

RISK ANALYSIS SOFTWARE

Nitrogen

Modeling an Allianz® annuity within a financial plan

This document is intended to help you model an Allianz Life Insurance Company of North America (Allianz) or Allianz Life Insurance Company of New York (Allianz Life of NY) annuity within the Nitrogen platform.

Nitrogen generates return assumptions that are not intended to predict the results of any specific product. The returns and projections are hypothetical in nature and do not reflect actual investment results and are not guarantees of future results. Clients should not rely on Nitrogen or its output for an accurate representation of how an annuity could work. Instead, you should refer them to a full, personalized product illustration.

When you model increasing income in Nitrogen, the software applies a static increase each year based on the illustration's average increase. In reality, this method does not depict how actual index results would present volatility over time, including years of negative index returns when the annuity income would not receive an increase. There is no guarantee an annuity will be credited interest in any given year.

Allianz requirements

You **must provide a full, personalized product illustration** to the client when you model an Allianz® annuity.

State limitations

For fixed index annuities, you must use **guaranteed values** when modeling an **FIA** in states that require nonguaranteed annuity values be based on actual historical performance. You must use guaranteed values in the following states: Alabama, Colorado, Iowa, Maine, Missouri, North Dakota, Ohio, Rhode Island, and West Virginia.

Modeling an annuity recommendation using Nitrogen

Annuity & Insurance Products

Use the search below or enter a custom annuity

SEARCH PRODUCTS ENTER CUSTOM PRODUCT

COMPANY

Search to Select a Company...

Allianz Life Ins Co of New York

Allianz Life Ins Co of North America

Step 1: To model an Allianz® or Allianz Life® of NY annuity as part of a portfolio or proposal, click **Add Account** at the top of the page.

Step 2: Select **Annuity or Insurance Product**, then select the annuity type.

Step 3: Select **Allianz** or **Allianz NY** from the company list and the product you wish to model. Index allocations and index strategies are shown as subaccounts in Nitrogen. Select the allocations you wish to model.

Do you want to reflect income for this annuity?

Reflect Subaccount / Index Risk

Select this if you are planning to use a lump sum cash value in the future, or simply to illustrate the cash value of the annuity over time.

Use Income Rider

Select this if you are planning on using a living income benefit and would like to model the asset as a Risk Number 1. This option will automatically add an event into Retirement Maps for those who have the Timeline feature enabled.

Step 4

Note: All annuities offer an income stream through either annuitization or a guaranteed lifetime withdrawal benefit. **The Income Stream option should not be selected for any Allianz® or Allianz Life® of NY annuities that do not offer an income benefit.**

Step 5:

Reflect Subaccount/Index Risk:

- A. Enter the premium or purchase payment amount.
- B. Expand the **Optional Fees** dropdown to include any rider and/or product fees.

What is the contract value of this annuity?

CONTRACT VALUE / BENEFIT BASE **A**

\$ 0.00

B Optional Fees

M & E	INCOME RIDER	DEATH BENEFIT	OTHER
0 %	0 %	0 %	0 %

< BACK CANCEL NEXT >

Use Income Stream:

- A. Enter the premium or purchase payment amount as the **Contract Value**.
- B. Add the **Income Start year**.
- C. Enter the **withdrawal rate** percentage or the projected amount of **monthly** income the client could receive based on illustration values.
- D. If modeling increasing income, adjust the **Withdrawal Base Rider Increase** to a percentage based on the illustration's average increase to simulate increasing income (increase is compounded annually).
- E. Expand the **Optional Fees** section to add product and/or rider fees.

What is the contract value of this annuity?

CONTRACT VALUE / BENEFIT BASE **A** INCOME START YEAR **B**

\$ 0.00 2050

INCOME WITHDRAWAL RATE **C** WITHDRAWAL BASE RIDER INCREASE **D**

0 % % OF CONTRACT ▾ 0.0% *Compounded Annually*

E Optional Fees

M & E	INCOME RIDER	DEATH BENEFIT	OTHER
0 %	0 %	0 %	0 %

< BACK CANCEL NEXT >

Step 6: Select how you want to allocate the subaccounts.

How do you want to allocate the subaccounts/indexes?

☐ Distribute evenly across all subaccounts/indexes.

☐ Manually allocate each subaccount/index.

[< BACK](#) [CANCEL](#)

Step 7: The portfolio now includes the annuity. Initially, the premium or purchase payment amount is allocated to cash/money market. Adjust the allocation percentages or amount to the index strategies/allocations selected.

