



Guide to ETFs

2Q 2026
As of March 31, 2026





ETF Landscape

3. Global ETF AUM by region
4. Global ETF AUM growth over time
5. U.S. ETF market milestones
6. U.S. ETF assets projected to reach \$20 trillion by 2030
7. U.S. ETF market share vs. mutual funds
8. Equity ETF and mutual fund flows and capital gains
9. ETFs by type and industry leaders ranked by AUM
10. Why has active ETF issuance increased?
11. ETF exchange volume during periods of volatility

Active

12. Investors turning to ETFs
13. Over a decade of active ETF growth
14. Active ETFs take market share
15. Active management in an ETF structure
16. Diversification with lower beta strategies
17. Key players in the active ETF space
18. Active U.S. equity ETF flows
19. Growth trends within the active ETF market
20. Active category flows over time

Fixed Income Ecosystem

21. Fixed income flows and AUM, by vehicle
22. Active fixed income gaining adoption
23. Active U.S. fixed income ETF flows
24. Turning point in the fixed income ETF market
25. Growth runway for active ETFs in fixed income
26. Active fixed income managers outperform their passive peers
27. Muni ETF growth – the trend is active
28. Navigating risk in the high yield market

Trends

29. Top 10 industry leaders
30. Alternative sources of income from equities
31. International equity ETF flows
32. Treasury ETF flows since the Fed's first rate increase
33. Digital currency and gold ETFs flows
34. Defining a theme
35. The timeline of thematic ETF AUM
36. Understanding ETF fees over time
37. Why ETF model portfolios are on the rise
38. Mutual fund to ETF conversions

Principles of ETF Investing

39. Investment vehicle comparison
40. ETF characteristics and benefits
41. ETF transparency allows investors to know what they own
42. ETFs offer more liquidity than meets the eye
43. How liquidity is brought to investors
44. Market stress highlights ETFs' liquidity powers
45. Cost benefits of ETFs
46. Commons basket types used for creations and redemptions
47. Negotiated basket workflow for fixed income ETFs
48. Enhanced tax efficiency through redemption baskets
49. Tax efficiency spectrum across mutual funds and ETFs
50. Percentage of funds paying capital gains in calendar year

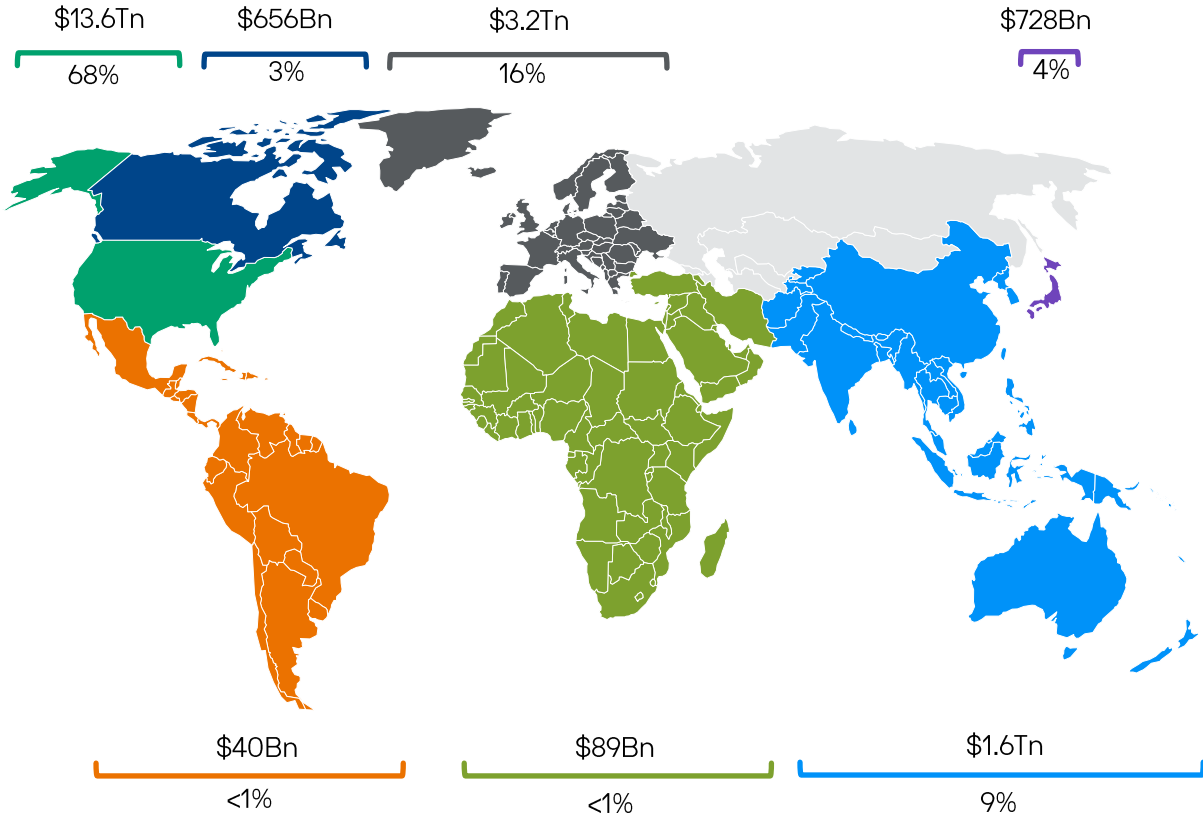
ETF Trading Best Practices

51. What is the ETF arbitrage mechanism?
52. ETF arbitrage mechanism in practice
53. ETF premiums and discounts
54. The power of secondary markets
55. ETF trading considerations – a communication story
56. Ability for ETFs to absorb large trades
57. ETF total cost of ownership



Global ETF AUM by region

U.S. market represents about 70% of the global ETF landscape.



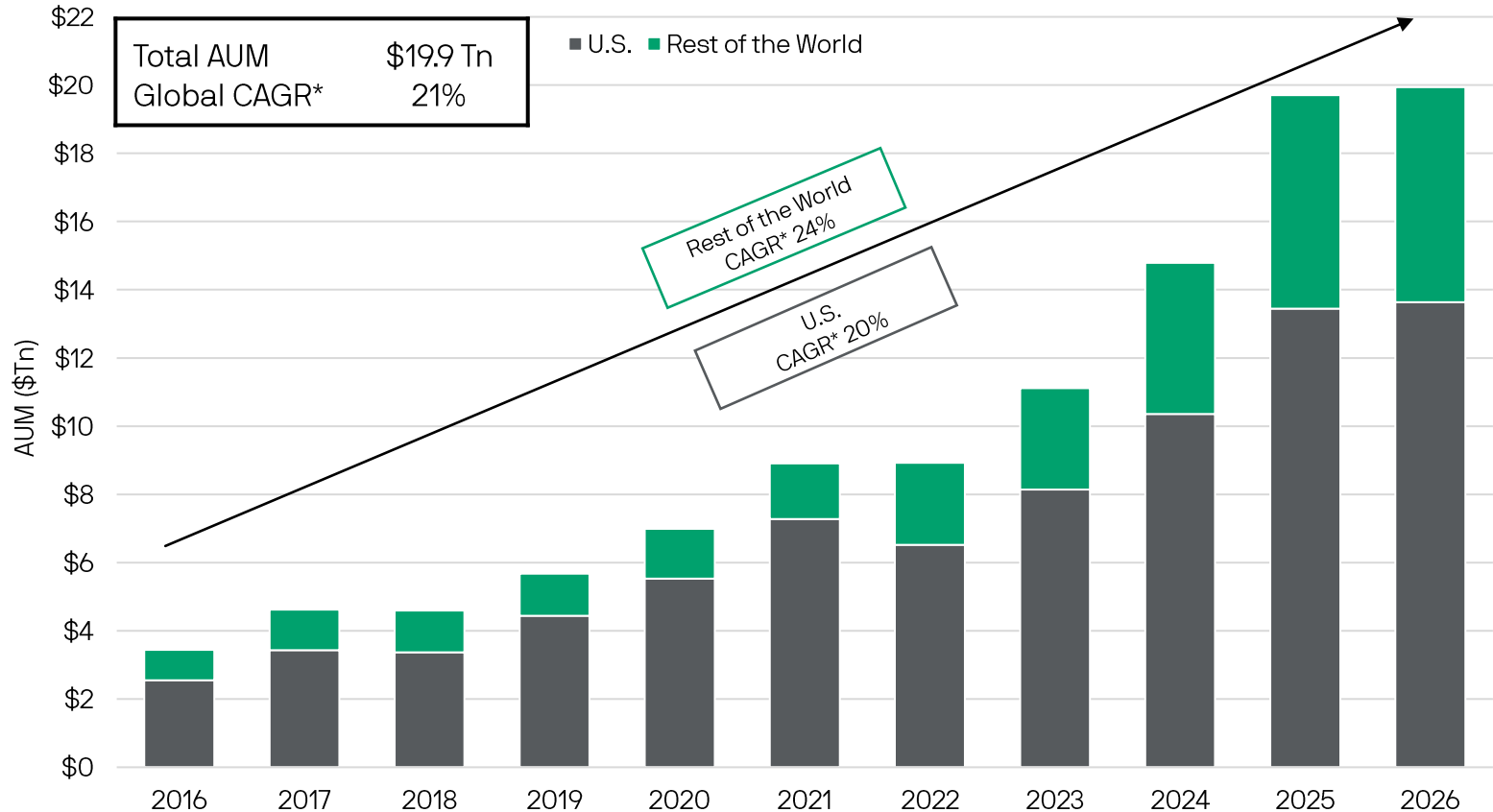
2026 ETF landscape

No. of ETFs	~14,500
ETF assets	~\$19.9Tn
Net flows	~+\$581.0Bn
15 years of consecutive net flows	

Source: Bloomberg, J.P. Morgan Asset Management. Provided for information only to illustrate macro trends, not to be construed as offer, research or investment advice. Assets are represented by ETFs across countries of domicile in USD. Global consists of Australia, Brazil, Bulgaria, Canada, Chile, China, Colombia, Croatia, Egypt, Finland, France, Germany, Guernsey, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Israel, Japan, Luxembourg, Malaysia, Mauritius, Mexico, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Peru, Philippines, Poland, Qatar, Romania, Saudi Arabia, Singapore, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, UAE, United States and Vietnam.
 Guide to ETFs – U.S. Data as of March 31, 2026.



Global ETF AUM growth over time



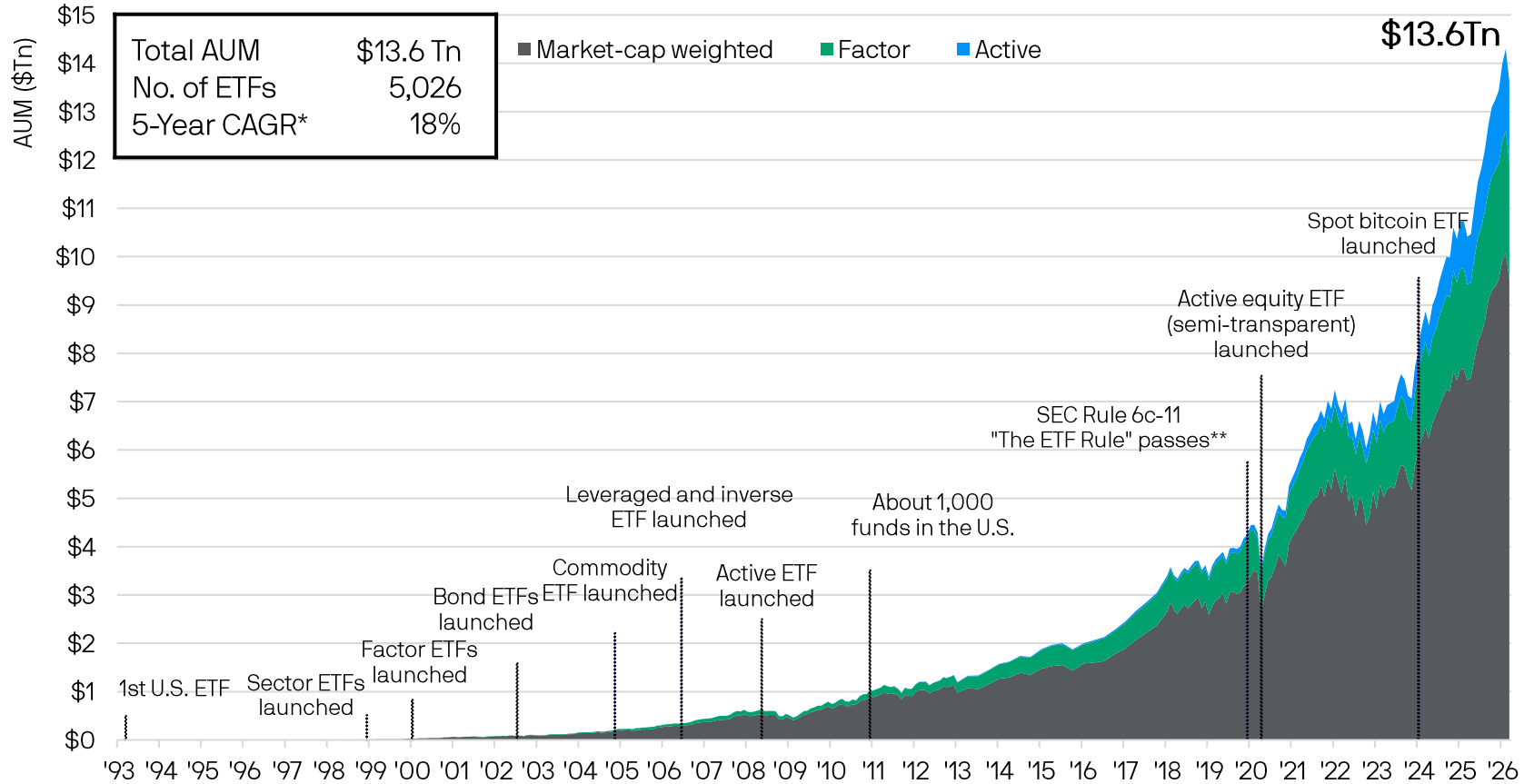
Source: Bloomberg, J.P. Morgan Asset Management. Rest of the world consists of Australia, Brazil, Bulgaria, Canada, Chile, China, Colombia, Croatia, Egypt, Finland, France, Germany, Guernsey, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Israel, Japan, Luxembourg, Malaysia, Mauritius, Mexico, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Peru, Philippines, Poland, Qatar, Romania, Saudi Arabia, Singapore, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, UAE and Vietnam. *Compound annual growth rate (CAGR).
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U.S. ETF market milestones

ETF Landscape

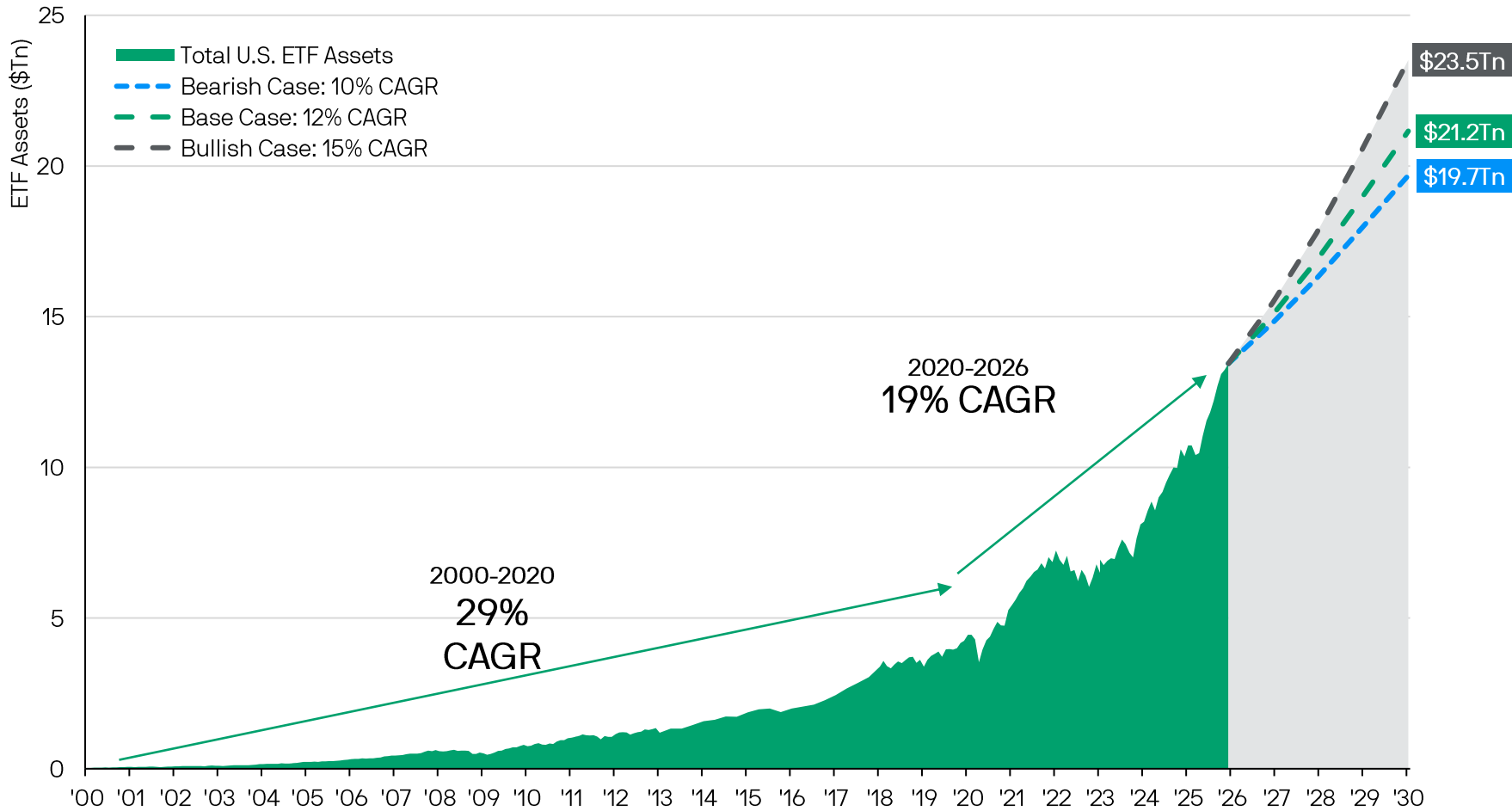
ETF assets have grown significantly over the past two decades.
U.S. ETF AUM (\$Tn)



Source: Bloomberg, J.P. Morgan Asset Management. *Compound annual growth rate (CAGR). **The ETF Rule, passed in 2019 modernized regulation of ETFs as open-ended funds by establishing clear and consistent framework for most ETFs across both index and actively managed strategies, enabling ETF issuers to bring new strategies to market, and permitting "custom in-kind" creation and redemption baskets to be available for all types of covered ETFs under the new regulation.
Guide to ETFs – U.S. Data as of March 31, 2026.



U.S. ETF assets projected to cross \$20 trillion by 2030



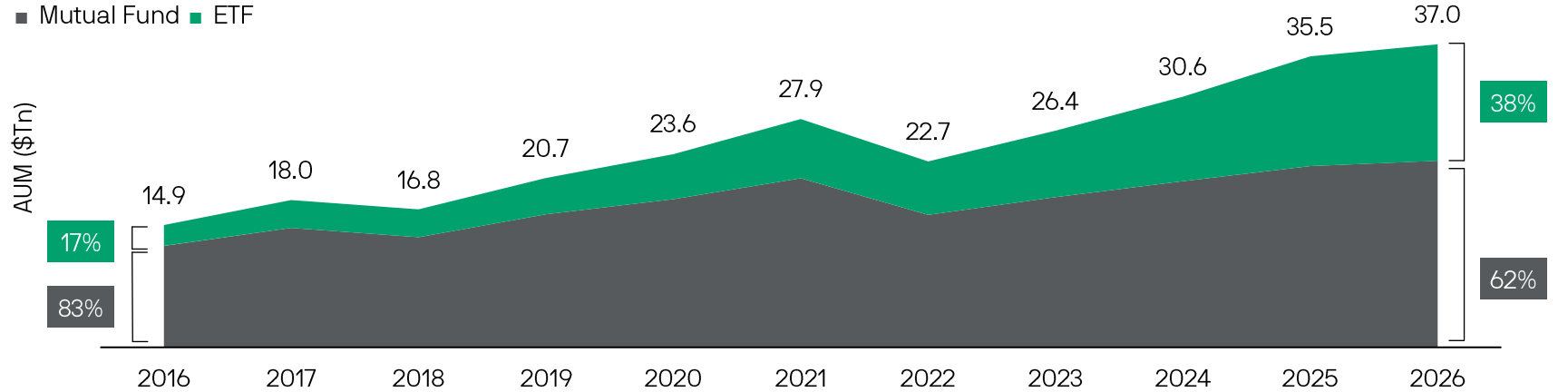
Source: Bloomberg, J.P. Morgan Asset Management. Compound annual growth rate (CAGR). Guide to ETFs – U.S. Data as of March 31, 2026.



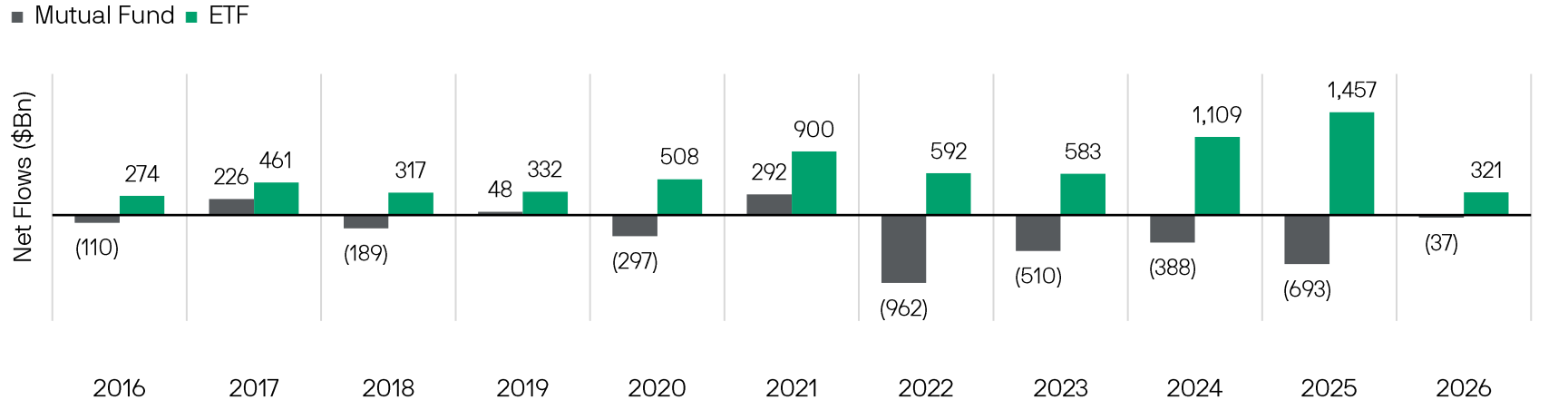
U.S. ETF market share vs. mutual funds

ETF Landscape

U.S. ETFs and mutual funds, by AUM



U.S. ETFs and mutual funds, by net flows



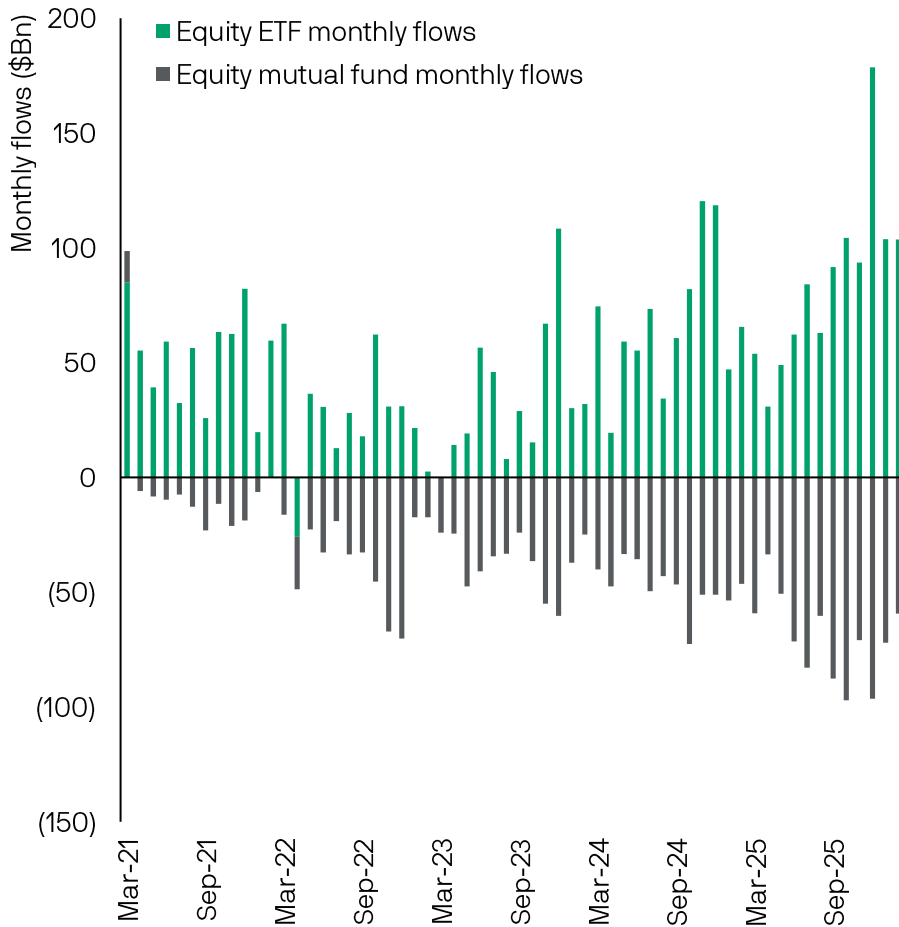
Source: Morningstar, J.P. Morgan Asset Management, charts reflect the most recently available data as of February 28, 2026. Excluding money market and fund of funds.
 Guide to ETFs – U.S. Data as of March 31, 2026.



