



EXCHANGE- TRADED FUND FOUNDATIONS

ETF FOUNDATIONS

Building a stronger
understanding of
exchange-traded funds

ETFs by



J.P.Morgan
Asset Management

WELCOME TO THE FAST-GROWING WORLD OF ETFs

DRAMATIC CHANGES ARE HAPPENING IN THE WORLD OF INVESTMENTS, THANKS TO THE EXPLOSIVE GROWTH OF **EXCHANGE-TRADED FUNDS (ETFs)**.

EACH DAY, MORE AND MORE INVESTORS ARE DISCOVERING HOW ETFs ENABLE THEM TO MAKE TRADES CONVENIENTLY, ACCESS MARKETS FLEXIBLY, DIVERSIFY PORTFOLIOS BROADLY, AND MANAGE FEES AND TAXES EFFICIENTLY.

WHAT ARE ETFs? HOW DO THEY WORK? COULD THEY BE RIGHT FOR YOU?

THIS GUIDE EXPLORES THOSE QUESTIONS TO HELP INVESTORS MAKE MORE INFORMED DECISIONS AND MAKE THE MOST OF ETF INVESTMENTS.

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EXPLORE ADVANCED ETF TOPICS

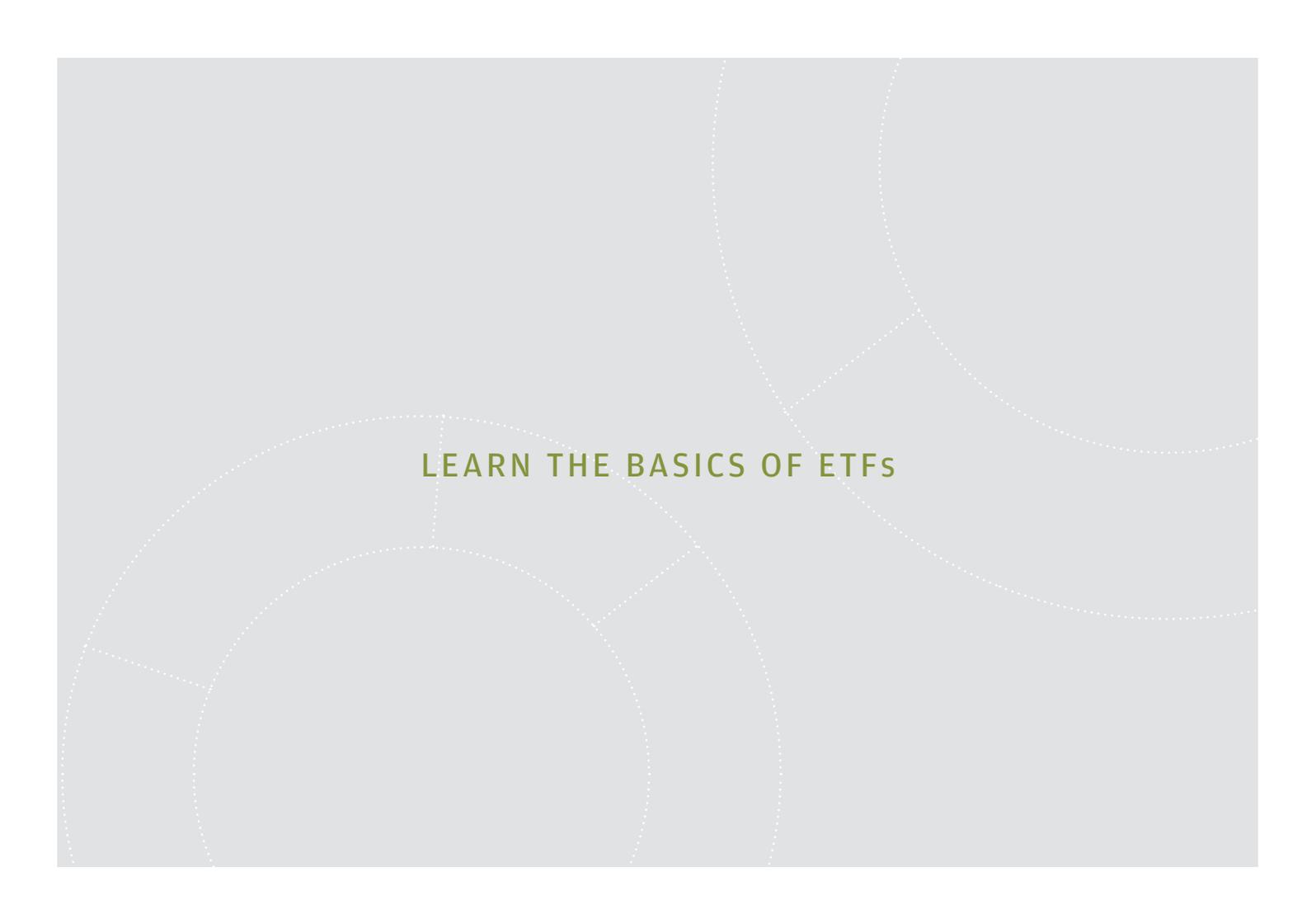
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LEARN THE BASICS OF ETFs

WHAT ARE ETFs?