☐	RISK 48 Allianz Index Advantage+ >	\$100,000	...
	Annuity Non-Taxable 0 Groups		
	RISK HOLDING NAME	↓ AMOUNT	PERCENT
☐	RISK 1 Cash / Money Market	\$0	0.00%
☐	RISK 48 #ALIASR320 - Allianz Index Adv. + - S&P 500 Dual Precision 3yr 20%	\$100,000	100.00%
	+ Add Investment or Model	\$0	0.00%

Modeling an annuity with subaccount risk and an income stream? Go to **Settings > Annuity Settings** and toggle between subaccount risk and income rider.

Note: When looking at the worst case, best case, and return results for a specific index strategy or allocation, you will not see cap rates, participation rates, buffers, floors, etc., directly applied to these values, but the Nitrogen methodology does consider them, they are part of the overall compression and amplification ratios used in the analysis, and they are reflected in these results. Nitrogen is used for both initial proposals and ongoing reviews. The best- and worst-case calculations are helping set the expectation for what the client may experience in their account over the next six months based on the current value. See the **Nitrogen buffered annuity methodology** section for further detail.

Nitrogen buffered annuity methodology

SUMMARY:

Nitrogen analyzes the effect that a floor or buffer has had on the volatility of the underlying index and the effect the crediting method (cap, par rate, performance trigger, etc.) has on the return experience of that same underlying index over rolling contract term lengths, going back to 2004. This data is then used to develop volatility compression and return amplification ratios that are applied to the underlying indexes daily performance in order to calculate a mean and deviation needed for the six-month probability range, Nitrogen Risk Number®, and Nitrogen GPA.

METHODOLOGY DEEP DIVE:

The Nitrogen analysis for Allianz or Allianz Life of NY annuities considers all relevant features of the product in question, including but not limited to cap rates, participation rates, buffers, floors, underlying indexes, and term length as captured from readily available public-facing prospectuses and fact sheets.

Using these features, there are two primary questions the analysis seeks to understand in producing a result, which are as follows: 1) How much volatility compression is offered by the buffer for a specific underlying index and term length?, and 2) How much return amplification or compression is offered by the crediting method for a specific underlying index and term length? These two questions help Nitrogen derive a volatility and return value to use for the resulting analysis.

In starting with volatility compression, Nitrogen runs a historical analysis on the underlying index using the term length to create a separate discrete series of performance values since 2004 and observe how many of those would have used their respective buffers or floors, and how much loss would have been experienced if the performance breaches that buffer or floor. Nitrogen then compares this against the same conditions but without the effect of the buffer or floor. In comparing the effects of the buffers/

floors on volatility against the effect of no-buffer/no-floor on volatility, Nitrogen is able to derive what they call a *volatility compression ratio*. This ratio is then applied to the volatility of the native underlying index to create the effects of volatility compression for a corresponding annuity product.

Moving on with *return amplification and compression*, Nitrogen performs a similar operation as previously described for measuring volatility compression; namely, creating a series of discrete performance values since 2004. This time, however, Nitrogen measures the effects that the various crediting methods (cap rate/participation rate/etc.) have on their respective underlying indexes. Once this is measured, Nitrogen can locate the mean of the data set and compare that against the same discrete performance values without any crediting method applied to create a *return amplification/compression ratio*.

In practice, some crediting methods compress returns and some amplify them. Once this ratio has been calculated, it is then applied to the return of the native underlying index to create the effects of return amplification/compression for a corresponding annuity product. This output is then used to generate the six-month probability range and corresponding Risk Number and GPA metrics.



CONTACT YOUR ALLIANZ® OR ALLIANZ LIFE® OF NY REPRESENTATIVE
for questions or further assistance.

Guarantees are backed solely by the financial strength and claims-paying ability of the issuing insurance company. Registered index-linked annuity guarantees do not apply to the performance of the variable subaccount(s), which will fluctuate with market conditions.

Before recommending the annuity, a financial professional is required to be (1) insurance licensed in all states where business is solicited and (2) appointed by Allianz Life Insurance Company of North America (Allianz). Insurance law prohibits securities-only licensed advisors from recommending a specific allocation, in dollars or percentages, between securities and insurance products and/or offering research, analysis, or recommendations to a prospective client regarding specific insurance products, including annuities.

Products are issued by Allianz Life Insurance Company of North America, 5701 Golden Hills Drive, Minneapolis, MN 55416-1297. 800.542.5427. www.allianzlife.com. In New York, products are issued by Allianz Life Insurance Company of New York, 1633 Broadway, 42nd Floor, New York, NY 10019-7585. www.allianzlife.com/new-york. Registered index-linked annuities are distributed by their affiliate, Allianz Life Financial Services, LLC, member FINRA, 5701 Golden Hills Drive, Minneapolis, MN 55416-1297. Only Allianz Life Insurance Company of New York is authorized to offer annuities in the state of New York.

For investment professional use only – not for use with the public.