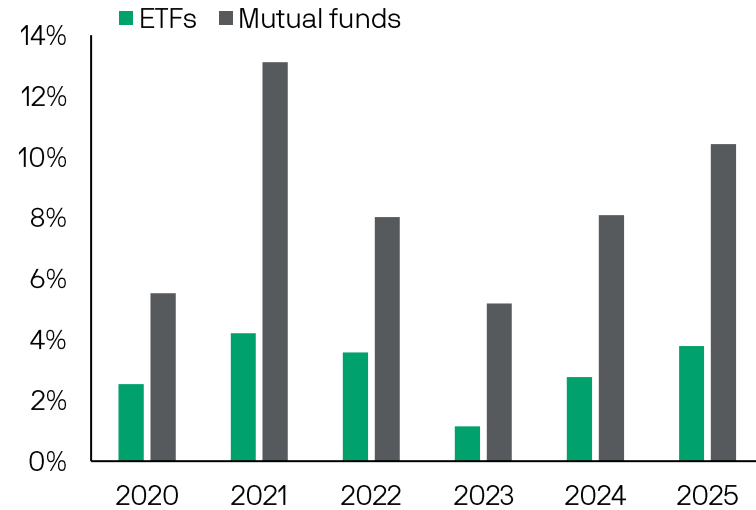
Equity ETF and mutual fund flows and capital gains

ETF Landscape

Trailing 5-year monthly equity mutual fund and ETF net flows



Equity Funds: Average capital gains/net asset value (NAV)



% of equity funds that paid a capital gain

	2020	2021	2022	2023	2024	2025
ETFs	3%	9%	4%	3%	4%	6%
Mutual funds	48%	70%	55%	41%	57%	62%

Includes both active and passive ETFs and mutual funds

Source: Morningstar, J.P. Morgan Asset Management. Left side, data as of February 28, 2026. Right side, data as of December 31, 2025. Guide to ETFs – U.S. Data as of March 31, 2026.



ETFs by type and industry leaders ranked by AUM

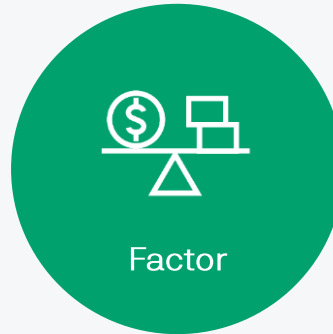


Market Cap

Index tracking market exposures
AUM: \$9.5Tn

Top 5 Issuers
92% of AUM

BlackRock
Vanguard
SPDR
Invesco
Schwab



Factor

Risk aware weighting
and / or factor exposure
AUM: \$2.4Tn

Top 5 Issuers
86% of AUM

Vanguard
BlackRock
Invesco
Schwab
SPDR



Active

Portfolio is actively managed
AUM: \$1.7Tn

Top 5 Issuers
49% of AUM

DFA
JPMorgan
Capital Group
Avantis
BlackRock

Source: Bloomberg, J.P. Morgan Asset Management. U.S. ETFs only; excludes ETNs.
Guide to ETFs – U.S. Data as of March 31, 2026.

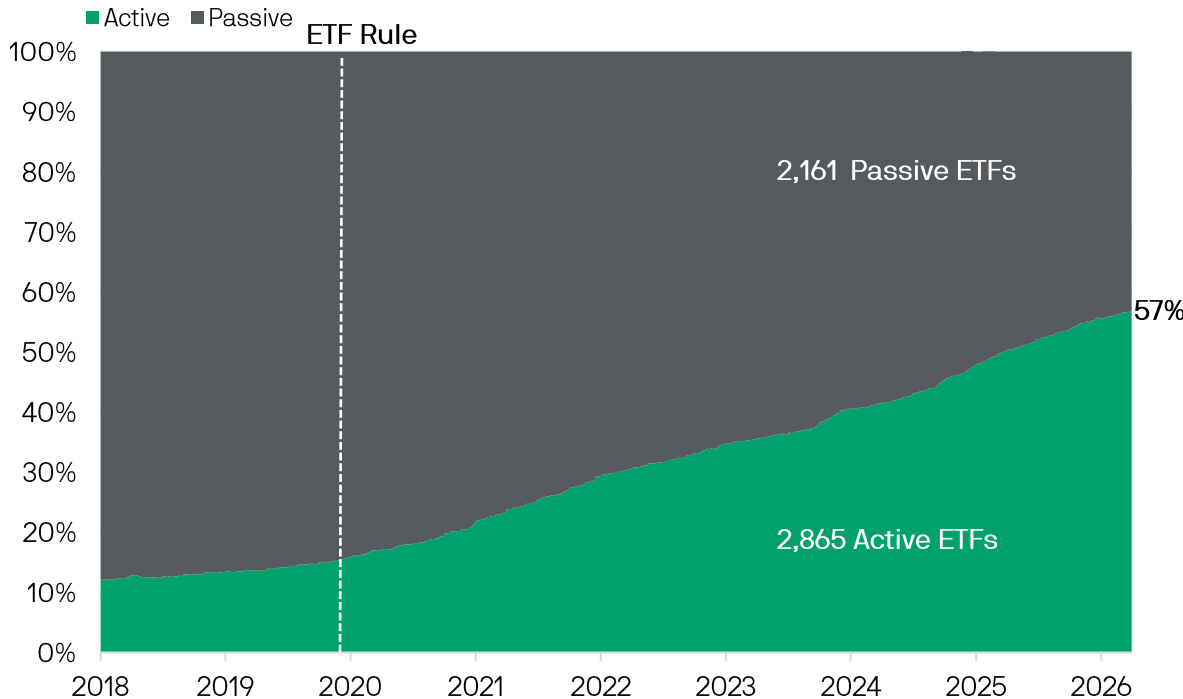


Why has active ETF issuance increased?

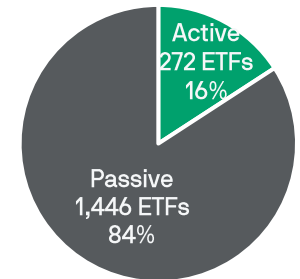
What was the ETF Rule of 2019?

- Streamlined 40 Act ETF regulations
- Let ETF issuers move faster
- Allowed "custom in-kind" basket

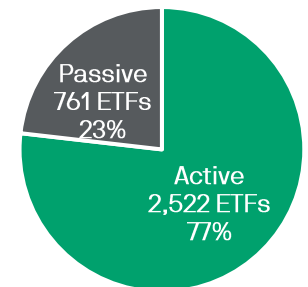
Passive vs. Active (% of total ETFs by product count)



ETFs pre-ETF Rule 1,718 ETFs



ETFs launched post-ETF Rule 3,283 ETFs



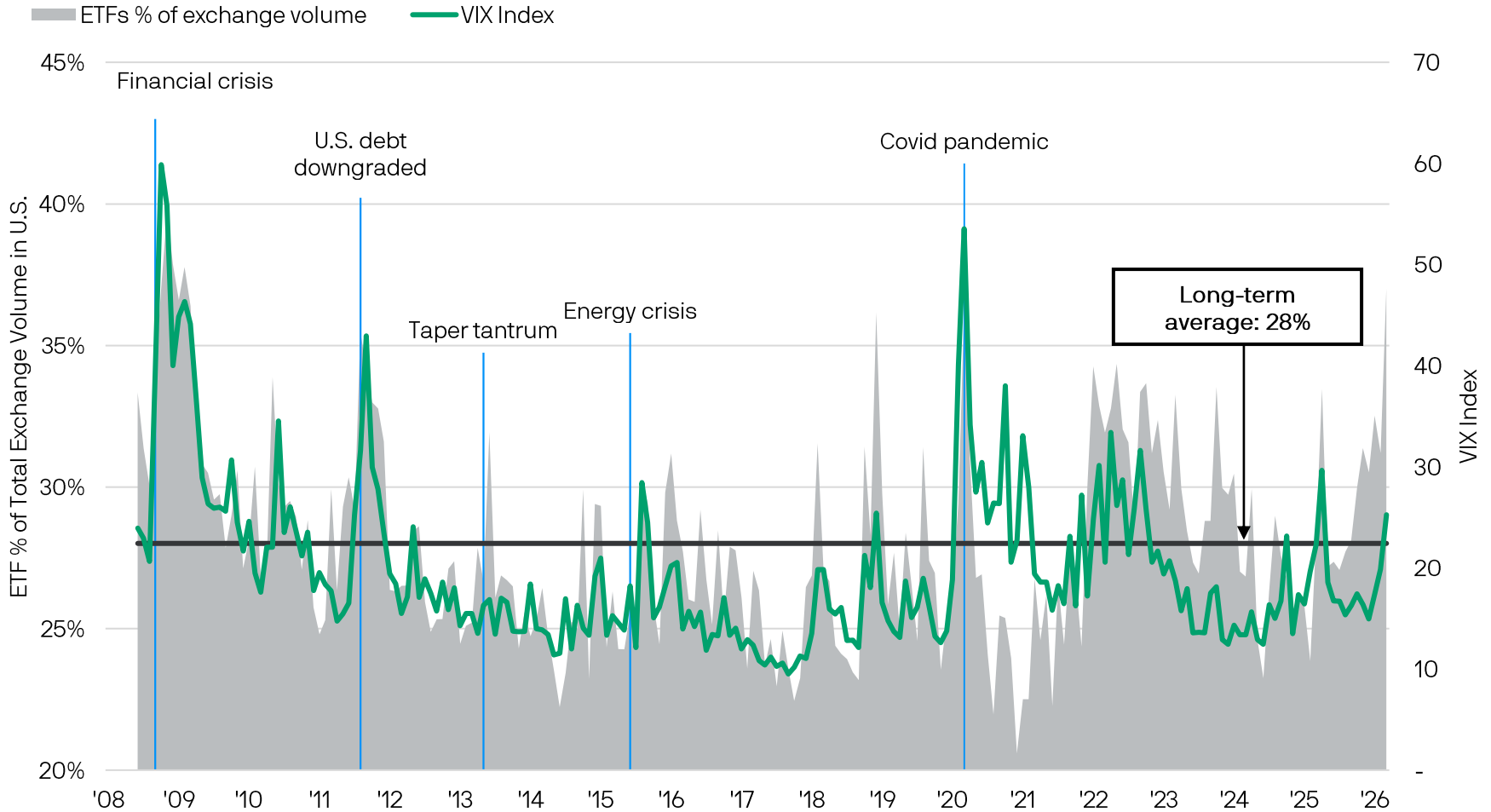
Source: Bloomberg, J.P. Morgan Asset Management. Passed in 2019, the ETF Rule, or the SEC Rule 6c-11 under the Investment Company Act of 1940, modernized regulation of ETFs as open-ended funds by establishing clear and consistent framework for most ETFs across both index and actively managed strategies, enabling ETF issuers to bring new strategies to market, and permitting "custom in-kind" creation and redemption baskets to be available for all types of covered ETFs under the new regulation. *Guide to ETFs – U.S.* Data as of March 31, 2026.



ETF exchange volume during periods of volatility

ETF Landscape

Exchange volume highlights ETF market's liquidity



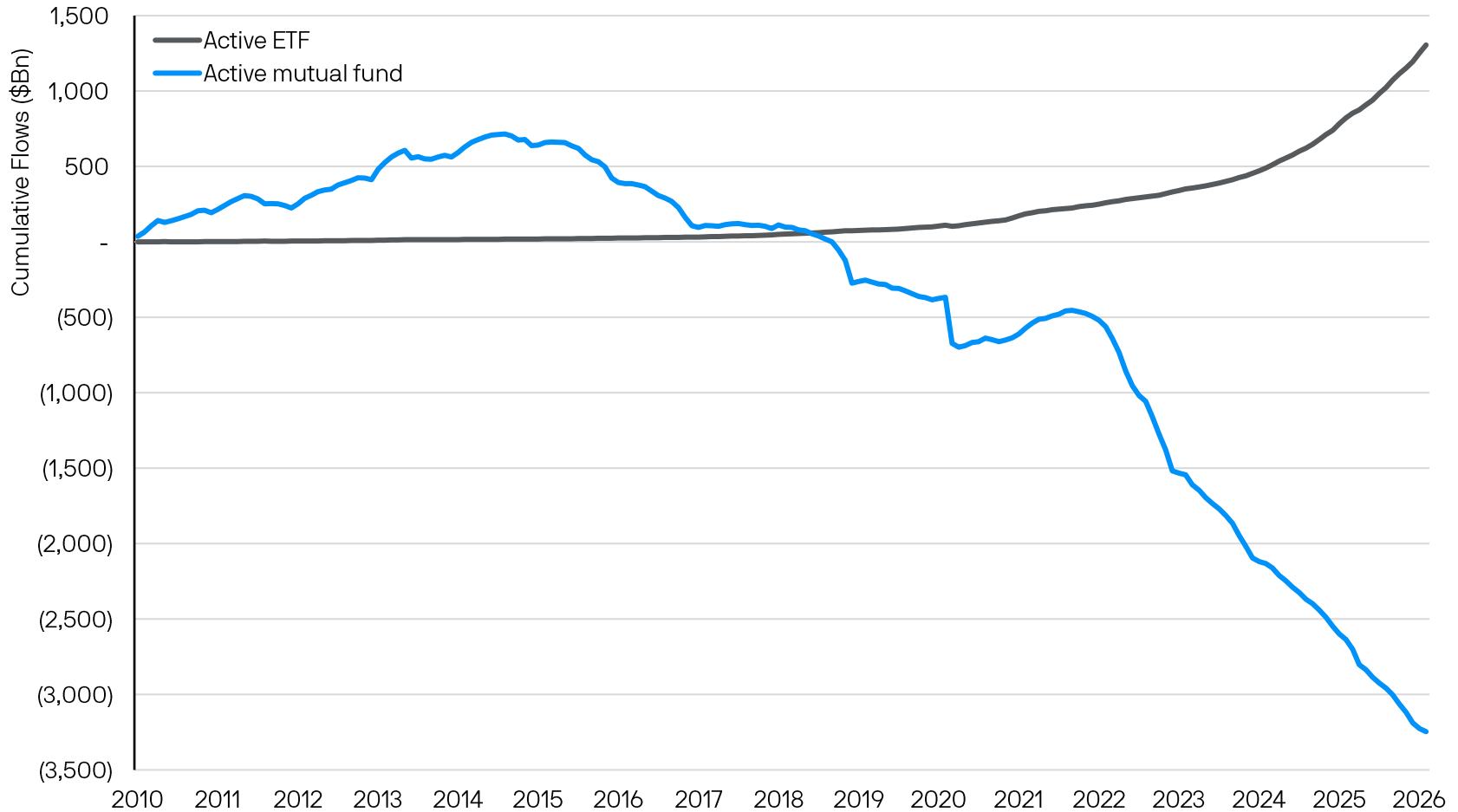
Source: Bloomberg, J.P. Morgan Asset Management. The CBOE Volatility Index, or VIX Index, is a real-time market index representing the market's expectations for volatility over the coming 30 days. Guide to ETFs – U.S. Data as of March 31, 2026.



Investors turning to ETFs

Active flows across investment structure

Active

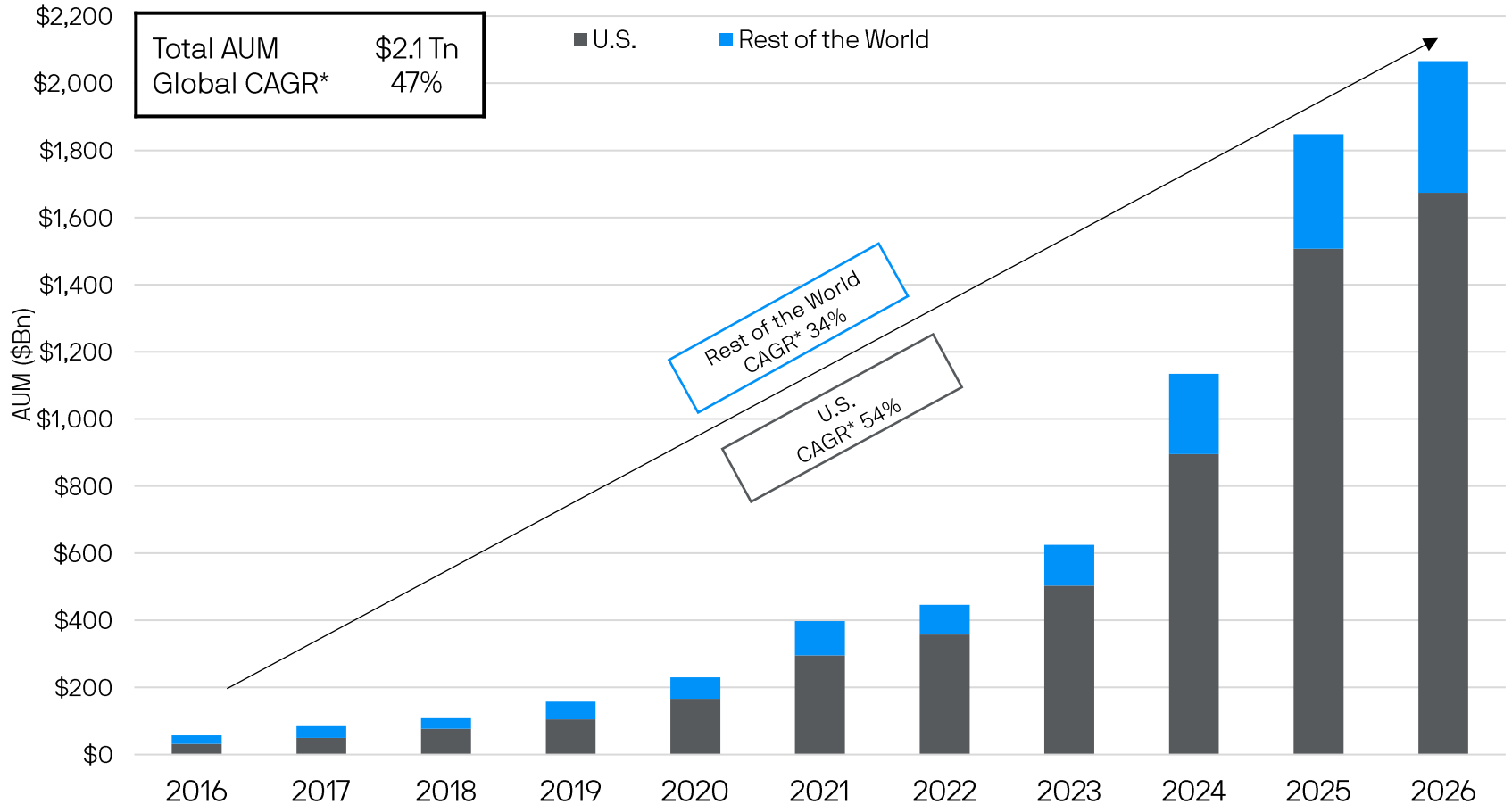


Source: Morningstar, J.P. Morgan Asset Management. Data as of February 28, 2026. Excluding money market and fund of funds. Guide to ETFs – U.S. Data as of March 31, 2026.



Over a decade of active ETF growth

Active



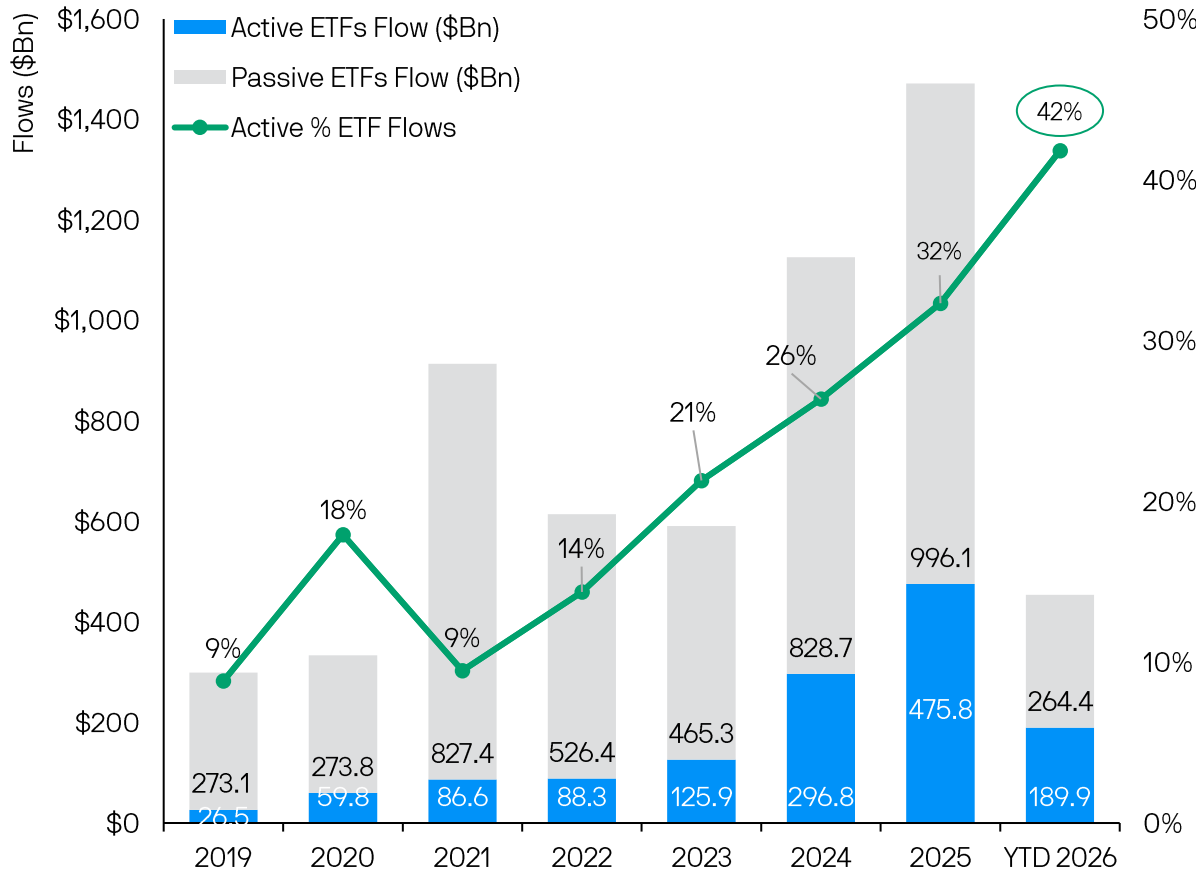
Active ETFs are determined by non-index funds Rest of the world consists of Australia, Brazil, Bulgaria, Canada, Chile, China, Colombia, Croatia, Egypt, Finland, France, Germany, Guernsey, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Israel, Japan, Luxembourg, Malaysia, Mauritius, Mexico, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Peru, Philippines, Poland, Qatar, Romania, Saudia Arabia, Singapore, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, UAE and Vietnam. *Compound annual growth rate (CAGR). Source: Bloomberg, J.P. Morgan Asset Management. Guide to ETFs – U.S. Data as of March 31, 2026.