ETFs ARE POOLED FUNDS THAT TRADE LIKE STOCKS

Investing was once reserved for a select few with the wealth and expertise to build their own portfolios. That all changed in 1924 with the debut of the pooled investment fund, or mutual fund. For the first time, ordinary people with little to invest could pool their money into broadly diversified, professionally managed “baskets” of stocks and bonds.

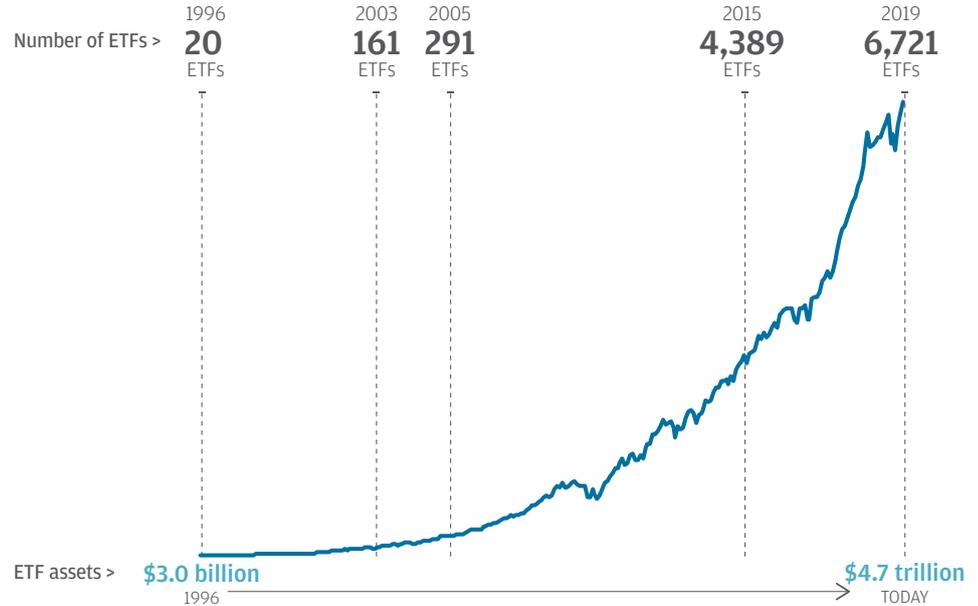
Over the decades, pooled investment funds grew in size and popularity. Then along came “Black Monday” in 1987, when a perfect storm of events caused market liquidity to dry up and stocks fell sharply. The US market plunged more than 20% in a single day.

In reviewing what went wrong, US government regulators made an observation that would change the investing world. They suggested that if a fund-like vehicle had been available for trading throughout the day, it may have eased or even prevented the crash. Six years later, the first ETF was born. Today, ETFs continue to provide convenient trading along with other valuable benefits.

BRINGING ALL-DAY TRADING TO MUTUAL FUND INVESTING

ETFs and traditional investment funds both bundle securities into diversified pools. But ETFs are bought and sold on an exchange, like a stock, giving investors access to markets and their money throughout the trading day.

GLOBAL NUMBER OF ETFs AND TOTAL ETF ASSETS



ETFs ARE GROWING RAPIDLY

ETF assets have grown by an average of **37%** each year over the past two decades.

Source: ETF assets, Morningstar. Data from 31.12.1996 to 23.04.2019. Number of ETFs, Investment Company Institute and Strategic Insight Simfund. Data from 31.12.1996 to 23.04.2019.

WHY ARE ETFs GROWING SO FAST?

ETFs OFFER THREE UNIQUE ADVANTAGES

With \$4.7 trillion in investor assets, ETFs are well on their way to becoming as popular as traditional investment funds.¹ They offer the same all-in-one diversification and professional management of funds, along with three additional benefits:



EFFICIENCY

ETFs are cost-effective and tax-friendly, allowing investors to keep more of what they earn.



TRADABLE

ETFs can be easily traded throughout the day and turned into cash as needed.



