

Vanguard[®]

The Vanguard Group

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The Vanguard Group

*The Vanguard Group is a privately held company and does not disclose detailed financial statements, valuation metrics, or comprehensive historical financial data in a manner comparable to publicly listed asset managers. As a result, information regarding its revenue, profitability, and implied valuation must be inferred from limited public disclosures, industry data, and third-party estimates. Where relevant, we rely on a combination of reported assets under management (AUM), estimated fee levels, and comparable company benchmarks to construct a hypothetical view of Vanguard's economic profile and valuation. These estimates are inherently imprecise and are intended solely for illustrative purposes rather than as definitive measures of value. Given Vanguard's unique mutual ownership structure, where the firm is owned by its funds and therefore indirectly by its investors, and its stated objective to operate on an "at-cost" basis, traditional valuation frameworks do not capture its economic reality. Accordingly, any implied valuation or financial interpretation presented in this multi-decade study should be viewed as a conceptual exercise to contextualize Vanguard's theorized scale and economics, rather than a precise assessment of the firm's market worth. **Based on our estimates, Vanguard's hypothetical valuation increased from \$12 million in 1974 to about \$58 billion by 2025, an approximately 18% CAGR. Our valuation may be significantly different from the actual valuation. For details of the hypothetical valuation, please refer to page 64.***

Mental Model Summary Derived from Vanguard

1. Power of simply owning the market over time – about a 225x by 2025 since launching Vanguard 500 Index Fund in 1976¹ (an 11.6% CAGR).

At the core of Vanguard's philosophy is a simple but powerful idea – long-term wealth creation for average investors does not require outsmarting the market but owning it. The historical evidence embedded throughout Vanguard's development strongly supports this. Since the launch of its first index fund in 1976, the strategy of broad market ownership has compounded over decades alongside the underlying growth of the economy and corporate earnings. From the launch of Vanguard's index fund through 2025, the S&P 500 Index has delivered approximately 11.8% annualized returns.² This growth, when captured systematically through low-cost index funds, translates into substantial absolute returns for investors who remain invested over long horizons.

At the time of Vanguard's founding in the 1970s, a growing body of empirical evidence had reinforced the case for passive investing. Studies suggested that a large majority of institutional investors, roughly 85%, failed to outperform the S&P 500 after costs.³ This insight was powerfully articulated in Charles D. Ellis's 1975 article *The Loser's Game*, which demonstrated how even modest fees and turnover create a significant performance hurdle. For example, with equities returning 9% annually, a manager with 30% turnover and transaction costs of 3% on both sales and reinvestment (equivalent to 1.8% of assets annually), combined with management and custody fees of 0.2%, would incur total costs of roughly 2% per year. As a result, the manager would need to generate 11% annually, over 20% above the market return, just to match the gross performance of the index.⁴ These findings directly shaped Bogle's conviction that a low-cost, no-load, market-tracking fund could deliver superior long-term outcomes for ordinary investors.

Vanguard's own trajectory mirrors this principle. Its index fund assets grew from just \$11.4 million at inception to over \$10 trillion by 2025,⁵ reflecting not only market appreciation but the cumulative effect of continuous inflows and compounding. The lesson is not merely that markets grow, but that participation without interruption allows investors to harness this growth in full. Even modest differences in return, when sustained over decades, lead to dramatically different outcomes. As Bogle and his team illustrated when they launched the index fund in 1976, they estimated

¹ Refinitiv

² Refinitiv

³ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle. https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

⁴ The Loser's Game. Charles Ellis. Financial Analysts Journal. 1975; The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle. https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

⁵ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle. https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html; Vanguard in A Nutshell. Vanguard. <https://www.ch.vanguard/content/dam/intl/europe/documents/en/vanguard-in-a-nutshell-eu-en.pdf>

operating expenses of 0.3% and transaction costs of 0.2%, compared to roughly 2.0% for actively managed funds. This cost advantage, they argued, could translate into a 1.5% annual return differential. Over a 30-year horizon, that seemingly small gap would compound dramatically: \$1 million invested at 10% would grow to \$17.5 million, versus only \$11.5 million at 8.5%.⁶

The mechanism underlying this model is straightforward but often underestimated – compounding uninterrupted for decades. Vanguard’s framework emphasizes that the key driver of investment success is not short-term outperformance, but the uninterrupted accumulation of returns over long periods. **As Bogle famously noted, “Where returns are concerned, time is your friend. But where costs are concerned, time is your enemy.”⁷ By minimizing costs and avoiding unnecessary trading, index investors retain a larger share of gross returns, allowing compounding to work at full force. Over multi-decade horizons, this creates a widening gap between those who stay invested at just merely the market return and those who attempt to time or outperform it.** Of course, this is even more powerful with above-market returns, as Bogle himself recognized,⁸ but a hard and uncommon path.

Equally important, the simplicity of owning the market increases the likelihood that investors remain invested. Unlike active strategies that often introduce periods of underperformance, manager turnover, or complexity, indexing provides a transparent and predictable framework. This reduces behavioral friction and discourages reactive decision-making. The structure of index investing, low turnover, minimal decision points, and alignment with market returns, potentially supports investor discipline.

This behavioral dimension is critical. Since its inception in 1957, the S&P 500 Index, a widely used proxy for the U.S. equity market,⁹ has delivered average annual price returns of roughly 9%, and approximately 11% total returns when dividends are reinvested. More importantly, the probability of positive outcomes rises significantly with time in the market. Over the past five decades, the S&P 500 index delivered positive annual total returns in more than 42 out of 50 years, or over 80% of the time.¹⁰ From 1974 to 2025, rolling 5-year and 10-year periods were positive, roughly 87% and 96% of the time, respectively. **In practical terms, the longer investors stay invested, the less likely they are to experience losses, underscoring the importance of time in the market over market timing.** The long-term success of the strategy depends not only on the mathematical power of compounding, but also on the investor’s ability to stay the course. By removing many of the triggers that lead to performance chasing or panic selling, Vanguard’s model effectively increases the probability that investors capture the full return of the market. In this sense, the true edge of indexing is not only financial, but also behavioral, reinforcing consistency over reaction.

2. Clear value proposition vs. the averages of active management – offering closest-to-market returns through minimal cost, enabled by a mutually-owned structure that runs “at-cost”. It is an acceptance of the power of average returns (most appropriate for the majority of people) and the foregoing of the pursuit of above-average returns (e.g., Berkshire Hathaway, or concentrated ownership of Alphabet, Amazon, Coca-Cola, Costco, Hermès, TSMC, etc.) which are behaviorally difficult.

Vanguard offers investors exposure that closely mirrors the market, delivered at minimal cost and within a structure designed to return economic benefits to fund shareholders rather than outside owners. This is what fundamentally distinguishes it from the typical highly diversified, high-turnover active manager. Rather than promising to outperform in any given year, Vanguard’s leadership has expressed that index investing designed to be positioned as a structurally stronger approach for the average long-term investor, providing broad market exposure, minimal cost, and a governance model explicitly designed to operate “for the sole benefit of our fund owners”¹¹ and on an “at-cost basis.”¹²

⁶ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle.

https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

⁷ The Enduring Wisdom of John C. Bogle in Five Quotes. <https://www.vanguard.com.au/personal/learn/smart-investing/understand-the-basics/enduring-wisdom-of-john-bogle-in-five-quotes>

⁸ False Promises. John Bogle. Journal of Indexes. March/April 2007. https://www.etf.com/docs/magazine/2/2007_110.pdf

⁹ At its launch in 1957, the S&P 500 represented roughly 90% of the total value of the U.S. equity market; by 2026, that share had declined to about 80%. The Dow® and the S&P 500®: Where it all Began. S&P Global.

<https://www.spglobal.com/spdji/en/documents/education/spdji-where-it-all-began.pdf>; S&P 500® – S&P Dow Jones Indices. S&P Global. <https://www.spglobal.com/spdji/en/indices/equity/sp-500/#overview>

¹⁰ Global Financial Data (Finaeon)

¹¹ Lightning Strikes: The Creation of Vanguard, the First Index Mutual Fund, and the Revolution It Spawned. John Bogle.

¹² Important News for Shareholders of Vanguard Morgan™ Growth Fund.

<https://www.sec.gov/Archives/edgar/data/52848/000093247119001789/morgangrowthintousgrowthmerg.htm>

Vanguard's strategy is built on a simple but powerful premise – rather than attempting to outperform the market, investors are better off capturing the market return at the lowest possible cost. As John Bogle argued, investors as a group are the market,¹³ meaning that, before costs, they collectively earn the market return, and after costs, they must underperform it. From the beginning, Vanguard put this idea into practice through low-cost, cap-weighted index funds designed to deliver market returns with minimal friction. By avoiding active management fees and limiting portfolio turnover, index funds significantly reduce costs, giving them a structural advantage over actively managed strategies. As Bogle put it, an index fund allows investors to earn “precisely the market’s return... (before costs),” and because costs are so low, it “guarantees that its participants will earn higher net returns than all the other participants in stock ownership as a group.”¹⁴

This cost advantage has been sustained and amplified over time. In 1975, Vanguard's average expense ratio was around 0.68%, compared to the industry average of 0.73%.¹⁵ Fast forward to 2025, Vanguard's asset-weighted expense ratio declined to 0.06%, among the lowest in the industry, when the industry average was around 0.39%.¹⁶ The long-term impact is evident. Since the launch of the Vanguard 500 Index Fund Investor Shares in 1976, a \$10,000 investment would have grown to approximately \$2.25 million by 2025, about a 11.6% CAGR, closely tracking the S&P 500 Index at 11.8%.¹⁷ The small gap, around 0.24% annually, largely reflects fees and transaction costs.

The tax efficiency of indexing also became increasingly evident, with a 1994 study showing Vanguard's index fund outperforming 92% of typical highly diversified, high-turnover funds on an after-tax basis.¹⁸ The study by two Stanford scholars found that Vanguard's index fund outperformed its fund peers on an after-tax basis largely because it minimizes realized capital gains. Since “many shareholders are subject to federal, state, and local taxation on the dividend and realized capital gains distributions made by different funds,” funds that reduce these distributions can materially improve outcomes. Index funds can systematically manage portfolios “to minimize their shareholders’ current tax liability by taking advantage of the ability to defer taxation until capital gains are realized”. By deferring gains and, in some strategies, even eliminating distributions altogether, investors earn more returns through unrealized appreciation rather than taxable events, which “greatly enhanced” after-tax performance relative to traditional approaches.¹⁹

Furthermore, Vanguard made broad market exposure accessible. Replicating the S&P 500 independently, holding hundreds of stocks in precise weights, requires substantial capital and trading cost. **While precise historical estimates of the cost are limited, even today such replication of the S&P 500 Index would require millions of dollars, on the order of \$3.2 million.**²⁰ Vanguard's innovation was to remove this barrier entirely. **By pooling assets, it enabled investors to access a fully diversified, index-tracking portfolio at minimal cost and with modest minimum investments, typically around \$3,000 for mutual funds, and effectively even lower through ETFs with fractional share capabilities, starting at just \$1.**²¹

Vanguard's core advantage (i.e., minimal costs) stems from its mutual ownership structure, where the firm is owned by its funds, and therefore by investors, allowing and incentivizing it to operate “at-cost” and systematically pass scale benefits through lower fees. **This removes the inherent conflict in traditional asset managers between profit**

¹³ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle.

https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

¹⁴ False Promises. John Bogle. Journal of Indexes. March/April 2007. https://www.etf.com/docs/magazine/2/2007_110.pdf

¹⁵ Vanguard's History – Expense Ratio. Vanguard.

https://corporate.vanguard.com/content/dam/corp/history/vanguardeffect_animation_noloop.gif

¹⁶ The expense ratio shown for Vanguard represents the company's average expense ratio across its funds and does not imply that every Vanguard fund charges the same rate. Actual expense ratios vary by product; some funds may be below the disclosed average, while others may be above it. Vanguard Lowers Expense Ratios to Deliver Long-Term Cost Savings for Investors.

<https://investor.vanguard.com/investor-resources-education/news/vanguard-lowers-expense-ratios-long-term-investing>

¹⁷ Refinitiv

¹⁸ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle.

https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

¹⁹ Joel M. Dickson and John B. Shoven, "A Stock Index Mutual Fund Without Net Capital Gains Realizations," NBER Working Paper 4717 (1994), <https://doi.org/10.3386/w4717>

²⁰ 50 years. 50 facts. Indexing since 1976. <https://corporate.vanguard.com/content/corporatesite/us/en/corp/articles/50-years-50-facts-indexing-since-1976.html#power-of-indexing>

²¹ VFIAX-Vanguard 500 Index Fund Admiral Shares. <https://investor.vanguard.com/investment-products/mutual-funds/profile/vfiar>; VOO-Vanguard S&P 500 ETF. <https://investor.vanguard.com/investment-products/etfs/profile/voo>

maximization and investor returns. In a conventional model, management companies charge fees that include a profit margin, potentially creating an inherent tension between maximizing firm profits and delivering value to investors. Vanguard, by contrast, was designed (reportedly by the company) to eliminate this conflict. It provides services to its funds without a profit component, allowing economies of scale to be passed directly to investors in the form of lower expense ratios.²²

For John Bogle, this structure was not merely a governance choice but was the foundation of Vanguard's entire strategy. As he put it in 2012, "strategy follows structure." Without external owners extracting profits, Vanguard can systematically drive costs lower than its competitors. He further noted that "the only way anyone can really compete with us on costs is to adopt a mutual ownership structure," he said. "I've been waiting all these years for someone to do it, but no one has,"²³ largely because such a structure offers little economic incentive for traditional owners. In 2018, he stated that of the 50 largest fund companies, only Vanguard is mutually owned by fund shareholders, while the rest are publicly traded, privately owned, or held by financial conglomerates.²⁴

Investing steadily in the broad market over time naturally lends itself to dollar-cost averaging (DCA), a strategy widely regarded as effective and powerful for average individual investors. By spreading purchases through time, investors reduce their reliance on getting the timing "right," which helps explain why DCA is so commonly used for long-term goals like retirement.²⁵ A 2020 study on the S&P 500 Index from 1954 to 2019, highlights its core benefit – mitigating timing risk, as investors "[reduce] exposure to temporary price fluctuations" and avoid "market timing," something difficult even for professionals.²⁶ DCA also works advantageously with volatility. Fixed contributions buy more shares when prices fall and fewer when they rise, often leading to a lower average purchase cost and a more stable investment experience. By smoothing returns, it reduces the risk of investing all capital at an unfavorable moment, making it psychologically appealing for long-term, risk-averse investors.²⁷

However, because some capital remains in cash during the averaging period, investors miss out on the market's long-term upward drift. As a result, lump-sum investing has historically outperformed DCA "roughly two-thirds of the time." Vanguard's own example illustrates this: for a 60/40 portfolio, a \$100,000 investment grows to about \$109,360 with a lump sum versus \$107,453 with DCA over just one year.²⁸

Vanguard's model benefits from investor behavior, as index fund investors are generally more likely to stay invested during weak markets, while actively managed funds often face outflows.²⁹ Industry data shows that 20% to 25% of U.S. mutual funds disappear over any given five-year period,³⁰ whereas vehicles like the Vanguard 500 Index Fund have endured for decades. A 2018 Federal Reserve study finds that passive investors are less sensitive to short-term performance, resulting in more stable fund flows and fewer redemptions during downturns.³¹

²² Important News for Shareholders of Vanguard Morgan™ Growth Fund.

<https://www.sec.gov/Archives/edgar/data/52848/000093247119001789/morgangrowthintousgrowthmerg.htm>

²³ John Bogle, Vanguard's Founder, Is Too Worried to Rest. The New York Times.

<https://web.archive.org/web/20211114195739/https://www.nytimes.com/2012/08/12/business/john-bogle-vanguards-founder-is-too-worried-to-rest.html?module=inline>

²⁴ "Uneasy Lies The Head That Wears A Crown" – A Conversation with Jack Bogle.

<https://www.advisorperspectives.com/articles/2018/01/22/uneasy-lies-the-head-that-wears-a-crown-a-conversation-with-jack-bogle>

²⁵ J. Lars Kirkby, Sovan Mitra, Duy Nguyen, An analysis of dollar cost averaging and market timing investment strategies, European Journal of Operational Research, Volume 286, Issue 3, 2020, Pages 1168-1186, ISSN 0377-2217,

<https://doi.org/10.1016/j.ejor.2020.04.055>

²⁶ J. Lars Kirkby, Sovan Mitra, Duy Nguyen, An analysis of dollar cost averaging and market timing investment strategies, European Journal of Operational Research, Volume 286, Issue 3, 2020, Pages 1168-1186, ISSN 0377-2217,

<https://doi.org/10.1016/j.ejor.2020.04.055>

²⁷ J. Lars Kirkby, Sovan Mitra, Duy Nguyen, An analysis of dollar cost averaging and market timing investment strategies, European Journal of Operational Research, Volume 286, Issue 3, 2020, Pages 1168-1186, ISSN 0377-2217,

<https://doi.org/10.1016/j.ejor.2020.04.055>

²⁸ Cost Averaging - Invest Now or Temporarily Hold Your Cash. Vanguard.

https://corporate.vanguard.com/content/dam/corp/research/pdf/cost_averaging_invest_now_or_temporarily_hold_your_cash.pdf

²⁹ 50 years. 50 facts. Indexing since 1976. <https://corporate.vanguard.com/content/corporatesite/us/en/corp/articles/50-years-50-facts-indexing-since-1976.html#origins-and-role>

³⁰ 50 years. 50 facts. Indexing since 1976. <https://corporate.vanguard.com/content/corporatesite/us/en/corp/articles/50-years-50-facts-indexing-since-1976.html#wealth-generation>

³¹ The Shift from Active to Passive Investing: Potential Risks to Financial Stability?

<https://www.federalreserve.gov/econres/feds/files/2018060r1pap.pdf>

This pattern was evident during events like the 2008-2009 financial crisis, when passive funds continued to attract inflows while active funds saw significant outflows. For example, Morningstar data shows that in 2008, actively managed U.S. equity funds saw \$132 billion in outflows, while passive funds recorded roughly \$100 billion in inflows.³² In March 2009, when the S&P 500 fell to a 12-year low of 676, actively managed funds experienced \$18.3 billion outflows, whereas passive equity funds still drew \$2.4 billion in inflows.³³ As a result, passive investors tend to remain invested longer, enabling them to better capture long-term compounding, while active investors who exit during volatility risk impairing their overall returns.

We believe another key advantage of index funds is their ability to reduce investors' tendency to chase star managers and recent performance. Because index funds simply track benchmarks, they do not rely on the skill or continuity of any individual. In contrast, active funds are inherently tied to managers who inevitably come and go. As John Bogle noted in 2006, the average fund manager's tenure is relatively short, about five years, while investors often hold multiple funds, typically around four,³⁴ raising the question of how likely it is that successive managers can replicate prior success. The history of the Fidelity Magellan Fund illustrates this dynamic. Under Peter Lynch, the fund delivered extraordinary returns of roughly 29% annually from 1977 to 1990, far exceeding the S&P 500 Index, which returned about 15% over the same period.³⁵ Yet many investors failed to realize those gains due to poor timing, buying after strong performance and selling during Magellan's bad stretches. Estimates vary, but studies suggest the average investor earned significantly less.³⁶ **Investors who piled in after the strong performance and exited during the subsequent downturn likely locked in losses. By contrast, those who remained invested for the long term – another 10 years – would have captured average annual returns exceeding 25%.³⁷ This gap reflects behavioral tendencies rather than fund performance itself. This highlights Bogle's broader point – investors tend to chase yesterday's winners, only to realize disappointing outcomes. Over time, this behavior can be deeply destructive to wealth,³⁸ as the Magellan example so clearly illustrates.**

However, Vanguard's core insight is not that active investing is impossible, but that after costs, the average investor is unlikely to outperform the market consistently. As John Bogle stressed many times that investors as a group are the market and thus unlikely to outperform the market.³⁹ **In other words, the argument is primarily directed at the aggregate behavior of the industry, rather than at the existence of genuinely differentiated investors. Bogle pointed that “the only way to beat the market portfolio is to depart from the market portfolio...this is what active managers strive to do, individually. But collectively, they can't succeed,”⁴⁰ because “as a group, active managers are average before costs and losers to the market after costs.”⁴¹**

We believe for truly disciplined active investors, success depends on sustained effort, deep understanding of businesses, and long-term holding of just a few companies with durable competitive advantages. The result is naturally low turnover, high conviction, and a long-term orientation that minimizes many of the same frictions – such as transaction costs and tax inefficiencies – that indexing seeks to avoid, while offering the potential for higher returns. In that sense, both approaches share a common foundation – discipline, cost awareness, and respect for compounding – differing primarily in how those principles are implemented.

³² Mutual Dislike as Stock Funds See Record Outflows. <https://www.investmentnews.com/mutual-funds/mutual-dislike-as-stock-funds-see-record-outflows/48790>

³³ June's Sum of U.S. Equity Fund Outflows, Index Fund Inflows Highest Since '09. <https://www.investmentnews.com/equities/junes-sum-of-us-equity-fund-outflows-index-fund-inflows-highest-since-09/37516>

³⁴ Putting The Shareholder First: A Lifetime Ideal. A Conversation with John Bogle. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1690710

³⁵ Can Magellan Be Saved. Wall Street Journal. <https://www.wsj.com/articles/SB10001424052748704547604576263183921903172>; Global Financial Data (Finaeon)

³⁶ Letter - An Efficient Market Means Few Are Able to Outperform. Financial Times. <https://www.ft.com/content/94ef34a8-a3b7-4dc7-ba82-2abcb127d62e>; Peter Lynch's Track Record Revisited. <https://awealthofcommonsense.com/2016/07/peter-lynchs-track-record-revisited/>

³⁷ How Investors Are Costing Themselves Money. Forbes. <https://www.forbes.com/councils/forbesfinancecouncil/2021/06/02/how-investors-are-costing-themselves-money/>

³⁸ Arvind Navaratnam's conversation with John Bogle in 2012.

³⁹ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle. https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

⁴⁰ False Promises. John Bogle. Journal of Indexes. March/April 2007. https://www.etf.com/docs/magazine/2/2007_110.pdf

⁴¹ Putting The Shareholder First: A Lifetime Ideal. A Conversation with John Bogle. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1690710

The approach of Charlie Munger and Warren Buffett exemplifies active investing done well – intensive study paired with long-term holding. As Buffett noted, they are “not stock-pickers; [they] are business-pickers,”⁴² focusing on long-term business performance rather than trading. By rarely selling unless fundamentals deteriorate, they allow compounding to work while minimizing unnecessary costs.

The results are noteworthy. Berkshire Hathaway, which we use as a proxy for the performance of Warren Buffett and Charlie Munger, has compounded at approximately 19% annually, delivering a roughly 39,411x return from May 1965, when Buffett took control,⁴³ through March 2026.⁴⁴ This represents over six decades of disciplined, long-term investing. By contrast, the S&P 500 returned roughly 10% annually, or about 405x.⁴⁵ While market returns remain highly attractive for most investors, they still trail the outcomes achieved through a rigorously executed, high-conviction active approach.

These returns however, comes with significant volatility. Berkshire Hathaway has experienced multiple drawdowns of 50% or more, along with numerous declines exceeding 20%, some lasting for years (e.g., 1973 – 1974 down 52%, recovering by 1976; 1998 – 2000 down 49%, recovering by 2003; 2007 – 2009 down 52%, recovering in 2013⁴⁶). Investors who exited during these periods would have locked in losses and forfeited the long-term benefits of compounding.

The irony of investing is that the mathematics of compounding are widely understood, yet the behavioral requirements necessary to capture those returns are rarely met. Coca-Cola has turned a dollar to over \$20 million dollars (!) over a century ([Coca-Cola.pdf](#)), but has been down over 50% for multi-year stretches. Taiwan Semiconductor ([TSMC.pdf](#)) has compounded at ~23% and was a 500+x, but it had ~60% drawdowns over the years. In fact, many 100+x companies that eventually became 1,000x companies had significant declines for long stretches of time. Amazon was down 50% to 93% for over three years.⁴⁷ Oracle owners suffered even more as the stock bounced down 50% to 83% over eight years.⁴⁸ Axon Enterprise, which has compounded at over 32% since its IPO in 2001, spent nearly a decade (roughly 40% of its trading life) bouncing 50% to 90% down.⁴⁹ The declines of these giants, and others, can be severe for long periods of time. Compounding at 23%+ for over a decade, META ([Meta.pdf](#)) has had ~50% drawdowns over multi-year periods. Starbucks ([Starbucks.pdf](#)) declined 50%+ over multi-year periods.

Sustained outperformance rarely comes in a straight line (For those interested in the subject, see our thought piece of Generational Investing at <https://worldlypartners.com/> or the link below in the footnote⁵⁰). Even the most disciplined, high-quality strategies can underperform the market for extended periods, often for many years, testing both conviction and temperament. This creates a powerful behavioral headwind, as the temptation to abandon a well-reasoned strategy often peaks precisely when long-term opportunities are most attractive. The magnitude of drawdowns further compounds this challenge. As seen in the history of Berkshire Hathaway under Charlie Munger and Warren Buffett, widely considered two of the greatest investors in history, declines of 50% or more are not anomalies but recurring features of long-term compounding. Enduring such periods requires not only intellectual confidence in the underlying businesses, but also emotional resilience to withstand volatility without capitulation. In practice, this makes successful active investing as much a test of temperament and alignment as of skill. The ability to remain patient, holding through multi-year drawdowns and periods of underperformance, is ultimately what allows the power of compounding to manifest over decades, separating those who merely understand the philosophy from those who can truly live it. It is therefore extremely powerful behaviorally just to index to enjoy the averages.

⁴² Berkshire Hathaway Shareholders Letter 2022. <https://www.berkshirehathaway.com/letters/2022ltr.pdf>

⁴³ This Day in Markets History: Warren Buffett Takes Control of Berkshire Hathaway. The Wall Street Journal. <https://www.wsj.com/livecoverage/stock-market-today-dow-jones-05-10-2024/card/this-day-in-markets-history-warren-buffett-takes-control-of-berkshire-hathaway-i9RvLs5Q5RqBLCG2TBu2>

⁴⁴ Global Financial Data (Finaeon)

⁴⁵ Global Financial Data (Finaeon)

⁴⁶ Global Financial Data (Finaeon)

⁴⁷ Source: Bloomberg. Amazon.com declined between 50% and 93% during the period June 2000 to July 2003.

⁴⁸ Source: Bloomberg. Oracle declined over 50% starting on February 2001 and continued through August 2010.

⁴⁹ Source: Bloomberg. Gross total return dividends reinvested. The drawdown period was between February 2005 to September 2014.

⁵⁰ Generational Investing: The Discipline Behind 100+x Outcomes. Worldly Partners. <https://worldlypartners.com/wp-content/uploads/2026/04/Generational-Investing.pdf>

John Bogle Conversation with Arvind Navaratnam in 2012⁵¹



Arvind Navaratnam, founder of Worldly Partners and a longtime professor teaching MBA students, has spent 15+ years teaching courses on capital allocation, business history, and multi-decade competitive advantage. In 2012, he had the privilege of hosting a conversation with John (“Jack”) Bogle in front of his students.

In remembrance of Bogle’s legacy, we share the key takeaways from that discussion in Q&A format. Please note that the content below is reconstructed from organized notes of the conversation and does not represent a verbatim transcript. While we have sought to preserve the original intent and substance of his remarks, phrasing may have been paraphrased or condensed.

Arvind: If you had to summarize your investment philosophy in simple terms, what would it be?

Bogle: It really comes down to a very simple equation: gross return minus cost equals net return. If you can keep costs down to just a couple of basis points, you’re almost guaranteed to come out ahead. Performance will always come and go, but expenses are relentless—they’re there forever. So instead of trying to find the needle, just buy the haystack.

Arvind: How should investors think about active management versus indexing?

Bogle: Indexing simply gives you what the market delivers, no more, no less. When you choose index funds, you’re essentially giving up the chance to outperform, but you’re also reducing the risk of underperforming. Active management, by definition, assumes you’re smarter than the rest of the market – but collectively, that just can’t hold true. There are exceptional investors, of course, but sustaining that over time is incredibly difficult. Most portfolio managers don’t last very long, five years on average, and half of them won’t be around in ten. So you have to ask yourself: what fund would you be able to truly behaviorally hold for a lifetime, other than an index fund?

Arvind: Why does indexing work so well structurally?

Bogle: Because it wins on simplicity – low turnover and low costs. At Vanguard, the goal has always been to closely track the index, with near-perfect correlation, and let those low costs compound over time. That’s really the edge.

Arvind: Are you concerned that the rise of passive investment could distort markets?

Bogle: Not really. Price discovery still depends on active participants. For every buyer, there’s a seller, so the market continues to function. Active investors will always play that role.

Arvind: What are your concerns about ETFs and modern market behavior?

Bogle: My concern is that ETFs introduce a large speculative element, especially among institutions. They tend to encourage a focus on short-term, ephemeral events rather than intrinsic value. That shift in behavior can be problematic.

Arvind: How do you assess the current structure and incentives within the investment industry?

Bogle: The incentives are often misaligned. Fixed fees create a situation where the business model is sound, but the fiduciary responsibility is compromised. Take hedge funds, for example, they’re often more about compensation structures than true investment strategies. And frankly, many of the mistakes I made in my career were driven by marketing considerations. I even did a very poor merger at one point, but that ultimately led to Vanguard. In a way, every industry needs something like Vanguard to reset incentives.

Arvind: How should investors behave to succeed over the long term?

Bogle: First, don’t get distracted by noise—it’s just noise. The media, market chatter—it doesn’t help you. Ideally, you wouldn’t even look at your statements until you retire. Just put them away and let compounding do its work—you’d be surprised by the results. The key is to take a truly long-term view and avoid being a follower. Don’t be a follower and believe the past is the prologue. The past doesn’t necessarily predict the future.

⁵¹ Arvind Navaratnam’s conversation with John Bogle in 2012. The image presented in this section is a stylized sketch intended for illustrative purposes only and does not represent an actual photograph from the conversation between Arvind Navaratnam and John Bogle.

Arvind: What is your approach to risk and portfolio construction?

Bogle: I've always avoided shorting and leverage entirely. I prefer to stay in the middle, balanced, disciplined. The truth is, the expected rate of return isn't that high, so taking excessive risk doesn't make much sense.

Arvind: What advice would you give to young people in this room?

Bogle: Learn the fundamentals, analysis, numbers, but more importantly, develop discipline. Do things the right way and don't take shortcuts. Surround yourself with people and organizations that have strong values. Keep yourself sharp, keep learning, and stay prepared, because when opportunity comes, not being ready is the real tragedy. And above all, be yourself. If that's not good enough, then work to improve, but don't lose who you are.

Company Overview

The Vanguard Group is the world's second largest asset management firm by assets under management, with around \$12 trillion AUM,⁵² primarily U.S.-focused, best known for pioneering low-cost index (passive) investing and reshaping how individuals access financial markets. Founded in 1974 by John C. Bogle, the company was created with an unconventional structure – it is owned by the funds it manages, and therefore indirectly by the investors themselves. This mutual ownership model allows Vanguard to operate “at cost,” aligning its interests with those of its clients and enabling it to offer investment products, primarily mutual funds and later exchange-traded funds (ETFs), at significantly lower fees than traditional asset managers. Vanguard's asset-weighted expense ratio⁵³ is around 0.06% as of 2025, among the lowest in the industry, when the industry average was around 0.39% (excluding Vanguard).⁵⁴

From its inception, Vanguard's mission has been to provide broad market exposure at minimal cost, rather than attempting to outperform the market through active management. This philosophy was crystallized in the launch of its first retail index fund (nicknamed “Bogle's Folly”) in 1976, which tracked the S&P 500 and helped popularize passive investing among individual investors. Over time, the firm expanded its offerings across equities, fixed income, and global markets, building a comprehensive suite of low-cost investment products. **Despite its global presence, Vanguard's asset base remains heavily concentrated in the United States, with an estimated over 90% of its assets under management tied to U.S. markets as of 2025.**⁵⁵ Crucially, its relentless focus on cost reduction has had effects far beyond its own funds, often referred to as the “Vanguard Effect”,⁵⁶ whereby its pricing pressure forced competitors across the asset management industry to lower fees, ultimately benefiting investors at large. Today, Vanguard manages trillions of dollars on behalf of tens of millions of investors worldwide, with index-based strategies forming the core of its business and long-term investment approach.

The origins of the Vanguard Group can be traced to the early ideas of its founder, John C. Bogle, whose senior thesis at Princeton in the 1950s examined the mutual fund industry at a time when it was still nascent but rapidly expanding expected to be of “great potential significance to U.S. business.”⁵⁷ Even then, Bogle articulated several principles that would later define Vanguard's philosophy – the need to reduce fees, clearly stating investment objectives, and avoiding overstating the value of active management, based on the evidence he had at the time. Although he did not yet envision index funds, he later described this work as the intellectual seed that ultimately shaped Vanguard's creation.⁵⁸

⁵² Top 100 Asset Manager Managers by Managed AUM. Sovereign Wealth Fund Institute. <https://www.swfinstitute.org/fund-manager-rankings/asset-manager>

⁵³ Vanguard reports this figure as the asset-weighted average expense ratio for its U.S. funds, calculated as fund expenses as a share of average U.S. net assets in 2025. Vanguard Lowers Expense Ratios to Deliver Long-Term Cost Savings for Investors.

<https://investor.vanguard.com/investor-resources-education/news/vanguard-lowers-expense-ratios-long-term-investing>

⁵⁴ Vanguard provides this expense data based on Morningstar Direct data for U.S.-domiciled mutual funds and ETFs, excluding funds of funds. Vanguard Lowers Expense Ratios to Deliver Long-Term Cost Savings for Investors. <https://investor.vanguard.com/investor-resources-education/news/vanguard-lowers-expense-ratios-long-term-investing>

⁵⁵ Vanguard Tops \$1 Trillion in Assets Outside the US. <https://www.reuters.com/business/vanguard-tops-1-trillion-assets-outside-us-ft-reports-2026-01-25/>; Vanguard in A Nutshell. <https://www.ch.vanguard/content/dam/intl/europe/documents/en/vanguard-in-a-nutshell-eu-en.pdf>

⁵⁶ How the Vanguard Effect Adds Up to \$1 Trillion. Bloomberg.

<https://web.archive.org/web/20191013162817/https://www.bloomberg.com/opinion/articles/2016-08-30/how-much-has-vanguard-saved-investors-try-1-trillion>; Of the investor. By the investor. For the investor. Since 1975.

<https://corporate.vanguard.com/content/corporatesite/us/en/corp/articles/of-investor-by-investor-for-investor-since-1975.html>

⁵⁷ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle.

https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

⁵⁸ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle.

https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

John Bogle

John C. Bogle (1929 – 2019), widely known as “Jack,” was one of the most influential figures in modern investing. He is best remembered as the founder of the Vanguard Group and the pioneer of low-cost index investing.

Bogle was born on May 8, 1929, in Montclair, New Jersey, alongside his twin brother, David. His early life was shaped by hardship: his father lost much of the family’s wealth during the Great Depression, struggled with alcoholism, and eventually divorced Bogle’s mother.⁵⁹ These formative experiences left a lasting impression. As Bogle later reflected, “They were tough times, and I started working when I was 10 years old, delivering papers and eventually becoming a waiter...I learned you work for what you get, and I feel sorry for people who haven’t had that upbringing.”⁶⁰ He noted in a 2014 interview, “You learn at a very young age, you’d better roll up your sleeves. That’s an eternal lesson. If you do not learn it, you’re disadvantaged.”

