

A Guide to Exchange-Traded Funds (ETFs)

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“Disruption doesn’t wait for permission.”

— Reid Hoffman

Executive Summary

Exchange-traded funds (ETFs) have become one of the most popular investment vehicles for individuals. This report explains why ETFs are an appropriate choice for long-term investors, how they compare to traditional mutual funds, and what to watch out for when choosing among different types of ETFs. We’ll also touch on the history and growth of ETFs and list the top ETFs by size.

A Brief History of ETFs

ETFs are a relatively recent innovation in the investment world. The concept was born in the aftermath of the 1987 stock market crash (“Black Monday”), when regulators and exchanges sought a way to create a product that could trade like a stock but represent a basket of assets. This led to the idea of an exchange-traded fund.

- **The first ETF:** The first ETF was launched in 1990 in Canada (Toronto Stock Exchange) tracking the TSX 35 index, but the ETF structure really took off in the United States a few years later. **The first U.S.-listed ETF debuted in 1993**, when State Street Global Advisors introduced the **SPDR S&P 500 ETF Trust (ticker SPY)**. SPY (often called “Spiders”) was a fund tracking the S&P 500 index, and it marked the beginning of ETF investing in the U.S. market. At its launch in January 1993, SPY had just \$6.5 million in assets – essentially a pilot program. Over time it grew to become the world’s largest ETF.
- **Growth and adoption:** For much of the 1990s, ETFs remained a small niche – by the year 2000, U.S. ETF assets were around only \$80

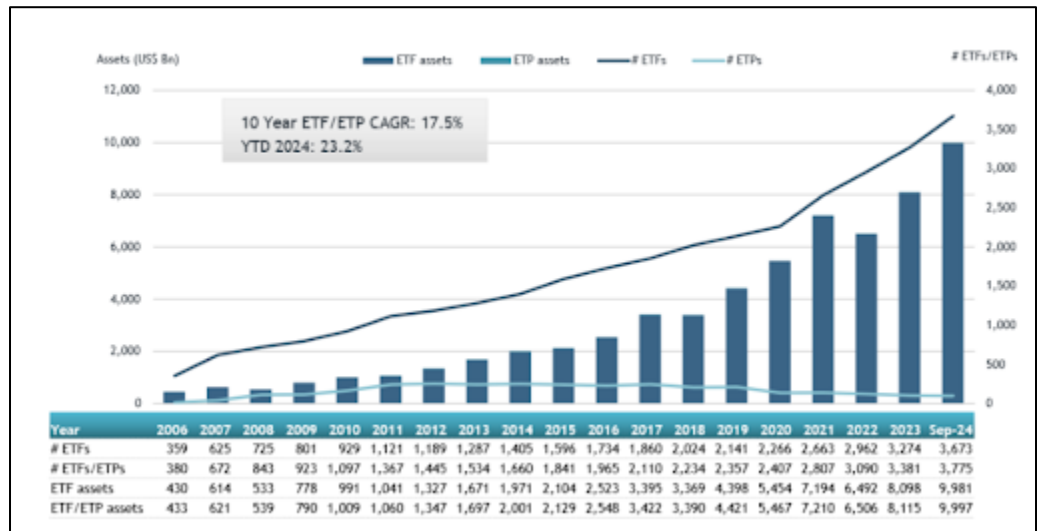
billion. But the early 2000s saw new ETFs launching tracking all sorts of indices: broad U.S. stock market (the first total market ETFs), international markets, bond indexes, commodity indexes, etc. *Sector ETFs* debuted in 1998, providing exposure to specific industries. By the mid-2000s, ETFs were gaining significant traction, especially among institutional investors and traders for their flexibility.