FLEXIBILITY

ETFs offer access to virtually every market worldwide – with the flexibility to quickly move in and out of markets as conditions change.

HOW FAST ARE ETFs GROWING?

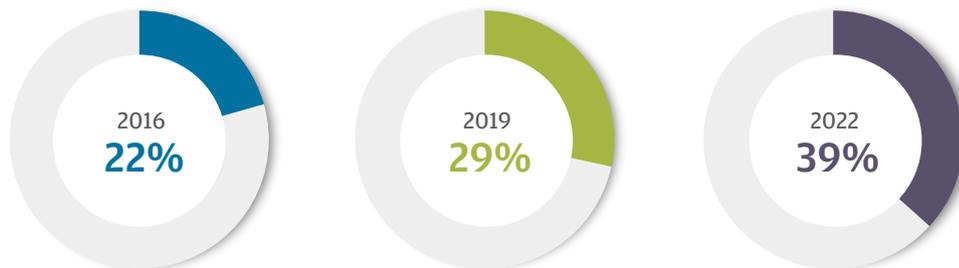
If you saved \$1 million every hour of every day, it would take you nearly 500 years to reach \$4.7 trillion. ETFs got there in just 25 years.

¹ Source: ETF assets, Morningstar. Data as of 23.04.2019.

Diversification does not guarantee investment returns and does not eliminate the risk of loss. Diversification among investment options and asset classes may help to reduce overall volatility.

ETFs ARE MAKING
UP A BIGGER PART
OF INVESTOR
PORTFOLIOS

PERCENTAGE OF PORTFOLIOS INVESTED IN ETFs²



² Source: Core Data Research, J.P. Morgan Asset Management Global Professional Buyer ETF Study 2019.

HOW DOES AN ETF WORK?

PART 1

ETFs ARE EASY TO BUY AND SELL

“Liquidity” describes how quickly and easily an investment can be traded without significantly affecting its price. Low liquidity can be a risk because investors may be forced to accept less favorable prices if there aren’t enough interested buyers or sellers.

Those concerns don’t usually apply to ETFs, even if they have very little trading activity.

Like stocks, ETFs are traded on exchanges, at negotiated prices that change throughout the day. Unlike stocks, the supply of ETF shares isn’t fixed and can change at any time to meet investor demands. When sellers outnumber buyers, for example, ETF shares can be removed from the market to help correct the imbalance and minimise any disruptions to their price.

ETFs do this by tapping into the trading power of their portfolio holdings. Remember, ETFs are “baskets” usually made up of hundreds of different securities. Even if an ETF itself is lightly traded, it will still be liquid if its underlying basket of securities are actively bought and sold.

WHY DOES LIQUIDITY MATTER?

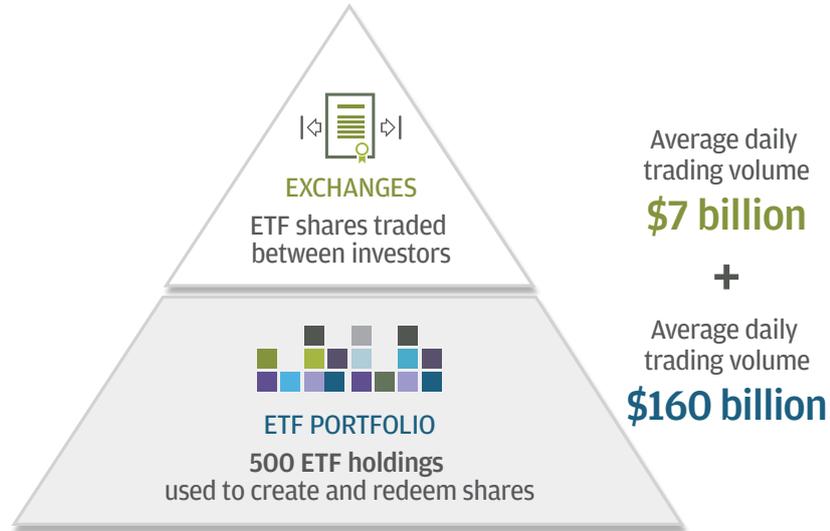
When ETFs are liquid, it’s less likely investors will have to pay more to buy shares or accept less to sell – both of which can reduce returns.

AVERAGE ETF TRACKING THE S&P 500 INDEX

“ETF liquidity (the ability to buy and sell efficiently at a fair price) depends on how often the ETF is traded on exchange, and how often its underlying securities are traded.

The example here shows the average trading volumes and liquidity of ETFs tracking the US stock market using the S&P 500 Index.”