Figure 1: John Bogle⁶¹



After attending high school on the Jersey Shore, Bogle earned a scholarship to Blair Academy, where he credited his teachers, usually with “a red pen”, for teaching him English and writing, enabling him to get into Princeton University.⁶² He graduated magna cum laude in economics in 1951. His senior thesis on mutual funds proved pivotal: he later recalled falling “madly in love with the subject.”⁶³ The thesis introduced a core idea that would define his career –

⁵⁹ Jack Bogle, Founder of Vanguard Group And Creator of The Index Fund, Dies at Age 89. CNBC.

<https://www.cnbc.com/2018/12/14/jack-bogle-founder-of-vanguard-group-and-creator-of-the-index-fund-dies-at-age-89.html>

⁶⁰ Jack Bogle, Founder of Vanguard Group And Creator of The Index Fund, Dies at Age 89. CNBC.

<https://www.cnbc.com/2018/12/14/jack-bogle-founder-of-vanguard-group-and-creator-of-the-index-fund-dies-at-age-89.html>

⁶¹ John Bogle, Vanguard founder, Dies at 89. <https://www.investmentnews.com/ria-news/john-bogle-vanguard-founder-dies-at-89/77754>

⁶² Jack Bogle, Founder of Vanguard Group And Creator of The Index Fund, Dies at Age 89. CNBC.

<https://www.cnbc.com/2018/12/14/jack-bogle-founder-of-vanguard-group-and-creator-of-the-index-fund-dies-at-age-89.html>

⁶³ Life of Jack Bogle. Business Insider. <https://www.businessinsider.com/jack-bogle-life-career-vanguard-index-funds-2019-1>

investment firms should operate efficiently, honestly, and at low cost, always minimizing cost and prioritizing the investor.

Straight out of college, Bogle began his career at Wellington Management, quickly rising through the ranks to become CEO at just 35. However, his tenure ended abruptly in 1974, at the age of 45, when he was fired following a failed merger, an episode he later described as “an extremely unwise merger”⁶⁴ and the biggest mistake of his life. **Yet this setback became a turning point. Retaining oversight of Wellington’s mutual funds, Bogle went on to found Vanguard, approaching the venture, in his words, “fired with enthusiasm.”**⁶⁵

At Vanguard, Bogle introduced a radically different ownership structure: the firm would be owned by its funds, and therefore indirectly by its investors, aligning incentives around minimizing fees. In 1976, he launched the first index mutual fund, later known as the Vanguard 500 Index Fund. At the time, critics dismissed the idea as “a sure path to mediocrity,”⁶⁶ but Bogle believed that most investors would outperform active managers simply by tracking the market at low cost. This philosophy ultimately reshaped the investment industry and helped democratize access to financial markets.

Despite leading one of the world’s largest asset managers, Bogle remained personally frugal and deeply principled. He consistently emphasized stewardship over wealth accumulation. His advice was simple and enduring: “Invest as efficiently as you can, using low-cost funds that can be bought and held for a lifetime. Don’t go chasing past performance, but buy broad stock index and bond index funds, with your bond percentage roughly equaling your age... Most of all, you have to be disciplined and you have to save, even if you hate our current financial system. Because if you don’t save, then you’re guaranteed to end up with nothing.”⁶⁷ Even late in life, he maintained a strong philanthropic outlook, once remarking, “My only regret about money is that I don’t have more to give away.”⁶⁸

Bogle’s impact extended far beyond Vanguard’s scale. He fundamentally changed the economics of investing, shifting trillions of dollars toward low-cost strategies and redefining fiduciary responsibility. As Warren Buffett noted, Bogle “did more for American investors as a whole than any individual I’ve known...A lot of Wall Street is devoted to charging a lot for nothing. He charged nothing to accomplish a huge amount.”⁶⁹

In his 2016 letter to shareholders of Berkshire Hathaway, Buffett wrote:

“If a statue is ever erected to honor the person who has done the most for American investors, the hands down choice should be Jack Bogle. For decades, Jack has urged investors to invest in ultra-low-cost index funds. In his crusade, he amassed only a tiny percentage of the wealth that has typically flowed to managers who have promised their investors large rewards while delivering them nothing— or, as in our bet, less than nothing— of added value.

In his early years, Jack was frequently mocked by the investment-management industry. Today, however, he has the satisfaction of knowing that he helped millions of investors realize far better returns on their savings than they otherwise would have earned. He is a hero to them and to me.”⁷⁰

Bogle’s legacy is not just institutional, it is personal, enduring, and global. He did not just build a company but reshaped how millions of people invest for their future. As the former Vanguard CEO Tim Buckley remarked at his passing, “Jack Bogle made an impact on not only the entire investment industry, but more importantly, on the lives of countless individuals saving for their futures or their children’s futures...He was a tremendously intelligent, driven, and talented

⁶⁴ Jack Bogle, Founder of Vanguard Group And Creator of The Index Fund, Dies at Age 89. CNBC.

<https://www.cnbc.com/2018/12/14/jack-bogle-founder-of-vanguard-group-and-creator-of-the-index-fund-dies-at-age-89.html>

⁶⁵ Life of Jack Bogle. Business Insider. <https://www.businessinsider.com/jack-bogle-life-career-vanguard-index-funds-2019-1>

⁶⁶ Life of Jack Bogle. Business Insider. <https://www.businessinsider.com/jack-bogle-life-career-vanguard-index-funds-2019-1>

⁶⁷ Me and My Money. Reuters. <https://web.archive.org/web/20171214093451/https://www.reuters.com/article/us-column-taylor-bogle/me-and-my-money-jack-bogle-idUSBRE88A0LI20120911>

⁶⁸ John Bogle, Vanguard’s Founder, Is Too Worried to Rest. The New York Times.

<https://web.archive.org/web/20211114195739/https://www.nytimes.com/2012/08/12/business/john-bogle-vanguards-founder-is-too-worried-to-rest.html?module=inline>

⁶⁹ Warren Buffett Says Jack Bogle Did More for The Individual Investor than Anyone He's Ever Known. CNBC.

<https://www.cnbc.com/2019/01/16/warren-buffett-says-jack-bogle-did-more-for-the-individual-investor-than-anyone-hes-ever-known.html>

⁷⁰ Berkshire Hathaway Shareholders Letter 2016. <https://www.berkshirehathaway.com/letters/2016ltr.pdf>

visionary whose ideas completely changed the way we invest. We are honored to continue his legacy of giving every investor 'a fair shake'".⁷¹

Vanguard itself emerged not from success, but from the founder's career setback and reinvention. After joining Wellington Management Company (WMC) in 1951, Bogle rose quickly through the ranks to become a senior executive. However, his role in orchestrating a 1966 merger with the more aggressive Boston firm Thorndike, Doran, Paine & Lewis ultimately proved disastrous. The market downturn of the early 1970s severely damaged performance and assets. As Bogle later recalled, "Assets of our flagship, the conservative Wellington Fund, had tumbled from a high of \$2 billion in 1965 to less than \$1 billion... on the way to a low of \$480 million," while WMC's stock price collapsed from \$50 per share in 1968 to just \$4.25 in 1975.⁷² **On January 23, 1974, he was fired as chairman and CEO of Wellington. Yet this setback became the catalyst for a radical new idea. The very next day, Bogle proposed that the Wellington funds, whose directors were mostly unaffiliated with WMC, "declare [their] independence from WMC... and operate... on an at-cost basis,"**⁷³ fundamentally restructuring the relationship between fund managers and investors.

After months of conflict, the fund directors approved the creation of a new entity wholly owned by the funds themselves. Incorporated on September 24, 1974, the Vanguard Group began with just 20 employees and a novel structure designed to serve fund investors rather than external shareholders. In Bogle's words, Vanguard had "defied precedent" by operating "for the sole benefit of our fund owners."⁷⁴ Shortly after its founding, Bogle encountered Paul Samuelson's paper on a low-cost fund that would track the market, an idea that would become central to Vanguard's identity. By the end of its founding year, Vanguard managed less than \$1.5 billion in assets, inherited primarily from the Wellington funds.⁷⁵

In his 1974 article *Challenge to Judgment*, Paul Samuelson argues that while it is logically possible for some investors to outperform the market, there is little convincing empirical evidence that anyone can do so consistently. He frames the debate as a testable proposition, whether "the best of money managers" can reliably deliver superior performance, and concludes that the honest verdict from available data is that "Superior investment performance is unproved."⁷⁶ Although certain funds or managers may outperform in specific periods, these successes do not persist reliably, and systematic attempts by researchers to identify repeatable skill have largely failed. This leads Samuelson to align with a "loose version" of the efficient market or random walk hypothesis, emphasizing that the burden of proof lies with those who claim consistent outperformance.

Building on this skepticism, Samuelson explicitly proposes using a passive benchmark, such as an S&P 500 index, tracking portfolio, as a practical test of active management. He suggests that "some large foundation should set up an in-house portfolio that tracks the S&P 500 Index – if only for the purpose of setting up a naive model against which their in-house gunslingers can measure their prowess."⁷⁷ The underlying logic is straightforward – because "not everybody, nor even the average person, can do better than the comprehensive market averages," and because a broadly diversified portfolio will closely approximate those averages, passive investing provides a natural baseline that is both low-cost and difficult to beat after fees and transaction costs. In this framework, the purpose of indexing is not just efficiency, but accountability, forcing active managers to demonstrate genuine skill relative to a simple, transparent alternative that captures market returns without the drag of excessive trading.

⁷¹ Vanguard Announces The Passing of Founder John C. Bogle. <https://www.vanguard.com.au/corporate/media-centre/2019/announcement-passing-of-founder-john-bogle>

⁷² Jack Bogle's Biggest Investing Mistake Cost \$1 billion and His Job. CNBC. <https://www.cnbc.com/2018/12/20/jack-bogles-biggest-investing-mistake-cost-1-billion-and-his-job.html>

⁷³ Lightning Strikes: The Creation of Vanguard, the First Index Mutual Fund, and the Revolution It Spawned. John Bogle.

⁷⁴ Lightning Strikes: The Creation of Vanguard, the First Index Mutual Fund, and the Revolution It Spawned. John Bogle.

⁷⁵ Vanguard by the Numbers. <https://johncbogle.com/wordpress/wp-content/uploads/2016/07/Vanguard-By-The-Numbers.pdf>

⁷⁶ Samuelson, P. A. (1998). Challenge to judgment (Fall 1974). In P. L. Bernstein & F. J. Fabozzi (Eds.), *Streetwise: The Best of The Journal of Portfolio Management* (pp. 7–9). Princeton University Press. <https://doi.org/10.2307/j.ctv1mjqtwg.4>

⁷⁷ Samuelson, P. A. (1998). Challenge to judgment (Fall 1974). In P. L. Bernstein & F. J. Fabozzi (Eds.), *Streetwise: The Best of The Journal of Portfolio Management* (pp. 7–9). Princeton University Press. <https://doi.org/10.2307/j.ctv1mjqtwg.4>

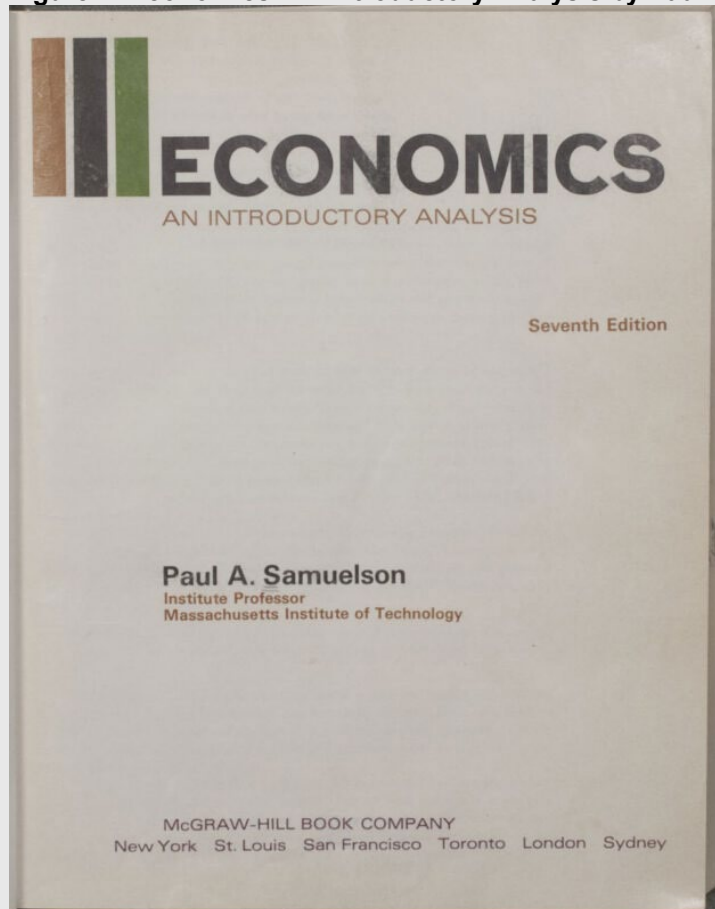
Paul Samuelson

"Nobel laureate economist Paul Samuelson played a major role in precipitating the index fund's creation. While I'd hinted at the idea of an index fund in my senior thesis at Princeton University in 1951 (mutual funds "may make no claim to superiority over the market averages"), Samuelson was much more forceful, strengthening my backbone for the hard task that lay ahead: taking on the industry establishment. His article 'Challenge to Judgment' caught me at the perfect moment. Published in the inaugural edition of the Journal of Portfolio Management in the autumn of 1974, it pleaded "that some large foundation set up an in-house portfolio that tracks the S&P 500 Index – if only for the purpose of setting up a naïve model against which their inhouse gunslingers can measure their prowess.""⁷⁸

- John Bogle

Paul A. Samuelson (1915 – 2009) was one of the most influential economists of the twentieth century, widely credited with transforming economics into a more rigorous, scientific discipline. Often regarded as the father of modern economics, he became the first American to receive the Nobel Prize in Economic Sciences in 1970, recognized for reshaping the analytical foundations of the field.⁷⁹ Samuelson was a firm believer in the power of mathematics, and his pioneering work helped establish the formal, quantitative framework that underpins modern economic analysis. His textbook, *Economics: An Introductory Analysis*, became one of the most widely used and enduring texts in American education.

Figure 2: Economics: An Introductory Analysis by Paul A. Samuelson⁸⁰



Born in Gary, Indiana, he came of age during the Great Depression, an experience that profoundly shaped both his intellectual interests and moral outlook. He later recalled the widespread hardship of the era, noting that even middle-class families faced severe deprivation, with "children at the door...asking...for a dime, a quarter, or a potato:

⁷⁸ How the Index Fund Was Born. The Wall Street Journal.

<https://www.wsj.com/articles/SB10001424053111904583204576544681577401622>

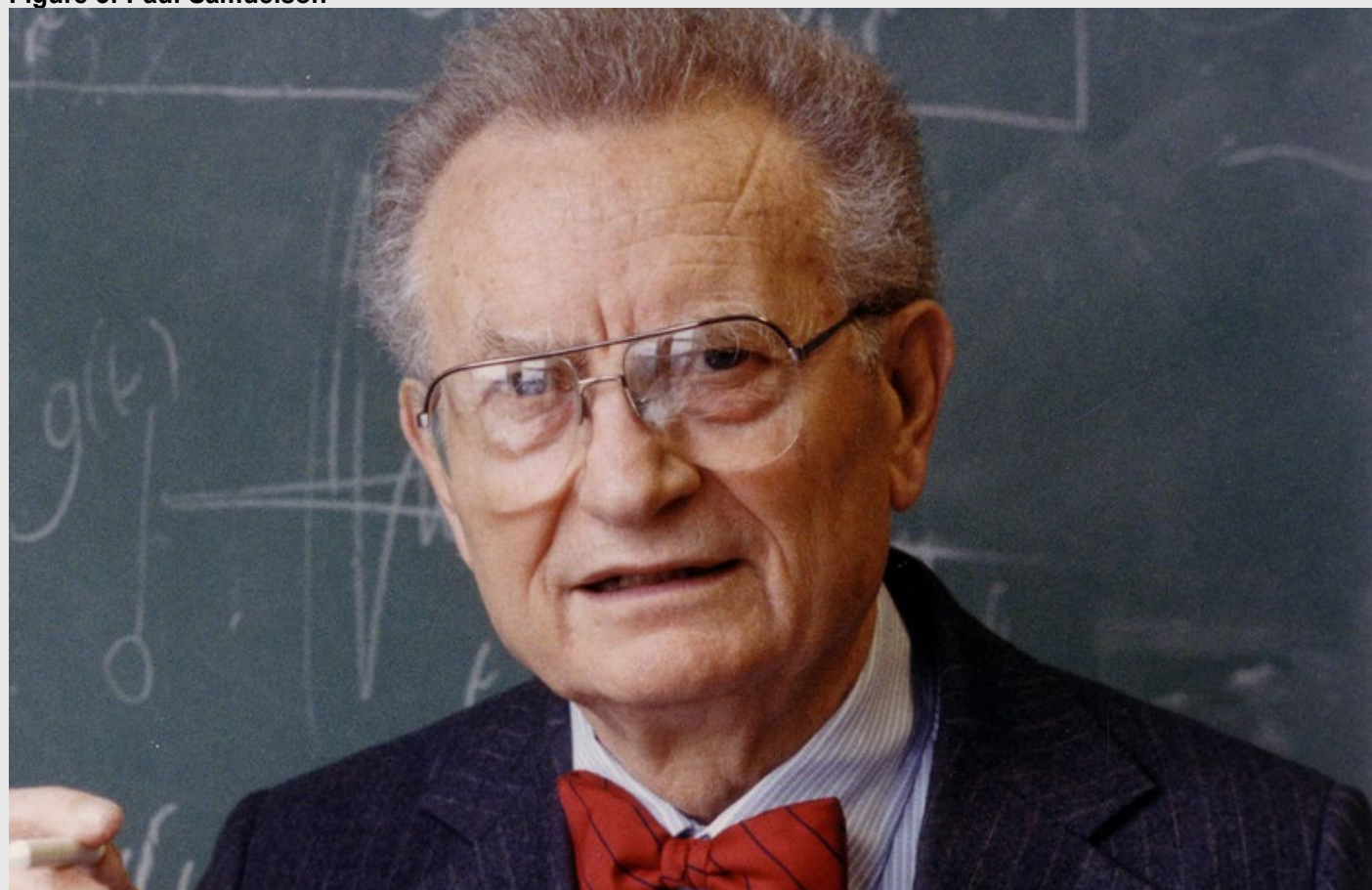
⁷⁹ Father of Modern Economics. <https://betterworld.mit.edu/father-modern-economics/>

⁸⁰ Economics: An Introductory Analysis by Paul A. Samuelson. <https://libraries.mit.edu/150books/2011/04/23/1967/>

saying...we are starving".⁸¹ This environment contributed to his lifelong concern with inequality and public policy, as he described his own ideology as one that "favors the underdog and...abhors inequality"

Samuelson's academic path was distinguished. He began studying economics at the University of Chicago at age 16, where he was initially struck by the disconnect between theoretical models and real-world unemployment during the Depression.⁸² He later completed his graduate studies at Harvard, producing a stream of groundbreaking research that culminated in his seminal book *Foundations of Economic Analysis* in 1947. This work helped formalize economics using mathematical methods, and more broadly, Samuelson "reformulated and extended [economic principles] with crystal clarity in the language of mathematics".⁸³ His early achievements quickly propelled him into academia; by age 25 he had joined MIT, where he would spend the rest of his career and help build one of the world's leading economics departments.⁸⁴

Figure 3: Paul Samuelson⁸⁵



Over the following decades, Samuelson made foundational contributions across nearly every field of economics, from consumer theory and welfare economics to international trade and macroeconomics. He was awarded the Nobel Prize in 1970 "for the scientific work through which he has developed static and dynamic economic theory and actively contributed to raising the level of analysis in economic science".⁸⁶ Beyond research, his influence extended through teaching and writing. His introductory textbook *Economics* became one of the most widely used textbooks in history

⁸¹ Paul A. Samuelson [Ideological Profiles of the Economics Laureates] Daniel B. Klein and Ryan Daza *Econ Journal Watch* 10(3), September 2013: 561-569. http://econjwatch.org/file_download/763/SamuelsonIPEL.pdf

⁸² Paul A. Samuelson [Ideological Profiles of the Economics Laureates] Daniel B. Klein and Ryan Daza *Econ Journal Watch* 10(3), September 2013: 561-569. http://econjwatch.org/file_download/763/SamuelsonIPEL.pdf

⁸³ Paul Samuelson's Legacy. Avinash Dixit. Princeton University. <https://doi.org/10.1146/annurev-economics-080511-110957>

⁸⁴ Paul A. Samuelson [Ideological Profiles of the Economics Laureates] Daniel B. Klein and Ryan Daza *Econ Journal Watch* 10(3), September 2013: 561-569. http://econjwatch.org/file_download/763/SamuelsonIPEL.pdf

⁸⁵ Paul Anthony Samuelson (1915-2009). <https://ideasofeconomists.com/2022/03/10/paul-samuelson-1915-2009/>

⁸⁶ Paul A. Samuelson [Ideological Profiles of the Economics Laureates] Daniel B. Klein and Ryan Daza *Econ Journal Watch* 10(3), September 2013: 561-569. http://econjwatch.org/file_download/763/SamuelsonIPEL.pdf

and played a central role in disseminating Keynesian ideas. As one scholar observed, “more than anyone else in the latter half of the twentieth century, Samuelson changed the way economists think and write”⁸⁷

Although deeply engaged in policy debates, Samuelson maintained a degree of independence from formal political roles. He advised U.S. presidents and government agencies while continuing to see himself primarily as a scholar. He described public policy not as something external imposed by government, but as “a way in which we organize our affairs”.⁸⁸ Over time, his views evolved toward a pragmatic “mixed economy,” shaped by real-world experiences and skepticism about both pure laissez-faire and heavy government planning. Even so, his intellectual identity remained consistent: a rigorous theorist grounded in empirical reality,⁸⁹ committed to using economics as a tool to better understand and improve society.

The intellectual roots of index investing, however, predated Vanguard itself. **As early as 1960, researchers such as Edward Renshaw and Paul Feldstein argued that investors would be better served by capturing market returns at low cost rather than attempting to outperform through active management.** Their insight was straightforward – since many mutual funds failed to beat the market, investors might achieve better outcomes by simply owning the market efficiently. They suggested that “real economies in supervision could be obtained by eliminating the cost of advisory service,”⁹⁰ potentially leading to superior long-term results. Despite this logic, the idea was initially overlooked, with critics arguing that tracking an index would be impractical and expensive.

In the same year, a paper titled *The Case for Mutual Fund Management*, published in the Financial Analysts Journal under the pseudonym John B. Armstrong, presented a thoughtful defense of active management. **A closer look at the author’s footnote reveals the identity behind the name: “John B. Armstrong is the pen-name of a man who has spent many years in the security field and in the study and analysis of mutual funds. A graduate of Princeton University, his A.B. thesis was entitled “Economic Role of the Investment Company.”⁹¹ (In other words, the author was John Bogle!)** Drawing on historical data, Armstrong (Bogle) showed that a group of diversified mutual funds had outperformed the Dow Jones Industrial Average over extended periods, including 1930 – 1959 and 1950 – 1959. However, his core argument was more nuanced. He cautioned that simply asking whether a fund “beats the Dow,” then a 65-stock composite index, was an inadequate framework. Because funds differ in objectives, policies, and risk profiles, performance must be evaluated in the context of risk taken. He emphasized that many funds were less volatile than the Dow, making direct comparisons misleading, and argued that the Dow itself is an imperfect benchmark, a constructed and frequently adjusted index rather than a neutral representation of the market.

⁸⁷ Paul Samuelson's Legacy. Avinash Dixit. Princeton University. <https://doi.org/10.1146/annurev-economics-080511-110957>

⁸⁸ Paul A. Samuelson [Ideological Profiles of the Economics Laureates] Daniel B. Klein and Ryan Daza Econ Journal Watch 10(3), September 2013: 561-569. http://econjwatch.org/file_download/763/SamuelsonIPEL.pdf

⁸⁹ Paul Samuelson's Legacy. Avinash Dixit. Princeton University. <https://doi.org/10.1146/annurev-economics-080511-110957>

⁹⁰ The Secret History of Index Mutual Funds. <https://www.investmentnews.com/ria-news/the-secret-history-of-index-mutual-funds/69099>

⁹¹ Armstrong, J. B. (1960). The Case for Mutual Fund Management. Financial Analysts Journal, 16(3), 33–38. <http://www.jstor.org/stable/4469019>

The Case for Mutual Fund Management

by John B. Armstrong

EXPERIENCED PROFESSIONAL MANAGEMENT is said to be one of the primary advantages that mutual funds offer to the average investor.¹ There are many ways of evaluating the results achieved by mutual fund managements. Some studies provide a highly favorable picture of these results. Others have indicated results which are not so favorable. The purpose of this article is to analyze the long-term performance records of leading mutual funds, in an effort to appraise the extent to which mutual fund shareholders have benefitted from the accomplishments of the fund managers.

Leading common stock funds have shown better long-term results than the Dow-Jones Industrial Average. The most typical method of appraising a mutual fund's results is by comparing the percentage change in its net asset value per share (adjusted for income dividends and capital gains distributions paid) over any given period, with a similar figure for the Dow-Jones Industrial Average.² The method is recommended by its simplicity; the comparison is recommended by the fact that the Dow-Jones Industrial Average is surely the index of stock market behavior with the greatest following among the investing public (although perhaps few investors fully understand it).

It is apparent that the conclusions derived from this method of comparison will vary with (a) the mutual fund selected, and (b) the period of time chosen. Therefore, as a preliminary observation, the following two principles appear necessary for a fair comparison: First, the mutual fund portfolio should bear some similarity to the Dow-Jones Industrial Average. In other words, the Fund's portfolio should be composed primarily of a diversified list of common stocks. The common stock funds alone, not the bond or preferred stock funds, the industry type funds, nor the balanced funds (composed of varying percentages of common stocks, preferred stocks and bonds), should be compared with a common stock market average—if an evaluation of the fund's management is sought. Second, the period of time for the comparison should be sufficiently long to cover a wide variety of economic and stock market conditions, in order to make the test a sound one. Such a period will also serve to limit the effect of short-term circumstances which might have an unwarranted effect (favorable or unfavorable) on the performance of either the fund or the Average.

Table I utilizes both of these principles. It compares

1. Footnotes are at end of article.

John B. Armstrong is the pen-name of a man who has spent many years in the security field and in the study and analysis of mutual funds. A graduate of Princeton University, his A.B. thesis was entitled "Economic Role of the Investment Company."

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the results of the four oldest diversified common stock funds with the results of the Dow-Jones Industrial Average from Jan. 1, 1930, to Dec. 31, 1959. These four pioneer mutual funds are also among the largest in the industry today, accounting for about 15% of the assets of all mutual funds. The 30-year period, in addition to covering all or most of the record of each fund, was, to say the least, a challenging one—including the depression of the early 30's, World War II and Korea, inflation, and political and economic change on perhaps an unparalleled scale. The total percentage gain (including both appreciation and income) of each investment in this period was as indicated in *Table I*.

Table I

	% Appreciation	% Income	Total Increase ²
Fund A	+ 348%	205%	+ 553%
Fund B	+ 233%	109%	+ 342%
Fund C	+ 157%	114%	+ 271%
Fund D	+ 478%	193%	+ 671%
Average	+ 304%	155%	+ 459%
Dow-Jones Industrial Average	+ 174%	133%	+ 307%

Table I shows that three of the four funds provided a greater total percentage increase than the Dow-Jones Average, and the average performance of the funds was 152 percentage points greater. Certainly this is a significant indication of good long-term performance relative to the Average. It should, of course, be recognized that common stock prices in general were substantially higher at the end of this period than the beginning; that the total percentages include income as well as appreciation; that these funds differ in their investment objectives; and that the figures can not be considered as a representation of future results.

The four funds in *Table I* were selected in order to provide a long-term comparison, and were the only major common stock funds in business throughout the entire period. That these funds provide a fair representation of the performance of common stock mutual funds in general is indicated by the fact that their average performance over the past five years has been generally comparable to that of the average common stock mutual fund. According to Arthur Wiesenberger & Co.—the New York Stock Exchange firm well-known for its authoritative statistical comparisons of mutual funds—and publishers of the widely used "Investment Companies" manual, the average performance (computed as in *Table I*) of 55 common stock funds with unrestricted investment policies over the past five years (1955-1959) was virtually identical with the average of the four funds shown in the foregoing comparison.

The foregoing figures have been presented to show

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⁹² Armstrong, J. B. (1960). *The Case for Mutual Fund Management*. *Financial Analysts Journal*, 16(3), 33-38.

<http://www.jstor.org/stable/4469019>

Armstrong also pushed back against the notion that investors should simply “buy the average.” At the time, replicating an index such as the Dow was operationally impractical for individual investors. For example, purchasing just 10 shares of each Dow component would “currently require about \$22,700,”⁹³ while “the commission costs and odd-lot fees would be high for small purchases; the bookkeeping considerable; and keeping such an investor’s holdings on the same basis as the Dow, after a stock split or substitution, would in fact be impossible (in the absence of any frictional shares).” Even a professionally managed “unmanaged fund” would face structural challenges: it “could not be fully invested at all times,” its returns would be “reduced by brokerage costs involved in making the frequent changes called for by changes in the market average,” and it would incur “administrative expenses” related to daily pricing and operations.

It was not until the late 1960s and early 1970s that the concept began to move from theory to practice, when John “Mac” McQuown and his team at Wells Fargo applied emerging data and computing tools to construct passive portfolios. **Early attempts, such as tracking all NYSE stocks on an equal-weighted basis, proved “a nightmare,” but the approach eventually converged on a market-cap-weighted strategy tracking the S&P 500.**⁹⁴ Institutional investors including Samsonite, AT&T, Ford, and Exxon helped validate the concept before it reached retail investors. It was only later that Bogle launched Vanguard’s Index Investment Trust, which tracked the S&P 500 and brought index investing to the broader public.⁹⁵

At the same time, other institutions were independently exploring similar ideas. Batterymarch Financial Management, founded by Jeremy Grantham and Dean LeBaron, pursued index investing in the early 1970s. Grantham introduced the concept at a Harvard Business School seminar in 1971 but initially found little interest. The firm’s efforts were even ridiculed, earning a “Dubious Achievement Award” from Pensions & Investments in 1972.⁹⁶ It was not until late 1974 that Batterymarch secured its first client. Around the same time, American National Bank in Chicago launched a common trust fund tracking the S&P 500, requiring a minimum investment of \$100,000. These early institutional efforts helped move index investing from academic theory into practical application, gradually attracting attention from the broader financial community.

Meanwhile, a growing body of empirical evidence reinforced the case for passive investing. Studies suggested that a large majority of institutional investors, roughly 85%, failed to outperform the S&P 500 after costs.⁹⁷ **This insight was powerfully articulated in Charles D. Ellis’s 1975 article *The Loser’s Game*, which demonstrated how even modest fees and turnover create a significant performance hurdle. For example, with equities returning 9% annually, a manager with 30% turnover and transaction costs of 3% on both sales and reinvestment (equivalent to 1.8% of assets annually), combined with management and custody fees of 0.2%, would incur total costs of roughly 2% per year. As a result, the manager would need to generate 11% annually, over 20% above the market return, just to match the gross performance of the index.**⁹⁸ These findings directly shaped Bogle’s conviction that a low-cost, no-load, market-tracking fund could deliver superior long-term outcomes for ordinary investors.

Following SEC approval of Vanguard’s reorganization in February 1975, shareholders voted to mutualize the funds and reduce advisory fees paid to Wellington Management by approximately 15%. Vanguard formally began operations on May 1, 1975, initially with a limited mandate covering administrative, financial, and legal functions, while investment management and distribution remained with Wellington. Despite these constraints, Bogle and his team recognized a unique opportunity – to launch an unmanaged, low-cost index fund in a market where no competitor was willing to offer an “at-cost” structure.⁹⁹

⁹³ Armstrong, J. B. (1960). The Case for Mutual Fund Management. *Financial Analysts Journal*, 16(3), 33–38.

<http://www.jstor.org/stable/4469019>

⁹⁴ The Secret History of Index Mutual Funds. <https://www.investmentnews.com/ria-news/the-secret-history-of-index-mutual-funds/69099>

⁹⁵ The Secret History of Index Mutual Funds. <https://www.investmentnews.com/ria-news/the-secret-history-of-index-mutual-funds/69099>

⁹⁶ The Secret History of Index Mutual Funds. <https://www.investmentnews.com/ria-news/the-secret-history-of-index-mutual-funds/69099>

⁹⁷ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle.

https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

⁹⁸ The Loser’s Game. Charles Ellis. *Financial Analysts Journal*. 1975; The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle.

