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Casting a Wide Net: Why True Passive Strategies Are Rare Catches

Alejandro Gaba, Jennifer Bender, Yvette Murphy, and John Tucker

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*Data as of September 30, 2024 in USD.

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Casting a Wide Net: Why True Passive Strategies Are Rare Catches

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KEY FINDINGS

- The only truly passive investment strategies are broad market-capitalization-weighted index portfolios. Every other investment strategy, including smart beta, is active. We propose a framework—conceptual activeness—to capture the continuum of active strategies.
- Activeness is not one dimensional. We set out three additional dimensions that inform the degree of activeness of a strategy—simplicity, transparency, and acceptance (STA). Strategies can rate as low, medium, or high on any of these three dimensions, so the degree of activeness is multidimensional.
- Systematic strategy design decisions (including identifying and defining the objective, the alpha signals or factors, the portfolio construction approach, and the implementation) all inform the strategy's STA characteristics.

ABSTRACT

With the rapid expansion of index funds, including smart beta and factor portfolios, investors are able to cast a much wider net when selecting the strategies that best meet their goals and risk tolerances. However, what is active versus what is passive has become difficult to discern. This article argues that only the theoretical market portfolio is a "purely" passive catch, and in practice only index portfolios that track broad market-cap-weighted indices ("passive-adjacent") can be viewed as passive investing. Everything else is active. That said, everything that is active lies on a spectrum and can be evaluated based on a framework of "conceptual activeness." The authors discuss three key parts of conceptual activeness—simplicity, transparency, and acceptance. They link the portfolio design decisions to these three dimensions and provide an illustration of how the conceptual activeness framework can be applied in practice when evaluating commonly used, long-only factor strategies.

It is well accepted that the boundary between passive and active investing has shifted over the last two decades. Arguably, the driving force behind this foundational shift has been the emergence of increasingly complex forms of beta. Love it or loathe it, smart beta became part of the financial lexicon, first with the emergence of fundamental indices in the 2000s, followed by a proliferation of smart beta and factor indices in the 2010s. More recently in the last half decade, we have seen an explosion in thematic funds such as levered, bitcoin, and clean-energy-themed ETFs to name a few, the growth of which continue to blur the boundary between active and passive investing.

In this article, we tackle the question of what is active and what is passive in systematic equity investing. We argue that only the theoretical market portfolio is "purely" passive and, in practice, only index portfolios that track broad market-cap-weighted indices ("passive-adjacent") can be viewed as passive investing. Everything else is active. However, everything that is active lies on a spectrum and can be evaluated based on a framework we call "conceptual activeness."

The article is structured as follows. First, we review the traditional definitions of active and passive. Next, we present our own definition of how we believe active and passive should be defined. From there, we introduce the idea of "conceptual activeness" to frame the continuum of investment strategies that lie outside passive investing. We discuss the three key parts of conceptual activeness—simplicity, transparency, and acceptance—and link the portfolio design decisions to these three dimensions. Last, we provide an illustration of how an investor can approach this in practice.

CASTING A WIDE NET: THE EVOLUTION OF ACTIVE AND PASSIVE OVER THE LAST 50 YEARS

First, we recap the origins and evolution of active and passive investing, particularly how the emergence of smart beta in the 2000s made it much more challenging to separate the two. With respect to active investing, our focus is on systematic (or quantitative) equity approaches, as opposed to fundamental stock selection–based approaches, as the latter are categorically active.

The 1950s–1960s: The Birth of Modern Finance

Most readers will be familiar with the cornerstones of modern finance developed in the 1950s–1960s:

1. Modern portfolio theory (MPT): Developed by Harry Markowitz in 1952, MPT introduced the concept of an efficient frontier that describes the trade-off between return and risk.
2. Efficient market hypothesis (EMH): Proposed by Eugene Fama in the 1960s, EMH posited that financial markets are "informationally efficient" under certain conditions (e.g., costless transactions, costless information, and homogeneous investor expectations). In this world, asset prices fully reflect all available information.
3. Capital asset pricing model (CAPM): The CAPM is an equilibrium expected return model introduced by Sharpe (1964), Lintner (1965), and Mossin (1966) that extends MPT by stating only non-diversifiable systematic risk, best known as beta, is compensated. The main implication of the CAPM is that in equilibrium, the theoretical market portfolio (TMP), representing the aggregate of all risky assets in the economy weighted by their value, is the tangency portfolio on the efficient frontier—the portfolio providing the best risk–return trade-off. As a consequence, rational investors would hold this portfolio in combination with the risk-free asset according to their tolerance for risk.

Prior to this early era of portfolio theory, stock investing had been centered around picking individual companies based on their merits. As encapsulated by the father of value investing, Benjamin Graham, in the 1930s, the leading view focused on hand-selecting high-quality stocks priced attractively.

The 1970s to Early 1980s: The Origins of Passive Investing

On the heels of the emergence of modern portfolio theory, the first index funds were launched in the early 1970s by American National Bank in Chicago, Batterymarch, and Wells Fargo (made available only to large pension plans). Soon thereafter, John (Jack) Bogle created the first index mutual fund for individual investors in 1976. It took some decades before passive investing really caught fire, but the early seeds were planted then. Importantly for active investors, now there was a lower-cost means of achieving broad equity exposure, which active managers would need to "beat." The emergence of active manager benchmarks, such as the widely entrenched Morningstar Style Box, became the standard in the investment industry, and index providers like S&P, Russell, FTSE, and MSCI quickly took off.

