

Smart Beta, Direct Indexing, and Index-Based Investment Strategies

A Framework

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EXECUTIVE SUMMARY

Over the past 50 years, index investing has taken the investment industry by storm. More recently, evolving investor preferences and technological advancements have led to the development of new index-based products and strategies, such as smart beta exchange-traded funds (ETFs) and direct indexing. These index-based products are gaining momentum alongside investor shifts toward increased personalization. The introduction of new index investing products, however, has generated some confusion as to what constitutes “index investing,” given the traditional distinction of “active” versus “passive” management.

Index investing is generally considered “passively” managing a portfolio to a market-capitalization-weighted benchmark, with no difference in portfolio weightings from the benchmark allocations (i.e., zero “active share”). Yet recent index-based strategies, such as smart beta and direct indexing, are said to combine elements of both active and passive management, leaving ambiguities as to how these strategies should be classified and understood. This report introduces a new framework for understanding index-based strategies that better captures the levels of active decision making beyond traditional market-cap weighting. In doing so, we contextualize the evolution of index-based funds within the history of index investing and reassess how new index-based products and strategies fit within the spectrum of active management. According to a CFA Institute report titled “Future State of the Investment Industry” (Preece, Munson, Urwin, Vinelli, Cao, and Doyle 2023), increasingly diverging worlds and digital transformation are both expected to significantly shape the investment industry in the next 5–10 years. Diverging goals and values produce divides between various segments of global investors and contribute to the growing demand for personalized products. Direct indexing, which offers index investors maximal levels of personalization, may play an increasingly relevant role in meeting investor demands. Further, smart beta ETFs have already attained popularity, but with digital transformation rapidly changing the investment landscape, an array of rule-based investment strategies is likely to arrive at scale. Smart beta investing is expected to thrive in this environment, resulting in diverse index-based product offerings and greater client and market segmentation.

Investment professionals need to have a thorough understanding of these products to better cater to investor preferences. Additionally, the introduction of new index-based products has implications for policymakers, given the need for clear disclosures of investment objectives and key product features in fund documents. Inconsistent terminology with respect to index-based products has contributed to the ambiguities surrounding their classification as active or passive investments, making it harder for investors to evaluate funds and compare products. This situation complicates the broader market for index investing and highlights the importance of properly articulating new products.

In this report, we review the origins of index investing and develop an indexing framework that captures incremental levels of active management for new index-based products within the evolving index investing landscape. This conceptual framework helps investors, firms, and policymakers better understand and define index-based products. Additionally, we offer policy recommendations to clarify terminologies with respect to smart beta products and direct indexing, and we encourage increased disclosure on the part of index providers regarding indexing methodologies.

Reducing the ambiguities surrounding products that combine traits of active and passive management should lead to greater transparency among these products. As a result, this report contributes to building a deeper understanding of index investing for investors.

Key Takeaways

- Index-based products and solutions with options for personalization are becoming increasingly relevant because of rising demand from investors. These products can be conceptualized along a spectrum that we classify into four levels, ranging from minimally active (Level 1) to maximally active (Level 4). This approach assesses the products along three dimensions: strategy, returns, and level of discretion.
- Smart beta ETFs consist of products with a wide range of factor exposures and encompass all forms of indexing apart from traditional market-cap weighting. Like index funds, they are rules-based and transparent. Many active decisions, however, are involved in the management of these products, such as identifying factors and defining weighting methods. As a result, smart beta ETFs are most accurately classified under Level 2 of our spectrum.
- Direct indexing involves directly holding the underlying securities of an index with the added flexibility to under- or overweight specific securities and asset classes according to investor preferences. This strategy can be beneficial for tax-loss harvesting or creating customized portfolios. Because direct indexing allows for high levels of personalization according to the preferences and circumstances of the investor, it can follow a range of indexing strategies, spanning from Level 1 through Level 3 on our spectrum.
- Although such products as smart beta ETFs and direct indexing are rules-based, their construction involves active decision making that goes beyond cap-weighted index funds. Investors should be aware of the active decisions involved in the creation and maintenance of index-based products, including security selection, weighting methodologies, and rebalancing strategies.

Policy Recommendations

For Policymakers

- Establish a comprehensive regulatory framework for benchmark indexes where one does not already exist.
- Require index providers to make information available to product manufacturers and, ultimately, end investors regarding indexing methodologies, including security selection and screening procedures, weighting, rebalancing strategies, and conflicts of interest.
- Policymakers should ensure firms use accurate and adequate descriptions of products with varying levels of active management, including smart beta and direct indexing, in product labels and disclosures. Policymakers can draw on the framework provided in this report to ensure smart beta and direct indexing products are accurately depicted.

For Firms

- Educate and inform investors of the active decisions made throughout the investment process for index-based investments. This includes communicating about the decision-making processes involved in index fund creation—for example, detailing the security selection and weighting methodologies used in the creation of the investment product or strategy.
- Investment firms (product manufacturers, advisers, and distributors) should provide access to this information to prospective clients as part of the presale product literature, alongside other marketing materials.

1. INTRODUCTION

More than 50 years ago, investment management strategies bifurcated into active and passive management. Whereas active management involved investment professionals seeking to generate alpha by selecting individual securities, passive management became a popular strategy grounded in the investment of the entire market by tracking a market-cap-weighted benchmark index. The rise in popularity of index investing and the corresponding development of new index-based products, however, evolved the concepts of active and passive management, blurring the distinction between the two. There is now an abundance of index-based products that include features of active management, such as the ability to outperform a benchmark, customize holdings, and achieve investor-specific goals. This report aims to provide clarity and nuance within this complex area. Although it does not provide an exhaustive list of all index-based products, this report identifies the core types of products that lie along the spectrum of active management. We advocate for increased transparency and clarity surrounding index-based products and strategies for investors, firms, and regulators.

Part of the challenge in distinguishing active versus passive strategies is that human decision making occurs throughout the creation and implementation of index-based investment products. As we will discuss, the creation of benchmark indexes—even traditional cap-weighted indexes—requires an index provider to make decisions that determine security selection and weighting methodologies. Although these indexes may be rules-based insofar as they adhere to predefined parameters that determine the underlying investments, index providers are charged with the responsibility of setting those parameters and making security selections within them. Indexes are often created at the request of investment firms that wish to generate benchmarks for new investment products. As such, benchmark indexes themselves are actively created in passive rules-based products. **Exhibit 1** demonstrates this concept in the first row, which corresponds to the smallest circle in **Exhibit 2**.

Other products are then derived from those indexes, including smart beta ETFs and direct indexing portfolios. Within smart beta investing, several levels of decision making are required. First, factors are identified, often by analysts or academics, as having the potential to produce positive returns beyond the market return. These factors are then actively selected by fund managers in an investment firm (often leading to the creation of additional, “alternative” indexes) and used, along with a benchmark index, to produce investment products. Because these products are based on a particular index, they automatically adopt the decisions made by the index provider, as discussed previously.

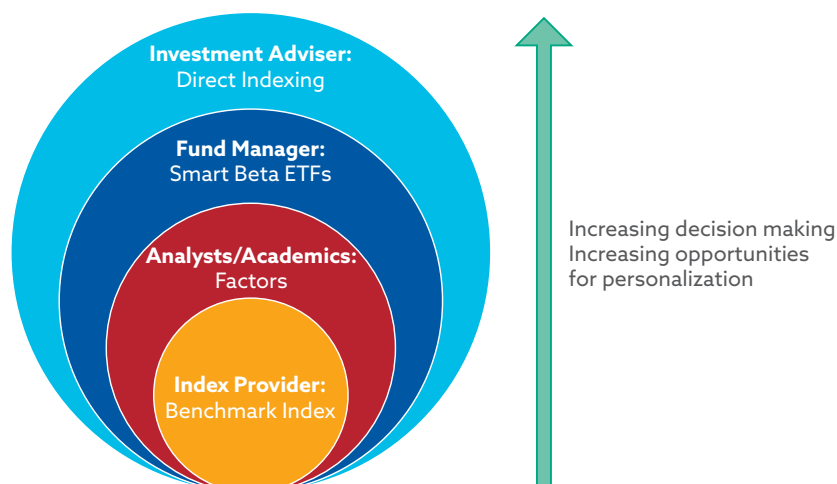
Because these managers select factor tilts and other weighting strategies, however, another layer of active discretion is added to the index. This situation is demonstrated in Exhibit 2, which shows the index provider making selections regarding the benchmark index, analysts and academics developing factors, and fund managers and investment firms combining these characteristics into smart beta ETF products.

Exhibit 1. Active Decision Making in Indexing Products

Product	What Is Selected?	Who Selects?
Traditional cap-weighted index	<ul style="list-style-type: none"> • Underlying securities • Weighting strategies • Rebalancing methodologies 	Index provider ^a
Smart beta ETFs Other factor-based products	<ul style="list-style-type: none"> • Benchmark index • Factor(s) • Weighting strategies • Rebalancing methodologies 	Academic, analyst Fund manager Investment firm
Direct indexing separately managed account (SMA)	<ul style="list-style-type: none"> • Benchmark index • Underlying securities • Weighting strategies • Rebalancing methodologies 	Investment adviser

^aIndexes can also be created in-house, often referred to as “self-indexing.” ETF issuers, for example, would not license an index generated by external index providers but instead would construct an index that cannot be licensed to other parties (see Eckett 2022).

Exhibit 2. Visualization of Product Decision-Making Layers



Lastly, direct indexing involves tracking a benchmark index by holding some or all of the underlying securities in a separately managed account (SMA),¹ as opposed to buying index funds or ETFs. Direct indexing can thus replicate other index products by using the same benchmark or factor weights but with the added ability to modify those strategies to varying degrees at the

¹An SMA is a portfolio of securities, held by an investor and managed by an investment firm, that allows for the purchase and sale of individual securities.

discretion of an adviser who strategizes the buying or selling of securities in the SMA, thereby generating another layer of decision making, as represented in Exhibit 2. Although direct indexing may still be considered a rules-based index investment product, it offers maximal flexibility and increased opportunities for personalization.