Active ETFs take market share

Active

Active U.S. ETF flows steadily increasing



Flows into active ETFs in 2025 were over 18 x all the flows into active ETFs in 2019

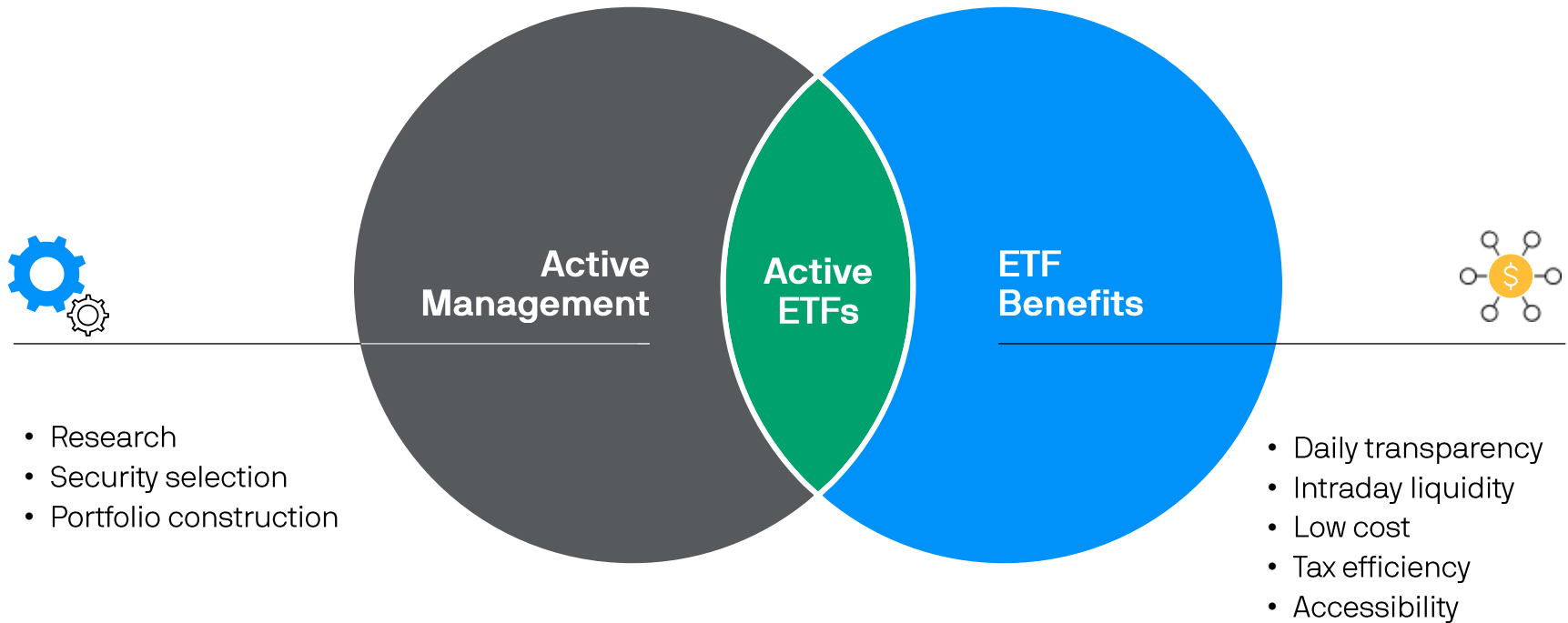
Active ETFs have taken in about 42% of all flows into ETFs in 2026

Source: Bloomberg, J.P. Morgan Asset Management. Guide to ETFs – U.S. Data as of March 31, 2026.



Active management in an ETF structure

Active



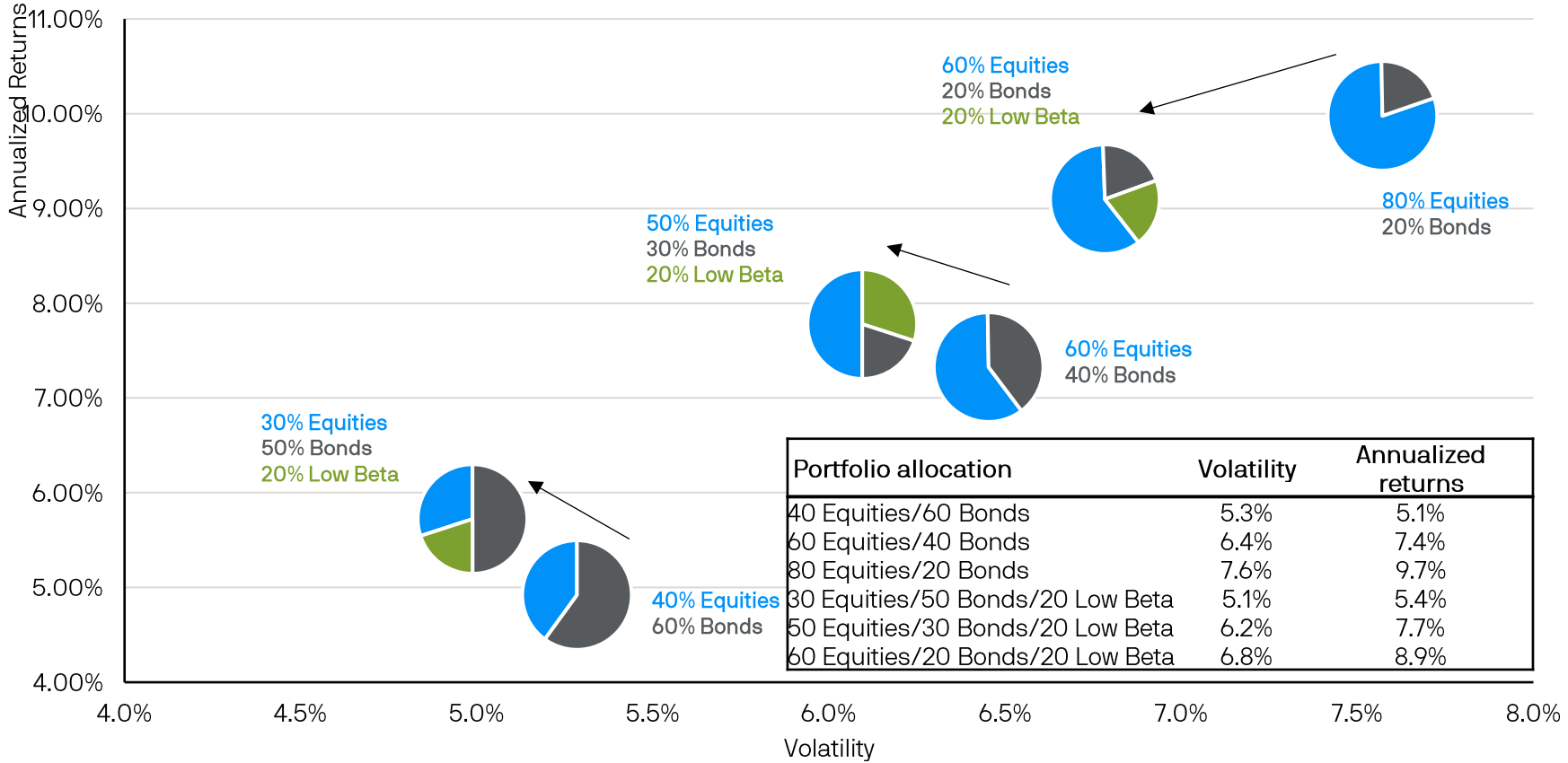
Source: J.P. Morgan Asset Management. For illustrative purposes only.
Guide to ETFs – U.S. Data as of March 31, 2026.



Diversification with lower beta strategies

Active

Low Beta and portfolio risk/return Annualized volatility and returns, March 2021 - March 2026



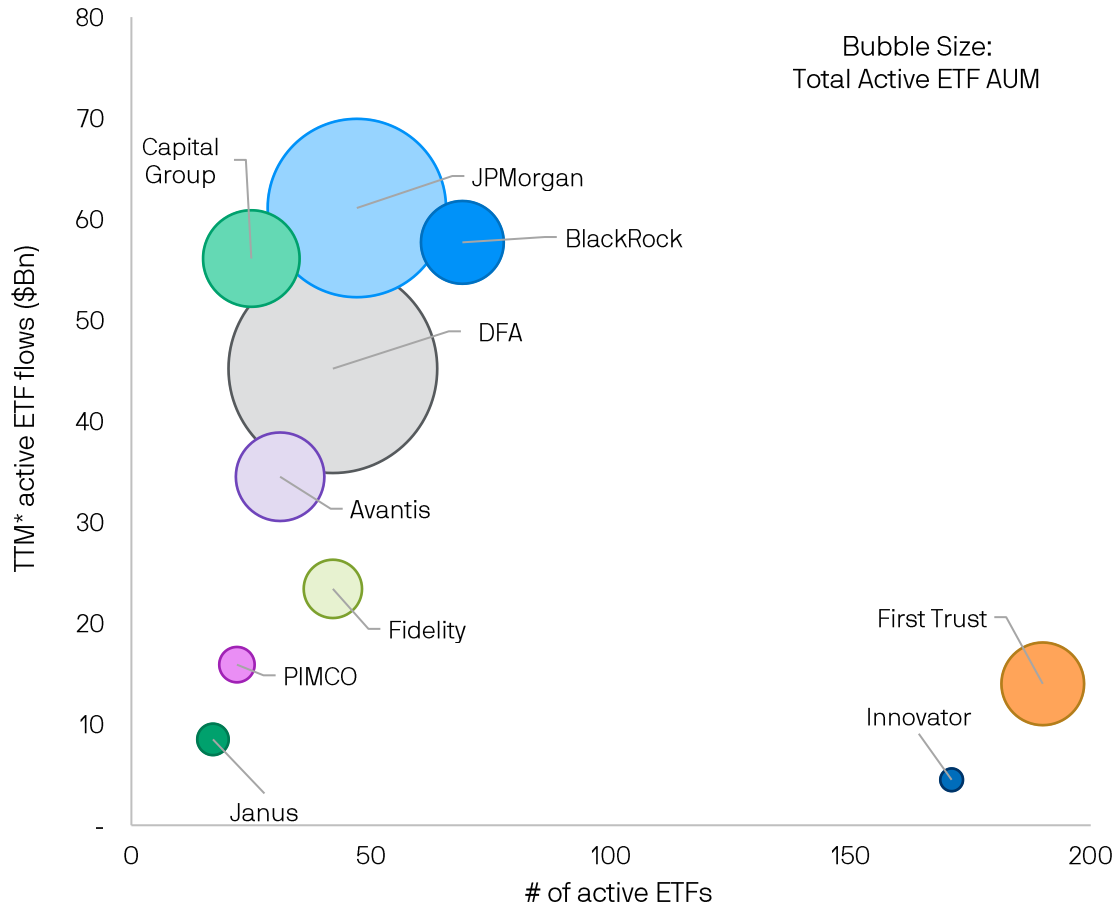
Source: Bloomberg, J.P. Morgan Asset Management. Portfolios are rebalanced at the start of the year. Equities are represented by the S&P 500 Index, Bonds are represented by the Bloomberg U.S. Aggregate Index, Low Beta are represented by two strategies equally weighted that have historically had a beta of 0.6 and 0.5, respectively over the represented period. Volatility is calculated as the annualized standard deviation of quarterly returns. Past performance is not a reliable indicator of current and future results.
Guide to ETFs – U.S. Data as of March 31, 2026.



Key players in the active ETF space

Active

Top 10 active ETF issuers by AUM



	Active ETF AUM (\$Bn)	TTM* Active ETF Flow (\$Bn)	# of Active ETFs
DFA	258.1	45.2	42
JPMorgan	220.9	61.1	47
Capital Group	120.7	56.1	25
Avantis	110.9	34.5	31
BlackRock	103.9	57.7	69
First Trust	103.7	14.0	190
Fidelity	73.9	23.4	42
PIMCO	45.8	15.9	22
Janus	41.0	8.5	17
Innovator	30.3	4.5	171

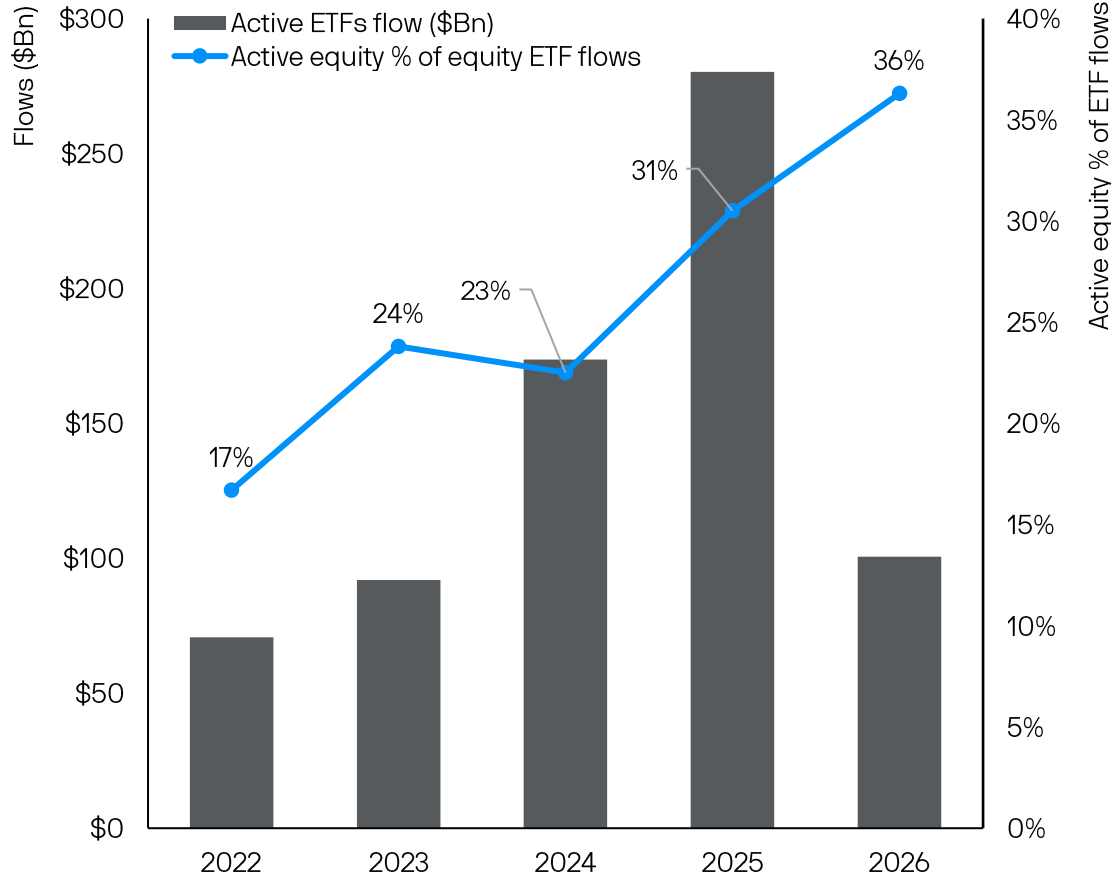
Source: Bloomberg, J.P. Morgan Asset Management. *Trailing twelve months (TTM) Guide to ETFs – U.S. Data as of March 31, 2026.



Active U.S. equity ETF flows

Active

Active U.S. equity ETF flows



Industry flows by category (\$Mn)

Category	YTD flow	% of flows YTD	AUM
Derivative Income	16,251	13%	140,213
Large Blend	14,294	12%	215,627
Foreign Large Blend	13,149	11%	94,395
Large Value	11,492	9%	95,847
Diversified Emerging Mkts	7,591	6%	47,393
Trading--Leveraged Equity	4,546	4%	22,554
Defined Outcome	3,516	3%	79,996
Mid-Cap Blend	3,442	3%	17,746
Industrials	3,354	3%	3,479
Foreign Large Value	3,141	3%	23,649

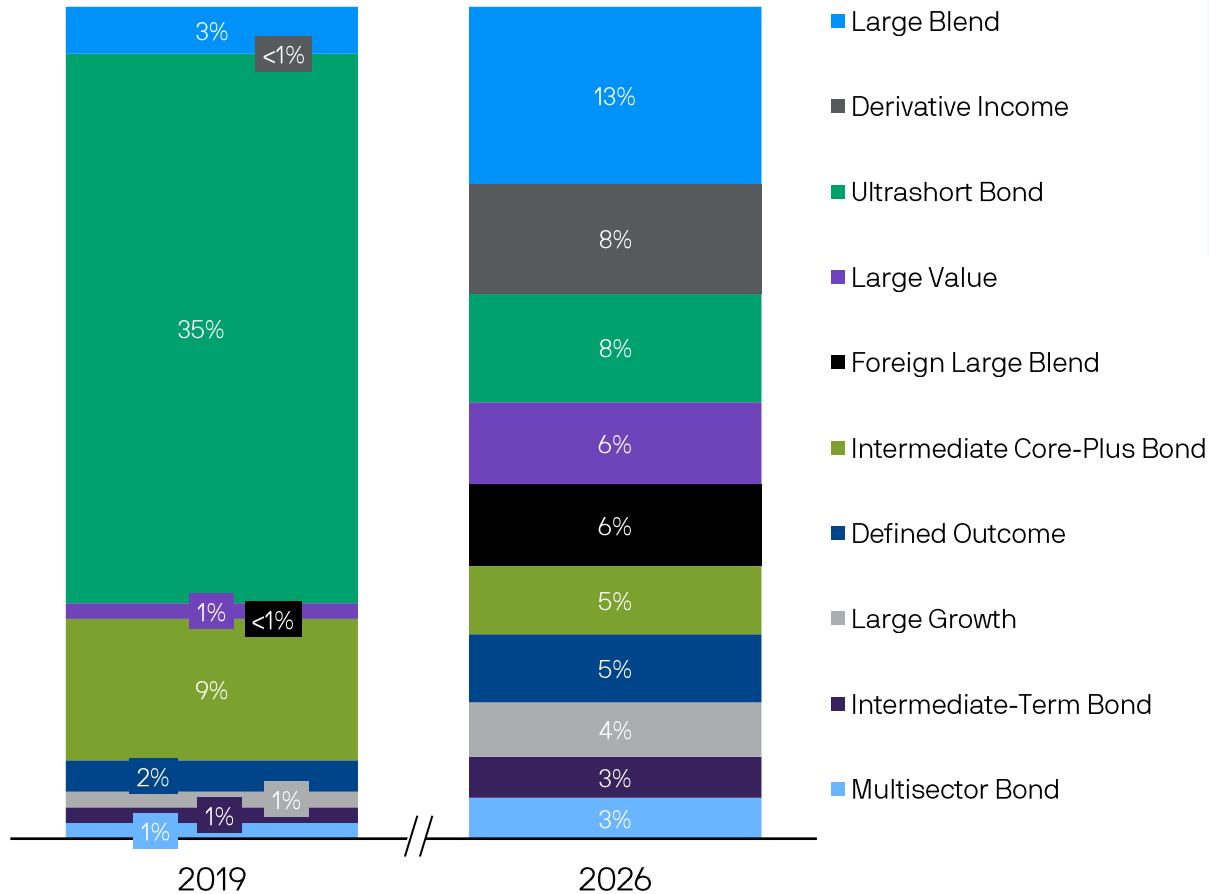
Source: Bloomberg, J.P. Morgan Asset Management. Guide to ETFs – U.S. Data as of March 31, 2026.



Growth trends within the active ETF market

Active

Active AUM across Morningstar categories



AUM	2019	2026
Select categories*	\$56.0Bn	\$1.0Tn
Active ETF total	\$108.4Bn	\$1.7Tn

Source: Bloomberg, Morningstar, J.P. Morgan Asset Management. Category AUM percentages are percentages of overall active AUM and total percentages will likely not sum to 100% given not all active categories are represented in the chart. *Total AUM of the selected categories.
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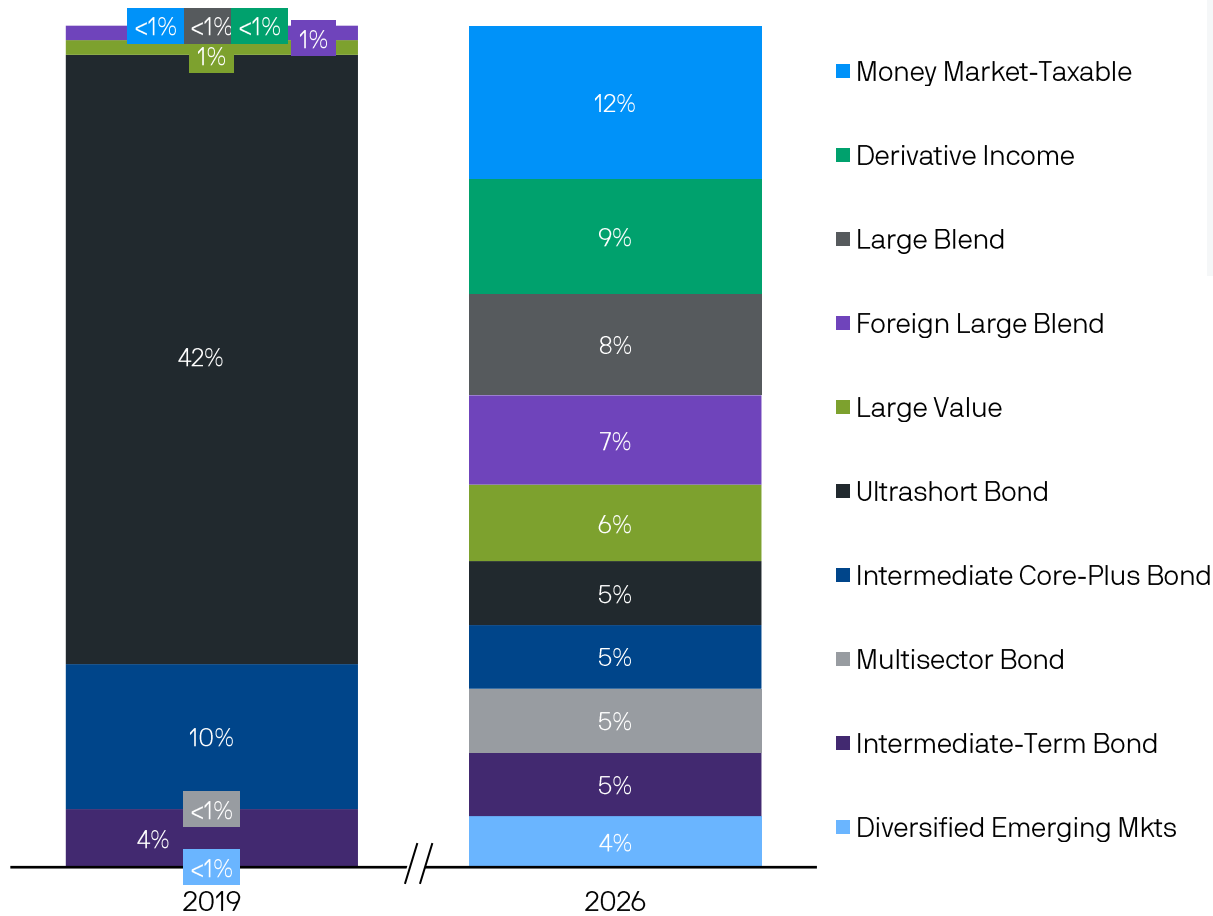


Active category flows over time

GTE U.S. 20

Active

Percent of active flows across Morningstar categories



Flows	2019	2026
Select categories*	\$15.5Bn	\$123.8Bn
Active ETF total	\$26.5Bn	\$189.9Bn

Source: Bloomberg, J.P. Morgan Asset Management. Flow percentages are percentages of total active U.S. ETF flows for the year and total percentages will likely not sum to 100% given not all active categories are represented in the chart. *Total flows of the selected categories. Guide to ETFs – U.S. Data as of March 31, 2026.