The Late 1980s to 2008: The Rise of Active Quantitative/Systematic Asset Management

At the same time that passive investing was taking root, interestingly, this was also the era when quantitative or systematic active investing came to be. Stephen Ross's 1976 arbitrage pricing theory proposed that asset prices might relate to various systematic risk variables or factors. With the creation of comprehensive stock price databases like the Center for Research in Security Prices (CRSP) and exponential advances in computing (including the emergence of vendor risk models), the exploration of a large array of possible factors and return-generating signals became possible. Academic research at this time also suggested that additional factors beyond systematic risk were priced and a number of alternative models of equilibrium for expected returns were proposed, the most known of which was the seminal Fama–French (1992, 1993) model. Systematic active equity found many supporters in the 1980s and 1990s, attracting assets rapidly in those decades.

The 2010s to Now: The Rise of Smart Beta Followed by Institutional Demand of Bespoke Solutions

Over the last decade and a half, we have seen a proliferation of approaches that blur the lines between traditional passive and active investing. Shortly after the Global Financial Crisis, "smart beta" came into being and garnered significant investor attention. Originally coined by Willis Towers Watson in 2006, these were investment ideas and approaches captured in transparent, systematic, rule-based ways. Early examples included reweighting stocks in a broad index by their book value or some other fundamental characteristic, or simply equal-weighting stocks. As the 2010s unspooled, increasingly complex portfolio construction techniques and metrics came to be used. Today, there are hundreds of thousands of indices[1] that identify and reweight stocks in a given universe, sometimes using optimizers, both linear and nonlinear, to determine the weights. Some indices today use machine learning techniques like natural language processing (NLP) and many leverage niche datasets that are proprietary and not widely accessible. A slew of smart beta ETFs were launched in the first half of the 2010s, followed by an expansion into thematic ETFs in recent years, capturing every seemingly conceivable investing theme under the sun.

ETF development has only been part of the story when it comes to understanding the continuum between passive and active investing. Institutional investors (asset owners), which largely have stayed out of the ETF smart beta trend, have in recent

[1] Index Industry Association survey conducted as of June 30, 2017, yielded approximately three million equity indices, including about 175 thousand factor/smart beta indices that subsequently further exploded, www.indexindustry.org.

years moved toward increasing customization in their large separately managed portfolios. (That desire for customization is growing in the retail [individual investor] industry as well, as seen by the interest in direct indexing). Tailoring portfolios for investor's specific needs (such as factor selection, risk level, liquidity, concentration, and sustainability objectives), facilitated and scaled by technological developments, introduces a unique element of complexity to the active–passive debate. It also blurs investment accountability; who owns what decision in relation to the achievement of investment outcomes; the investor or the asset manager?

UNTANGLING THE NET: HOW TO REDEFINE ACTIVE AND PASSIVE

The broadly accepted traditional definitions of active and passive investing are as follows:

- Passive investing: A buy-and-hold strategy with minimal trading, often achieved by passively replicating a broad, market-capitalization-weighted index like the S&P 500 Index or the MSCI World Index.
- Active investing: A strategy that seeks to exploit profitable conditions and market inefficiencies in an effort to outperform a broad market-capitalization-weighted index.

The theoretical market portfolio (TMP) that arises from the CAPM (as the only portfolio that investors should hold in combination to the risk-free asset) is not just the only "macro-consistent"[2] portfolio, but also the only "pure passive" construct. However, the TMP is infeasible because it includes nontradable assets. Even the broadest all-cap market-cap-weighted equity index is only an approximation of the TMP. Although indices like the S&P500 and MSCI World are popular proxies for US equities and global developed equities, the choice of index has inherent active and passive elements from an asset allocation perspective, which is discussed further in the section "One Person's Passive Is Another Person's Active." Furthermore, constructing this portfolio involves decisions around rebalancing frequency, how to treat corporate actions, what to do for the smaller illiquid securities, etc. Index providers must make decisions about a range of index design questions; in that spirit, we refer to broad universe market-cap-weighted indices as "passive-adjacent," and for the remainder of this article, this approximation of the TMP is as close to pure passive as we can achieve.

Despite continued debate about the validity of the CAPM, the adoption of these "passive-adjacent" constructs has been clearly demonstrated by the shift in assets out of active into index strategies, as well as their widespread use for benchmarking active manager performance. To understand why we believe that the pure passive portfolio, and its real world approximation, the passive-adjacent portfolio, are the only truly passive approaches, we set forth a proof by contradiction (see the appendix), whereby no other alternative to passive-adjacent is plausible. Because passive-adjacent portfolios are the only passive portfolios, everything else is active. Next, we turn our discussion to smart beta and all the other forms of factor and thematic index-based investing, and where they fit on the active continuum. We present a framework that seeks to make sense of it all.

[2] Macro-consistency in finance refers to the requirement that the aggregate holdings of all investors must sum to the market portfolio. It implies that when evaluating equilibrium models or expected return frameworks, the market portfolio should reflect the weighted combination of all individual portfolios, ensuring that no excess supply or demand exists. This principle underlies many asset pricing models, such as CAPM, where deviations from the market portfolio by investors imply active choices, thus challenging the notion of universal passivity.