The layers of active decision making involved in such products as smart beta ETFs and direct indexing render them close to traditional active management while also maintaining the rules-based functionality of traditional index funds. This report addresses the complexities of index-based products consistent with these decision-making layers, starting with market-cap-weighted benchmark indexes and building up to smart beta ETFs and direct indexing.

Rise in Demand for Index Products

The past decade saw a rise in popularity for index investment funds, resulting in an increase in assets and flows for these products. **Exhibit 3** illustrates these trends, showing the rise in total net assets (TNA) for passive equity and passive bond funds from 31 December 2013 through 31 December 2023 using LSEG Lipper data and classifications.² The right-hand panel displays the increase in TNA for passive equity and passive bond funds domiciled both in and outside the United States, and the left-hand panel shows these trends at the global level.

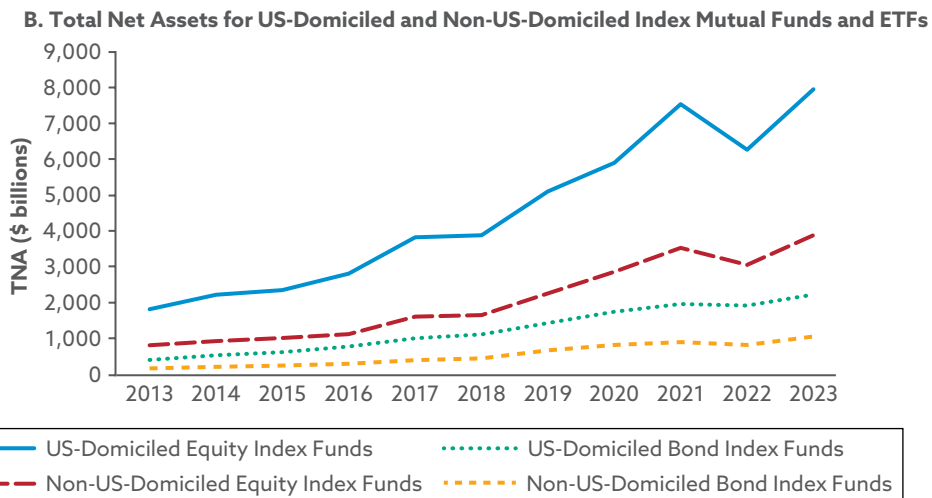
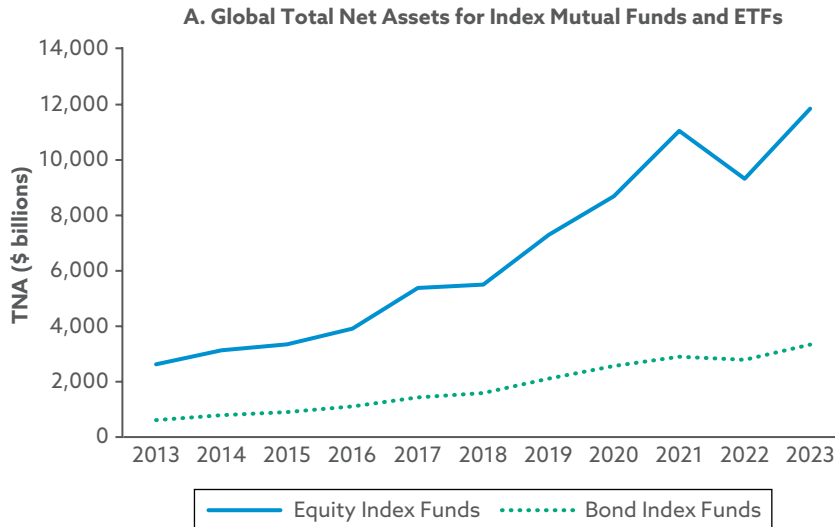
The Need for Personalized Strategies

Coinciding with the rising demand for index investing is the demand for greater personalization in the investment process. According to a recent MSCI report, “Generic, one-size-fits-all model portfolios are losing their appeal as investors seek more personalized investment solutions tailored to their unique needs and goals” (Ferenc and Lodh 2023, p. 4). Such investor-specific considerations can include personal preferences, values, and goals, as well as tax considerations. To meet these demands, investment firms are striving to deliver client-focused products and solutions.

Several recent studies have highlighted the increased calls for personalized strategies and product offerings within investment management. In a [Charles Schwab Asset Management \(2023\) survey](#), 88% of ETF investors expressed interest in further personalizing their investment portfolio, with 78% wishing to better align investments with their personal values. In addition, 74% expressed interest in investments consistent with a particular theme. These findings complement a [Schwab Advisor Services \(2022\) survey](#) of investment

²Because we gathered data from the LSEG Lipper database, we use the term “passive” throughout this report in the context of LSEG Lipper’s classification. The LSEG Lipper database defines passive funds as follows: “The firm ‘benchmarks’ their assets against indices (for example, S&P 500, Russell 1000, and so on). They allow external factors to determine which sectors and regions they make investments. The firm would be tagged as a passive investor only if its investment strategy is 100% based on index” (source: Lipper [6 March 2024]; available at LSEG Workspace).

Exhibit 3. Total Net Assets for Index Mutual Funds and ETFs, 31 December 2013–31 December 2023



Note: Global funds include the universe of mutual funds (open-end investment funds) and ETFs in the Lipper database.

Source: LSEG Lipper.

advisers, more than half of whom indicated the importance of providing increasingly personalized portfolio options over the next five years.

Such findings are also consistent with a CFA Institute report titled “Enhancing Investors’ Trust” (Fender and Munson 2022). More than 78% of retail investors surveyed across 15 markets stated they wanted more personalized products or services to better meet their investment needs, and 68% stated they would be willing to pay more in fees for such personalized products or services. The report also found that personalized product offerings can serve as a key factor in facilitating investor trust in financial services.

Looking at the broader investment landscape, the global marketplace is becoming increasingly fragmented because of deglobalization, rising inequality, and polarized beliefs. The trend of increasing fragmentation will likely require financial institutions to adapt to a more segmented market as they cater to the evolving needs of multiple stakeholders, including through the development of personalized financial products (Preece et al. 2023).

Personalization, by its definition, can mean different things to different investors, and investment organizations will likely need to develop a multitude of offerings that can cater to the diversity of client demands. Of the 78% of retail investors who preferred more personalized products or services in “Enhancing Investors’ Trust” (Fender and Munson 2022), however, the majority (52%) expressed an interest in index products personalized for their specific investment needs, such as through direct indexing. Impact funds with an objective to achieve a specific real-world benefit (48%) and personalized research products or services (47%) followed closely behind (see **Exhibit 4**).

Trends toward increased personalization are likely to continue as the interests and motivations of young investors drive demand for personalized investment products and strategies in the coming years. Indeed, the “Enhancing Investors’ Trust” study found that 92% of retail investors aged 25 to 34 would like to see more personalized products or services to better meet their investment needs.

This push for personalization also aligns with young investors’ overall interest in values-driven investment strategies. In the same study (Fender and Munson 2022), environmental, social, and governance (ESG) investing proved popular

Exhibit 4. Retail Investor Interest in Personalized Products



Source: Fender and Munson (2022).

among younger cohorts of retail investors, with 67% either currently using ESG strategies or very interested in such strategies. Moreover, 68% of all retail investors who use ESG strategies cited the ability to express personal values or invest in companies that have a positive impact on society or the environment as motivations for integrating ESG factors into the investment process.

The popularity of ESG investing is reflected in the growth of net assets in responsible investment funds worldwide. A fund is classified as a responsible investment by Lipper if it explicitly states that it considers and acts on responsible investment factors when making investment decisions (Doyle 2024).³ Although the proportion of responsible investment fund total net assets held by institutional share classes has increased in recent years, retail share classes continued to hold more than half (64.4%) of responsible investment funds' global total net assets as of 31 December 2022 (Doyle 2024). The close connection between ESG investing and personalization signals expanding interest in products tailored to personal values and objectives.

Not only will this rising demand for personalization alter the way we invest, it also may serve to strengthen the agency of individual investors. According to "Future State of the Investment Industry" (Preece et al. 2023), 88% of investment professionals believe that a greater industry focus on personalized products will generate increased access to products and improve choice. Additionally, 38% believe it would create a net positive benefit in wealth generation. Machine learning and artificial intelligence (AI) will also play a key role in meeting the demand for personalization by offering new opportunities for individual investors to access customized solutions. Given these trends, personalized investment products that are rules-based and optimizable through new technologies are becoming increasingly important in the investment landscape.

³According to Lipper, "To receive a responsible investing attribute, fund documentation must give a clear commitment that responsible investment factors are not just considered, but such policies must be acted on as an integral part of a fund's investment process, with no override options or discretionary caveats" (see LSEG Lipper's "Sustainability in the Fund Industry" brochure).

2. INDEX-BASED INVESTMENT STRATEGIES

Index funds are collective investment schemes that track the performance of a particular benchmark. These funds replicate the benchmark in terms of holdings and weights, with the goal of earning returns commensurate with those of the benchmark. In this chapter, we review the origins of index investing and contextualize the rise of ETFs up through the creation of alternative indexes.

Origins of Index Investing

The idea of index investing was initially proposed in the *Financial Analysts Journal* by Edward F. Renshaw and Paul J. Feldstein (1960), who argued for an “unmanaged investment company” that invests in a representative average or index. At the time, actively managed mutual funds dominated the market, and the authors expressed skepticism as to whether such investments would reliably outperform the average and whether they would be worth the associated costs. Shortly thereafter, the *Financial Analysts Journal* published a response to this article in which John B. Armstrong (1960, p. 38) criticized the idea of buying the market average, instead making the case for active mutual funds, which “in general have met the test of time, and performed in keeping with their stated policies and goals.”

By 1971, however, Wells Fargo’s Management Sciences unit, comprising a niche group of academics, successfully created the first index fund for institutional investors (Wigglesworth 2021). Led by John Andrew “Mac” McQuown, the unit received significant backlash from mainstream investors at Wells Fargo (Mihm 2016). Despite initial skepticism, the project went ahead because of Samsonite Corporation’s desire to invest \$6 million from its pension program in a product that would track the market. At the same time, Batterymarch Financial Management and American National Bank were developing similar products for institutional investors that would track samples of the market (O’Connell 2021).