- **Key milestones:** ETFs steadily grew in number and variety. In 2002, bond ETFs were introduced (e.g., iShares launched the first bond index ETFs). In 2004, the first gold ETF (GLD) launched, giving investors a way to buy gold via an ETF share. By 2006, there were even *inverse* and *leveraged* ETFs coming to market. **Actively managed ETFs** came later – the SEC approved the first fully transparent active ETFs in 2008, but uptake was slow at first. In 2019, the SEC passed the “ETF Rule” making it easier to launch new ETFs and also approved semi-transparent active ETF structures, which opened the door for many traditional mutual fund managers to enter the ETF space in 2020 and beyond.
- **ETFs today:** As of 2025, ETFs have firmly entered the mainstream. There are now thousands of ETFs available globally, covering nearly every asset class and strategy. **ETFs have attracted trillions of dollars by offering low-cost, convenient exposure** to markets. The original SPY fund – once a tiny \$6 million experiment – is now a giant with hundreds of billions in assets. In fact, by 2024, **SPY had grown to over \$600 billion, becoming the first ETF to surpass that mark.** Vanguard’s S&P 500 ETF (VOO), launched later in 2010, also gathered assets rapidly and even briefly overtook SPY in size. The ETF industry’s growth has been explosive in the past two decades, reshaping how individuals and institutions invest.

Who issues ETFs? Many investment firms offer ETFs. State Street, Vanguard, and BlackRock’s iShares are among the largest ETF sponsors. The first ETF (SPY) was from State Street in partnership with the American Stock Exchange. Vanguard launched its first ETFs in 2001 (initially as share classes of their index funds), and iShares (originally part of Barclays Global Investors, now BlackRock) launched a suite of ETFs in 2000. Today, these three providers account for a huge portion of ETF assets, though there are many other players (Invesco, Charles Schwab, Fidelity, etc.).

The Rapid Growth of ETF Assets

ETFs have grown from a novelty in the 1990s into multi-trillion-dollar cornerstones of the investment landscape. The chart below shows the historical growth of **U.S. ETF assets under management (AUM)** over time:



Source: ICI. Historical growth of U.S. ETF assets under management. In 1993, the U.S. ETF industry began with just one fund (SPY). Growth was slow in the 1990s, but accelerated in the 2000s and 2010s. By year-end 2023, U.S. ETFs held around \$8 trillion in assets.

As the chart highlights, ETF assets have skyrocketed, especially in the past decade. A few notable points:

- **Slow start:** Even by 2002, total U.S. ETF assets were only about \$102 billion. Compare that to the mutual fund industry which was already in the trillions. Many investors were initially unfamiliar or skeptical of ETFs.
- **Hitting \$1 trillion:** Around 2010–2011, U.S. ETFs crossed the \$1 trillion mark in assets. (In fact, at year-end 2011 they stood just over \$1.0 trillion). It took roughly 18 years from the first ETF to reach \$1T – a testament to gradually building acceptance.
- **Mainstream in the 2010s:** After 2010, growth accelerated. Low-cost ETFs attracted huge inflows, and investors shifted from active mutual funds to passive ETFs in large numbers. By 2017, U.S. ETF assets were about \$3.4 trillion. Major market rallies (and continued inflows) then

pushed the total past \$5 trillion in 2020 and around \$7 trillion by 2021. **In 2020 alone, over \$500 billion flowed into ETFs**, and again in 2021 ETFs saw record inflows.

- **Resilience and new highs:** 2022 was a down year for markets (leading to a drop in ETF asset value) – U.S. ETF assets fell to roughly \$6.5 trillion by end of 2022. But ETFs still saw net *inflows* in 2022 (investors kept adding money, even if market performance reduced total AUM). By the end of 2023, U.S. ETF assets had surged to about **\$8.1 trillion**, a new all-time high. This growth has been fueled by both rising markets in 2023 and continued investor contributions.

This massive growth reflects investors' growing preference for ETFs' cost and convenience benefits. In fact, over the past decade, **investors have been steadily moving money out of expensive active mutual funds and into index ETFs**. As of 2023, index-tracking ETFs and index mutual funds together now account for almost half of all U.S. fund assets, up from only 19% in 2010 – a dramatic shift towards passive investing.

Looking ahead, ETFs are expected to continue gaining market share. They are now used widely by individual investors, advisors, and institutions alike. **ETFs' share of trading volume** is also high – ETFs often account for 25% or more of the daily trading volume in U.S. stock markets, underscoring how integral they've become for market liquidity and access.

