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Hybrid Indices in Fixed Indexed Annuities: The New Wave

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Life and annuity insurance products in the United States continually evolve both to meet demographic challenges and respond to changes in the financial markets. From the development of universal life insurance partly in response to high interest rates in the late 1970s, to variable-annuity lifetime withdrawal guarantees in the early 2000s both as a response to both the equity-market turbulence at that time and the impending wave of retiring "baby boomers," secular trends in the financial markets have represented a powerful influence on product development. The latest and perhaps most prominent trend in annuity product development has been the development of managed volatility solutions for variable annuity funds and more recently in "hybrid" index crediting offered on fixed indexed annuities and indexed life insurance. We will review the development of hybrid indices in index annuities, address benefits and drawbacks of this new class of index offering, discuss U.S. state regulatory implications and point to potential developments on the horizon.

A Short History of Indexing

Product innovation in the insurance and financial services sectors has often taken place against the backdrop of significant changes in macro-economic conditions. Chart 1 demonstrates this by plotting key insurance product milestones along the historical movement in the S&P 500 and the U.S. 10-year Treasury rate. The art and science of indexing is no exception to this truism. Market-capitalization indexing grew in popularity from the 1970s, with the launch of the first S&P 500 index funds by Wells Fargo and Vanguard. The key thesis of index investing—that both markets work efficiently and active management generally costs more than it benefits—was well demonstrated in the 1980s and 1990s, even as market-capitalization index interest crediting made its way to the insurance industry in the form of fixed indexed annuities and indexed universal life insurance.

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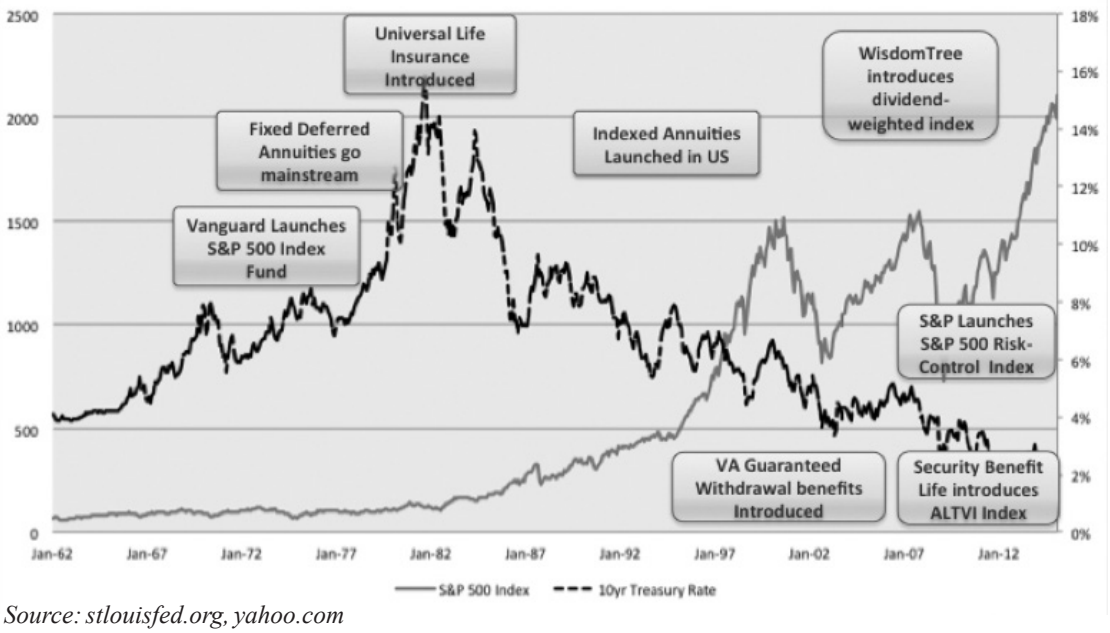
Fixed indexed annuities were launched in the United States in 1995 as a way to offer insurance clients a way to benefit from indexing, avoid downside returns and earn potentially better returns relative to certificates of deposit or fixed annuities. The early 2000s marked the end of a period described by former Federal Reserve Bank Chairman Ben Bernanke as the "Great Moderation." This period began in the early 1980s and was marked by a sustained equity market rally, falling long-term interest rates and moderate market volatility. The stock-market crash in the early 2000s then ushered in a period characterized in retrospect by highly cyclical equity-market volatility. This period also confirmed the existence of anomalies that challenged the efficient markets theory, itself an underpinning of market-capitalization indexing. In 2005, Research Affiliates (considered to be a leader in indexing and asset allocation) launched the RA FTSE Fundamental Index Series. These indices, with stock weights driven by fundamental factors, represented a significant step away from market-capitalization indexing. In 2006, WisdomTree, a key player in the exchange-traded products market, launched one of the first equity indices with dividend-driven weighting.

