



INDEX EDUCATION SERIES

NAFA has created this series to promote education on how indices work and important factors to consider when investing in index-linked products.

HOW TO MAKE AN INDEX

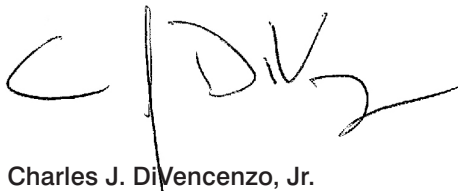
LETTER FROM THE CEO

As the CEO of NAFA, the National Association for Fixed Annuities, I am pleased to introduce the second in our education series focused on understanding indices. The Index Education Series is designed to help consumers better understand index terminology, the various types of indices and how indices work within a fixed indexed annuity (FIA).

There are a variety of indices used today in fixed indexed annuity contracts. NAFA's goal for this educational series is to demonstrate what indices are and the factors to consider when choosing an FIA. We believe this information is critical in helping consumers develop a plan that provides their retirement assets the potential for appreciation, while limiting the downside, or losses, they might be exposed to in other types of financial products.

In the first part of this four-part series, we provided the basics or ABCs of Indices. In this second part, we look at the process of creating an index: what are the "ingredients" of the index, who is the targeted audience, what tests and processes are necessary to perfect the index "recipe?" I hope you will enjoy and benefit from this educational series.

Founded in 1998, NAFA is the premier trade association in the financial services industry dedicated exclusively to fixed annuities. We are committed to providing information and education regarding the value of fixed annuities and their benefits in helping Americans achieve financial and retirement security.



Charles J. DiVencenzo, Jr.
President & CEO

The Index Education Series is produced on behalf of NAFA by The Index Standard®.

**THE INDEX
STANDARD**

ABOUT THE INDEX STANDARD®

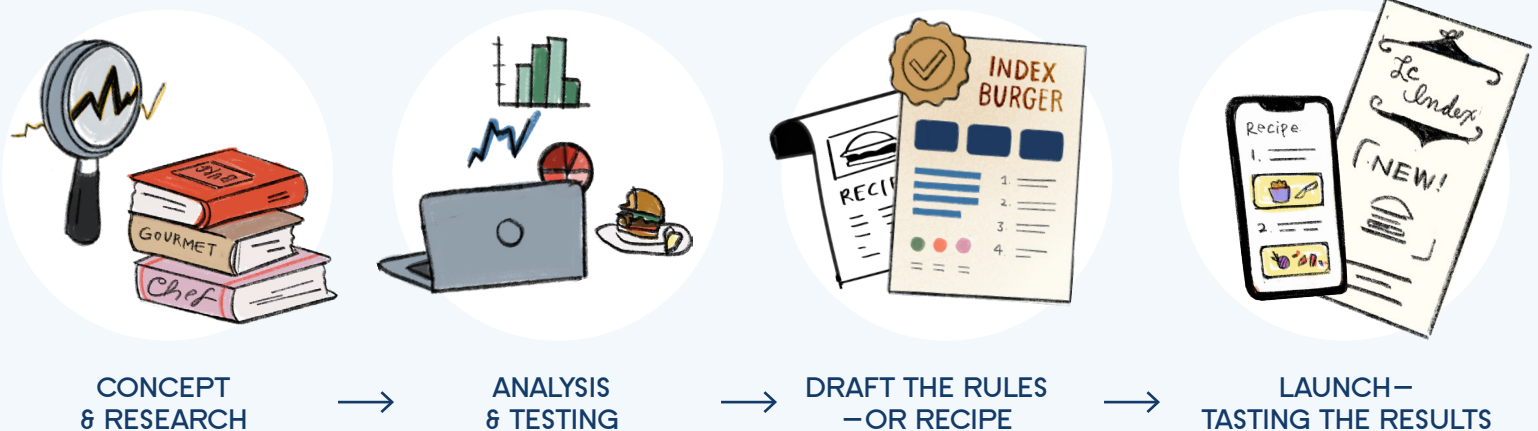
The Index Standard® provides actionable insights and an unbiased perspective. We do this by providing ratings and performance forecasts for indices and index-linked products, along with model allocations for FIAs based on forecast annuity credits. Our solutions and research broaden understanding of complex indices and we support critical investment decisions with precise facts, clarity and comparisons.