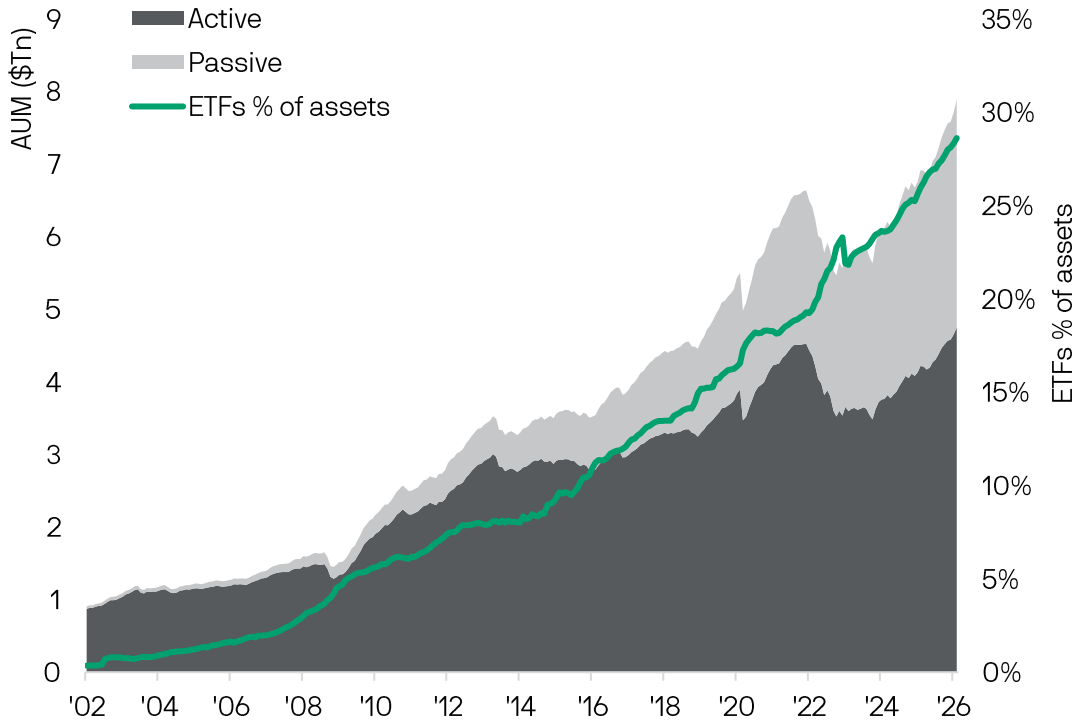


Fixed income flows and AUM, by vehicle

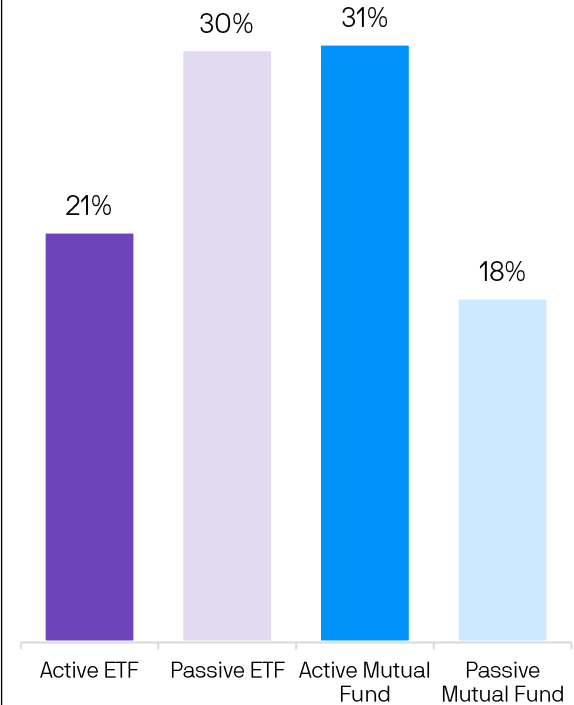
Fixed Income Ecosystem

ETFs accounted for over 50% of the flows in 2026 but only make up 30% of managed fixed income assets

Fixed Income AUM, including mutual fund and ETF assets



2026 Fixed Income flows, by vehicle

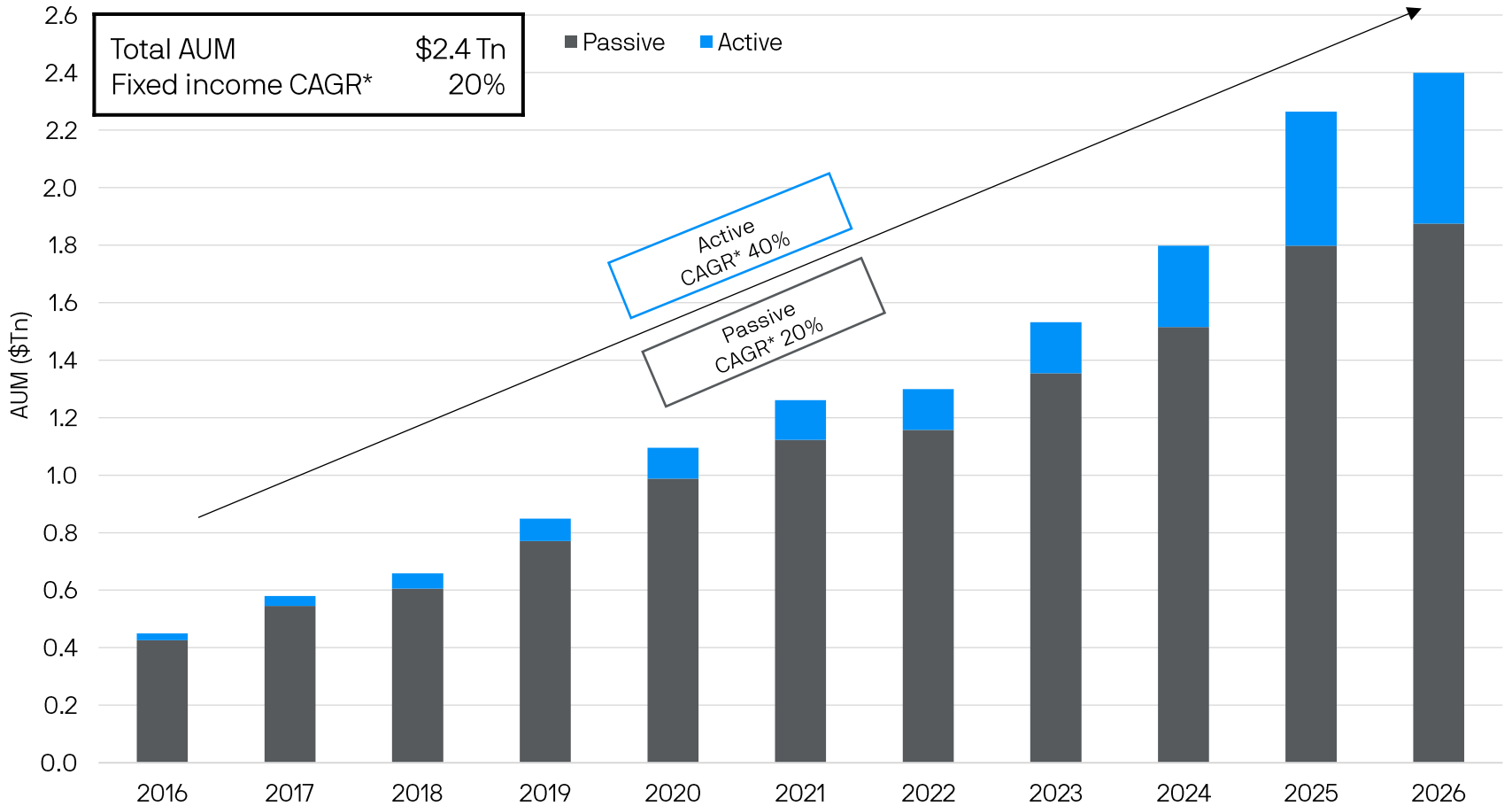


Source: Morningstar, J.P. Morgan Asset Management. Guide to ETFs – U.S. Data as of March 31, 2026.



Active fixed income gaining adoption

Fixed Income Ecosystem



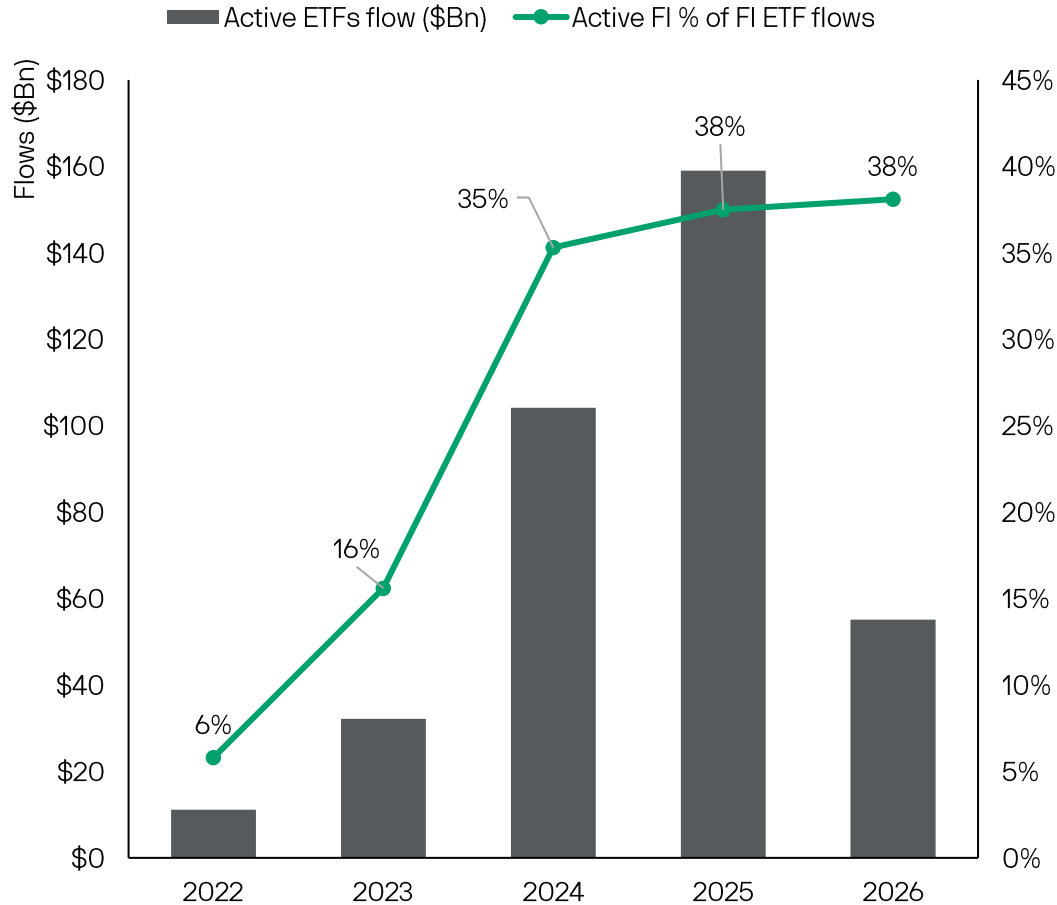
Source: Bloomberg, FactSet, J.P. Morgan Asset Management. US ETFs only. *Compound annual growth rate (CAGR). Guide to ETFs – U.S. Data as of March 31, 2026.



Active U.S. fixed income ETF flows

Fixed Income Ecosystem

Active U.S. fixed income (FI) ETF flows



Industry flows by category (\$Mn)

Category	YTD flow	% of flows YTD	AUM
Ultrashort Bond	10,391	18%	125,885
Intermediate Core-Plus Bond	9,444	17%	84,561
Multisector Bond	9,363	16%	51,514
Intermediate-Term Bond	9,212	16%	58,003
Securitized Bond - Focused	5,215	9%	41,901
Short-Term Bond	4,008	7%	28,751
Muni National Interm	3,255	6%	29,778
Corporate Bond	1,082	2%	4,308
World Bond-D Hedged	1,066	2%	8,221
High Yield Muni	840	1%	9,622

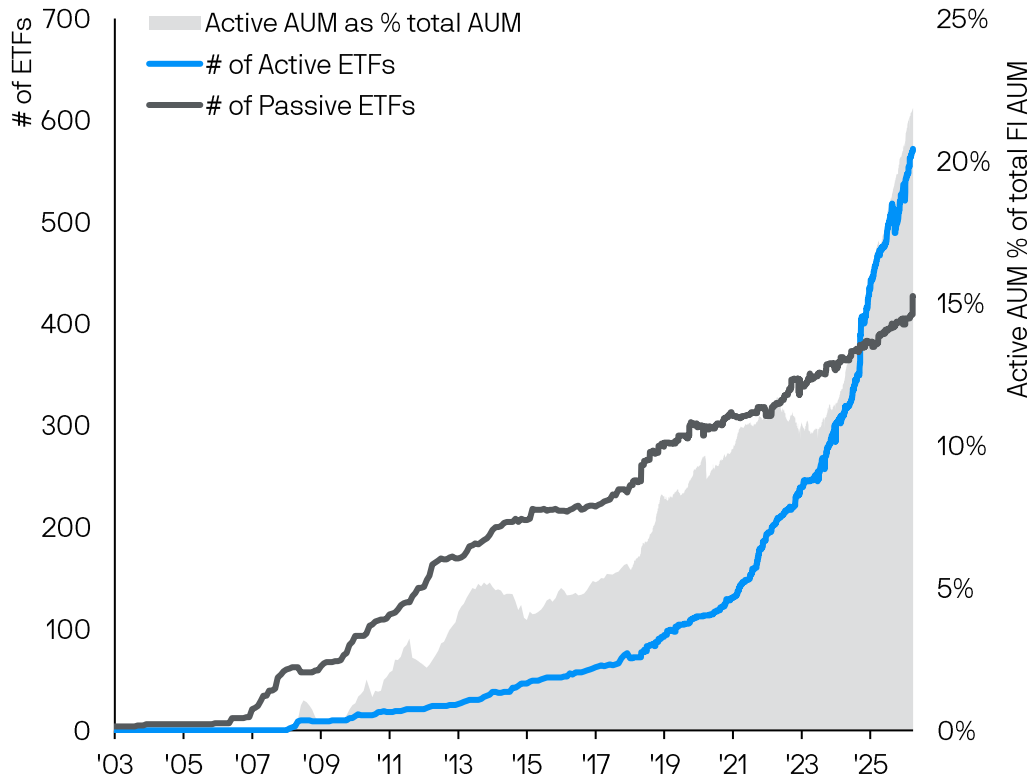
Source: Bloomberg, J.P. Morgan Asset Management. Guide to ETFs – U.S. Data as of March 31, 2026.



Turning point in the fixed income ETF market

Active fixed income ETFs outnumber passive counterparts and represent 71% of TTM* launches

Active vs. Passive Fixed Income ETFs



Active ETF launches by category TTM*

Category	# of Launches	Category Active AUM (\$Mn)
Multisector Bond	14	51,514
High Yield Bond	12	12,061
Securitized Bond - Focused	10	41,901
Intermediate-Term Bond	8	58,003
Short-Term Bond	7	28,751
Corporate Bond	7	4,308
Target Maturity	7	633
Ultrashort Bond	6	125,885
Intermediate Core-Plus Bond	5	84,561
Muni National Interterm	5	29,778
Other**	44	105,367
Total	125	542,762

Fixed Income Ecosystem

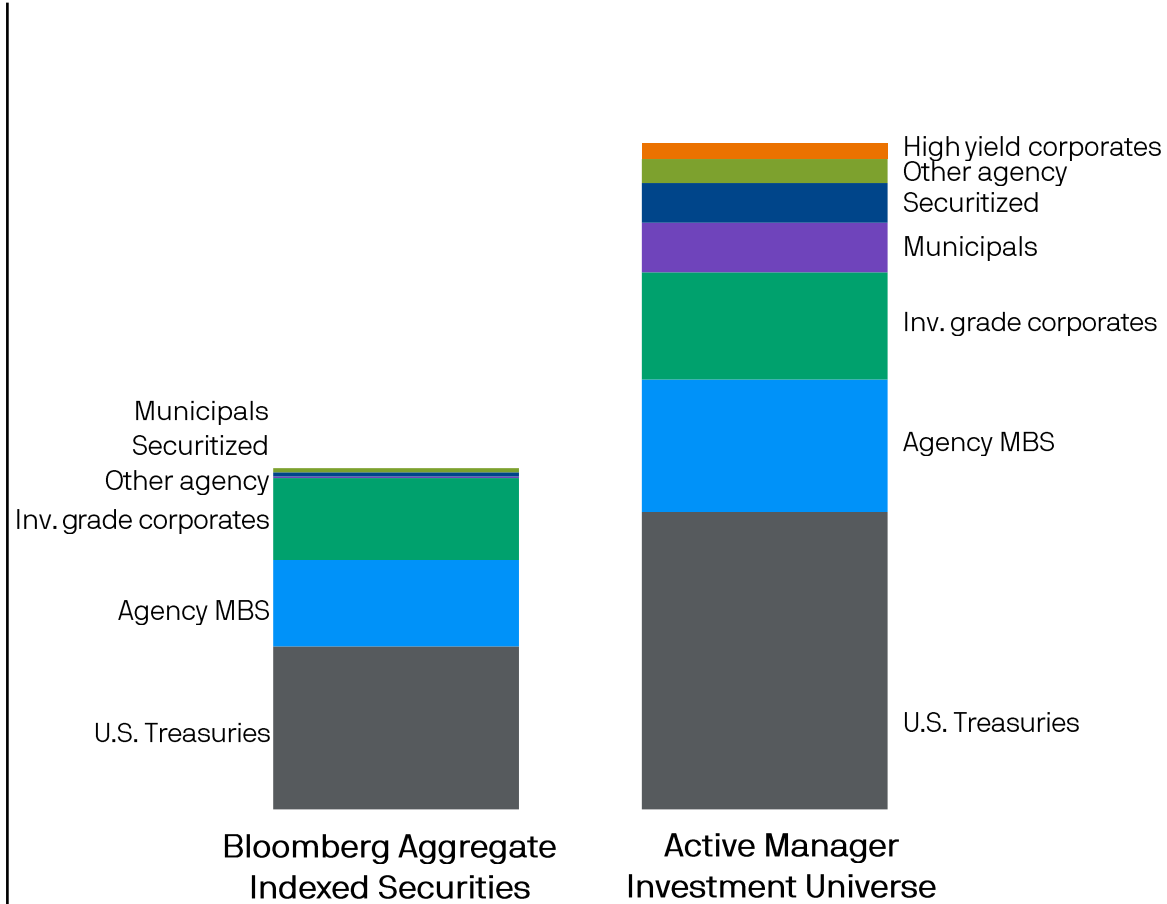
Source: Bloomberg, FactSet, J.P. Morgan Asset Management. *Trailing twelve months (TTM). **Other includes Muni Target Maturity (5), Derivative Income (4), Muni National Short (3), Securitized Bond - Diversified (3), Muni National Long (3), Emerging Markets Bond (3), Preferred Stock (2), High Yield Muni (2), Government Mortgage-Backed Bond (2), World Bond-D Hedged (2), Nontraditional Bond (2), Intermediate Government (2), Convertibles (2), Miscellaneous Fixed Income (2), Bank Loan (1), Inflation-Protected Bond (1), Long-Term Bond (1), Managed Futures (1), Commodities Broad Basket (1), Digital Assets (1), Trading--Miscellaneous (1).
 Guide to ETFs – U.S. Data as of March 31, 2026.



Growth runway for active ETFs in fixed income

Fixed Income Ecosystem

49% of the \$58 trillion U.S. bond market is not captured by the Bloomberg U.S. Aggregate Index



Source: Left- SIFMA as of July 28, 2025. World Federation of Exchanges as of July 2025. Right: Bank of America, Bloomberg, SIFMA, J.P. Asset Management as of July 2025. Guide to ETFs – U.S. Data as of March 31, 2026.

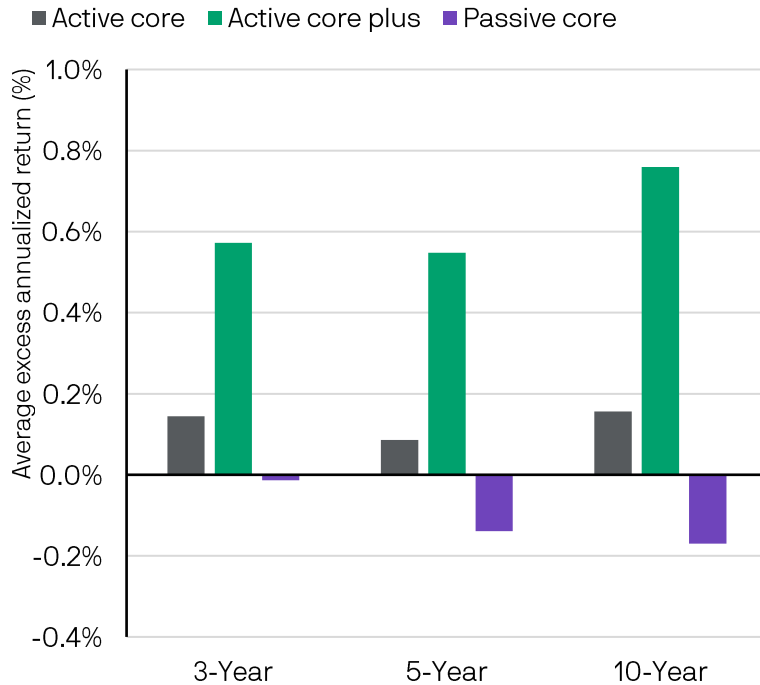


Active fixed income managers outperform their passive peers

Fixed Income Ecosystem

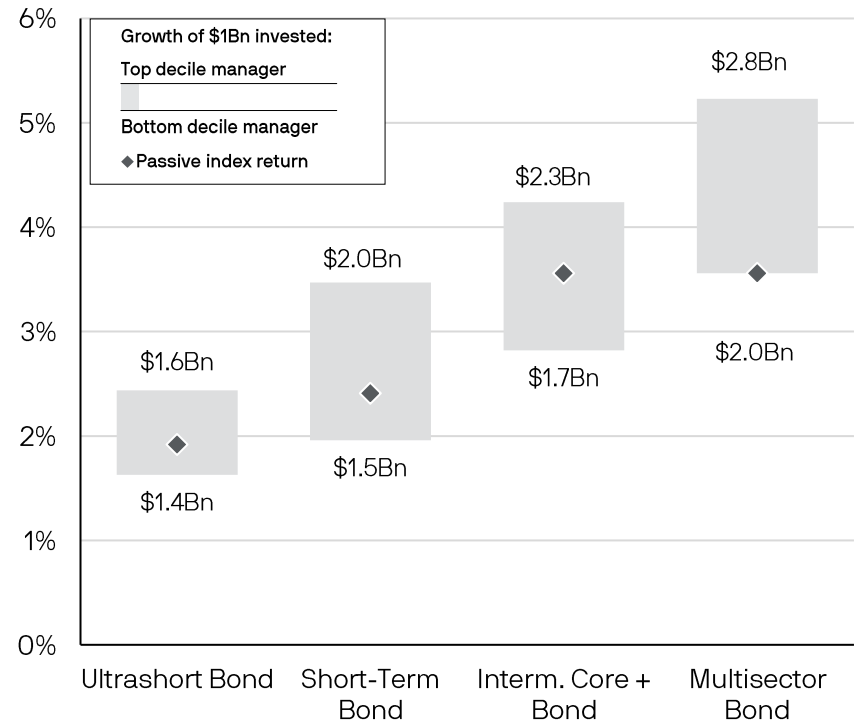
Active typically outperforms passive

Average excess annualized returns over the Bloomberg U.S. Aggregate Bond Index



Wide dispersion among top and bottom managers

20-year manager return dispersion and growth of capital (By asset type, annualized total returns, growth of \$1Bn invested 20 years ago*)



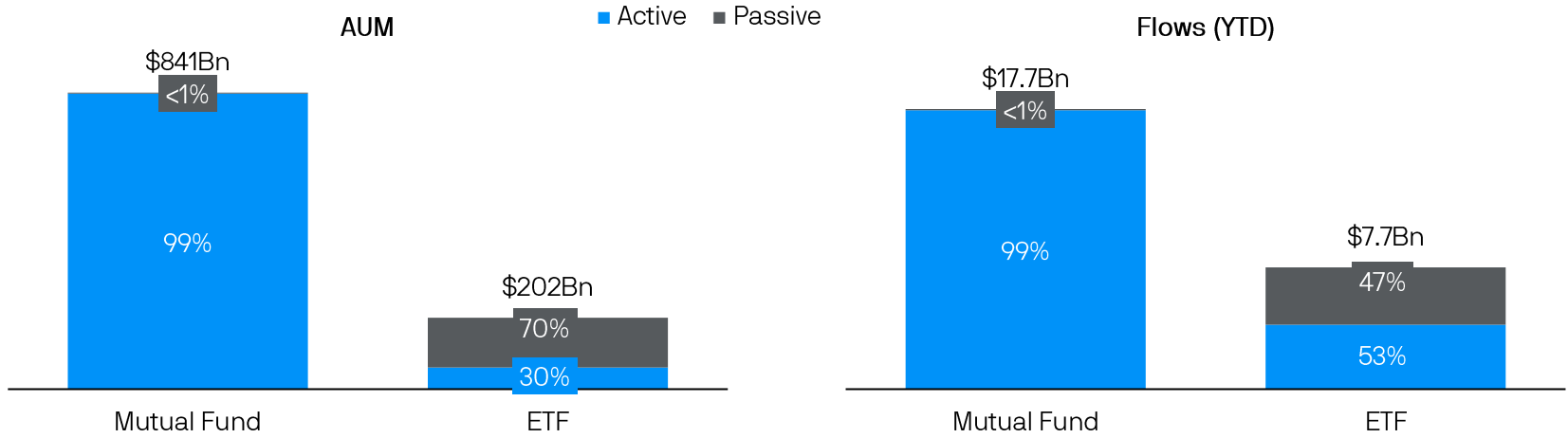
LHS: Morningstar, J.P. Morgan Asset Management analysis; charts reflect the most recently available data as of February 28, 2026. Analysis includes mutual funds and ETFs in the Morningstar intermediate core and intermediate core plus categories with a primary prospectus benchmark of the Bloomberg US Aggregate Bond Index. Only includes oldest share class. Past performance is not indicative of future returns. Core bonds typically hold less than 5% in below investment grade debt. RHS Source: Morningstar, J.P. Morgan Asset Management. *Represents average annual portfolio return dispersion between the 10th and 90th percentile over a 20-year period for each Morningstar Category, including mutual funds and ETFs. Returns are updated monthly and reflect data through March 31, 2026. This information is for illustrative purposes only, does not reflect actual investment results, is not a guarantee of future results and is not a recommendation. **Ultrashort Bond: Bloomberg Govt/Corp 1 Yr Duration Index, Short-Term Bond: Bloomberg 1-3 Yr U.S. Govt/Credit Total Return Index, Intermediate Core Plus Bond: Bloomberg U.S. Universal Total Return Index, Multisector Bond: Bloomberg U.S. Universal Total Return Index. Guide to ETFs – U.S. Data as of March 31, 2026.