CONCEPTUAL ACTIVENESS: A FRAMEWORK FOR MAKING SENSE OF THE ACTIVE SPECTRUM

We have long believed that activeness is not one-dimensional. The most commonly used metrics are ones that typically focus on how much the strategy deviates from the benchmark, such as active risk (tracking error) and active share. Although this is useful for understanding the amount of benchmark relative risk an active manager is taking, it is not as useful for understanding how other approaches on the active–passive continuum, such as smart beta, fit in. Smart beta strategies, for instance, can be designed to have relatively large amounts of active risk or active share.

To make sense of how smart beta, factor investing, and other index strategies (which we have already determined not to be passive) fit in the spectrum, we turn to an idea we call "conceptual activeness." The conceptual activeness (CA) of any strategy can be evaluated along three dimensions:

- Simplicity (S): the strategy design decisions are relatively simple and intuitive (the more simple = the less active)
- Transparency (T): the level of transparency available to different market participants (the more transparent = the less active)
- Acceptance (A): broad acceptance across the ecosystem of market participants (the more acceptance = the less active)

Passive-adjacent index portfolios (the closest we can approximate the TMP) have the highest level of simplicity, transparency, and acceptance (STAs). (It's helpful to note that these characteristics result in the practical attributes of low cost, low turnover, high liquidity, and high capacity. These practical attributes are not independent of the STA framework.)

Understanding a strategy's STA profile allows us to place it on the active–passive spectrum. How far a strategy deviates from passive along this STA scale, and along which dimensions, helps us identify the degree of activeness of any strategy. It is important to note that a strategy can be less active in one dimension and more active in other. (We provide an illustration later with the size factor.) Exhibit 1 provides a visualization of the STA framework.

The more often a strategy is "high" in the three dimensions, the lower its conceptual activeness. Conversely, the more often a strategy is "low," the more active it is. But how do we assess simplicity, transparency, and acceptance? What are the overarching principles, design components and decision factors influencing a strategy's relative simplicity, transparency, and acceptance levels?

The simplicity principle: This pillar, perhaps, suffers from the most amount of subjectivity; what is simple for a quantitative investor of two decades, may not be simple for an amateur stock picker. Simplicity could refer to the choice of portfolio construction approach (rules/based tilted versus optimized), the number of factors chosen (few versus many), the extent of intellectual property reliance (versus publicly available or third-party data sources), or the amount of deviation from the traditional mean–variance optimization framework. The lower the simplicity, the higher the conceptual activeness.

The transparency principle: There can be several levels of transparency in strategy design—what is

EXHIBIT 1

Illustrating Conceptual Activeness: A Framework for Measuring Activeness

	Simplicity	Transparency	Acceptance
More ↑ **Conceptual Activeness** ↓ Less	Low	Low	Low
	Medium	Medium	Medium
	High	High	High

SOURCE: State Street Global Advisors.

transparent to the public (e.g., through information contained in offer documents or fund factsheets), what is transparent to the investor (e.g., in 1:1 communications), and what is only transparent to the internal investment team. Transparency can also manifest differently across components of the strategy. Although factor metrics might be transparent to the investor, the specific modelling choices (e.g., normalization procedures and data treatments) may not. The lower the transparency, the higher the conceptual activeness.

The acceptance principle: Acceptance can also be evaluated in a number of different ways—for example, that which is broadly cited in academia or practitioner thought leadership, or where there is widespread industry acceptance viewed through commercial indices and products. Acceptance can be measured across areas such as portfolio construction approach standardization; the pace of innovation (a high pace is unlikely to be broadly accepted); factor decay risk (a signal anchored on mispricing is unlikely to be broadly accepted given the risk of excess returns being arbitraged away); as well as the level of skill required (the more sophisticated the model, the less likely it can be broadly understood and therefore accepted). The lower the acceptance, the higher the conceptual activeness.

There are two important points to note. First, conceptual activeness is independent of active risk. Consider, for instance, two strategies offered by a manager that are simply calibrated at different risk levels. If both use the same intellectual property, data inputs, and portfolio construction tools, but one targets 3% active risk and the other 7% active risk, they still have the same STA profile. Moreover, the STA profile measurement should always be relative to the passive-adjacent portfolio, thus meaningfully reducing subjectivity.

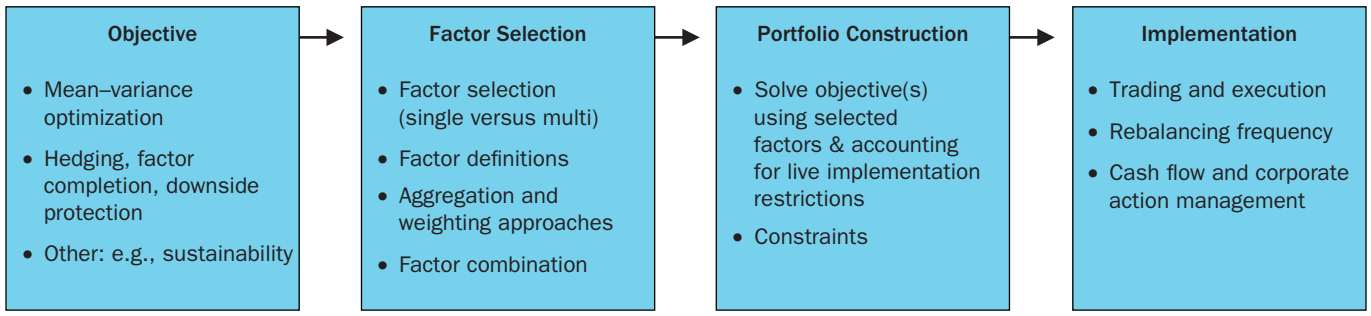
HOW TO LINK STRATEGY DESIGN TO CONCEPTUAL ACTIVENESS

From the perspective of a systematic equity manager, we can map the decisions we make when we design strategies directly to the STA framework. Thus, when we are building active, smart beta and thematic strategies, and other approaches on the spectrum, we can draw a clear line between our modeling decisions and how active the strategy is from an STA perspective, and therefore where it sits on the spectrum.

