

Introduction to Active ETFs and ETF Risk Management

Carefully consider the Fund's investment objectives, risk factors, charges and expenses before investing. This and additional information can be found in the Fund's prospectus or summary prospectus, which may be obtained by visiting www.temaetfs.com.

Read the prospectus carefully before investing.

Risk Information

Investing involves risk including possible loss of principal. There is no guarantee the adviser's investment strategy will be successful.

Diversification does not ensure profits or prevent losses.

Investing involves risk including possible loss of principal. The Funds may invest a significant portion of their assets in one or more sectors and thus will be more susceptible to the risks affecting those sectors than funds that have more diversified holdings across a number of sectors. There is no guarantee the adviser's investment will be successful in identifying and investing in thematic trends.

The small- and mid-capitalization companies in which the Funds invest may be more vulnerable to adverse business or economic events than larger, more established companies, and may underperform other segments of the market or the equity market as a whole.

International and emerging market investing may involve risk of capital loss from unfavorable fluctuations in currency values, from differences in generally accepted accounting principles, or from economic or political instability in other nations. Frontier markets generally have less developed capital markets than traditional emerging market countries, and, consequently, the risks of investing in foreign securities are magnified in such countries.

Adviser: Tema Global Limited

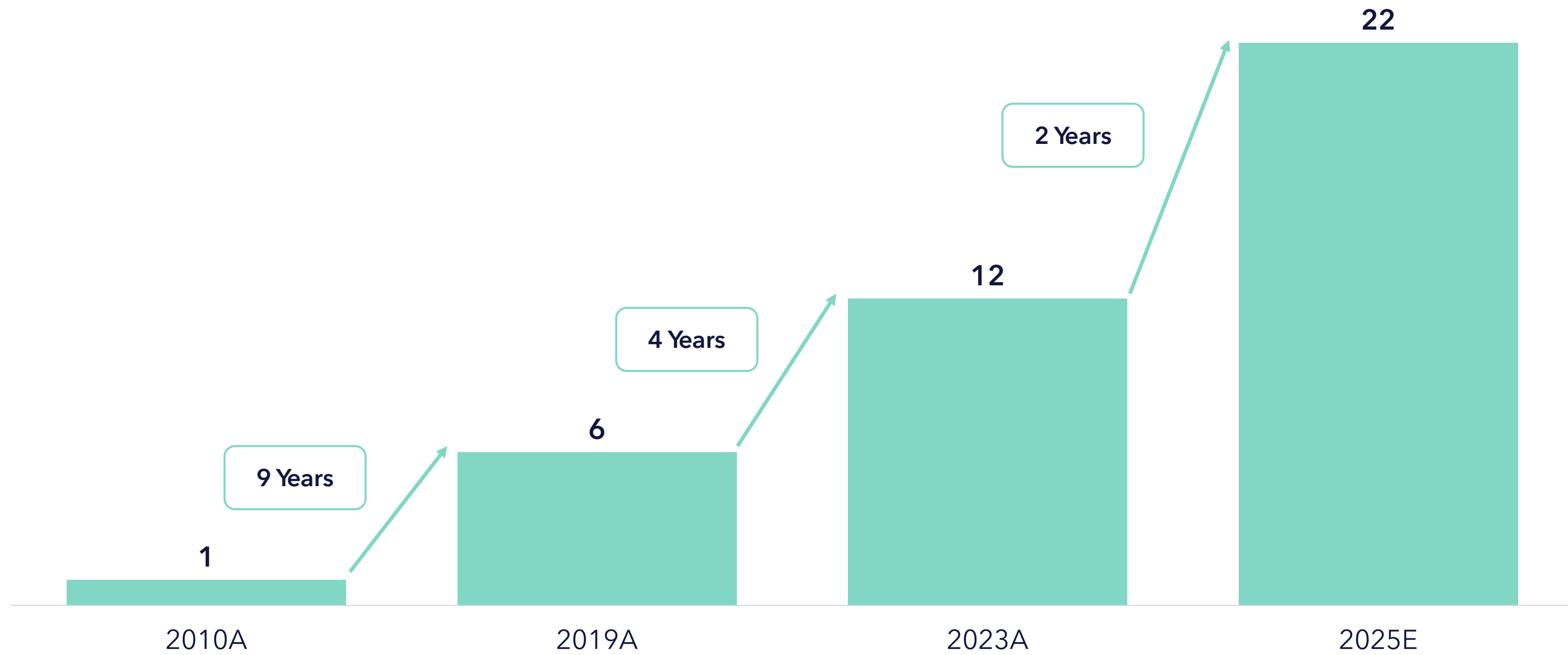
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ETFs are the fastest growing segment within asset management