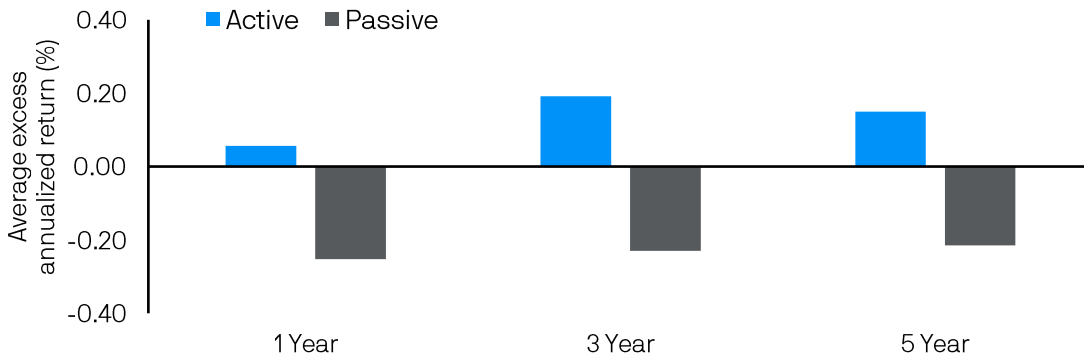
Muni ETF growth – the trend is active

Fixed Income Ecosystem

Municipal AUM and flows, by vehicle



Active intermediate municipal managers have delivered outperformance



Top 5 active municipal ETF issuers

Firm	AUM (\$Bn)	% of YTD flows
JPMorgan	14.2	14%
Capital Group	9.5	24%
Franklin Templeton	5.1	11%
BlackRock	4.6	<1%
PIMCO	4.4	8%

Source: Top: Morningstar, J.P. Morgan Asset Management. Data as of February 28, 2026. Bottom left chart: Morningstar, J.P. Morgan Asset Management analysis; charts reflect the most recently available data as of February 28, 2026. Analysis includes mutual funds and ETFs in the Morningstar Intermediate Municipal category with a primary prospectus benchmark of the Bloomberg Municipal Bond Index. Only includes oldest share class. Past performance is not indicative of future returns. Bottom right: Bloomberg, J.P. Morgan Asset Management. Guide to ETFs – U.S. Data as of March 31, 2026.

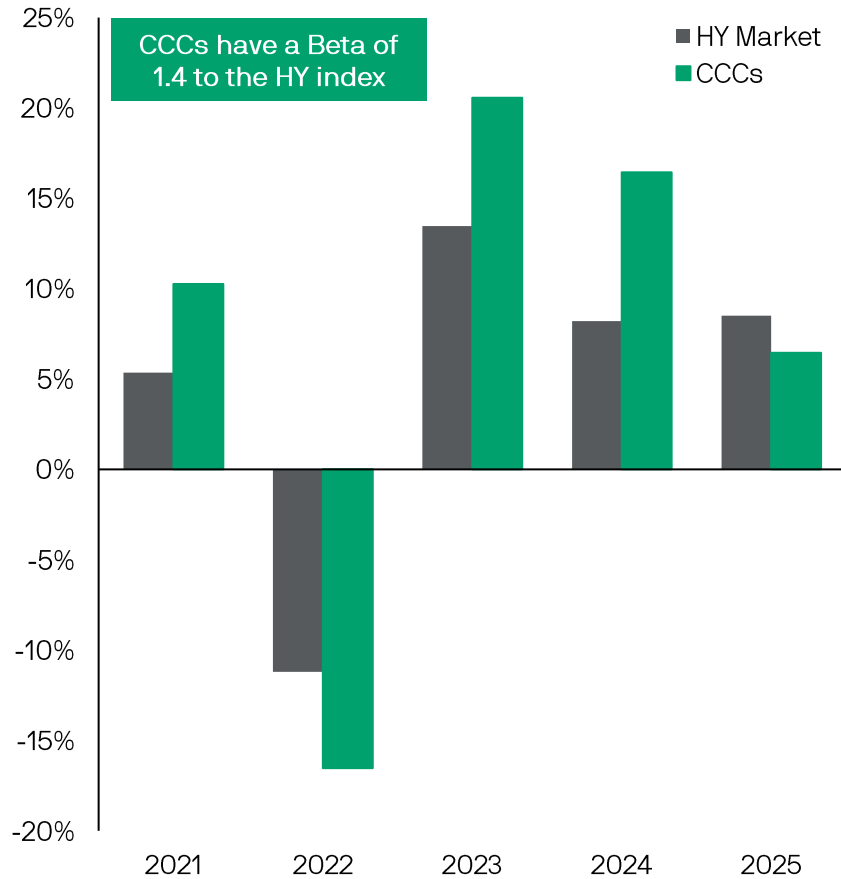


Navigating risk in the high yield market

Fixed Income Ecosystem

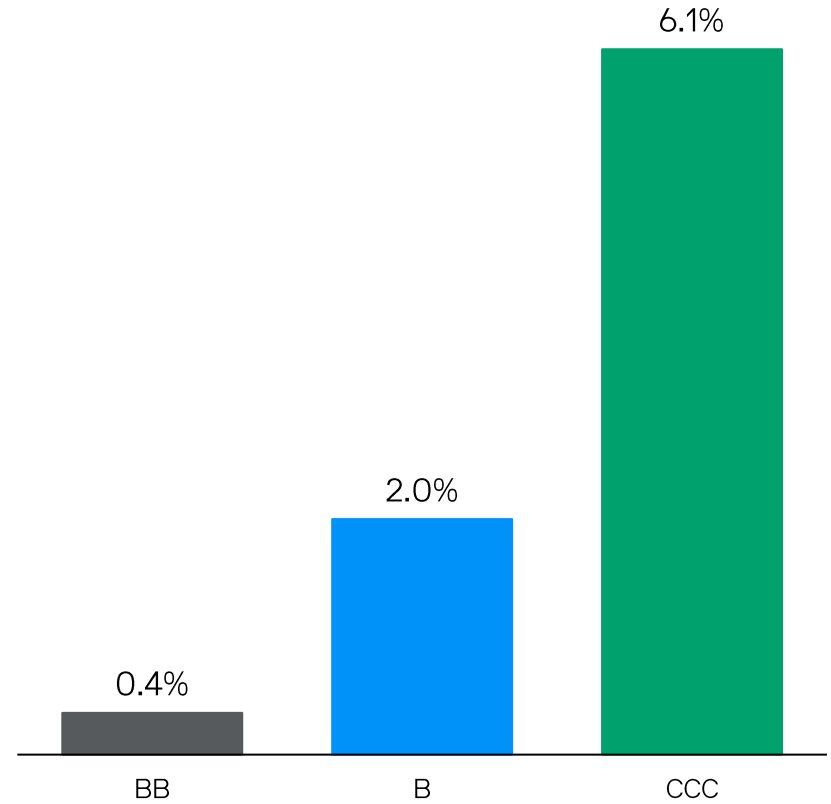
CCCs returns are volatile

Calendar year returns



Elevated default risks in CCCs

Default rates by rating – 12 months prior to default. 23-year average



Source: Left side: ICE; ICE BofA US High Yield Constrained Index and ICE BofA CCC and Lower US High Yield Constrained Index. Right side: JPMorganChase Commercial & Investment Bank (CIB). All data as of December 31, 2025. Guide to ETFs – U.S. Data as of March 31, 2026.



Top 10 industry leaders

Overall ETF leaders by YTD net flows (\$Mn)

Issuer	AUM	YTD flow	1Y flow	1M flow	2026 Organic growth rate	Total products/ last 12M
1 Vanguard	3,889,086	125,054	457,128	9,312	3%	113 / 23
2 BlackRock	4,028,760	88,480	401,615	30,544	2%	481 / 35
3 ProShares	104,060	22,112	20,504	5,441	24%	163 / 16
4 JPMorgan	291,083	19,115	67,964	6,087	7%	72 / 6
5 Capital Group	120,720	17,850	56,102	4,335	17%	25 / 3
6 Schwab	512,135	16,793	54,396	5,910	3%	34 / 1
7 SPDR	1,822,723	15,017	104,627	7,982	1%	183 / 23
8 DFA	258,078	13,621	45,207	4,171	6%	42 / 1
9 Avantis	110,901	12,275	34,537	2,532	13%	31 / 2
10 First Trust	241,020	10,330	24,973	2,145	4%	305 / 26
Other	2,252,982	113,633	371,512	25,942	5%	3,577 / 959
TOTAL	13,631,548	454,299	1,633,808	104,428	3%	5,026 / 1,095

Industry flows by category (\$Mn)

Overall exposure	YTD flow	AUM
Taxable Bond	133,839	2,199,667
International Equity	127,520	2,065,730
U.S. Equity	82,172	7,053,957
Sector Equity	46,786	1,169,042
Money Market	22,502	28,059
Nontraditional Equity	21,911	260,176
Municipal Bond	12,236	202,438
Allocation	4,304	40,830
Alternative	2,346	14,278
Leveraged/Inverse	975	238,142
Other	-292	359,229
Total	454,299	13,631,548

Active ETF leaders by YTD net flows (\$Mn)

Issuer	AUM	YTD flow	1Y flow	1M flow	2026 Organic growth rate	Total products/ last 12M
1 ProShares	23,821	21,958	23,407	3,414	897%	10 / 6
2 JPMorgan	220,932	18,164	61,054	6,036	9%	47 / 6
3 Capital Group	120,720	17,850	56,102	4,335	17%	25 / 3
4 BlackRock	103,875	17,354	57,657	10,085	20%	69 / 18
5 DFA	258,078	13,621	45,207	4,171	6%	42 / 1
6 Avantis	110,901	12,275	34,537	2,532	13%	31 / 2
7 Fidelity	73,885	8,409	23,396	2,465	12%	42 / 3
8 Neos LLC	22,200	5,959	17,669	1,854	34%	19 / 9
9 PIMCO	45,802	5,785	15,890	1,820	14%	22 / 9
10 First Trust	103,693	5,549	13,968	2,067	6%	190 / 21
Other	590,016	62,953	200,588	18,518	12%	2,368 / 815
TOTAL	1,674,101	189,946	549,364	57,323	13%	2,867 / 893

Industry flows by category (\$Mn)

Active exposure	YTD flow	AUM
Taxable Bond	51,029	479,229
U.S. Equity	37,092	493,462
International Equity	31,552	244,416
Money Market	22,502	28,059
Nontraditional Equity	21,485	239,534
Sector Equity	7,612	49,256
Leveraged/Inverse	5,670	33,330
Municipal Bond	5,651	61,857
Allocation	3,225	18,972
Alternative	2,333	12,464
Other	1,795	13,522
Total	189,946	1,674,101

Source: Bloomberg, FactSet, J.P. Morgan Asset Management. U.S. ETFs only; excludes ETNs. Leveraged/Inverse includes Inverse Equity, Leveraged Equity, Inverse Debt, Leveraged Debt, Leveraged Commodities, among others. The companies discussed are shown for illustrative purposes only. Their inclusion should not be interpreted as a recommendation to buy or sell. Organic growth rate calculated as YTD Flows / 2025 AUM.

Guide to ETFs – U.S. Data as of March 31, 2026.

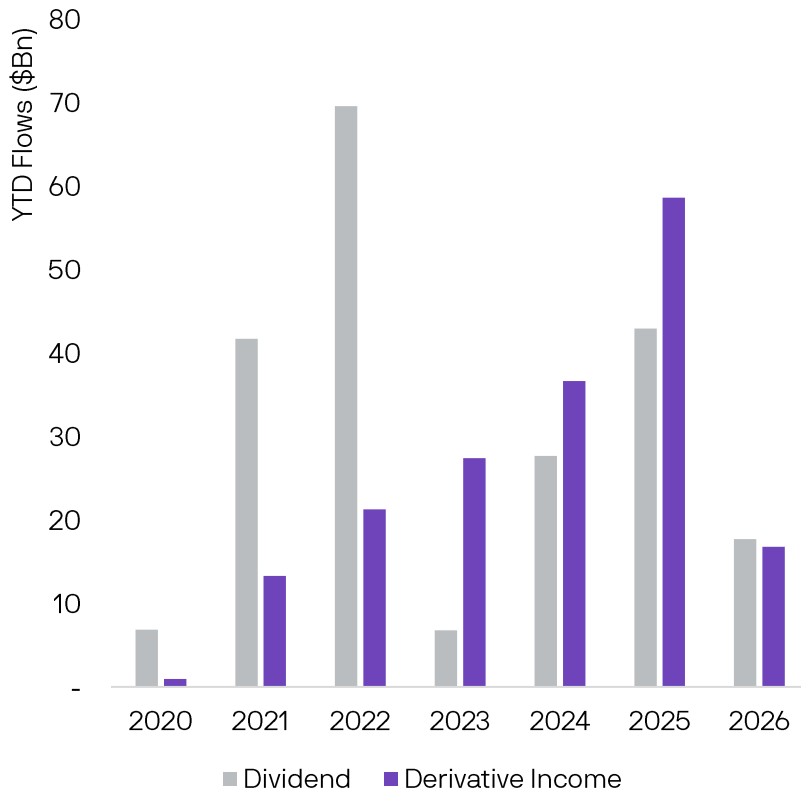


Alternative sources of income from equities

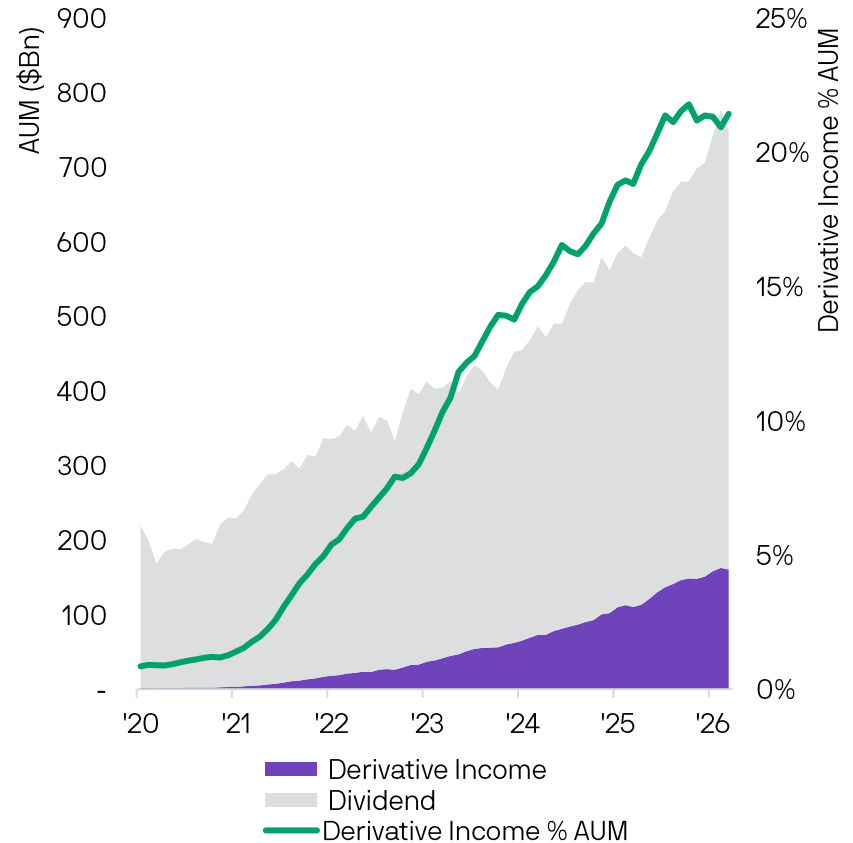
Investors are rethinking how to achieve income from equity allocations

Trends

Derivative Income and Dividend ETF flows, by year



Derivative Income and Dividend ETF AUM

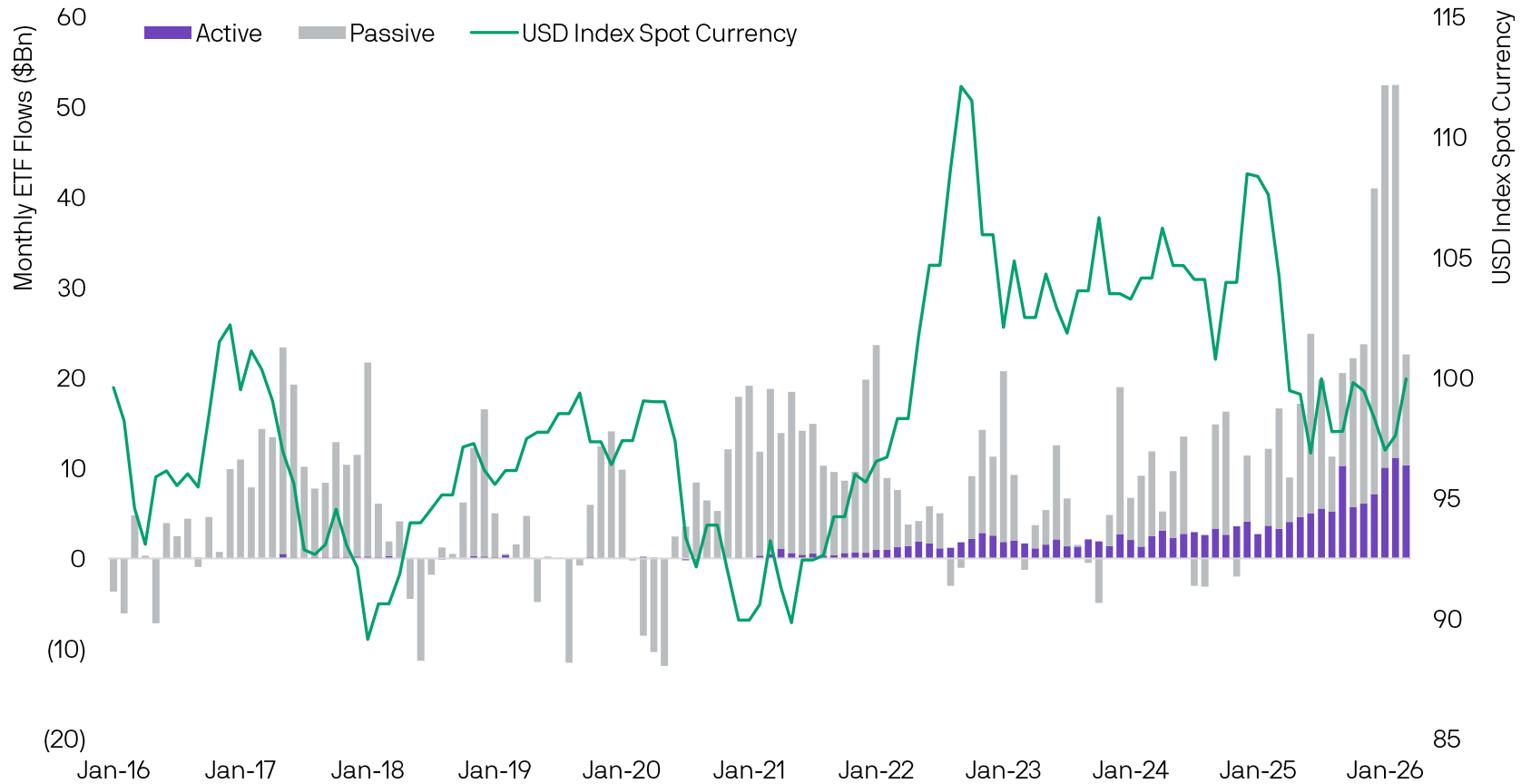


Source: Bloomberg, J.P. Morgan Asset Management. Guide to ETFs – U.S. Data as of March 31, 2026.



International equity ETF flows

International equity flows are increasing amidst US dollar weakness

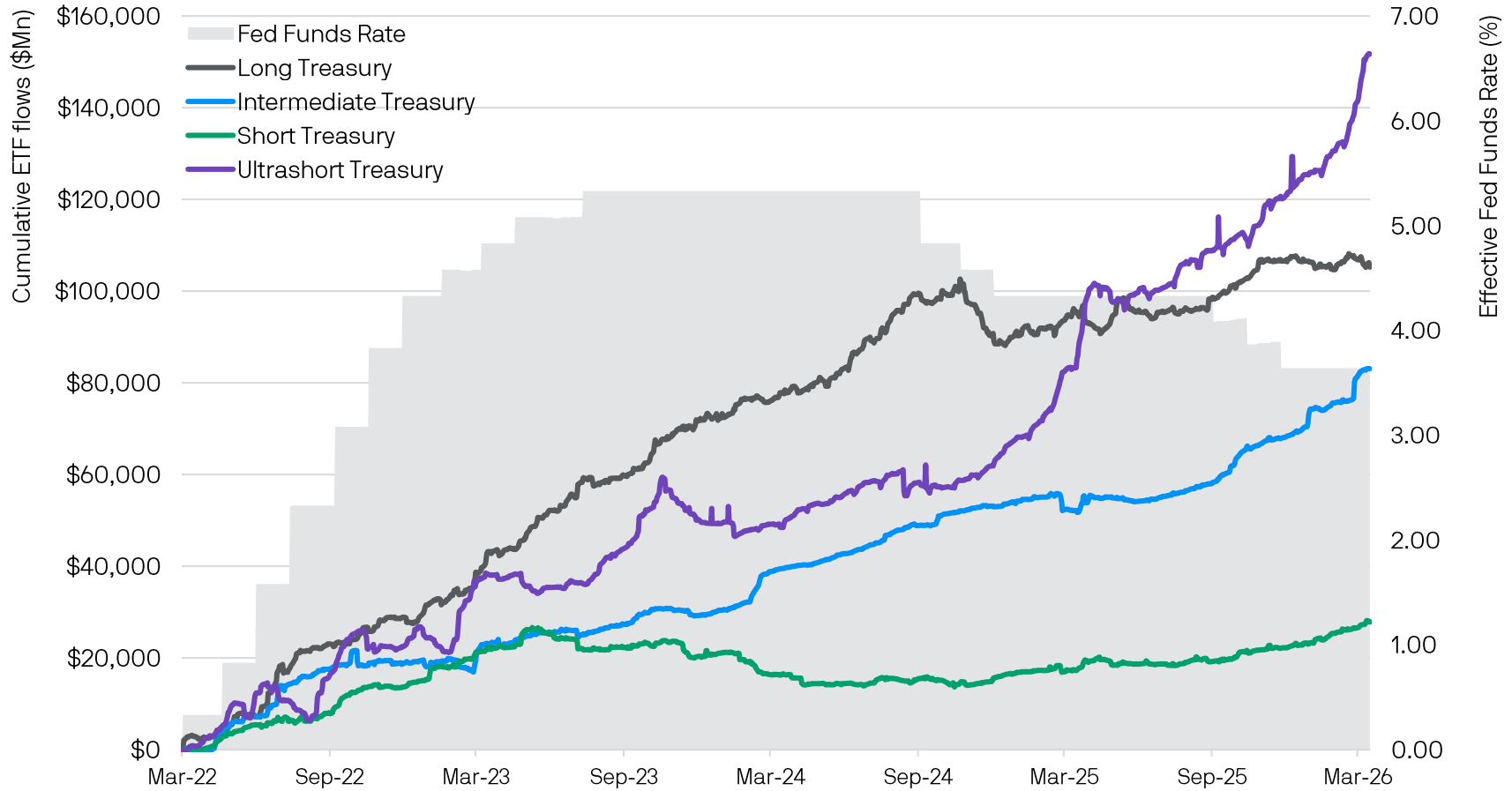


Source: Bloomberg, Morningstar, J.P. Morgan Asset Management. Guide to ETFs – U.S. Data as of March 31, 2026.