ETFs OFFER MORE
LIQUIDITY THAN
MEETS THE EYE



Source: J.P. Morgan Asset Management. For illustrative purposes only.

HOW DOES AN ETF WORK?

PART 2

ETF SHARES CAN BE CREATED AND REDEEMED AS NEEDED

The supply of an ETF's shares can be increased or decreased to help keep its price in line with the value of its underlying portfolio holdings. For example, if many investors want to sell an ETF, its share price might fall below the value of its underlying investments. Here's how the process would work to reduce shares in those instances:

- 1. Market maker buys ETF shares**, usually at a discount to the value of the basket of underlying securities.
- 2. Shares are redeemed** by transferring them through an Authorised Participant (AP) to the ETF issuer, in exchange for the underlying securities.
- 3. Market maker sells those securities**, usually for more than they paid for ETF shares.

As ETF shares are bought and removed from the market, it helps drive prices back towards the basket's value. The process happens in reverse when more shares are needed to meet demand from buyers (blue lines). Market makers buy securities and transfer them through an AP to the ETF issuer in exchange for newly created shares, which are then sold to investors.

KNOW YOUR TERMS

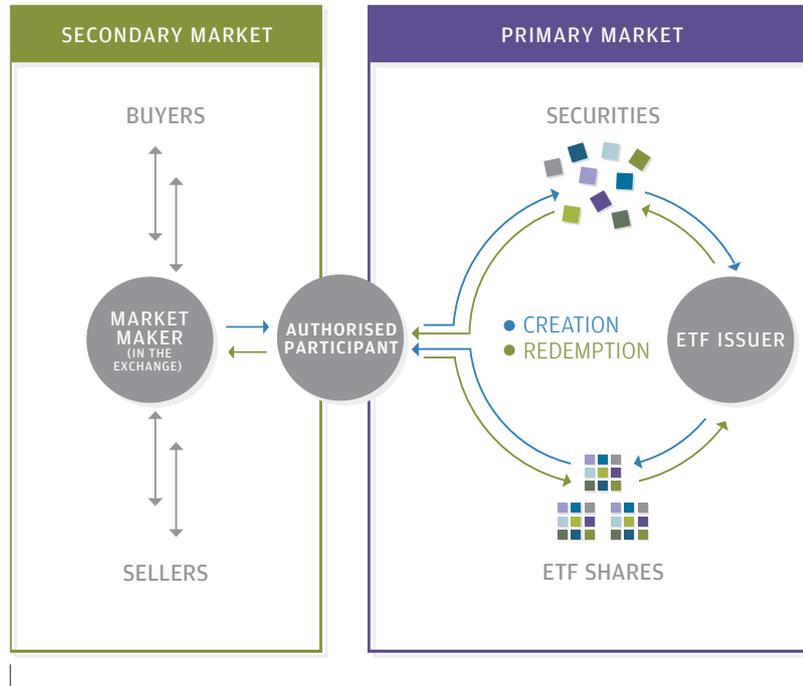
MARKET MAKER: A dealer that buys or sells at specified prices at all times; also known as liquidity providers.

PRIMARY MARKET: Market where ETF shares are created and redeemed.

SECONDARY MARKET: An exchange where ETFs are traded, such as the London Stock Exchange.

AUTHORISED PARTICIPANT: A broker-dealer that is contracted with the ETF issuer to create or redeem shares on behalf of market makers and institutional investors.

HOW ETF SHARES ARE CREATED AND REDEEMED



CREATING AND REDEEMING SHARES HELPS ETFs TRADE AT PRICES CLOSE TO THE MARKET VALUE OF THEIR PORTFOLIO HOLDINGS.

Source: J.P. Morgan Asset Management. Shown for illustrative purposes only.

WHAT TYPES OF ETFs ARE AVAILABLE?

PART 1

ETFs CONTINUE TO EXPAND AND EVOLVE

As market conditions and investor needs change over time, ETF providers are responding with more choices and innovative new approaches. Investors can now access similar strategies long available through traditional pooled funds, plus others unique to the ETF world.

Three types of ETF strategy to choose from:

1. At one end of the spectrum are purely passive ETFs, which track broad market (usually market cap-weighted) indices.
2. Next come “strategic beta” ETFs. Otherwise known as “smart beta” funds, these ETFs aim to track the performance of custom-built indices that aim to mitigate some of the risks inherent in market cap-weighted benchmarks.
3. At the other end of the spectrum are active ETFs in which portfolio managers decide what securities to buy and sell.

PASSIVE? STRATEGIC BETA? ACTIVE? WHAT'S THE DIFFERENCE?

