

Beyond expense ratios: A guide to index fund manager selection

Vanguard Research

June 2021

Martin Kleppe, CFA, Head of Index Strategies Product Management, Vanguard Portfolio Review Department
Anthony Tedesco, Index Strategies Product Manager, Vanguard Portfolio Review Department
Andrey Kotlyarenko, CFA, Index Strategies Product Manager, Vanguard Portfolio Review Department
William Gibbs, Index Strategies Product Manager, Vanguard Portfolio Review Department
Ida Lindhjem Svensen, Product Specialist, Vanguard Portfolio Review Department
Scott Milne, Associate Counsel, Vanguard Office of General Counsel

- Over the last few years, index fund expense ratios have compressed meaningfully across the industry. As a result, fee differences which once had an outsized impact on a fund's relative performance have become a nearly immaterial differentiator.
- In the current environment, investors tasked with selecting prudent investment options must look beyond expense ratios to a broader set of more complex factors in order to objectively evaluate the reasonableness of product fees in the context of services provided.
- This paper provides a framework for evaluating index funds and asset managers by assessing fund expenses as only one component of a broader set of qualitative and quantitative factors including organisational incentives, portfolio management capabilities, securities lending practices, pricing policies and scale.

For professional investors only (as defined under the MiFID II Directive) investing for their own account (including management companies (fund of funds) and professional clients investing on behalf of their discretionary clients). In Switzerland for professional investors only. Not to be distributed to the public.

In recent years, some asset managers have announced ultra-low expense ratio products in an attempt to promote the concept that index funds are a commodity, solely differentiated by price, and that investors are obligated to choose the lowest-cost option in all cases.

Consequently, as index fund expense ratios drift lower, selecting an asset manager adept at providing investors with exposure that closely mirrors the risks and returns of a benchmark index—the primary objective of an index fund—becomes more challenging. Expense ratio differences that have a material impact on a fund’s relative performance at 50, 20 or even 10 basis points verge on irrelevance at one to two basis points. At these

levels, performance—and due diligence—depends on less visible and more complex elements of index fund management.

This paper explores the relevant qualitative and quantitative criteria—organisational incentives, portfolio management capabilities, securities lending practices and a few additional considerations—and identifies questions that investors should consider in addition to expense ratios when selecting an index fund manager. The framework below combines these factors, including expenses, to illustrate the various considerations when selecting an index fund manager and the range of options available.

Figure 1. Expense compression has led investors to evaluate index funds across characteristics beyond cost

Framework	Attributes	Application: All European-domiciled index funds	
		Less preferable	More preferable
Aligned incentives	Ownership structure	For-profit ownership	Mutual ownership
	Expense ratio	High (e.g., 1.0% or 100bps)	Low (e.g., 0.02% or 2bps)
Portfolio management	Excess return ¹	Further from zero (e.g., +/- 0.6% or +/- 60bps)	Closer to zero (e.g., +/- 0.05% or +/- 5bps)
	Tracking error	High (e.g., 1.25% or 125bps)	Low (e.g., 0.05% or 5bps)
Securities lending	Revenue to shareholders	Low (e.g., 35%)	High (e.g., 95%)
	Revenue to fund company	High (e.g., 65%)	Low (e.g., 5%)
	Percent of fund assets on loan	High (e.g., 70%)	Low (e.g., 3%)
Additional considerations	Economies of scale	Small scale (e.g., \$20m)	Large scale (e.g., \$1b)
	Dilution protection (e.g., swing pricing, dilution levy and dual pricing)		

¹ Excess return for an index fund should be assessed in conjunction with the tracking error. Excess return should not come at the cost of a high tracking error.

Aligned incentives

Index fund managers come in all shapes and sizes, and the details are important, as an asset manager's ownership structure and philosophy define the incentives that drive the firm's business strategy. Of course, investors have their own objectives, and thus are likely best suited to partner with a mutually owned asset manager, or similarly structured firm, which serves to prioritise investor interests over those of the firm itself. As demonstrated by the examples below, asset manager incentives should be closely considered during due diligence exercises.