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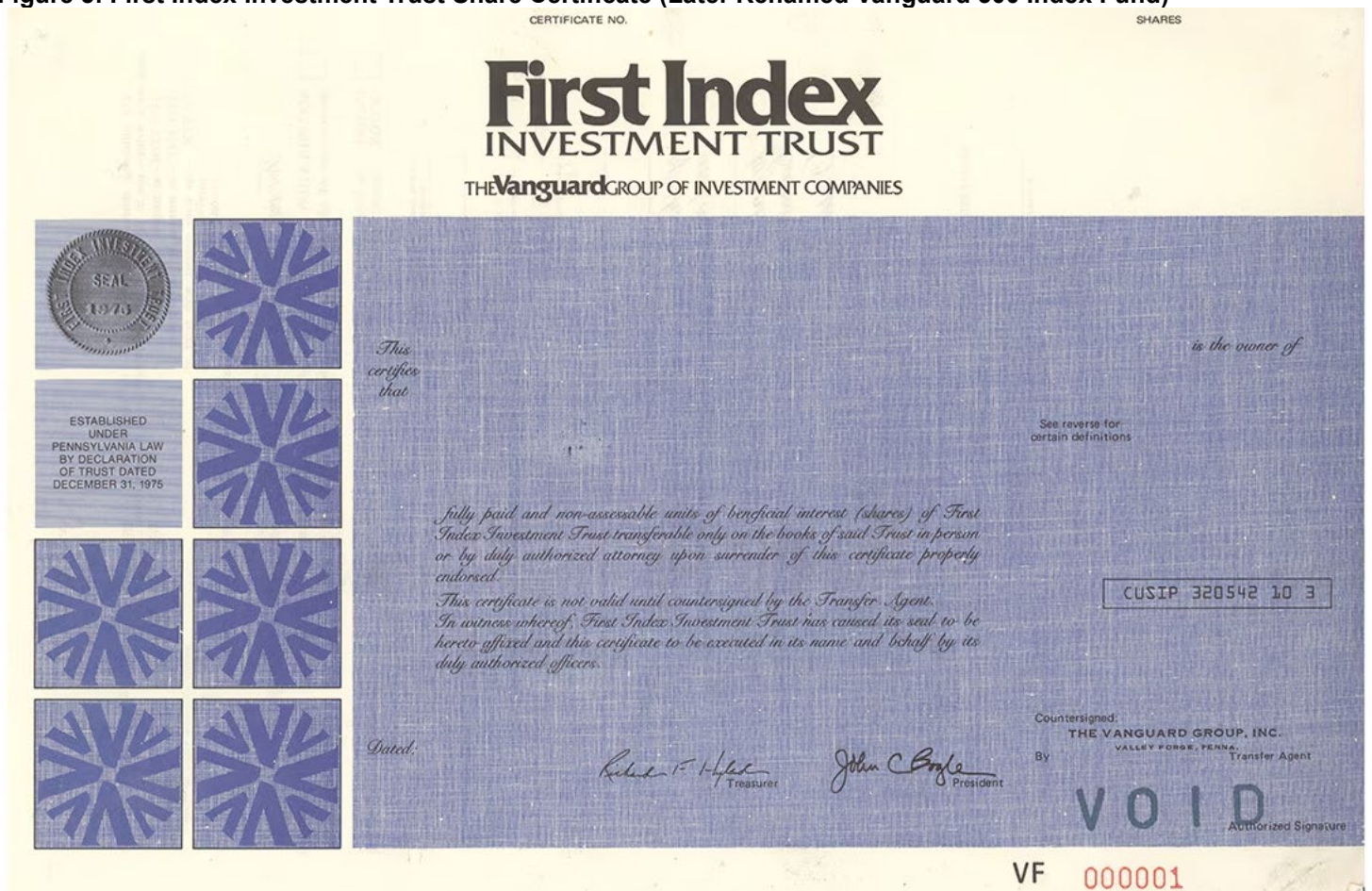
⁹⁹ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle.

https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

The effort to build the index fund began with a remarkably small team, just Bogle and two young colleagues, who were responsible for developing the investment concept, designing the marketing approach, and ensuring the statistical integrity of the portfolio. After extensive internal debate, the board approved the fund structure, accepting the argument that no traditional investment “advice” was involved and that underwriting could be handled externally. The Declaration of Trust was filed on December 31, 1975, and by April 1976, the team presented detailed cost projections. They estimated operating expenses of 0.3% and transaction costs of 0.2%, compared to roughly 2.0% for actively managed funds. This cost advantage, they argued, could translate into a 1.5% annual return differential. To make the case dramatic, Bogle and his team presented that over a 30-year horizon, that seemingly small gap would compound dramatically: \$1 million invested at 10% would grow to \$17.5 million, versus only \$11.5 million at 8.5%.¹⁰⁰ **As Bogle famously noted, “Where returns are concerned, time is your friend. But where costs are concerned, time is your enemy.”**¹⁰¹

After months of preparation, Vanguard launched the fund in 1976 amid a challenging environment for mutual fund sales following the nearly 50% market decline of 1973 to 1974. Working with major brokerage firms, the company aimed to raise between \$50 million and \$150 million but ultimately secured only \$11.4 million, insufficient to purchase full positions (round lots, 100-share) in all index constituents, yet enough to begin operations.¹⁰² The First Index Investment Trust officially launched on August 31, 1976.¹⁰³

Figure 5: First Index Investment Trust Share Certificate (Later Renamed Vanguard 500 Index Fund)¹⁰⁴



¹⁰⁰ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle. https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

¹⁰¹ The Enduring Wisdom of John C. Bogle in Five Quotes. <https://www.vanguard.com.au/personal/learn/smart-investing/understand-the-basics/enduring-wisdom-of-john-bogle-in-five-quotes>

¹⁰² Lightning Strikes: The Creation of Vanguard, the First Index Mutual Fund, and the Revolution It Spawned. John Bogle.

¹⁰³ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle. https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

¹⁰⁴ 50 years. 50 facts. Indexing Since 1976. <https://corporate.vanguard.com/content/corporatesite/us/en/corp/articles/50-years-50-facts-indexing-since-1976.html>

Despite its modest start, the fund marked a turning point in investment management. By early 1992, the Vanguard 500 Index Fund had become the seventh-largest U.S. equity mutual fund, with the founder John Bogle predicting that by the turn of the twentieth century, [Vanguard's] 500 Portfolio will be the largest equity mutual fund in the world."¹⁰⁵ **Decades later, the scale of its impact is unmistakable: by 2025, Vanguard managed approximately \$12 trillion globally, of which \$10.1 trillion was in index assets,¹⁰⁶ reflecting a roughly 32% CAGR driven by both market appreciation and sustained inflows.**

Following its launch in 1976, the fund could not initially replicate the S&P 500 in full due to limited capital and high transaction costs. Instead, it employed a sampling strategy, holding 280 stocks, "the 200 largest stocks (representing almost 80% of the weight of the Index) plus 80 stocks selected by various optimization models," to approximate index performance. Despite these constraints and the absence of modern computing tools, then portfolio manager Jan Twardowski reportedly achieved close tracking results, providing early proof of the concept. During its first year, the fund emphasized its unique value proposition as "the first and only investment company that offers an index-matching account," grounded in "clear statistical evidence" of the difficulty of merely matching the S&P 500 index return for both the professional and amateur investors, not mentioning beating it.¹⁰⁷ Still, adoption was slow. Assets stagnated at \$17 million in 1977, and relative performance lagged in the short term, with the index outperforming only about one-quarter of actively managed funds between 1977 and 1979. A turning point came with the merger into Exeter Fund, which increased assets to \$75 million and enabled full replication of all 500 stocks. As Bogle later reflected, "we were off and running,"¹⁰⁸ with stronger relative performance emerging in the early 1980s.

Public information on the merger between Vanguard's First Index Investment Trust and the Exeter Fund remains limited. A 1978 SEC filing described Exeter as "an 'exchange fund'¹⁰⁹ which did not offer shares to the general public," and it was ultimately folded into Vanguard's index fund structure.¹¹⁰ Following the merger, Exeter ceased to exist as a standalone entity.

Following the market boom that began in 1982, Vanguard Group's index fund, renamed Vanguard Index Trust in 1980, delivered strong relative results, outperforming nearly three-quarters of equity funds from 1983 to 1986. This performance helped indexing gradually gain investor attention, though adoption remained limited. Competing offerings emerged, such as Wells Fargo's Stagecoach Corporate Stock Fund in 1984, but its nearly 1% expense ratio made it structurally uncompetitive, compared to Vanguard's mutual funds at an average around 0.6% in the early 1980s and down to 0.4% in the late 1980s.¹¹¹ Other launches in the mid-1980s, often burdened by high fees or flawed structures, such as Colonial Index Trust with a 4.75% sales load and 1.5% annual expenses, further underscored that high costs would "inevitably fall far short of the performance of the very index [they were] designed to emulate."¹¹² As a result, indexing still represented less than 0.5% of equity mutual fund assets by 1986, even as it gained more traction in institutional portfolios.

A more meaningful expansion came with the introduction of bond indexing. In 1986, Vanguard launched the world's first bond index fund (tracking the Lehman Brothers Aggregate Bond Index), again positioning itself as a pioneer in low-cost investing. The idea was driven by the recognition that most bond funds were "grossly overpriced,"¹¹³ creating a clear

¹⁰⁵ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle.

https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

¹⁰⁶ Vanguard in A Nutshell. Vanguard. <https://www.ch.vanguard/content/dam/intl/europe/documents/en/vanguard-in-a-nutshell-eu-en.pdf>

¹⁰⁷ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle.

https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

¹⁰⁸ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle.

https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

¹⁰⁹ An exchange fund is an investment fund that allows investors to contribute appreciated securities in exchange for a diversified portfolio, enabling them to defer capital gains taxes while reducing single-stock concentration risk. Exchange Funds – An Important Alternative for Your Asset Allocation. https://advisor.morganstanley.com/the-horizons-group/documents/field/h/ho/horizons-group/Exchange_Funds.pdf

¹¹⁰ In The Matter of The Vanguard Group Inc., et al. Securities And Exchange Commission.

<https://www.sec.gov/files/litigation/aljdec/1978/id19781129mor.pdf>

¹¹¹ Vanguard by the Numbers. <https://johncbogle.com/wordpress/wp-content/uploads/2016/07/Vanguard-By-The-Numbers.pdf>

¹¹² The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle.

https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

¹¹³ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle.

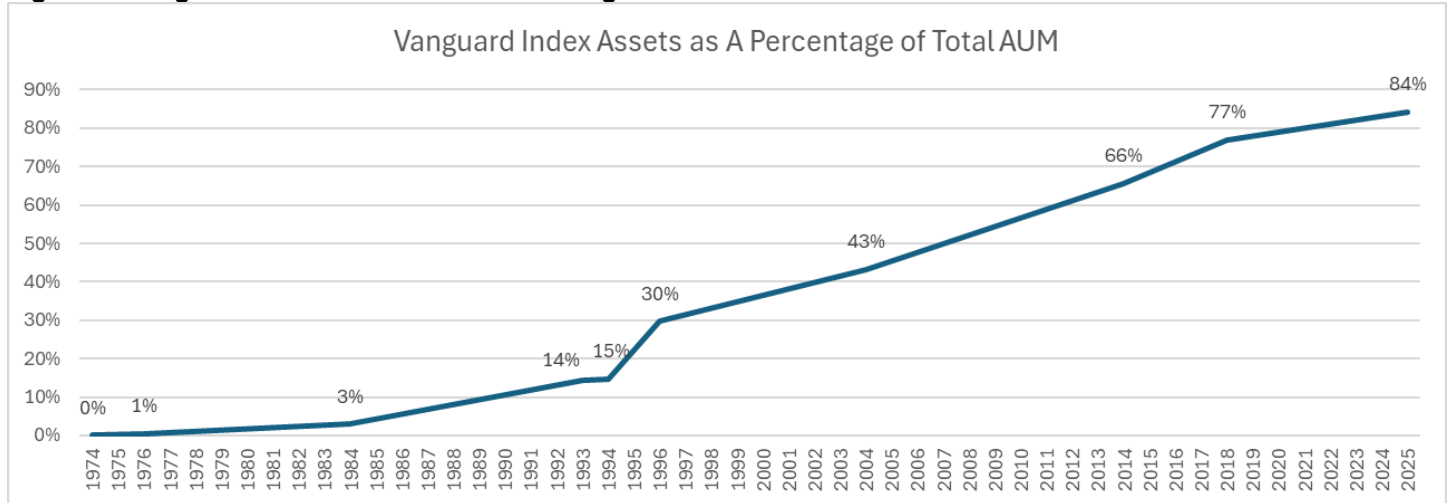
https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

opportunity for a low-cost alternative, famously captured when Forbes asked, “Vanguard, where are you when we need you?” The fund went on to achieve both strong tracking and commercial success.

During the same period, the firm’s stock index fund continued to draw new capital, by the end of 1986, the original stock index fund’s assets had quintupled from four years ago to nearly \$500 million and ranked 71st among 423 equity funds,¹¹⁴ signaling that while still small, indexing was beginning to establish a durable foothold.

As John Bogle later reflected, “Vanguard’s growth began to accelerate concurrently with the growth of the index fund, which took off during the late 1980s. By the 1990s, our cash flow was coming in mostly to index funds.”¹¹⁵ He noted that Vanguard’s index assets grew from less than 5% of the firm’s total assets in 1980 to 25% in 1995, 40% in 1998, 50% in 2005, 60% in 2010, and ultimately 77% by 2018, highlighting how central indexing became Vanguard’s identity. **By 2025, index funds dominate Vanguard’s AUM, accounting for roughly 84% of its \$12 trillion in assets, with the remaining \$1.9 trillion managed in active funds.**¹¹⁶

Figure 6: Vanguard Index Assets as A Percentage of Total AUM¹¹⁷



Note:

1. Because Vanguard does not consistently publish detailed data on its assets under management and underlying composition, the figures above are compiled from multiple sources, including news articles and John Bogle’s memo, and may not fully reflect actual values. Any gaps in the data have been connected for illustrative purposes only.

Between 1987 and 1990, Vanguard expanded indexing from a single product into a broader suite of offerings designed to capture the full market. Recognizing that the S&P 500 covered only about 75% of the U.S. equity market, the firm introduced an Extended Market fund to include mid- and small-cap stocks.¹¹⁸ It also converted its small-cap fund to track the Russell 2000 and expanded internationally through funds tied to regional components of the MSCI EAFE Index. Even during the 1987 market crash, when equities fell roughly 30% from peak to trough in the mid-year, the index approach proved resilient such that the S&P 500 still posted a positive 5% full-year return and outperformed most (76%) active managers. Under the leadership of Gus Sauter, Vanguard maintained tight tracking precision across increasingly complex

¹¹⁴ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle.

https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

¹¹⁵ “Uneasy Lies The Head That Wears A Crown” – A Conversation with Jack Bogle.

<https://www.advisorperspectives.com/articles/2018/01/22/uneasy-lies-the-head-that-wears-a-crown-a-conversation-with-jack-bogle>

¹¹⁶ Vanguard in A Nutshell. Vanguard. <https://www.ch.vanguard/content/dam/intl/europe/documents/en/vanguard-in-a-nutshell-eu-en.pdf>

¹¹⁷ Lightning Strikes: The Creation of Vanguard, the First Index Mutual Fund, and the Revolution It Spawned. John Bogle; The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle.

https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html; “Uneasy Lies The Head That Wears A Crown” – A Conversation with Jack Bogle. <https://www.advisorperspectives.com/articles/2018/01/22/uneasy-lies-the-head-that-wears-a-crown-a-conversation-with-jack-bogle>; Vanguard in A Nutshell. Vanguard.

<https://www.ch.vanguard/content/dam/intl/europe/documents/en/vanguard-in-a-nutshell-eu-en.pdf>; Vanguard by the Numbers. <https://johnbogle.com/wordpress/wp-content/uploads/2016/07/Vanguard-By-The-Numbers.pdf>

¹¹⁸ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle. https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

portfolios. In July 1990, it pushed into the institutional market with an index fund priced as low as 0.07%, far below the roughly 1.30% typical of active funds. By 1990, indexing still remained niche, just 2.5% of equity mutual fund assets, but momentum was clearly building. Pension adoption had reached around 20%, and Vanguard's flagship 500 fund grew to \$2 billion, ranking 14th in size among 663 equity funds. Over this period, the S&P 500 continued to outperform roughly three-quarters of active funds, reinforcing the core case for low-cost indexing.

In the early 1990s, Vanguard still faced limited competition, as most rivals either avoided indexing or charged significantly higher fees (around 0.5% versus Vanguard's 0.2%).¹¹⁹ Building on this advantage, Vanguard expanded its product lineup to make indexing more comprehensive and accessible. In 1992, it launched a total-market fund tracking the Wilshire 5000 Index, allowing investors to gain full U.S. market exposure in a single vehicle, followed by a balanced index fund combining equities and bonds (linked to the Lehman Brothers Aggregate Bond Index). It also introduced growth and value index funds after Standard & Poor's created the necessary benchmarks, bringing the index "family" to eleven funds by the end of 1992. Despite this expansion, indexing still faced skepticism, and performance during 1991 and 1993 was less compelling for large-cap strategies – the S&P 500 Index outperformed only about 45% of active funds. Still, Vanguard emphasized that this was "a far cry from disaster,"¹²⁰ and broader measures like the Wilshire 5000 did better, beating roughly 55% of funds. Adoption continued to rise steadily. Index funds grew from 2.5% to 3.5% of mutual fund assets, while pension fund penetration reached 25%. By 1993, Vanguard's index assets had climbed to \$18 billion, accounting over 14% of its overall AUM,¹²¹ with its flagship 500 Portfolio reaching \$8.3 billion and ranking the 8th largest equity funds – evidence that, even without strong short-term performance, the indexing model was steadily gaining traction.

From 1994 to 1996, indexing entered what could be described as a "golden era," marked by both strong performance and accelerating adoption. Index funds had strong outperformance during this period – the S&P 500 Index beat 78% of all equity funds in 1994, 85% in 1995 (with a +37% return), and 75% in 1996, with fully 91% of active managers lagging over the three-year period.¹²² At the same time, Vanguard Group rapidly expanded its lineup – introducing targeted bond index funds, emerging markets exposure, tax-managed portfolios, and asset-allocation products like LifeStrategy funds – while continuing to emphasize that low cost was the key driver of superior long-term results. **The tax efficiency of indexing also became increasingly evident, with one study showing Vanguard's index fund outperforming 92% of funds on an after-tax basis.**¹²³

A 1994 study by two Stanford scholars found that Vanguard's index fund outperformed its fund peers on an after-tax basis largely because it minimizes realized capital gains. **Since "many shareholders are subject to federal, state, and local taxation on the dividend and realized capital gains distributions made by different funds," funds that reduce these distributions can materially improve outcomes. Index funds can systematically manage portfolios "to minimize their shareholders' current tax liability by taking advantage of the ability to defer taxation until capital gains are realized". By deferring gains and, in some strategies, even eliminating distributions altogether, investors earn more returns through unrealized appreciation rather than taxable events, which "greatly enhanced" after-tax performance relative to traditional approaches.**¹²⁴

John Bogle claimed that this advantage becomes even more compelling when contrasted with high-fee strategies such as hedge funds. In his view, hedge funds represent a compensation structure as much as an investment approach. There is little justification for surrendering a meaningful share of returns in fees (i.e., 20%), and even less reason to incur additional capital gain tax along the way.¹²⁵ We believe his point was not that active investing is impossible, but that the average investor, including active managers collectively, are unlikely to outperform the market return after costs. Therefore, truly differentiated active investors must justify themselves through deep business understanding, disciplined process, low turnover, tax awareness, and durable after-fee, after-tax value creation.

¹¹⁹ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle.

https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

¹²⁰ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle.

https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

¹²¹ Vanguard by the Numbers. <https://johnbogle.com/wordpress/wp-content/uploads/2016/07/Vanguard-By-The-Numbers.pdf>

¹²² The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle.

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¹²³ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle.

https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

¹²⁴ Joel M. Dickson and John B. Shoven, "A Stock Index Mutual Fund Without Net Capital Gains Realizations," NBER Working Paper 4717 (1994), <https://doi.org/10.3386/w4717>

¹²⁵ Arvind Navaratnam's conversation with John Bogle in 2012.

This period also marked the broad recognition of indexing as a dominant investment approach. Vanguard's index family grew to 26 funds, and long-term results demonstrated both consistency and superiority, with the index strategy outperforming the average equity fund by about +2.7% points annually over the prior 15+ years. Public perception shifted decisively: major media outlets endorsed indexing, declaring it should form the "core" of most portfolios. As a result, assets surged, Vanguard's index assets approached \$70 billion by 1996, accounting for nearly 30% of the company's overall AUM,¹²⁶ and its flagship fund that tracks the S&P 500 alone reached \$30 billion, becoming the 3rd largest equity mutual fund globally.¹²⁷ What had once been a niche concept had clearly "come of age," firmly establishing indexing as a mainstream, enduring strategy.

By the mid-1990s, indexing's success was no longer in doubt. **Despite early skepticism and reluctant entry by competitors such as Fidelity Investments and Merrill Lynch, most rival offerings were constrained by higher fees or weak commitment, allowing Vanguard Group to dominate roughly 70% of index fund assets for individual investors by 1997.**¹²⁸ The industry's hesitation stemmed from structural conflicts that indexing offered little profit potential for managers and challenged the professional pride of active investors. Yet the underlying logic was inescapable that "all investors as a group...are the market," and "after costs, the returns of all investors inevitably lag the market by the amount of the cost," making low-cost indexing a matter of simple math rather than theory.

As evidence accumulated, both media and leading investors reinforced the case. Warren Buffett repeatedly emphasized the importance of costs, arguing that most investors would be best served by low-fee index funds. In his 1996 letter to Berkshire Hathaway shareholders, he wrote: "Seriously, costs matter. For example, equity mutual funds incur corporate expenses - largely payments to the funds' managers - that average about 100 basis points, a levy likely to cut the returns their investors earn by 10% or more over time...Most investors, both institutional and individual, will find that the best way to own common stocks is through an index fund that charges minimal fees. Those following this path are sure to beat the net results (after fees and expenses) delivered by the great majority of investment professionals."¹²⁹ By 1997, although only about 6% of equity mutual fund assets were indexed, adoption was accelerating rapidly, with more than 25% of pension equity assets already indexed. The conclusion was becoming increasingly clear that the true advantage of indexing was not temporary outperformance, but its consistent ability to deliver market returns to investors, minus minimal costs.

¹²⁶ Vanguard by the Numbers. <https://johncbogle.com/wordpress/wp-content/uploads/2016/07/Vanguard-By-The-Numbers.pdf>

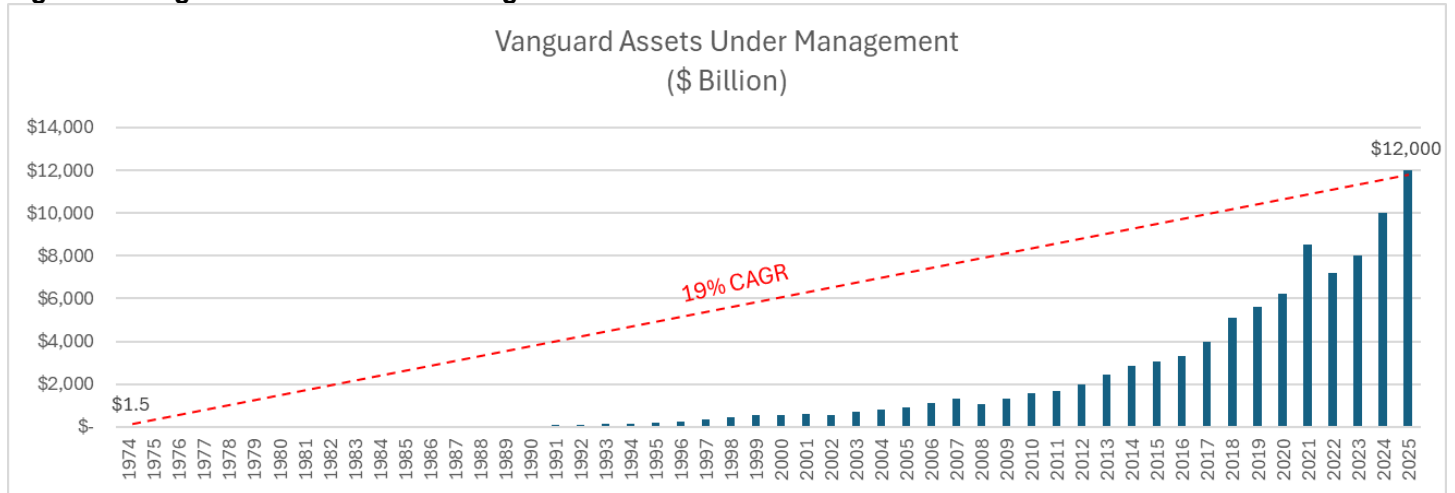
¹²⁷ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle. https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

¹²⁸ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle. https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

¹²⁹ Berkshire Hathaway Shareholders Letter 1996. <https://www.berkshirehathaway.com/letters/1996.html>

We estimate that since its founding in 1974, Vanguard's total assets under management have grown from \$1.5 billion to roughly \$12 trillion by 2025,¹³⁰ equivalent to around 19% CAGR. Within that, its index fund business, launched in 1976, expanded from just \$11.4 million at inception to over \$10 trillion in 2025,¹³¹ now accounting for nearly 84% of total AUM, implying a 32% CAGR.

Figure 7: Vanguard Assets Under Management¹³²



Notes:

1. AUM from 1974 to 2016 reflects U.S.-domiciled mutual fund assets only and excludes any foreign-domiciled funds, first launched in 1998 in Ireland,¹³³ as well as ETFs, which were introduced in 2001.¹³⁴
2. AUM from 2017 to 2025 represents the company's approximate total assets under management as disclosed.

¹³⁰ Vanguard by The Numbers. <https://corporate.vanguard.com/content/corporatesite/us/en/corp/why-vanguard/who-we-are/facts-and-figures.html>; Vanguard in A Nutshell. Vanguard. <https://www.ch.vanguard/content/dam/intl/europe/documents/en/vanguard-in-a-nutshell-eu-en.pdf>

¹³¹ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle. https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html; Vanguard in A Nutshell. Vanguard. <https://www.ch.vanguard/content/dam/intl/europe/documents/en/vanguard-in-a-nutshell-eu-en.pdf>

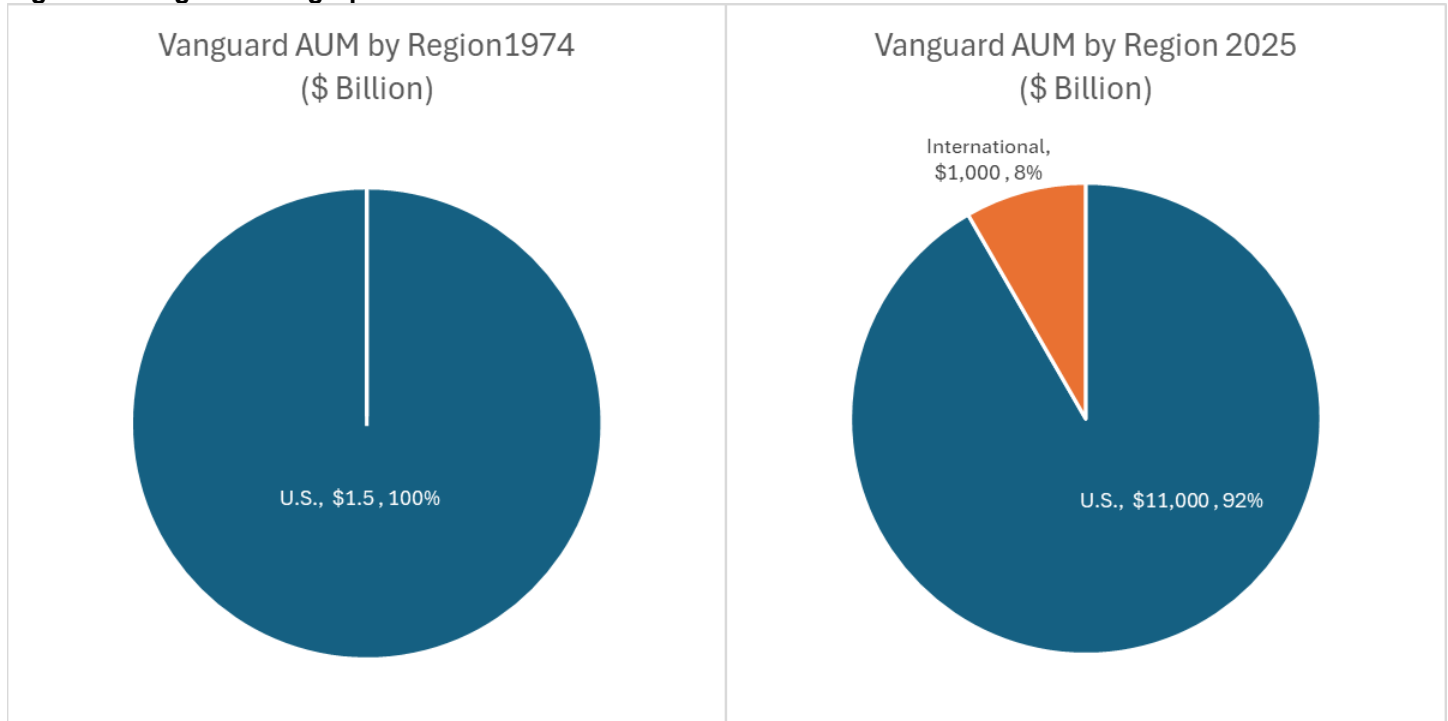
¹³² 1974 – 2016: Vanguard by The Numbers. <https://johncbogle.com/wordpress/wp-content/uploads/2016/07/Vanguard-By-The-Numbers.pdf>; 2017: Vanguard in A Nutshell. <https://www.ch.vanguard/content/dam/intl/europe/documents/en/vanguard-in-a-nutshell-eu-en.pdf>; 2018: Vanguard's Remarkable History 2018. <https://web.archive.org/web/20181009180831/https://about.vanguard.com/who-we-are/a-remarkable-history/>; 2019: Vanguard's Remarkable History 2019. <https://web.archive.org/web/20191114222838/https://about.vanguard.com/who-we-are/a-remarkable-history/>; 2020: Vanguard's Remarkable History 2020. <https://web.archive.org/web/20201112011639/https://about.vanguard.com/who-we-are/a-remarkable-history/>; 2021: Vanguard Net Inflows Drop Nearly 50% in Tough 2022 Market. <https://www.thinkadvisor.com/2023/01/27/vanguard-net-inflows-drop-nearly-50-in-tough-2022-market/>; 2022: Vanguard Net Inflows Drop Nearly 50% in Tough 2022 Market. <https://www.thinkadvisor.com/2023/01/27/vanguard-net-inflows-drop-nearly-50-in-tough-2022-market/>; 2023 – 2025: Vanguard in A Nutshell. <https://www.ch.vanguard/content/dam/intl/europe/documents/en/vanguard-in-a-nutshell-eu-en.pdf>;

¹³³ 50 Year Anniversary. Vanguard UK Professional. <https://www.vanguard.co.uk/professional/about-vanguard/50-year-anniversary>

¹³⁴ Vanguard's History. <https://www.vanguardsouthamerica.com/en/home/our-history>

Over five decades, Vanguard has steadily expanded its AUM globally, albeit with a continued U.S. focus. As of 2025, assets managed outside the U.S. surpassed \$1 trillion for the first time,¹³⁵ representing just over 8% of total AUM.

Figure 8: Vanguard Geographic AUM 1974 vs. 2025¹³⁶



Note:

1. Because Vanguard does not provide a detailed geographic breakdown of its assets, the figure above is an estimate and may not accurately reflect the reality.

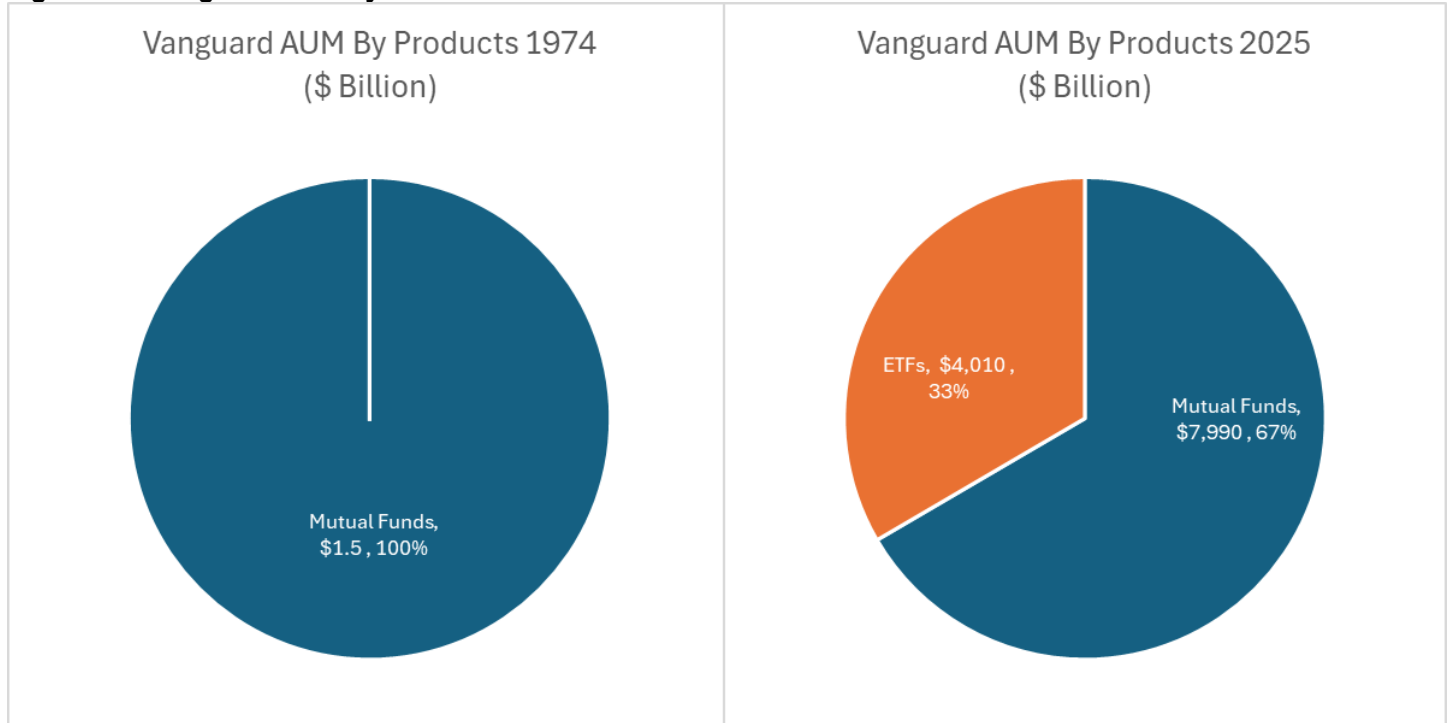
¹³⁵ Vanguard Tops \$1 Trillion in Assets Outside the US. Reuters. <https://www.reuters.com/business/vanguard-tops-1-trillion-assets-outside-us-ft-reports-2026-01-25/>

¹³⁶ Vanguard by The Numbers. <https://johncbogle.com/wordpress/wp-content/uploads/2016/07/Vanguard-By-The-Numbers.pdf>; Vanguard Tops \$1 Trillion in Assets Outside the US. Reuters. <https://www.reuters.com/business/vanguard-tops-1-trillion-assets-outside-us-ft-reports-2026-01-25/>; Vanguard in A Nutshell. <https://www.ch.vanguard/content/dam/intl/europe/documents/en/vanguard-in-a-nutshell-eu-en.pdf>

At inception in 1974, when John Bogle established Vanguard following the separation from Wellington, all of the firm's assets were in mutual funds.¹³⁷ By 2025, mutual funds still accounted for about 67% of AUM, roughly \$8 trillion, with the remainder primarily in ETFs, a product Vanguard introduced in 2001.¹³⁸

When Vanguard was founded in 1974, 100% of its assets were actively managed mutual funds. Since launching its first index fund in 1976, the firm has steadily transitioned toward passive strategies. By 2025, only about 16% of total AUM (across both mutual funds and ETFs) remained in active strategies, while approximately 84% was in index funds.¹³⁹

Figure 9-1: Vanguard AUM By Products 1974 vs. 2025¹⁴⁰



¹³⁷ Lightning Strikes: The Creation of Vanguard, the First Index Mutual Fund, and the Revolution It Spawned. John Bogle.

¹³⁸ Vanguard's History. <https://www.vanguardsouthamerica.com/en/home/our-history>; Global ETF Assets Reach Record High of US\$18.81 Trillion At End of September According to New Research from ETFGI.