It was not until 1976, however, that John C. Bogle created the first index fund available to retail investors. Bogle was determined to bring high levels of diversification at a low cost to investors, and as head of the newly formed Vanguard Group, he introduced the First Index Investment Trust (FIIT), later known as the Vanguard 500 Index Fund, which tracked the S&P 500 Index (Bogle 1997). Bogle, who previously worked for Wellington Management Company and wrote the aforementioned response in support of active management under the pen name John B. Armstrong (1960), would paradoxically become the face of index investing.⁴

The idea that mutual funds “could make no claim to superiority over the market averages” was not new to Bogle; indeed, it was a point he made in 1951 in his senior thesis at Princeton University, despite the thesis’s overall endorsement of active management.⁵ Later, he relied on the work of MIT professor Paul A. Samuelson

⁴See Wigglesworth (2021) for an in-depth narrative of the history of index investing.

⁵The thesis, “The Economic Role of the Investment Company,” was reprinted in Bogle (2001).

(1974), who argued that, in practice, most professional investment managers on average do not make decisions superior to the market, which aligns with the overall conclusion in the academic literature that fund managers typically cannot consistently beat the market. Thus, Samuelson identified the need for a low-cost fund that simply tracked the market (Nolan 2020). Prompted by Samuelson's work, Bogle himself investigated this issue by comparing the performance of the S&P 500 with returns for the average equity mutual fund over a 30-year period. Bogle (2016, p. 10) found that

from year-end 1945 through mid-1975, the S&P 500 earned an average annual return of 11.3%, an advantage of 1.6 percentage points (pps) over the return of 9.7% earned by the average fund—a compounded 30-year-plus advantage of 863 pps. In other words, the cumulative value of a \$1 million initial investment in the S&P 500 and in the average equity fund would have grown to \$25,020,000 and \$16,390,000, respectively—an advantage of \$8,630,000 for the index.

The efficient market hypothesis (which states that security prices accurately reflect intrinsic values if markets are efficient), combined with the potential for lower fees, drove index mutual fund investing in subsequent years. Following the establishment of Vanguard's flagship index fund in 1976, the market slowly began to adopt indexing strategies, with a second index fund appearing in the 1980s and broad acceptance by the mid-1990s. These initial efforts in academia and the investment management industry eventually led to the emergence of an active-passive investment divide, where mutual funds could be classified as either actively or passively managed. **Exhibit 5** provides a comparison of what are commonly characterized as active and passive investment funds.

The rise of index investing can be understood in the context of paradigm shifts in portfolio management, particularly after the rise of modern portfolio theory (MPT). Before the introduction of MPT in the 1950s, securities were viewed

Exhibit 5. Passive and Active Investment Fund Characterization

Passive Investment Fund	Active Investment Fund
<ul style="list-style-type: none"> • Underlying securities selected by index committee • Weighted according to market capitalization • Usually has lower fees • Can only invest in securities listed in an index • Use of discretion limited to available indexes in the market 	<ul style="list-style-type: none"> • Underlying securities selected by portfolio manager • Weighted according to fund manager analyses • Usually has higher fees • Can incorporate securities beyond listed stocks and bonds • Can exercise higher levels of discretion, in line with investment mandate, based on anticipated market trends, valuation considerations, economic shifts, or client needs and wants

mainly in terms of returns, with little or no regard for such measures as risk and correlation. Further, the practice of benchmarking was practically nonexistent at that time (Siegel 2003, p. 22). Harry Markowitz (1952) proposed that risk and correlation, in addition to returns, are necessary to properly measure investment performance and that diversification is essential in the portfolio construction process, thus laying the foundation for MPT. This groundbreaking assertion fundamentally changed the process of portfolio construction, resulting in the construction of “efficient” portfolios that either maximize returns for a given level of risk or minimize risk for a given level of return. The “optimal” portfolio is the most efficient of these efficient portfolios.

Markowitz’s work inspired further research on this topic. Another major contribution to MPT was the capital asset pricing model (CAPM), developed through the work of William Sharpe, John Lintner, Jack Treynor, and Jan Mossin in the 1960s (Ang 2014, p. 197). The CAPM claims asset risk premiums are driven by an asset’s beta or the sensitivity of an asset’s returns to the market return (Mainie 2015, p. 2). Thus, the only relevant factor is the market portfolio (Bolognesi 2023, p. 40; Ang 2014, p. 197). According to Siegel (2003), this led to the rise of cap-weighted benchmark indexes because according to the CAPM, if all investors have the same risk and return expectations for all securities, then the cap-weighted market portfolio will be the optimal portfolio (i.e., the portfolio with the highest Sharpe ratio). Consequently, if the cap-weighted market portfolio is optimal, then it is the best portfolio one can construct aside from skill or special insight and should therefore be the benchmark (Siegel 2003, p. 26).⁶ Although the CAPM in its original form has been heavily challenged by subsequent research, it marked a key moment in the transition away from analyses of individual, independent, and idiosyncratic features of individual securities and toward systematic factors that capture broad market risks and correlations between assets (Ang 2014, p. 197).

Development of Exchange-Traded Funds

Exchange-traded funds (ETFs) are investment products that are built on benchmark indexes and designed to capture systematic factors over idiosyncratic factors (Bhattacharya and O’Hara 2020, p. 2). ETFs first emerged in 1990 with the Toronto Index Participation Shares, which tracked the Toronto 35 Index. Like index mutual funds, ETFs track the performance of a particular index. Unlike index funds, however, ETFs can be traded throughout the day, like an individual stock. A comprehensive overview of ETFs, including the key product features, the market structure, and the creation and redemption process, can be found in Hill, Nadig, and Hougan (2015).

The creation of ETFs offered new opportunities for index investors, who were previously limited to buying and selling index funds at a single price point each day. ETFs also enabled investors to reduce costs, because most offered lower expense ratios than index funds. Although the Toronto Index Participation

⁶Siegel (2003, p. 26) further concludes that this is only the case for portfolios with the same risk as the market and that an adjustment is necessary for portfolios with risk levels that differ from the market.

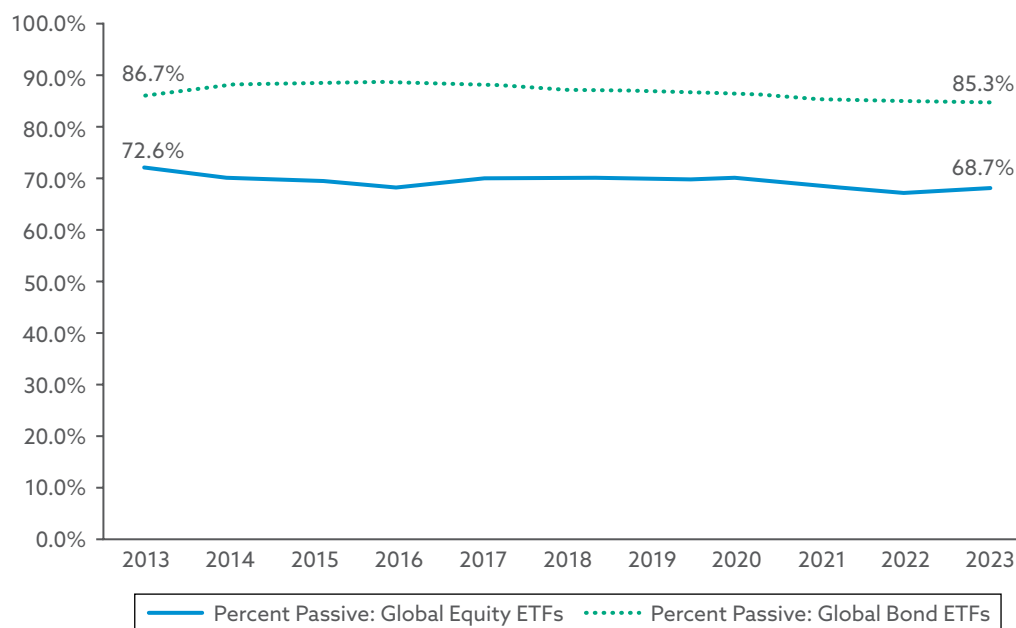
Shares delisted after a few months, interest in ETFs grew significantly following the launch of the Standard & Poor's Depository Receipt (SPDR) S&P 500 ETF (SPY) in 1993 (Bolognesi 2023, p. 61). Although ETFs were initially created as passive investment products, some are actively managed. Since the launch of active ETFs in 2008 (see Kula, Raab, and Stahn 2017, p. 13), however, active ETFs have gained limited popularity (see **Exhibit 6**).

Pros and Cons of Market-Cap-Weighted Index Investment Funds

Market-cap-weighted index funds and actively managed funds follow two distinct investment strategies, with each having a unique set of pros and cons. Given that this report focuses on indexing, we provide an overview of the characteristics of market-cap-weighted index funds:⁷

- Diversification:** Many cap-weighted indexes are broad-based market indexes used to measure the performance of the market. As a result, index funds are generally highly diversified because of their broad market exposure. Indeed, as noted previously, the conception of index funds was based on maximizing risk-adjusted return by capturing broad market averages, such as the S&P 500.

Exhibit 6. Percentage of Global ETF TNA in Passive Equity and Bond ETFs, 2013–2023



Source: LSEG Lipper.

⁷Taxation treatment may also differ depending on local jurisdiction and the type of investment account in which the fund is held.

- *Low cost:* Cap-weighted index funds incur lower costs than actively managed funds because they are automatically rebalanced as underlying security prices change, and security selection is determined by the constituents of the index as opposed to fundamental research. Thus, most index funds charge very minimal expense ratios.
- *Transparency:* Cap-weighted index funds are designed to track market averages using set rules, resulting in a “relative predictability” in these index products. Investors know what to expect from their own portfolio given the performance of the market and can easily track deviation from the benchmark.⁸

Although diversification is beneficial, concentration risk is a concern in many cap-weighted index funds. Simonian (2023) identifies concentration risk in the fact that a handful of large companies make up a significant portion of some indexes (e.g., the current “magnificent seven” in the US stock market at the time of writing). If one or two of these companies were to undergo significant price swings, benchmark performance would be similarly impacted. Further, because smaller companies have relatively less concentration in the index, investors may be less exposed to their growth potential (while also having less exposure to the risks of investing in smaller companies).