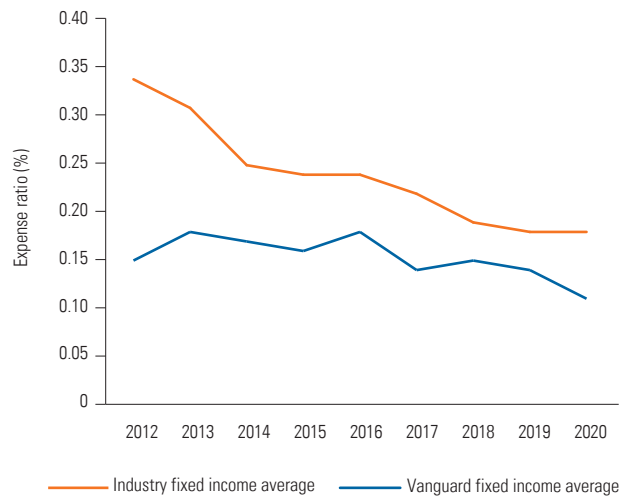
Organisational approach to cost management

The cost—or expense ratio—of an index fund is deducted from the fund's net asset value (NAV) by the asset manager, decreasing the fund's return. As industry average expenses have compressed meaningfully, the investor that selects an index fund solely to save, say, two basis points per year may do so at the expense of an amount that exceeds the savings. Still, investors should seek asset managers that have produced proven histories of disciplined expense management. Understanding a manager's track record aids investors in determining how that manager will treat clients over time, such as the likelihood that costs will remain flat or decrease rather than potentially fluctuate over time when selective price competition is a business strategy rather than a core philosophy.

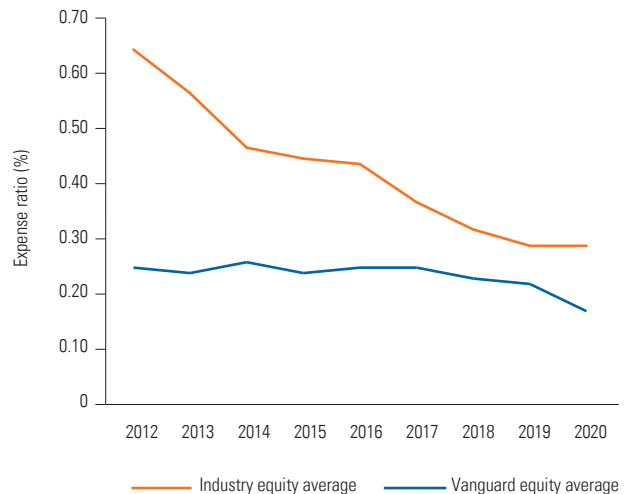
Figure 2. Previously disparate index fund expense ratios have converged across the industry

Historical expense ratios for all European-domiciled fixed income and equity index funds: 2012-2020

Fixed income index products



Equity index products



Source: Morningstar. All Vanguard and European-domiciled equity and fixed income index funds (primary share classes).

Fund policies

Asset managers derive revenue from assets under management; the more assets, the more revenue. Firms incentivised to maximise revenue often have fund policies that are not shareholder-centric. For instance, catering to market-timing investors that move rapidly into and out of funds can drive revenue for a manager, while creating transaction costs, tracking error and capital gains that reduce returns for long-term shareholders. Client-aligned asset managers are averse to accepting such *fast money* despite the potential loss of revenue, opting instead to partner with philosophically aligned, long-term investors in order to give those clients the best chance for investment success.

Portfolio management capabilities

Despite a belief by some that index fund management is straightforward and simple, in reality it is a complex undertaking that requires experience and sophistication. In asset management, performance is the great equaliser, and consistent performance over time is driven by seasoned, talented portfolio management teams, not all of which are created equal. Some are further differentiated by time-tested, risk-controlled processes carefully designed to consistently and tightly track fund benchmarks, avoid market impact costs and offset multiple basis points of expenses through the daily application of value-add strategies. When evaluating the portfolio management capabilities discussed below, fund performance should be viewed through a long-term lens, inclusive of multiple market cycles, each with its own unique challenges – a time horizon appropriate for the typical long-term investor.