<https://etfgi.com/news/press-releases/2025/10/global-etf-assets-reach-record-high-us1881-trillion-end-september>

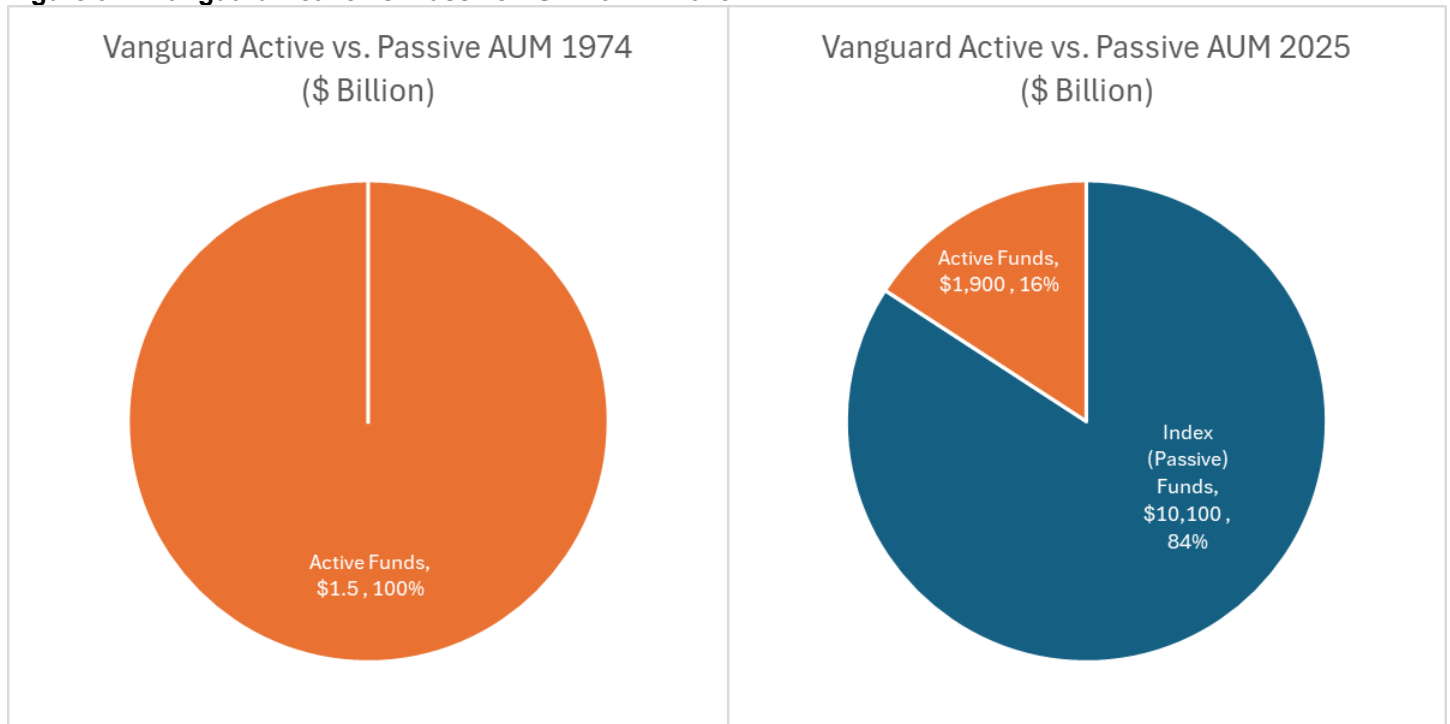
¹³⁹ Vanguard by The Numbers. <https://johncbogle.com/wordpress/wp-content/uploads/2016/07/Vanguard-By-The-Numbers.pdf>;

Vanguard in A Nutshell. <https://www.ch.vanguard/content/dam/intl/europe/documents/en/vanguard-in-a-nutshell-eu-en.pdf>

¹⁴⁰ Global ETF Assets Reach Record High of US\$18.81 Trillion At End of September According to New Research from ETFGI.

<https://etfgi.com/news/press-releases/2025/10/global-etf-assets-reach-record-high-us1881-trillion-end-september>; Vanguard in A Nutshell. <https://www.ch.vanguard/content/dam/intl/europe/documents/en/vanguard-in-a-nutshell-eu-en.pdf>

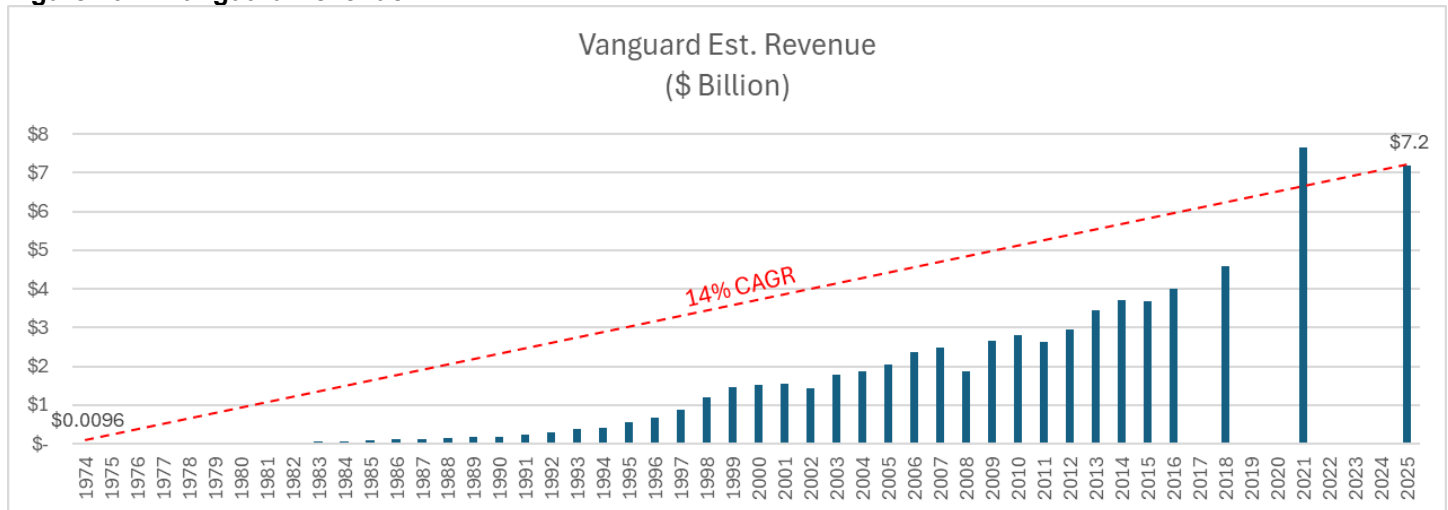
Figure 9-2: Vanguard Active vs. Passive AUM 1974 – 2025¹⁴¹



¹⁴¹ Vanguard by The Numbers. <https://johncbogle.com/wordpress/wp-content/uploads/2016/07/Vanguard-By-The-Numbers.pdf>; Vanguard in A Nutshell. <https://www.ch.vanguard/content/dam/intl/europe/documents/en/vanguard-in-a-nutshell-eu-en.pdf>

Based on Vanguard's AUM growth and average expense ratios, we estimate that revenue increased from approximately \$9.6 million in 1974 to over \$7 billion in 2025, representing a 14% CAGR, below the 19% CAGR in AUM. **We believe this gap is primarily explained by Vanguard's continuous reduction in fees, with average expense ratios declining from 0.66% in 1974 to around 0.06% in 2025, a reduction of more than 90%.**

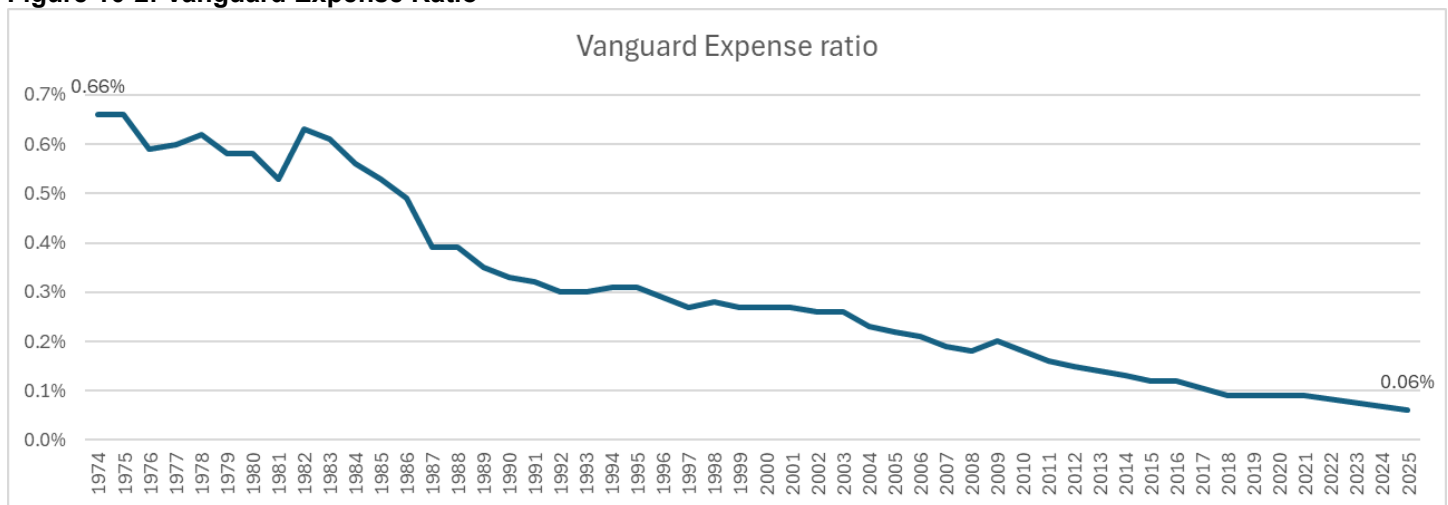
Figure 10-1: Vanguard Revenue



Notes:

1. Revenue is estimated by applying Vanguard's AUM to its expense ratios.
2. Above estimates may exclude other revenue streams not directly tied to AUM, such as personal advisory and brokerage services.¹⁴²
3. Revenue from 1974 to 2016 is based on Vanguard's U.S.-domiciled mutual fund assets, as publicly available data shows.¹⁴³ Vanguard first introduced foreign-domiciled funds in 1998 and ETFs in 2001,¹⁴⁴ which might not be reflected in the above chart during the respective period. Revenue from 2017 to 2025 is based on total global AUM. In addition, expense ratios disclosed by the company at various times may not represent the firm's asset-weighted average. Accordingly, the estimates above are for illustrative purposes only and may not reflect actual results.

Figure 10-2: Vanguard Expense Ratio¹⁴⁵



¹⁴² Personal Advisor. Vanguard. <https://investor.vanguard.com/advice/personal-hybrid-robot-advisor>; Brokerage Services Commission & Fee Schedules. Vanguard. <https://investor.vanguard.com/client-benefits/brokerage-fees-commissions>

¹⁴³ Vanguard by The Numbers. <https://johncbogle.com/wordpress/wp-content/uploads/2016/07/Vanguard-By-The-Numbers.pdf>

¹⁴⁴ 50 Year Anniversary. Vanguard UK Professional. <https://www.vanguard.co.uk/professional/about-vanguard/50-year-anniversary>; Vanguard's History. <https://www.vanguardsouthamerica.com/en/home/our-history>

¹⁴⁵ 1974 – 2016: Vanguard by The Numbers. <https://johncbogle.com/wordpress/wp-content/uploads/2016/07/Vanguard-By-The-Numbers.pdf>; 2018: Vanguard Continues to Lower the Cost of Investing with Expansion of Commission-Free Platform Beyond ETFs. <https://corporate.vanguard.com/content/corporatesite/us/en/corp/who-we-are/pressroom/Press-Release-Vanguard-Expands-Commission-Free-Platform-Beyond-ETFs.html>; 2021: Vanguard's History – Expense Ratio. Vanguard.

Notes:

1. Data for certain years between 2017 and 2024 was not found at the time of writing. These gaps have been connected for illustrative purposes only.
2. The expense ratios above reflect asset-weighted average expenses for Vanguard's U.S. funds and may not capture foreign-domiciled assets, which accounted for approximately 8% of total assets as of 2025.¹⁴⁶

Despite being mutually owned by its underlying fund shareholders, Vanguard does not disclose or publicly report consolidated financials. Reflecting its unique ownership structure, the firm operates on an “at-cost” basis, with the stated goal of returning profits to investors through lower fees, effectively targeting minimal or (theoretically) no net income at the corporate level. However, its disputes with tax authorities in recent years offer some indirect insight into its financials, which we will discuss in details later. For example, in 2015, although Vanguard maintained that it did not owe corporate income taxes, a whistleblower received a \$117,000 award from the state of Texas. Given a 5% reward rate, this implies that Vanguard paid at least \$2.3 million in taxes to Texas based on the underlying claim.¹⁴⁷ This suggests that, at least for tax reporting purposes, the firm may generate some level of taxable income, even if its operating model is designed to minimize profits.

https://corporate.vanguard.com/content/dam/corp/history/vanguardeffect_animation_noloop.gif; 2025: Vanguard Lowers Expense Ratios to Deliver Long-Term Cost Savings for Investors. <https://investor.vanguard.com/investor-resources-education/news/vanguard-lowers-expense-ratios-long-term-investing>

¹⁴⁶ Vanguard by The Numbers. <https://johncbogle.com/wordpress/wp-content/uploads/2016/07/Vanguard-By-The-Numbers.pdf>; Vanguard Tops \$1 Trillion in Assets Outside the US. Reuters. <https://www.reuters.com/business/vanguard-tops-1-trillion-assets-outside-us-ft-reports-2026-01-25/>; Vanguard in A Nutshell.

<https://www.ch.vanguard/content/dam/intl/europe/documents/en/vanguard-in-a-nutshell-eu-en.pdf>

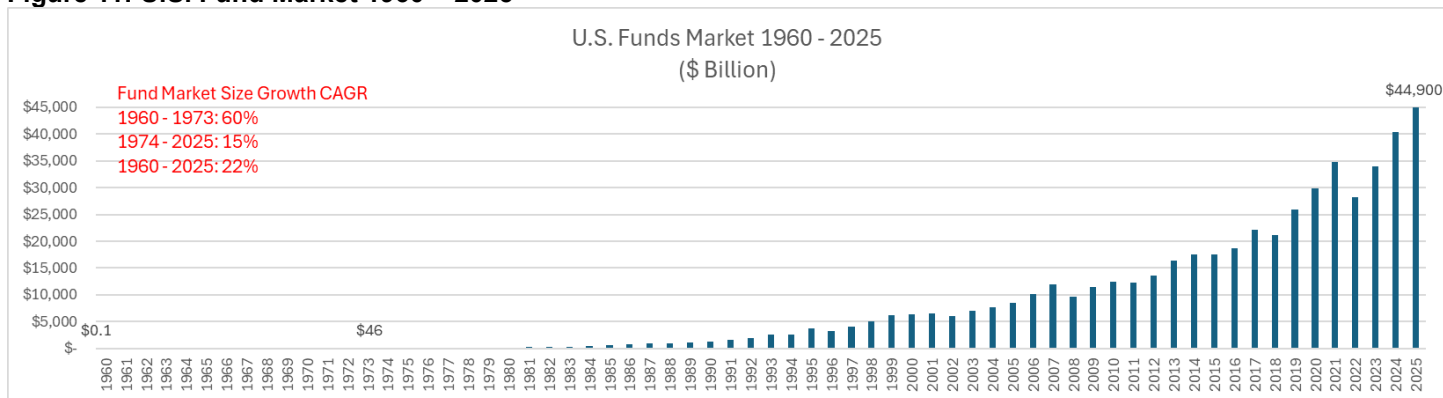
¹⁴⁷ Vanguard Whistleblower Could Get Billions in Tax Dodge Complaint.

<https://web.archive.org/web/20250802205641/https://www.newsweek.com/vanguard-whistleblower-tax-dodge-complaint-400901>

Industry Overview

Available data shows that the U.S. fund industry has expanded dramatically since the 1960s. Total net assets across mutual funds and other fund vehicles, including equity, fixed income, money market, and alternative strategies, grew from roughly \$0.1 billion in 1960 to nearly \$45 trillion by 2025, representing approximately 22% CAGR.¹⁴⁸ Growth was especially rapid in the early years. Prior to Vanguard's founding in 1974, assets increased from \$0.1 billion in 1960 to about \$46 billion by 1973, implying roughly 60% CAGR as the industry scaled from a small base. Since 1974, growth has remained strong but more normalized, with assets rising from roughly \$36 billion to \$45 trillion by 2025, at around a 15% CAGR.

Figure 11: U.S. Fund Market 1960 – 2025¹⁴⁹



Notes:

1. The fund data above covers a wide range of asset classes, including equities, bonds, money market, alternatives, and multi-asset strategies.¹⁵⁰
2. The chart draws on multiple data sources and, as a result, may not reflect a fully consistent scope across all periods.

When Vanguard launched the first index fund for retail investors in 1976, this market segment was untapped. At the time, total U.S. stock market capitalization was about \$70 billion (end of 1975), while Vanguard's own AUM was under \$2 billion, and the index fund itself began with just \$11.4 million.¹⁵¹ The gap between market size and the firm's AUM highlighted the long runway for both its active and index funds.

Over the following decades, passive investing scaled from a niche concept into a dominant force. **In 1993, passive funds tracking U.S. equities held just \$23 billion, representing only 0.44% of the total market.**¹⁵² **By early 2025, passive equity vehicles had grown to approximately \$13 trillion and accounted for about 13% of the U.S. stock market, including more than 20% of the S&P 500.**¹⁵³ Broader estimates suggest the true influence of passive strategies may be

¹⁴⁸ 1960 – 2022: Innovations And Trends Influencing The Global Fund Markets. <https://www.lseg.com/en/insights/data-analytics/the-evolution-of-the-us-fund-industry-innovations-and-trends-influencing-the-global-fund-markets>; 2023: Investment Company Fact Book Quick Facts Guide. <https://www.icifactbook.org/pdf/2024-factbook-quick-facts-guide.pdf>; 2024 – 2025: Fund Industry Overview. IBF Financial Knowledge Center. <https://icfs.com/financial-knowledge-center/fund-industry-overview-by-the-numbers-2026>

¹⁴⁹ 1960 – 2022: Innovations And Trends Influencing The Global Fund Markets. <https://www.lseg.com/en/insights/data-analytics/the-evolution-of-the-us-fund-industry-innovations-and-trends-influencing-the-global-fund-markets>; 2023: Investment Company Fact Book Quick Facts Guide. <https://www.icifactbook.org/pdf/2024-factbook-quick-facts-guide.pdf>; 2024 – 2025: Fund Industry Overview. IBF Financial Knowledge Center. <https://icfs.com/financial-knowledge-center/fund-industry-overview-by-the-numbers-2026>

¹⁵⁰ Innovations And Trends Influencing The Global Fund Markets. <https://www.lseg.com/en/insights/data-analytics/the-evolution-of-the-us-fund-industry-innovations-and-trends-influencing-the-global-fund-markets>

¹⁵¹ Vanguard by The Numbers. <https://johnbogle.com/wordpress/wp-content/uploads/2016/07/Vanguard-By-The-Numbers.pdf>; Market Capitalization of Listed Domestic Companies. <https://data.worldbank.org/indicator/CM.MKT.LCAP.CD?locations=1W-US>; The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle. https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

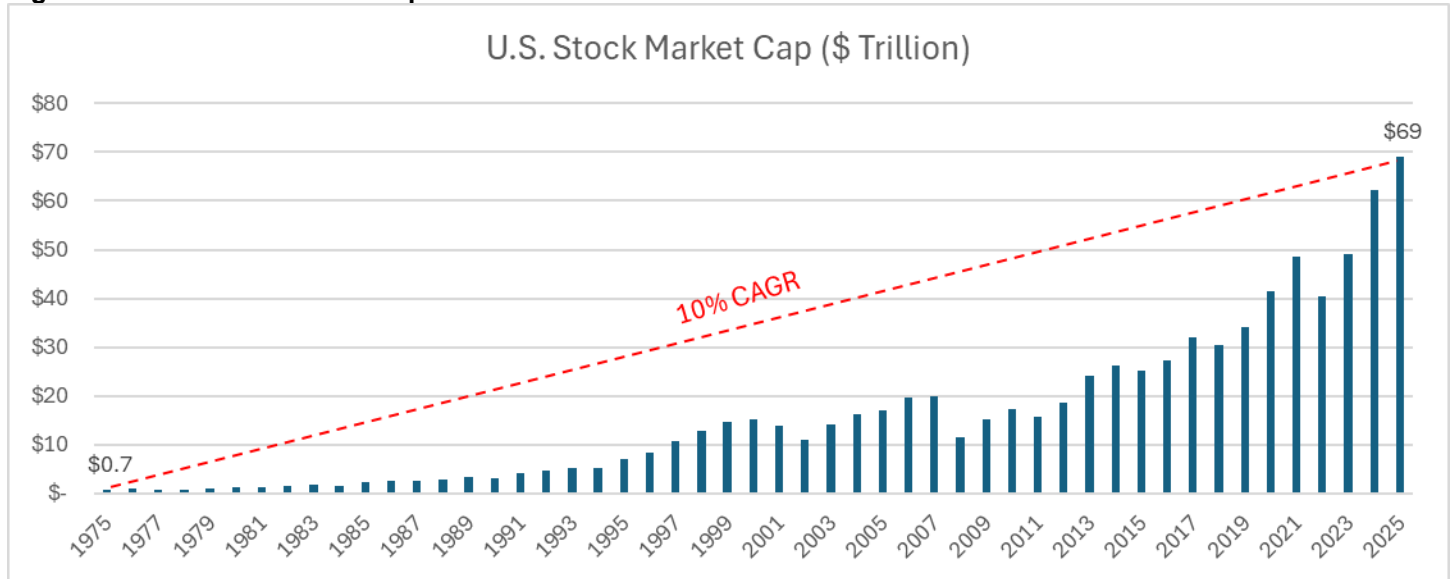
¹⁵² Hao Jiang, Dimitri Vayanos, Lu Zheng, Passive Investing and the Rise of Mega-Firms, The Review of Financial Studies, Volume 38, Issue 12, December 2025, Pages 3461–3496, <https://doi.org/10.1093/rfs/hhaf085>

¹⁵³ Passive's No Bubble As Active Retains Market Control. Bloomberg. <https://www.bloomberg.com/professional/insights/trading/passives-no-bubble-as-active-retains-market-control>

even larger. **A 2024 study by researchers at Harvard Business School and Baruch College indicates that, when including institutional index mandates and “closet indexing” active managers, passive ownership could exceed 30% of the market.**¹⁵⁴

Over the same period, the underlying equity market also expanded significantly. U.S. stock market capitalization increased from roughly \$70 billion in the mid-1970s to nearly \$69 trillion by 2025, implying roughly a 10% CAGR.¹⁵⁵ Against this backdrop, Vanguard has grown into one of the most influential players in global markets. As of 2025, we estimate the firm manages approximately \$6.5 trillion in U.S. equity assets, suggesting that Vanguard funds, both active and passive, represent roughly 9% of the total U.S. stock market.¹⁵⁶

Figure 12: U.S. Stock Market Cap¹⁵⁷



¹⁵⁴ Chincio, Alexander and Sammon, Marco, The Passive-Ownership Share Is Double What You Think It Is (April 7, 2024). Available at SSRN: <https://ssrn.com/abstract=4188052> or <http://dx.doi.org/10.2139/ssrn.4188052>

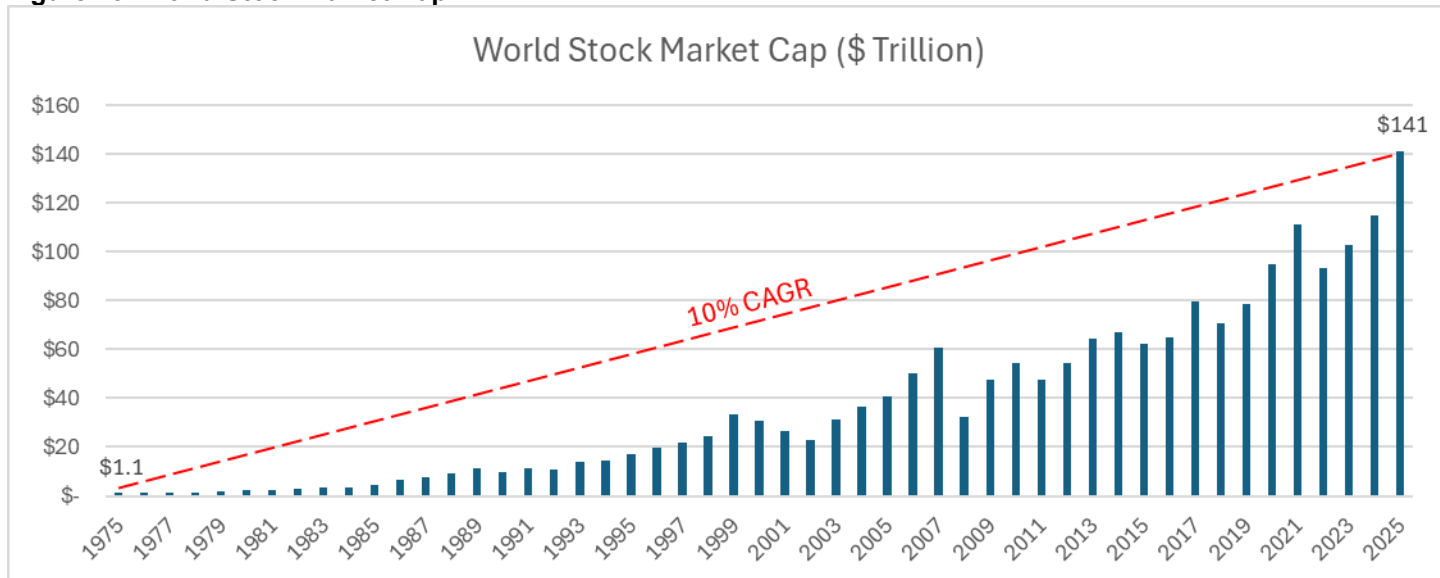
¹⁵⁵ Market Capitalization of Listed Domestic Companies. <https://data.worldbank.org/indicator/CM.MKT.LCAP.CD?locations=1W-US>

¹⁵⁶ U.S. Regional Brief 2025. Vanguard Investment Stewardship. https://corporate.vanguard.com/content/dam/corp/advocate/investment-stewardship/pdf/policies-and-reports/us_regional_brief_2025.pdf; Market Capitalization of Listed Domestic Companies. <https://data.worldbank.org/indicator/CM.MKT.LCAP.CD?locations=1W-US>

¹⁵⁷ Market Capitalization of Listed Domestic Companies. <https://data.worldbank.org/indicator/CM.MKT.LCAP.CD?locations=1W-US>

On a global basis, equity markets have followed a similar trajectory, growing from just over \$1 trillion in the mid-1970s to about \$141 trillion in 2025, around 10% CAGR. While Vanguard does not disclose a detailed asset breakdown, it reported managing about \$2 trillion in fixed income assets as of August 2025, implying that the majority of its roughly \$12 trillion AUM is allocated to equities.¹⁵⁸ This suggests Vanguard may represent on the order of roughly 7% of global equity market capitalization.

Figure 13: World Stock Market Cap¹⁵⁹



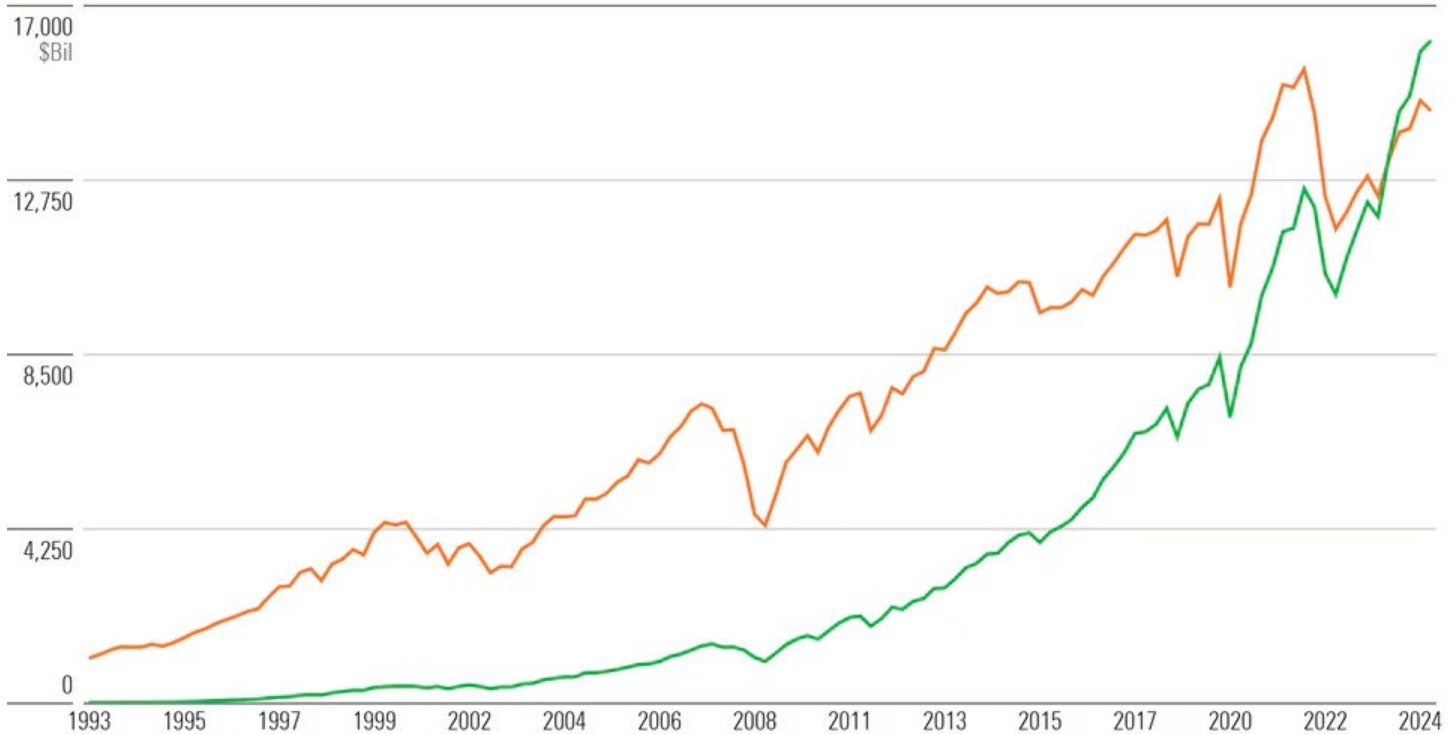
¹⁵⁸ Fixed Income Investments & Strategies. Vanguard. <https://advisors.vanguard.com/strategies/fixed-income#overview>

¹⁵⁹ Market Capitalization of Listed Domestic Companies. <https://data.worldbank.org/indicator/CM.MKT.LCAP.CD?locations=1W-US>

After nearly five decades since Vanguard launched the industry’s first index fund, the structural shift toward passive investing has now reached an inflection point. In early 2024, Morningstar reported that passively managed funds, for the first time, held more assets than actively managed funds across long-term mutual funds and ETFs. By the end of 2024, indexed strategies accounted for approximately 53% of assets in long-term open-end funds and ETFs in the U.S., and the share is widely expected to continue rising, potentially reaching around 70% over the next decade.¹⁶⁰ There is little evidence of a reversal in this trend.

Figure 14: Active vs. Passive Market Share¹⁶¹

Active Assets Passive Assets



Note:

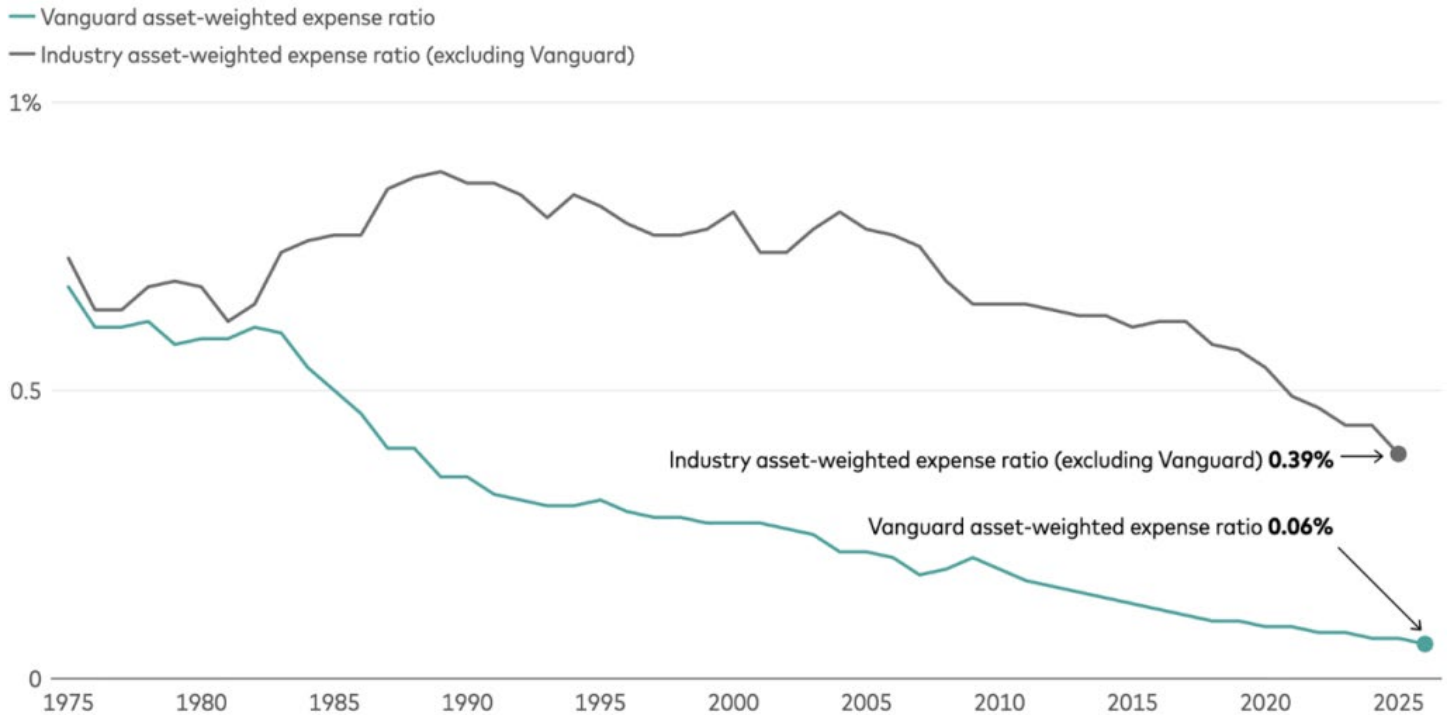
1. The above data is as of December 31, 2024, according to Morningstar Direct Asset Flow.

¹⁶⁰ Index Funds Have Officially Won. <https://global.morningstar.com/en-ca/funds/index-funds-have-officially-won>; US Fund Flows. Picking Up Steam in 2024. <https://www.morningstar.com/funds/us-fund-flows-picking-up-steam-2024>

¹⁶¹ US Fund Flows. Picking Up Steam in 2024. <https://www.morningstar.com/funds/us-fund-flows-picking-up-steam-2024>

Competition within the asset management industry has intensified alongside this shift, with pricing emerging as a key battleground. The rise of Vanguard significantly encouraged the fund industry to compete on pricing, usually referred to as the “Vanguard Effect,” driving down the industry expense ratios significantly and thus benefiting investors.¹⁶² In 1975, Vanguard’s expense ratio was around 0.68%, compared to the industry average of 0.73%.¹⁶³ Fast forward to 2025, Vanguard’s expense ratio declined to 0.06%, among the lowest in the industry, when the industry average was around 0.39%,¹⁶⁴ over 6 times greater than the cost of Vanguard.