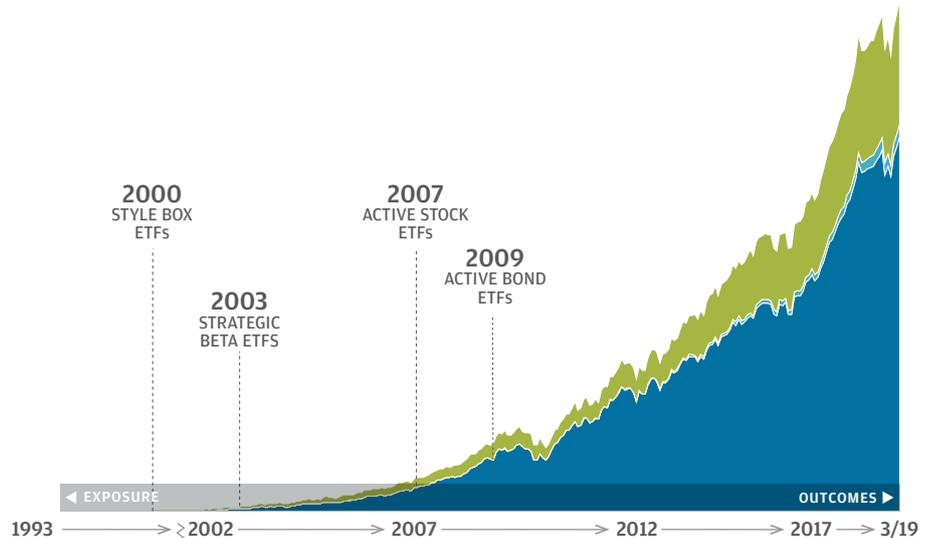
PASSIVE INVESTING, or “indexing,” seeks to match the portfolio holdings and performance of a market benchmark, such as the S&P 500 Index.

STRATEGIC BETA, or smart beta, seeks to enhance the return potential of market cap weighted portfolios by distributing risk more evenly across regions, sectors and stocks.

ACTIVE INVESTING seeks to achieve a specific outcome by picking only those securities considered most attractive, usually selected by professional fund managers.

THE ETF EVOLUTION: FROM MARKET CAP, TO STRATEGIC BETA, TO ACTIVE

GLOBAL TOTAL ASSETS BY ETF TYPE



Market cap weighting:
First ETFs offering mainly low-cost products for institutional use.

Active:
Active managers coming to market, bringing institutional-quality products and continued innovation.

Strategic beta:
Market cap-weighted products begin to gain traction with retail investors; introduction of strategic beta ETFs.

Source: Morningstar, J.P. Morgan Asset Management. Data from 31.01.1993 to 31.03.2019. Shown for illustrative purposes only.

WHAT TYPES OF ETFs ARE AVAILABLE?

PART 2

MARKET CAP-WEIGHTED INDEXING

ETFs began by tracking traditional market cap-weighted indices. Passive ETFs remain among the most commonly used ETFs today. Today, market cap-weighted ETFs cover a full range of international stocks, bonds and other asset classes.

What are they?

Market cap weighting is simply the process of building a portfolio based on company size. Bigger companies make up more of the portfolio, smaller companies make up less. The S&P 500 is a good example of a market cap-weighted index that is commonly tracked by ETFs. ETFs tracking this US stock market index seek to earn very similar returns by investing in the same companies, in the same proportions.

Why do investors own them?

They offer an easy, low-cost way to “buy the entire market,” without deviating from an index.

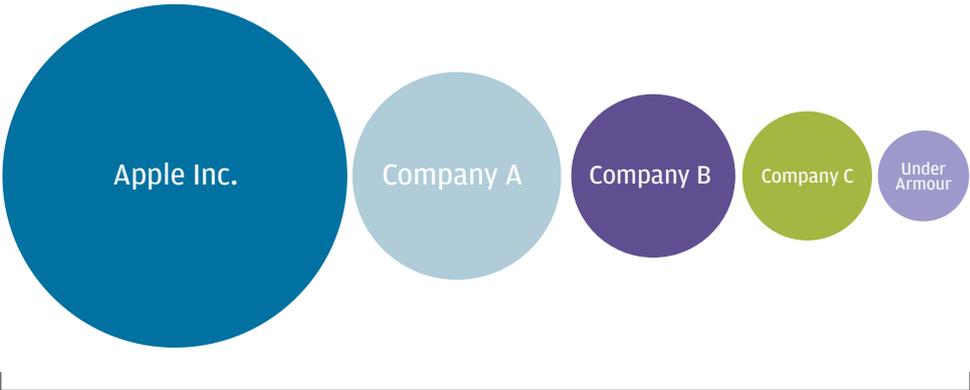
WHAT IS MARKET CAP?