Treasury ETF flows since the Fed's first rate increase

ETF Treasury flows have favored the long end of the yield curve



Trends

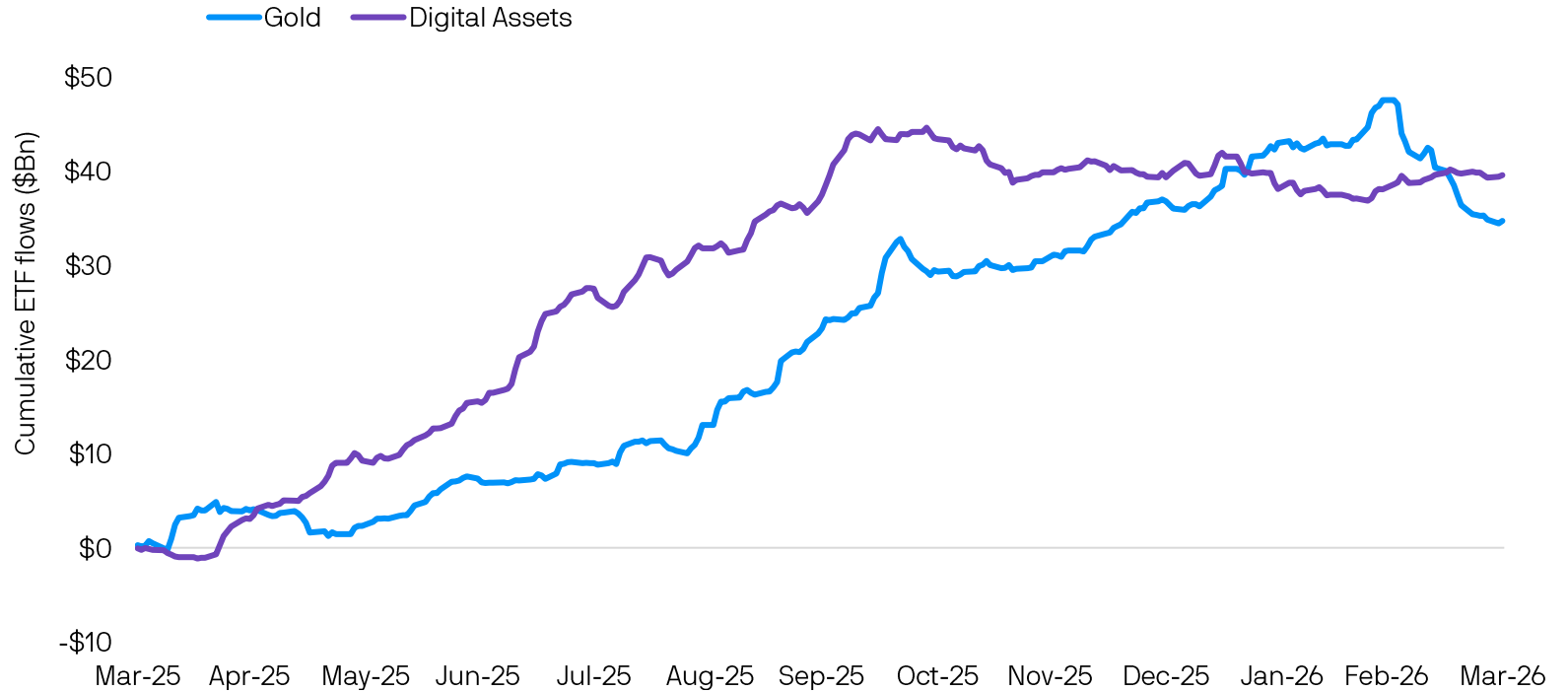
Source: Bloomberg, J.P. Morgan Asset Management. Guide to ETFs – U.S. Data as of March 31, 2026.



Digital currency and gold ETFs flows

Trends

Currency flows in TTM*



	April	May	June	July	August	September	October	November	December	January	February	March
Gold Monthly Flow	3,679	-1,617	5,024	1,622	4,050	10,270	6,044	1,099	6,354	6,188	4,569	-12,819
Digital Assets Monthly Flow	3,118	6,184	6,298	11,973	4,296	5,822	6,035	-3,339	-348	-1242	-29	1,547

Source: Bloomberg, Morningstar, J.P. Morgan Asset Management. Digital Assets represented by all ETFs in the digital assets Morningstar category. *TTM (Trailing 12 months).
 Guide to ETFs – U.S. Data as of March 31, 2026.

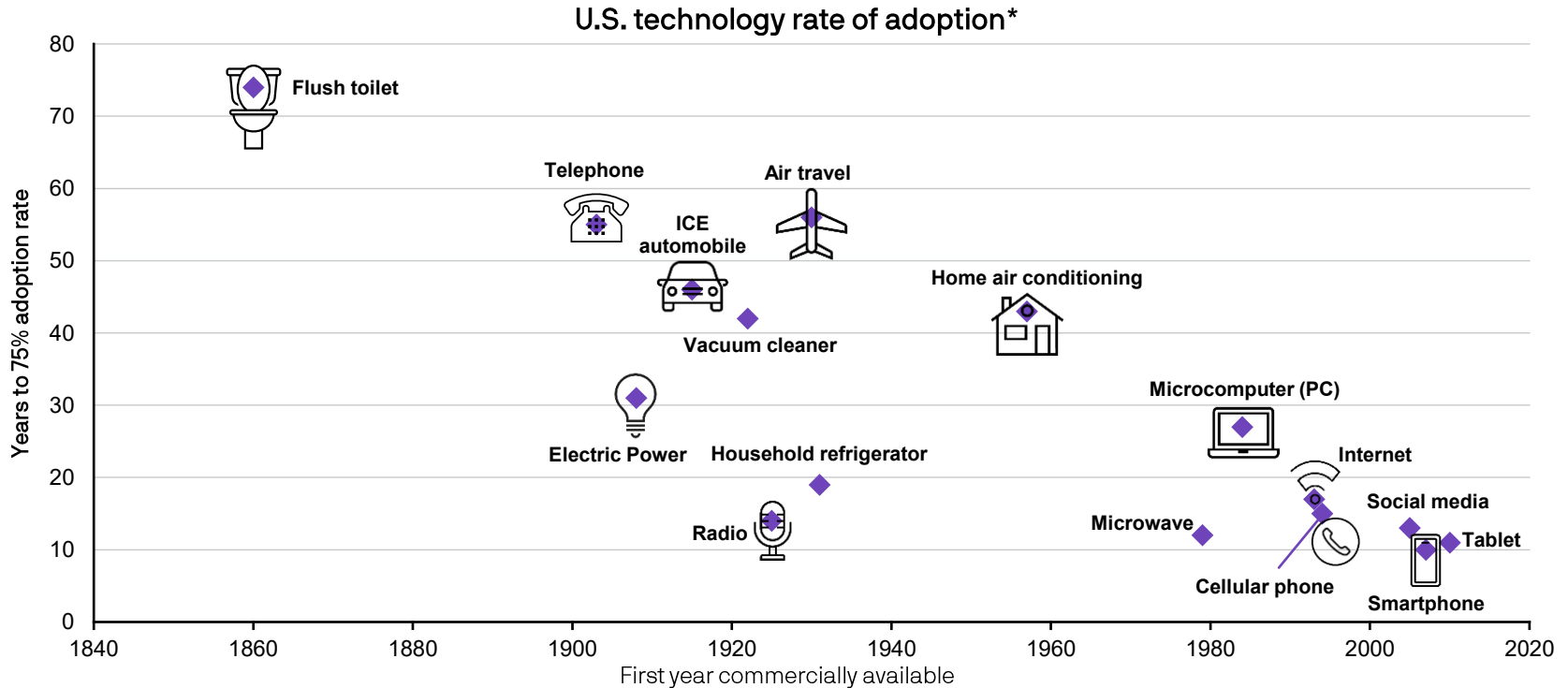


Defining a theme

Themes are:

- A disruption that alters a paradigm and assumes the future will differ from the past. Sector agnostic.
- Sector, geographically and market size agnostic – though leans toward mid to small cap.
- ETFs have democratized thematic investing to a certain extent, though it is limited to companies in the public domain.
- A concept begins as a theme and then becomes ubiquitous. Electricity, telephone, railroads were all transformative themes at one point.

Trends



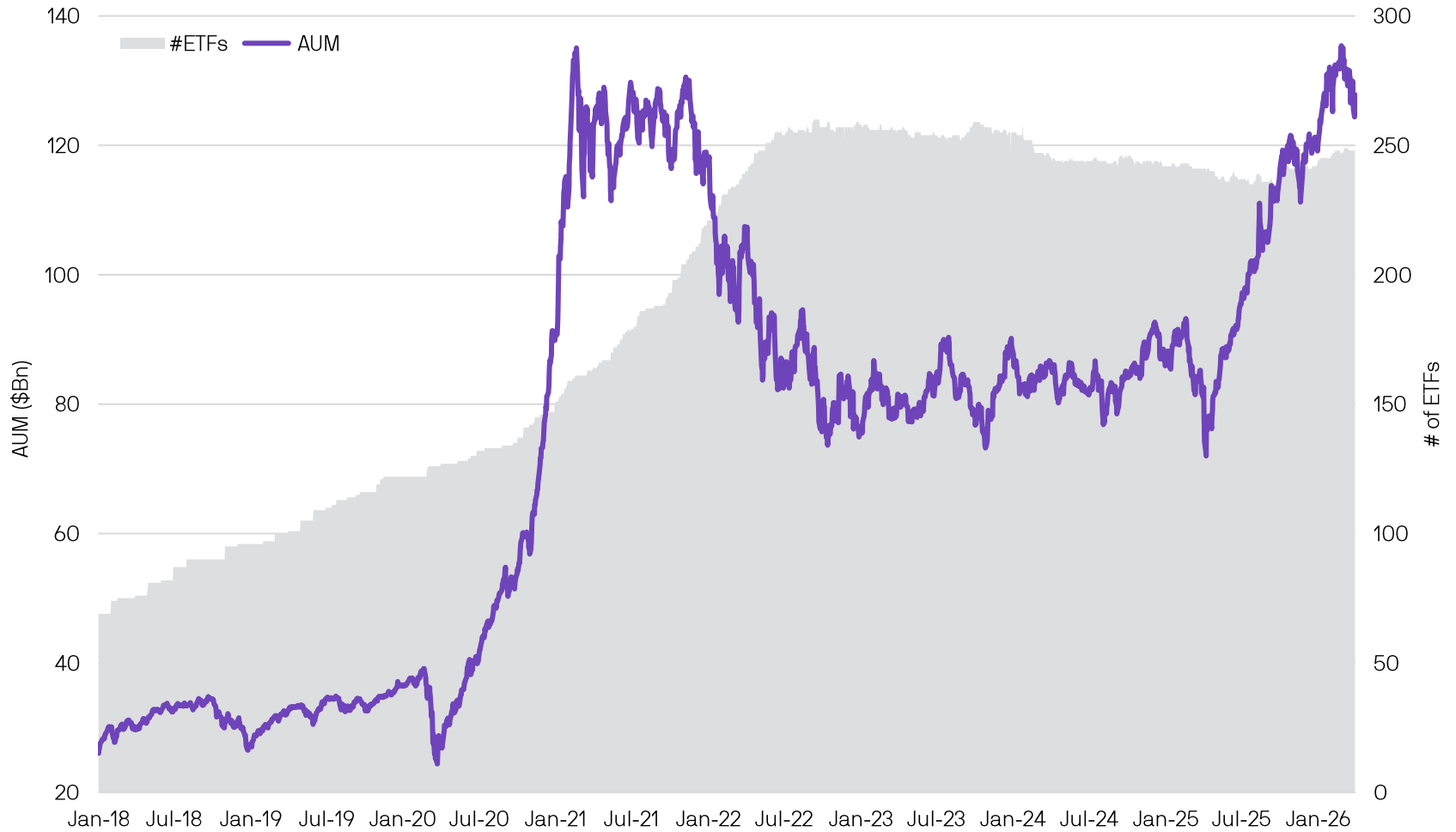
Source: Asymco, compiled from various sources with support of the Clayton Christensen Institute, J.P. Morgan Asset Management.
 *Estimated from current adoption trends. Chart is exhibit 5 in "The transformative power of generative AI: Supercharged productivity or mass joblessness?" by J.P. Morgan Asset Management.
 Guide to ETFs – U.S. Data as of March 31, 2026.



The timeline of thematic ETF AUM

Trends

Thematic ETF Growth



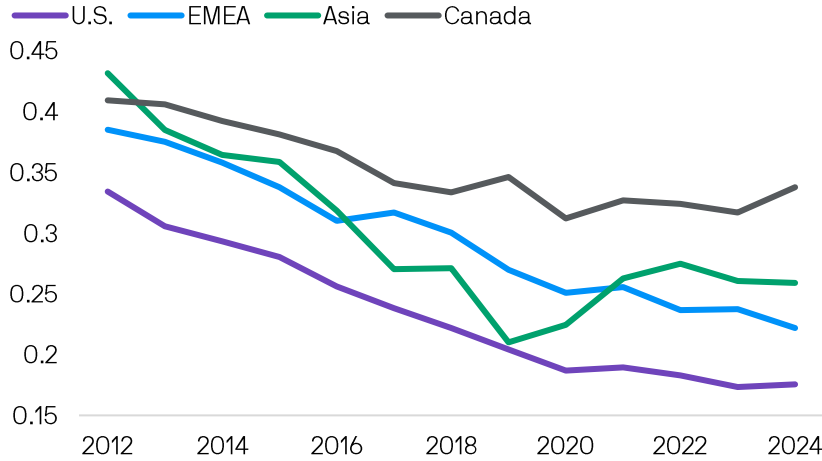
Source: Bloomberg, J.P. Morgan Asset Management. Guide to ETFs – U.S. Data as of March 31, 2026.



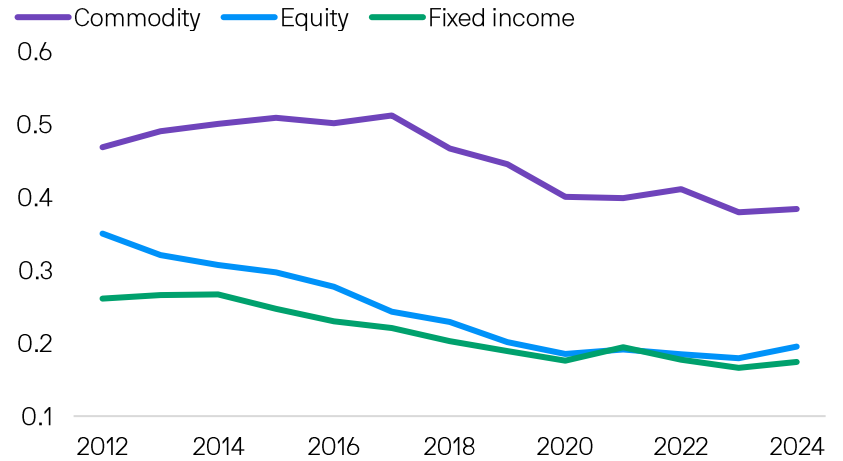
Understanding ETF fees over time

Trends

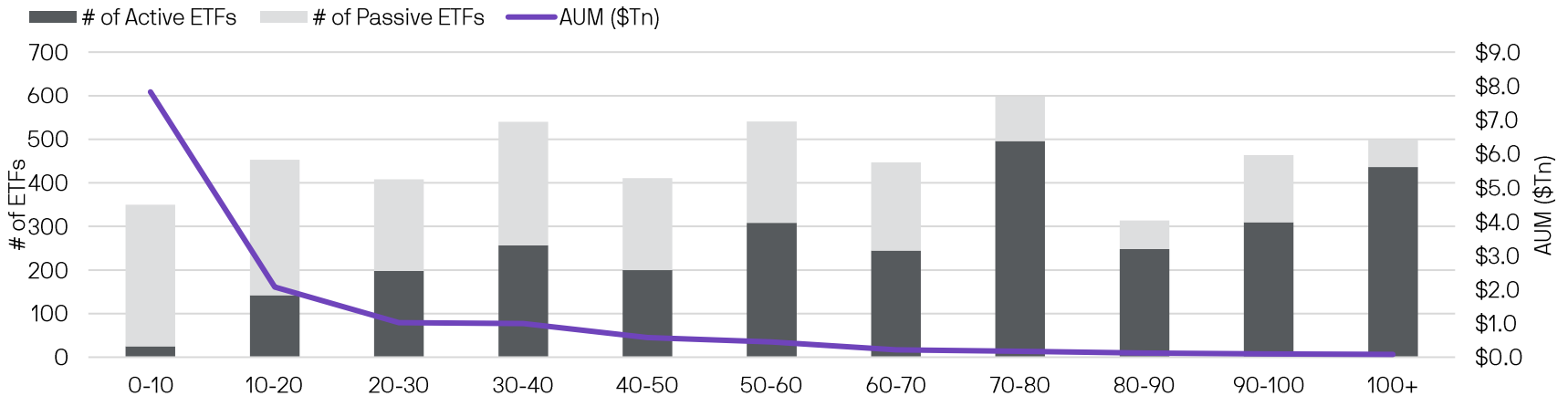
AUM-weighted average fees, by region



AUM-weighted average fees among global ETFs, by asset class



U.S. ETF assets, by fee band



Source: Top left and right graphs: 2024 JPMorgan ETF Handbook; J.P. Morgan Quantitative and Derivatives Strategy, Bloomberg Finance L.P. Data points as of May of each respective year. Bottom graph: J.P. Morgan Asset Management, Bloomberg. Guide to ETFs – U.S. Data as of March 31, 2026.



Why ETF model portfolios are on the rise

Trends

Benefits of models



Investment Management Expertise



Business Scalability



Diversification

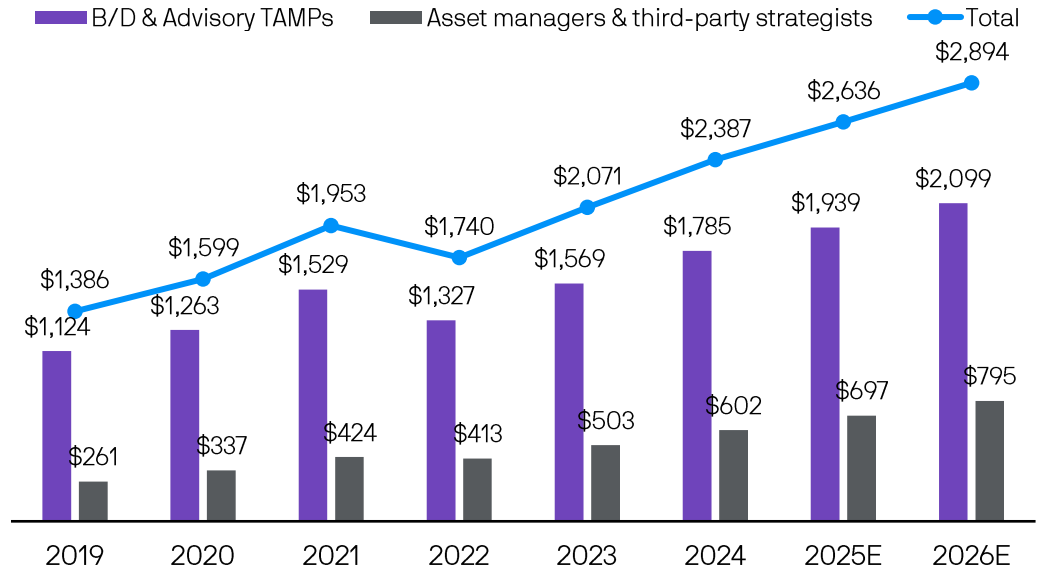


Time-saving

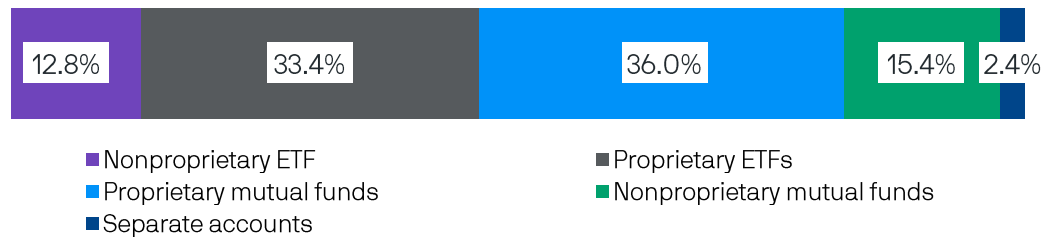


Due Diligence

Asset allocation model portfolios asset projection, 2019 – 2026E



Asset-weighted average model allocation to investment vehicle type



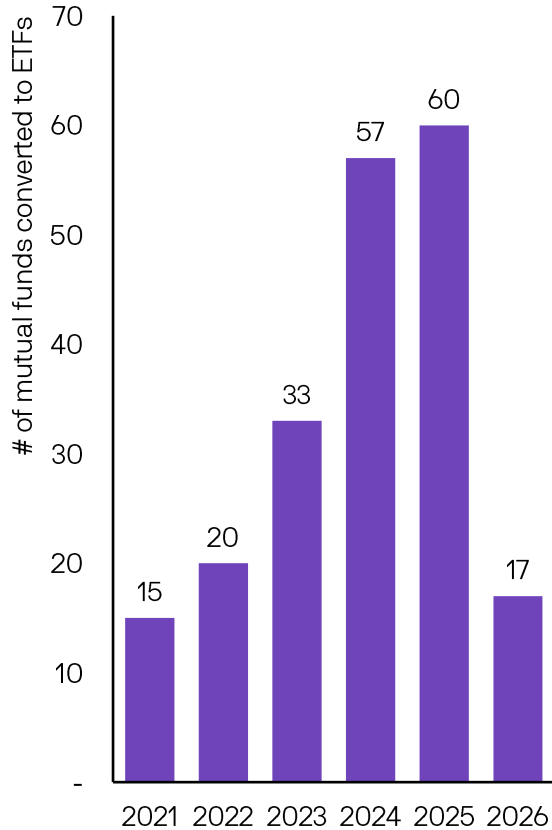
Source: J.P. Morgan Asset Management, Cerulli Associates, U.S. Asset Allocation Model Portfolios 2024. Bottom Right: Cerulli Associates, 2024. For illustrative purposes only. Guide to ETFs – U.S. Data as of March 31, 2026.



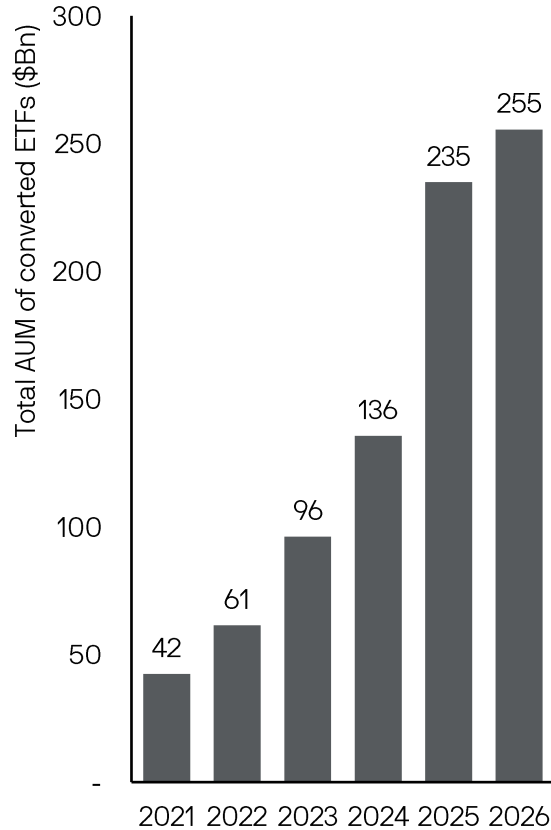
Mutual fund to ETF conversions

Trends

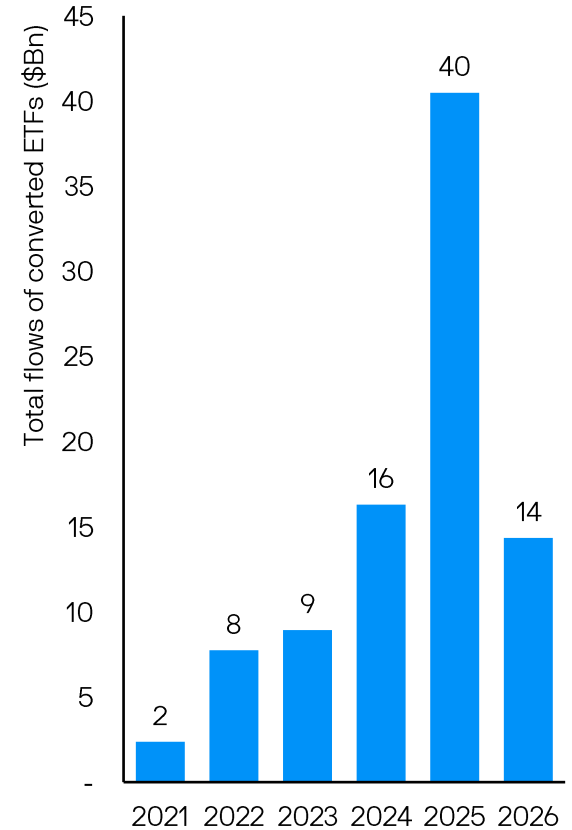
Mutual fund to ETF conversions, by year



Total assets in converted ETFs



Total flows into converted ETFs



Source: Morningstar, J.P. Morgan Asset Management. Guide to ETFs – U.S. Data as of March 31, 2026.