The financial crisis of 2008 reinforced the need for products that could help investors to both exploit observed inefficiencies of market-capitalization indexing and thrive in the new market-volatility regime. In 2009, Standard and Poors launched the first series of S&P 500 risk-control equity indices with explicit volatility tarxgets. This index series, as well the indices developed earlier in that decade in response to similar needs, are commonly referred to as "smart-beta" indices in the world of investment management. The years 2009 to the present time have accordingly been marked by the development and application of hybrid (aka "smart-beta") indices for use in insurance products.

Chart 1: Life and Annuity Product Development and Financial Markets

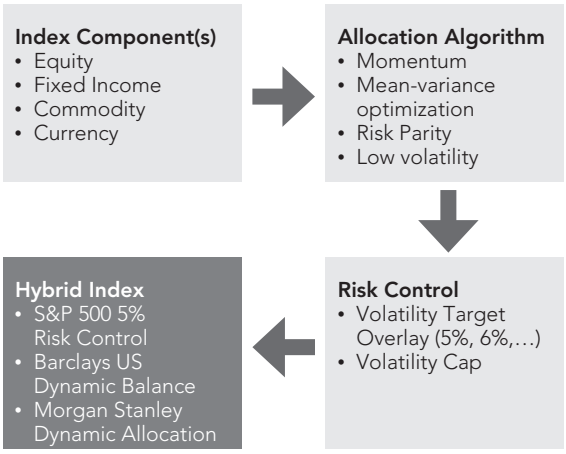


Source: stlouisfed.org, yahoo.com

What Exactly is a Hybrid Index?

A hybrid index typically represents a combination of multiple index asset classes or a set of securities defined by a tactical allocation algorithm. Many hybrid indices typically come with an additional volatility-overlay mechanism that works to stabilize the returns of the underlying combination of indices. Chart 2 summarizes the process for engineering hybrid indices. For example, a hybrid index can be put together by dynamically combining equity, fixed income and commodity indices using a "momentum" tactical-allocation algorithm and supplemented by a volatility-control mechanism to help stabilize index returns.

Chart 2: Engineering a Hybrid Index



What Distinguishes Hybrid Indices from Traditional Indices?

Traditional indices employ fairly well-defined weighting schemes for a given asset class. The S&P 500 index, for example, is a market-capitalization weighting of individual stocks. Other equity indices such as the Russell 2000 and the Nasdaq 100 follow a similar weighting scheme. These indices are generally viewed as "passive," meaning that weightings are generally driven by company market capitalization. Hybrid indices, on the other hand, follow tactical weighting schemes that are driven by defined quantitative algorithms. These algorithms employ market signals such as realized volatility, short-term returns and price/earnings ratios in determining formulaic short-term weightings for each component of the hybrid index. These algorithms themselves are generally developed based on accepted asset-allocation practices or observed anomalies that run contrary to the predictions of efficient market theories. Tables 1 and 2 summarize key market anomalies and asset allocation processes that have been employed in creating tactical stock selection and index allocation algorithms for hybrid indices.

The second and most important distinguishing feature of hybrid indices is the volatility-control overlay mechanism. The overlay aims to stabilize returns on the underlying index subcomponents over time. With this feature, weightings to underlying component indices can be shifted from or to a cash index, as often as daily, in order to attain a specific annual volatility target or stay under a specific volatility cap.

Table 1: Observed Financial Market Anomalies

Market Anomaly	Description
Momentum	The observed tendency for recent, abnormally good returns to persist further in the short to medium term. This tendency contradicts efficient market precepts. Momentum can thus be employed in the development of tactical rebalancing algorithms across securities or indices.
Low Volatility	The low volatility phenomenon describes the tendency for securities with prior low volatility to produce superior market returns. This runs counter to the traditional market-efficiency hypothesis that links higher volatility with higher returns. Indices that are constructed based on this anomaly typically feature an algorithm that periodically selects stocks that fit predefined volatility and liquidity criteria.
High Dividend Yield	Stocks with a high dividend yield ratio (dividend divided by stock price) tend to outperform their broader market over time. Indices constructed with this anomaly in mind typically feature an algorithm that periodically selects stocks that fit predefined yield and liquidity criteria for inclusion in the index.