Market capitalisation measures a company's size by the total value of all its outstanding stock. In a market cap-weighted index, each stock is weighted according to its size.

If Apple, for example, is the largest company in an index, it will also be the largest holding in any ETF that tracks that index.

MARKET CAPS OF COMPANIES IN THE S&P 500 INDEX

MARKET CAP
WEIGHTING:
BUILDING ETF
PORTFOLIOS
BASED ON
COMPANY SIZE



BIGGER COMPANIES MAKE UP A BIGGER PART OF MARKET CAP-WEIGHTED ETFs.

Source: J.P. Morgan Asset Management. The securities above are shown for illustrative purposes only. Their inclusion should not be interpreted as a recommendation to buy or sell.

WHAT TYPES OF ETFs ARE AVAILABLE?

PART 3

STRATEGIC BETA ETFs

Like passive ETFs, strategic beta ETFs also track an index. However, the indices they track aren't market cap weighted. Instead, strategic beta indices often represent a subset of a larger investment universe. These strategies often seek higher returns and/or lower risks than traditional indexing.

What are they?

Strategic beta ETFs use criteria other than company size to determine portfolio holdings. Some weigh stocks equally. Some screen for stocks with specific characteristics, or "factors," such as low valuations, strong earnings or price momentum. And some do both.

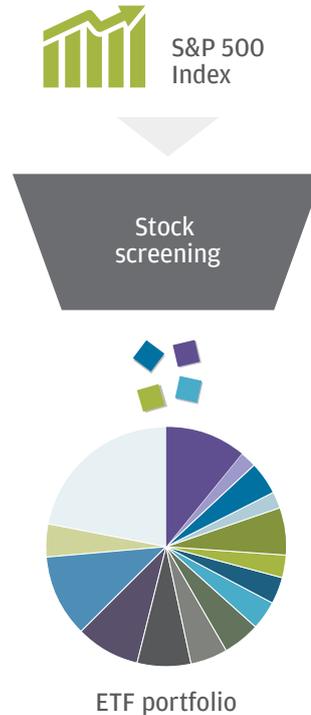
Why do investors own them?

Strategic beta ETFs can combine the efficiencies of index investing with enhanced portfolio or security selection. Investors might choose them to pursue a specific goal, fill portfolio gaps or capture short-term opportunities as they arise.

WHAT ARE FACTORS?

Factors are characteristics that help explain a security's return and risk over time. For example, risk filters can be added to an emerging market debt index to screen for quality and liquidity. Single-factor ETFs focus on one of those characteristics when screening stocks while multi-factor ETFs combine several together.

STRATEGIC BETA: SCREENING FOR STOCKS WITH DESIRED CHARACTERISTICS



Source: J.P. Morgan Asset Management. Shown for illustrative purposes only.

WHAT TYPES OF ETFs ARE AVAILABLE?

PART 4

ACTIVELY MANAGED ETFs

Fund providers are increasingly realising that the ETF wrapper is an ideal home for actively managed investment solutions. Active ETFs rely on investment professionals to pursue a specific outcome – for example, generating income, outperforming a passive index or reducing risk.

What are they?

Portfolio managers oversee active ETFs, usually with support from a team of research analysts. Together, they study potential investments and choose only those considered most attractive.

Why do investors own them?

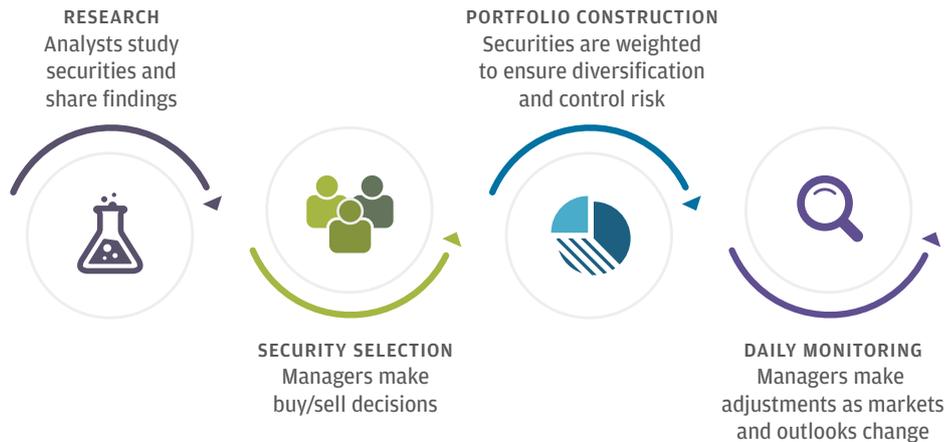
For some, active ETFs offer the best of both worlds – cost effectiveness, liquidity and transparency of an ETF, plus the experience and expertise of professional fund managers. This human element gives active ETFs more flexibility in pursuing returns and managing some of the limitations of traditional passive indices. During volatile times, for example, managers can take defensive measures aimed at limiting losses versus an index.

