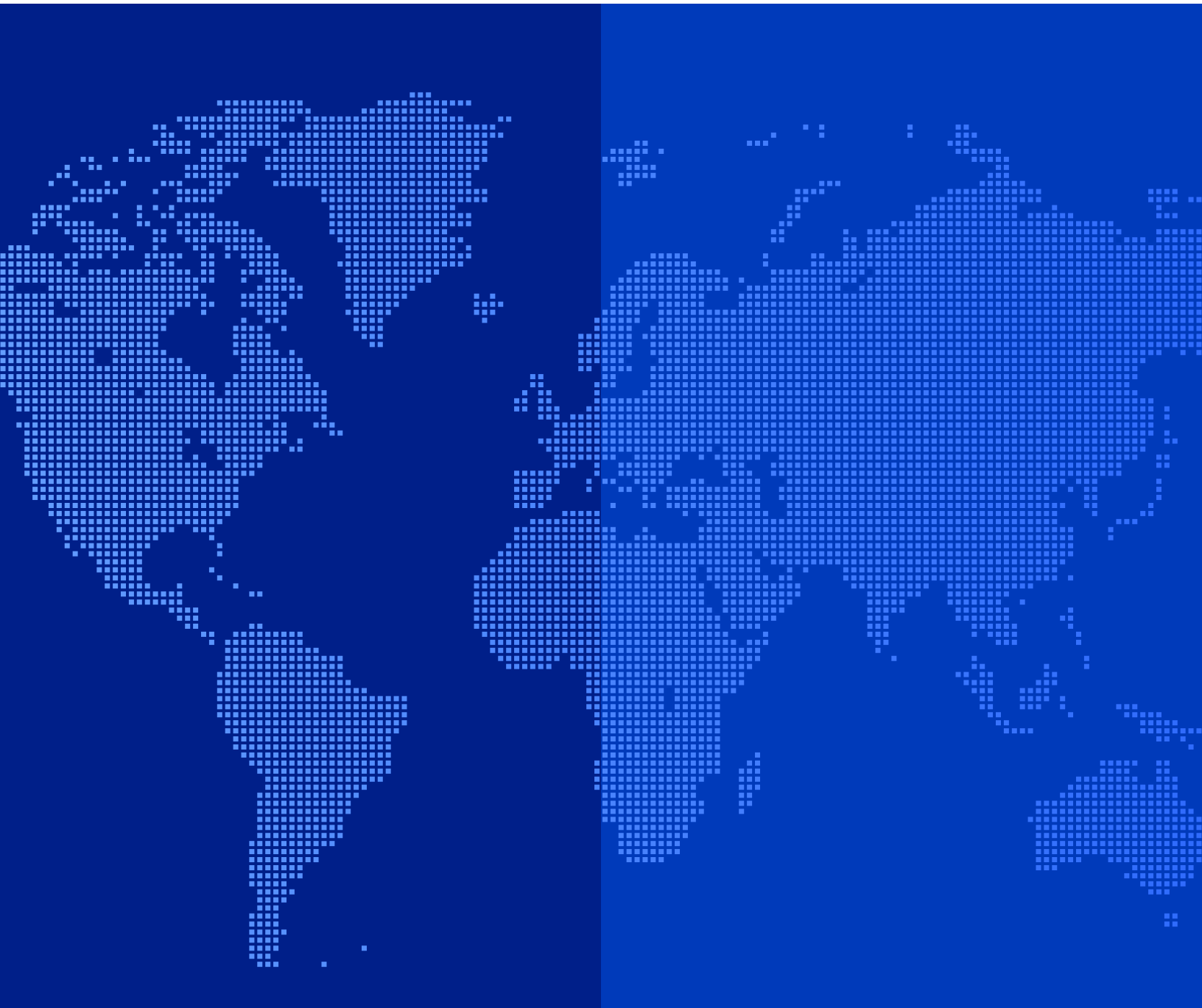
Broadridge®

Tracking Error is a feature, not a bug

Decoding active ETFs across continents



Active management continues to have a renaissance with investors thanks to growth in active ETFs. Globally, active ETFs with net assets approaching US $1.8T at the end of 2025, have grown rapidly with more than 50% annual asset growth in the last two consecutive years in 2024 and 2025.

Product teams at fund companies continue to develop new active ETFs that they feel deliver meaningful results for a wide range of investors with different goals and risk tolerances. An open and honest dialogue about what constitutes an active funds strategy, commensurate pricing, and how to benchmark and differentiate the products against competitors is becoming a key priority when launching a new ETF.