Table 2: Asset Allocation Practices

Asset Allocation Method	Description
Mean-Variance Optimization	Traditional mean-variance optimization seeks to solve for the combination of asset classes that provide the highest expected return for the lowest amount of risk. When applied on a tactical basis in index construction, this results in a periodic forecast of expected returns and volatilities that is then applied in the multi-index allocation algorithm. This algorithm then solves for the optimal index weightings combination. This process is repeated periodically.
Risk Parity	Risk parity attempts to equalize the contribution of risk of each asset class by deriving asset-allocation weights based on their expected volatility. This process is independent of the expected returns of the asset class and generally results in a greater relative weighting assignment to less volatile assets. When applied on a tactical basis in index construction, this results in frequent reforecasts of expected index volatility that are applied in a multi-index rebalancing algorithm.

Hybrid Index Market Share in the United States – Fixed Indexed Annuities

From less than a 5 percent estimated share of the overall allocation to indexed annuities in 2010, hybrid indices accounted for close to a third of overall premium allocations in index annuities by the end of 2014. Chart 3 illustrates this trend and demonstrates that hybrid index allocation opportunities were a factor in the growth in fixed indexed annuity sales in 2014. Indeed, the positive incremental impact of hybrid indices strongly suggests that they are meeting a need that has not been previously fulfilled by traditional index allocation options. As of January 2015, most of the top ten issuers of fixed indexed annuities had introduced one or more hybrid indices on their respective annuity product platforms.

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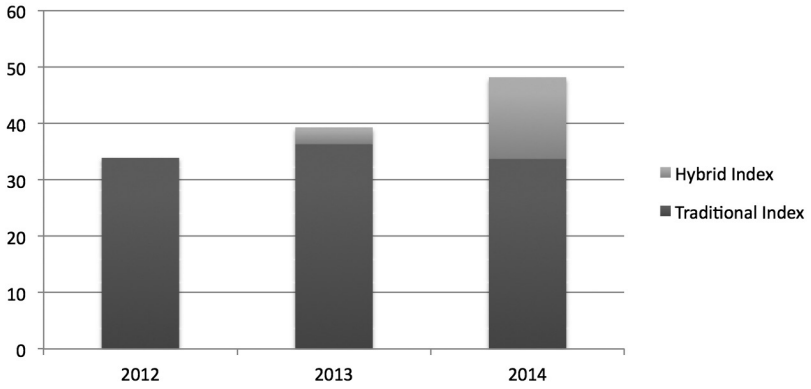
Chart 3: US Fixed Indexed Annuity Sales by Index Allocation ($bn)



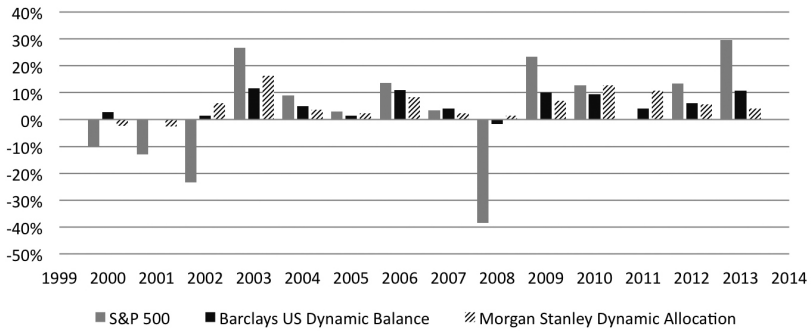
Source: Moore Market Intelligence

Hybrid Indices, Crediting Strategies and Hedging

Crediting strategies commonly offered on traditional indices in fixed indexed annuities include periodic point-to-point and monthly index-averaging methods. Point-to-point methods typically pass on periodic positive index returns subject to a ceiling that is referred to as the "cap." Monthly index averaging takes the average month-end index value over the observation period and divides by the initial index value in order to calculate index performance. This performance result is typically subject to a cap. The periodic point-to-point method is by far the most popular crediting method for traditional indices. For hybrid indices, the crediting method of choice is still the point-to-point method. However, hybrid index crediting typically involves passing on positive index returns in excess of a predefined percentage without a ceiling on credited interest. This predefined percentage is commonly referred to as a "spread." The composition of a hybrid index best lends itself to the use of spread-based crediting. This is due to the fact that the annual volatility target of 4 percent to 7 percent commonly found in hybrid indices greatly diminishes the need for caps that are traditionally available on point-to-point crediting methods.

