds the nonforfeiture rate applicable to traditional fixed annuities. That is, the market value of the *guaranteed* equity benefit must exceed the difference between the two nonforfeiture interest rates.

Pro:

- Allows more nonguaranteed EIA benefits.
- Allows continuation of current levels of EIA benefits in higher and lower interest rate environments.
- Minimum guaranteed costs are at least as great as for standard annuities, i.e., at least ½ the minimum interest rate and at least ½ the minimum interest rate as a minimum cost for the equity is at least as much as the minimum interest rate for standard annuities, regardless of interest rate environment.

⁴ The dilemma here is that, at issue, the cost to fund the guaranteed benefit for a policyholder for a point to point design is equivalent to the lost interest guarantee, yet involves a choice by the policyholder to give up liquidity value in the interim for an enhanced value at the maturing of the point to point period. Although this will be a regulatory value judgment, it has significant impact. If a nonforfeiture market value is required for point to point designs, it could create a difficult, if not impossible illustration standard. It will also likely lead to the disappearance of the point-to-point product design since it introduces too much risk to the company and too much cost to the benefit, i.e., it will become cheaper for a company to offer an annual ratchet product.

Currently, a point-to-point product offers different equity participation values than an annual ratchet and involves a volatility choice or bet by the policyholder. If one believes the market will be very volatile from year to year, the annual ratchet design will provide better values. But if one believes the market will basically go up (as in the 1990's), then the point-to-point will be a better design. Were the point-to-point design required to provide an interim termination value of the market value of the remaining option, there is a much greater chance of policyholders cashing in early when "in the money" in a high interest rate environment. This creates an even greater liquidity risk than the annual ratchet design and essentially moves the product and company to the business of brokering options. This creates increased risk and additional cost of needing to liquidate bonds at reduced values. The "cost" of this risk more than offsets the market value of the option that would be granted to the policyholder and means that either the company will not offer the design, or once again, equity participation rates must be reduced in order to meet the costs of increased interest rate risk. The cost of this risk is born by the persisting policyholders who lose value to the benefit of those who leave early.

- Is simple and easy to understand.
- Is consistent with core view of guarantees having equal value across benefit types.
- Guarantees are consistently at least ½ interest and ½ equity regardless of interest rate environment.
- Reflects the fact that an EIA product is at greater risk of penetrating a given floor than a straight annuity because of the possibility of crediting 0% interest in any given year. A reduced floor equalizes this risk.
- Solves problem of needing to define what qualifies as an EIA product.
- The customer's total guarantee is generally still greater than the interest rate guarantee under the standard annuity, because of the generally greater cost of the index-based benefits guarantee.

Con:

- Some are concerned that the EIA floor could be as low as .5%.
- Some have expressed a concern that EIA point-to-point designs should have a termination value prior to end of point-to-point period due to the lower guaranteed rate.⁵

4. Allow load of 22.5% (or 25.0%) instead of 12.5% load for EIAs with no interest rate offset

This extra load with a 3% accumulation requires a return of premium in 9 (or 10) years, consistent with the structure of today's product designs. In theory, at issue, the use of loads is actuarially equivalent to the use of an interest rate offset; though there is some change that occurs to the risk profile of the product.

Pro:

- Complicated/approximate adjustments to the interest rate, index, etc. are not needed.
- Is a simple and easy to understand structure.
- Allows maintaining of current equity benefits without having to reduce (or "squeeze") them in higher interest rate environments.
- A load offset is a one-time impact and fits well with the point to point design where the option is purchased at issue to provide the equity benefits for a significant period of the contract.

Con:

- Regulators have raised concern that extra loads are more easily applied to the policy as increased commissions, instead of policy benefits.
- Although it has some characteristics that are consistent with the front-end hedging costs of a point-to-point product, it is a less clear fit for ratchet products for which small hedges are purchased annually.
- Some have expressed a concern that companies will put a minimal equity component in a product to qualify for the lower guarantee, especially in higher interest rate environments (however this can be addressed with a quantitative test that must be satisfied).
- May be difficult to administer unless a good definition of EIA product is created.

⁵ See Footnote 3 above.

III. Methods to Demonstrate Meaningful EIA Product Qualification for Offset

A concern raised by regulators is that of a product providing a nominal equity benefit in order to gain from the offset allowed for EIAs. The following solutions would prevent this situation from occurring:

A. Actuarial certification of adequate equity participation

Valuation of the cost of the equity index guarantee, such that the sum of the interest guarantee plus the cost of the equity index guarantee equals or exceeds the guarantee for a traditional fixed annuity, shows that the minimum nonforfeiture requirements are met.

Actuarial certification of this valuation can be provided in the initial filing process, upon any renewal period of guaranteed elements or simply upon request.

Pro:

- Provides a direct demonstration of actuarial equivalence between two different product benefit guarantees.

Con:

- May be more complicated to produce and review, though not any more so than the current demonstrations of compliance with the nonforfeiture law.
- Review may be difficult for states with limited resources or oversight of product filing and approval process.

B. Disallowance of simultaneous equity participation values and nonguaranteed credited rates

Require that “For a product to be eligible for the EIA offset, it cannot have both equity participation values and excess, non guaranteed, interest credits during the lifetime of the policy.”

Pro:

- Provides a reasonable constraint for a load-based EIA adjustment.
- Prevents products with an interest rate focus from having meaningless equity participation features in order to get the additional nonforfeiture offset.
- Can be a basis for creating a safe harbor.

Con:

- Not a broad solution.
- If this is the only solution proposed, this will eliminate some product designs from marketplace, for example, those which allow policyholder to move funds from equity to interest rate credits or those EIA designs which revert to non-guaranteed interest credits after the initial x year participation period for the equity benefits.