The investment management spectrum

Until recently, the definition of active management was not a topic widely debated. Within the US market specifically, the proliferation of smart beta ETFs, and more recently active ETFs, has focused attention on a wide range of fund management styles across the passive-to-active spectrum. Historically, a standard philosophy for active managers has been to use data and analysis of individual companies and sectors to inform investment decision making. While approaches may vary (top-down versus bottom-up) many investment decisions have been based on this fundamental research. Portfolio management teams have had less focus on rules-based active strategies, though these systematic strategies have been successful. How active management is defined and implemented is now an area of focus, primarily driven by active ETFs; many of these, whilst still considered active, utilize a more systematic approach to securities selection than in the traditional, fundamental active space.

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Tracking Error measures how closely a portfolio's returns mirror its benchmark index, essentially quantifying the deviation (sometimes referred to as "active risk") from its target. It is calculated as the standard deviation of the difference between the monthly portfolio and index returns, with lower numbers indicating better tracking (like an index fund) and higher numbers showing more divergence (common in active management).

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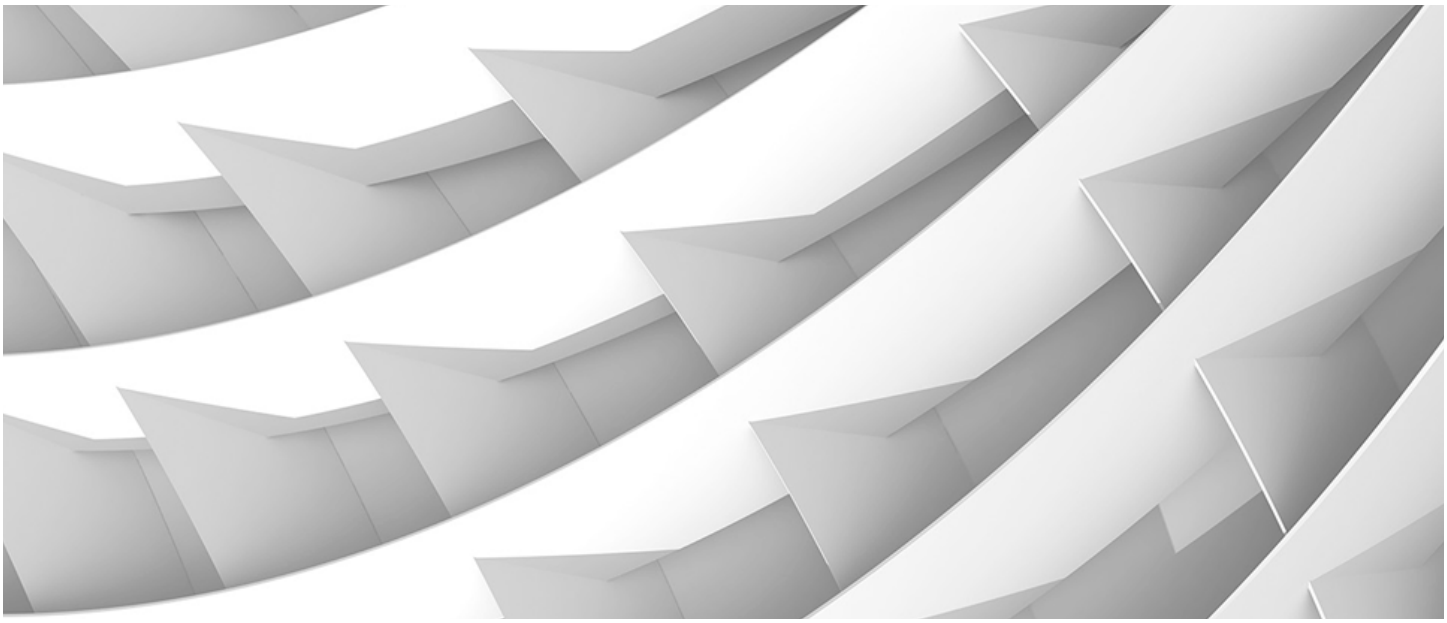

At Broadridge, our ETF research indicates that utilizing Tracking Error is a critical tool to identifying the level of "active-ness" across a particular ETF investment strategy. Our research also brings in total costs and number of holdings to help identify how active the active strategy is across the spectrum. There are limitations with using Tracking Error to segment funds; the primary limitation is the need for a reasonable history to measure Tracking Error, ideally a year or more. The operating history means segmenting new products is a bit of a guessing game based on prospectus language and what other products from the same manufacturer look like. Much of our thinking as related to degrees of "active-ness" has been influenced by research from Richard Roll[1].