Excess return

Excess return and tracking error are two measures that can help investors evaluate index funds, but to use the measures effectively, it is important to first understand what each one represents. The two terms are often used interchangeably; however, they have very different meanings. Excess return, which can be positive or negative, measures the extent to which an index fund has out or under-performed its benchmark index. It is calculated as the fund's total return minus the benchmark's total return. Because a fund's total return reflects a deduction of its expenses, excess return is typically negative for index funds².

However, some index managers seek out trading alpha – otherwise known as positive excess return – and others don't. Over the course of a given year, some managers' portfolio management techniques can add modest amounts of value that can frequently offset some or even all of a fund's expense ratio. For

example, a fund with a 10 basis point expense ratio and a net excess return of zero means that the manager has already added value by overcoming fund expenses. Contrastingly, less-skilled managers may even have negative excess return that exceeds the expense ratio. The following example highlights one of several value-add strategies aimed at driving positive excess return:

Corporate actions: Benchmark providers outline how weights will be calculated when corporate actions occur and securities are added or deleted from a benchmark as a result. For example, during mergers and acquisitions, their indices assume that shares of the acquired firm are sold at the close on the last day of trading. Managing a fund by following this methodology exactly will result in very tight tracking, but a carefully calculated alternative trading approach may track tightly while also adding value. To execute such strategies successfully requires skilled analyses of benchmark methodologies, tender mechanics and risks incurred.

Tracking error

Tracking error is calculated as the annualised standard deviation of excess return data points (see **Figure 3**). While excess return measures the extent to which an index product's return differs from that of its benchmark index, tracking error indicates how much variability exists among the individual data points that make up the fund's average excess return.

Tracking error serves as an indication of the risk present in a manager's process. Said differently, tracking error measures the consistency of an index fund's return relative to its benchmark's return. Since volatility includes both appreciation and depreciation, tracking error is measured as an absolute value. The further from zero, the more volatile the fund's excess return. Portfolio management decisions including sampling techniques, use of derivatives, trading at times other than market close, management of index reconstitutions and many other factors combine to drive tracking error.

However, tracking error cannot be evaluated in a vacuum. First, investors should understand that what can be considered reasonable tracking error (i.e. tolerance level) varies by mandate based upon the characteristics of the underlying market. For instance, investors should expect tighter tracking error in a European equity index fund, full of ultra-liquid blue-chip equities, relative to an emerging markets fund that includes large-, mid- and small-cap names traded in less efficient, developing capital markets. Second, an asset manager can underperform its benchmark by a wide margin, and so long as the underperformance is

² There might be specific cases where a fund can experience a high positive net excess return (e.g. +60bps) without necessarily having taken on excess risk. An example of this is when a fund has withholding tax benefits compared with the benchmark. Clients are encouraged to understand the drivers of excess return and tracking error when assessing the performance of the fund that they are invested in.

consistent, tracking error will be zero. Accordingly, both excess return and tracking error should be viewed in tandem in order to determine how skilfully an index fund is being managed. Importantly, the two need not be mutually exclusive; given the primary objective of an index fund is to mimic closely its benchmark's return year after year, investors should seek index fund managers that have demonstrated an ability to deliver both reasonable excess return and minimal tracking error.

The below chart illustrates this point using two hypothetical funds from different asset managers. While Fund A shows a higher average excess return than Fund B, its tracking error is also significantly higher. As a result of this volatility, returns to some participants that purchase Fund A will be better than those who purchase Fund B, while others will be worse.