Exhibit 2 shows the main general steps from creation to implementation for systematic strategies. (The majority of systematic strategies today can be viewed as a combination of these four decision categories.) There are four categories of strategy design and a nonexhaustive list of decision factors that can influence the strategy's STA profile. For instance, when selecting factors (Step 2 in Exhibit 2), there are likely more

EXHIBIT 2

Systematic Investment Strategy Design Components and Decision Factors



SOURCE: State Street Global Advisors.

than a dozen modeling decisions, some more important than others, that ultimately result in simplicity being high, medium, or low; transparency being high, medium, or low; and acceptance being high, medium, or low. Importantly, the STAs do not have to agree with each other; that is, simplicity can be high while transparency is low.

Applying the STA framework to each part of the strategy design, from setting an objective, to factor selection, to portfolio construction through to implementation, allows us to be intentional in defining how conceptually active the strategy is.

Our discussion so far has been from the perspective of an asset manager. However, consultants and asset owners can also use the conceptual activeness framework to select and monitor their managers. It can also help to guide the asset owner's expectations about the manager—where are their strengths, where are their weaknesses, when are they expected to excel, and under what conditions? The framework can be used when evaluating different strategies along the full spectrum of options outside of market-cap-weighted (passive-adjacent) allocations.

Illustrating the Conceptual Activeness Framework with the Size Factor

In this section, we apply the conceptual activeness framework to a size factor portfolio. From a transparency perspective, the portfolio is 100% transparent. However, from a simplicity and acceptance perspective, with the exception of the traditional risk–return objective, it is not so straightforward:

- Factor identification: From a conceptual strength and measurement perspective, size's simplicity is undeniable. Intuitively, it is reasonable to consider that smaller firms carry larger risks such as distress risk, lower transparency, and lower liquidity. We therefore rank this strategy as "high" from a simplicity dimension. However, despite its initial discovery, size's ability to deliver long-term risk premia has been intensely debated in the literature. We, and many others, believe that the size premium does not survive post implementation costs, and therefore we rank the acceptance dimension as "medium."
- Portfolio construction: From a portfolio construction perspective, we acknowledge a number of decision factors that could influence a size portfolio composition. Should this be built on a sector or country neutral basis? Should liquidity and trade size be explicitly controlled? Should nontarget factors (e.g., value/quality, which has typically seen positive (/negative) correlation with size, be controlled? This adds additional complexity to justify a "medium" rating. Likewise, there is "low" acceptance in the overall approach; for example, should you equal weight the S&P500 or Russell 1000 or take a combination of mid-cap, small-cap, and possibly even micro-cap securities?
- Implementation: Introducing a small-cap bias increases the implementation complexity in the form of additional liquidity and capacity challenges. Turnover also increases as we observe a larger amount of additions/deletions at index reconstitutions around the small-cap cutoff, and the costs to execute these trades are higher. For these reasons, we note the simplicity dimension as "medium." When we evaluate acceptance, we consider the fact that best practices for managing small-cap portfolios do, indeed, exist, and specialist small-cap strategies have been around for decades. Thus, implementation strategies for these exposures are typically well understood in the market (hence the "high" classification). Such strategies to manage liquidity and minimize market impact include patient trading (spreading trades out over time), looking for blocks of trades, or trading away from the close.

Exhibit 3 summarizes how we categorize the STAs for size factor portfolios.

EXHIBIT 3

Size Factor Portfolio Conceptual Activeness Assessment Measuring Changes from the Pure Passive (low = more active, high = less active)

	Conceptual Activeness Principles – Size		
Design Category	**Simplicity**	**Transparency**	**Acceptance**
Objective	High	High	High
Factor Selection	High	High (No Change)	Medium
Portfolio Construction	Medium	High (No Change)	Low
Implementation	Medium	High (No Change)	High

SOURCE: State Street Global Advisors.

The process of identifying STA characteristics can be repeated for any other type of noncap-weighted strategy. For a slightly more complex example, consider a quality factor portfolio. In comparison to the size factor portfolio depicted above, a quality factor portfolio is likely to be ranked as "high" in the implementation design category. Quality tends to be a slower-moving signal, thus requiring lower turnover. High-quality companies also tend to be larger in size and, therefore, easier/more liquid to trade (though this can also be universe and portfolio size dependent). However, it is likely to score "low" for factor identification acceptance because there continues to be significant academic debate about how to define quality. With respect to simplicity, the metrics used to define quality from providers are often plentiful (five descriptors or more) with various weighting and aggregation approaches; quality is thus likely to score "low" on simplicity.

One Person's Active is Another Person's Passive

The bulk of this article has addressed how to redefine passive and active from the perspective of strategy design. This is typically from the perspective of the asset manager responsible for active strategy construction or the investor who is responsible for selecting an index. However, it would be remiss to this article to not address the multiple perspectives and commercial realities that exist within the financial landscape that have also contributed to the blurring of lines between traditional active and passive constructs.