Systematic active management relies heavily on rules, algorithms, and mathematical models to help inform investment decisions and tends to have low Tracking Error relative to benchmarks. Traditional fundamental active management tends to have higher Tracking Error relative to benchmarks and a higher cost to investors than a more systematic approach.

As asset managers consider the development, product strategy, distribution, and governance of new ETFs, a clear articulation of what an ETF is trying to achieve and how the portfolio management team is trying to reach that end goal is a critical step in the execution and success of the product.

Broadridge has researched and segmented ETFs to understand the impacts of investment style. Our efforts are not designed to determine if there is a good, better, or best strategy to use with active investing; rather our goal is to allow product strategy, governance, and distribution teams to best share their processes and benefits of a specific fund with key stakeholders and investors.

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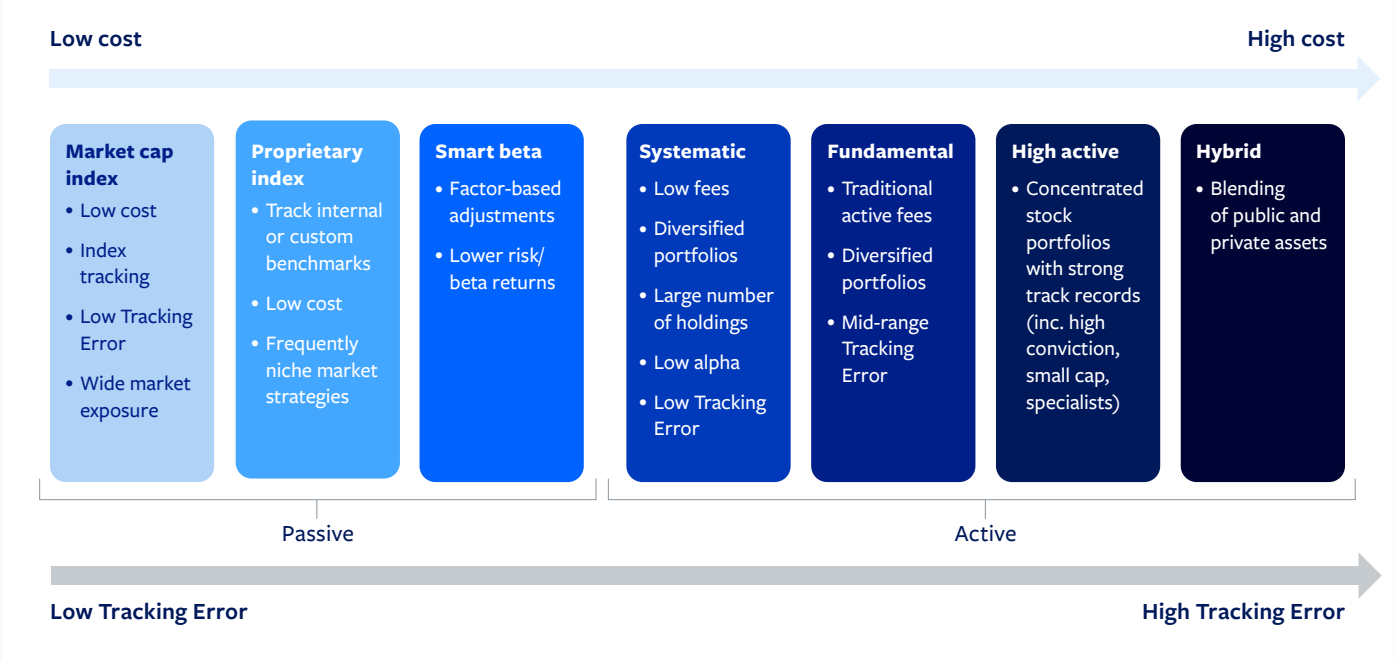
[1] A Mean/Variance Analysis of Tracking Error — Richard Roll

Figure 1 Passive to active segmentation



We have segmented ETFs into two primary investment categories, passive and active. Within each of these major categories there are subsegments that are useful for benchmarking and measuring an ETF's investment management strategy. On the passive side of the investment strategy table, we have:

- **Market cap-weighted** products, which track major indexes, have lower Tracking Error, and are typically lower cost.
- **Proprietary index** products, where the asset manager or a third party creates a unique index which the ETF seeks to replicate. These products typically still have low Tracking Error versus their proprietary index and low cost, though they attempt to differentiate themselves from market cap products.
- **Smart beta** products, these passive products typically implement a set of rules to lower risk or enhance returns versus a benchmark. Smart beta funds will often have higher Tracking Error than market cap-weighted products; however, expenses are usually still very low compared to actively managed funds.