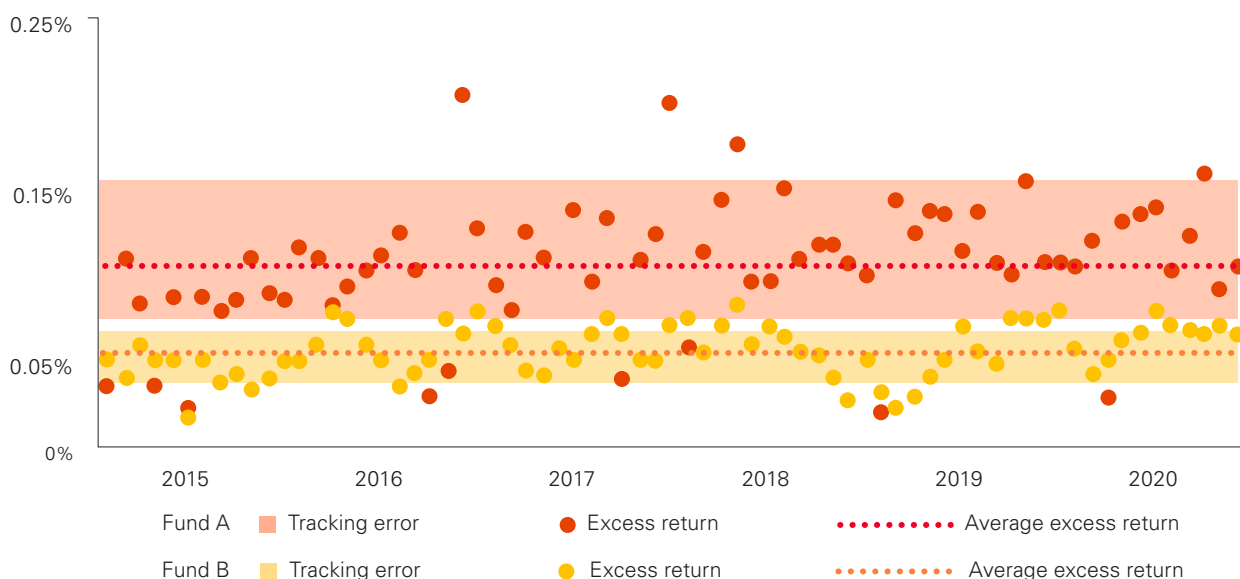
Market impact

As it turns out, portfolio management can not only impact the return of a fund, but that of its index as well. This occurs through the concept of market impact, the effect that an asset manager's purchase or sale of a security has on that security's price. Each security has an equilibrium price based on market supply and demand. Fund managers can push the price up or down temporarily through their trading activity, impacting any index or fund that holds that security, regardless of the asset manager. Market impact affects all asset managers—active and passive, large and small, equity and fixed income—and, if not effectively managed, can diminish the wealth of investors. Worse yet, market impact is not reflected in publicly disclosed performance numbers. It can slowly, steadily, and imperceptibly erode performance.

Think of this in the context of the price of roses. On Valentine's Day, roses are artificially expensive because of increased demand, but return to their equilibrium price the next day when demand subsides. Similarly, if an asset manager places a single buy order due to a large daily cash flow, it can push the price of that security up, impacting all those in the market for that security. When the asset manager is absent from the market during the next trading session, the security will typically regress to its previous equilibrium price, decreasing the value of all indices and funds that own it and eroding the returns of their own investors in the process. Figure 4 demonstrates this concept using the addition of Kainos Group (KNOS) to the FTSE 250 index:

On 21 June 2019, KNOS was added to the FTSE 250 index. While the average trading volume and price of KNOS from 7 June to 27 June were about 270,000 shares per day and £6.44 per share respectively, KNOS trade volume increased to over 1.25 million shares on 21 June due to rebalance demand, pushing the stock to a closing price of £6.76. Asset managers that traded on the close of that day added to the volume (i.e. the market impact) and received that price. However, asset managers that traded before, during and after the reconstitution date diminished the market impact on 21 June. In addition, those managers received the average price over that time period, creating positive excess return relative to the funds' benchmarks.