The investor perspective. We argue that all decisions an investor makes are "active" decisions. Active decisions can include the decision to apportion growth versus defensive assets (an asset allocation call), the decision to enter/exit markets at particular times (a market-timing call), the decision to rotate from value to quality (a factor allocation call), the decision to allocate to fundamental strategies versus a market-cap index (a philosophical call), the decision to target low carbon (a sustainability call)-or the decision to select the Russell 1000 index over the S&P 500 Index (a vendor/market composition call). All of these decisions are "active" (regardless of the vehicle targeting them) and impact the return and risk experience.

The index creator perspective. Index vendors who construct indices outside of passive-adjacent broad market-cap-weighted indices are providing tools for the previously mentioned investors to express active decisions. They also make a host of "active" decisions as part of their index methodologies. Using a multifactor index as an example, questions index providers have to ask themselves include the following:

- Which factors (quality, value, momentum, size, low volatility)?
- Which metrics to define the factor?

- How to fill missing data?
- Whether and how to normalize factor metrics?
- How to combine factors (top-down or bottom-up)?
- How to select securities (all, rank/sort, optimization)?
- How to weight securities (market-cap weighting, tilting, optimization)?
- How to apply constraints?
- How often to rebalance?

These decisions differ across index vendors; comparing one provider's multi-factor index to another's is comparing apples to oranges.

The index replicator perspective. For index portfolio managers, their objective is to track a particular index, typically as closely as possible. Their mandate is to deliver the risk and return properties of that index (achieved by minimizing active risk), regardless of whether it is market-cap weighted, smart beta, or some other type of index. In the case of a multifactor index replication, although the strategy design itself might be active for the investor and for the index vendor, from the index implementer's perspective, it is much closer to passive-adjacent. In other words, the passive replication aspect should not be confounded with the strategy itself being passive.

To complicate this further, there are two emerging trends in the last decade that dilute the passiveness of traditionally labeled index strategies. Increasing investor-led customization of core index strategies (e.g., around sustainability objectives) has introduced multiple objectives within portfolio construction, implying that accountability of investment outcomes is now shared between the investor and the index replicator. Similarly, there exists demand for "index plus" type mandates that aim for small amounts of alpha above the index return. Naturally this introduces a component of activeness and discretion into index portfolio management. Even within more-vanilla replication mandates, there exist many micro decisions that portfolio managers make each day (such as how to equitize cash, which futures contracts to use, how to optimize around restricted securities or countries, how to treat corporate actions, and when to rebalance or trade cash flows), which could all be positioned as "active" relative to a pure passive baseline.

The asset allocator perspective. Almost all decisions by an asset allocator are essentially active. This includes the targeted long-term asset allocation mix, the choice of benchmarks, the cadence of reviews, the integration of macroeconomic or sentiment-driven insights, and the application of tactical allocation overlays. Most observers would agree these are all active decisions. A simple example is the choice of market segment benchmark. An S&P500 index tracking portfolio would be considered passive relative to a US large-cap equities universe, yet active if the asset allocation benchmark was the total US stock market (reflecting mid-, small- and micro-cap stocks). Similarly, an MSCI World index tracking portfolio is passive relative to global developed markets, yet active if the policy benchmark is the MSCI All Country World Index (which includes emerging markets).

We recognize the validity of the aforementioned perspectives, which represent the full spectrum of market participation (asset allocation, strategy selection, and implementation). In concept, we agree that all these decisions are in some form active, and the measurement of such decisions is both an art and science. In the next section, we share an illustration of how the entire framework could be used.

CASE STUDY: CONCEPTUAL ACTIVENESS IN PRACTICE

In this case study, we demonstrate how the conceptual activeness framework can be applied in practice when evaluating commonly used, long-only factor strategies.

Although the simplicity/transparency/acceptance principles can be assessed independently, we integrate these degrees of activeness alongside traditional active measures such as active risk/tracking error (at low, medium, and high levels[3]) and the investment outcomes typically expected of such strategies.

We compare three strategies:

1. SSGA active quantitative equity strategy ("Alpha"): Our flagship alpha-generating systematic equity strategy (live track record of 25 years).
2. SSGA multi-factor smart beta strategy ("Smart Beta"): A flexible factor investing framework with various permutations currently managed on behalf of investors.
3. A baseline academic 5-factor strategy ("Academic")[4]: Reflecting factor and design choices most commonly seen among the academic literature and index providers.

Exhibit 4 summarizes the characteristics of these strategies across the four design categories. Broadly speaking, the underlying **objective** across all three remains the same; they are seeking to outperform the broad cap-weighted index over the long term by capturing exposure to well-understood sources of risk premia, and, in the case of Alpha strategies, additional sources of idiosyncratic alpha.

Factor identification, arguably one of the most important steps in a factor strategy design, reveals key differences between the approaches. The Academic approach targets the most widely accepted and earliest-cited factors—size, value,

EXHIBIT 4

Strategy Design Characteristics

Strategy Design	Academic	Smart Beta	Alpha
Objective	Generate long-term risk-adjusted excess returns over selected broad cap-weighted index.		
Factor Selection	Value, quality, momentum, size, and low volatility (equal weighted) represented by one signal in each from academia.	Value, quality, and momentum (equal weighted) represented by our selection of 14 signals.	Four broad themes (value, quality, sentiment, and catalyst) captured by our flagship Alpha model and represented by 80+ signals weighted in complex proprietary approach.
Portfolio Construction	Rule based.	Optimized for on-target factor exposure and explicit risk and transaction cost control.	Optimized to maximize alpha transfer efficiency and explicit risk and transaction cost control.
Implementation	Annual/semi-annual (typically aligned with index reconstitutions). Trading instructions can vary based on strategy.	Quarterly, with timing and instruction flexibility.	Up to biweekly or endogenously and optimized VWAP/implementation shortfall instructions.