Top 20 U.S. ETFs by Assets Under Management (AUM)

For perspective, here are the top 20 largest U.S.-listed ETFs (by assets) as of early 2025, along with their approximate AUM:

Rank	ETF (Ticker)	Asset Under Management
1.	Vanguard S&P 500 ETF (VOO) – Broad U.S. large-cap index (S&P 500)	~\$632 billion
2.	SPDR S&P 500 ETF Trust (SPY) – S&P 500 index	~\$630 billion
3.	iShares Core S&P 500 ETF (IVV) – S&P 500 index	~\$586 billion
4.	Vanguard Total Stock Market ETF (VTI) – Entire U.S. stock market	~\$420 billion
5.	Invesco QQQ Trust (QQQ) – NASDAQ-100 index (tech-heavy)	~\$280 billion
6.	Vanguard FTSE Developed Markets ETF (VEA) – Intl. developed stocks	~\$142 billion
7.	Vanguard Growth ETF (VUG) – U.S. large-cap growth stocks	~\$139 billion
8.	iShares Core MSCI EAFE ETF (IEFA) – International developed stocks	~\$126 billion
9.	Vanguard Total Bond Market ETF (BND) – Broad U.S. investment-grade bonds	~\$125 billion
10.	Vanguard Value ETF (VTV) – U.S. large-cap value stocks	~\$125 billion
11.	iShares Core U.S. Aggregate Bond ETF (AGG) – U.S. investment-grade bonds	~\$123 billion
12.	SPDR Gold Trust (GLD) – Gold bullion (commodity ETF)	~\$102 billion
13.	Vanguard Total International Stock ETF (VXUS) – All-world ex-US stocks	~\$81 billion
14.	iShares Core MSCI Emerging Markets ETF (IEMG) – Emerging markets stocks	~\$79 billion
15.	Vanguard FTSE Emerging Markets ETF (VWO) – Emerging markets stocks	~\$78 billion
16.	Vanguard Information Technology ETF (VGT) – U.S. tech sector stocks	~\$71 billion

Rank	ETF (Ticker)	Asset Under Management
17.	iShares Core S&P Small-Cap ETF (IJR) – U.S. small-cap stocks (S&P 600)	~\$71 billion
18.	Vanguard Mid-Cap ETF (VO) – U.S. mid-cap stocks	~\$70 billion
19.	Invesco S&P 500 Equal Weight ETF (RSP) – Equal-weighted S&P 500	~\$67 billion
20.	Schwab U.S. Dividend Equity ETF (SCHD) – Dividend-focused U.S. stocks	~\$65 billion

Source: Asset figures are approximate, from Bloomberg and fund sponsor data as of April 1, 2025. Top three from YCharts, others from TradingView/ETFdb data

As shown, the largest ETFs are broad index funds – the top three all track the S&P 500. In fact, S&P 500 ETFs have become so large that Vanguard’s VOO and State Street’s SPY each manage over \$600 billion in the same index. Other top funds include total market U.S. stocks (VTI), the NASDAQ-100 tech fund (QQQ), and major international and bond index funds. Notably, **the ETF industry is top-heavy** – the biggest 20 funds hold a huge portion of all ETF assets. SPY, VOO, and IVV alone (all S&P 500 funds) collectively manage over \$1.8 trillion, underscoring investors’ preference for core index exposure.

For an individual investor, this list also gives a clue to which ETFs are broadly popular and trusted – most of these funds have **low fees and deep liquidity**. If you stick to the well-established ETFs (like those above) as your core holdings, you’ll benefit from economies of scale and tight bid-ask spreads when trading.

ETFs vs. Mutual Funds: Key Differences

ETFs and mutual funds are both pooled investment funds, but they have important differences in how they trade, their costs, and tax

implications. The table below compares key features of ETFs and mutual funds:

Feature	ETFs (Exchange-Traded Funds)	Mutual Funds (Open-End Funds)
Trading & Pricing	Traded on exchanges <i>intra-day</i> like stocks. Prices fluctuate all day. You can buy/sell anytime during market hours.	Bought/sold through the fund company at end-of-day <i>Net Asset Value (NAV)</i> price. Orders execute after market close.
Investment Strategy	Often <i>index-based</i> (passively track an index), but can also be active. Many cover broad indices (S&P 500, total market, etc.).	Can be <i>active or index</i> . Many traditional mutual funds are actively managed; index mutual funds track benchmarks similarly to ETFs.
Costs (Expense Ratio)	Typically low expense ratios, especially for index ETFs. No sales loads. ETFs usually have no 12b-1 fees or high marketing costs. You may pay a bid-ask spread; brokerage commissions are usually \$0 today.	Expense ratios vary (index mutual funds low-cost; active funds higher). Some mutual funds charge sales loads or 12b-1 fees for marketing. No bid-ask spread since bought at NAV, but some have transaction fees or minimum investments.
Tax Efficiency	Generally <i>more tax-efficient</i> . ETFs use in-kind creation/redemption mechanism to minimize capital gains distributions. Index ETFs also have low turnover. Investors usually incur capital	Typically less tax-efficient. Active mutual funds frequently realize capital gains which are passed to investors annually. Even index mutual funds can distribute gains if investors redeem for cash. Investors may owe taxes on

Feature	ETFs (Exchange-Traded Funds)	Mutual Funds (Open-End Funds)
	gains only when selling their shares.	distributions even without selling shares.
Minimum Investment	No strict minimum (you can buy as little as a single share, and many brokers offer fractional shares). This makes ETFs accessible to small investors.	Often have minimum initial investments (e.g. \$1,000 or more) for many funds. Subsequent purchases may have minimums too. (Some fund families waive minimums in certain accounts.)
Trading Flexibility	Can use limit orders, stop-loss orders, margin, options, etc., since ETFs trade like stocks. Useful for intraday trading or hedging.	No intraday trading; transactions occur at NAV once a day. No direct stop-loss or limit orders since you transact with the fund company.
Price Transparency	Continuous pricing throughout the day. Market price may be at a slight <i>premium or discount</i> to NAV, though for large ETFs this gap is usually small due to arbitrage by market makers.	Full transparency of NAV pricing at day's end. No intraday price fluctuations. However, you don't know that day's NAV when you place a trade (you get closing price).
Liquidity	Generally very liquid for large ETFs (e.g. S&P 500 ETFs). They can be bought/sold easily on the secondary market. Liquidity is provided by market makers and the underlying assets.	Liquidity provided by the fund – the fund must redeem shares (which can force selling of securities for cash). In extreme cases, heavy redemptions can trigger capital gains or liquidity issues for the fund. No secondary market trading.

Why these differences matter: For most individual investors, the intraday trading feature of ETFs isn't crucial for long-term investing (you don't *need* to trade at noon vs. 4pm). However, **ETFs' cost and tax advantages** are very attractive. Their passive, index-tracking

nature and unique structure tend to keep costs down and reduce unexpected tax bills compared to many mutual funds.

Tax Efficiency and Lower Costs of ETFs

One of the biggest advantages of ETFs is their tax efficiency. **ETFs typically realize fewer capital gains** that get passed on to investors. This is largely due to how ETFs create and redeem shares “in-kind.” When large investors (authorized participants) redeem ETF shares, they usually receive a basket of the underlying securities instead of cash. This mechanism allows the ETF to avoid selling securities and realizing taxable gains. As a result, ETFs can routinely rebalance or handle investor flows without triggering capital gains distributions in most cases [ssga.com](https://www.ssga.com). By contrast, a mutual fund often has to sell holdings to meet cash redemptions, which can generate taxable gains distributed to all shareholders.

Additionally, ETFs (especially index ETFs) have *low portfolio turnover*, meaning they buy and sell underlying stocks less frequently than an actively managed fund. Lower turnover further reduces taxable events. It’s not uncommon for broad-market stock ETFs to go years with **no capital gains distribution at all**, whereas an active mutual fund might distribute gains annually.

From a cost perspective, ETFs are often cheaper for investors:

- **Expense ratios:** ETFs tend to have lower expense ratios than comparable mutual funds. Many popular broad-market ETFs have expense ratios near 0.03% – 0.10% (just a few dollars per \$10,000 invested annually). For example, the asset-weighted average expense ratio for equity index ETFs is around 0.15%, far lower than what many active mutual funds charge. ETFs eliminate many fees that some mutual funds carry (like 12b-1 marketing fees). Competition among ETF providers (Vanguard, iShares, etc.) has driven costs *very low*.
- **No sales loads:** ETFs are bought via brokerage like stocks, so there’s no front-end or back-end sales load. In contrast, some mutual funds (sold through brokers or advisors) charge a load of 3-5% or more, which immediately puts the investor at a loss. ETFs generally have *no load* – what you pay is just the market price.