Bolognesi (2023) highlights a broader concern that investors should consider when relying on cap-weighted indexes: the possibility of generating a bubble. Trends in the investment environment have the potential to drive excessive valuations, as was observed during the dot-com bubble of the late 1990s. The fervor surrounding technology companies at that time caused their prices to skyrocket relative to their intrinsic values and movements in the rest of the market, which drastically increased the weight of those companies in cap-weighted indexes.

More generally, because cap-weighted indexing incorporates momentum—buying more of the constituents that have risen in value and selling constituents that have fallen in value to maintain market-cap weights—indexing may create the potential for market inefficiency.⁹ Further, market efficiency itself depends on fundamental research and the incorporation of new information into security prices—a role fulfilled only by active management.

Finally, even in a maximally rules-based environment where an index fund tracks a benchmark according to market capitalization, the process of creating and maintaining the benchmark still requires human judgment, as described in Exhibit 2. Index providers must first identify what the index is meant to represent. Then they must gather data, organize it, and select criteria for determining which securities should be included in the index to achieve proper representation. These selection rules are regularly modified at the discretion

⁸See Rekenhaller (2015) for more on relative predictability.

⁹For more on the relationship between cap-weighted portfolios and price inefficiency, see Hsu (2006).

of the index providers.¹⁰ Index providers must also establish rules for updating the index, including balancing index accuracy against other goals such as tradability and consistency (Rauterberg and Verstein 2013, pp. 19–21).

Because a company's inclusion in an index is directly related to that company's ability to raise capital, companies may be incentivized to engage in manipulative actions (Gellasch and Vinelli 2022). Such actions may include exploiting the subjective elements of index rule making just discussed. For example, Li, Xin, and Wei (2021) show that firms tend to purchase more ratings from Standard and Poor's when there are S&P 500 Index membership openings, and Hong, Hwang, and Lee (2021) find evidence that firms strategically reduce leverage to temporarily improve financial health before index revisions. Thus, although cap-weighted indexing strategies are the traditional form of passive investing, they should not be misinterpreted as being free from subjective measures and human intervention.

Still, market-cap-weighted indexes remain the theoretical backbone of index investing. The initial debate in the 1960s and 1970s posed the question of whether fund managers could outperform the market. Index investing arose as investors shifted their preferences—supported by the prevailing academic thought—toward achieving broad market exposure and away from active management. But implicit in that shift was the idea that tracking the performance of the entire market is the optimal strategy not just for a minority of investors but for the majority.¹¹

This belief is the reason Bogle and others wanted to make indexing accessible to the masses and, in doing so, democratize investing. If large numbers of investors operate under the same (or a very similar) optimal strategy, however, there would be little opportunity for personalization. Absent tailored product offerings, investors would have no room to invest in causes they care about or to divest from those they object to. They would be unable to incorporate specialized knowledge or analyses or to adhere to strategies tailored to unique situations or individual risk profiles. In recent years, however, investors have begun to increasingly value personalization in the investment process, leading them to seek products and strategies that align with these goals. We consider these investment products and their implications for the industry in subsequent sections.

¹⁰The S&P 500, for example, uses predetermined profitability and domicile requirements, but these can be waived on a case-by-case basis for important or popular firms (Rauterberg and Verstein 2013, p. 19). Indeed, Li, Xin, and Wei (2021) found that 37% of the S&P 500 Index membership and 97% of index additions involved discretionary considerations beyond the published index criteria.

¹¹At the same time, Bogle noted at the 2017 Berkshire Hathaway annual meeting that if everyone indexed, it would result in chaos and catastrophe because there would be no trading, but he also noted that the chance of this situation occurring is zero. In addition, he said indexing could easily account for 50% of the market in the future (Udland 2017).

Alternative Index Creation

Alternative indexing strategies modify the security selection or weighting strategy of a standard index—or both (Amenc, Goltz, and Lodh 2012). This means that some alternative indexes remain market-cap-weighted and only the selection of stocks is changed. For example, the Russell 1000 Defensive Index is limited to the large-cap defensive segment of US equities in the Russell 1000 Index, and the FTSE Developed High Dividend Yield Index includes stocks with higher-than-average dividend yields in developed markets based on the FTSE Developed Index. An increasing number of indexes, however, implement weighting strategies that differ from traditional market-cap-weighted indexes. Fundamentally weighted indexes aim to capture the value of a stock based on company fundamentals, for example. Equally weighted indexes give the same weight to each of their constituents and, as such, capture the equal-weighted average return of all assets rather than the asset-weighted average return. This weighting scheme aims to create an intrinsic “buy low, sell high” dynamic in portfolio rebalancing (as opposed to market-cap weighting, which works conversely). Minimum-volatility-weighted indexes weight constituents to achieve lower portfolio volatility. Efficiency-weighted indexes weight constituents according to their impact on portfolio risk and reward, thus aiming to improve the portfolio’s Sharpe ratio. These are just some of the diverse and versatile weighting strategies that have been developed to achieve various goals.

To summarize, common alternative indexing strategies include the following:

- *Fundamentally weighted:* Weights constituents according to company fundamentals, such as revenue, operating income, book value, and dividends
- *Equally weighted:* Assigns a weight of $1/N$ to each constituent
- *Minimum-volatility weighted:* Weights constituents according to volatilities and correlations to minimize portfolio volatility
- *Efficiently weighted:* Weights constituents according to impact on portfolio risk and reward to maximize the Sharpe ratio
- *Factor weighted:*¹² Weights constituents according to one or more factors capturing risk premia (see **Exhibit 7**)

These weighting strategies may also be combined to mitigate the risks associated with any one strategy. Despite a lack of consensus as to which strategy is optimal across a variety of conditions, alternative indexes grew in popularity as relevant academic literature challenged the overall superiority of market-cap-weighted indexes (see Monga, Aggrawal, and Singh 2022).

¹²Factors can guide both stock selection and weighting strategies, and although many different factors have been developed, six traditional factors guide a significant portion of investment strategies. More information about factors is provided in the following section.

Exhibit 7. Common Factors in Academic Research

Systematic Factor	What It Captures	Measured by:
Size (small cap)	Small-cap premium relative to large-cap firms (defined as the return differential between small-cap stocks and large-cap stocks)	Market capitalization
Value	Excess return of undervalued stocks relative to overvalued stocks (traditionally measured as the return differential between stocks with high book-to-price ratios and stocks with low book-to-price ratios)	Book-to-price ratio, earnings-to-price ratio, cash flow yield, earnings yield, dividend yield, net assets, predicted earnings yield
Momentum	Excess returns of stocks with superior historical returns (defined as the return differential between high-performing stocks and low-performing stocks over a given period)	1-month reversals, (3-, 6-, or 12-month) relative returns, relative strength index, moving average convergence difference, average directional index
Quality	Excess returns of stocks with superior financial performance, strong fundamentals, and stable cash flows	Return on equity, investment, accruals ratio, financial leverage
Dividend yield	Excess returns of stocks with higher dividend yields	Dividend yield
Low volatility	Excess returns of stocks with lower return volatility, attempting to capture higher risk-adjusted returns	Price volatility, systematic risk, idiosyncratic risk

The advantages of alternative indexes highlighted by academic research, combined with increasing consumer demand for personalized investment products, continue to fuel the creation of specialized indexes. According to Business Wire (2018), there were approximately 3.3 million indexes globally as of June 2017, and more than 95% of them were equity indexes. Similarly, Authers (2018) found that as of 2017, the number of stock market indexes worldwide was more than 70 times that of traded stocks, with only 43,192 public companies at that time. The overall number of indexes continues to increase, as indicated by a 4.4% growth in the number of indexes in 2022, and the number of both ESG and fixed-income indexes has increased significantly relative to equity indexes since 2022 (Index Industry Association 2022).

The wide array of available indexes indicates that varying methodologies are used in index creation. Robertson (2019, p. 28) analyzed 897 indexes in the US market and found enormous heterogeneity in methodologies between indexes, including those aimed at capturing the same fundamentals. This finding again points to the subjectivity of index creation, whereby indexes claiming to track the same features might differ significantly depending on the methodologies selected at the discretion of the index provider. As the number of indexes continues to grow, it is important for the end investor to be aware of the specific methodologies used by index providers.

Ultimately, the proliferation of customized indexes that differ from traditional market-cap-weighted indexes raises the question of what constitutes active management. On the one hand, custom indexes are still rules-based and without security selection by a fund manager. On the other hand, the hyperspecificity of these indexes means that instead of selecting the portfolio securities, investment managers can pick and choose which specific indexes to generate and track, essentially replacing active management of stocks with active management of indexes.

3. THE EVOLUTION OF SMART BETA

Financial companies can now create virtually any index and customize it for a specific smart beta ETF to track based on a desired investment style. We will review the factor investing origins of smart beta before considering where these products lie on the active management spectrum.

Factor Investing

Factors refer to specific characteristics relevant in explaining the risks and returns of a group of securities (Bender, Briand, Melas, and Subramanian 2013). Hundreds of factors exist, and six of the most common are value, size, momentum, volatility, dividend yield, and quality (see Exhibit 7).

Becker and Reinganum (2018) provide a comprehensive literature review on the history of factor investing. For the purposes of this report, we provide an overview of the common factors and factor models used by investors and investment professionals. The history and development of these factor models have contributed to the prominence of factor investing in investment management.

The use of factors and factor models is particularly common with equity securities. The first factor was identified along with the development of the CAPM in 1964. The CAPM was the first mainstream model used by investment professionals to explain stock returns and is therefore referred to as a factor model. As previously discussed, the CAPM holds that the only relevant factor in explaining stock returns is the market return factor, known as the equity risk premium (i.e., market return minus the risk-free rate). Further, the CAPM implies that a stock's sensitivity to the market return factor can be measured by beta, which is a measure of market risk. The CAPM eventually led to the development of additional factor models as many scholars and investment professionals sought additional factors that explain asset returns.¹³

Many of these factor models are fundamental multifactor models that use common factors based on company fundamentals, as opposed to macroeconomic factors, to explain stock returns. One such model is the Fama-French (1993) three-factor model. This model expands on the CAPM by concluding that the size and value factors, in addition to the market return factor, can be useful for explaining stock returns. Additionally, Carhart (1997) developed the Carhart four-factor model by adding the momentum factor to the Fama-French three-factor model. In recent years, scholars and investment professionals have developed numerous other factor models that attempt to discover new factors relevant in explaining stock returns.