Active management has been segmented into four categories:

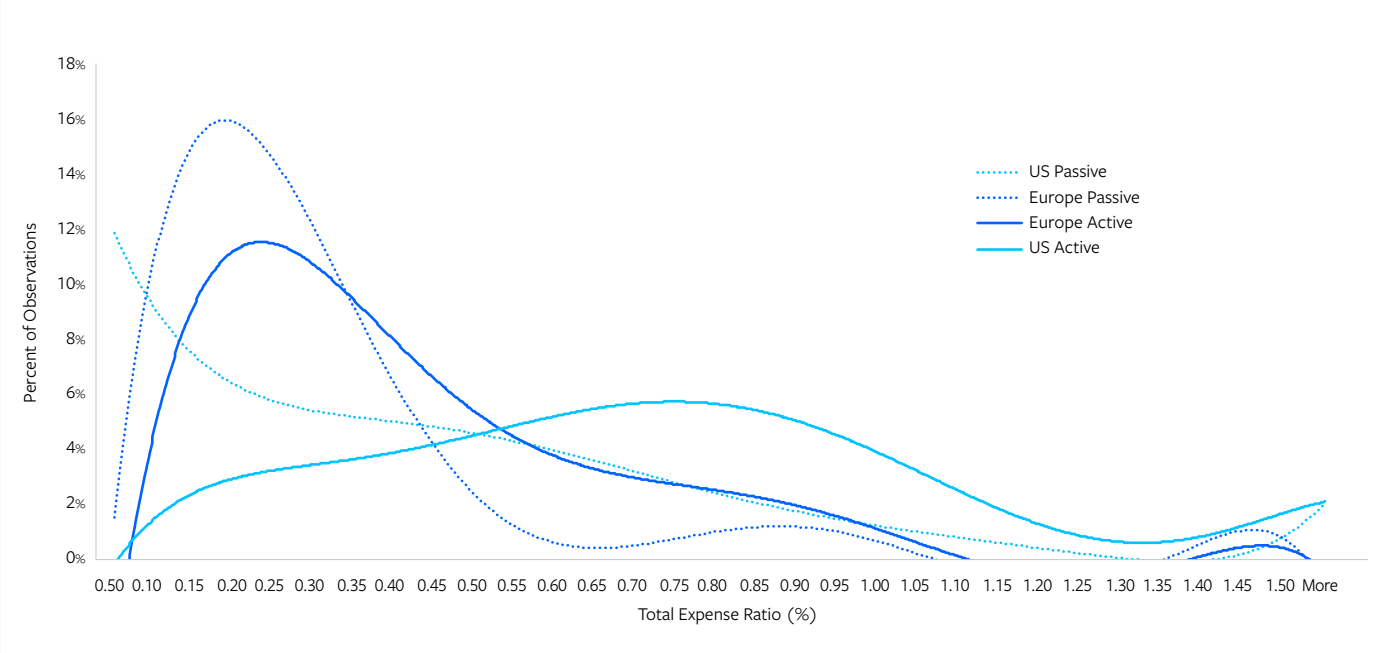
- **Systematic active** funds, which have the lowest active product Tracking Error, though typically a bit higher than smart beta products, and higher relative expenses. Systematic active funds also tend to have a larger number of overall holdings.
- **Fundamental active** products will have higher Tracking Error, in the 5-10% range, and the management fee for these funds will align closely with similar strategies from the mutual fund space. Fundamental active funds will typically have 50-150 holdings on the equity side.
- **High active** funds will have the highest Tracking Error and cost. These products are also striving for high alpha (excess return), and we frequently see them with highly concentrated portfolios and high conviction bets.
- **Hybrid** active management, which includes ETFs with active managers who invest beyond the typical publicly traded securities or notes on the market and are investing in alternative investments such as private credit, private equity, and real assets. These products currently are few and far between, tend to have idiosyncratic Tracking Error to any part of the market, and will generally have a premium price for investors.