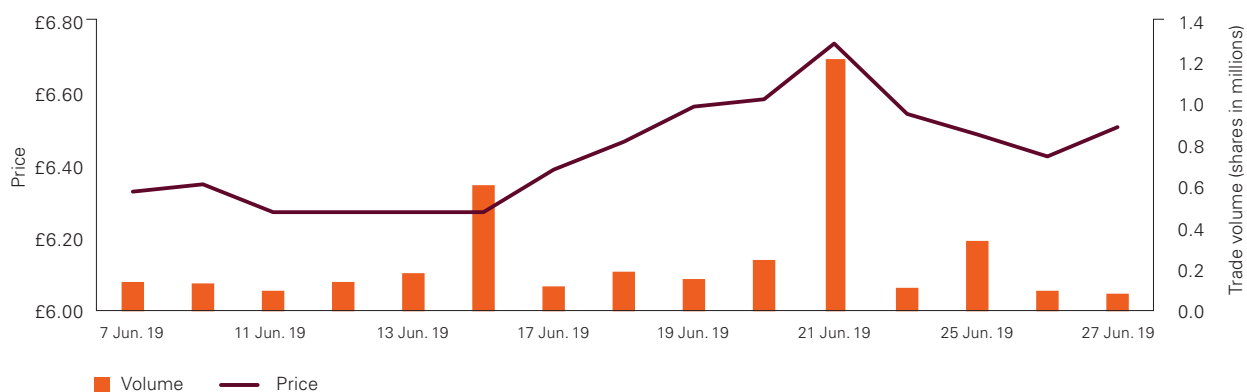
Figure 3. Investors should expect the combination of reasonable excess return and low tracking error (Fund B)



This hypothetical example does not represent any particular investment.

Figure 4. Thoughtful management of trading activity can protect investors from market impact costs

Trading volume and price fluctuations resulting from the addition of Kainos Group (KNOS) to the FTSE 250 index: 7 June 2019 - 27 June 2019



Past performance is not a reliable indicator of future results.

Source: Bloomberg. Figures in GBP.

Because indices normally price securities at each day's closing price, asset managers that place all of their trades on the close that day can track an index tightly, but risk having market impact. However, more sophisticated asset managers may employ strategies to mitigate their impact. Such strategies entail a risk-controlled decision given a trade-off with tracking error (because the index uses each security's closing price), and thus requires deep knowledge of market mechanics and benchmark methodologies, as well as robust risk management, in order to be executed effectively. How much higher would KNOS have closed on 21 June if all managers were unconcerned with market impact and placed all trades at the close of the day? This question underscores the importance of understanding a manager's approach to market impact mitigation.

Sampling techniques

Sampling refers to the approach that an asset manager takes to selecting the securities within an index fund. Often the most desirable approach is to purchase every security in an index—sometimes referred to as full replication. However, benchmarks often contain securities with low or even no liquidity, rendering them prohibitively expensive or, sometimes, impossible to trade in the real world. This is especially true in the fixed income space. As a result, an asset manager may apply an optimisation approach, in which portfolio managers balance tracking error risk against transaction costs by purchasing a representative sample of the index securities aimed at matching the fundamental characteristics (e.g., capitalisation, style and risk factors) of the index without purchasing all of the securities within the benchmark. An optimisation approach may also be appropriate in the case of broad market indices where fully replicating the index may be impractical, as well as in international equity funds where there is an option to purchase either Global Depositary Receipts or local

securities, each with differing levels of liquidity relative to each other. Further, in less-liquid emerging markets, trading costs can be substantial, and as a result full replication can actually result in underperformance relative to indices, none of which adjust returns for trading costs. Overall, optimisation introduces varying levels of risk, and can depress investor returns over time when poorly executed. Accordingly, investors should favour full replication where feasible, and otherwise use tracking error to evaluate a manager's skill when optimising.