¹³These include Ross (1976), who challenged the CAPM assumptions and argued for multiple factors in his work on arbitrage pricing theory. He is credited as popularizing the term "factor" (Du and Price 2018).

A key characteristic of factor models is that the beta coefficient on each factor represents the asset's sensitivity to the respective factor. Based on these factor sensitivities, fund managers can alter, or "tilt," their exposure to various factors by overweighting their allocations to desirable factors and underweighting their allocations to undesirable factors, with the goal of improving risk-adjusted returns. These deviations in factor exposure from a traditional cap-weighted benchmark's factor exposure are commonly referred to as *factor tilts*. The use of factors and factor models is prevalent in active management in terms of risk and return attribution, but they are also applied to rules-based indexing strategies that take traditional market-cap weighting and reweight the underlying securities according to the identified factor(s).

Smart Beta ETFs

Towers Watson used the term "smart beta" in 2007 to refer to their fundamental weighting strategy (Kalesnik 2014; Arnott, Leadbetter, and Nguyen 2023), but smart beta ETFs now include products with a wide range of factor exposures beyond fundamental factors and encompass all forms of indexing apart from cap weighting. Kahn (2018, pp. 86–87) notes that "smart beta" often refers to long-only products that rely on third-party indexes, whereas "factor investing" generally describes long-short or long-only products not derived from third-party indexes.¹⁴ Although these definitions are continually evolving, smart beta ETFs can be generally thought of as index-based products built with factor tilts, whereas factor investing can also include portfolios actively constructed to capture particular factors (see Rabener 2019).

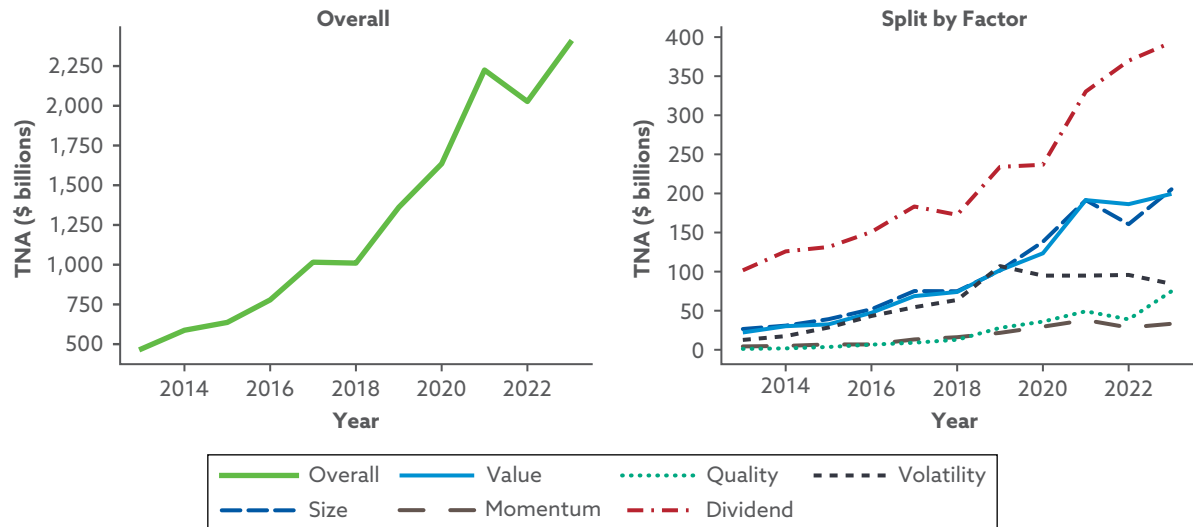
Given the relative ease of obtaining factor exposure through smart beta ETFs, the popularity of these products has risen during the last decade. **Exhibit 8** shows their growth in popularity as indicated by the increase in TNA for smart beta ETFs from 2013 through 2023. The left-hand panel shows TNA for all smart beta ETFs globally, and the right-hand panel shows the split in TNA among smart beta ETFs that provide exposure to various factors.¹⁵

Because smart beta ETFs enable investors to increase or decrease factor exposure relatively easily, they provide investors with a greater degree of customization. This can be especially beneficial when viewed in the context of a portfolio because investors may desire exposure to specific factors while maintaining a well-diversified portfolio. Thus, investors may use smart beta ETFs alongside other products and strategies in their portfolio to increase factor exposure and enhance overall portfolio diversification.

¹⁴The evolution of the terminology in recent years can include smart beta products developed by ETF providers who also produce their own indexes (Johnson, Bioy, and Boyadzhiev 2016, p. 36).

¹⁵The factors in the right-hand panel of Exhibit 8 are not exhaustive. We selected these factors to show the TNA for smart beta ETFs that track some of the more commonly used factors.

Exhibit 8. Global TNA for Smart Beta ETFs, 2013–2023



Note: Global smart beta ETFs include the universe of smart beta ETFs contained in the Lipper database.

Source: LSEG Lipper.

Like index funds, smart beta ETFs are rules-based and transparent (Kahn 2018, p. 86). Numerous active decisions are involved in the management of smart beta ETFs, however, such as identifying and defining factors, defining selection and weighting methods, and establishing rebalancing rules (Jacobs and Levy 2014). Even the decision to not hold the market portfolio is itself an active decision, as noted by Jacobs and Levy (2014, p. 1).

We can also understand the active and passive components of smart beta ETFs in terms of the role they play in generating return. The overall return of an investment can be viewed as having two primary constituents: the benchmark return and the active return (defined as portfolio return minus benchmark return). We can further decompose active return into the portion attributable to static exposure to smart beta factors (static smart beta returns) and the portion attributable to pure alpha returns, following Kahn (2018, p. 88):

$$\text{Active return} = \text{Static smart beta return} + \text{Pure alpha return.}$$

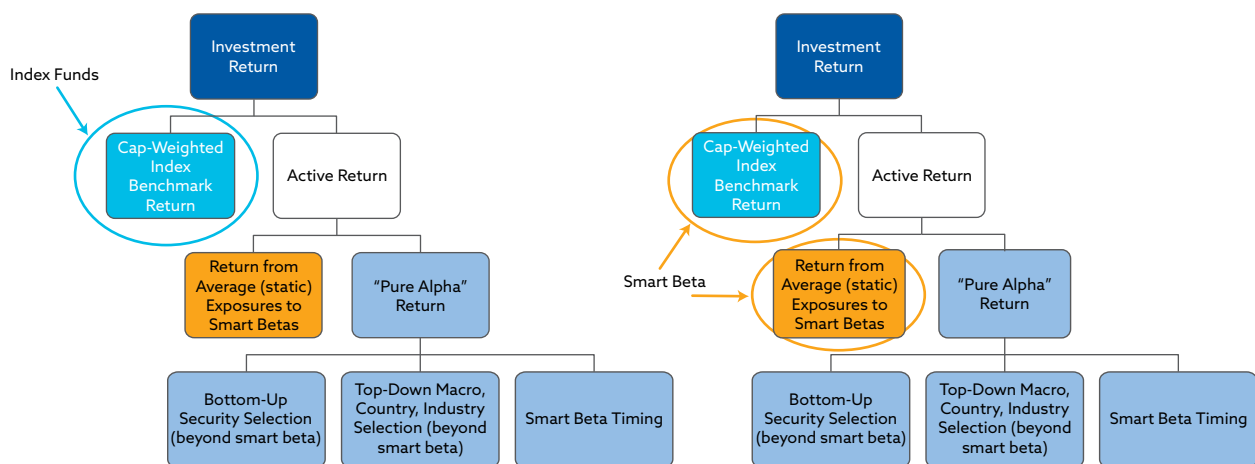
Smart beta returns include static exposure to such factors as size, value, and momentum for equities and static exposure to the credit quality factor for bonds (Kahn 2018, p. 89). Generating pure alpha returns, however, requires more skill on the part of the active fund manager and stems from a fund manager's decisions regarding asset allocation and security selection.

Fund managers can generate pure alpha returns either by conducting extensive research and analysis with the goal of identifying asset classes that are expected to outperform other asset classes or by identifying securities that are relatively under- or overvalued. The fund manager then translates these expectations into so-called active weights by underweighting (overweighting) relatively less (more) attractive asset classes and securities in the fund. This process results in portfolio weights that differ from the respective weights in the fund's benchmark.

Generating pure alpha, of course, depends on the degree of market efficiency. If markets are fully efficient and security prices accurately incorporate all available information, such that prices reflect intrinsic values, then no opportunities should exist for active fund managers to capitalize on mispricing. If markets are weakly efficient or inefficient, however, then there is a greater possibility of mispricing among securities and thus more opportunities for active fund managers to exploit.

The breakdown of returns illustrated in **Exhibit 9** highlights that smart beta products incorporate both the benchmark return and a portion of the active return, resulting in these products offering returns identified as somewhere between those of fully passive and fully active products. Exhibit 9 further emphasizes that smart beta products contain added layers of active decision making that are not present in traditional market-cap-weighted products. Correspondingly, the fees charged by smart beta ETFs are below those of actively managed funds but typically higher than traditional index funds.

Exhibit 9. Breakdown of Investment Return by Index and Smart Beta Constituents



Source: Kahn (2018, p. 90).

Pros and Cons of Smart Beta ETFs

Because of the proliferation of factors in recent years, smart beta ETFs can incorporate an enormous selection of factors into their security selection and weighting strategies.¹⁶ Therefore, investors have easy access to a wide range of index-based strategies serving to increase exposure to specific factors relative to passive elements in the portfolio while minimizing costs relative to active elements.