Historically the pricing difference between the subsegments of passive products has been very small, therefore asset manager governance and product teams have been able to focus on outcomes. Interestingly, our research has shown that in the proprietary benchmark segment, there is a wider range of outcomes. On average, products that track proprietary benchmarks have higher Tracking Error than products tracking broad-based indexes. This seems to be the result of proprietary indexes being used within niche segments. Even when looking in more traditional investment categories, we see, on average, that funds with proprietary benchmarks have a higher Tracking Error, likely caused by a unique component in the index that is intended to differentiate it from a broad-based benchmark. With the recent proliferation of active ETFs, the differences in cost and Tracking Error, and therefore outcomes for investors, have been significant. Our goal within the rest of this paper is to highlight considerations within the active ETF space.

Location, location, location

ETFs exist within each subsegment of the active world; in both the US and Europe there is a clear difference in market preferences. The US market has a greater number of products utilizing fundamental and high active investment strategies, whereas the European market is more focused on systematic active ETFs. Figure 2 highlights the percentage of ETFs at a given cost. In Europe, active ETFs have the highest percentage of funds with prices between 20 and 40 basis points, whereas in the US, active ETFs see the preponderance of products priced in the 70-90 basis points range. The pricing distribution data within Figure 2 was our initial indicator that there is material difference in how active ETFs are managed and that the difference may be driven by a number of market factors.

Figure 2 Polynomial distribution of active and passive ETF expenses in US and Europe



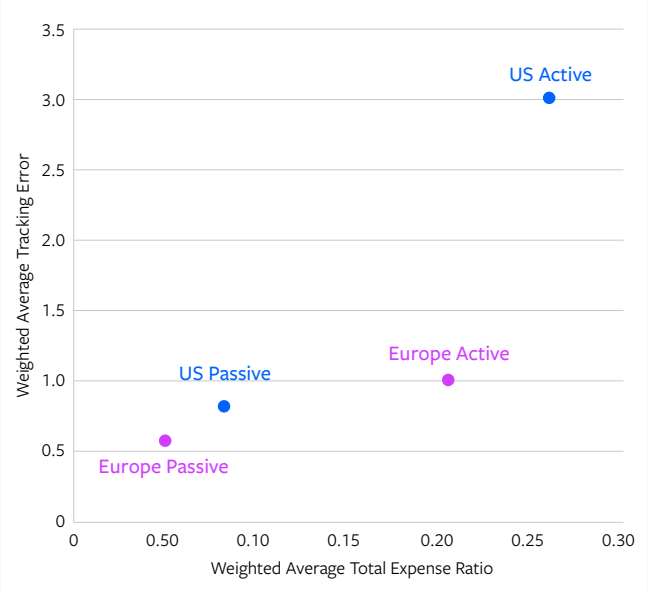
Source: Broadridge Global Pricing Intelligence

Looking at ETFs domiciled in the US and in Ireland or Luxembourg that invest in US large cap blend strategies, we see material differences in pricing and Tracking Error for both active and passive products. Passive products in the US have moved from tracking broad-based indexes to proprietary indexes in an effort to differentiate and attract assets. This results in higher Tracking Error compared to European-domiciled products for the US large cap space that are more focused on the broad-based indexes.

When looking at the active ETFs in the US large blend space (Figure 3), there are significantly greater differences with US-domiciled products having an average Tracking Error 2% greater than those domiciled in Europe. Pricing for the US products, on an asset-weighted average, are seven basis points higher than their European counterparts.

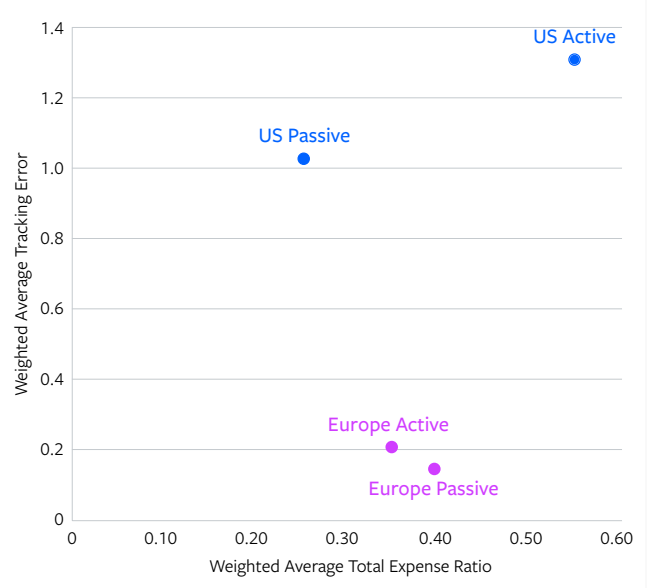
High-yield bond products show similar results to the large cap space (Figure 4). Again, US offerings, both active and passive, have higher Tracking Error and higher costs than their European peers. In Europe, the active/passive roles in this sector are unusual, with active-priced (on a weighted average basis) less than passive. Passive expenses are dominated by local behemoth iShares € High Yield Corp Bd ETF, which is priced at 55 basis points and accounts for 63% of this group's AUM. Given the paucity of choices relative to the US, outcomes within the current set of European ETFs are likely to include anomalies such as this.