ACTIVE ETFs EXPAND INVESTOR CHOICES

Not all markets can be easily duplicated with a passive index. Active ETFs offer investors access to opportunities that might be missing from their portfolios.

ACTIVE ETFs: CAPTURING RESEARCH INSIGHTS AND MANAGER EXPERTISE

MANAGED BY PEOPLE, FOCUSED ON OUTCOMES



Source: J.P. Morgan Asset Management. Shown for illustrative purposes only.

HOW ARE INVESTORS USING ETFs?

NEARLY EVERYONE CAN FIND A USE FOR ETFs

The wide variety and versatility of ETFs allow them to play a number of different roles in an investor's portfolio:

- **The ability of passive ETFs to mirror broad stock and bond indices** make them good “building blocks” for a core portfolio.
- **ETFs targeting specific regions, sectors and strategies** can be used in several ways to enhance diversification. For example, they can complement core holdings, fill gaps, realign an unbalanced portfolio or provide access to otherwise hard-to-reach markets.
- **Investors are also using ETFs to reduce costs and taxes.** And because ETFs can be traded quickly and easily throughout the day, they're effective vehicles for moving in and out of markets as new opportunities and risks arise.

BUILDING STRONGER PORTFOLIOS WITH ETFs



Create a solid foundation
Use ETFs as core “building blocks”



Complement core holdings
Target specific regions, sectors and strategies



Fill portfolio gaps
Add missing pieces to expand diversification



Access hard-to-reach markets
Pursue untapped investment opportunities



Reduce costs and taxes
Take advantage of an ETF’s efficiencies



Keep pace with changing markets
Quickly adjust to new developments



EXPLORE ADVANCED ETF TOPICS

WHY DO ETFs TRADE AT PREMIUMS AND DISCOUNTS?

PRICE DISCREPANCIES ARE NOT USUALLY CAUSE FOR CONCERN

Many investors worry when an ETF trades above or below the value of its underlying securities. In most cases, however, these “premiums” and “discounts” result from factors that have little or nothing to do with an ETF’s investment strategy, such as:

- Differences in time zones between markets
- Different methods for pricing underlying securities in bond ETFs
- Light trading volumes

No matter what the cause, the process of creating and redeeming shares helps move ETF prices closer to the value of their underlying investments. As a result, premiums and discounts don’t typically get too big or last too long.

KNOW YOUR TERMS

NET ASSET VALUE (NAV): Value of all underlying ETF holdings; calculated once per day after markets close.

INTRADAY NET ASSET VALUE (iNAV): Value of all underlying ETF holdings; calculated every 15 seconds during the trading day.

MARKET PRICE: Price at which ETF shares are bought and sold throughout the trading day.

PREMIUM: Occurs when an ETF trades above its NAV.

DISCOUNT: Occurs when an ETF trades below its NAV.

CAN ETFs HANDLE LARGE TRADES?

BIG TRADES USUALLY HAVE LITTLE IMPACT ON ETF PRICES

One of the risks of stock investing is that large trades could “move the market.” For example, if someone wants to sell a lot of shares quickly, they may cause the stock price to fall by accepting a lower price to complete the trade.

Does the same thing happen with ETFs? Usually not, thanks to the unique process for creating and redeeming shares as needed.

If a large buy order comes in, new shares can be created to meet the demand. If a large sell order comes in, shares can simply be removed from the market to reduce supply. In both cases, the dozens or hundreds of different securities inside an ETF’s basket provide the trading power needed to handle large transactions.

WHAT IS “BID/ASK SPREAD” AND WHY DOES IT MATTER?

BID is the highest price a buyer is willing to pay for an ETF.

ASK is the lowest price a seller is willing to accept.

SPREAD is the difference between the two. Narrow spreads are usually a sign that ETFs are heavily traded.

ARE BOND MARKETS LIQUID ENOUGH FOR ETFs?

BOND MARKETS AND ETFs ARE BOTH LIQUID

Contrary to popular belief, bond market liquidity hasn't dried up since new regulations were put in place after the 2008 financial crisis. Even better, bond ETFs may not need this liquidity to be actively traded themselves.