Smart beta ETFs generally require high turnover (i.e., frequent rebalancing) relative to traditional ETFs for the fund to maintain target factor exposures and thus meet its investment objective, increasing replication costs, which can affect overall fund performance (Johnson, Bioy, and Boyadzhiev 2016, p. 37). Investors should thus be cautious and decide whether factor exposures through smart beta ETFs are worth the heightened costs relative to cap-weighted funds. At the same time, investors should consider how much factor exposure they need to generate desired returns, because products beyond smart beta ETFs might be more suitable based on investor preferences (see Rabener 2019).

Because the intent of smart beta ETFs is to generate returns through exposure to a single factor or group of factors, these products tend to be less diversified on their own.¹⁷ This factor concentration, however, can be used as part of an overarching strategy to balance risk and diversification, as noted earlier.¹⁸

Smart beta ETFs are also subject to many of the same issues as cap-weighted ETFs, including the decision-making risks in the initial index formation process discussed earlier. Moreover, because of the proliferation of factors—often described as a “factor zoo”¹⁹—a concern is that there are too many new factors claiming to be return-generating and uncorrelated and also claiming to have high back-tested Sharpe ratios. Indeed, many of the more than 300 factors positively identified in top academic journals were likely significant only by chance (Harvey and Liu 2019; Harvey, Liu, and Zhu 2016). And many of the newest factors contribute very little explanatory power compared with previously identified factors (Feng, Giglio, and Xiu 2020). Smart beta products should therefore be analyzed for the usefulness and parsimony of their factor exposures in the context of the investor’s overall portfolio.

¹⁶According to the LSEG Lipper database, there were 1,503 smart beta ETFs currently available in the market as of 31 March 2024.

¹⁷When it comes to diversification, not all smart beta products are created equal. Levels of diversification are affected by stock selection and weighting methods. Amenc and Goltz (2017) compared heavily concentrated cap-weighted portfolios with diversified equal-weighted portfolios across six factor tilts and two selection methods, broad or narrow. They found little added value from the concentrated portfolios and superior risk-adjusted performance in the diversified portfolios.

¹⁸BlackRock (2015) provides an example in an actively managed large-cap US equity portfolio that is biased toward large-cap, high-quality, and high-value companies and against momentum exposures relative to the MSCI USA Index. A smart beta strategy can be used to balance risks for this specific investor by providing significant momentum exposure and thereby offer greater diversification in the overall portfolio.

¹⁹Professor John Cochrane (2011) described a “zoo of factors” in an American Finance Association presidential address.

Moreover, as particular factors gain attention, so do concerns of overcrowding or the idea that excess returns achieved by a factor strategy may decrease as investors increase their investments into that factor (Jacobs and Levy 2014). A comprehensive review by Amenc, Bruno, and Goltz (2020), however, found insufficient evidence of crowding in historical data. They conclude that “the confusion about factor crowding can have negative consequences for investors, leading them to invest in novel exotic factors which, in the end, are not rewarded and expose them to heightened data-mining risks” (Amenc et al. 2020, p. 3). Amenc et al. instead advise investors to understand the risks of smart beta investments and take appropriate precautions through diversification.

4. DIRECT INDEXING

Direct indexing is becoming a popular alternative to traditional investing strategies. This strategy typically consists of an adviser directly purchasing the underlying securities of a benchmark and holding them in a separately managed account (SMA) with the goal of earning pretax returns commensurate with those of the benchmark (Shalett, Hunt, Edwards, and Cavallo 2021). An adviser then uses an optimization process to form a portfolio for a specific investor based on the investor's circumstances. This portfolio is frequently rebalanced to minimize both tracking error and transaction costs, with the rebalancing transactions tailored to the investor (Shalett et al. 2021).

Because direct indexing involves direct ownership of an index's constituents, investors can track or tilt an index's performance without holding funds or ETFs. In this way, direct indexing is often considered another form of index investing. A key attribute of direct indexing is that it provides advisers with the flexibility to purchase and sell securities as needed to meet the client mandate or to under- or overweight securities or asset classes based on investor preferences, thereby providing investors with a greater degree of customization.

To illustrate the degree of customization inherent in direct indexing strategies, suppose an investor wants to track the S&P 500. Because this index is cap weighted, it has a relatively high concentration in a handful of large companies, as discussed earlier. Suppose this investor works at one of these large companies and receives shares through the company's employee stock ownership plan. Investing in S&P 500 funds would further lead to an overexposure of this company in the investor's portfolio. Implementing a direct indexing strategy, however, would provide the investor with the flexibility to reduce overall portfolio exposure to the company. An adviser could buy and sell securities within an SMA to match the S&P 500 benchmark while intentionally underweighting the investor's company. Doing so would help offset the investor's exposure through the employee stock ownership plan. The adviser would then regularly rebalance the contents of this SMA to minimize tracking error relative to the S&P 500, manage costs, and adapt to any emerging needs of the investor.

Although direct indexing was initially available only to high-net-worth investors, Cerulli Associates (2022) notes that this strategy is expected to become increasingly available to retail investors because of increased capabilities in fractional share trading. This trend is expected to result in greater demand for direct indexing strategies in the coming years. Cerulli Associates (2022) predicts direct indexing assets to grow at a compound annual growth rate of 12.3% and reach \$825 billion by the end of 2026, thus exceeding growth in investment funds and ETFs. This finding is corroborated by the previously referenced "Enhancing Investors' Trust" study (Fender and Munson 2022), in which 78% of the retail investors surveyed across

15 markets desired more personalized products or services to better meet their investment needs. Of the 78%, more than half (52%) preferred strategies such as direct indexing (see Exhibit 4).

Pros and Cons of Direct Indexing

Aside from the ability to increase personalization in the investment process, one major benefit of direct indexing noted by Cerulli Associates (2022) is the opportunity for tax-loss harvesting. This strategy aims to reduce the capital gains tax on a portfolio by realizing losses within a portfolio throughout the year rather than simply at year end. Investors can then use these losses to offset a portion of the capital gains in their portfolio, thereby reducing capital gains taxes. Ideally, the reduction in taxes paid should outweigh the reduction in capital gains. Another common use of direct indexing is for ESG investing (Cerulli Associates 2022; Shalett et al. 2021). The high degree of flexibility that direct indexing offers investors enables them to more easily make investments that align with their personal values and beliefs and to tilt portfolio exposures to reflect ESG preferences.

Although direct indexing has distinct benefits, it also has some limitations and downsides. One potential downside noted by Shalett et al. (2021) is that this strategy may not be ideal when the underlying index constituents have relatively low liquidity. Fixed-income securities, for instance, have lower liquidity than equity securities, which makes full index replication of fixed-income indexes in an SMA difficult and costly (Shalett et al. 2021). Another limitation of direct indexing is that it requires investors to hold numerous securities as opposed to investing directly in funds, which may result in greater complexities in tax preparation and account statements (Shalett et al. 2021), as well as in portfolio monitoring and rebalancing.

Like smart beta products, direct indexing contains characteristics of both active and passive management, which can lead to a lack of clarity and the potential for investors to misunderstand the true investment proposition. The concept of direct indexing consists of buying the underlying securities and holding them at weights comparable to those of a benchmark, akin to traditional passive management; the flexibility to under- or overweight securities and asset classes, however, resembles active management. Rabener (2021) points out that “what is actually being sold [with direct indexing] is pure active management” and argues that direct indexing is no different from active management but with slightly lower fees. Still, others argue that direct indexing embodies many benefits inherent in purely passive products but with greater opportunities for personalization (Hill 2024). The ability to customize through direct indexing ultimately means it may be a purely passive strategy for certain investors but may include additional active decision making for other investors.

Implementation of Artificial Intelligence and Machine Learning in Index Strategies

The CFA Institute study “Future State of the Investment Industry” (Preece et al. 2023) found that the investment industry is becoming increasingly technology driven rather than technology supported, with the potential for artificial intelligence (AI) and machine learning (ML) to be incorporated across every segment of the investment process. Compared with early-stage fintech applications, which mainly supported existing investment techniques, new AI and ML technologies have the power to expand and transform investment practices. Within asset management specifically, AI and ML technologies have the potential to increase accuracy in return and risk estimates and generate new weighting strategies and alternative portfolio construction methods (Bartram, Branke, and Motahari 2020).

AI and ML technologies could improve the accuracy and cost-effectiveness of index-based strategies, including smart beta and direct indexing, by leveraging increased computing power to analyze larger and more diverse datasets that can include unstructured data (see Jansen 2020). Deep learning algorithms using artificial neural networks (ANNs) can capture nonlinear relationships between large numbers of assets with the potential to improve index tracking accuracy relative to traditional portfolio optimization methods (Bartram et al. 2020). ANNs are essentially a network of nodes where node weights are continually updated based on training data to produce the desired output. Because ANNs function in this way, they are particularly useful for calculating dynamic asset weighting strategies that closely track a benchmark index (Ouyang, Zhang, and Yan 2019). Additionally, ANNs can minimize tracking error using a limited number of constituent stocks, thereby avoiding the high rebalancing costs associated with buying all underlying securities (Silva and de Almeida Filho 2024; Kwak, Song, and Lee 2021).

Smart beta strategies might further benefit from the identification of new factors using ANNs and least absolute shrinkage and selection operator (LASSO) regressions (Bartram et al. 2020, p. 22). The latter is an ordinary regression model with a penalty term that works to reduce the coefficients of less predictive variables to zero. It is used to select for the smallest number of explanatory variables and increase the accuracy of predictive modeling of high-dimensional data in ML (Bartram et al. 2020; IBM 2024). Current factor modeling techniques can use ML to improve predictions of equity beta (Jourovski, Dubikovskyy, Adell, Ramakrishnan, and Kosowski 2020), company fundamentals (Chen and Zhou 2023), expected returns (Blitz, Hoogteijling, Lohre, and Messow 2023), and other factor-relevant data.