Figure 3 Weighted average US and Europe ETFs: US large blend



Sources: Broadridge Global Pricing Intelligence, Morningstar Direct

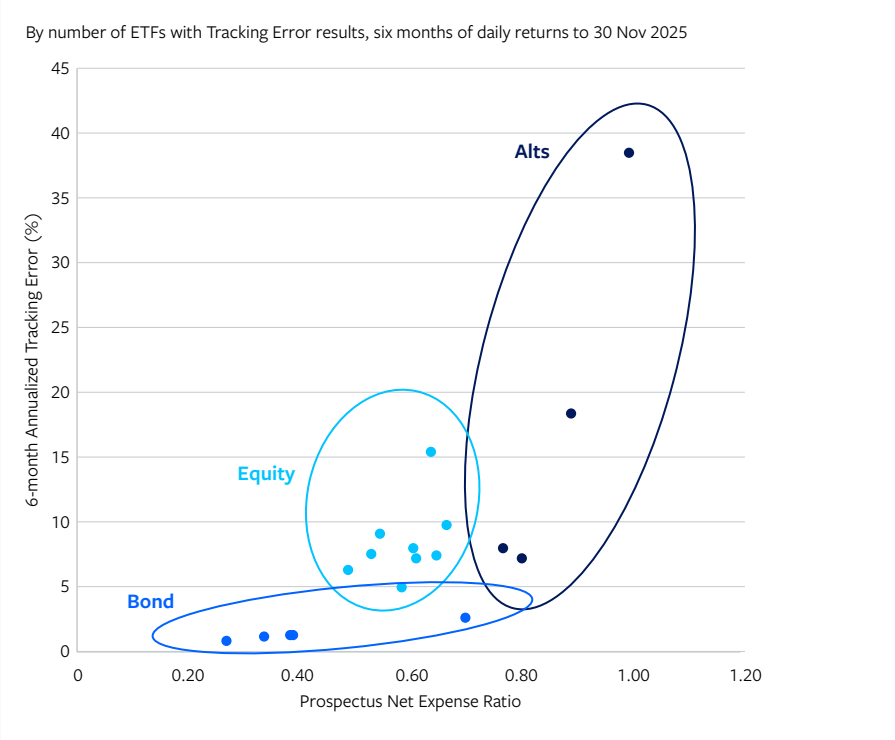
Figure 4 Weighted average US and Europe ETFs: High yield



Sources: Broadridge Global Pricing Intelligence, Morningstar Direct

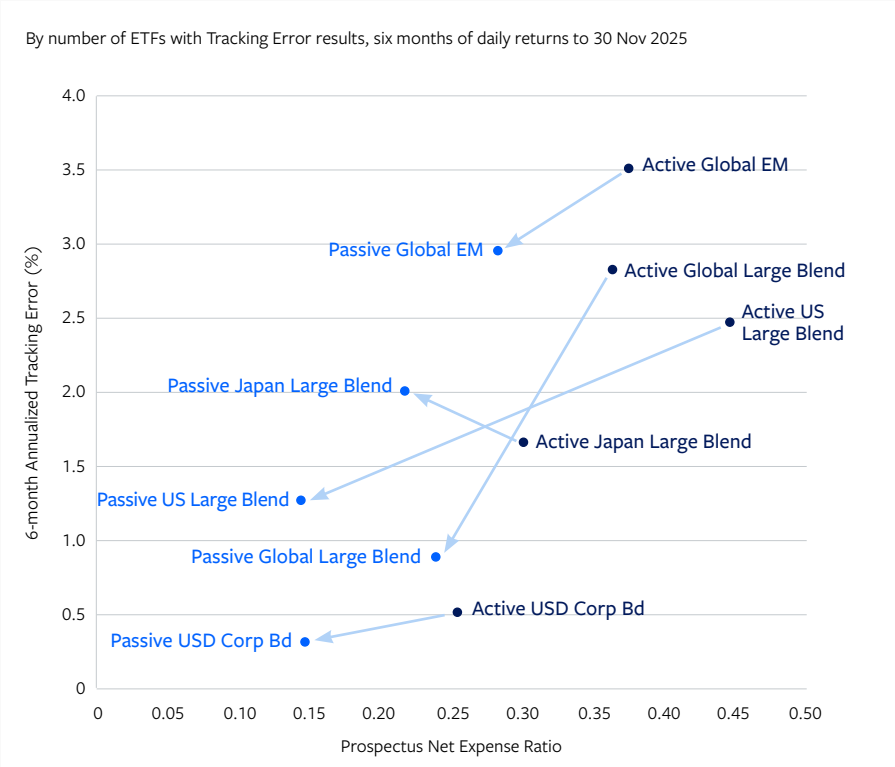
Taking a deeper look into each market, we continue to see interesting results. When reviewing Figures 5 and 6, it is important to notice the scale for both the X and Y axes, as the US scale is significantly greater than that of European products. For the US, the 20 largest Morningstar categories by AUM are shown in Figure 5. There are a large number of equity and alternative strategies ETFs with annualized Tracking Error above 5.0%. As we look at pricing for these products, averages range from 40 to 80 basis points. The European market is shown in Figure 6, where the Tracking Error is lower, ranging from 0.5% to 3.5% for the five largest Morningstar global classifications. Pricing for these active products is also lower than the average pricing in the US, ranging from 25 to 40 basis points.