Investment vehicle comparison

	ETF	Mutual Fund	Separately Managed Account
Diversification	Broad portfolio typically has many stocks or bonds	Broad portfolio typically has many stocks or bonds	May be limited to the size of the account
Tradability	Can buy or sell shares on an exchange, throughout the day	Can buy or sell shares directly through the mutual fund company or brokerage account, at the end of the day	Can buy or sell assets directly through the management company, typically on a best-efforts basis
Access to assets	Throughout the day	End of day	Throughout the day
Tax efficiency	Capital gains are generally triggered by the individual when they sell their shares of the ETF	Capital gains are triggered by the fund manager as gains are realized through sell transactions inside the fund	Typically, capital gains or losses can be managed to investor's needs
Fees	Expense ratio, plus possible trading costs	Expense ratio, including 12b-1 fees, plus possible sales charge	Typically based on a percentage of account assets
Direct ownership of securities	No	No	Yes
Portfolio customization	No	No	Yes

Source: J.P. Morgan Asset Management. For illustrative purposes only. Guide to ETFs – U.S. Data as of March 31, 2026.



ETF characteristics and benefits



Transparent

- Daily holdings disclosure leads to more visibility of underlying securities, *better pricing during market stress and tighter spreads*



Liquid

- Exchange trading provides *intra day liquidity*
- Constant bid/ask prices enhance *price discovery*, especially in illiquid market segments



Cost-effective

- One fee structure, lower expense ratios and operational innovations translates to *lower costs* for investors



Tax-efficient

- Secondary market activity assists in *lowering portfolio turnover*
- In-kind redemptions capabilities may help *reduce taxable trading activity*



Accessible

- Provides access to diverse asset classes that may or may not be easily available to all investors, whether active or passive, with *no minimum investment thresholds*

Source: J.P. Morgan Asset Management. For illustrative purposes only. Investors must buy and sell units on a secondary market with the assistance of an intermediary (e.g. a stockbroker) and may incur fees for doing so. In addition, investors may pay more than the current net asset value when buying units and may receive less than the current net asset value when selling them. The tax treatment depends on the individual circumstances of each client and may be subject to change in the future.
Guide to ETFs – U.S. Data as of March 31, 2026.



ETF transparency allows investors to know what they own

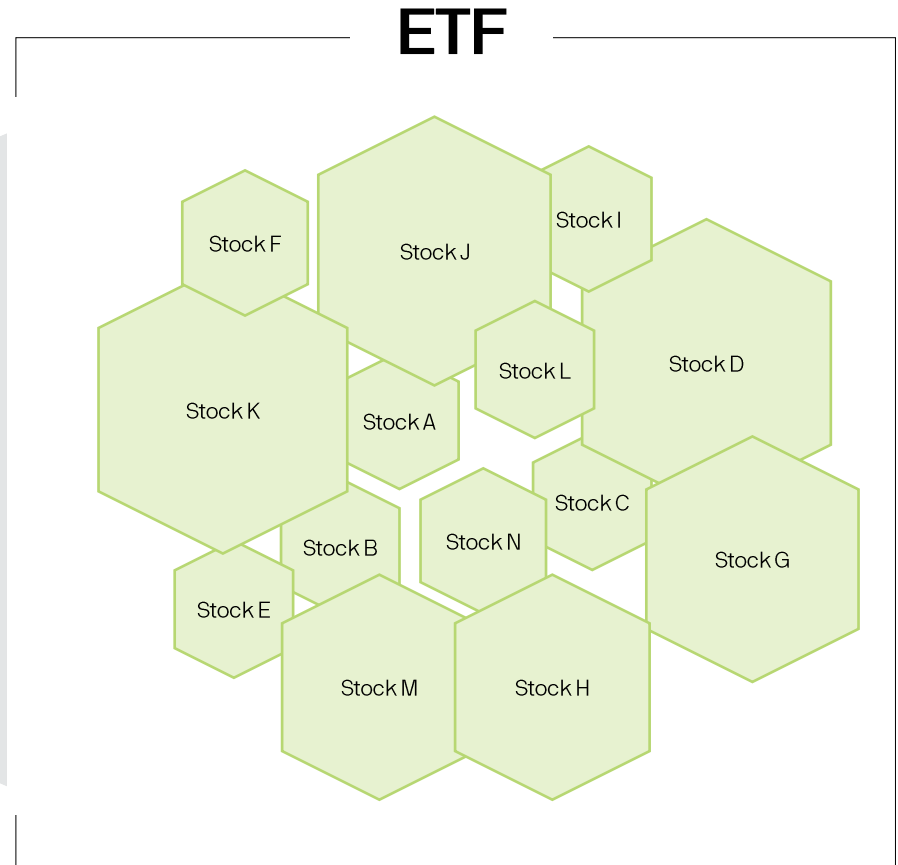
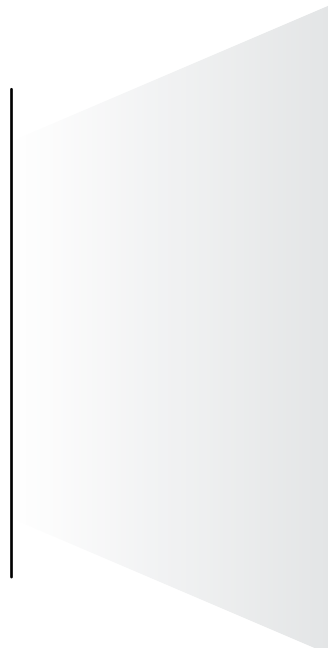
GTE

U.S.

41

ETF transparency allows:

- Better understanding of portfolio holdings/portfolio overlap
- Ability for daily performance attribution
- Tighter bid/offer spreads

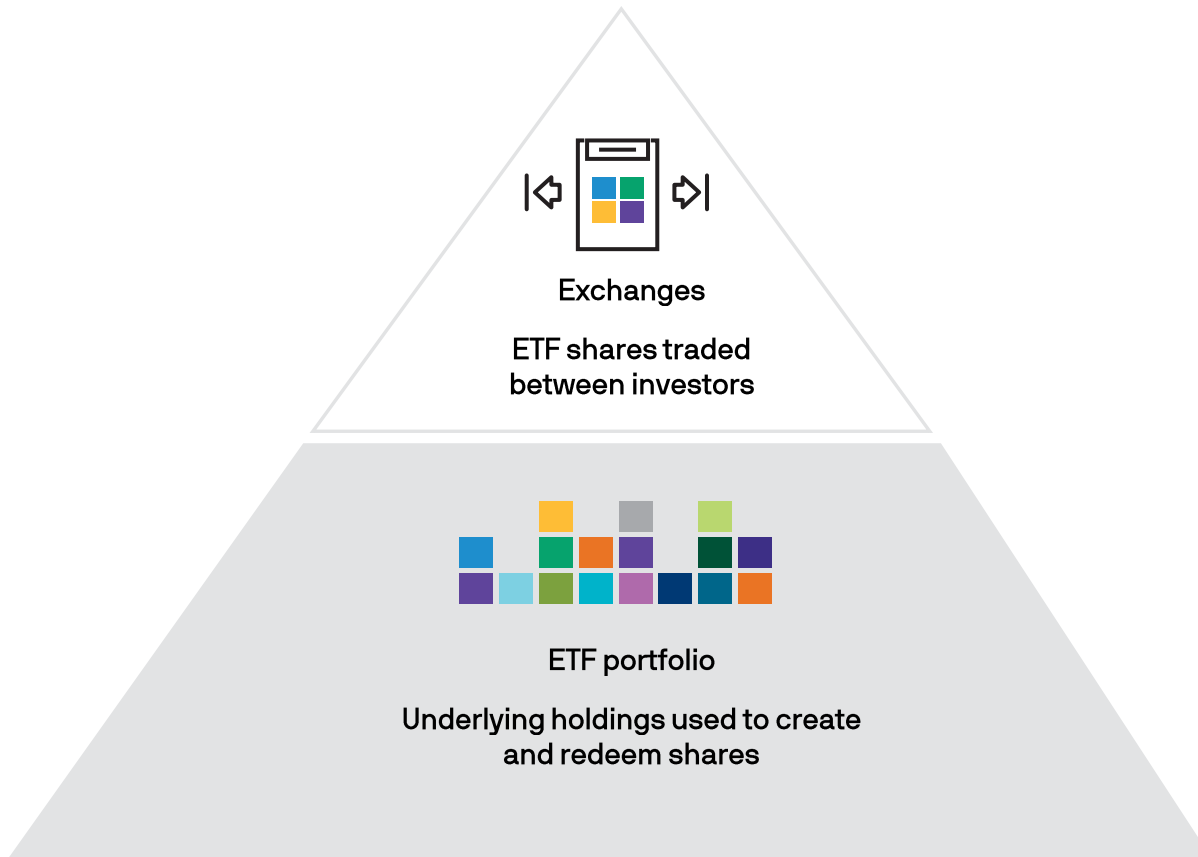


Source: J.P. Morgan Asset Management. For illustrative purposes only. Guide to ETFs – U.S. Data as of March 31, 2026.



ETFs offer more liquidity than meets the eye

Morningstar U.S. active equity large cap value ETF category (78 active ETFs)



Average daily trading volume
\$5.5Mn

+

Average daily trading volume
\$6.1Bn

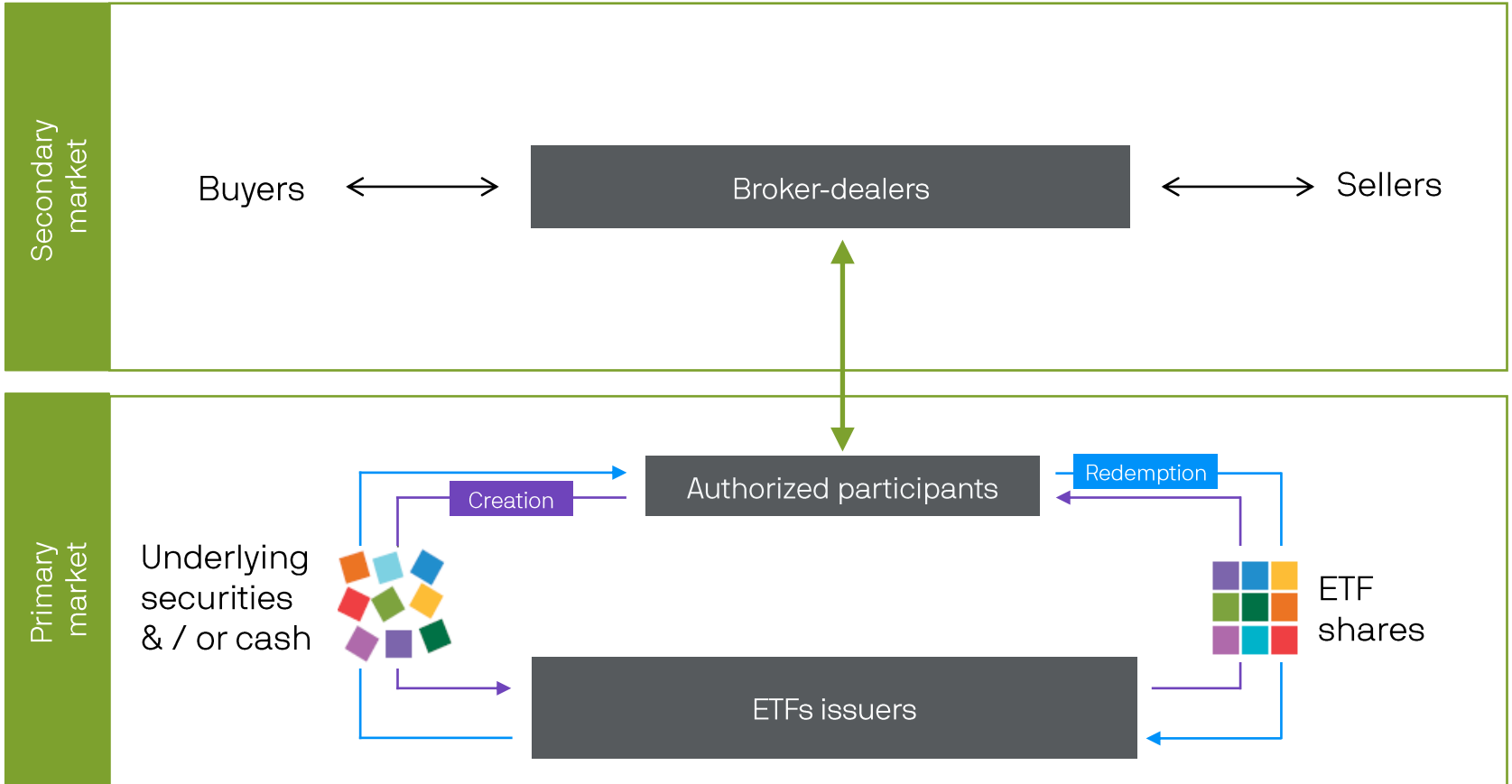
Source: Bloomberg, J.P. Morgan Asset Management; as of December 31, 2025. Top of the pyramid represents the average of the 3-month period average daily volume (ADV) for the 78 active ETFs in the category ending December 31, 2025. The bottom of the pyramid represents the average of the 3-month period ADV of the underlying baskets for the 78 active ETFs in the category ending December 31, 2025. For illustrative purposes only.
Guide to ETFs – U.S. Data as of March 31, 2026.



How liquidity is brought to investors

Creation and redemption process across active and passive ETFs

Principles of ETF Investing

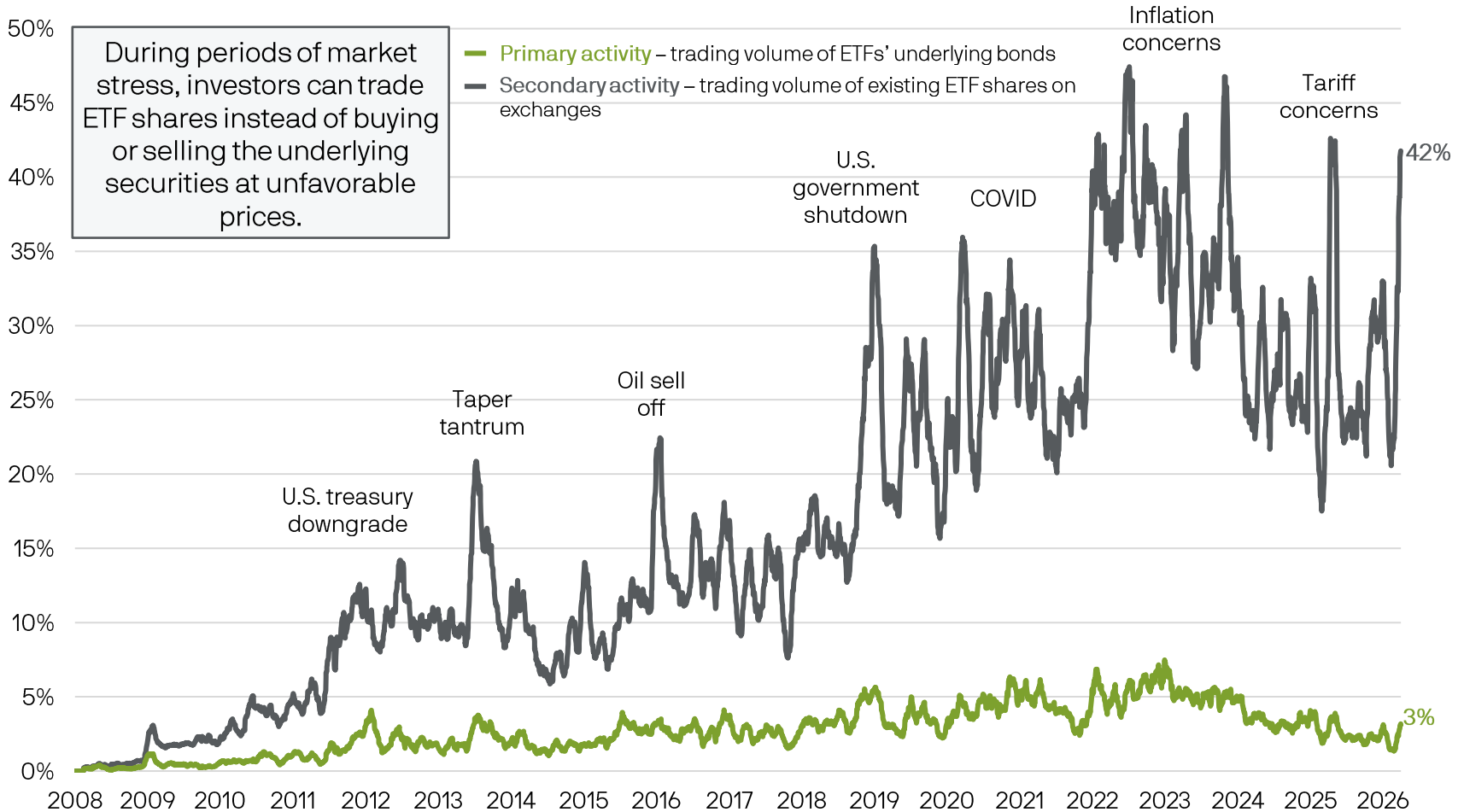


Source: J.P. Morgan Asset Management. For illustrative purposes only. Guide to ETFs – U.S. Data as of March 31, 2026.



Market stress highlights ETFs' liquidity powers

High yield ETF trading volume in periods of market stress Share (%) of 20-day rolling average trading volume of overall high yield bond market

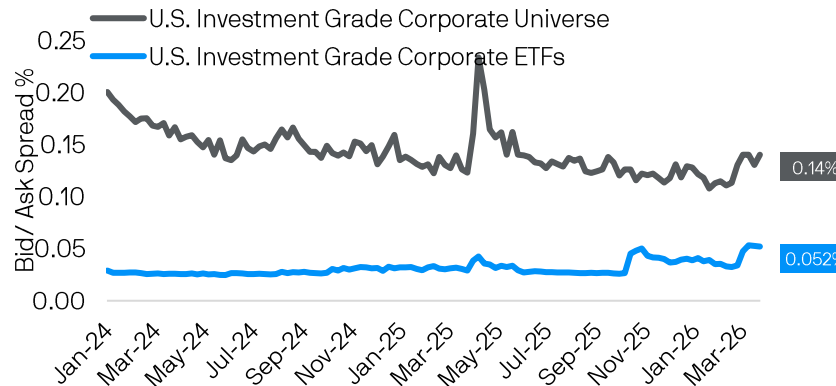
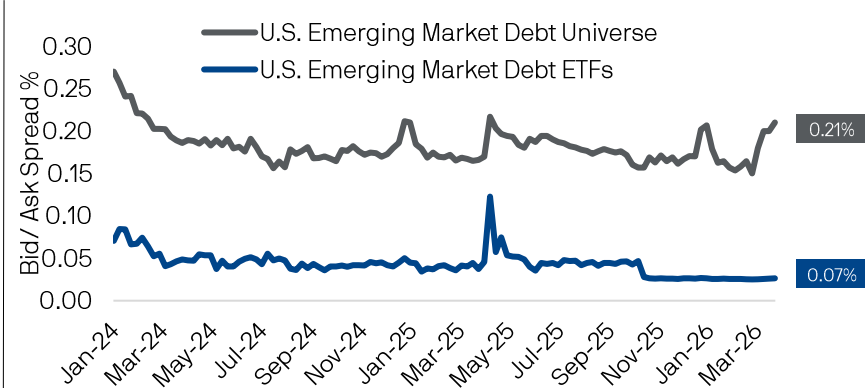
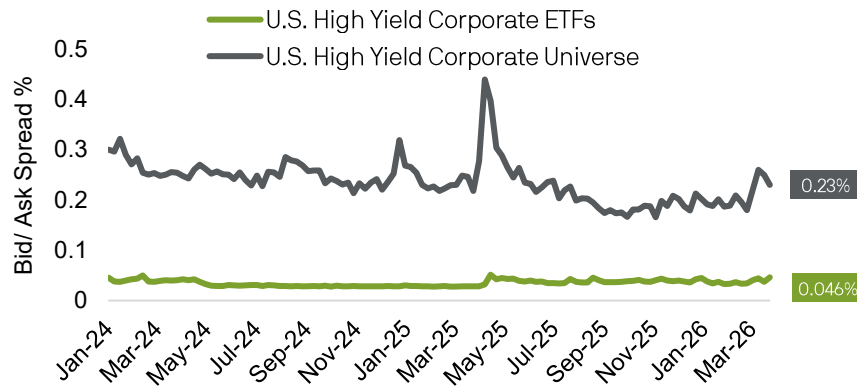


Source: Bloomberg, J.P. Morgan Asset Management. High yield ETF market is represented by HYG, JNK, IFLN, HYL B, SJNK, SHGY, USHY, HYL S, ANGL, HYS, BSJL, BSJM, BSJK and BBHY. High yield bond market is represented by FINRA TRACE Market Breadth High Yield Bond Dollar Volume (NTMBHV) and FINRA TRACE 144a HY \$ Vol (NTMB4HYV). Guide to ETFs – U.S. Data as of March 31, 2026.



Cost benefits of ETFs

ETFs historically have tighter spreads than the underlying bonds



- Underlying high yield securities trade on average **6.8x wider** compared to overall ETF
- Underlying emerging market securities trade on average **4.2x wider** compared to overall ETF
- Underlying investment grade securities trade on average **4.6x wider** compared to overall ETF

Principles of ETF Investing

Source: Bloomberg, MarketAxess, J.P. Morgan Asset Management. High Yield (HY) Corporate ETFs represented by the top 10 HY ETFs by AUM in the Morningstar High Yield category. Emerging Market Debt (EMD) Corporate ETFs represented by the top 5 EMD ETFs by AUM in the Morningstar EMD category. Investment Grade (IG) Corporate ETFs represented by the top 10 IG ETFs by AUM in the Morningstar IG category. Data as of March 23, 2026.
Guide to ETFs – U.S. Data as of March 31, 2026.



Commons basket types used for creations and redemptions

Under the ETF Rule (SEC 6c-11), issuers have the flexibility to publish up to 6 different baskets, to be used by Authorized Participants (AP) to create or redeem ETF shares, to meet specific business objectives. With the exception of the standard basket, the others are considered *custom baskets*.

Standard	Create	Redeem
Required to be published every day. Can be pro-rata or optimized and may be used for creations or redemptions	Typically optimized to improve liquidity or minimize transaction costs	Typically optimized to improve liquidity, minimize transaction costs or to improve tax efficiency
Rebalance	Restricted	Negotiated
Typically used for more efficient portfolio rebalancing which can also lead to improved tax efficiency	Similar to a Rebalance basket, but often restricted to a single AP	The only basket published intraday. Normally, an optimized basket of fixed income securities negotiated between AP and portfolio managers

Source: J.P. Morgan Asset Management. For illustrative purposes only. Guide to ETFs – U.S. Data as of March 31, 2026.