SOURCE: State Street Global Advisors.

[3] Assumed 75 bps–150 bps for low tracking error (TE), 200 bps–300 bps for medium TE, and 400 bps–700 bps for high TE. Although we have been managing live (multifactor) smart beta and alpha strategies at the low and medium, we do not for the high. We often see most typical academic-like strategies running at high TE levels.

[4] Although we do not currently run live this strategy, but designed it for this illustration, it represents a subset of the many third-party multifactor smart beta indices we replicate for our clients. They tend to run at high TE levels.

quality, momentum, and low volatility—and one signal[5] used to capture the factor characteristic. The Smart Beta strategy builds on the Academic foundations, incorporating both academic and practitioner findings following roughly a decade of managing these strategies in practice. It is important to note the decision to drop size and low volatility as explicit target factors. Acknowledging Smart Beta foundational features of simplicity and transparency, it was important that these strategies were developed with the "right" level of conceptual activeness to maintain this spirit, yet incorporating the latest research innovations. As such, an equal-weighted combination of value, quality, and sentiment represented by 14 signals has been selected to provide a more holistic stock assessment, striking a balance between high capacity, high acceptance, and transparency to the investor. The Alpha approach is unconstrained from a design perspective. This strategy benefits from the complete, robust research innovation process (via the Alpha model) in pursuit of the best risk-adjusted outperformance. As of this publication date, that includes 80+ signals that are precisely and dynamically weighted.

Portfolio construction decisions work hand-in-hand with factor identification, as it is important that factor capture is not only measured appropriately, but transferred efficiently into aggregate portfolio exposures. For the Academic strategy, a rule-based, tilted approach is selected to reflect the popularity of this approach used in multifactor indices. It is transparent, simple, and maintains rank order in final portfolio weights. For our Smart Beta strategy, we made the decision five years ago to move to an optimized construction approach in favor of its ability to deliver higher factor exposure/unit of active risk,[6] which is a key metric we use to evaluate Smart Beta strategies. Our Alpha strategy also uses this approach, which has been widely deployed in active quantitative strategies for decades.

Finally, the three strategies differ across implementation. From a rebalancing frequency perspective, the Academic approach (also seen in many third-party Smart Beta indices) follows an annual (or semiannual) reconstitution. The Alpha approach follows a much more frequent rebalancing cadence (monthly, at times as often as biweekly) to reflect the faster-moving nature of some of the underlying signals. The Smart Beta approach sits somewhere in the middle, aiming to balance efficient factor signal capture with controlling turnover and trading costs. From a trade execution perspective, the story is more nuanced and highly dependent on the size of the portfolio and the market conditions at the time of trade. A variety of trading instructions (market on close [MOC], volume-weighted average price [VWAP], implementation shortfall, and other proprietary approaches) can be initiated regardless of the strategy's design features. Across our index implementation business, for example, portfolio managers work very closely with traders to execute rebalances with the underlying objectives of 1) wealth preservation, 2) risk and transaction cost minimization, and 3) market impact minimization. For example, a very large index fund, implemented in a small/narrow market with trades in less-liquid names could entail a quite a complex trading strategy to ensure those three objectives are met.

Exhibit 5 provides an illustrative example of the conceptual activeness ranking for the three strategies, based on the aforementioned elements. As we did previously in the article, this illustration makes relative rank order (high, medium, low) assessments for the three strategies. The outcome is shown in Exhibit 5.

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[5] Size: total market capitalization (as in the Fama–French SMB factor); Value: book-to-market ratio (as in the Fama–French HML factor); Quality: Operating profitability (as in the Fama–French RMW factor); Momentum: Stock's cumulative price return over an 11-month period from month $t - 12$ to month $t - 2$ (as in the Fama–French MOM factor); Low Volatility: standard deviation of 61-day daily residuals from CAPM return regression (one-factor version of Ang et al. 2006).

[6] See "A New Metric for Smart Beta: Factor Exposure per Unit of Tracking Error" (Bender et al. 2016) and "Clash of the Titans: Factor Portfolios versus Alternative Weighting Schemes" (Bender et al. 2019).

EXHIBIT 5

Conceptual Activeness Assessment

Strategy Design Component		Academic		Smart Beta		Alpha
Objective	Simplicity	High		High		High
	Transparency	High		High		High
	Acceptance	High		High		High
Factor Selection	Simplicity	High		Medium		Low
	Transparency	High		High		Low
	Acceptance	High		Medium		Low
Portfolio Construction	Simplicity	High		Medium		Low
	Transparency	High		High	Medium	Low
	Acceptance	High		Medium		Low
Execution	Simplicity	Medium	Low	Medium		Low
	Transparency	Medium		Medium		Low
	Acceptance	High		Medium		Low

SOURCE: State Street Global Advisors. Low = more active, High = less active.