Figure 5 Top 20 most popular categories for active ETFs



Sources: Broadridge Global Pricing Intelligence, Morningstar Direct

Figure 6 Top 5 most popular categories for active Irish ETFs

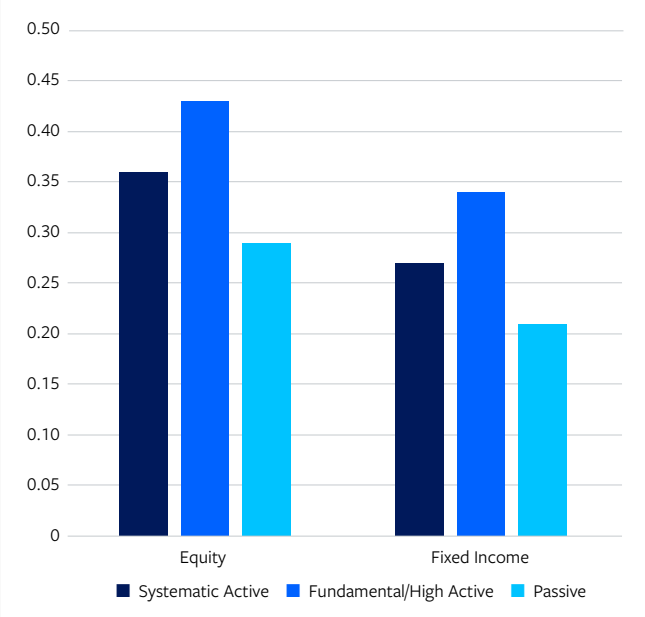


Sources: Broadridge Global Pricing Intelligence and Morningstar Direct

As we consider Tracking Error and pricing between US-domiciled products and those domiciled in Europe, it appears fund companies are making distinctions between the types of products being sold in each market. Equally, asset managers are considering the amount of active management required to run a strategy and are setting prices accordingly. In one case that appears to be an anomaly, Japan large blend, the tracking error of active ETFs is less than that of passive ETFs, largely the result of greater differentiation among passives, such as "low carbon" and "dividends", which presumably require more difficult-to-track benchmarks. In contrast, two of the four active ETFs in this category identify as "research enhanced," which don't often stray far from their broad-based benchmarks.

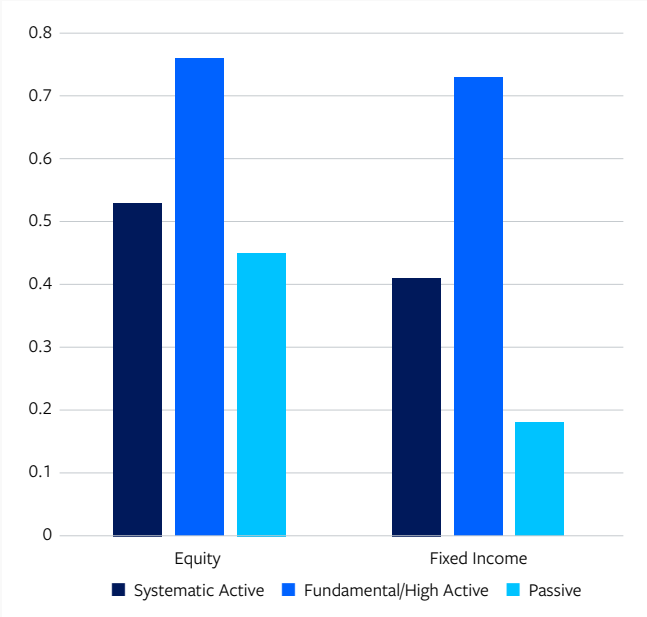
From a governance and regulatory perspective, it is important to delineate what an investor is paying for. In recent conversations Broadridge has had with fund boards in both the US and Europe, we have heard board members utilizing Tracking Error as one criterion for evaluating fund costs. If a fund has lower relative Tracking Error and higher relative fees, board members have indicated they will push back on this pricing strategy. Essentially, boards are saying that if a fund is charging high active fees, there should be demonstrated high active management resulting in higher relative Tracking Error.