CREATING AN INDEX

Creating a new index is very much like creating a new dish. In both cases, the result of the process is a recipe. Devising the recipe for a great new dish, be it for the menu at a restaurant or to be published in a cookbook, requires considerable time, effort and expertise. Creating an index is no different—it can take hundreds of hours and multiple iterations to finalize the recipe in the form of the “index rules.”

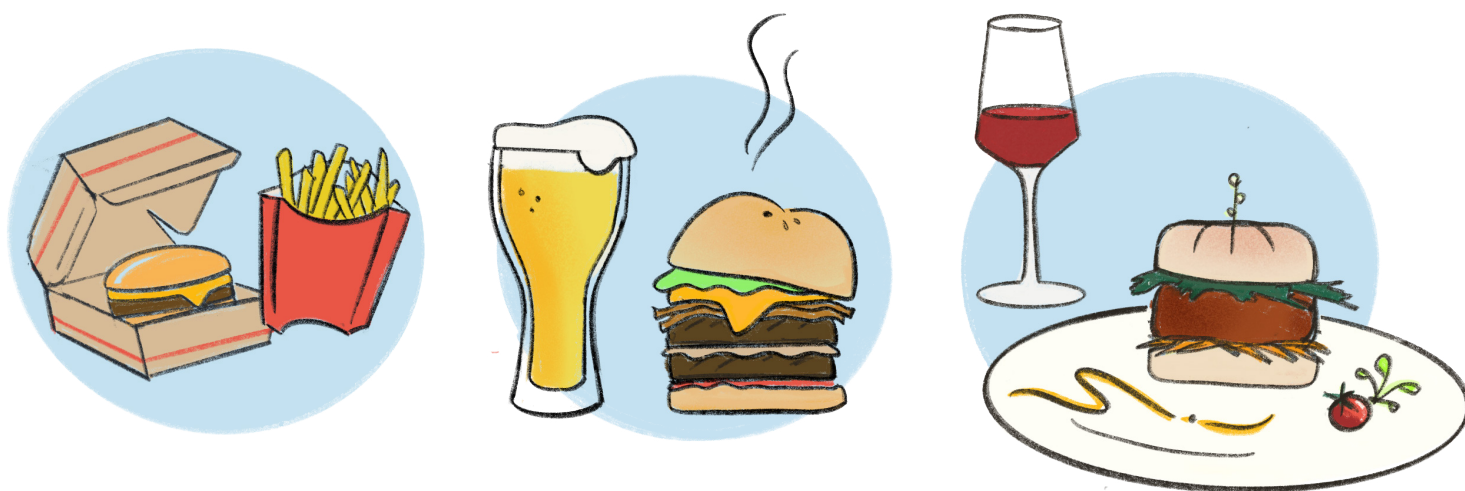
Many of us are familiar with the idea of following a recipe in the kitchen or on the barbeque, and some of us may even have tried to devise our own dishes. Perhaps surprisingly, there are many parallels between the process of designing a new index and the process of devising a new dish.

Here we describe the process of creating an index by analogy with the task of creating a new recipe for the perfect burger.



CONCEPT & RESEARCH

In creating a new burger, the first step is to decide on the intended consumer. Will it be a simple, widely available product for a fast-food chain? Or something a little different that will be enjoyed in diners and bars? Or is it meant to be a bespoke special recipe, designed for an upscale restaurant?



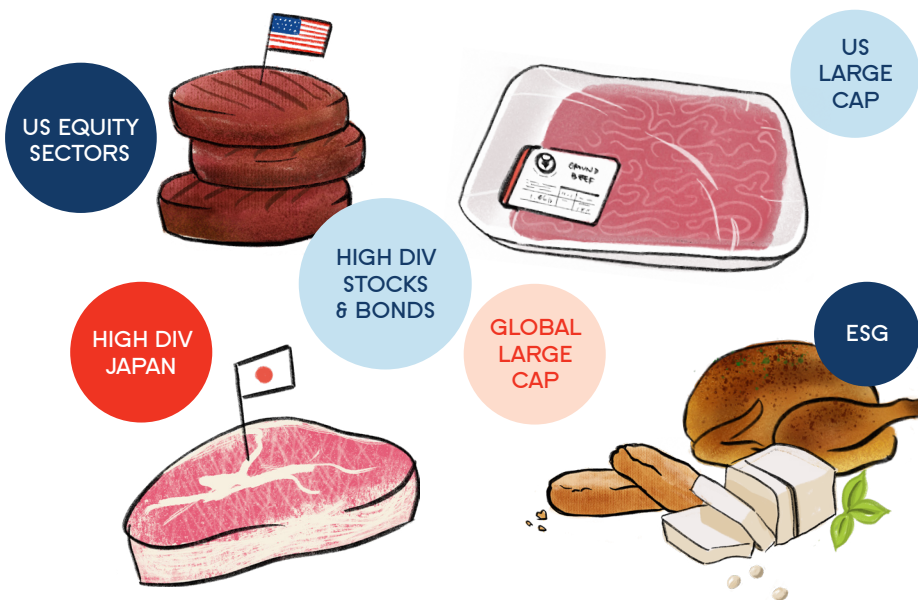
In the case of a new index, this is similar to deciding on the index objectives—what is the purpose of the index? Will it be a simple benchmark measuring the performance of a particular market sector and available to everyone? Or a thematic index geared towards a certain investment goal for use in an ETF? Or a custom index, designed specifically for an indexed annuity?