Figure 15: Vanguard Expense Ratios vs. Average U.S. Funds¹⁶⁵
Historical average U.S. expense ratios, as of December 31, 2025



¹⁶² How the Vanguard Effect Adds Up to \$1 Trillion. Bloomberg.

<https://web.archive.org/web/20191013162817/https://www.bloomberg.com/opinion/articles/2016-08-30/how-much-has-vanguard-saved-investors-try-1-trillion>; Of the investor. By the investor. For the investor. Since 1975.

<https://corporate.vanguard.com/content/corporatesite/us/en/corp/articles/of-investor-by-investor-for-investor-since-1975.html>

¹⁶³ Vanguard’s History – Expense Ratio. Vanguard.

https://corporate.vanguard.com/content/dam/corp/history/vanguardeffect_animation_noloop.gif

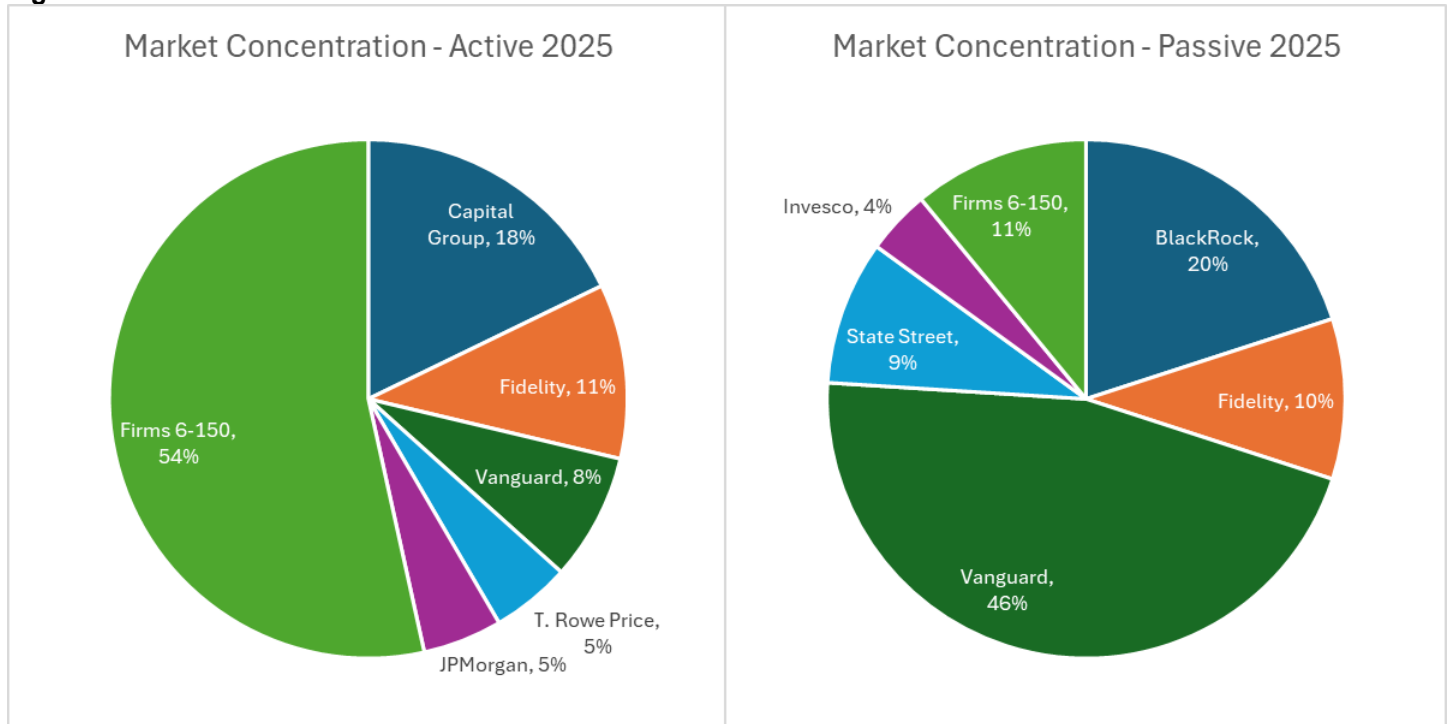
¹⁶⁴ Vanguard Lowers Expense Ratios to Deliver Long-Term Cost Savings for Investors. <https://investor.vanguard.com/investor-resources-education/news/vanguard-lowers-expense-ratios-long-term-investing>

¹⁶⁵ Vanguard Lowers Expense Ratios to Deliver Long-Term Cost Savings for Investors. <https://investor.vanguard.com/investor-resources-education/news/vanguard-lowers-expense-ratios-long-term-investing>

Vanguard has maintained a leading position in passive investing since launching the first retail index fund in 1976. For nearly a decade, it faced virtually no direct competition. The second index mutual fund was not introduced until 1984 by Wells Fargo.¹⁶⁶ Although competitors such as Fidelity and Merrill Lynch entered the space in the mid-1990s, their offerings were often constrained by higher fees or weaker strategic commitment, according to John Bogle. As a result, Vanguard controlled roughly 70% of index fund assets for individual investors by 1997.¹⁶⁷

Today, Vanguard remains the largest passive asset manager in the U.S., accounting for approximately 46% of passive AUM. It is followed by BlackRock's 20%, Fidelity's 10%, State Street's 9%, and Invesco's 4%.¹⁶⁸ In active management, Vanguard holds a more modest 8% market share, behind Capital Group's 18% and Fidelity's 11%, and alongside firms such as T. Rowe Price and JPMorgan, each around 5%.

Figure 16: Market Concentration Active vs. Passive 2025¹⁶⁹



Note:

1. The data presented above pertains to the U.S. market.

¹⁶⁶ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle. https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

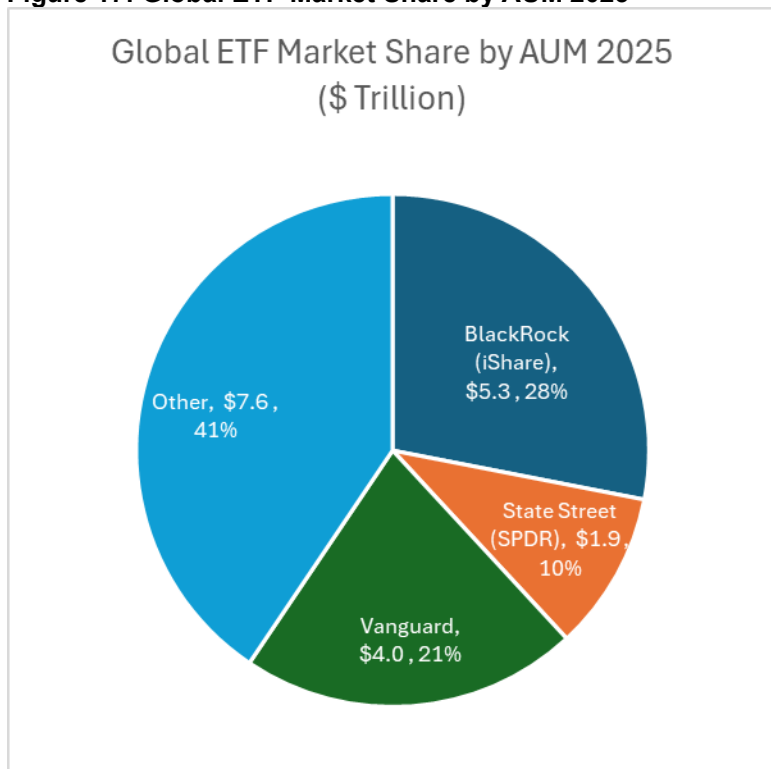
¹⁶⁷ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle. https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

¹⁶⁸ How Vanguard Stacks Up Against Its Fund Industry Peers. Morningstar. <https://www.morningstar.com/funds/how-vanguard-stacks-up-against-its-fund-industry-peers>

¹⁶⁹ How Vanguard Stacks Up Against Its Fund Industry Peers. Morningstar. <https://www.morningstar.com/funds/how-vanguard-stacks-up-against-its-fund-industry-peers>

In ETFs, a segment Vanguard entered in 2001,¹⁷⁰ the firm has also established a strong global presence. Of the roughly \$19 trillion in global ETF assets as of 2025, Vanguard accounts for about 21%, second only to BlackRock’s iShares funds at round 28%, followed by State Street’s 10%, with more than 900 other providers competing for the remainder.¹⁷¹

Figure 17: Global ETF Market Share by AUM 2025¹⁷²



ETF vs. Index Funds

Exchange-traded funds (ETFs) and index funds are closely related investment vehicles that give investors simple, low-cost access to diversified portfolios. Both pool capital from many investors into a single fund that typically holds a broad basket of securities, such as stocks or bonds, and both are generally designed to track, rather than outperform, a market index. In this sense, they “allow [investors] to buy a basket of companies, typically based on an index,” and are “designed to match” overall market performance.¹⁷³ Their structure makes them widely accessible, passive tools for gaining diversified market exposure.¹⁷⁴

Index funds can be structured either as mutual funds or as ETFs, but their defining feature is their objective – to replicate the composition and returns of a benchmark index. They “[hold] a collection of stocks or bonds that mimic the composition of a benchmark” and “don’t try to outperform the market,” instead aiming to deliver the market’s return over time.¹⁷⁵

ETFs can serve a similar role, many track indexes, but increasingly include actively managed strategies as well. The key distinction lies in how they trade. ETFs are bought and sold on exchanges throughout the trading day, with prices that fluctuate continuously like individual stocks. By contrast, index mutual funds are priced only once per day, and transactions occur at the fund’s net asset value at the market close.¹⁷⁶

¹⁷⁰ Vanguard’s History. <https://www.vanguardsouthamerica.com/en/home/our-history>

¹⁷¹ Global ETF Assets Reach Record High of US\$18.81 Trillion At End of September According to New Research from ETFGI. <https://etfgi.com/news/press-releases/2025/10/global-etf-assets-reach-record-high-us1881-trillion-end-september>

¹⁷² Global ETF Assets Reach Record High of US\$18.81 Trillion At End of September According to New Research from ETFGI. <https://etfgi.com/news/press-releases/2025/10/global-etf-assets-reach-record-high-us1881-trillion-end-september>

¹⁷³ ETFs vs. Index Funds. TD Direct Investing. <https://www.td.com/ca/en/investing/direct-investing/articles/etf-vs-index-fund>

¹⁷⁴ ETF vs. Index Fund – What’s The Difference. Fidelity. <https://www.fidelity.com/learning-center/smart-money/etf-vs-index-fund>

¹⁷⁵ ETFs vs. Index Funds. TD Direct Investing. <https://www.td.com/ca/en/investing/direct-investing/articles/etf-vs-index-fund>

¹⁷⁶ ETFs vs. Index Funds. TD Direct Investing. <https://www.td.com/ca/en/investing/direct-investing/articles/etf-vs-index-fund>

Despite these structural differences, ETFs and index funds share several important characteristics. Both provide broad diversification, often offering exposure to hundreds of securities in a single investment, which helps reduce portfolio volatility and simplifies asset allocation.¹⁷⁷ They also tend to be low-cost, as their passive approach avoids the higher expenses associated with active management and frequent trading, though actively managed ETFs may carry higher expense ratios.

Another difference between ETFs and index mutual funds lies in the cost structure and tax treatment. ETFs may involve trading commissions, depending on brokers, and bid-ask spreads, while index funds may impose minimum investment requirements or, in some cases, sales loads.¹⁷⁸ From a tax perspective, ETFs are often more efficient, as most transactions occur between investors in the secondary market, whereas index mutual funds may generate taxable capital gains distributions when securities are sold to meet investor redemptions.

Vanguard's first ETF was launched in 2001, after John Bogle had stepped down from leadership. It is worth noting that Bogle remained skeptical of ETFs, viewing them largely as tools for short-term trading rather than long-term investing. He argued that most "rapid trading" in ETFs was conducted by institutions using them to hedge or equitize cash, and estimated that only about one-sixth of ETF assets were held by long-term investors.¹⁷⁹ He cautioned that high turnover, narrow sector products, and speculative use could undermine the original philosophy of indexing.

¹⁷⁷ ETFs vs. Index Funds. TD Direct Investing. <https://www.td.com/ca/en/investing/direct-investing/articles/etf-vs-index-fund>

¹⁷⁸ ETF vs. Index Fund – What's The Difference. Fidelity. <https://www.fidelity.com/learning-center/smart-money/etf-vs-index-fund>

¹⁷⁹ Bogle Changed Investing with Index Funds, But Wasn't Always Happy About It. CNBC. <https://www.cnbc.com/2019/01/16/bogle-changed-investing-with-index-funds-but-wasnt-always-happy-about-it.html>

Vanguard vs. Peers

While Vanguard is widely regarded as the largest passive fund manager in the U.S., it ranked as the world's second-largest asset manager by total AUM in 2025, with approximately \$12 trillion, behind BlackRock at around \$14 trillion,¹⁸⁰ but still ahead of other managers by a wide margin.

Figure 18: Top Global Asset Managers by AUM 2025¹⁸¹



Because many pure-play asset managers are privately held and disclose limited financial information, we therefore look at a set of large, publicly traded peers, including BlackRock, Franklin Templeton, Invesco, and T. Rowe Price.

From 1994, the earliest year BlackRock reported AUM in its IPO filing, to 2025, BlackRock grew from \$53 billion to \$14 trillion,¹⁸² representing roughly a 20% CAGR. Over the same period, Vanguard expanded from \$131 billion to \$12 trillion,¹⁸³ implying a CAGR of approximately 16%. By comparison, Franklin Templeton grew from \$118.2 billion to nearly \$1.7 trillion,¹⁸⁴ a 9% CAGR, Invesco from \$65 billion to \$2.17 trillion,¹⁸⁵ a 12% CAGR, and T. Rowe Price from \$57.8 billion to \$1.78 trillion,¹⁸⁶ a 12% CAGR.

A key distinction across these firms lies in how that growth was achieved. **We believe Vanguard has expanded almost entirely organically since its founding in 1974, driven by consistent client inflows and market appreciation, as it has made virtually no acquisitions material to the company's asset base.** Its first and only acquisition came in 2021, when it acquired a U.S.-based startup with approximately \$1 billion in AUM focused on data-driven, customized portfolio construction.¹⁸⁷ In contrast, BlackRock relied on a few notable acquisitions to scale its platform, broaden its product offerings, and expand geographically, such as State Street Research & Management Company from MetLife in 2005, Merrill Lynch Investment Managers in 2006, Quellos Group's fund of fund business in 2007, and Barclays Global Investors in 2009.¹⁸⁸

¹⁸⁰ Top 100 Asset Manager Managers by Managed AUM. Sovereign Wealth Fund Institute. <https://www.swfinstitute.org/fund-manager-rankings/asset-manager>

¹⁸¹ Top 100 Asset Manager Managers by Managed AUM. Sovereign Wealth Fund Institute. <https://www.swfinstitute.org/fund-manager-rankings/asset-manager>

¹⁸² BlackRock IPO Prospectus 1999; BlackRock Annual Report 2025.

¹⁸³ Vanguard by The Numbers. <https://johncbogle.com/wordpress/wp-content/uploads/2016/07/Vanguard-By-The-Numbers.pdf>; Vanguard in A Nutshell. <https://www.ch.vanguard/content/dam/intl/europe/documents/en/vanguard-in-a-nutshell-eu-en.pdf>

¹⁸⁴ Franklin Resources Annual Report 1996 – 2025.

¹⁸⁵ Invesco Annual Report 1997 – 2025.

¹⁸⁶ T. Rowe Price Annual Report 1997 – 2025.

¹⁸⁷ Vanguard Makes First Acquisition with Just Invest Deal. Financial Times. <https://www.ft.com/content/fdcdeb98-d3d8-4f95-aa5a-32fb54daea53?syn-25a6b1a6=1>

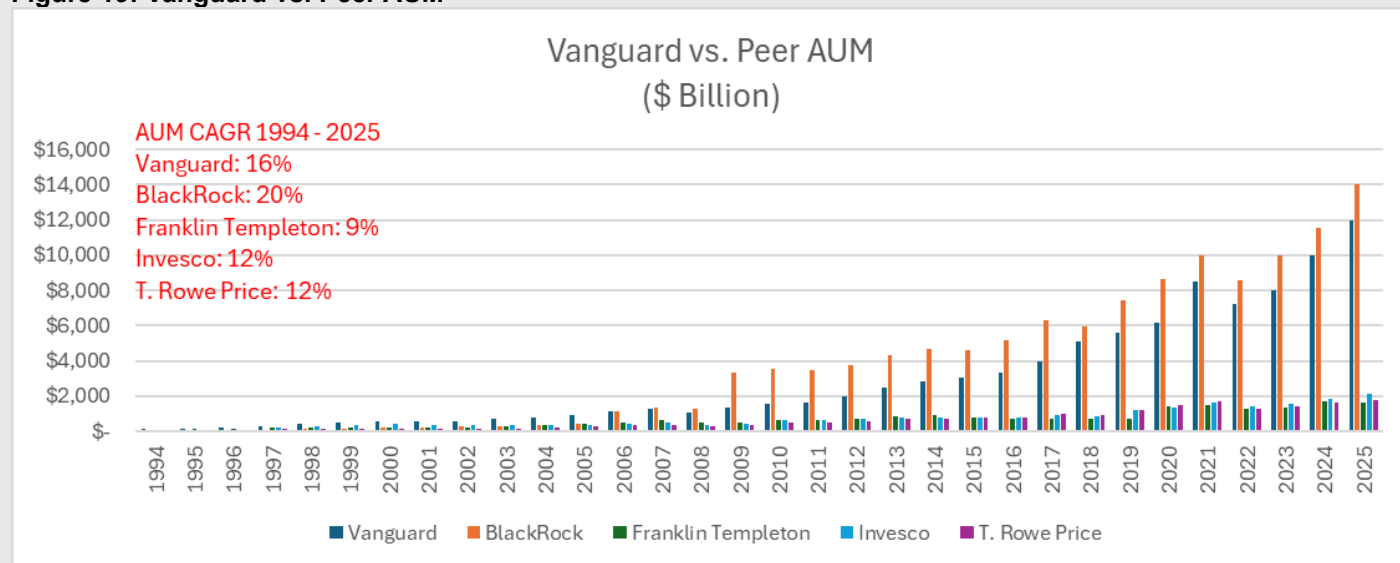
¹⁸⁸ BlackRock Annual Report 2005 – 2007, 2009.

This divergence is evident in specific milestones. At the end of 2005, Vanguard managed approximately \$930 billion in AUM, compared to \$453 billion for BlackRock.¹⁸⁹ By the end of 2006, both firms had surpassed \$1 trillion, but through different paths. Vanguard's modest growth was primarily organic, while BlackRock's was significantly driven by acquisitions. In 2006, it acquired Merrill Lynch Investment Managers (MLIM), adding \$589 billion in assets across equities, fixed income, cash, and alternatives.¹⁹⁰

An even more striking example occurred in 2009, when BlackRock's AUM increased by more than \$2 trillion year-over-year, a 156% jump, to \$3.3 trillion. Of that increase, approximately \$1.85 trillion came from its acquisition of Barclays Global Investors (BGI), including about \$1 trillion in index equity funds and \$467 billion in index fixed income assets, with the remainder in active, liquidity, and multi-asset strategies.¹⁹¹

Similarly, Franklin Templeton's 2020 acquisition of Legg Mason added \$797.4 billion in AUM, lifting its total assets from \$692.6 billion in 2018 to over \$1.4 trillion by the end of 2020 and significantly strengthening its fixed income capabilities.¹⁹²

Figure 19: Vanguard vs. Peer AUM¹⁹³



Today, BlackRock's larger AUM reflects not only this history of consolidation but also its broader diversification. By the end of 2025, approximately 68% of its assets were managed in the Americas (including the U.S., Canada, Mexico, and Brazil), 25% in EMEA, and 7% in Asia-Pacific.¹⁹⁴ By contrast, Vanguard remains significantly more U.S.-centric.

¹⁸⁹ BlackRock Annual Report 2006; Vanguard by The Numbers. <https://johncbogle.com/wordpress/wp-content/uploads/2016/07/Vanguard-By-The-Numbers.pdf>

¹⁹⁰ BlackRock Annual Report 2006.

¹⁹¹ BlackRock Annual Report 2009.

¹⁹² Franklin Resources Annual Report 2020.

¹⁹³ BlackRock IPO Prospectus 1999; BlackRock Annual Report 1999 – 2025; Vanguard by The Numbers.

<https://johncbogle.com/wordpress/wp-content/uploads/2016/07/Vanguard-By-The-Numbers.pdf>; Vanguard in A Nutshell.

<https://www.ch.vanguard/content/dam/intl/europe/documents/en/vanguard-in-a-nutshell-eu-en.pdf>; Vanguard's Remarkable

History 2018. <https://web.archive.org/web/20181009180831/https://about.vanguard.com/who-we-are/a-remarkable-history/>;

Vanguard's Remarkable History 2019. <https://web.archive.org/web/20191114222838/https://about.vanguard.com/who-we-are/a-remarkable-history/>;

Vanguard's Remarkable History 2020.

<https://web.archive.org/web/2020112011639/https://about.vanguard.com/who-we-are/a-remarkable-history/>; Vanguard Net

Inflows Drop Nearly 50% in Tough 2022 Market. <https://www.thinkadvisor.com/2023/01/27/vanguard-net-inflows-drop-nearly-50-in-tough-2022-market/>;

Vanguard Net Inflows Drop Nearly 50% in Tough 2022 Market.

<https://www.thinkadvisor.com/2023/01/27/vanguard-net-inflows-drop-nearly-50-in-tough-2022-market/>; Vanguard in A Nutshell.

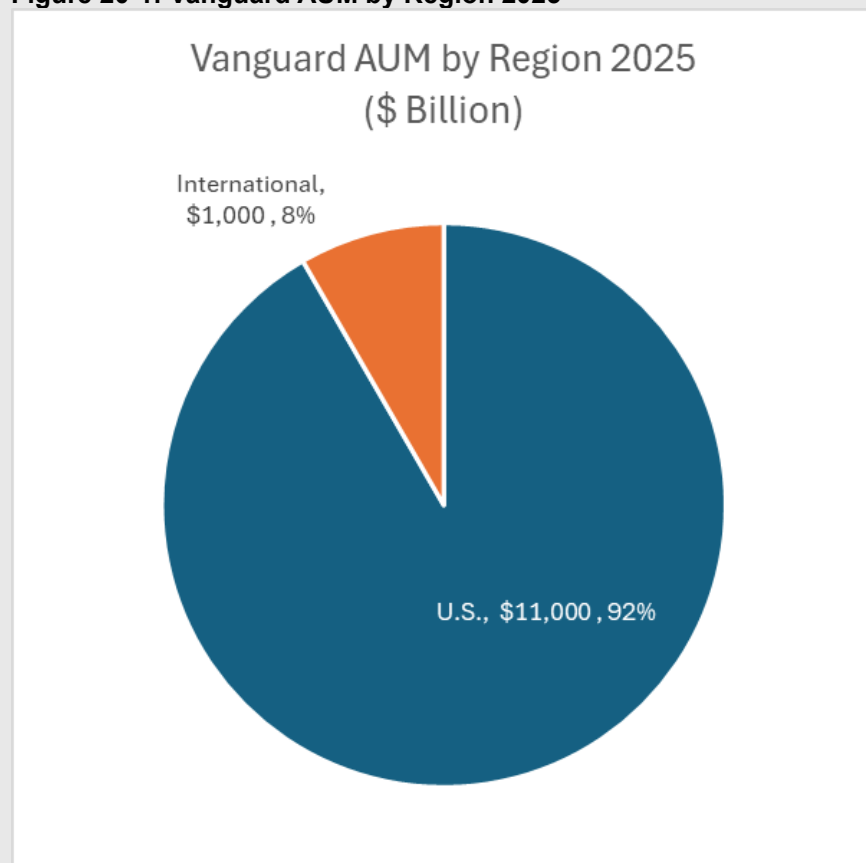
<https://www.ch.vanguard/content/dam/intl/europe/documents/en/vanguard-in-a-nutshell-eu-en.pdf>; Invesco Annual Report 1997 –

2025; Franklin Resources Annual Report 1995 – 2025; T. Rowe Price Annual Report 1997 – 2025.

¹⁹⁴ BlackRock Annual Report 2025.

Although its non-U.S. assets surpassed \$1 trillion for the first time in 2025,¹⁹⁵ they accounted for just over 8% of total AUM. With the exception of T. Rowe Price, which has a similarly U.S.-focused footprint, most peers are more geographically diversified.

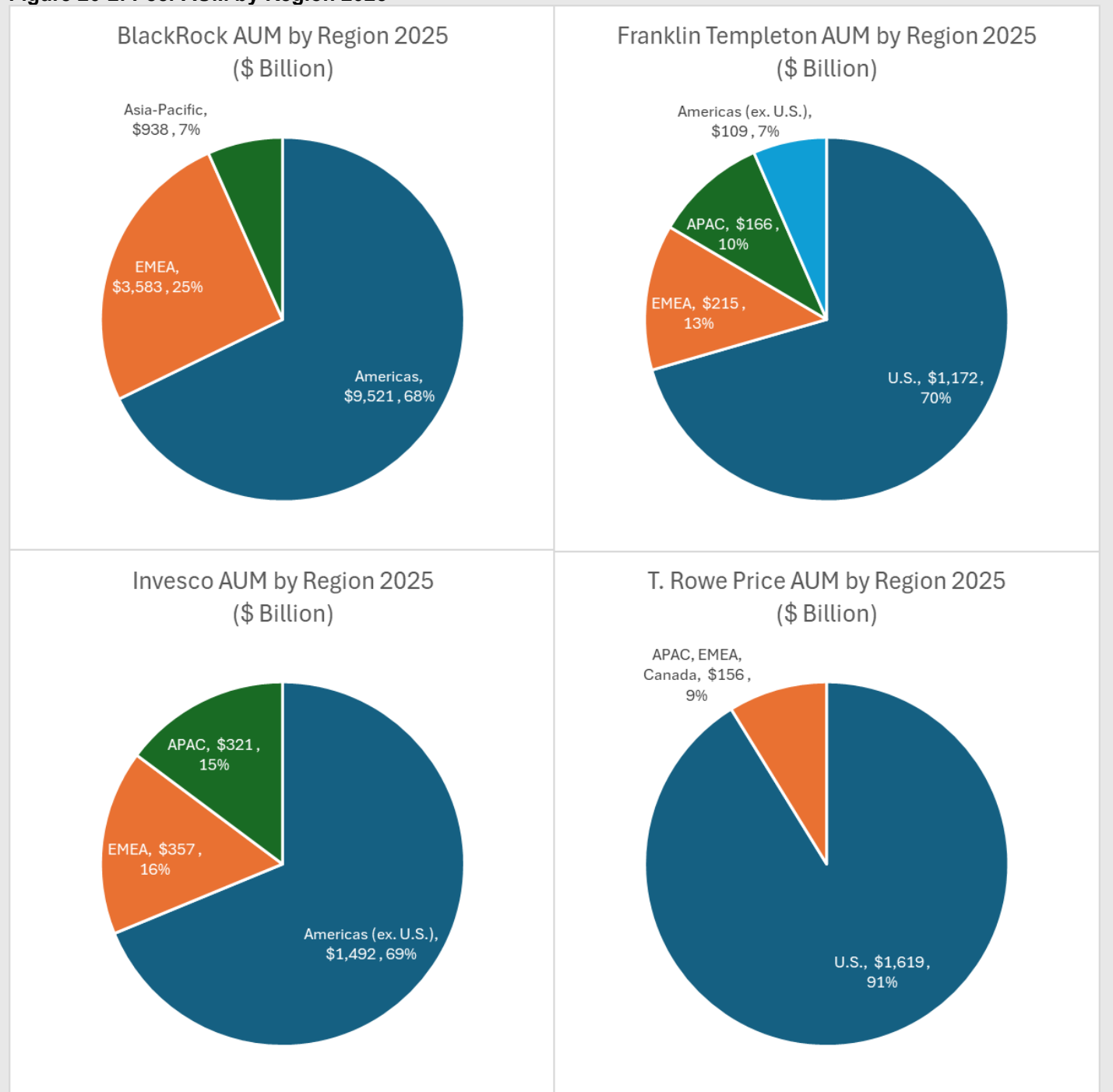
Figure 20-1: Vanguard AUM by Region 2025¹⁹⁶



¹⁹⁵ Vanguard Tops \$1 Trillion in Assets Outside the US. Reuters. <https://www.reuters.com/business/vanguard-tops-1-trillion-assets-outside-us-ft-reports-2026-01-25/>

¹⁹⁶ Vanguard Tops \$1 Trillion in Assets Outside the US. Reuters. <https://www.reuters.com/business/vanguard-tops-1-trillion-assets-outside-us-ft-reports-2026-01-25/>; Vanguard in A Nutshell. <https://www.ch.vanguard/content/dam/intl/europe/documents/en/vanguard-in-a-nutshell-eu-en.pdf>; BlackRock Annual Report 2025; Invesco Annual Report 2025; Franklin Resources Annual Report 2025; T. Rowe Price Annual Report 2025.

Figure 20-2: Peer AUM by Region 2025¹⁹⁷



The firms also differ meaningfully in product breadth. Direct comparisons are challenging because Vanguard does not disclose detailed asset-class breakdowns. However, based on available data, we believe that BlackRock offers a much broader and more diversified product suite. Beyond traditional equity and fixed income strategies, it has expanded into areas such as digital assets (including Bitcoin ETFs) and alternative investments.¹⁹⁸ As of 2023, BlackRock offered more than 1,400 ETFs globally, far exceeding the roughly 500 to 600 products offered by

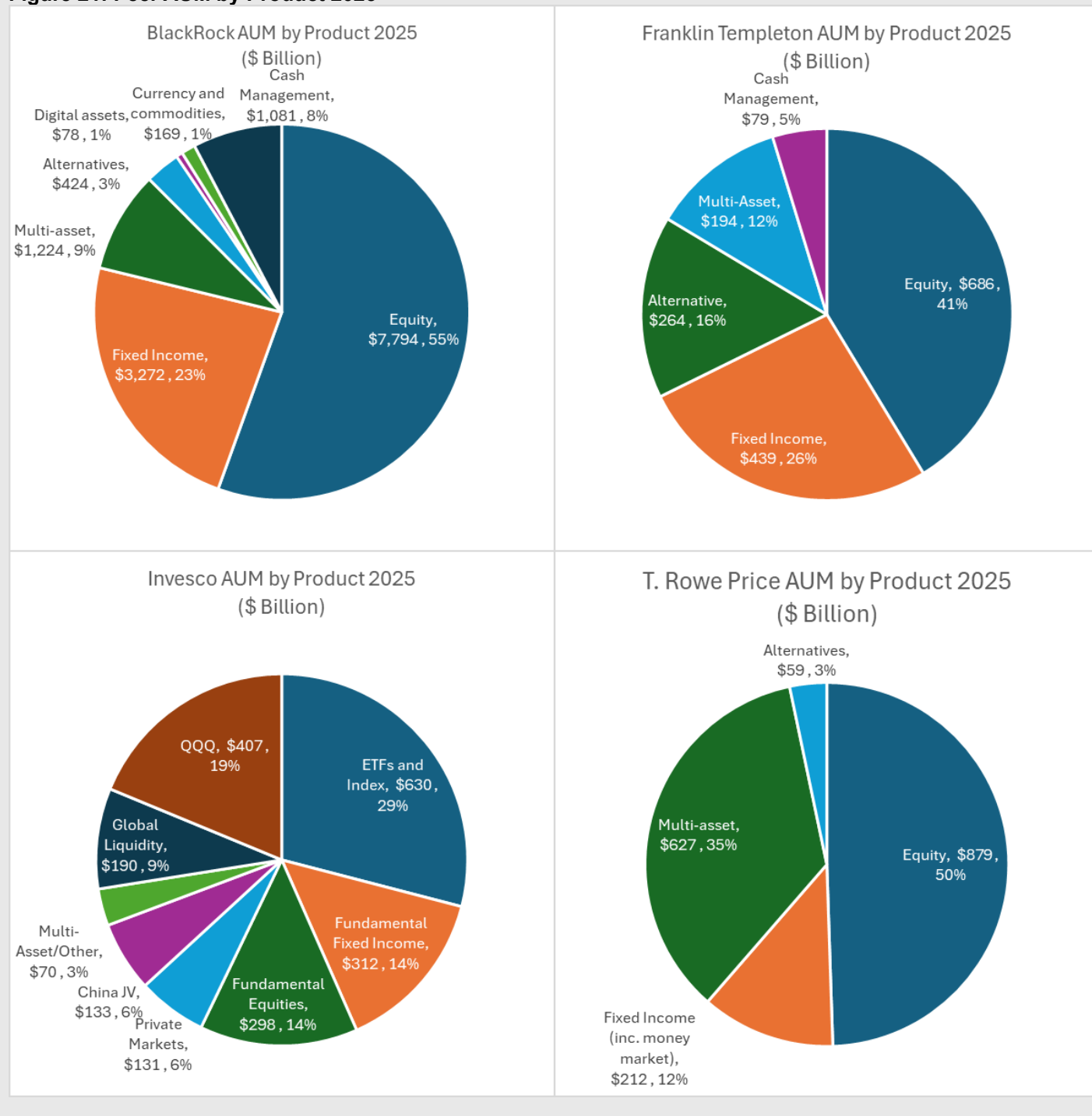
¹⁹⁷ Vanguard Tops \$1 Trillion in Assets Outside the US. Reuters. <https://www.reuters.com/business/vanguard-tops-1-trillion-assets-outside-us-ft-reports-2026-01-25/>; Vanguard in A Nutshell. <https://www.ch.vanguard/content/dam/intl/europe/documents/en/vanguard-in-a-nutshell-eu-en.pdf>; BlackRock Annual Report 2025; Invesco Annual Report 2025; Franklin Resources Annual Report 2025; T. Rowe Price Annual Report 2025.

¹⁹⁸ BlackRock Annual Report 2025.

the next-largest providers, and more than 1,200 index mutual funds across share classes.¹⁹⁹ Vanguard, by comparison, offers only a few hundred index mutual funds and ETFs worldwide.²⁰⁰

Franklin Templeton, Invesco, and T. Rowe Price also provide broad product suites spanning active and passive strategies across equities, fixed income, alternatives, and money market instruments.