Figure 7 Average expense by asset class — European domiciled



Source: Broadridge Global Pricing Intelligence

Figure 8 Average expense by asset class — US domiciled



Source: Broadridge Global Pricing Intelligence

Why does the type of active management matter?

There are two driving factors for product teams to consider when evaluating active ETFs. The first relates to the development of investment strategies that can be deployed across markets. A fundamental or high active ETF strategy that is successful in asset accumulation in the US likely won't have the same success in a European UCITS wrapper. However, it is not clear if this difference is due to structural differences between markets or the types of strategies investors want to invest in.

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In the US, the ETF structure provides tax benefits to investors through in-kind redemptions that help limit, or even eliminate, capital gains for investors. While European ETF managers can use in-kind redemptions, the overall tax benefits are less due to differing regulatory frameworks and tax treaties. In some markets, ETFs may actually be less tax-efficient than mutual funds. Given less intrinsic benefits from a structural perspective, asset managers must instead focus on creating a clear distinction between ETFs and funds to attract investors. Therefore, fund companies with a robust line-up of fundamental strategy mutual funds may lean towards launching systematic equity products to create differentiation rather than responding to strong investor preference for systematic active strategies. While asset managers may want to seek operational efficiencies for running identical strategies in different markets, the market demand may not support this single strategy. Asset managers will likely need to modify portions of a strategy to meet the desires of different markets.

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The second factor is the diverse range and variability of investment strategies within a single Morningstar category. Therefore, the need for understanding the spectrum of active management and the sub-segmentation within local markets is critical. In the US, the Morningstar Derivative Income category is one example where the sub-segmentation of active management is critical. Active ETFs in this category have total expenses ranging from 25 basis points on the low end up to 173 basis points on the high end. The annualized Tracking Error range is even more dramatic, ranging from 1.26% to well above 10% for some of the products seeking to maximize current yield. To appropriately benchmark and distribute an active ETF in the Derivative Income category, a fund company needs to be able to describe what the product is doing, how it is doing it, and what that product should be compared to. Comparing the JP Morgan Equity Premium Income ETF to the YieldMax JPM Option Income Strategy ETF is likely not a reasonable comparison, yet they sit within the same category.

A final area of review was to look at the limited number of semi-transparent and non-transparent ETFs available in the US. The question of transparency seems to have been put to rest in the US with less than 2% of actively managed strategies not disclosing holdings daily, through exemptive relief, as required under rule 6c-11. In Europe, this debate still seems to be open and the potential for more fundamental and high active strategies being launched may rest on the acceptance of limited portfolio transparency. Our analysis in the US shows that semi-/non-transparent ETFs have total costs and Tracking Error in line with the other active ETFs within the same Morningstar categories. Essentially, keeping the IP protected doesn't result in a price premium, nor does it result in idiosyncratic performance.

In the end, we need to start somewhere

Active management continues to have a renaissance with investors, thanks to ETFs. However, across markets and across strategies, there are many examples of what an "active" strategy is. As an industry, we need to clarify what a particular fund's approach to active is. Fund company product teams continue to develop active ETFs that they believe create meaningful results for a wide range of investors with different goals and risk tolerances.

While US products tend to have a higher degree of active management than those in Europe, there is no indication that one flavor of active management is better than another. Broadridge believes the critical issue at hand is being able to tell the story of what your product is and to benchmark fees and performance against the appropriate peers. We believe Tracking Error is a critical tool used to identify how active a particular ETF is. Funds with higher Tracking Error, and therefore a higher degree of active management, will typically have high costs. An open and honest dialogue about the fund's active investment management strategy, pricing, and competition is key prior to launching a new ETF, thus setting everyone up for success in the ever-growing and competitive ETF universe.

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