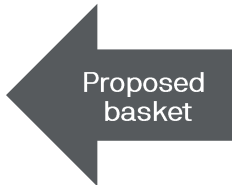
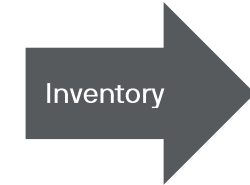
Negotiated basket workflow for fixed income ETFs

Creation example

Market maker

1 Proposes a list of bonds in inventory or that they can easily source


4 Accepts or rejects proposed basket and can provide an alternative basket for consideration




ETF portfolio manager

2 Determines which of those bonds fit in the portfolio based on pre-established criteria

3 Proposes a creation basket that combines cash and the selected bonds



Transaction often targets constant shape of the portfolio (duration, spread, sector)



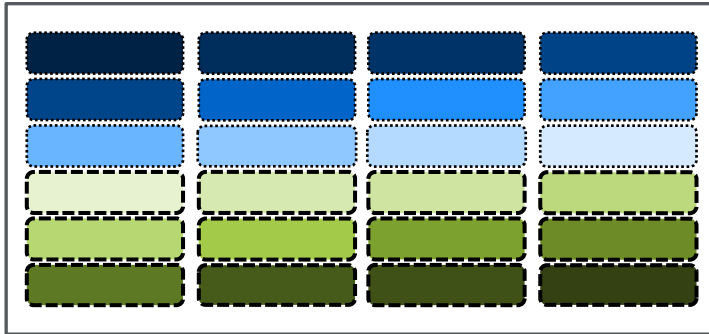
Technology often aids the negotiation process





Enhanced tax efficiency through redemption baskets

The use of a redemption basket in lieu of a standard basket for primary market activity may lead to greater tax efficiency

Standard basket



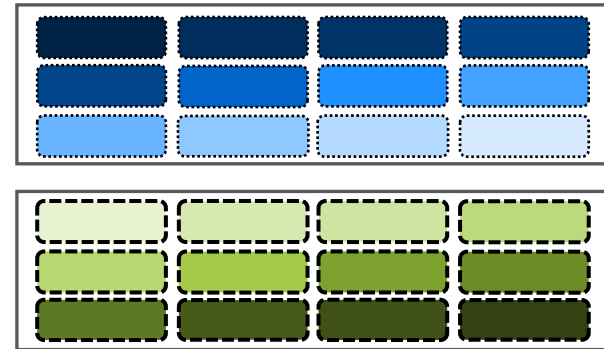
-  Securities with unrealized gains
-  Securities with unrealized losses

Standard basket

- In-kind, pro-rata slice of the portfolio
- Cash component of the basket is minimized

Redemption basket

OR



Redemption basket

- Issuer can in-kind out securities with unrealized gains
- Securities with losses can be sold for cash to crystallize losses and offset realized gains in the portfolio



Tax efficiency spectrum across mutual funds and ETFs

ETF wrapper allows for greater tax efficiencies than the mutual fund wrapper for two main reasons:

- ETFs trade on exchange, allowing shares to exchange hands without the need for trading the underlying portfolio
- ETFs that redeem in-kind can transfer securities out of the portfolio to meet the redemption, as opposed to having to sell holdings to raise cash



Potential for less capital gains

Potential for more capital gains



Principles of ETF Investing

Passive ETFs

- + Trade on exchange
- + Lower portfolio turnover
- + Shares are often created / redeemed in-kind

Active ETFs

- + Trade on exchange
- Higher portfolio turnover
- + Shares are often created / redeemed in-kind

Passive mutual funds

- No exchange trading
- + Lower portfolio turnover
- Shares are created / redeemed in cash

Active mutual funds

- No exchange trading
- Higher portfolio turnover
- Shares are created / redeemed in cash

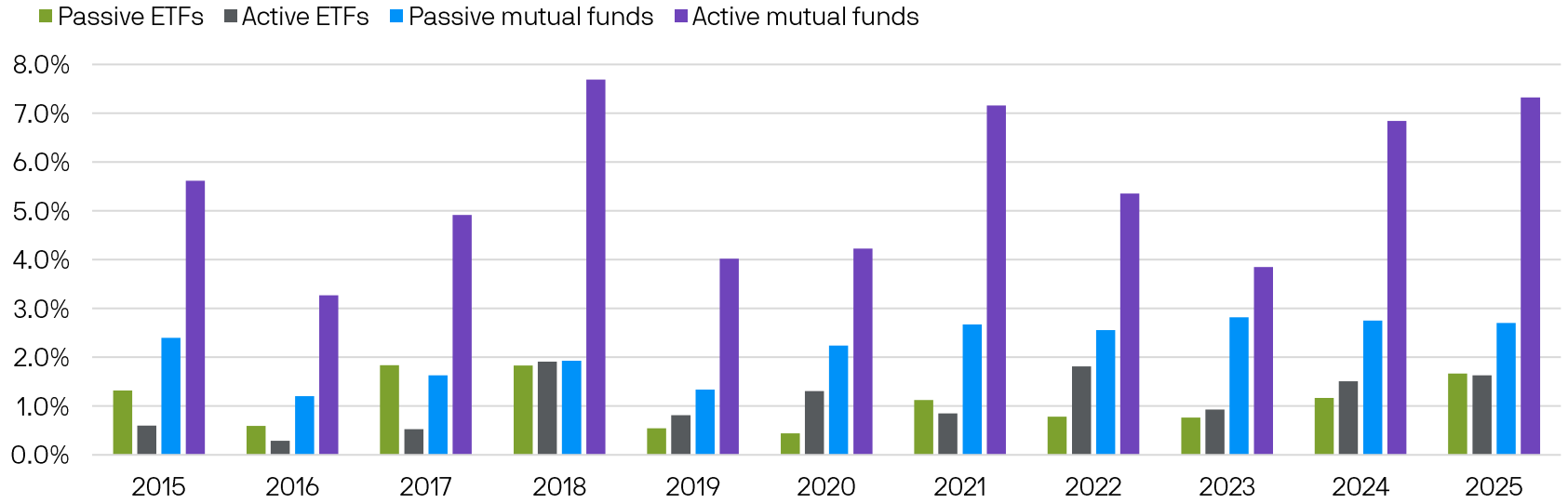
Source: J.P. Morgan Asset Management. For illustrative purposes only. Guide to ETFs – U.S. Data as of March 31, 2026.



Percentage of funds paying capital gains in calendar year

GTE U.S. 50

Weighted average of % capital gains / net asset value (NAV)



% of funds paying capital gains by year

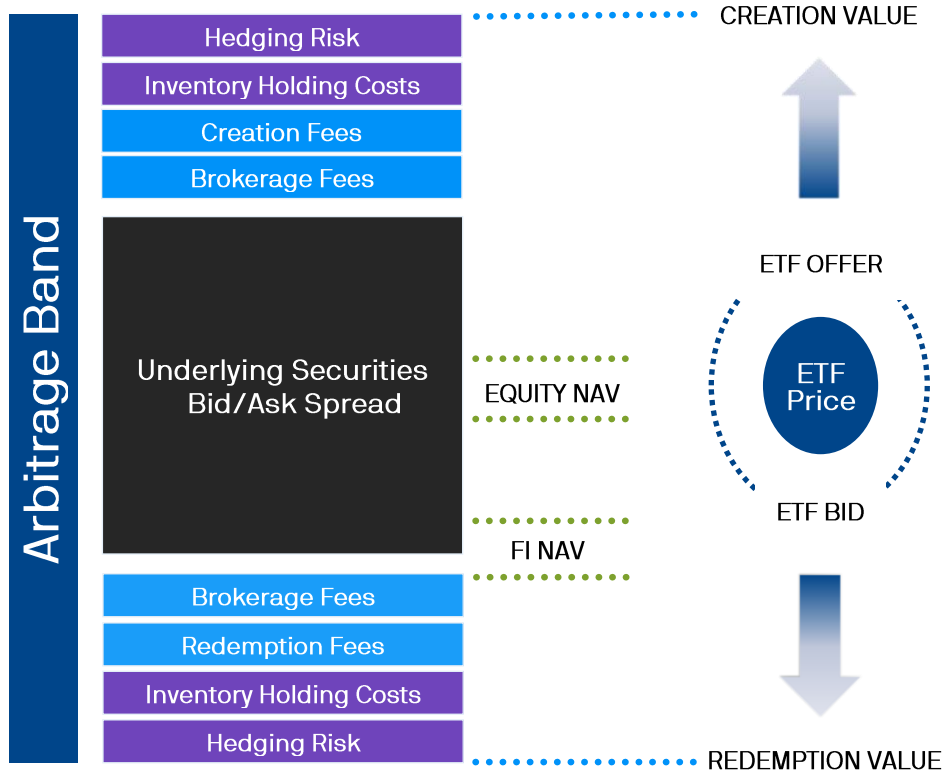
Fund type	# of funds that paid capital gains in 2025	Total # of funds in 2025	% in 2025	% in 2024	% in 2023	% in 2022	% in 2021
Passive ETFs	81	2092	4%	2%	1%	2%	8%
Active ETFs	212	2632	8%	9%	5%	8%	14%
Passive mutual funds	171	449	38%	34%	24%	34%	54%
Active mutual funds	2191	5154	43%	39%	29%	42%	62%

Source: Morningstar, J.P. Morgan Asset Management. Cost basis is the original purchase price used to determine capital gains and losses. Unrealized gain is the profit, if any, on a security that has not been sold (current price minus cost basis). Data as of December 31, 2025. Products are U.S. only. Guide to ETFs – U.S. Data as of March 31, 2026.



What is the ETF arbitrage mechanism?

Arbitrage incentivizes market makers to keep the price of an ETF close to its NAV



Net Asset Value (NAV) – value of the underlying securities in the fund

ETF Bid – price at which market makers will buy

ETF Offer – price at which market makers will sell

Underlying Securities Bid/Ask Spread – average spread of the underlying securities

Brokerage Fees – costs associated with trading the underlying basket

Creation/Redemption Fee – fees that cover ticket charges, settlement costs, and transaction costs

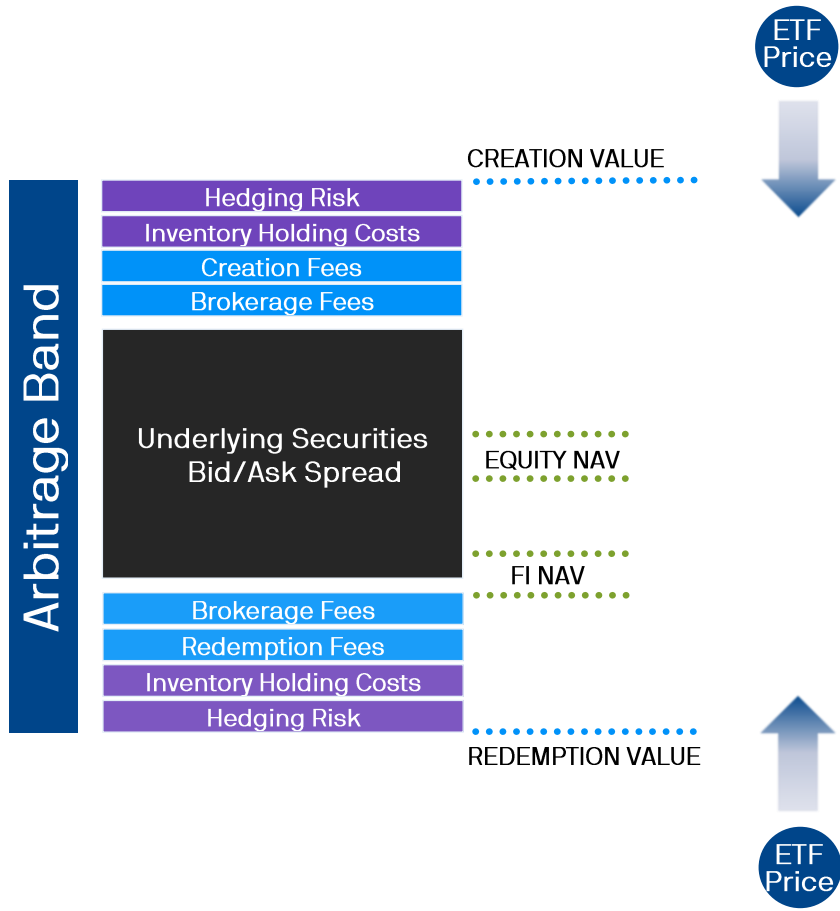
Inventory Holding Costs – unique to each liquidity provider; includes cost of capital, current positioning, and broader market considerations

Hedging Costs – the cost to hedge additional market, currency, interest rate, or credit exposure from a new trade/position

Source: J.P. Morgan Asset Management. Fair valuation and taxes are two additional components that may impact pricing related to international equity ETFs. NAV for fixed income ETFs is struck at bid in this example, while NAVs for equity ETFs are struck using the last price. For illustrative purposes only. Guide to ETFs – U.S. Data as of March 31, 2026.



ETF arbitrage mechanism in practice



Scenario 1: ETF Trading “Rich”

- The ETF is trading **higher** than the **creation value** of the underlying basket.
- **Market maker will sell the ETF**, buy the underlying holdings, and **create new ETF shares** to offset short ETF position.
- ETF price moves **back** inside the creation value.

Market makers are incentivized to “arb” away any price discrepancies and the ETF price remains close to the fair value of the underlying basket

Scenario 2: ETF Trading “Cheap”

- The ETF is trading **lower** than the **redemption value** of the underlying basket.
- **Market maker will buy the ETF**, sell the underlying holdings, and **redeem existing ETF shares** to offset long ETF position.
- ETF price moves **back** inside the redemption value.

Source: J.P. Morgan Asset Management. Fair valuation and taxes are two additional components that may impact pricing related to international equity ETFs. NAV for fixed income ETFs is struck at bid in this example, while NAVs for equity ETFs are struck using the last price. For illustrative purposes only. Guide to ETFs – U.S. Data as of March 31, 2026.



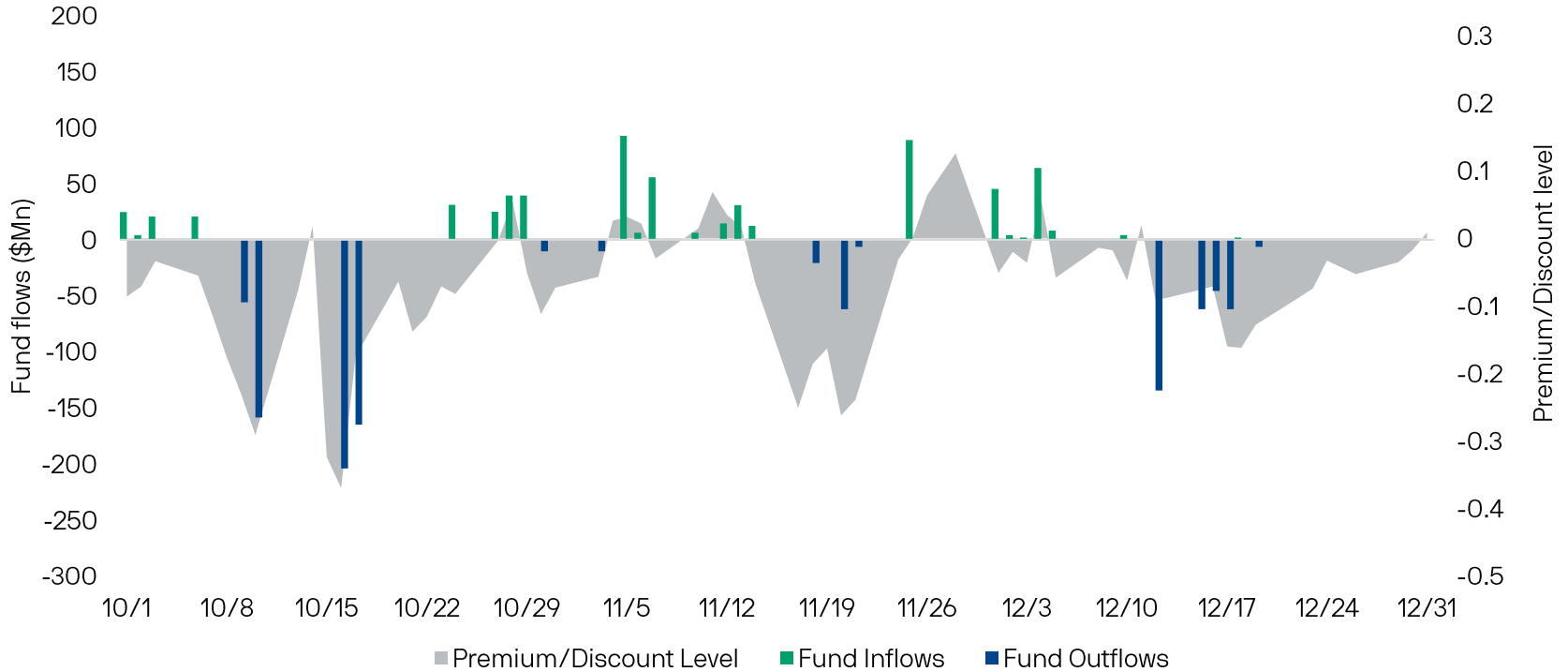
ETF premiums and discounts

Primary drivers:

- Liquidity of underlying basket
- Cost to create or redeem ETF shares
- Prevailing investor sentiment
- Market volatility

Other factors to consider:

- Closing auctions may impact end-of-day premium/discount levels
- Local market closures can contribute to premiums or discounts for international ETFs
- Fixed income ETFs may have natural premiums due to bid-side NAV pricing



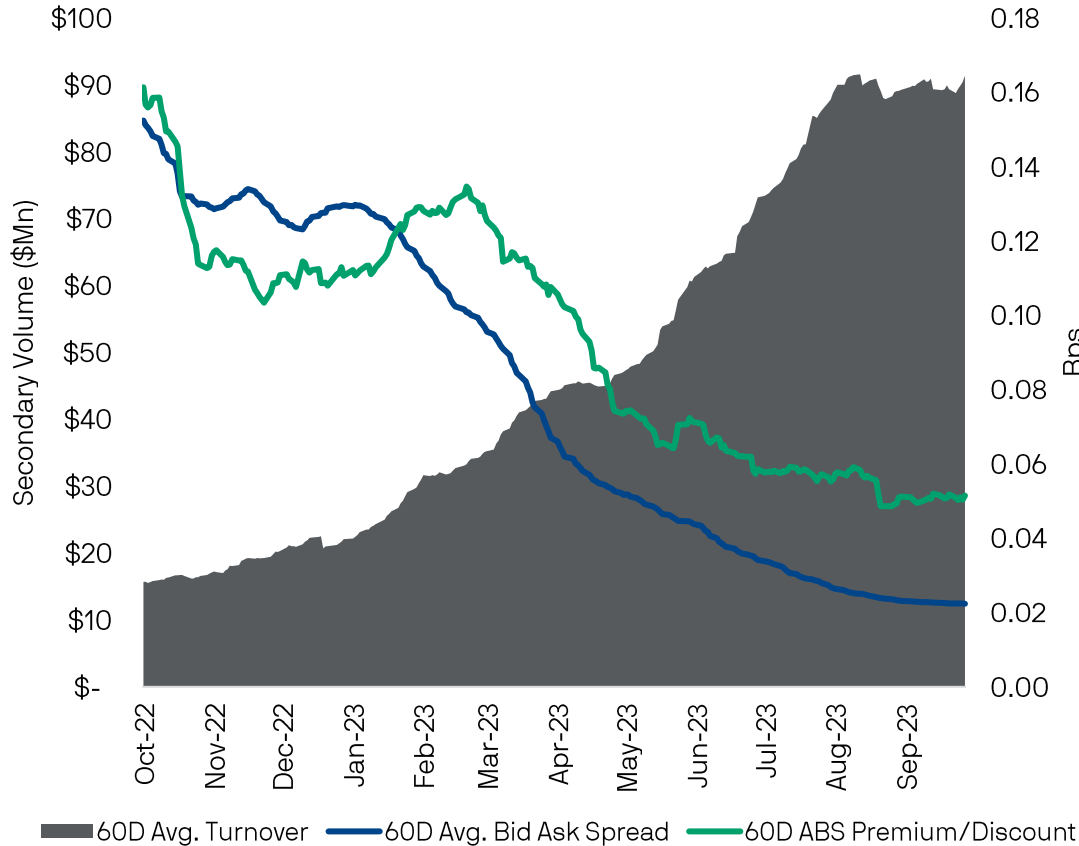
ETF Trading Best Practices

Source: J.P. Morgan Asset Management. For illustrative purposes only. Guide to ETFs – U.S. Data as of March 31, 2026.



The power of secondary markets

Robust secondary markets can help alleviate costs, often resulting in reduced bid ask spreads and more stable premium discount levels.



Impact to Market Makers

More opportunities to manage positions in the secondary market reduces the need to create or redeem.

Hedging Risk / Inventory Holding Costs

Shorter inventory holding periods and reduced hedging needs can lower costs to manage positions.

Brokerage / Creation / Redemption Fees

Creation/redemption fees and brokerage fees from trading the underlying basket are realized less.

ETF Trading Best Practices

Source: J.P. Morgan Asset Management. For illustrative purposes only. Guide to ETFs – U.S. Data as of March 31, 2026.



Ability for ETFs to absorb large trades

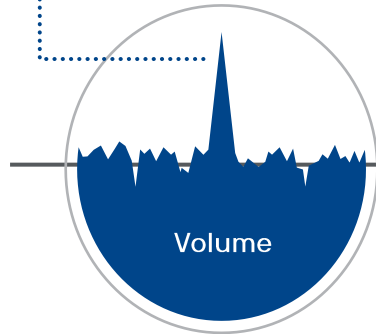
ETFs can move larger dollar amounts without moving markets when the underlined securities are leveraged to provide liquidity

Fixed income ETF example

6,998,000
Shares traded

31x
Average daily
trading volume

21%
of the ETF's AUM

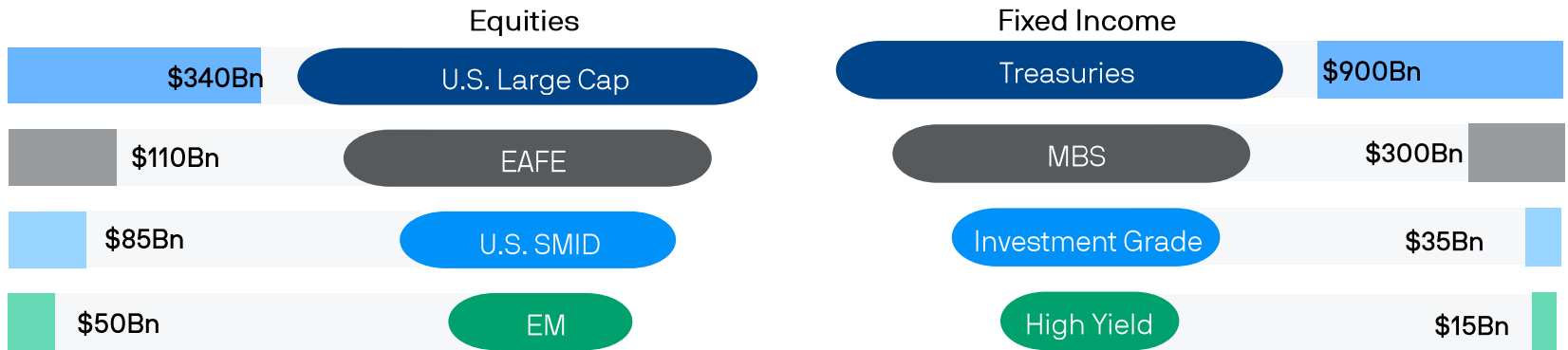


Bid/Ask spread
Regardless of the volume, the bid/ask spread remains virtually unchanged and the ETF remains liquid.

An investor sold out 21% of a fixed income ETF which represents 31 times its average daily trading volume to purchase another fixed income ETF.

The ETF purchased was able to absorb the trade with no noticeable impact on the market.

Underlying liquidity* of the asset class is an important component



ETF Trading Best Practices

Source: Top: Bloomberg, J.P. Morgan Asset Management; as of November 2023. The manager seeks to achieve the stated objectives. There can be no guarantee the objectives will be met. Bottom: Equities, Bloomberg, J.P. Morgan Asset Management; as of December 31, 2024. Fixed Income: SIFMA, J.P. Morgan Asset Management; as of December 31, 2024. For illustrative purposes only. *Liquidity is represented by the average daily volume (ADV) of the asset class over the fourth quarter of 2024. Products are U.S. only. Guide to ETFs – U.S. Data as of March 31, 2026.



ETF trading considerations – a communication story

Select order type that is suitable for your needs:

Not-Held Order

Gives trading authority to a broker or trading desk

Designed to: Access trading experts, potential to engage in various trading methods, but communication could lead to delay in execution

Appropriate for: Orders that account for higher % of volume

Limit Order

Allows you to set the max and min price for buying/selling shares

Designed to: Achieve desired price, but not guaranteed to complete

Appropriate for: Orders that account for lower % of volume

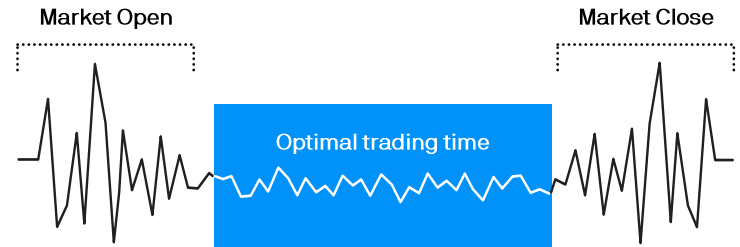
Market Order

A request to trade immediately at the best available price

Designed to: Complete at any cost with potential impact to price

Appropriate for: Orders for share quantities smaller than displayed quantities

Tips to help avoid suboptimal trade execution:



- Avoid trading during market open/close
- Additional liquidity may be had in foreign markets when those markets are open
- Be cognizant of holiday calendar globally, as well as economic release schedule
- Pay attention to the consistency of the secondary market volume for ETF shares

Source: J.P. Morgan Asset Management. For illustrative purposes only. Guide to ETFs – U.S. Data as of March 31, 2026.



ETF total cost of ownership

$$\text{Holding costs} + \text{Trading costs} = \text{Total cost of ownership}$$

- + Expense ratio/Fee
- + Portfolio turnover
- Securities lending

- + Trading commissions
- + Bid-ask spread
- + Tax impact

+ Adds to total costs — Reduces total costs



J.P. Morgan Asset Management – Risks & disclosures

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58

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