Insurance carriers generally hedge crediting strategies offered in index products by buying derivatives. Hybrid index derivatives are typically available in the over-the-counter market with derivatives dealers. These derivatives are relatively illiquid and currently attract a greater bid-ask spread (the difference between the price at which dealers would sell and the price at which they would buy) than derivatives on other well-known indices such as the S&P 500. This is partly attributable to the fact there is a relatively small secondary market in which derivatives dealers can directly offset their hybrid index exposures. The relative illiquidity suggests that there is an opportunity for the cost of these derivatives to drop further and lead directly to more cost-effective hybrid index crediting for consumers. As the hybrid index derivatives market grows in traded volumes and in uniformity, hybrid index derivative prices could fall and liquidity should improve.

Chart 4: Historical Annual Index Returns



Source: public index websites

Benefits and Drawbacks of Hybrid Indices

One key benefit of hybrid indices is the opportunity to provide well-diversified tactical asset allocation opportunities in index format. These indices provide cost-efficient ways for retail insurance clients to participate in their upside performance while retaining the safety of an underlying non-forfeiture insurance guarantee.

The second benefit of hybrid indices lies in the target volatility overlay mechanism. This feature dynamically allocates index weights among a cash index and the component indices, with a view to controlling index volatility. Managing index volatility can lead to more stable index returns, as chart 4 illustrates for two hybrid indices relative to the S&P 500 index. More stable returns can, in turn, lead to better accumulation outcomes. Target volatility overlay mechanisms can also cheapen the cost of participating in the upside performance of underlying index components. In the current low-rate environment, this is an important attribute for both insurance carriers and policyholders.

One key potential drawback of hybrid indices lies paradoxically in their source of strength: the opportunity to capitalize on market anomalies using tactical asset allocation. The more popular and widespread these indices become, the greater the likelihood that market anomalies that drive their added value will cease to exist. Yet another potential drawback lies in the fact that hybrid indices are generally designed with the benefit of hindsight. Should market volatility or interest rates evolve in materially different ways than they have in past decades, future hybrid index returns may not live up to expectations.

US Regulatory Implications of Hybrid Indices

Hybrid indices are a recent creation and generally have no more than a few years of live history. Their underlying indices, on the other hand, typically have in excess of ten years of live history. As a result, hybrid index values prior to the launch date are recreated under the assumption that the tactical allocation algorithms were both in place and functioned as intended prior to that date. These index values are purely hypothetical and are needed to provide credible illustrations against which other indices and products can be compared. Most state insurance regulators treat these indices in the same way traditional market-capitalization indices such as the S&P 500 are evaluated for approval. However, a number of state regulators have recently adopted the NAIC Annuity Disclosure Model Regulation. Among other requirements, this rule defines certain criteria that an index must fulfil in order to be illustrated within an indexed annuity. For example, the regulation generally requires at least ten years of actual index performance in order for illustrations to be generated. Annuity carriers will therefore need to weigh the desire to offer innovative hybrid indices against what could be seen as the growing regulatory requirement for an index track record.

As hybrid indices proliferate in variety and complexity, regulators may look more critically at how hybrid indices are marketed and illustrated. Given that most indexed annuities and all indexed life insurance contracts are treated as insurance products, insurance carriers will have to carefully position hybrid-index crediting without giving the impression that these insurance products are securities.

Future Developments

Hybrid indices have contributed significantly to the growth rate in indexed annuity sales in recent years. Sales and distribution trends indicate that hybrid indices will continue to make a meaningful impact on indexed annuity sales in a greater variety of distribution channels. Hybrid index crediting is also likely feature more commonly in indexed universal life products. The algorithmic asset-allocation and volatility management in hybrid indices will likely continue to be seen as a cost-effective way to offer quantitative indexing strategies in insurance products. It is also likely that active asset managers will look to offer rules-based versions of some their successful offerings in hybrid index format. Insurance carriers seeking to differentiate in their hybrid index offerings will have to weigh the benefits of innovation against the drawbacks of complexity. Notwithstanding the bright outlook for hybrid indices in the insurance industry, the future macro-economic landscape remains yet the capricious arbiter of the value of hybrid indexing.

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