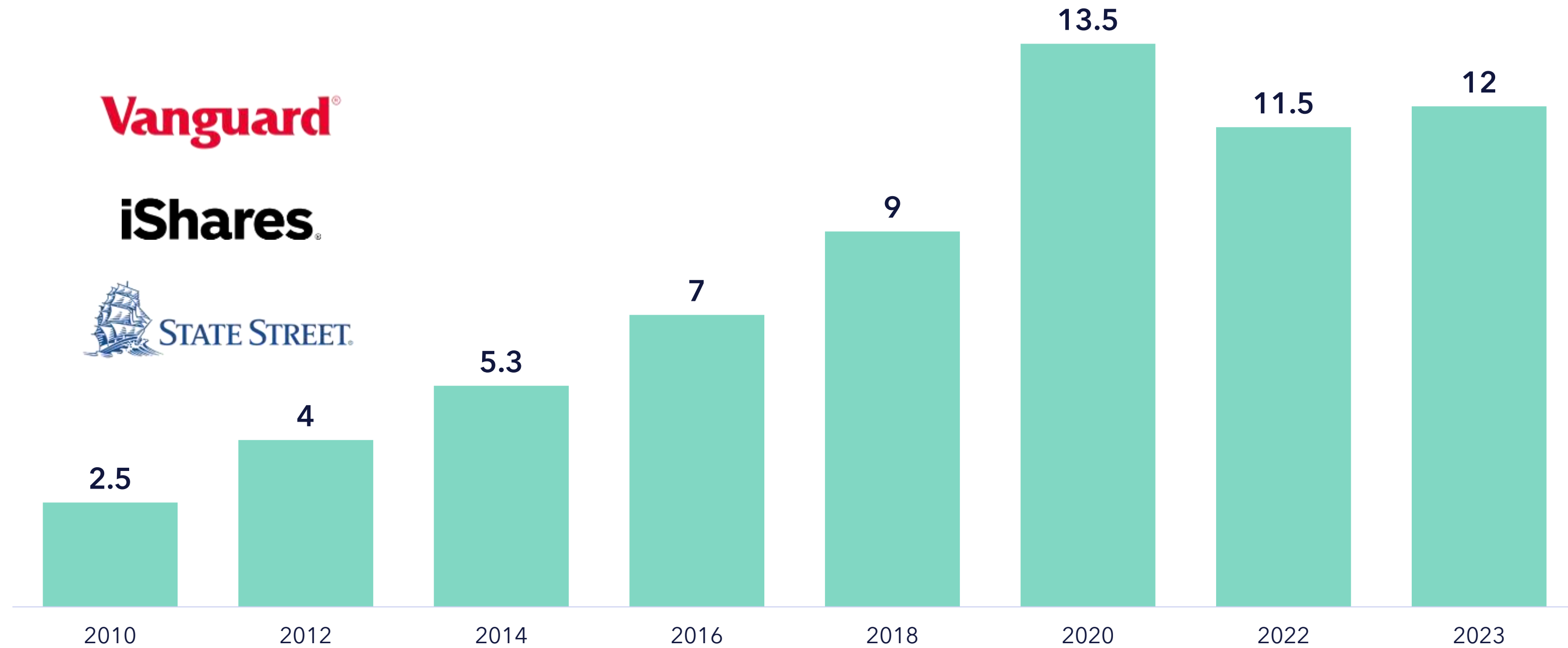


Total Global ETF AUM (\$tn)