- **Operational efficiency:** The ETF structure can be more cost-efficient to manage. ETFs don't have to deal with individual investor accounts, mailings of checks for redemptions, etc. They outsource a lot of the trading activity to the market. This helps keep the fund's operating costs down, which is passed on to investors as lower fees.

All of this means ETFs typically let you **keep more of your returns**, rather than losing chunks to fees and taxes. For long-term investors, those savings compound significantly over time.

Broad Market ETFs vs. Niche and Risky ETFs

Not all ETFs are created equal. While there are ETFs for almost every market niche or strategy imaginable, the best choice for most individuals is to **stick with broad, diversified market ETFs**. These funds give you exposure to a wide swath of the stock or bond market at very low cost, and are ideal for long-term investing.

Broad Market ETFs – for example, a **Total U.S. Stock Market ETF** or an **S&P 500 ETF**, or a **Total International Stock ETF** – provide instant diversification. By holding one of these, you effectively own hundreds or thousands of companies across all sectors. This diversification greatly reduces the risk that any one company or sector will hurt your portfolio significantly. Broad market ETFs essentially let you capture the overall market's return. Historically, a low-cost broad index fund has been very hard for actively managed funds to beat over the long run, after fees.

For instance, an ETF like **Vanguard Total Stock Market (VTI)** covers the entire U.S. equity market for a tiny fee, and an ETF like **Vanguard Total World Stock (VT)** even lets you own *the whole world's* stock market in one fund. These make excellent core holdings for a portfolio.

Niche or specialized ETFs, on the other hand, target narrower slices of the market. Examples include sector ETFs (technology, healthcare, etc.), thematic ETFs (clean energy, AI, etc.), leveraged or inverse ETFs, or even **single-stock ETFs** that isolate one company with leverage. These can be **much riskier and less appropriate for long-term investors**. Here are some cautions:

- **Single-Stock ETFs:** Recently, ETFs have been introduced that provide leveraged or inverse exposure to a single stock (for example, 2× daily

performance of Tesla stock, etc.). These are essentially trading tools and are *highly speculative*. They lack diversification entirely (one company's fate drives the whole ETF) and the leverage/inverse design means they are **not meant to be held long-term** (their math causes decay of value over time). Individual investors should avoid these unless you fully understand the risks and are using them for very short-term trades. Even the SEC has cautioned about the risks of such products.

- **Leveraged and Inverse ETFs:** These ETFs use derivatives to amplify returns (2× or 3× leverage, or inverse -1×/-2× that go up when the index goes down). While the idea of double the daily return sounds attractive, in practice these are **trading instruments** that can deviate significantly from long-term index returns due to daily rebalancing effects. A 2× S&P 500 ETF held for a year may not return 2× the index's one-year return – it could be much less (especially in volatile markets) because of compounding. Leveraged ETFs can also amplify losses. For most individuals, these are not suitable for long-term holding – they are used by traders for short-term market timing, and they carry high risk.
- **Thematic ETFs:** ETFs focusing on a theme (e.g., blockchain technology, robotics, cannabis, etc.) bundle a group of stocks that fit a story. These can be fun or exciting when the theme is hot, but they often suffer **boom-bust cycles**. A thematic ETF lacks broad diversification (it might only hold companies in one emerging industry). If that theme falls out of favor, the ETF can plunge. For example, a few years ago many thematic ETFs in areas like 3D printing or social media were launched and later saw steep declines. These funds also tend to have higher expense ratios. Be cautious: investing heavily in a narrow theme is closer to *speculation* than broad investing.
- **Single Sector ETFs:** Sector ETFs (like technology sector funds, financial sector funds, etc.) can be useful for tilting a portfolio or tactical moves, but remember that sectors go through cycles. If you put a large portion of your money in, say, a **biotechnology ETF** or an **energy sector ETF**, your fortunes will be tied to that one industry. That's a big *concentration risk*. For a long-term investor, it's generally wiser to hold the whole market; if you do use sector ETFs, they should likely be a small satellite around a diversified core.