Securities lending

Securities lending is a widely used investment strategy involving the loan of portfolio securities to financial institutions that have a need to borrow such securities. The asset manager receives either cash or acceptable alternative securities as collateral to protect against the borrower failing to return the securities. When cash collateral is delivered, the lender invests the cash collateral during the term of the loan and retains the return on the investment less any rebate paid to the borrower. While this basic framework exists across the industry, the approach or lending philosophy can vary significantly from firm to firm.

Fee split and programme costs

An investor should be appropriately compensated for assuming the risk associated with securities lending. However, this is yet another area where various asset managers differ. First, programme costs can vary, depending on whether an asset manager has its own lending programme, contracts with a third-party agent lender, or both. All else equal, lower costs mean higher returns to investors. Second, some firms return all of the remaining revenue back to the funds, while other firms

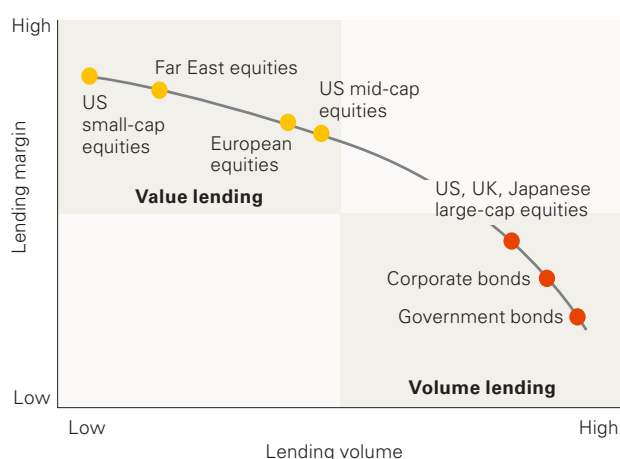
may retain a substantial portion as firm profit. The percentage of gross revenue returned back to the shareholders from a securities lending programme may range anywhere from over 95% to as little as 35%, and thus it is important to understand what, if any, portion of revenue is retained by the asset manager when considering the quality of, and incentives behind, a securities lending programme.

Lending philosophy

An investor should understand the programme's fundamental approach to securities lending. On the conservative end of the spectrum is value lending, in which an asset manager concentrates on lending relatively small amounts of hard-to-borrow securities, where high demand equates to higher loan fees, allowing asset managers to limit the amount on loan while maximising returns. Value lending limits the number of securities eligible for loan, and in some market cycles, dictates that the optimal approach is to lend nothing at all. On the more aggressive end is volume lending, which concentrates on lending significantly larger amounts of securities. The key distinction here is risk-adjusted return. Theoretically speaking, if one value and one volume programme produce the same returns for two identical funds, the value programme would do so with a smaller amount on loan, and accordingly a smaller portion of the portfolio's holdings that would be susceptible to loss. While the probability of investor losses may be small, many times such risks are the greatest during times of market turmoil, when investors most want their portfolios to be insulated from such ancillary risks.

Figure 5. Securities-lending philosophies drive the level of programme risk and vary widely among asset managers

Value vs. volume securities-lending philosophy illustration



Source: Vanguard.

These two approaches must be aligned with the two key risks associated with securities lending: borrower default risk and collateral risk.

Borrower default risk

This is the possibility that the borrower fails to return the securities, usually due to financial hardship. It is important to understand how much rigour an asset manager puts into the screening of potential borrowers to assess their credit quality.

Collateral reinvestment risk

Securities borrowers must deliver enough collateral to cover 100% or more of the borrowed security's value, which the lender generally reinvests for the term of the loan. In the event of a borrower default or insolvency, this collateral will be used to cover the repurchase of the loaned securities. This process creates collateral reinvestment risk. Mutual funds generally reinvest collateral in conservative fixed income investments, which themselves carry various degrees of risk that should be understood. Extending duration and/or lowering credit quality will increase risk, but also yield, producing additional revenue not only for the client, but potentially for the asset manager as well. Collateral reinvestment risk was most apparent during the 2008 global financial crisis when several firms experienced significant losses related to their securities lending programmes. It's important to note that the losses occurred due to significant declines in the value of cash collateral resulting from aggressive reinvestment strategies, and not from the practice of securities lending itself.