Figure 21: Peer AUM by Product 2025²⁰¹



¹⁹⁹ About BlackRock - What We Do & Our Purpose. BlackRock. <https://www.blackrock.com/corporate/about-us>

²⁰⁰ What Is An Index Fund. <https://investor.vanguard.com/investor-resources-education/understanding-investment-types/what-is-an-index-fund>

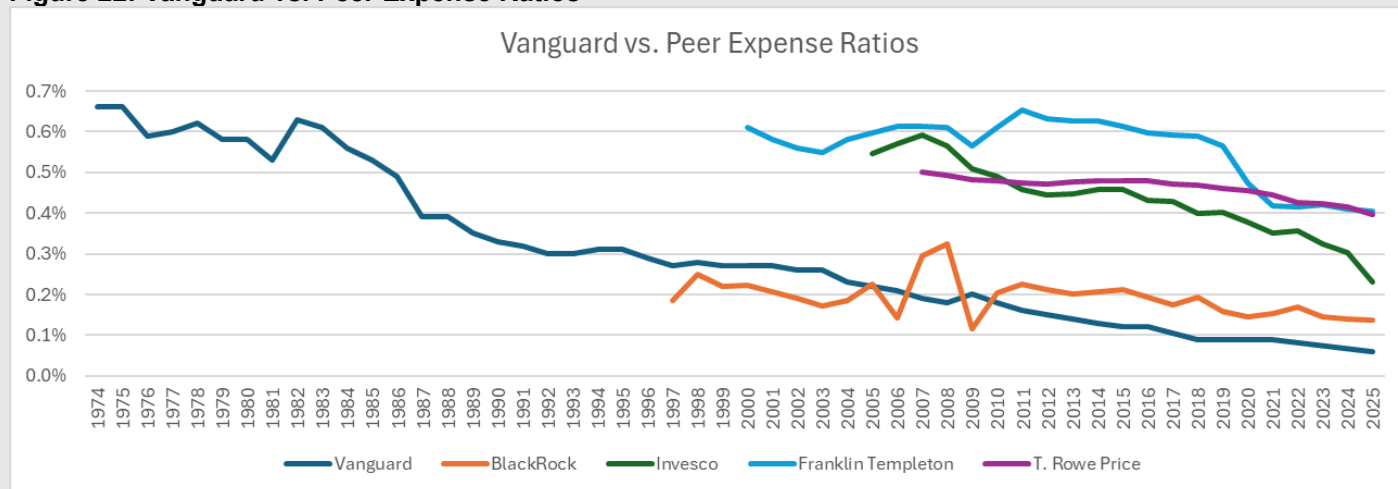
²⁰¹ BlackRock Annual Report 2025; Invesco Annual Report 2025; Franklin Resources Annual Report 2025; T. Rowe Price Annual Report 2025.

Despite being the world’s second-largest asset manager, Vanguard remains overwhelmingly focused on passive investing – by 2025, approximately 84% of its roughly \$12 trillion AUM was in index mutual funds or ETFs.²⁰² In contrast, about 24% of BlackRock’s AUM was in active strategies, with the remainder in passive and cash management.²⁰³ Invesco reported that 55.6% of its assets were actively managed in 2024, compared to 44.4% in passive strategies.²⁰⁴

While Franklin Templeton and T. Rowe Price do not disclose precise active versus passive breakdowns, both are primarily active managers. Franklin Templeton noted in its 2019 annual report that it “actively [manages] substantially all of [its] products,”²⁰⁵ while T. Rowe Price similarly emphasized its commitment to active management, stating that it “is firmly committed to active investment management”²⁰⁶ and continues “to battle the passive trend including its impact on fees.”²⁰⁷

These differences in strategy mix are reflected in fee structures. Firms with a higher proportion of active strategies tend to command higher management fees, whereas Vanguard’s predominantly passive approach (and its mutual ownership structure, which we will discuss later) is associated with structurally lower fees.

Figure 22: Vanguard vs. Peer Expense Ratios²⁰⁸



Notes:

1. BlackRock does not disclose its average expense ratio relative to AUM. We estimate it by dividing investment advisory and administration base fee revenue (as reported in the company’s annual filings) by year-end AUM. This proxy may not fully reflect the company’s actual fee levels.
2. The decline in Franklin Templeton’s management fee rate in fiscal 2020 was primarily driven by the Legg Mason acquisition. Legg Mason’s business carried a lower effective fee rate, reflecting its greater exposure to institutional and fixed income assets.²⁰⁹

²⁰² Vanguard in A Nutshell. <https://www.ch.vanguard/content/dam/intl/europe/documents/en/vanguard-in-a-nutshell-eu-en.pdf>

²⁰³ BlackRock Annual Report 2025.

²⁰⁴ Invesco Annual Report 2024.

²⁰⁵ Franklin Resources Annual Report 2019.

²⁰⁶ T. Rowe Price Group Investor Day 5/26/2021.

²⁰⁷ T. Rowe Price Group. Goldman Sachs U.S. Financial Services Conference. 12/9/2020.

²⁰⁸ Vanguard by The Numbers. <https://johncbogle.com/wordpress/wp-content/uploads/2016/07/Vanguard-By-The-Numbers.pdf>;

Vanguard Continues to Lower the Cost of Investing with Expansion of Commission-Free Platform Beyond ETFs.

<https://corporate.vanguard.com/content/corporatesite/us/en/corp/who-we-are/pressroom/Press-Release-Vanguard-Expands-Commission-Free-Platform-Beyond-ETFs.html>;

Vanguard’s History – Expense Ratio. Vanguard; BlackRock IPO Prospectus 1999;

BlackRock Annual Report 1999 – 2025; Invesco Annual Report 1997 – 2025; Franklin Resources Annual Report 1995 – 2025; T. Rowe Price Annual Report 1997 – 2025.

²⁰⁹ Franklin Resources Annual Report 2020.

Business Model – Mutual Ownership by Fund Shareholders, Offering Closest-to-Market Returns Through Minimal Cost

We believe that Vanguard's core business model is to gather and retain client assets by offering broadly diversified investment funds, especially low-cost index mutual funds, and later ETFs²¹⁰ (since 2001), at expense ratios that are well below industry averages. Its competitive advantage comes from scale, operational efficiency, and its unusual ownership structure, in which the funds are owned by their shareholders rather than by outside owners, helping align the firm's economics with investors through lower costs. In practice, Vanguard aims to deliver market returns, or close to them, at minimal cost, while using a wide product lineup and strong investor trust to deepen relationships and grow assets over time.

Central to this model is Vanguard's unique ownership structure, which was unprecedented in the asset management industry and remains a defining feature today. **By eliminating the traditional profit motive of external shareholders, the firm is structurally oriented toward passing economies of scale back to investors.** As noted by John Bogle, the founder, in 2018: **"we were interested in seeking fee reductions rather than higher fees and higher revenues. The whole idea was to reduce fees, not maintain or increase them. In those early years, we reduced the fees paid by our funds some 205 times... Indexing has been the key to Vanguard's growth. The cause of our success is not just indexing taken alone, but – I emphasize – the pairing of the index strategy with the mutual structure, the idea of running funds for the shareholders"**²¹¹

Closest-to-Market Returns At Minimal Costs

"Don't look for the needle in the haystack. Just buy the haystack!"

- John Bogle

Vanguard's strategy is built on a simple but powerful premise – rather than attempting to outperform the market, investors are better off capturing the market return at the lowest possible cost. As John Bogle argued, investors as a group are the market,²¹² meaning that, before costs, they collectively earn the market return, and after costs, they must underperform it. The implication is straightforward and powerful – minimizing costs is a reliable way for average investors to improve net investment outcomes.

From the beginning, Vanguard put this idea into practice through low-cost, cap-weighted index funds designed to deliver market returns with minimal friction. By avoiding active management fees and limiting portfolio turnover, index funds significantly reduce costs, giving them a structural advantage over actively managed strategies. As Bogle put it, index funds allow investors to earn "precisely the market's return... (before costs)," and because costs are so low, they "guarantee that its participant will earn higher net returns than all the other participants in stock ownership as a group."²¹³

Bogle pointed that "the only way to beat the market portfolio is to depart from the market portfolio...this is what active managers strive to do, individually. But collectively, they can't succeed,"²¹⁴ because "as a group, active managers are average before costs and losers to the market after costs."²¹⁵

This philosophy underpins Vanguard's durable competitive advantage. We believe because index funds are inherently commoditized, tracking the same benchmarks, competition ultimately comes down to price. Vanguard's early entry and relentless focus on cost reduction left competitors with little room to differentiate beyond lowering fees. For nearly a decade, it had no meaningful rival in index investing; it was not until 1984 that a second index mutual fund entered the market.²¹⁶ By then, index strategies already accounted for a meaningful share of Vanguard's assets, approaching \$300

²¹⁰ An ETF (exchange-traded fund) trades on an exchange throughout the day like a stock with real-time pricing, while a mutual fund is bought or sold only at the end of the day at its net asset value (NAV).

²¹¹ "Uneasy Lies The Head That Wears A Crown" – A Conversation with Jack Bogle.

<https://www.advisorperspectives.com/articles/2018/01/22/uneasy-lies-the-head-that-wears-a-crown-a-conversation-with-jack-bogle>

²¹² The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle.

https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

²¹³ False Promises. John Bogle. Journal of Indexes. March/April 2007. https://www.etf.com/docs/magazine/2/2007_110.pdf

²¹⁴ False Promises. John Bogle. Journal of Indexes. March/April 2007. https://www.etf.com/docs/magazine/2/2007_110.pdf

²¹⁵ Putting The Shareholder First: A Lifetime Ideal. A Conversation with John Bogle.

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1690710

²¹⁶ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle.

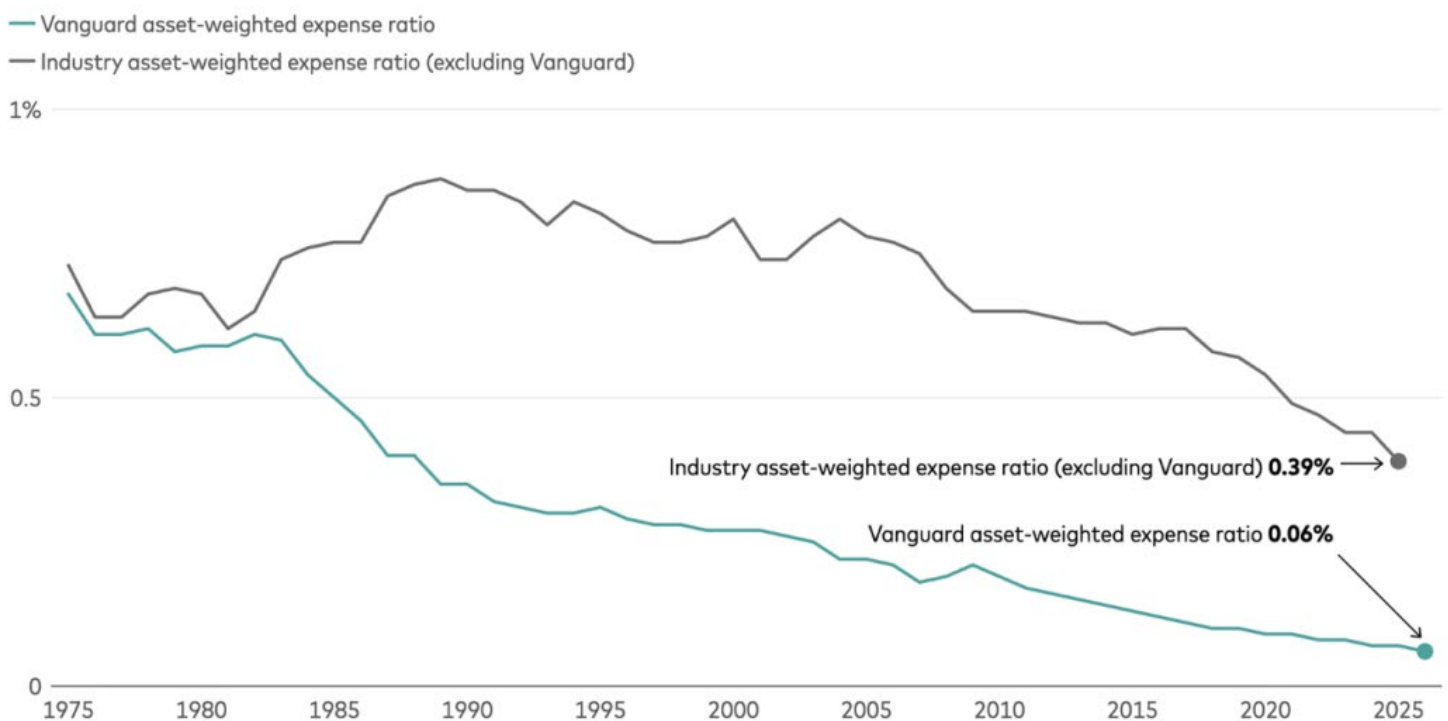
https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

million, or less than 3% of the firm's AUM.²¹⁷ **The result has been a self-reinforcing cycle: as Vanguard scales, it lowers costs; lower costs attract more assets; and greater scale enables further cost reductions, making it difficult for competitors to catch up.**

As Bogle later reflected in 2014, "Vanguard's index-driven strategy was reinforced by the firm's low-cost mutual structure and its focus on rock-bottom costs. That symbiotic relationship would be the prime force in carrying total assets of the Vanguard mutual funds to an all-time high of \$2.6 trillion in mid-2014," of which \$1.7 trillion were in index funds.²¹⁸ The model has only strengthened since. By 2025, Vanguard offered more than 200 index mutual funds and ETFs spanning nearly all major U.S. and international equity and bond markets,²¹⁹ collectively accounting for over \$10 trillion, about 84% of its roughly \$12 trillion in assets under management.²²⁰ Globally, as of early 2026, the firm offers 465 funds (228 in the U.S. and 237 internationally), serving more than 50 million investors.²²¹

Since its founding, Vanguard has consistently maintained some of the lowest expense ratios in the industry, and has continued to reduce them as it scales. In 1975, Vanguard's expense ratio was around 0.68%, compared to the industry average of 0.73%.²²² Fast forward to 2025, Vanguard's expense ratio declined to 0.06%, among the lowest in the industry, when the industry average was around 0.39%.²²³

Figure 23: Vanguard Expense Ratios vs. Average U.S. Funds²²⁴
Historical average U.S. expense ratios, as of December 31, 2025



²¹⁷ Lightning Strikes: The Creation of Vanguard, the First Index Mutual Fund, and the Revolution It Spawned. John Bogle; Vanguard by the Numbers. <https://johncbogle.com/wordpress/wp-content/uploads/2016/07/Vanguard-By-The-Numbers.pdf>

²¹⁸ Lightning Strikes: The Creation of Vanguard, the First Index Mutual Fund, and the Revolution It Spawned. John Bogle.

²¹⁹ What Is An Index Fund. <https://investor.vanguard.com/investor-resources-education/understanding-investment-types/what-is-an-index-fund>

²²⁰ Vanguard in A Nutshell. <https://www.ch.vanguard/content/dam/intl/europe/documents/en/vanguard-in-a-nutshell-eu-en.pdf>

²²¹ Vanguard by The Numbers. <https://corporate.vanguard.com/content/corporatesite/us/en/corp/why-vanguard/who-we-are/facts-and-figures.html>

²²² Vanguard's History – Expense Ratio. Vanguard.

https://corporate.vanguard.com/content/dam/corp/history/vanguardeffect_animation_noloop.gif

²²³ Vanguard Lowers Expense Ratios to Deliver Long-Term Cost Savings for Investors. <https://investor.vanguard.com/investor-resources-education/news/vanguard-lowers-expense-ratios-long-term-investing>

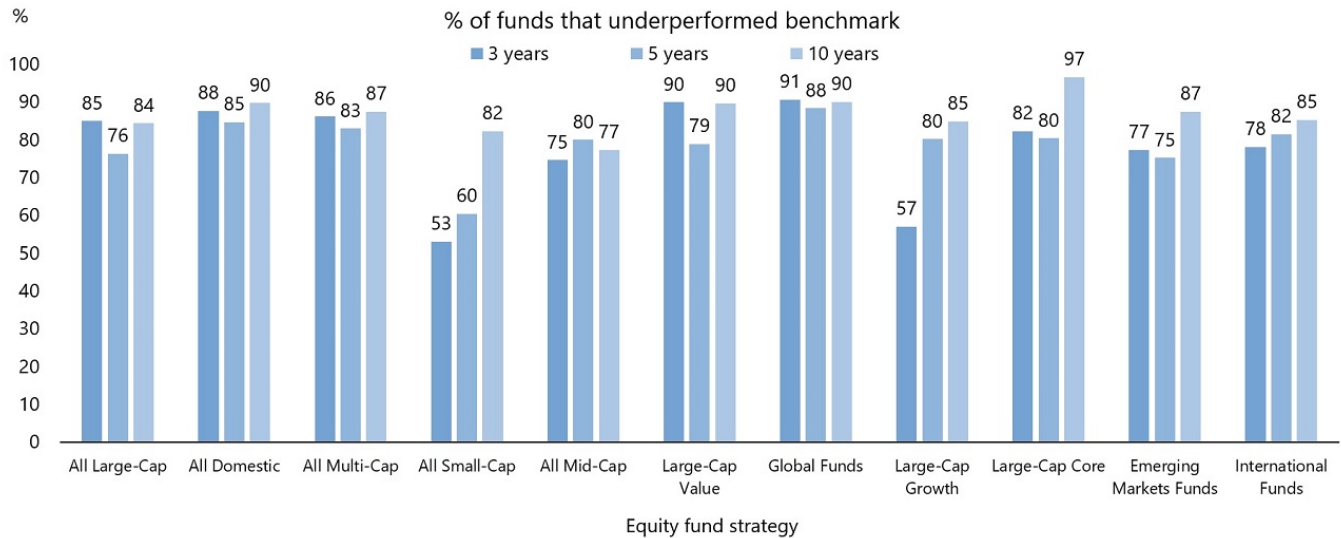
²²⁴ Vanguard Lowers Expense Ratios to Deliver Long-Term Cost Savings for Investors. <https://investor.vanguard.com/investor-resources-education/news/vanguard-lowers-expense-ratios-long-term-investing>

We believe the rise of Vanguard’s index funds ultimately rests on the gradual, if sometimes reluctant, acceptance of a simple idea as described by its founder – investors, **in aggregate**, cannot outperform the market because they are the market. From this follows an unavoidable reality, after costs, investors as a group must underperform. Operating expenses, advisory fees, and transaction costs all represent a direct drag on returns.²²⁵ Index funds, by contrast, largely eliminate these frictions. They charge no active management fees and keep portfolio turnover low, allowing costs to be minimized. That cost efficiency is the source of their enduring advantage. Vanguard’s principle is simple, as John Bogle noted in 2012 to the media, “In investing, you get what you don’t pay for. Costs matter. So intelligent investors will use low-cost index funds to build a diversified portfolio of stocks and bonds, and they will stay the course. And they won’t be foolish enough to think that they can consistently outsmart the market.”²²⁶ Even a manager’s strong long-term track record, he emphasized, offers little predictive value for future performance.

The intellectual foundation for index investment coincides with that of the Efficient Market Hypothesis, introduced by Eugene Fama in the 1970, which suggests that markets efficiently incorporate available information, leaving limited opportunity for persistent outperformance.²²⁷ Decades of academic research support this view that most professional managers fail to beat their benchmark indexes over time, and those who do rarely sustain that success over a long period of time.

Long-term market data further reinforces the case. A 2025 study finds that over the past decade, roughly 80% to 90% of active managers in public markets have underperformed their benchmarks across most strategies. While shorter time horizons, such as three-year periods, may show somewhat better results for active managers in certain strategies, these advantages tend to dissipate over longer investment horizons.²²⁸

Figure 24: Percentage of Funds That Underperformed Their Individual Benchmarks²²⁹



Since its inception in 1957, the S&P 500 Index, a widely used proxy for the U.S. equity market,²³⁰ has delivered average annual price returns of roughly 9%, and approximately 11% total returns when dividends are reinvested. More importantly,

²²⁵ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle.

https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

²²⁶ John C. Bogle, Founder of Financial Giant Vanguard, Is Dead at 89. The New York Times.

<https://web.archive.org/web/20190118151151/https://www.nytimes.com/2019/01/16/obituaries/john-bogle-vanguard-dead.html>

²²⁷ Efficient-Market Hypothesis. <https://www.ebsco.com/research-starters/social-sciences-and-humanities/efficient-market-hypothesis-emh>

²²⁸ More Than 80% of Active Managers in Public Markets Underperform Their Index. <https://www.apolloacademy.com/more-than-80-of-active-managers-in-public-markets-underperform-their-index/>

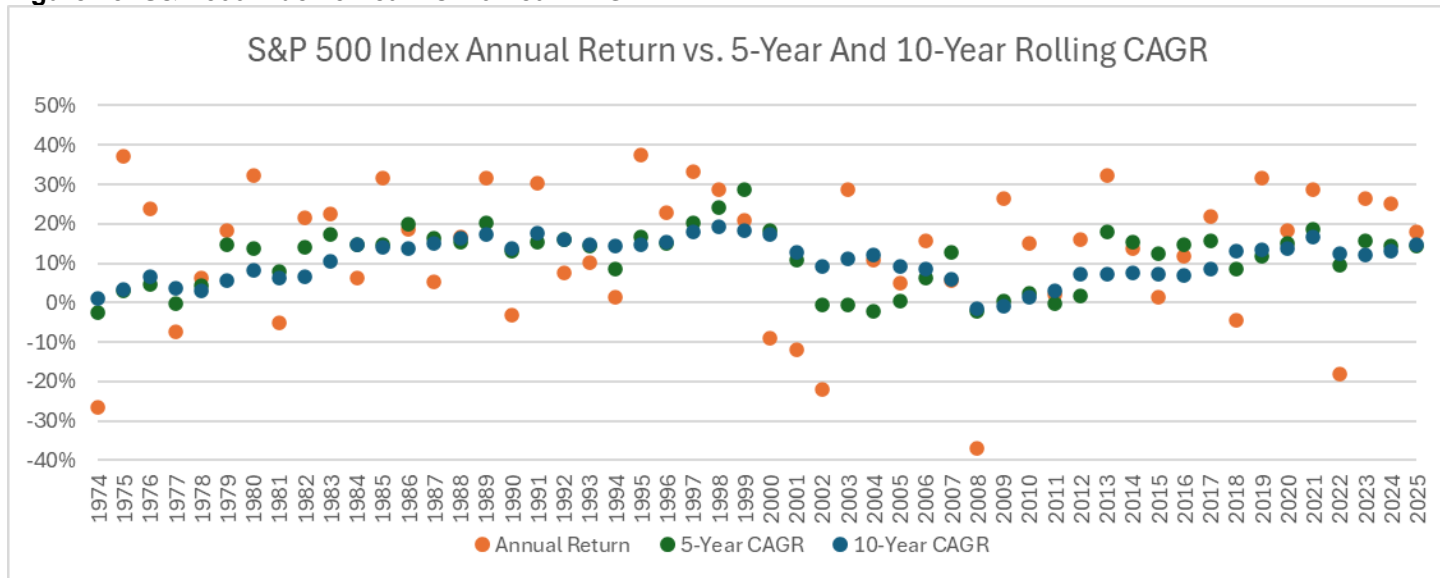
²²⁹ More Than 80% of Active Managers in Public Markets Underperform Their Index. <https://www.apolloacademy.com/more-than-80-of-active-managers-in-public-markets-underperform-their-index/>

²³⁰ At its launch in 1957, the S&P 500 represented roughly 90% of the total value of the U.S. equity market; by 2026, that share had declined to about 80%. The Dow® and the S&P 500®: Where it all Began. S&P Global.

<https://www.spglobal.com/spdji/en/documents/education/spdji-where-it-all-began.pdf>; S&P 500® – S&P Dow Jones Indices. S&P Global. <https://www.spglobal.com/spdji/en/indices/equity/sp-500/#overview>

the probability of positive outcomes rises significantly with time in the market. Over the past five decades, the S&P 500 index delivered positive annual total returns in more than 42 out of 50 years, or over 80% of the time.²³¹ From 1974 to 2025, rolling 5-year and 10-year periods were positive, roughly 87% and 96% of the time, respectively. In practical terms, the longer investors stay invested, the less likely they are to experience losses, underscoring the importance of time in the market over market timing.

Figure 25: S&P 500 Index 5-Year vs. 10-Year CAGR²³²



Note:

1. The return figures presented above are based on total returns.

²³¹ Global Financial Data (Finaeon)

²³² Global Financial Data (Finaeon)

Investing steadily in the broad market over time naturally lends itself to dollar-cost averaging (DCA), a strategy widely regarded as effective and powerful for average individual investors. Under DCA, a fixed dollar amount is invested in a risky asset at regular intervals over a defined horizon, rather than committing all capital at once. **By spreading purchases through time, investors reduce their reliance on getting the timing “right,” which helps explain why DCA is so commonly used for long-term goals like retirement.**²³³

Historically, extensive academic and professional research has examined DCA's appeal. A 2020 study, analyzing the S&P 500 Index from 1954 to 2019, emphasizes that its core benefit lies in mitigating timing risk. As the authors note, “the investor reduces exposure to temporary price fluctuations,” and more importantly, “DCA enables investors to avoid ‘market timing.’”²³⁴ This is a meaningful advantage, since consistently predicting short-term market movements is extremely difficult, even for professionals. By investing incrementally, DCA potentially removes this burden altogether.

DCA also benefits from the way it interacts with market volatility. **When prices fall, a fixed contribution buys more shares; when prices rise, it buys fewer. Over time, this potentially creates a favorable averaging effect.** As the same study explains, “during a market downturn one is able to buy more shares... at a lower price, leading to greater returns at the end of the investment horizon.” **Because DCA allocates more capital when prices are lower and less when prices are higher, it results in a share-weighted average purchase cost that is typically below the simple average of asset prices over time, meaning investors are more likely to achieve a better effective entry price through DCA.**²³⁵

Another key advantage is that DCA smooths the investment experience. By spreading contributions across time, it “reduces the volatility of investments... by smoothing out the effects of volatile movements in asset prices.”²³⁶ This makes it particularly attractive for more risk-averse investors, as it lowers the chance of deploying all capital at an inopportune moment, such as just before a market downturn. **The result is typically a more stable and psychologically manageable path of wealth accumulation.**

That said, DCA is not optimal in every dimension. In terms of expected returns, lump-sum (LS) investing often comes out ahead. As the study and prior research conclude, “LS investing produced superior returns to DCA,”²³⁷ since capital invested earlier has more time to compound. The trade-off is clear – DCA reduces timing risk and volatility, but generally at the cost of somewhat lower expected returns.

Vanguard also reaches a similar conclusion. Its statistics show that DCA can smooth entry points across market conditions and reduce short-term volatility and drawdowns. It also notes that DCA “temporarily lowers a portfolio's risk by systematically decreasing the cash allocation”²³⁸ relative to lump-sum investing, helping investors avoid large early losses. This is particularly valuable in worst-case scenarios. For example, in the downside (5th percentile) outcomes shown below, DCA actually results in higher ending wealth than lump-sum investing, because not all capital was exposed before the market decline. In this sense, DCA acts as a form of risk insurance against bad timing.

However, this protection comes with an opportunity cost. Because some capital remains in cash during the averaging period, investors miss out on the market's long-term upward drift. **As a result, lump-sum investing has historically**

²³³ J. Lars Kirkby, Sovan Mitra, Duy Nguyen, An analysis of dollar cost averaging and market timing investment strategies, European Journal of Operational Research, Volume 286, Issue 3, 2020, Pages 1168-1186, ISSN 0377-2217, <https://doi.org/10.1016/j.ejor.2020.04.055>

²³⁴ J. Lars Kirkby, Sovan Mitra, Duy Nguyen, An analysis of dollar cost averaging and market timing investment strategies, European Journal of Operational Research, Volume 286, Issue 3, 2020, Pages 1168-1186, ISSN 0377-2217, <https://doi.org/10.1016/j.ejor.2020.04.055>

²³⁵ J. Lars Kirkby, Sovan Mitra, Duy Nguyen, An analysis of dollar cost averaging and market timing investment strategies, European Journal of Operational Research, Volume 286, Issue 3, 2020, Pages 1168-1186, ISSN 0377-2217, <https://doi.org/10.1016/j.ejor.2020.04.055>

²³⁶ J. Lars Kirkby, Sovan Mitra, Duy Nguyen, An analysis of dollar cost averaging and market timing investment strategies, European Journal of Operational Research, Volume 286, Issue 3, 2020, Pages 1168-1186, ISSN 0377-2217, <https://doi.org/10.1016/j.ejor.2020.04.055>

²³⁷ J. Lars Kirkby, Sovan Mitra, Duy Nguyen, An analysis of dollar cost averaging and market timing investment strategies, European Journal of Operational Research, Volume 286, Issue 3, 2020, Pages 1168-1186, ISSN 0377-2217, <https://doi.org/10.1016/j.ejor.2020.04.055>

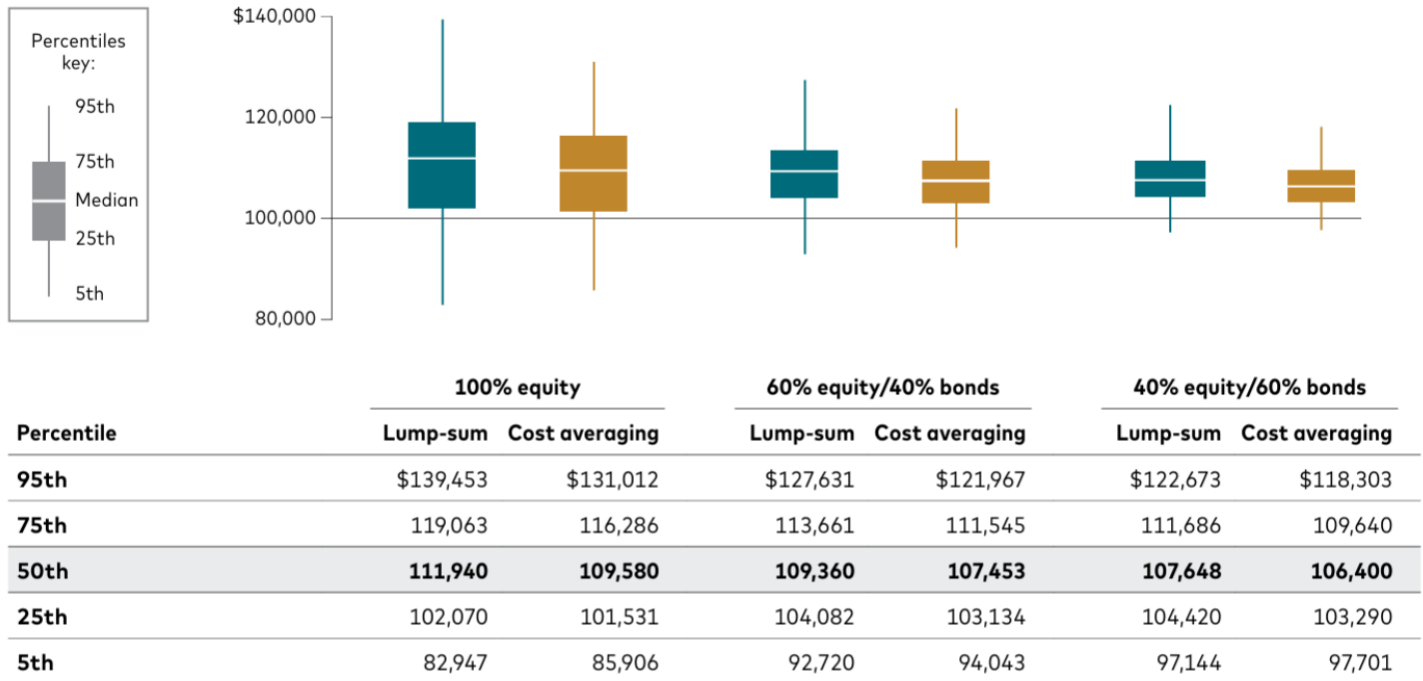
²³⁸ Cost Averaging - Invest Now or Temporarily Hold Your Cash. Vanguard. https://corporate.vanguard.com/content/dam/corp/research/pdf/cost_averaging_invest_now_or_temporarily_hold_your_cash.pdf

outperformed DCA “roughly two-thirds of the time.” Vanguard’s own example illustrates this: for a 60/40 portfolio, a \$100,000 investment grows to about \$109,360 with a lump sum versus \$107,453 with DCA over one year.²³⁹

Putting it together, the real power of dollar-cost averaging is not that it maximizes returns – it does not – but that it balances risk, behavior, and discipline. It protects against poor timing, reduces emotional stress, and helps investors stay invested.

Figure 26: Lump-Sum vs. Dollar Cost Averaging Investment²⁴⁰

Historical wealth ranges for LS versus CA strategies after a one-year investment period



Notes: This figure is for illustrative purposes only and does not represent any particular investment. Percentiles are for a one-year rolling investment period with a starting wealth of \$100,000 for each of three portfolios (100% equity, 60% equity/40% bonds, and 40% equity/60% bonds) using a lump-sum strategy versus a three-month cost averaging split (splitting a lump sum into three equal parts and investing each one a month apart). Calculations are made using MSCI World Index and Bloomberg U.S. Aggregate Bond Index returns for 1976–2022.

Source: Vanguard.

John Brennan, the former Vanguard CEO from 1996 to 2008, observed in 1996 that Vanguard’s index funds gained traction not by promising outperformance, but by offering “predictability of performance and purity of portfolio.”²⁴¹ There is, he noted, real value in not “swinging for the fences.” Over time, as active managers have struggled to consistently beat the market, assets have steadily shifted toward Vanguard’s passive strategies.²⁴² That dynamic remains true today. Morningstar’s 2025 report found that, over the 10 years through 2025, only 21% of active funds both survived and outperformed their passive alternatives, across not only equities but also other asset classes.²⁴³

John Bogle also highlighted a less obvious advantage of index investing, behavioral discipline. Actively managed funds often attract inflows after periods of strong performance, only to see investors withdraw capital when results inevitably revert toward the mean. This cycle of performance chasing erodes investor returns. While a fund’s reported performance

²³⁹ Cost Averaging - Invest Now or Temporarily Hold Your Cash. Vanguard.

https://corporate.vanguard.com/content/dam/corp/research/pdf/cost_averaging_invest_now_or_temporarily_hold_your_cash.pdf

²⁴⁰ Cost Averaging - Invest Now or Temporarily Hold Your Cash. Vanguard.

https://corporate.vanguard.com/content/dam/corp/research/pdf/cost_averaging_invest_now_or_temporarily_hold_your_cash.pdf

²⁴¹ Vanguard Edges Past Fidelity In Attracting Cash to Funds. Wall Street Journal.

<https://www.wsj.com/articles/SB846711549530062500>

²⁴² Vanguard Edges Past Fidelity In Attracting Cash to Funds. Wall Street Journal.

<https://www.wsj.com/articles/SB846711549530062500>

²⁴³ Active Managers Face Shrinking Odds of Beating Indexes, Morningstar Finds. <https://www.investmentnews.com/practice-management/active-managers-face-shrinking-odds-of-beating-indexes-morningstar-finds/265335>

may appear satisfactory, the typical investor's realized return often lags, by about 1.5 percentage points annually, according to Morningstar, due to poorly timed decisions.²⁴⁴ In Bogle's words, investors are often their own worst enemy.