Passive ETFs thrived in a low volatility decade when passive investing ballooned

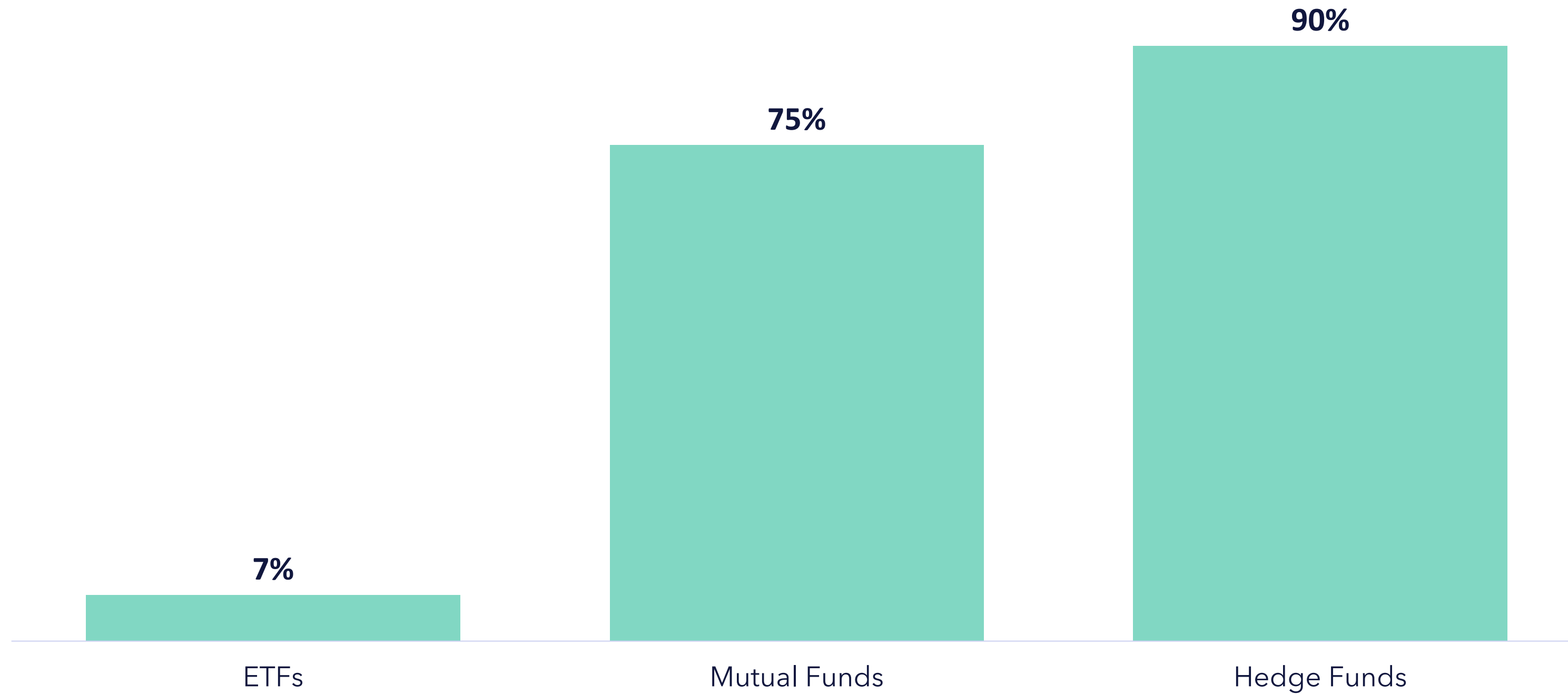
Global Passively Managed AUM (\$tn)