These details drive the return of each programme, which, depending on the strategy, can add 0 to 10+ basis points of return to overall performance, along with varying levels of risk, much of which is borne by shareholders. Accordingly, securities lending can represent hidden costs and risks that, unlike expense ratios and tracking error, are not immediately apparent to the investor. Transparency is critical, and investors should be wary of any manager unwilling to provide line of sight into its lending programme. As a result, it is important to understand how one programme differs from the other by discussing the above elements with current and prospective asset managers.

During their analysis, investors may also want to explore the programme's performance over past market cycles. Did investors lose money? Did asset managers pitch in to cover losses in any product? Full programme transparency should mean that all investors have access to the relevant information to make informed decisions. In the end, securities lending is all about investor preference and risk appetite. However, in general, securities lending programmes that are conservatively operated in terms of lending volume and cash collateral reinvestment and that return the greatest portion of lending revenue to investors should be preferred.

Additional considerations

Dilution protection

When investors buy or sell units or shares in a fund, their activity creates a cost for the fund. If the fund provider does nothing to mitigate this cost, it can affect existing investors in the fund. Fund managers have several methodologies they can use to mitigate the costs including swing pricing, dual pricing and dilution levies. No single approach is superior, and thus it is important to understand the specifics of how a manager is protecting existing investors from the costs created by new investors trading in the fund.

- **Swing pricing:** If a fund uses swing pricing, this means that the net asset value (NAV) of the fund—the price at which investors buy and sell fund shares—is adjusted up or down to reflect the costs incurred by redemptions and subscriptions in the fund. This passes the costs back to the investors who are trading in and out of the fund, rather than allowing them to be absorbed by existing investors in the fund. A fund manager can either choose to use partial or full swing pricing. Partial means the manager only swings the price when net flows exceed a pre-agreed threshold, whereas full swing pricing is where the manager swings the price whenever there are any net flows into or out of a fund.
- **Dilution levy:** A dilution levy is an allocation of a fund's trading costs to the investments which have created those costs. It is used to protect the majority of investors from the costs of trading by a minority. Without a dilution levy, these trading costs would be paid by the fund, which would disadvantage existing investors (as they are effectively paying someone else's trading costs). It is not paid to any third party but goes directly into the fund to be shared across all investors. Swing pricing and dilution levy are similar strategies and shares the same objective, however the operational aspect on how they are applied varies.
- **Dual pricing:** This is a practice in which a fund has two prices, one for a buy and a sell (also known as offer and bid). The difference between the two prices compensates the fund for the transaction costs incurred.

Scale

Economies of scale are defined as savings that accrue as a firm's production volume expands over time. In asset management, scale is a key differentiator, and one that is increasingly difficult for new entrants to achieve. Economies of scale in index fund management exist at both the fund and firm levels, often manifesting in the form of increasing effectiveness of other value-add capabilities, including but not limited to the examples below:

- **Trading costs:** Scale at the global firm level allows for lower trading costs by increasing the opportunities for cross-trading within a family of funds, as well as obtaining new securities through syndicated offerings, both of which eliminate brokerage commissions. In addition, scale relationships can decrease the commission rates themselves, with the largest providers paying fractions of a cent per trade. On a fund level, scale also enables access to tighter bid/ask spreads by trading in round rather than odd lots.
- **Securities lending:** Large managers are more consistently able to participate in the lending of the wide variety of securities they hold. Generally speaking, the more assets a firm has under management, the more opportunity there is for that firm to optimise its securities lending programme (as noted above, optimising often does not mean more lending, but rather smarter lending). Further, large index funds can command a premium in the securities lending market because of their size and their ability to fill large orders, and because a passive management approach means they are less likely to call loans back early.
- **Global trading platform:** For funds that own international securities, a key capability required for combating market impact is a strong global trading operation. Asset managers that have trading desks in regions around the world are able to carefully execute their funds' trades in ways that best align with the strategies of the portfolios. In contrast, those with only a domestic trading desk must often rely on regional brokers, who are paid commissions based on trade volume, to execute trades on their behalf. As a result of their incentives, such partners may not value the idea of managing market impact, instead trading in a way that is indifferent to maximising value for clients. Furthermore, the local market expertise afforded by a global platform empowers an asset manager to more effectively perform due diligence when considering how to approach trading strategies in various capital markets around the world.