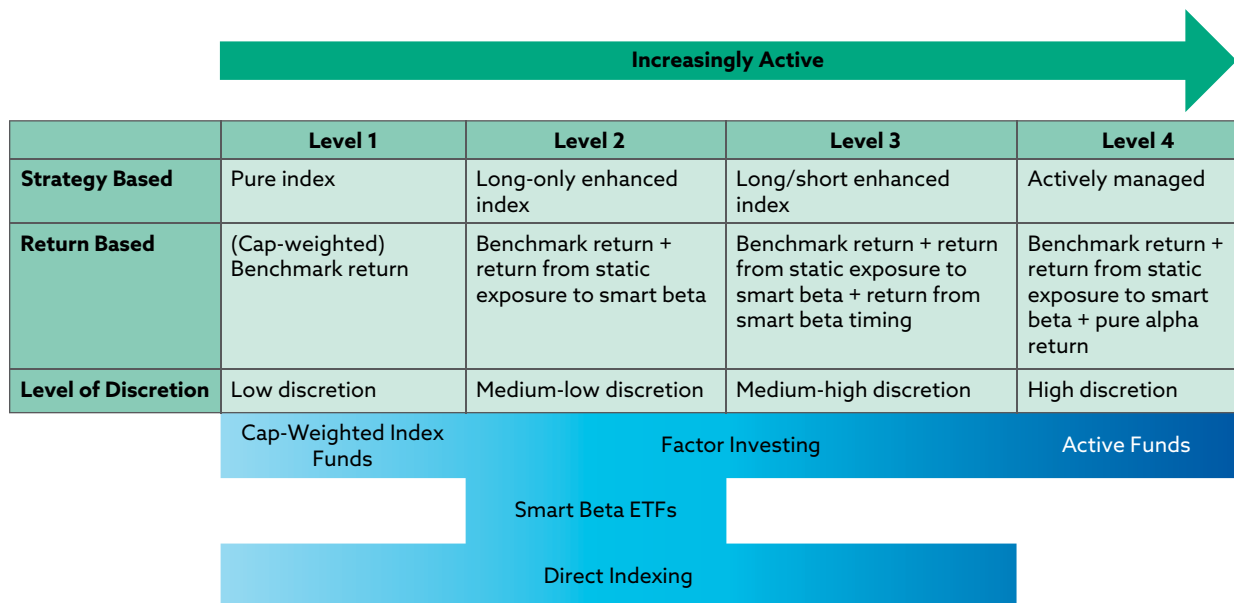
Investment professionals can also implement AI and ML to tailor products to the end investor. The ability of AI to meet prespecified performance targets and generate optimized portfolios customized to diverse constraints has already attracted the attention of asset managers (Bartram et al. 2020). But along with more personalized products and services comes the need for a nuanced and detailed understanding of each client's demands. Intelligent customer service systems driven by AI and ML can collect and analyze data provided by investors across multiple interactions, thus generating investor-specific profiles of risk tolerance, return expectations, and investment interests (Liang 2023, p. 111). These technologies will allow highly personalized strategies that were once available only to high-net-worth investors to become available to a much larger group of investors.

5. CONCEPTUAL FRAMEWORK FOR INDEXING STRATEGIES

As noted previously, products and strategies that embody characteristics of both cap-weighted indexing and active management create ambiguity for investors regarding the fit of these products with their investment objectives and portfolio preferences. Clear disclosures and communication on the part of investment firms, advisers, and distributors are therefore essential to support an effective investment decision-making process. To support the development of product disclosures by manufacturers and investment advisers and to facilitate investor comprehension, we propose a framework for indexing along a spectrum of active management, with the goal of increasing transparency among index-based investment products. Additionally, this framework should facilitate regulatory efforts to establish the use of consistent terminology and clear disclosures in investment product documents. We discuss specific policy recommendations in the subsequent section.

Exhibit 10 illustrates this framework as a continuum based on the three dimensions of strategy, returns, and level of discretion. We determined that investment products can most accurately be classified across four levels, spanning from minimally to maximally active. Level 1, on the far left, represents investment products that contain minimal active decision making by fund managers. Therefore, these products follow a cap-weighted index strategy. Levels 2, 3, and 4 represent investment products that contain added layers of active decision making beyond those involved in traditional cap-weighted indexing. Each subsequent level reflects an increase in the quantity of active

Exhibit 10. Indexing Framework



decisions made by fund managers. More broadly, cap-weighted index strategies (Level 1) can be interpreted as the baseline, and additional active decisions are stacked onto this baseline throughout the development and management of investment products, as captured in Levels 2, 3, and 4. The various levels thus capture the extent of active management in different products.

The strategy-based row in Exhibit 10 classifies products according to strategy, spanning from pure index funds in Column 1 to pure actively managed funds in Column 4. Cremers and Petajisto (2009) developed a measure referred to as “active share” that measures the extent of active management in a fund by comparing a fund’s holdings with those of its benchmark. The metric ranges from 0 for a fund that purely tracks a benchmark to 100 for an active fund that is completely actively managed with no overlap with its benchmark.²⁰

Thus, the farthest extreme on the left consists of funds with an active share of zero, with active share increasing as one moves to the right. Long-only enhanced index funds (Column 2) include funds with holdings that deviate from traditional cap-weighted benchmarks and that take only long positions in securities. These funds typically use the alternative weighting strategies discussed earlier, such as fundamental weighting and equal weighting. Additionally, this category includes funds that use a sampling approach to security selection by purchasing a representative sample of securities held in the benchmark, as opposed to fully replicating the benchmark. This approach enables fund managers to maintain the same risk and return characteristics as the benchmark while avoiding the high transaction costs associated with full replication strategies. Long-short enhanced index funds (Column 3) are like long-only enhanced index funds but differ in their ability to use leverage to take short positions and thus further deviate from traditional cap-weighted benchmarks.

The returns-based row in Exhibit 10 classifies products according to the sources of return they offer. For this classification, we use the terminology presented by Kahn (2018). This row spans from products that offer only the cap-weighted benchmark return (i.e., beta or systematic market risk exposure), in Column 1, to products that offer the benchmark return plus the full active return, in Column 4. Products that strictly offer the cap-weighted benchmark return correspond to pure index funds in the strategy-based row, whereas products that offer the full active return in addition to the benchmark return correspond to actively managed funds.

As noted earlier, active return can be decomposed into the portion of active return attributable to static exposure to smart beta factors and the portion attributable to pure alpha returns (see Exhibit 9). We show this breakdown in Column 4 of Exhibit 10. Column 2 consists of funds that offer the cap-weighted benchmark return plus the portion of active return attributable

²⁰Although not common, active share may occasionally exceed 100 if a fund has completely different holdings than its benchmark and substantial short positions.

to static factor exposure, which corresponds to long-only enhanced index funds. In other words, these funds maintain relatively constant factor exposures by employing alternative weighting strategies using long-only positions. Like Column 2, Column 3 consists of funds that offer the benchmark return plus the portion of the active return attributable to static factor exposure, but these funds also offer returns from smart beta timing, or nonstatic exposure to smart beta factors. These funds correspond to long-short enhanced index funds because of the added layer of smart beta timing. Asness (2016) defines smart beta timing as owning more of a factor when its expected return is higher than usual and less when its expected return is lower than usual. This approach can even include shorting a factor if its expected return is negative.

Finally, the level of discretion row in Exhibit 10 considers the amount of discretion exercised by fund managers when building and managing a fund and spans from low discretion in Column 1 to high discretion in Column 4. Because pure index funds are highly rules-based, fund managers exercise little discretion when managing these funds. Conversely, actively managed funds are not rules-based and thus enable fund managers to exercise high discretion. Fund managers exercise only moderate discretion, however, when managing long-only and long-short enhanced index funds, as shown in Columns 2 and 3 of Exhibit 10, respectively.

As noted earlier, allocating assets to even a purely cap-weighted index constitutes an active decision. Roll (1977) makes this observation in his critique of the CAPM, concluding that it is essentially impossible for a fund manager to allocate capital across all investible assets (including commodities and real estate) worldwide. Although neither feasible nor realistic, the only way a fund manager can truly manage a completely passive fund (i.e., with no active decisions) is to allocate capital across all investible assets worldwide. This product would then, in theory, be the only fund on the farthest point on the left side of the spectrum. This product is unrealistic, however, because fund managers must decide which benchmark to track. Thus, for the purposes of our analysis, we consider traditional cap-weighted index funds as the farthest point on the left side of the spectrum to reflect the reality of investment practice.

Smart beta ETFs, as noted previously, contain additional layers of active decision making relative to cap-weighted index funds. They are rules-based but use alternative weighting strategies with the goal of providing factor exposure. Moreover, smart beta ETFs are typically long-only products that rely on third-party indexes. As a result of their use of alternative weighting strategies and long-only approach, these products provide static factor exposure and enable fund managers to exercise slightly higher discretion than they otherwise would for cap-weighted index funds. These characteristics align most closely with those we describe in Column 2 of Exhibit 10, and therefore, we classify smart beta ETFs under Level 2 of the spectrum.

Factor investing strategies that consist of smart beta ETFs align with the characteristics we provide in Column 2. Many factor investing approaches (including the original Fama–French model), however, consist of long–short strategies that provide fund managers with relatively greater flexibility because of their ability to take short positions. As a result, many of these long–short products provide nonstatic factor exposure and offer additional returns from smart beta timing. Additionally, factor investing strategies that consist of long–short products enable fund managers to exercise a greater amount of discretion than they would for long-only smart beta ETFs. Their level of discretion, however, is still not as high as the level of discretion offered to fund managers of fully active funds. Thus, factor investing strategies can most accurately be classified as spanning across Levels 2 and 3 on the spectrum.

Direct indexing is a unique investment strategy that provides each investor with a portfolio of individual securities based on a benchmark but with the possibility to tailor the weights to their preferences and circumstances. Some investors may purchase all the securities of a benchmark at their market-cap weights, whereas others may over-/underweight certain securities. Regardless of the approach, direct indexing consists of direct ownership of an index's constituents. Therefore, investors cannot hold securities that are not included in the index, which prevents this strategy from being classified as a fully actively managed strategy. As a result, direct indexing can span from Levels 1 through 3 on the spectrum, depending on the approach used.

6. POLICY RECOMMENDATIONS

Based on our analysis, we make the following recommendations for policymakers and firms to improve the clarity and comprehension of index-based products for investors.