This chart shows two types of trading activity for high yield bond ETFs over the past 10 years:

- **Secondary activity** reflects the trading volume of existing ETF shares on exchanges. Note that this blue line has been consistently higher, meaning most trading occurred between investors on exchanges.
- **Primary activity** reflects the trading volume of the underlying bonds held by ETFs when more liquidity was needed. Although high yield can be less liquid than other bonds, note that this green line never equaled more than 5% of the overall high yield market – even during periods of stress.

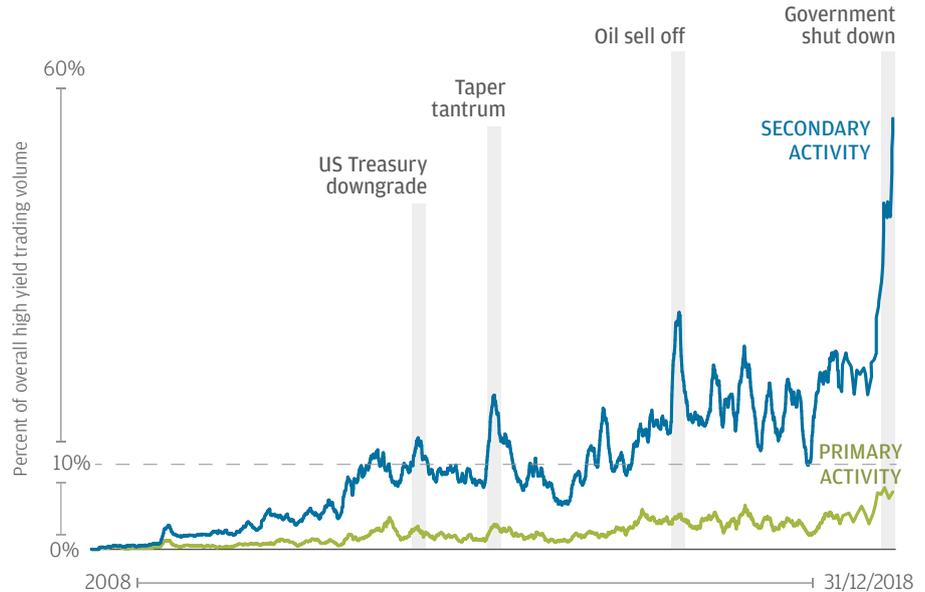
HOW LIQUID ARE BONDS?

More than \$800 billion of bonds are traded each day, on average.³

³ Source: SIFMA and Bloomberg. Data as of 31/12/2018.

HIGH YIELD ETFs HAVEN'T NEEDED BOND MARKET LIQUIDITY

HIGH YIELD ETF VOLUME SPIKES DURING TIMES OF MARKET STRESS



Source: Bloomberg. Data for HYG, JNK, and PHB as of 12/31/18 (30 day rolling average). Shown for illustrative purposes only.



SUMMARY: ETFs AT A GLANCE

SUMMARY: ETFs AT A GLANCE

ETFs ARE INVESTMENT FUNDS THAT TRADE LIKE STOCKS

Like traditional investment funds, ETFs bundle securities into diversified “baskets.” Unlike funds, ETFs are bought and sold on an exchange, like a stock.

WHAT MAKES ETFs UNIQUE?



EFFICIENT

Potential to reduce costs to keep more of what you earn



TRADABLE

Trade ETFs throughout the day and turn into cash as needed



FLEXIBLE

Quickly move in and out of virtually any market worldwide

THE SUPPLY OF ETF SHARES CAN BE INCREASED OR DECREASED AT ANY TIME

- **Creates liquidity** to meet investor trading requests
- **Helps an ETF's share price** stay in line with the value of its holdings

THREE TYPES OF ETFs

1. MARKET CAP-WEIGHTED

Seeks to match an index in which bigger companies make up more of the portfolio and smaller companies make up less.

2. STRATEGIC BETA

Seeks to match an index in which portfolio weights are based on some criteria other than company size.

3. ACTIVELY MANAGED

Relies on people and research to select securities and pursue specific outcomes.

HOW INVESTORS LIKE YOU ARE USING ETFs

- **Core building blocks** to create a portfolio foundation
- **Complementary pieces** to fill gaps, rebalance portfolios, target specific investments or access hard-to-reach markets
- **Tactical tools** to quickly adjust to changing conditions
- **Money savers** to help reduce fees and taxes

WANT TO LEARN MORE ABOUT ETFs?

- Contact your usual J.P. Morgan Asset Management representative
- Visit www.jpnam.com/etf
- Email jpnam.etf@jpmorgan.com



LET'S SOLVE IT.®

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