Exhibit 5 demonstrates, somewhat intuitively, the increasing conceptual activeness trend; that is, the degrees of activeness increase as we move through Academic to Smart Beta to Alpha factor strategies. This trend is not always linear, however, and there are components of a strategy design and/or implementation that can increase or decrease the relative activeness of it. For example, a key tenant of smart beta was/is transparency, and so both academic and smart beta approaches are evaluated as "high" (i.e., less Active) on this principle (for both factor selection and portfolio construction design components). Conversely, alpha strategies, involving proprietary datasets and/or modeling decisions, are generally not transparent to the market or clients (to protect intellectual property and a strategy's edge), and thus are considered "low" transparency.

A natural next step for investors or consultants evaluating strategies would be how conceptual activeness evaluations interact with traditional active risk measures, an important metric when allocating risk budget, and any expected return assumptions.

Consider a highly stylized illustrative example as depicted in Exhibit 6, where, for each of the aforementioned approaches, three variants are built at different levels of tracking error (low 1–2%, medium 2–4%, and high 4–6%). For simplicity, we make two assumptions[7] about the relationship between conceptual activeness and tracking error:

1. Higher risk-adjusted excess returns are prevalent as we move through Academic, to Smart Beta, to Alpha approaches, reflecting robust, research-led strategy design choices that are increasingly embedded.
2. As tracking error increases, the rate of excess returns generated per unit of tracking error diminishes, leading to lower a information ratio (IR).

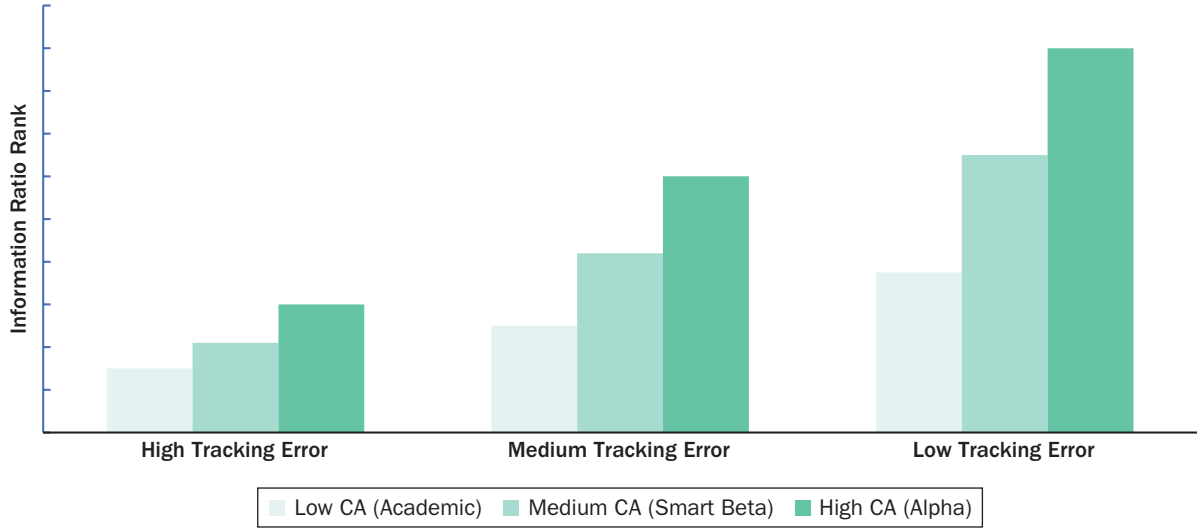
Exhibit 6 provides a conceptual framework to rank investment strategy outcomes, as proxied by the IR.[8] It demonstrates two key findings: 1) expected IR outcomes at each level of tracking error increase as conceptual activeness increases (increasing

[7] Empirical evidence is not necessary for the purposes of this illustrative case study.

[8] We acknowledge that investors may have wider objectives than the information ratio, but we focused on this one metric in this example for its industry pervasiveness and simplicity.

EXHIBIT 6

Illustrative Strategy Outcomes (information ratio ranks) as a Function of Conceptual Activeness and Active Risk



SOURCE: State Street Global Advisors. For illustrative purposes only.

bars within each TE grouping) and 2) expected IR outcomes are decreasing as tracking error increases (decreasing bars from right to left).

Although this case study is highly simplified, it provides a clear use case for how the conceptual activeness framework can be deployed in the real world. Namely, as investors and consultants evaluate a multitude of strategies across active managers and/or increasingly complex third-party index strategies, a methodical, multidimensional assessment framework is needed. It can assist in due diligence, setting performance and process expectations and ultimately strategy selection and monitoring.

HAULING IN THE NET: SNAGGING CLARITY FROM MURKY WATERS

As both an index and active quant manager, we have been on a long, at times challenging, but ultimately fruitful journey over the last several decades. As the lines have blurred between active and passive, we have faced this question directly of what is active and what is passive. As a result, we have developed the conviction that all investment approaches, aside from index portfolios that track broad market-cap-weighted indices, are to some degree active. The framework we propose here—conceptual activeness—provides a way for the industry to assess activeness.

The blurring of lines between active and passive is not a bad development. It has allowed us to bring a more pragmatic view to equity investing. Today, we think of the world less in terms of active versus passive, but more as one in which understanding the multiple dimensions of investment problems is ever more important. Undoing the traditional active and passive delineations allows for the crafting of solutions tailored to specific investment problems. Solutions are free to employ a broad range of tools and insights, be they alpha-generation models, risk models, transaction cost models, or other forms of IP to ultimately generate better outcomes for investors. Perhaps as our industry continues to evolve, the currently blurred lines of division will completely disappear, giving rise to clear waters and new paradigms that produce more-targeted and effective solutions for all investors.