Bottom line: Broad market index ETFs are usually the most appropriate choice for long-term investors. They give you maximum diversification, minimal costs, and reliable tracking of the overall market. In contrast, niche ETFs can be exciting but often come with higher risk, higher fees, and less predictable performance. If you do venture into specialized ETFs, do so with caution and awareness of the risks.

What Are Active ETFs (vs. Index ETFs)?

Traditionally, ETFs have been associated with passive index investing – the first ETFs all simply tracked market indexes like the S&P 500.

However, not all ETFs are index funds. **Active ETFs** are a newer breed of ETF where a portfolio manager actively selects the investments, trying to outperform a benchmark (just like an active mutual fund).

The key differences between active ETFs and index-based ETFs are:

- **Objective:** An **index ETF** aims to replicate the performance of a specified index (e.g., the S&P 500). It's rules-based; the holdings are determined by the index's composition. An **active ETF**, on the other hand, has a manager making investment decisions in an effort to beat the index or fulfill a certain strategy.
- **Transparency:** Traditional index ETFs publish their holdings daily (since they are just the index). Active ETFs often do as well, but some newer active ETFs use “semi-transparent” structures (they might not disclose exact holdings daily to protect the manager's strategy). Regulations in 2019 allowed more flexibility for active ETFs to disclose less frequently. The first semi-transparent active ETFs launched in 2020. In general, you'll know an index ETF's holdings at all times, while an active ETF might reveal its positions with a slight delay or use proxy portfolio methods.
- **Strategy freedom:** Active ETF managers can depart from index sector weights, hold cash, pick stocks/bonds based on research, etc. This could lead to outperformance *or* underperformance. Index ETFs simply hold the index constituents – no discretion.
- **Costs:** Active ETFs typically have higher expense ratios than index ETFs (to pay for research, management, etc.), though they often are still cheaper than traditional active mutual funds. For example, active

ETFs might charge ~0.50% or more, whereas many index ETFs charge <0.10%. However, active ETFs **lack sales loads** and can use the same tax-efficient structure (in-kind redemptions), so they can deliver tax advantages similar to index ETFs. Many active equity ETFs have been able to avoid capital gains distributions so far by using the ETF structure.

- **Examples:** Some well-known active ETFs include certain bond ETFs (many bond ETFs are actually active, selecting bonds to beat a benchmark) and ETFs from issuers like ARK Invest (e.g., ARKK is an actively managed innovation-focused stock ETF). In 2008, the SEC first allowed fully transparent active ETFs. As of year-end 2023, there were over 1,100 actively managed ETFs in the U.S., holding about \$515 billion in assets. This is still a fraction of the ETF universe (most assets are in index ETFs), but the segment is growing fast as investors and fund companies embrace the ETF wrapper for active strategies.

For investors, an **active ETF** offers a middle ground – you get the *convenience, liquidity, and tax efficiency* of an ETF, but with the possibility of manager skill adding value. Just remember that like any active fund, an active ETF can underperform its index (especially after fees). **Traditional index ETFs remain the choice for low-cost market returns**, whereas active ETFs may appeal if you have conviction in a particular manager or strategy. Always check an active ETF's *strategy, track record, and expense ratio* before investing; some active ETFs pursue very niche strategies that might overlap with the “thematic” caution above.

Conclusion

ETFs have proven to be an excellent vehicle for investors due to their low costs, tax efficiency, liquidity, and versatility. For individuals building long-term portfolios, **broad market ETFs** offer an easy one-stop way to get diversified exposure to stocks and bonds around the world. They're typically more tax-efficient and cheaper than comparable mutual funds, allowing you to keep more of your investment growth.

At the same time, investors should be mindful of the ever-expanding menu of niche ETFs. While innovation in the ETF space has created funds for almost every strategy, not all of them are appropriate for

everyone. **Stay focused on your long-term goals and choose ETFs that match those goals with prudence.** For most, this means a foundation of broad index ETFs and maybe only a small satellite of specialized funds if truly desired.

ETFs, when used wisely, can simplify investing and put powerful tools into the hands of everyday investors – delivering institutional-grade diversification and efficiency at a very low price. That is why ETFs are often recommended as a core holding for individual investors planning for the long run.

Sources:

1. The Investment Company Institute

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fund provider's website and should be read carefully before investing.

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