Although direct comparisons of holding periods between passive and active investors are limited, qualitative evidence supports this dynamic. A 2018 study by the Federal Reserve found that passive investors tend to be less reactive to short-term performance. Specifically, "investors in passive mutual funds are less reactive to performance than active-fund investors," with flows into passive funds showing lower sensitivity to returns. As a result, passive funds appear less prone to large redemptions following periods of weak performance, reinforcing the behavioral advantage of indexing.²⁴⁵

Beyond low expense ratios, Vanguard also removed another major cost burden at its early year – sales commissions. While its early funds initially relied on broker distribution and carried modest sales charges by the standards of the time, ranging from about 6% on smaller investments to 1% on larger accounts,²⁴⁶ this model changed in 1977. **Following a contentious board decision, Vanguard terminated its distribution agreement with Wellington Management, eliminated all sales loads, and moved to a direct-to-investor model.**²⁴⁷ This "no-load" structure became a defining feature of its long-term competitive advantage. To this day, Vanguard emphasizes that its funds "never charge front-end or back-end loads,"²⁴⁸ a meaningful distinction in an industry where such fees are still common.

The long-term results underscore the effectiveness of this low-cost approach. Since the launch of the Vanguard 500 Index Fund Investor Shares in 1976, a \$10,000 investment would have grown to approximately \$2.25 million (225x) by 2025, representing an 11.6% CAGR, closely tracking the S&P 500 Index, which delivered about 11.8% CAGR over the same period.²⁴⁹ The small gap, roughly 0.24% annually, largely reflects the impact of fees and transaction-related costs.

Over time, Vanguard extended its cost advantage through share class innovation. In 2000, it introduced the Admiral share class, offering lower expense ratios to investors with larger account balances, while the legacy Vanguard 500 Index Fund Investor Share (VFINX) has been closed to new investors in recent years.²⁵⁰ The Admiral shares of the Vanguard 500 Index Fund (VFIAX) initially carried an expense ratio of 0.12%, about one-third lower than the 0.18% charged on the original Investor shares. This pricing reflected economies of scale, with higher minimum investment requirements, initially over \$250,000, and \$50,000 for long-time clients.²⁵¹ By contrast, the original Investor shares were accessible with much lower minimums, typically around \$3,000.²⁵²

As competition intensified, these barriers gradually declined. By 2026, many Admiral share classes are available with minimum investments as low as \$3,000,²⁵³ effectively extending lower-cost access to a broader base of investors. Since its inception, the Admiral share class has tracked the market even more closely. From 2000 to 2025, it delivered a CAGR of approximately 8.65%, versus about 8.68% for the index,²⁵⁴ the 0.03% discrepancy again highlighting how lower costs translate directly into improved net returns.

Indexing the broad market has proven to be a practical "one-size-fits-most" solution. It offers not only broad diversification across sectors within the U.S. economy, but also meaningful indirect global exposure. Many constituent companies

²⁴⁴ "Uneasy Lies The Head That Wears A Crown" – A Conversation with Jack Bogle.

<https://www.advisorperspectives.com/articles/2018/01/22/uneasy-lies-the-head-that-wears-a-crown-a-conversation-with-jack-bogle>

²⁴⁵ The Shift from Active to Passive Investing: Potential Risks to Financial Stability?

<https://www.federalreserve.gov/econres/feds/files/2018060r1pap.pdf>

²⁴⁶ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle.

https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

²⁴⁷ John C. Bogle, Founder of Financial Giant Vanguard, Is Dead at 89. The New York Times.

<https://web.archive.org/web/20190118151151/https://www.nytimes.com/2019/01/16/obituaries/john-bogle-vanguard-dead.html>

²⁴⁸ Vanguard Mutual Fund Fees And Minimums. Vanguard. <https://investor.vanguard.com/investment-products/mutual-funds/fees>

²⁴⁹ Refinitiv

²⁵⁰ VFINX - 500 Index Fund Investor Shares. <https://workplace.vanguard.com/investments/product-details/fund/0040>

²⁵¹ Vanguard Launching Admiral Shares.

<https://web.archive.org/web/20191023161352/https://www.marketwatch.com/story/vanguard-launching-admiral-shares>

²⁵² Investors Put Index Funds, if Not Their Theory, Into Practice. Los Angeles Times. <https://www.latimes.com/archives/la-xpm-1999-sep-26-fi-14320-story.html>

²⁵³ Compare Mutual Fund Share Classes at Vanguard. <https://investor.vanguard.com/investor-resources-education/mutual-funds/share-classes-of-vanguard-mutual-funds>

²⁵⁴ FactSet

generate a substantial portion of their revenues overseas, historically around 40%,²⁵⁵ giving investors access to international growth despite holding a domestic index.

Figure 27-1: Vanguard 500 Index Fund Investor Share vs. S&P 500 Total Return 1976 – 2025²⁵⁶



Figure 27-2: Vanguard 500 Index Fund Admiral Share vs. S&P 500 Total Return 2001 – 2025²⁵⁷

Total Return: 13 Nov '00 - 31 Dec '25



²⁵⁵ "Uneasy Lies The Head That Wears A Crown" – A Conversation with Jack Bogle.

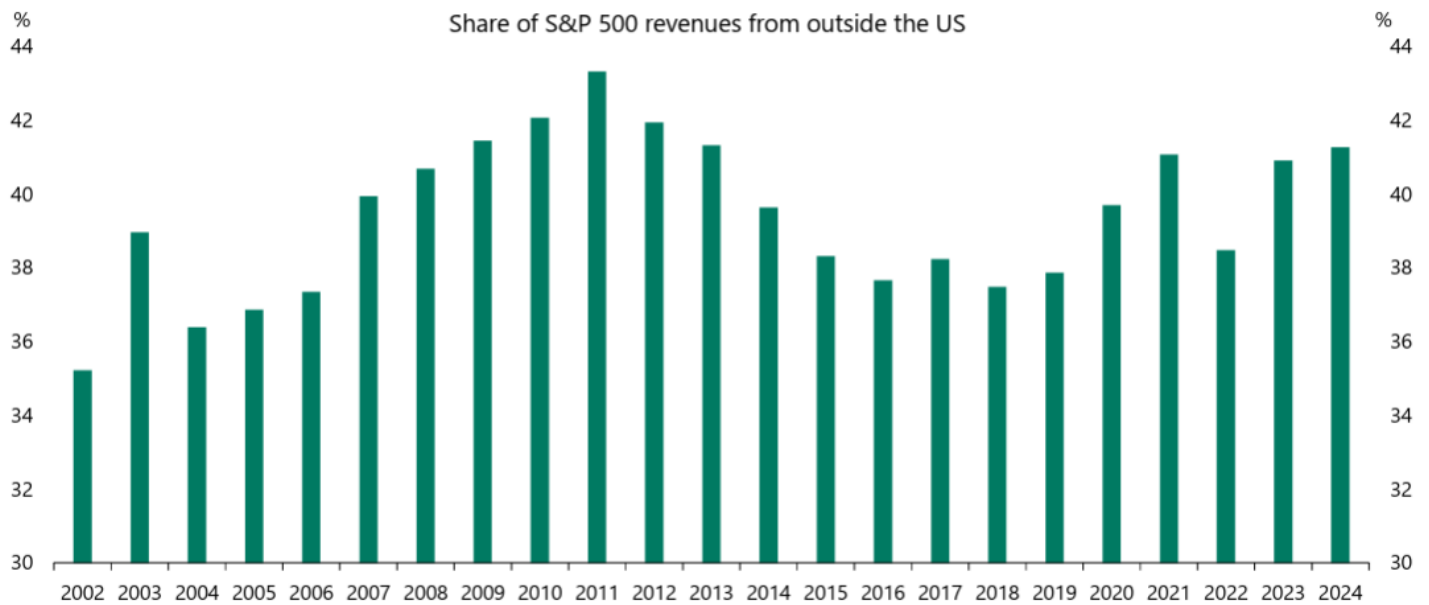
<https://www.advisorperspectives.com/articles/2018/01/22/uneasy-lies-the-head-that-wears-a-crown-a-conversation-with-jack-bogle>

²⁵⁶ Refinitiv

²⁵⁷ FactSet

Figure 27-3: S&P 500 Geographic Revenue Exposure²⁵⁸

41% of revenue in S&P 500 companies comes from abroad



Source: FactSet, Apollo Chief Economist

S&P 500 Index

The S&P 500 is the flagship large-cap U.S. equity benchmark within the broader S&P U.S. Indices family. It is widely regarded as a proxy for the U.S. equity market, measuring the performance of its large-cap segment. As of 2025, the index had a total market value of approximately \$58.4 trillion, representing nearly 85% of the U.S. stock market and over 40% of global equity market capitalization.²⁵⁹ The index consists of 500 constituent companies. It was officially launched on March 4, 1957, with a first value date of January 3, 1928, and a base value of 10 for the 1941 – 1943 period.²⁶⁰

In terms of construction, the S&P 500 is not a purely mechanical ranking of the 500 largest companies. Instead, “index constituents are selected from the S&P Total Market Index,” which represents the broader universe of eligible U.S. equities.²⁶¹ Selection is determined by the Index Committee, full-time employees of S&P Dow Jones Indices, and is based on established eligibility criteria. The index maintains a fixed count of 500 companies, while also considering sector balance. Specifically, sector weights are evaluated relative to their representation in the broader S&P Total Market Index. As a result, **the S&P 500 is designed to be representative of the U.S. market, rather than simply reflecting a strict size-based ranking.**

To qualify for inclusion, companies must be U.S.-domiciled, listed on a major U.S. exchange, and organized as standard corporations issuing common stock. For the S&P 500 specifically, firms must meet a minimum unadjusted market capitalization threshold of \$22.7 billion as of 2026,²⁶² along with requirements for investability, liquidity, and financial strength. In particular, GAAP net income from continuing operations must be positive both in the most recent

²⁵⁸ S&P 500 Geographic Revenue Exposure 2002 – 2024. Apollo. https://www.apolloacademy.com/wp-content/uploads/2025/01/011225-Chart_v2.pdf

²⁵⁹ U.S. Equities Market Attributes December 2025. S&P Global. <https://www.spglobal.com/spdji/en/commentary/article/us-equities-market-attributes>; Market Capitalization of Listed Domestic Companies. World Bank. <https://data.worldbank.org/indicator/CM.MKT.LCAP.CD?locations=1W-US>

²⁶⁰ S&P U.S. Indices Methodology. S&P Global. <https://www.spglobal.com/spdji/en/documents/methodologies/methodology-sp-us-indices.pdf>

²⁶¹ S&P U.S. Indices Methodology. S&P Global. <https://www.spglobal.com/spdji/en/documents/methodologies/methodology-sp-us-indices.pdf>

²⁶² S&P U.S. Indices Methodology. S&P Global. <https://www.spglobal.com/spdji/en/documents/methodologies/methodology-sp-us-indices.pdf>

quarter and on a cumulative basis over the most recent four quarters. They must also meet trading liquidity thresholds, including a ratio of annual dollar value traded to float-adjusted market capitalization of at least 0.75 and a minimum trading volume of 250,000 shares per month over the six months preceding evaluation. Additionally, at least 50% of shares must be publicly available.²⁶³

The index is weighted using a float-adjusted market capitalization methodology. In practice, this means a company's weight reflects only the shares available to public investors, excluding insider holdings and other restricted shares. As a result, the index is designed to represent the investable portion of the market.

The S&P 500 is also actively maintained rather than reconstituted on a fixed schedule. Changes to index composition are made on an as-needed basis in response to corporate events and changing market conditions, typically with advance notice. The index is rebalanced quarterly.²⁶⁴ This approach allows the index to remain both rules-based and flexible, ensuring it continues to serve as a relevant and practical benchmark for the U.S. equity market.

We believe another important advantage of index funds is the absence of key-person risk. Because index funds simply track benchmarks, they do not depend on the skill or continuity of a star manager. In contrast, active funds are inherently tied to individual managers, who inevitably come and go. As John Bogle noted in 2006, the average fund manager's tenure is relatively short, about five years, while investors often hold multiple funds, typically around four,²⁶⁵ raising the question of how likely it is that successive managers can replicate prior success.

Bogle framed this issue from a long-term perspective. For young investors with horizons of 50 to 60 years, he asked what funds could realistically be held for a lifetime, other than index funds. His reasoning was straightforward. First, no portfolio manager will be around for such an extended period (i.e., working until 100+ years old). Second, many funds themselves do not survive. He estimated roughly half are gone within a decade. Even among those that persist, leadership turnover is inevitable, with managers frequently replaced, either moving on after success or being fired after underperformance. This dynamic, he argued, is fundamentally at odds with the notion of long-term investing and makes no sense. In contrast, index investing offers continuity and discipline, allowing investors to capture market returns at minimal cost, effectively guaranteeing a win by avoiding the structural disadvantages of active management.²⁶⁶

The history of the Fidelity Magellan Fund provides a clear illustration. Under Peter Lynch, the fund delivered exceptional returns of roughly 29% annually from 1977 to 1990, far outperforming the S&P 500 Index, which returned about 15% over the same period.²⁶⁷ Yet despite this remarkable track record, many investors failed to realize those gains due to poor timing and many of them even lost money.

Evidence from multiple sources highlights this gap. A 2024 report by the Financial Times estimated that the average Magellan investor earned only about 13% annually during Lynch's tenure.²⁶⁸ Lynch himself, as cited in *Head I Win, Tails I Win: Why Smart Investors Fail and How to Tilt the Odds in Your Favor* by Spencer Jakab, suggested the figure may have been closer to 7%.²⁶⁹ While the exact numbers vary, the conclusion is consistent – poor timing significantly eroded investor outcomes. This disconnect is largely explained by the volatility of returns. Lynch's performance included both extraordinary gains and periods of underperformance. For example, the fund returned about 70% in 1980, only to lag the market the following year. **Investors who piled in after the strong performance and exited during the subsequent**

²⁶³ S&T 500 Factsheet. S&P Global.

https://www.spglobal.com/spdji/en/idsenhancedfactsheet/file.pdf?calcFrequency=M&force_download=true&hostIdentifier=48190c8c-42c4-46af-8d1a-0cd5db894797&indexId=340

²⁶⁴ S&T 500 Factsheet. S&P Global.

https://www.spglobal.com/spdji/en/idsenhancedfactsheet/file.pdf?calcFrequency=M&force_download=true&hostIdentifier=48190c8c-42c4-46af-8d1a-0cd5db894797&indexId=340

²⁶⁵ Putting The Shareholder First: A Lifetime Ideal. A Conversation with John Bogle.

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1690710

²⁶⁶ Arvind Navaratnam's conversation with John Bogle in 2012.

²⁶⁷ Can Magellan Be Saved. Wall Street Journal. <https://www.wsj.com/articles/SB10001424052748704547604576263183921903172>; Global Financial Data (Finaeon)

²⁶⁸ Letter - An Efficient Market Means Few Are Able to Outperform. Financial Times. <https://www.ft.com/content/94ef34a8-a3b7-4dc7-ba82-2abcb127d62e>

²⁶⁹ Peter Lynch's Track Record Revisited. <https://awealthofcommonsense.com/2016/07/peter-lynchs-track-record-revisited/>

downturn likely locked in losses. By contrast, those who remained invested for the long term – another 10 years – would have captured average annual returns exceeding 25%.²⁷⁰

In the decades following Lynch's departure, however, performance reverted closer to the market. From 1990 to 2025, the fund generated approximately 10% annual returns, trailing the index by about 1%.²⁷¹ The contrast underscores how difficult it is to sustain outperformance over time, particularly as manager changes.

This potentially reflects another interesting point by John Bogle – **investors tend to chase yesterday's winners, only to realize disappointing outcomes. Over time, this behavior can be deeply destructive to wealth,²⁷² as the Magellan example so clearly illustrates.**

In Vanguard's early years, even investors who accepted the logic of index investing faced a practical constraint – replicating an index portfolio independently was not economically viable for individual investors. Constructing a portfolio that mirrored the S&P 500, holding hundreds of stocks in precise weights, required substantial capital and incurred significant transaction costs. **While precise historical estimates of the cost are limited, even today such replication of the S&P 500 Index would require millions of dollars, on the order of \$3.2 million.**²⁷³

Vanguard's innovation was to remove this barrier entirely. By pooling assets, it enabled investors to access a fully diversified, index-tracking portfolio at minimal cost and with modest minimum investments, typically around \$3,000 for mutual funds, and effectively even lower through ETFs with fractional share capabilities, starting at just \$1.²⁷⁴ In doing so, Vanguard transformed index investing from a theoretical idea into a practical solution for ordinary investors.

Vanguard's first ETF was launched in 2001, after John Bogle had stepped down from leadership. It is worth noting that Bogle remained skeptical of ETFs, viewing them largely as tools for short-term trading rather than long-term investing. He argued that most "rapid trading" in ETFs was conducted by institutions using them to hedge or equitize cash, and estimated that only about one-sixth of ETF assets were held by long-term investors.²⁷⁵ He cautioned that high turnover, narrow sector products, and speculative use could undermine the original philosophy of indexing. Although he acknowledged ETFs as "the greatest marketing innovation of the 21st century," he questioned their value for long-term wealth building, advocating instead for "staying the course with less exciting, inexpensive, broad-market traditional index funds."²⁷⁶ That said, he supported ETFs when used appropriately, specifically, when broadly diversified and not employed for speculation.²⁷⁷ Despite these reservations, ETFs have become a significant component of Vanguard funds. By 2025, the firm managed more than \$4 trillion in ETF assets, representing over 30% of its total AUM.²⁷⁸

Finally, Vanguard's model also benefits from investor behavior over time. As aforementioned, passive strategies tend to attract more stable capital, particularly during market downturns. **While actively managed funds often experience outflows in weak markets, index fund investors are generally more likely to stay invested.**²⁷⁹ Industry data shows that a meaningful portion of mutual funds disappear over any given five-year period through mergers or liquidations, about

²⁷⁰ How Investors Are Costing Themselves Money. Forbes. <https://www.forbes.com/councils/forbesfinancecouncil/2021/06/02/how-investors-are-costing-themselves-money/>

²⁷¹ Return of the Fidelity Magellan Fund (FMAGX) for the period from December 31, 1990, through December 31, 2025. FactSet.

²⁷² Arvind Navaratnam's conversation with John Bogle in 2012.

²⁷³ 50 years. 50 facts. Indexing since 1976. <https://corporate.vanguard.com/content/corporatesite/us/en/corp/articles/50-years-50-facts-indexing-since-1976.html#power-of-indexing>

²⁷⁴ VFIAX-Vanguard 500 Index Fund Admiral Shares. <https://investor.vanguard.com/investment-products/mutual-funds/profile/vfiar>; VOO-Vanguard S&P 500 ETF. <https://investor.vanguard.com/investment-products/etfs/profile/voo>

²⁷⁵ Bogle Changed Investing with Index Funds, But Wasn't Always Happy About It. CNBC. <https://www.cnbc.com/2019/01/16/bogle-changed-investing-with-index-funds-but-wasnt-always-happy-about-it.html>

²⁷⁶ Father of Passives Has Doubts about ETFs. Financial Times. <https://www.ft.com/content/1cd71934-c716-11e4-8e1f-00144feab7de>

²⁷⁷ Bogle Changed Investing with Index Funds, But Wasn't Always Happy About It. CNBC. <https://www.cnbc.com/2019/01/16/bogle-changed-investing-with-index-funds-but-wasnt-always-happy-about-it.html>

²⁷⁸ Global ETF Assets Reach Record High of US\$18.81 Trillion At End of September According to New Research from ETFGI. <https://etfgi.com/news/press-releases/2025/10/global-etf-assets-reach-record-high-us1881-trillion-end-september>; Vanguard in A Nutshell. <https://www.ch.vanguard.com/content/dam/intl/europe/documents/en/vanguard-in-a-nutshell-eu-en.pdf>

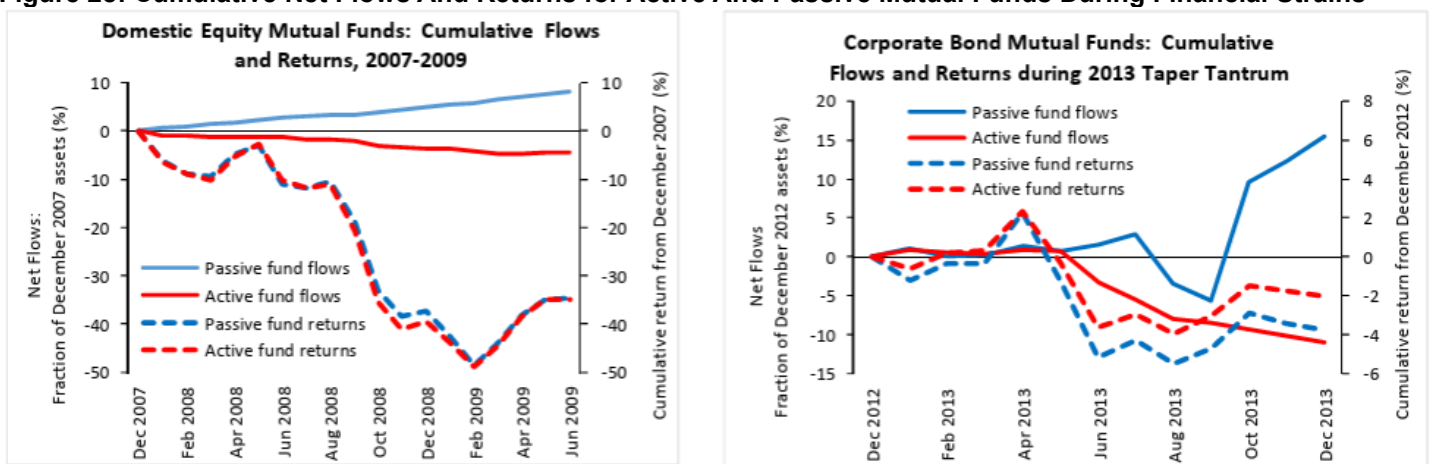
²⁷⁹ 50 years. 50 facts. Indexing since 1976. <https://corporate.vanguard.com/content/corporatesite/us/en/corp/articles/50-years-50-facts-indexing-since-1976.html#origins-and-role>

20% to 25% of U.S. mutual funds,²⁸⁰ with long-surviving funds being rare. In contrast, the Vanguard 500 Index Fund has endured for decades as a consistent vehicle tracking the market.

Research supports this behavioral difference. **A 2018 Federal Reserve study found that passive investors are less sensitive to short-term performance, noting that “investors in passive mutual funds are less reactive to performance than active-fund investors,” and that passive fund flows are less performance-driven.²⁸¹ As a result, passive funds are less likely to experience large redemptions following poor returns. During periods such as the 2008-2009 financial crisis and the 2013 taper tantrum, passive funds continued to see net inflow even when performance was weak, while active funds experienced outflow. For example, Morningstar data shows that in 2008, actively managed U.S. equity funds saw \$132 billion in outflows, while passive funds recorded roughly \$100 billion in inflows.²⁸² In March 2009, when the S&P 500 fell to a 12-year low of 676, actively managed funds experienced \$18.3 billion outflows, whereas passive equity funds still drew \$2.4 billion in inflows.²⁸³ The Federal Reserve study concluded that the weaker flow-performance relationship in passive funds helps reduce systemic risks associated with large-scale redemptions during market stress.**

As a result, passive investors tend to remain invested for longer periods, particularly during downturns. This persistence allows them to better withstand volatility and benefit from long-term compounding, whereas active investors who exit the market risk interrupting that compounding process and diminishing their overall returns.

Figure 28: Cumulative Net Flows And Returns for Active And Passive Mutual Funds During Financial Strains²⁸⁴



In our earlier conversation with John Bogle, when asked about the potential downsides of index investing, he noted that committing to an index approach may mean giving up the chance to outperform the market.²⁸⁵ Instead, it primarily reduces the risk of underperforming, delivering only the market’s return. He also emphasized that frequent trading tends to erode returns, much like a casino in Las Vegas, where the cost of playing ultimately works against the participant.

He further raised a broader concern about the structure of large active fund houses: with such an expansive array of products, it becomes increasingly difficult to uphold true fiduciary oversight. When directors are responsible for overseeing dozens, or even hundreds, of funds, to the point where they may not even be able to name all the funds under their purview, it calls into question how effectively they can act in the best interests of investors across the entire lineup.

²⁸⁰ 50 years. 50 facts. Indexing since 1976. <https://corporate.vanguard.com/content/corporatesite/us/en/corp/articles/50-years-50-facts-indexing-since-1976.html#wealth-generation>

²⁸¹ The Shift from Active to Passive Investing: Potential Risks to Financial Stability? <https://www.federalreserve.gov/econres/feds/files/2018060r1pap.pdf>

²⁸² Mutual Dislike as Stock Funds See Record Outflows. <https://www.investmentnews.com/mutual-funds/mutual-dislike-as-stock-funds-see-record-outflows/48790>

²⁸³ June's Sum of U.S. Equity Fund Outflows, Index Fund Inflows Highest Since '09. <https://www.investmentnews.com/equities/junes-sum-of-us-equity-fund-outflows-index-fund-inflows-highest-since-09/37516>

²⁸⁴ The Shift from Active to Passive Investing: Potential Risks to Financial Stability? <https://www.federalreserve.gov/econres/feds/files/2018060r1pap.pdf>

²⁸⁵ Arvind Navaratnam’s conversation with John Bogle in 2012.

Reflecting on the key lessons investors should take away, Bogle emphasized simplicity and discipline.²⁸⁶ Don't switch out of winners in search of something better. Focus on simple, durable strategies, be the "hedgehog," not the fox (Greek poet Archilochu: "the fox knows many things, but the hedgehog knows one big thing," implying to stay simple, stay disciplined, and don't overcomplicate). Buy the haystack and don't look for the needle. Avoid extrapolating the past into the future, and instead maintain a long-term investment horizon. Tune out market noise and media commentary; while some media figures amplify short-term narratives, they add little value to long-term decision-making. **Investors often overemphasize what is happening in the market today, even though it has little bearing on long-term outcomes. The key is to focus on intrinsic value, not transient events. As Bogle advised, do not open your 401K until retirement, and do not waste brain power on it.**

Bogle also advocated a highly disciplined approach to risk. He avoided shorting and the use of leverage, preferring to stay grounded in a balanced, long-only strategy. In his view, shorting creates structural challenges in aligning capital and can introduce unnecessary risk, while leverage can quickly magnify losses. His philosophy was to keep speculation out of investing and avoid strategies that can cause significant harm in a short period of time.

²⁸⁶ Arvind Navaratnam's conversation with John Bogle in 2012.

Mutually Owned Structure

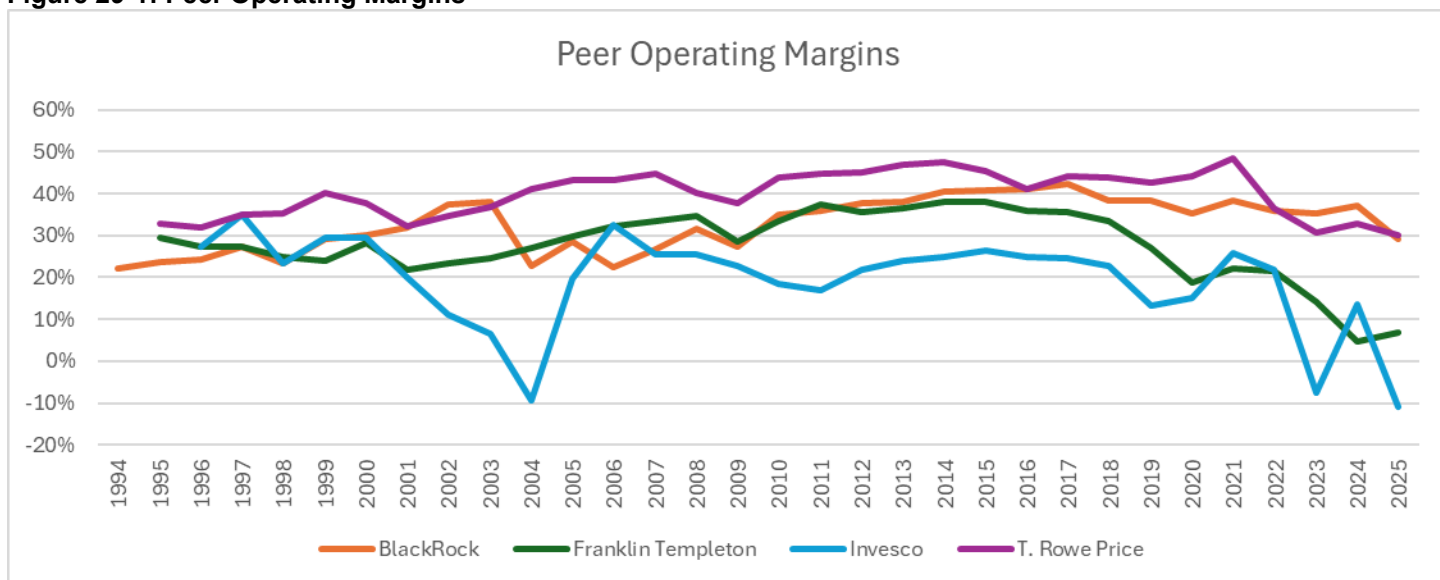
“The Vanguard Group is truly a mutual mutual fund company. It is owned jointly by the funds it oversees and thus indirectly by the shareholders in those funds. Most other mutual funds are operated by management companies that may be owned by one person, by a private group of individuals, or by public investors who own the management company’s stock. The management fees charged by these companies include a profit component over and above the companies’ cost of providing services. By contrast, Vanguard provides services to its member funds on an at-cost basis, with no profit component, which helps to keep the funds’ expenses low.”²⁸⁷

At the core of Vanguard’s business model is a structural innovation that fundamentally differentiates it from the rest of the asset management industry – its mutual ownership structure. **Unlike traditional fund managers, which are owned by external shareholders and operate to generate profits for those owners, Vanguard is owned by the funds it manages, and therefore indirectly by the investors in those funds.**²⁸⁸

This structure has profound economic implications. In a conventional model, management companies charge fees that include a profit margin, potentially creating an inherent tension between maximizing firm profits and delivering value to investors. **Vanguard, by contrast, was designed (reportedly by the company) to eliminate this conflict. It provides services to its funds without a profit component, allowing economies of scale to be passed directly to investors in the form of lower expense ratios.**²⁸⁹

Although Vanguard does not disclose its own profitability, publicly traded peers, spanning both active and passive strategies across asset classes, have historically generated substantial operating margins, with median levels over the past two decades ranging from the low 20% range to roughly 40%. Against this backdrop, Vanguard has consistently maintained some of the lowest expense ratios in the industry.

Figure 29-1: Peer Operating Margins²⁹⁰



²⁸⁷ Important News for Shareholders of Vanguard Morgan™ Growth Fund.

<https://www.sec.gov/Archives/edgar/data/52848/000093247119001789/morgangrowthintousgrowthmerg.htm>

²⁸⁸ Important News for Shareholders of Vanguard Morgan™ Growth Fund.

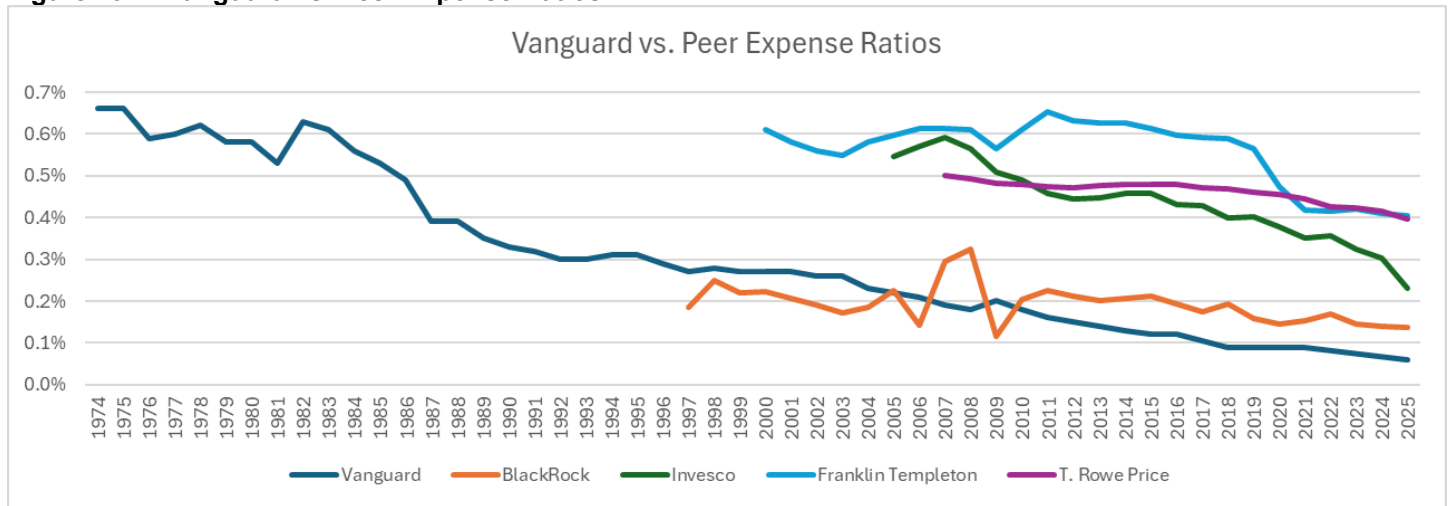
<https://www.sec.gov/Archives/edgar/data/52848/000093247119001789/morgangrowthintousgrowthmerg.htm>

²⁸⁹ Important News for Shareholders of Vanguard Morgan™ Growth Fund.

<https://www.sec.gov/Archives/edgar/data/52848/000093247119001789/morgangrowthintousgrowthmerg.htm>

²⁹⁰ BlackRock IPO Prospectus 1999; BlackRock Annual Report 1999 – 2025; Invesco Annual Report 1997 – 2025; Franklin Resources Annual Report 1995 – 2025; T. Rowe Price Annual Report 1997 – 2025.

Figure 29-2: Vanguard vs. Peer Expense Ratios²⁹¹



Notes:

1. BlackRock does not disclose its average expense ratio relative to AUM. We estimate it by dividing investment advisory and administration base fee revenue (as reported in the company's annual filings) by year-end AUM. This proxy may not fully reflect the company's actual fee levels.
2. The decline in Franklin Templeton's management fee rate in fiscal 2020 was primarily driven by the Legg Mason acquisition. Legg Mason's business carried a lower effective fee rate, reflecting its greater exposure to institutional and fixed income assets.²⁹²

For John Bogle, this structure was not merely a governance choice but was the foundation of Vanguard's entire strategy. As he put it in 2012, "strategy follows structure." Without external owners extracting profits, Vanguard can systematically drive costs lower than its competitors. He further noted that "the only way anyone can really compete with us on costs is to adopt a mutual ownership structure," he said. "I've been waiting all these years for someone to do it, but no one has,"²⁹³ largely because such a structure offers little economic incentive for traditional owners. He further emphasized that Vanguard differs from typical mutual fund complexes in organizational design. **Rather than a centralized management company controlling the funds, Vanguard operates more like a mutual insurer. The funds employ their own officers and staff, who are accountable to fund directors. This structure allows funds to act independently of their adviser, negotiate fees at "arm's length,"**²⁹⁴ and prioritize shareholder interests above all else.²⁹⁵

As a result, since its inception, Vanguard's mutually-owned structure enables its profits effectively flowed back to investors through lower costs. Operating on an at-cost basis, Vanguard sought to put shareholders "in the driver's seat,"²⁹⁶ reinforcing its long-standing belief that "costs matter" and are a critical determinant of long-term investment success.