Recommendations for Policymakers

- **Establish a comprehensive regulatory framework for benchmark indexes where one does not already exist.**

Petry, Fichtner, and Heemskerk (2021) acknowledged the increasing significance of indexes in influencing corporate governance, corporate and political power, and, ultimately, shaping global capital markets. They highlighted that the subjective nature of index creation and maintenance renders indexes vulnerable to manipulation. Index committees wield significant discretion over the methodologies used in index selection, weighting, and rebalancing. These decisions, however, may intentionally or unintentionally benefit a specific index provider, company, or country of interest and thus may be potentially harmful for investors and investment professionals who depend on the accuracy and consistency of the index (Rauterberg and Verstein 2013). The potential for a select group of individuals to influence indexes emphasizes the need for oversight and regulation of indexes to ensure investor protection.

Several benchmark regulations have been enacted globally. In 2013, for example, the International Organization of Securities Commissions (IOSCO) published Principles for Financial Benchmarks to standardize governance and promote the reliability and quality of benchmarks used in financial markets. In subsequent years, the European Securities and Markets Authority implemented benchmarking regulations in the European Union through Regulation (EU) 2016/1011. This Benchmarks Regulation (BMR), which is based on the IOSCO principles, aims at the following:

- (i) Improving the governance and controls over the benchmark process, in particular, to ensure that administrators avoid conflicts of interest, or at least manage them adequately;
- (ii) Improving the quality of input data and methodologies of benchmarks;
- (iii) Ensuring that contributors to benchmarks and the data they provide are subject to adequate controls, in particular to avoid conflicts of interest;
- (iv) Protecting consumers and investors through greater transparency and adequate rights of redress; and
- (v) Ensuring that supervised entities have robust written plans in case of cessation or material changes of benchmarks. (Healthy Markets Association and CFA Institute, 2022, p. 5)

The Financial Conduct Authority in the United Kingdom onshored this EU BMR under its own Benchmarks Regulation. In both cases, the legislation covered the supervision, regulation, and enforcement of rules surrounding benchmark creation and use, thus impacting index providers, data providers, and benchmark users (Financial Conduct Authority 2016).

Comparable regulation is lacking, however, in many markets outside Europe.²¹ Japan, Singapore, and Australia have passed legislation but with regulations applying only to a limited number of local benchmarks (ASIFMA 2019). Likewise, South Korea only recently enacted benchmark regulations (Financial Services Commission 2020), and the Securities and Exchange Board of India (SEBI) approved regulatory frameworks for index providers in November 2023 (Hindu Bureau 2023).

The United States also lacks the robust benchmark governance structure of the European market. In an August 2022 comment letter to the SEC, the Healthy Markets Association and CFA Institute (2022) argued that index providers perform duties consistent with the role of “investment adviser” as currently described in the Investment Advisers Act of 1940. Yet key decision makers for these index-based products are not subject to many of the same regulatory standards as an “investment adviser” or those under fiduciary duty. As such, clarification is needed surrounding the regulatory ambiguities of the duties performed in these roles, and the adoption of additional standards of governance is warranted.

- **Require index providers to make information available to product manufacturers and, ultimately, end investors regarding indexing methodologies, including security selection and screening procedures, weighting, rebalancing strategies, and conflicts of interest.**

Even within existing benchmark regulations, current index fund and benchmarking disclosures may be insufficient to allow for thorough analysis by investors (Robertson 2019). Even indexes claiming to provide exposure to the same factors (value, size, momentum, volatility, dividend yield, and quality) were shown by Robertson (2019) to produce immense heterogeneity in the underlying securities, indicating the importance of understanding the specific index methodology used by index providers when selecting index-based investments.

The significant increase in index-based products in recent years, including smart beta ETFs, has exacerbated these issues. As more of these products are produced, there is rising concern that new factors are rapidly developed with undersupported claims of novelty and superior performance (see discussion

²¹Third-country benchmarks are addressed in the EU BMR and can still be used in European markets with three regulatory routes to access: equivalence, endorsement, and recognition (European Commission 2023).

on the “factor zoo” in Chapter 3). Even when a smart beta product succeeds in capturing its described factor exposure, it may do so in a way that exposes the investor to unforeseen risks based on fund methodologies. For example, Gellasch and Vinelli (2022) describe the iShares Russell 2000 Value ETF as having AMC as its largest holding at the end of October 2021 because of its significant valuation increase following AMC’s meme stock status. Additionally, the index design of different funds can contribute to performance differences or subject investors to unanticipated costs. Ultimately, more information is required from index providers for investors to adequately understand the selection, weighting, and rebalancing rules that go into these financial products, as well as the relevant risks involved.

Comprehension of the underlying characteristics of an index-based fund is particularly relevant to the growing interest in sustainable investment strategies. Greenwashing remains a concern for investors who must contend with often inconsistent and confusing disclosures surrounding ESG investments (Gehrig and Moreno 2023). Index fund names can also be misleading, as observed in certain ESG funds that maintain investments in oil and gas (Gellasch and Vinelli 2022). Ultimately, investors should be informed of the decisions used to construct the underlying fund securities, including active decisions made by the index provider.

- **Policymakers should ensure firms use accurate and adequate descriptions of products with varying levels of active management, including smart beta and direct indexing, in product labels and disclosures. Policymakers can draw on the framework provided in this report to ensure that smart beta and direct indexing products are accurately depicted.**

As trends continue to evolve and new investment products emerge, prior terminology can lose relevance or even contribute to confusion as it becomes outdated. Acknowledgment of the need for enhanced scrutiny by regulators is evident in IOSCO’s “Good Practices Relating to the Implementation of the IOSCO Principles for Exchange Traded Funds: Final Report”:

Regulators are encouraged to consider whether the correct naming or product label is attached to ETFs with more complex investment strategies. For example, where actively managed ETFs are not permitted by local regulations, regulators are encouraged to review the underlying indices of ETFs, particularly those that involve factor investing (i.e., smart-beta indices) and/or systematic investment strategies (e.g., targeted volatility and risk parity) to see if these indices involve significant discretion by index providers. To the extent that the discretion amounts to active management, such ETFs may not be labelled as passive funds and offering them to the public may not be consistent with local regulation. (IOSCO 2023, 43)

Policymakers can also require firms to provide investors with clearer definitions of terms used in practice to describe index-based funds (e.g., “passive funds,” “active funds,” “smart beta,” and “direct indexing,” as well as particular factor definitions) and promote a harmonized and coherent approach to new concepts, products, and strategies. Facilitating uniform labels and descriptions in practice would lead to increased transparency and comprehension of these products for investors. To support these efforts, the framework provided in this report can serve as a foundation on which to build a cohesive and consistent understanding of index-based products.

Recommendations for Firms

- **Educate and inform investors of the active decisions made throughout the investment process for index-based investments. Doing so includes communicating about the decision-making processes involved in index fund creation, including detailing the security selection and weighting methodologies used in creating the investment product or strategy.**
- **Investment firms (product manufacturers, advisers, and distributors) should provide access to this information to prospective clients as part of the presale product literature, alongside other marketing materials.**

Although all index-based products consist of active decisions made by index providers, the added layers of decision making in products such as smart beta ETFs and direct indexing (see Exhibit 1 and Exhibit 2) require even more transparency for the end investor. Because these products are described as tracking an established index yet vary in weighting strategies, selection methodologies, and rebalancing criteria, important choices within the investment process may be overlooked or unclear to the investor. As Amenc et al. (2012, p. 88) point out, “Commercially available [advanced beta] strategies are bundles of various methodological choices, and performance and risk analyses of such prepackaged indices do not provide for a clear understanding of how the different parts of the methodology influence the overall investment outcome.”

Investors are generally provided with only the name of a benchmark index and the performance of a fund relative to its benchmark, with little or no information about methodologies used in creating the index or in its maintenance (Robertson 2019). Many of the active decisions made by index providers (e.g., weighting methodologies and the inclusion or exclusion of securities) are not sufficiently disclosed to the end investor, whether through presale product literature or shareholder reports. Robertson (2019, p. 48) describes

such minimal disclosures as ultimately meaningless given the heterogeneity of indexing methodologies that claim to capture similar features.

Whereas an active mutual fund cannot stray from the fundamental policies stated in its registration statement (aside from a shareholder vote), an index can change its methodologies with no restrictions (Robertson 2019, p. 51). This situation results in a flow-through effect, as the index provider's decisions impact the investor's portfolio (Robertson 2019, p. 49). Consequently, index-based investments may face unique risks. Increased communication of the active decisions that take place throughout the entire investment decision-making process, including those made by both fund managers and index providers, will enable investors to better understand the risks inherent in index investing.

7. CONCLUSION

Index-based investment products and strategies that feature varying levels of active management are gaining popularity and transforming the investment industry. These trends are largely driven by technological advancements promoting rules-based investment strategies and by increasing desire among investors for personalization in the investment process. The desire for personalization among investors has led to an increase in demand for investment products and strategies that reflect investor values and meet consumer needs, such as ESG investing and direct indexing. This growing demand for personalization in the investment process will likely result in the formation of additional specialized thematic indexes and other alternatively weighted indexes. Without knowing exactly how this trend toward increased personalization will unfold, we can safely assume that investors will continue to seek ways of capturing the combined benefits of both active and passive management.

New index-based products, such as smart beta ETFs and direct indexing, incorporate active decision making in the form of alternative weighting or selection criteria that deviate from traditional benchmarking. Therefore, smart beta and direct indexing both have the capacity to generate excess returns beyond a cap-weighted benchmark. Put simply, investors maintain the benefits of traditional passive management and can systematically invest in the market while exploiting opportunities to beat it. Additionally, these products enable investors to pursue personal investment styles or values.

The growing number of index-based products that feature aspects of active management warrant a nuanced framework that captures the diversity of strategies across the spectrum of active management, which we provide in this report. Additionally, we offer policy recommendations that will further increase transparency among index-based products that embody multifaceted characteristics of active and passive management. These recommendations serve to clarify terminology related to smart beta ETFs and direct indexing and promote more detailed disclosure from firms and index providers regarding index methodologies. Ultimately, we aim to foster a deeper understanding of new and emerging index-based products among investors, investment professionals, and policymakers.

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