- **Relationships:** Large managers have the ability to establish stronger relationships with investment banks and other services firms, providing increased access to syndicated initial public offerings (IPOs), secondary offerings and fixed income new issues. When used appropriately, this access represents a meaningful source of value to investors.
- **Industry impact:** Asset managers often have an opportunity to engage with governments, regulators and index providers on topics that are important to investors. The larger the manager, the louder the voice they can have at the table, allowing firms with significant scale to influence policy. This concept further increases the importance of working with a firm that uses its influence in ways that align with clients' interests.
- **Replication:** Scale increases a manager's ability to more closely replicate benchmarks that contain less liquid securities which may be prohibitively expensive for smaller asset managers to trade, forcing the latter to optimise portfolios through a less-diversified, representative sampling.

Conclusion

Expenses have long been the most visible differentiator of investor outcomes, leading many investors to evaluate products primarily based on cost. However, the market for passively managed investments has changed dramatically over the last several years, giving way to industry-wide, ultra-low expense ratios. As a result of this price compression, real savings achieved by switching to the lowest-cost product have been minimised or eliminated, and prudent investment selection cannot be achieved by focusing on cost alone. Accordingly, when searching for and selecting investment options, investors should create and use a contemporary decision-making framework that takes into account expenses and organisational incentives, portfolio management capabilities, securities lending programmes, pricing strategies and scale in more equal weights than in the past.

Indexing at Vanguard

Vanguard is renowned as a pioneer of the concept of indexing, having developed the first index fund for individual investors in 1976. Keeping investment costs low is one of Vanguard's core principles, but we recognise that quality is about more than cost—it's about long-term value.

We've built a sustainable, scaled and successful index franchise through an uncompromising commitment to quality. As a result, our index funds and ETFs can be relied on for tight tracking and consistent, dependable performance. For Vanguard, when it comes to indexing, true value for investors is driven by scale, exposure, management and stewardship, and not just the price tag.

Visit our website to find out more about our index funds and ETFs: global.vanguard.com

Connect with Vanguard® >global.vanguard.com

Investment risk information

The value of investments, and the income from them, may fall or rise and investors may get back less than they invested.

Past performance is not a reliable indicator of future results.

Important information

For professional investors only (as defined under the MiFID II Directive) investing for their own account (including management companies (fund of funds) and professional clients investing on behalf of their discretionary clients). In Switzerland for professional investors only. Not to be distributed to the public.

The information contained in this document is not to be regarded as an offer to buy or sell or the solicitation of any offer to buy or sell securities in any jurisdiction where such an offer or solicitation is against the law, or to anyone to whom it is unlawful to make such an offer or solicitation, or if the person making the offer or solicitation is not qualified to do so. The information in this document does not constitute legal, tax, or investment advice. You must not, therefore, rely on the content of this document when making any investment decisions.

Issued in EEA by Vanguard Group (Ireland) Limited which is regulated in Ireland by the Central Bank of Ireland.

Issued in Switzerland by Vanguard Investments Switzerland GmbH.

Issued by Vanguard Asset Management, Limited which is authorised and regulated in the UK by the Financial Conduct Authority.

© 2021 Vanguard Group (Ireland) Limited. All rights reserved.

© 2021 Vanguard Investments Switzerland GmbH. All rights reserved.

© 2021 Vanguard Asset Management, Limited. All rights reserved.

Vanguard