²⁹¹ Vanguard by The Numbers. <https://johncbogle.com/wordpress/wp-content/uploads/2016/07/Vanguard-By-The-Numbers.pdf>; Vanguard Continues to Lower the Cost of Investing with Expansion of Commission-Free Platform Beyond ETFs. <https://corporate.vanguard.com/content/corporatesite/us/en/corp/who-we-are/pressroom/Press-Release-Vanguard-Expands-Commission-Free-Platform-Beyond-ETFs.html>; Vanguard's History – Expense Ratio. Vanguard; BlackRock IPO Prospectus 1999; BlackRock Annual Report 1999 – 2025; Invesco Annual Report 1997 – 2025; Franklin Resources Annual Report 1995 – 2025; T. Rowe Price Annual Report 1997 – 2025.

²⁹² Franklin Resources Annual Report 2020.

²⁹³ John Bogle, Vanguard's Founder, Is Too Worried to Rest. The New York Times.

<https://web.archive.org/web/20211114195739/https://www.nytimes.com/2012/08/12/business/john-bogle-vanguards-founder-is-too-worried-to-rest.html?module=inline>

²⁹⁴ "Arm's length" means the fees are negotiated as if the fund and the advisor were independent parties, each acting in its own best interest. In practice, we believe it ensures the fund's board can push for fair, lower fees on behalf of Vanguard's investors rather than simply accepting terms set by the advisor.

²⁹⁵ John C. Bogle, Founder of Financial Giant Vanguard, Is Dead at 89. The New York Times.

<https://web.archive.org/web/20190118151151/https://www.nytimes.com/2019/01/16/obituaries/john-bogle-vanguard-dead.html>

²⁹⁶ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle.

https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

This philosophy also shaped Vanguard's investment approach. As aforementioned, while most asset managers justify higher fees by claiming the ability to outperform the market, Vanguard pursued the opposite strategy by delivering market returns, or something close to them, at minimal cost. By focusing on cost efficiency and broad diversification, the firm aimed to maximize investor outcomes over time.²⁹⁷

Bogle consistently reinforced this principle over his lifetime. He argued that any profits Vanguard might otherwise generate were effectively rebated to investors through lower fees.²⁹⁸ **In 2018, he stated that of the 50 largest fund companies, only Vanguard is mutually owned by fund shareholders, while the rest are publicly traded, privately owned, or held by financial conglomerates.**²⁹⁹

Notably, despite founding one of the world's largest asset managers, Bogle never held an ownership stake beyond his personal investments in Vanguard funds, owning the firm on the same terms as other investors.³⁰⁰ **His personal wealth remained modest relative to industry peers, reflecting his commitment to prioritizing investor outcomes over personal enrichment.**

Bogle stepped down as CEO in 1996 and remained chairman until 1999, when Vanguard's assets under management were approximately \$537 billion.³⁰¹ By the time of his death in 2019 at age 89, his net worth was estimated at around \$80 million, while Vanguard's AUM had grown to roughly \$5 trillion. Earlier, a 2012 interview described his wealth as being in the "low double-digit millions,"³⁰² largely invested in Vanguard and Wellington funds accumulated through payroll deductions over his career. Even at his peak earning years, without specifying the amount, Bogle reportedly gave away a substantial portion of his income regularly to charities, including regular donations to his alma maters, Blair Academy and Princeton University, where he had once studied as a scholarship student while working part-time to support himself. After retiring, he continued his philanthropy, once remarking, "My only regret about money is that I don't have more to give away."³⁰³ The contrast with industry peers is striking. For example, Fidelity Investments managed approximately \$2.42 trillion in assets in 2018,³⁰⁴ while its then-chairman, Edward Johnson III, had a net worth of about \$7.4 billion.³⁰⁵

Bogle's emphasis on cost discipline extended beyond Vanguard's investment philosophy into his personal life. Anecdotes from the media illustrate this mindset: at a 1993 breakfast near Vanguard's headquarters, he calculated that ordering from the menu would cost less than the \$5.95 buffet; for early meetings in New York, he would take an early train rather than pay for a Manhattan hotel.³⁰⁶

Following the passing of John Bogle, Vanguard subtly adjusted how it described its ownership structure in some of its fund disclosures. Given the firm's private nature, however, it remains unclear whether this shift reflects any deeper change in philosophy or is primarily a matter of presentation.

²⁹⁷ Lightning Strikes: The Creation of Vanguard, the First Index Mutual Fund, and the Revolution It Spawned. John Bogle.

²⁹⁸ Retirement Savings Policy. C-Span. <https://www.c-span.org/program/senate-committee/retirement-savings-policy/367324>

²⁹⁹ "Uneasy Lies The Head That Wears A Crown" – A Conversation with Jack Bogle.

<https://www.advisorperspectives.com/articles/2018/01/22/uneasy-lies-the-head-that-wears-a-crown-a-conversation-with-jack-bogle>

³⁰⁰ John Bogle, Vanguard's Founder, Is Too Worried to Rest. The New York Times.

<https://web.archive.org/web/20211114195739/https://www.nytimes.com/2012/08/12/business/john-bogle-vanguards-founder-is-too-worried-to-rest.html?module=inline>

³⁰¹ John C. Bogle, Founder of Financial Giant Vanguard, Is Dead at 89. The New York Times.

<https://web.archive.org/web/20190118151151/https://www.nytimes.com/2019/01/16/obituaries/john-bogle-vanguard-dead.html>;

Vanguard by the Numbers. <https://johncbogle.com/wordpress/wp-content/uploads/2016/07/Vanguard-By-The-Numbers.pdf>

³⁰² John Bogle, Vanguard's Founder, Is Too Worried to Rest. The New York Times.

<https://web.archive.org/web/20211114195739/https://www.nytimes.com/2012/08/12/business/john-bogle-vanguards-founder-is-too-worried-to-rest.html?module=inline>

³⁰³ John Bogle, Vanguard's Founder, Is Too Worried to Rest. The New York Times.

<https://web.archive.org/web/20211114195739/https://www.nytimes.com/2012/08/12/business/john-bogle-vanguards-founder-is-too-worried-to-rest.html?module=inline>

³⁰⁴ Fidelity Investments Shareholder Update 2018. <https://www.mutualfundobserver.com/wp-content/uploads/2019/03/2018-Fidelity-Shareholder-Update.pdf>

³⁰⁵ John C. Bogle, Founder of Financial Giant Vanguard, Is Dead at 89. The New York Times.

<https://web.archive.org/web/20190118151151/https://www.nytimes.com/2019/01/16/obituaries/john-bogle-vanguard-dead.html>

³⁰⁶ John C. Bogle, Founder of Financial Giant Vanguard, Is Dead at 89. The New York Times.

<https://web.archive.org/web/20190118151151/https://www.nytimes.com/2019/01/16/obituaries/john-bogle-vanguard-dead.html>

For instance, in a 2018 SEC filing on the upcoming merger between Vanguard Morgan Growth Fund and the Vanguard U.S. Growth Fund, Vanguard briefly talked about its unique corporate structure as:

“The Vanguard Group is truly a mutual mutual fund company. It is owned jointly by the funds it oversees and thus indirectly by the shareholders in those funds. Most other mutual funds are operated by management companies that may be owned by one person, by a private group of individuals, or by public investors who own the management company’s stock. The management fees charged by these companies include a profit component over and above the companies’ cost of providing services. By contrast, Vanguard provides services to its member funds on an at-cost basis, with no profit component, which helps to keep the funds’ expenses low.”³⁰⁷

Yet a few months later, on its prospectus of a new fund filed on January 25, 2019, it framed the same message in a much shorter manner, stating:

“The Vanguard Group is owned jointly by the funds it oversees and thus indirectly by the shareholders in those funds. Most other mutual funds are operated by management companies that are owned by third parties—either public or private stockholders—and not by the funds they serve.”³⁰⁸

Without many details, the company’s spokesman explained that this change was part of a broader effort to simplify and standardize disclosure language, a process that had already begun in late 2018.³⁰⁹

Some industry observers interpret this shift as an effort to improve legal precision and reduce potential litigation risk. Terms such as “mutual mutual” lack formal recognition under federal securities law, and earlier descriptions, such as operating strictly “at-cost” or without a profit component, may invite regulatory scrutiny.³¹⁰ In practice, Vanguard is a private, for-profit entity that generates earnings and pays taxes, even if its structure allows it to deliver lower costs to investors.

In recent years, Vanguard’s unique structure has increasingly attracted scrutiny from tax and legal experts. Critics, including former in-house tax attorney David Danon, argue that a true “at-cost” pricing model may conflict with U.S. tax principles.³¹¹ Under federal transfer pricing rules, affiliated entities are generally required to transact at arm’s-length prices, meaning at levels comparable to those charged between independent parties. Charging only cost, without a profit markup, could therefore risk understating taxable income. From a tax perspective, this approach is controversial because service providers in competitive markets typically price their services to earn a profit. A 2015 expert testimony submitted to the IRS and SEC noted that since 1975, Vanguard has charged its domestic funds only the costs of providing services, including investment management and advisory functions, without including any profit component.³¹²

This pricing model is a key driver of Vanguard’s cost advantage, enabling it to offer lower fees than competing fund complexes. At the same time, the testimony suggested that Vanguard reports little or no net income on its federal and state tax returns, although specific figures were not disclosed. Critics argue that this structure allows Vanguard to undercut competitors’ pricing, potentially at the expense of the U.S. Treasury, while helping it grow into the world’s largest mutual fund manager by AUM.³¹³

³⁰⁷ Important News for Shareholders of Vanguard Morgan™ Growth Fund.

<https://www.sec.gov/Archives/edgar/data/52848/000093247119001789/morgangrowthintousgrowthmerg.htm>

³⁰⁸ Vanguard Capital Value Fund Prospectus.

<https://www.sec.gov/Archives/edgar/data/836906/000093247119001899/malvern485b.htm>

³⁰⁹ Vanguard SEC Filings Drop ‘At-Cost,’ ‘No Profit’ Claims That Were Dear to Late Founder John Bogle.

<https://web.archive.org/web/20250306121401/https://www.inquirer.com/columnists/john-bogle-vanguard-scrap-plain-talk-no-profit-at-cost-20190207.html>

³¹⁰ Vanguard SEC Filings Drop ‘At-Cost,’ ‘No Profit’ Claims That Were Dear to Late Founder John Bogle.

<https://web.archive.org/web/20250306121401/https://www.inquirer.com/columnists/john-bogle-vanguard-scrap-plain-talk-no-profit-at-cost-20190207.html>

³¹¹ Vanguard SEC Filings Drop ‘At-Cost,’ ‘No Profit’ Claims That Were Dear to Late Founder John Bogle.

<https://web.archive.org/web/20250306121401/https://www.inquirer.com/columnists/john-bogle-vanguard-scrap-plain-talk-no-profit-at-cost-20190207.html>

³¹² Expert Report of Professor Revenue S. Avi-Yonah on The Estimated Federal Tax Liability of The Vanguard Group.

<http://media.philly.com/documents/ReuvenAvi-Yonah.pdf>

³¹³ Expert Report of Professor Revenue S. AVI-Yonah on The Estimated Federal Tax Liability of The Vanguard Group.

<http://media.philly.com/documents/ReuvenAvi-Yonah.pdf>

According to former Vanguard tax attorney-turned-whistleblower David Danon, the issue lies in transfer pricing. He argues that Vanguard may be understating its taxable income by not accounting for the markup it would receive if transactions with its mutual funds were conducted at arm's length. For example, if a Vanguard fund pays \$5 for services that would cost \$10 in a comparable market transaction, Vanguard could be required for tax purposes to recognize income as if it had received the full \$10, even though it actually received only \$5.³¹⁴ Given Vanguard's private nature, however, it is unknown how this dynamic has evolved over time or whether it remains relevant today.

Although Vanguard maintained in 2015 that it did not owe corporate income taxes, the whistleblower later received a \$117,000 award from the state of Texas. Given a 5% reward rate, this implies that Vanguard paid at least \$2.3 million in state taxes based on the information provided.³¹⁵

Beyond tax considerations, Vanguard's structure has also prompted concerns about transparency. As a privately held, fund-owned entity, it does not disclose executive compensation, marketing expenditures, or detailed financial statements in the way that public peers such as BlackRock or Charles Schwab do.³¹⁶ For some observers, this opacity makes it difficult to evaluate the firm's financial strength, particularly during periods of market stress.

For example, in 2019, an anonymous investment advisor overseeing more than \$1 billion in client assets expressed concern about Vanguard's financial opacity, stating: "I have no idea what their financial strength is... They publish nothing about their income statement or balance sheet."³¹⁷ He also questioned whether the firm could weather a severe downturn, contrasting Vanguard with publicly traded peers such as BlackRock and Charles Schwab, whose financial disclosures allow investors to assess their resilience and whose access to capital markets may provide additional flexibility in times of crisis.

These concerns are partly informed by the experience of the 2008 financial crisis, when stress in money market funds highlighted how quickly asset values and fee revenues can deteriorate across the industry. Some critics argue that Vanguard's mutual ownership structure, combined with its limited transparency, could become a disadvantage under extreme conditions, potentially leaving investors more reliant on regulatory support.³¹⁸

Vanguard and many industry observers strongly dispute these concerns. The firm emphasizes that its business model is inherently resilient, supported by stable and recurring cash flows, including the 2008-2009 financial crisis, low capital intensity, and minimal exposure to higher-risk activities such as investment banking.³¹⁹ Crucially, client assets are held separately at third-party custodians, ensuring that they remain protected even if the firm itself were to encounter financial difficulties.

Others have a more balanced perspective. They argue that Vanguard would likely retain access to capital markets if needed, and note that, in extreme scenarios, its funds could provide limited support to the parent entity, for example,

³¹⁴ Vanguard Fund Fees To Quadruple.

https://web.archive.org/web/20250309141226mp_/https://uchicagolaw.typepad.com/faculty/2015/12/vanguard-fund-fees-to-quadruple-not-so-fast.html

³¹⁵ Vanguard Whistleblower Could Get Billions in Tax Dodge Complaint.

<https://web.archive.org/web/20250802205641/https://www.newsweek.com/vanguard-whistleblower-tax-dodge-complaint-400901>

³¹⁶ Vanguard SEC Filings Drop 'At-Cost,' 'No Profit' Claims That Were Dear to Late Founder John Bogle.

<https://web.archive.org/web/20250306121401/https://www.inquirer.com/columnists/john-bogle-vanguard-scrap-plain-talk-no-profit-at-cost-20190207.html>; Vanguard Doesn't Bare Its Finances. Should Investors Care.

<https://web.archive.org/web/20211209224520/https://www.inquirer.com/columnists/vanguard-money-market-financial-crisis-investor-loss-20190218.html>

³¹⁷ Vanguard Doesn't Bare Its Finances. Should Investors Care.

<https://web.archive.org/web/20211209224520/https://www.inquirer.com/columnists/vanguard-money-market-financial-crisis-investor-loss-20190218.html>

³¹⁸ Vanguard Doesn't Bare Its Finances. Should Investors Care.

<https://web.archive.org/web/20211209224520/https://www.inquirer.com/columnists/vanguard-money-market-financial-crisis-investor-loss-20190218.html>

³¹⁹ Vanguard Doesn't Bare Its Finances. Should Investors Care.

<https://web.archive.org/web/20211209224520/https://www.inquirer.com/columnists/vanguard-money-market-financial-crisis-investor-loss-20190218.html>

through provisions allowing funds to invest up to 0.40% of their net assets in Vanguard.³²⁰ While some experts acknowledge a “grey area” in terms of disclosure, they contend that this does not translate into meaningful practical risk. As one observer put it, the failures seen in 2008 were driven primarily by asset risk rather than organizational structure: “It doesn’t matter if you’re Vanguard... That’s Economics 101. That is what investing is about.”

Active vs. Passive Strategies

At first glance, the success of Vanguard Group and the rise of index investing may appear to challenge the relevance of active management. In reality, we believe the two approaches are not inherently at odds. Vanguard’s core insight is not that active investing is impossible, but that after costs, the average investor is unlikely to outperform the market consistently. As John Bogle stressed many times that investors as a group are the market and thus unlikely to outperform the market.³²¹ Mathematically, the aggregate return must equal the market average, composed of both outperformers and underperformers. **In other words, the argument is primarily directed at the aggregate behavior of the industry, rather than at the existence of genuinely differentiated investors. Bogle pointed that “the only way to beat the market portfolio is to depart from the market portfolio...this is what active managers strive to do, individually. But collectively, they can’t succeed,”³²² because “as a group, active managers are average before costs and losers to the market after costs.”³²³**

From this perspective, indexing appears to be an easy, rational, and efficient solution, particularly for those who lack the time, temperament, or skill to deeply analyze underlying businesses. Passive investing provides a structurally sound way to capture market returns at minimal cost, avoiding the frictions of fees, turnover, taxes, and behavioral mistakes. In this sense, Vanguard’s success reflects the efficiency of a system designed for the average participant, rather than a refutation of disciplined, long-term fundamental investing.

We believe that achieving returns meaningfully above the market average requires a structure that is fundamentally different from the norm. It calls for investors to be “hedgehogs”, focused on what truly matters, rather than “foxes” distracted by countless minor factors. This involves continually expanding our circle of competence while deepening our understanding of a select group of great businesses, focusing on their enduring competitive advantages. For investors seeking to outperform, this requires sustained effort, discipline, and a commitment to identifying durable competitive advantages, then holding those few businesses for as long as those advantages endure. The result is naturally low turnover, high conviction, and a long-term orientation that minimizes many of the same frictions – such as transaction costs and tax inefficiencies – that indexing seeks to avoid, while offering the potential for higher returns. In that sense, both approaches share a common foundation – discipline, cost awareness, and respect for compounding – differing primarily in how those principles are implemented.

The approach of Warren Buffett and Charlie Munger represents a best-in-class example of active investing done properly (and should be done), better described as actively studying, but passively holding. Rather than focusing on stock selection in a trading sense, they emphasize deep understanding of underlying businesses. As Buffett noted in Berkshire Hathaway’s 2022 letter: “please note particularly that we own publicly-traded stocks based on our expectations about their long-term business performance, not because we view them as vehicles for adroit purchases and sales. That point is crucial: Charlie and I are not stock-pickers; we are business-pickers.”³²⁴ Berkshire rarely sells its holdings³²⁵ unless their competitive advantages deteriorate, allowing compounding to work over extended periods while avoiding unnecessary costs and taxes.

The results of this philosophy are extraordinary. Berkshire Hathaway, which we use as a proxy for the performance of Warren Buffett and Charlie Munger, has compounded at approximately 19% annually, delivering a roughly 39,411x return

³²⁰ Vanguard Doesn’t Bare Its Finances. Should Investors Care.

<https://web.archive.org/web/20211209224520/https://www.inquirer.com/columnists/vanguard-money-market-financial-crisis-investor-loss-20190218.html>

³²¹ The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy. John Bogle.

https://web.archive.org/web/20160624104359/https://www.vanguard.com/bogle_site/lib/sp19970401.html

³²² False Promises. John Bogle. Journal of Indexes. March/April 2007. https://www.etf.com/docs/magazine/2/2007_110.pdf

³²³ Putting The Shareholder First: A Lifetime Ideal. A Conversation with John Bogle.

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1690710

³²⁴ Berkshire Hathaway Shareholders Letter 2022. <https://www.berkshirehathaway.com/letters/2022ltr.pdf>

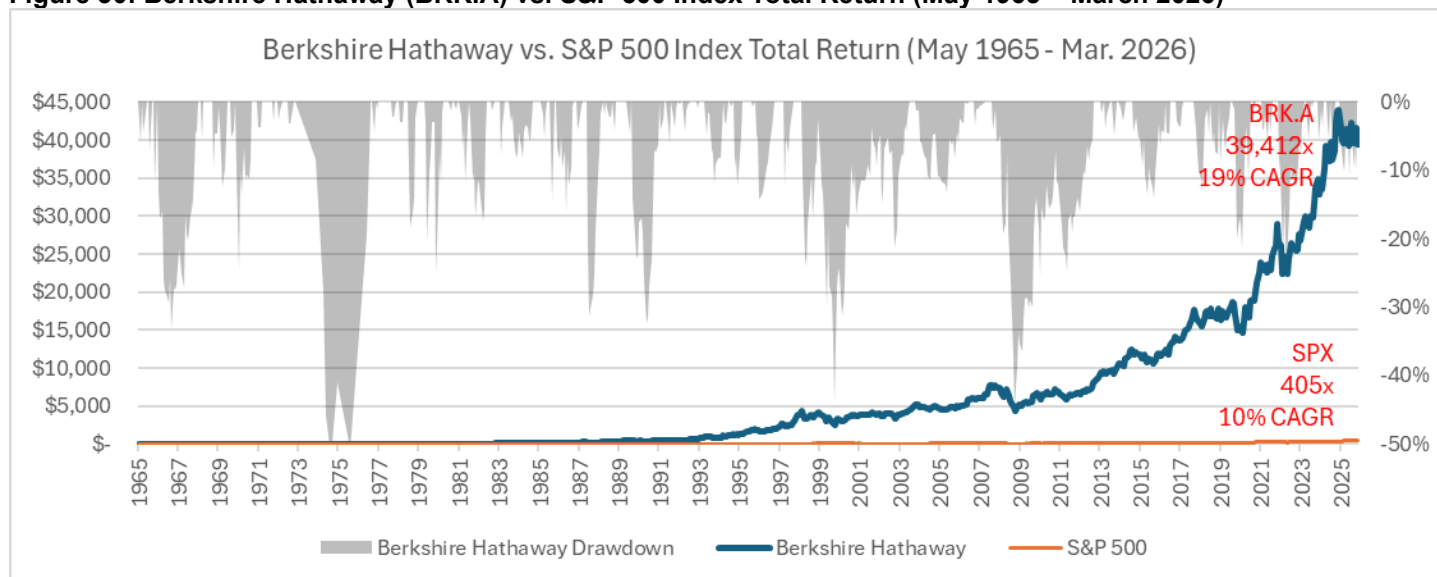
³²⁵ Berkshire Hathaway Shareholders Letter 2014. <https://www.berkshirehathaway.com/letters/2014ltr.pdf>

from May 1965, when Buffett took control,³²⁶ through March 2026.³²⁷ This represents over six decades of disciplined, long-term investing.

By comparison, during the same period, an average investor in the S&P 500, assuming no frictional costs, would have achieved a total return of about 405x, or roughly 10% annually.³²⁸ This remains a highly attractive outcome for investors who simply stay invested without undertaking the demanding work of deeply understanding individual businesses. However, it still falls well short of the results achieved through Warren Buffett and Charlie Munger's rigorously executed, high-conviction approach.

Importantly, even the most successful active strategy comes with significant volatility (For those interested in the subject, see our thought piece of Generational Investing at <https://worldlypartners.com/> or the link below in the footnote³²⁹). Berkshire Hathaway has experienced multiple drawdowns of 50% or more, along with numerous declines exceeding 20%, some lasting for years. For example, the stock fell nearly 52% from 1973 to 1974 and did not recover for over three years; declined 49% between 1998 and 2000 with a recovery taking more than five years until the end of 2003; and dropped again by roughly 52% during the 2007 – 2009 Great Financial Crisis, regaining its prior peak in 2013.³³⁰ Investors who exited during these periods would have locked in losses and forfeited the long-term benefits of compounding.

Figure 30: Berkshire Hathaway (BRK.A) vs. S&P 500 Index Total Return (May 1965 – March 2026)³³¹



Notes:

1. The total return figures presented above are calculated assuming an initial investment of \$1.
2. The data are based on monthly returns and may not capture intra-month drawdowns.
3. The shaded areas represent periods of drawdown from prior peaks.

The irony of investing is that the mathematics of compounding are widely understood, yet the behavioral requirements necessary to capture those returns are rarely met. Coca-Cola has turned a dollar to over \$20 million dollars (!) over a century ([Coca-Cola.pdf](#)), but has been down over 50% for multi-year stretches. Taiwan Semiconductor ([TSMC.pdf](#)) has compounded at ~23% and was a 500+x, but it had ~60% drawdowns over the years. In fact, many 100+x companies that eventually became 1,000x companies had significant declines for long stretches of time. Amazon was down 50% to 93% for over three years.³³² Oracle owners suffered even more as the stock bounced down 50% to 83% over eight years.³³³

³²⁶ This Day in Markets History: Warren Buffett Takes Control of Berkshire Hathaway. The Wall Street Journal. <https://www.wsj.com/livecoverage/stock-market-today-dow-jones-05-10-2024/card/this-day-in-markets-history-warren-buffett-takes-control-of-berkshire-hathaway-i9RvLs5Q5RqBLCG2TBu2>

³²⁷ Global Financial Data (Finaeon)

³²⁸ Global Financial Data (Finaeon)

³²⁹ Generational Investing: The Discipline Behind 100+x Outcomes. Worldly Partners. <https://worldlypartners.com/wp-content/uploads/2026/04/Generational-Investing.pdf>

³³⁰ Global Financial Data (Finaeon)

³³¹ Global Financial Data (Finaeon)

³³² Source: Bloomberg. Amazon.com declined between 50% and 93% during the period June 2000 to July 2003.

³³³ Source: Bloomberg. Oracle declined over 50% starting on February 2001 and continued through August 2010.

Axon Enterprise, which has compounded at over 32% since its IPO in 2001, spent nearly a decade (roughly 40% of its trading life) bouncing 50% to 90% down.³³⁴ The declines of these giants, and others, can be severe for long periods of time. Compounding at 23%+ for over a decade, META ([Meta.pdf](#)) has had ~50% drawdowns over multi-year periods. Starbucks ([Starbucks.pdf](#)) declined 50%+ over multi-year periods.

Sustained outperformance rarely comes in a straight line (For those interested in the subject, see our thought piece of Generational Investing at <https://worldlypartners.com/> or the link below in the footnote³³⁵). Even the most disciplined, high-quality strategies can underperform the market for extended periods, often for many years, testing both conviction and temperament. This creates a powerful behavioral headwind, as the temptation to abandon a well-reasoned strategy often peaks precisely when long-term opportunities are most attractive. The magnitude of drawdowns further compounds this challenge. As seen in the history of Berkshire Hathaway under Warren Buffett and Charlie Munger, widely considered two of the greatest investors in history, declines of 50% or more are not anomalies but recurring features of long-term compounding. Enduring such periods requires not only intellectual confidence in the underlying businesses, but also emotional resilience to withstand volatility without capitulation. In practice, this makes successful active investing as much a test of temperament and alignment as of skill. The ability to remain patient, holding through multi-year drawdowns and periods of underperformance, is ultimately what allows the power of compounding to manifest over decades, separating those who merely understand the philosophy from those who can truly live it. It is therefore extremely powerful behaviorally just to index to enjoy the averages.

As a result, we believe that the existence of indexing can even be viewed as complementary to active management. By providing a transparent, low-cost benchmark, it raises the standard for active investors and reinforces accountability. As we discussed above in the context of Paul Samuelson's framework, passive portfolios serve as a "naive model" against which skill must be demonstrated.³³⁶ For truly differentiated investors, this is not a disadvantage but an opportunity, to justify their existence through genuine insight, patience, and discipline over decades. As Warren Buffett remarked in 2003: "[Berkshire's] shareholders can buy the S&P through an index fund at very low cost. Unless we achieve gains in per-share intrinsic value in the future that outdo the S&P's performance, Charlie and I will be adding nothing to what you can accomplish on your own...If we fail, we will have no excuses."³³⁷

Ultimately, we believe Vanguard's success does not invalidate active investing; it clarifies the standard required to succeed. It suggests that only strategies grounded in long-term thinking, low turnover, and genuine informational or behavioral edge are likely to persist. In that sense, active investment is not in conflict with Vanguard's. It is, in many ways, a more selective extension of the same principles.

³³⁴ Source: Bloomberg. Gross total return dividends reinvested. The drawdown period was between February 2005 to September 2014.

³³⁵ Generational Investing: The Discipline Behind 100+x Outcomes. Worldly Partners. <https://worldlypartners.com/wp-content/uploads/2026/04/Generational-Investing.pdf>

³³⁶ Samuelson, P. A. (1998). Challenge to judgment (Fall 1974). In P. L. Bernstein & F. J. Fabozzi (Eds.), *Streetwise: The Best of The Journal of Portfolio Management* (pp. 7–9). Princeton University Press. <https://doi.org/10.2307/j.ctv1mjqtwg.4>

³³⁷ Berkshire Hathaway Shareholders Letter 2003. <https://www.berkshirehathaway.com/letters/2003ltr.pdf>

Valuation

Although John Bogle structured The Vanguard Group as a client-owned firm operating on an “at-cost” basis, we think it is instructive to consider a hypothetical scenario in which the company were run for profit and valued in line with publicly traded peers.

As of 2025, Vanguard managed approximately \$12 trillion in assets, with roughly 16% allocated to active strategies and 84% to index funds.³³⁸ While no perfect public comparable exists, BlackRock offers a useful reference point, given its broadly similar mix of active, passive, and cash management strategies (approximately 24% active and 86% non-active).³³⁹ Because BlackRock does not explicitly disclose an average fee rate, we approximate it by dividing its investment advisory and administration base fees by total AUM. Based on roughly \$19.2 billion of such revenue on \$14 trillion of AUM,³⁴⁰ this implies an effective fee rate of about 0.14% in 2025. Given BlackRock’s greater exposure to higher-fee active strategies and international markets, it is reasonable to assume Vanguard’s fee rate would be somewhat lower, which we assume approximately 0.12%. **Applied to \$12 trillion of AUM, this suggests Vanguard would have hypothetical annual revenue of about \$14.4 billion.**

Looking at profitability, a range of asset managers, including Franklin Templeton, Invesco, and T. Rowe Price, have historically generated operating margins ranging from the low 20% range to roughly 40%, with a median around the mid-30s. If Vanguard were operated similarly, its margins could plausibly in between and align with BlackRock’s long-term median (from 1994 to 2025³⁴¹) of approximately 35%, implying operating income of roughly \$5 billion.

As of March 31, 2026, BlackRock traded at an EV/EBIT multiple of about 19.4x, according to FactSet, corresponding to an enterprise value of \$165.9 billion and a market capitalization of \$156.8 billion (approximately 94% of EV). **Applying a similar multiple to Vanguard’s hypothetical \$5 billion of operating income yields an implied equity valuation of roughly \$92 billion.**³⁴²

Using a more conservative approach based on revenue, the S&P Composite 1500 Asset Management & Custody Banks Index³⁴³ traded at approximately 3.2x price-to-sales as of the same date, according to FactSet. Applying this multiple to Vanguard’s estimated \$14.4 billion in revenue implies an equity value of about \$46 billion. If instead we apply Vanguard’s actual expense ratio of approximately 0.06%,³⁴⁴ implying revenue of about \$7.2 billion, the corresponding equity valuation would be approximately \$23 billion.

Looking back to 1974, when Vanguard was founded, the firm managed approximately \$1.5 billion in assets and had yet to launch its first index fund (introduced in 1976).³⁴⁵ At the time, it charged an expense ratio of roughly 0.66%,³⁴⁶ implying revenue of about \$9.6 million. **Given the lack of comparable industry data from that period,**³⁴⁷ and the fact that U.S.

³³⁸ Vanguard in A Nutshell. Vanguard. <https://www.ch.vanguard/content/dam/intl/europe/documents/en/vanguard-in-a-nutshell-eu-en.pdf>

³³⁹ BlackRock Annual Report 2025.

³⁴⁰ BlackRock Annual Report 2025.

³⁴¹ BlackRock IPO Prospectus 1999; BlackRock Annual Report 1999 – 2025

³⁴² Hypothetical revenue is estimated as \$12 trillion of AUM multiplied by a 0.12% management fee, yielding \$14.4 billion. Applying a 35% operating margin results in approximately \$5.04 billion of operating profit. Capitalizing this at a 19.4x EV/EBIT multiple implies an enterprise value of \$97.8 billion. Assuming equity represents 94% of enterprise value, the implied market capitalization is approximately \$92 billion.

³⁴³ The S&P Composite 1500 Asset Management & Custody Banks Index provides a useful benchmark as it encompasses a broad cross-section of publicly traded firms whose underlying economics are most comparable to Vanguard’s business model. The index includes traditional asset managers (such as BlackRock, T. Rowe Price, and Franklin Resources), alternative asset managers (including Blackstone, KKR, and Ares Management), and custody and servicing platforms (such as Bank of New York Mellon and State Street). However, drawing precise distinctions among these categories is challenging, as many firms operate across multiple segments. Based on our review of constituent data from Refinitiv, we estimate that approximately 40% of the index is comprised of traditional asset managers, around 40% consists of alternative asset managers (including private equity and real assets), and the remaining portion is made up of custody and servicing institutions.

³⁴⁴ Vanguard Lowers Expense Ratios to Deliver Long-Term Cost Savings for Investors. <https://investor.vanguard.com/investor-resources-education/news/vanguard-lowers-expense-ratios-long-term-investing>

³⁴⁵ Vanguard by The Numbers. <https://johncbogle.com/wordpress/wp-content/uploads/2016/07/Vanguard-By-The-Numbers.pdf>

³⁴⁶ Vanguard by The Numbers. <https://johncbogle.com/wordpress/wp-content/uploads/2016/07/Vanguard-By-The-Numbers.pdf>

³⁴⁷ Franklin Resources was publicly traded at the time; however, we were unable to locate reliable pricing data.

equities were near a 12-year low at the end of 1974³⁴⁸ amid the breakdown of the Bretton Woods system, the resignation of Richard Nixon, and the 1973 oil crisis, we use Vanguard's (hypothetical) post-crisis valuation levels as a proxy. Following the Global Financial Crisis, the S&P 500 reached a trough price-to-sales multiple of approximately 0.7x in 2009,³⁴⁹ according to FactSet, while the S&P Composite 1500 Asset Management & Custody Banks Index traded at about 1.2x. Applying this GFC multiple suggests a hypothetical valuation of roughly \$12 million for Vanguard in 1974.

In our hypothetical case, Vanguard's valuation grew from approximately \$12 million in 1974 to around \$58 billion (mid-point of \$23 billion and \$92 billion) in 2025, which implies a CAGR of roughly 18% over the period.

Taken together, these scenarios suggest that Bogle effectively gave up the opportunity to create many billions of dollars in personal wealth in order to structure Vanguard for the benefit of its investors. By the time of his passing, his net worth was estimated at roughly \$80 million,³⁵⁰ a striking contrast that underscores the depth of his commitment to an investor-first model for index funds.

³⁴⁸ Stock. Market Plunges 14.55 Points To Lowest Level in Almost 12 Years. The New York Times.

<https://www.nytimes.com/1974/09/14/archives/stock-market-plunges-1455-points-to-lowest-level-in-almost-12-years.html>

³⁴⁹ We used the lowest point of P/S multiple in 2009 here to approximate because the U.S. stock market reached its lowest level of the 20th century in 1932, following the Great Depression of 1929. Stock Market Crash of 1929.

<https://www.federalreservehistory.org/essays/stock-market-crash-of-1929>

³⁵⁰ John C. Bogle, Founder of Financial Giant Vanguard, Is Dead at 89. The New York Times.

<https://web.archive.org/web/20190118151151/https://www.nytimes.com/2019/01/16/obituaries/john-bogle-vanguard-dead.html>;

Vanguard by the Numbers. <https://johncbogle.com/wordpress/wp-content/uploads/2016/07/Vanguard-By-The-Numbers.pdf>

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