The next step would be to explore existing recipes for inspiration.

Depending on the intended consumers, should the main ingredient be beef, hand-cut short rib or even Kobe beef? Or should it be chicken, or perhaps veggie? What add-ons could we choose? Would bacon, cheese, or other condiments complement our patty best? How much do the ingredients cost and are they all easily available? And, of course, how to prepare, combine and cook them?

Similarly, in the index design process, having decided the index objectives, the next step would be to review research in journals, investment reports and academic papers in the area relevant to the index. This will help in deciding the “ingredients” of the index, and how they will be selected and weighted.

Selecting the Main Ingredient



Depending on the index objectives, you might need to consider as ingredients large-cap US equities, or particular US equity sectors, or even high-dividend Japanese equities—like the choices of beef, hand-cut shortrib and Kobe beef in our burger. Or perhaps global large-cap equities, or an ESG-based selection—corresponding to chicken or veggie patty in our burger.

As another example, if you want to create a high-dividend stocks and bonds index, you will want to review the literature on dividend metrics, and research optimal ways to combine high-dividend stocks and bonds. In addition, you will need to consider the availability and liquidity of the proposed stocks and bonds.



Research

Which main ingredient and add-ons work best for the intended consumer? How to prepare, combine and cook them?



ANALYSIS & TESTING

Once you have decided on your index concept and underlying assets, you will want to begin testing the idea on what metrics to use to select specific ingredients and how to combine them.

In the case of a high-dividend stock and bond index, you will have to decide how to select stocks with high dividends. Would just a dividend yield suffice? Or you might be concerned that the dividend metric is backward-looking, and might want to examine forecasted dividends instead. Would reviewing company earnings ensure that a stock has the ongoing ability to pay dividends? You will run various tests using historical data, called “backtesting,” to find out how each approach works in practice.



Once you have decided on the stock ingredients, you will then determine how to blend in the bonds. Going back to our burger example, now that we are set on our patty, let us explore how best to combine the add-ons. Will adding some strong cheese with bacon make it taste better? Or do you want to play it safe with the cheese? Would char-grilling enhance the taste further? This is akin to deciding if a fixed allocation is best for your index, or if you want a more dynamic process.

Just as a chef devising a new dish will make many trials and tests of ideas and parameters, so does an index designer.

Caution: Don't overdo it

Have you ever seen a commercial for burgers and were disappointed when you received your order at the restaurant? In the index world, this is called the over-fitted backtest.