APPENDIX

PROOF BY CONTRADICTION: NO ALTERNATIVE TRUE PASSIVE OR PASSIVE-ADJACENT STRATEGY ARISES IN EXTENDED EQUILIBRIUM RETURN MODELS

Thesis: Extending expected return equilibrium models (such as CAPM) to include even the simplest factor, such as size, cannot generate another true passive or passive-adjacent strategy without introducing significant active decision-making. If this most benign extension fails to achieve passivity, it is implausible that any other more complex extension could succeed.

1. Assumption (contradiction setup): Assume there exists an alternative true passive and passive-adjacent strategy that arises from an extended equilibrium model.
2. Market efficiency and true risk premia assumptions: For a strategy to remain passive while incorporating additional factors, those factors must represent true risk premia (not anomalies[9]) in an efficient market. There are a very large number of factors identified in the academic literature, which Cochrane (2011) referred to as the "factor zoo." However, factors most likely to succeed are long-standing ones. The size factor (small-cap premium) is the most plausible candidate because it was, shortly after publication, a widely recognized consistent and robust risk premium.
   a. Economic intuition for size as a priced risk source:
      i. Smaller firms are exposed to greater business risks, operational volatility, and challenges in accessing capital in distress, higher informational uncertainty, lower liquidity, among others. These higher risks require compensation through higher expected returns, aligning with economic theory that riskier assets should deliver a risk premium.
   b. Empirical evidence supporting the size premium (with caveats):
      i. Earlier on during the early 1980s, the size premium was consistently documented across different periods, geographies, and market conditions, suggesting it captures a systematic risk factor.
      ii. However, the persistence of this premium is debated, especially when accounting for transaction costs. We don't believe the size premium survives post implementation costs. Moreover, recent studies show the size premium may have diminished or disappeared, casting doubt on its robustness in contemporary markets.
   c. Why other well-known factors are not good candidates for this proof:
      i. Value: The value premium is often seen as a behavioral anomaly rather than a stable risk premium, or more likely driven both by risk premium and mispricing. Furthermore, its performance is highly sensitive to definitions and market cycles.
      ii. Momentum: Momentum strategies rely on short-term price trends, suggesting that they exploit inefficiencies, rather than reflect compensated risk, requiring frequent rebalancing. It is the most famous anomaly in the asset pricing literature.
      iii. Quality: Lack of credible risk-based theories associated to behavioral-driven mispricing. Profitability is the most common factor, but many others exist in the literature.
      iv. Low volatility: Primarily deployed for total risk-reducing strategies, and its effect is observed completely in the anomaly/market inefficiency realm.

[9] An anomaly is a return pattern that cannot be explained by compensation for nonsystematic risk. Instead, it alludes to mispricing opportunities driven by inefficiencies or behavioral biases.

Given these characteristics and caveats, size remains the most plausible candidate for a passive strategy extension, yet it still introduces complexities that are inconsistent with passivity.

3. Theoretical extensions, tangency portfolios, and market efficiency implications with size factor: Even under the assumption that size is a true risk premium, integrating it into a passive strategy has critical implications for the tangency portfolio:
   a. Tangency portfolio adjustments: If size is priced as a systematic risk factor, the market portfolio is no longer the tangency portfolio in a mean–variance efficient world. The optimal tangency portfolio would include a size tilt to achieve better risk-adjusted returns.
   b. Active decisions required for tangency portfolio as an alternative true passive: Constructing this tangency portfolio requires subjective decisions, such as deciding to use individual securities or factor portfolios to solve a mean–variance optimization problem, defining what constitutes "small-cap," estimating the risk premium, and determining the optimal factor exposure. These choices inherently involve active judgment and optimization, making the resulting portfolio inconsistent with passivity.
   c. Contradiction: Because the tangency portfolio cannot be passively constructed without active decisions, the assumption that an alternative passive strategy exists is already invalidated at the theoretical level.
4. Practical implementation challenges specific to size: Even if the theoretical issues were resolved, implementing a size-tilted strategy introduces further active decisions:
   a. Defining data sources: Which data sources should be used? Should you use regional data or global data? Should you use total market capitalization or free-float-adjusted market capitalization?
   b. Portfolio construction: Should it be rule-based or optimized? Which specific implementation approach to either should be chosen? What capitalization ranges should be targeted—for example, mid cap, small cap, and/or micro-cap?
   c. Rebalancing frequency: Should rebalancing occur systematically or only when factor exposure drifts by a set threshold?
   d. Tracking error versus transaction costs: Balancing transaction costs and tracking error requires active decision-making, further straying from passivity.
   Each of these practical considerations involves trade-offs and introduces subjective choices that inevitably involve active management.
5. Generalization to all potential model extensions: If the simplest one-factor model extension (adding size) cannot maintain passivity, it follows that incorporating more-complex or multiple factors would require even more active decisions, making passivity even less likely.
   a. More factors introduce additional challenges in defining, estimating, and integrating them, which only adds to the active complexity.
6. Conclusion: The broad market portfolio is the only passive or passive-adjacent strategy.

Given that the simplest one-factor extension fails to maintain passivity, it is implausible that any other more complex model extension could succeed. Therefore, no alternative true passive or passive-adjacent strategy can arise from extended equilibrium models. The broad cap-weighted market portfolio remains the only strategy that requires no active decision-making and aligns with the principles of passive investing.

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