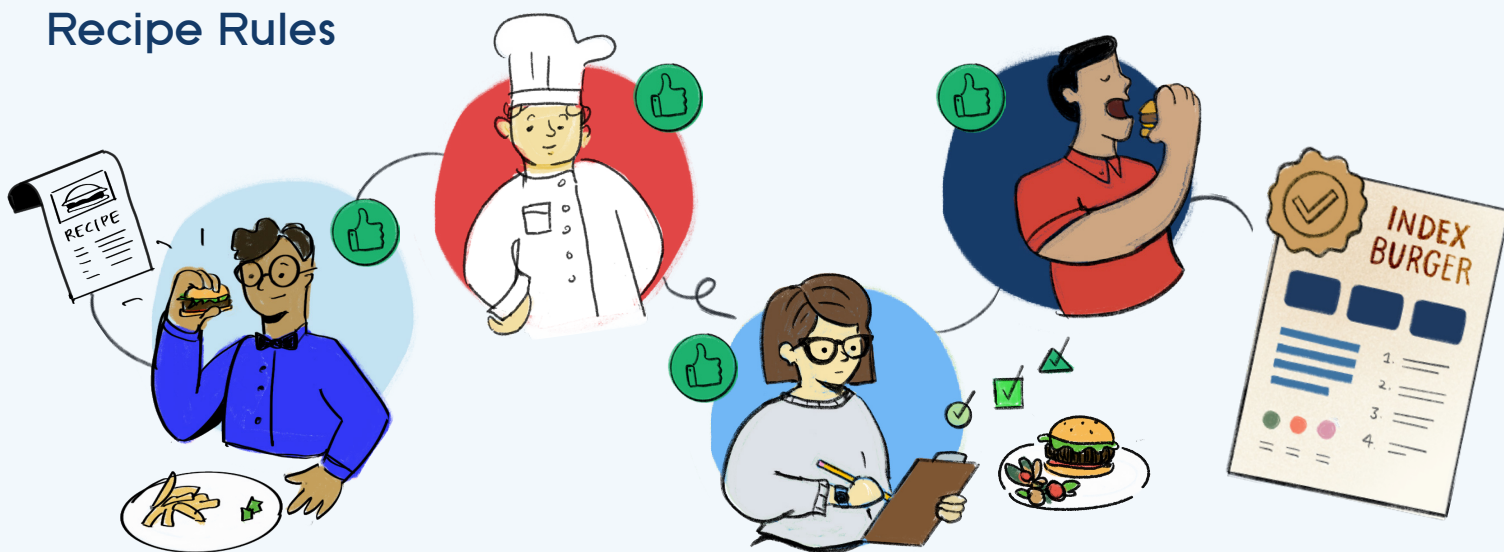
Over-fitting means tuning the index recipe so that the index performs unduly well in the particular historical period of the backtest. It is then less likely that the index will perform well outside of the testing environment, and it may fall short of consumers' expectations.

DRAFT THE RULES – OR RECIPE

With the index objectives, its ingredients and ways to select and combine them established, it is time to draft the index rules. These are the detailed and precise recipe laying out the steps to calculate the index.

Just as a chef would ask trusted experts to try a new dish before it is made public, a responsible index provider will require many checks before launching a new index.

Recipe Rules



Today, most index providers, be they benchmark index houses, banks or asset managers, have rigorous processes to review the new index. These typically include getting a third party to check the backtests, and an independent internal committee to review the index and its associated rules, followed by a legal review to ensure that the rules conform with industry guidelines and regulations.

Finally, compliance and risk management teams will review the index rules to ensure that they are fair to all investors and the index can be traded. Once all these reviews are completed and approved, the index is ready to be launched.

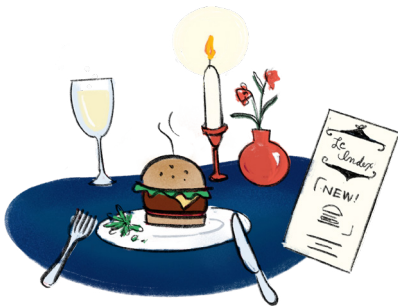
LAUNCH – TASTING THE RESULTS

Launch of an index means the index provider initiates the process of regular calculation and publication of the index levels. Following the launch, in the same way that a professional chef would require their line cooks to follow exactly their recipe when cooking the new dish day after day, so the index provider will follow exactly the index rules in calculating the index.



Upon launch, the index rules are usually published, like a recipe appearing in a cookbook. The index rules will usually remain unchanged through time unless some unanticipated problem occurs. This is similar to a cookbook only changing a recipe to replace an ingredient because it is no longer sufficiently available.

Use of the new index in an ETF or an indexed annuity is similar to a restaurant actually putting its new burger on its menu. Inclusion of the index in a financial product gives investors access to the expertise of the index designers. If the index has been well designed, it should continue to meet its objectives for many years. In the case of an index designed for use in indexed annuities, the objectives are steady interest credits and stable renewal rates.



Finally, because the index is entirely algorithmic, with no discretionary input, it can in principle be replicated. This is akin to an amateur cook trying to produce at home a dish experienced in a restaurant—the results may be close, but, because of slight differences in ingredients, cooking equipment and expertise, not quite the real thing! ➤

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