Active is significantly underrepresented in ETFs vs other fund wrappers

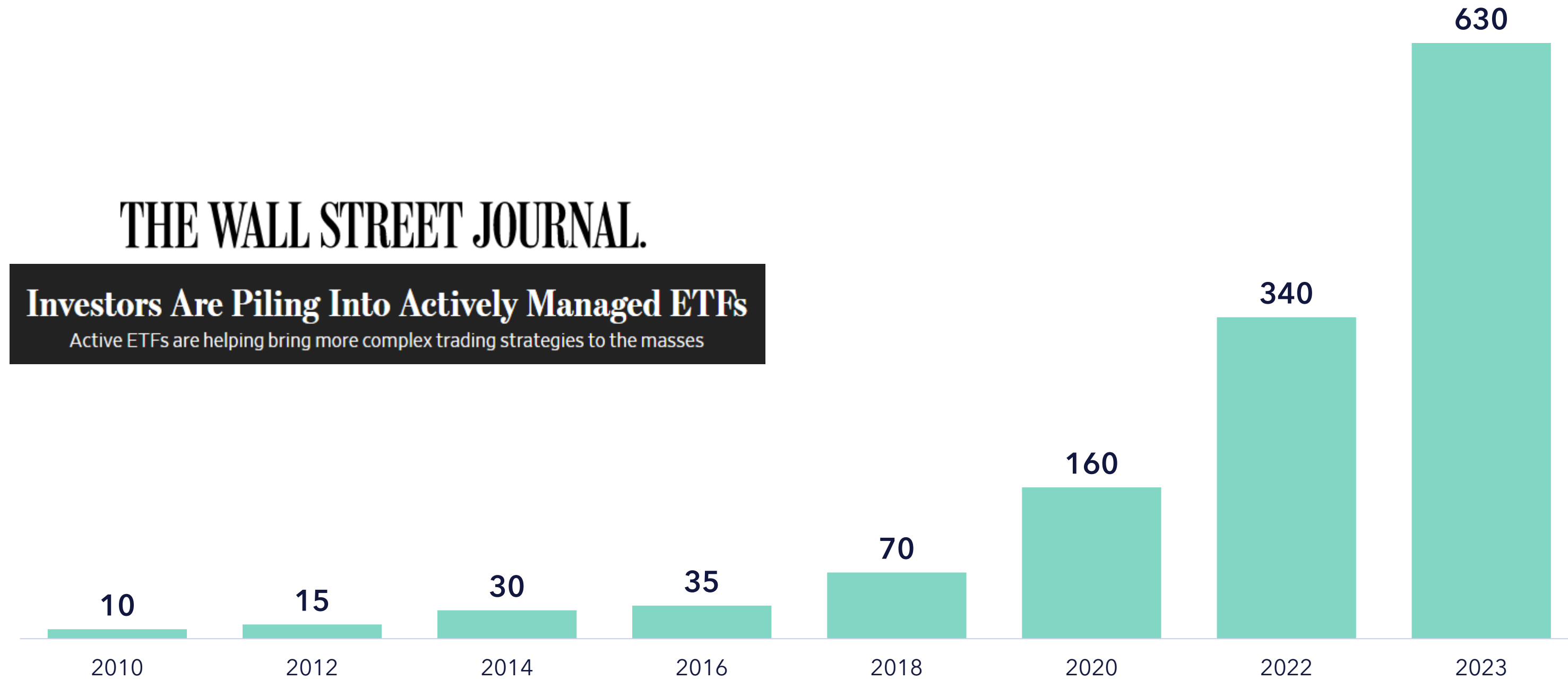


Actively Managed AUM as % Global AUM

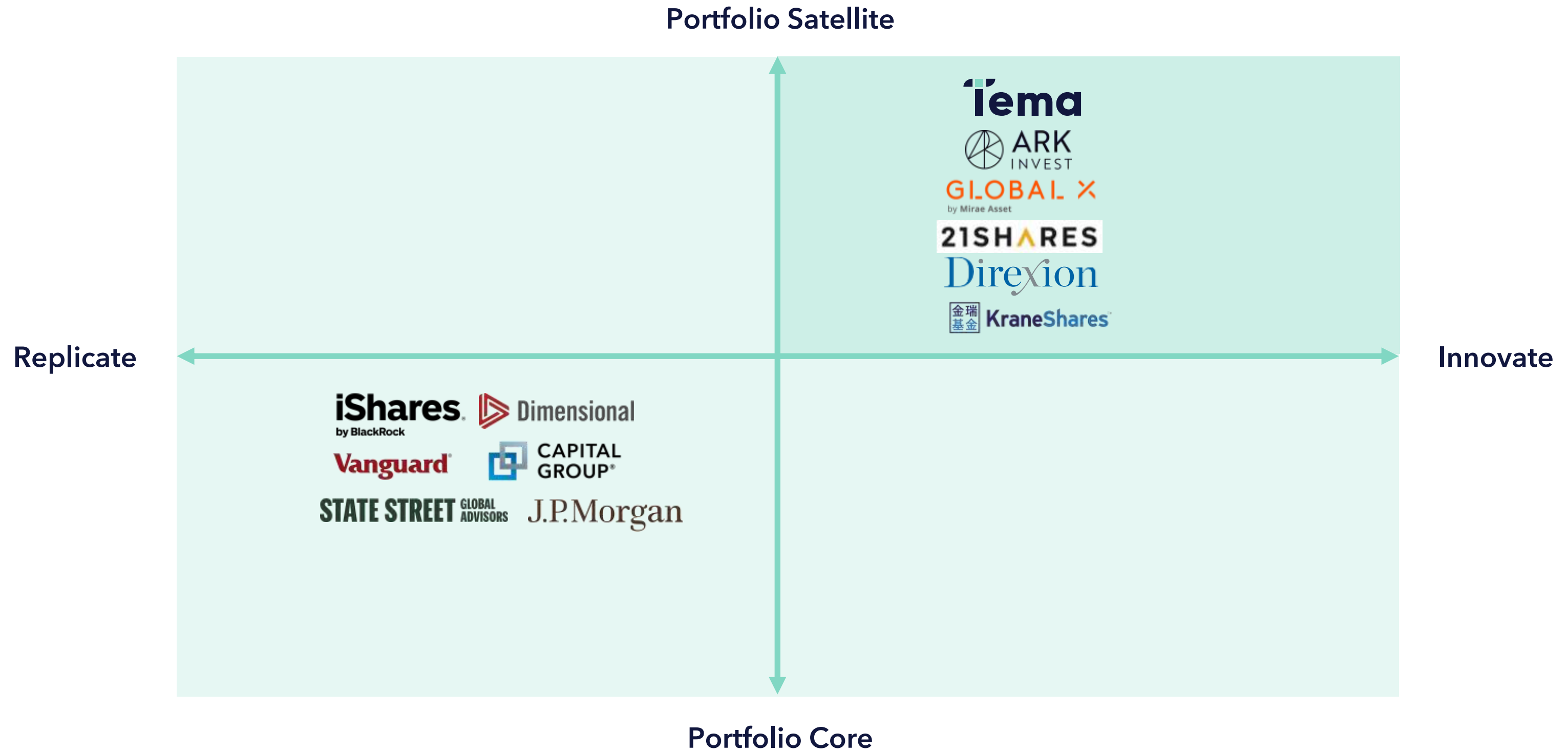


Active ETFs are now taking off fast, representing 7% of ETF assets but 25% of 2023 ETF flows

US Active ETF AUM (\$bn)



ETF landscape



80% of US investors prefer ETFs over mutual funds for active exposure



US Investor Active Vehicle Preference



Active ETFs are the preferred vehicle for many investors

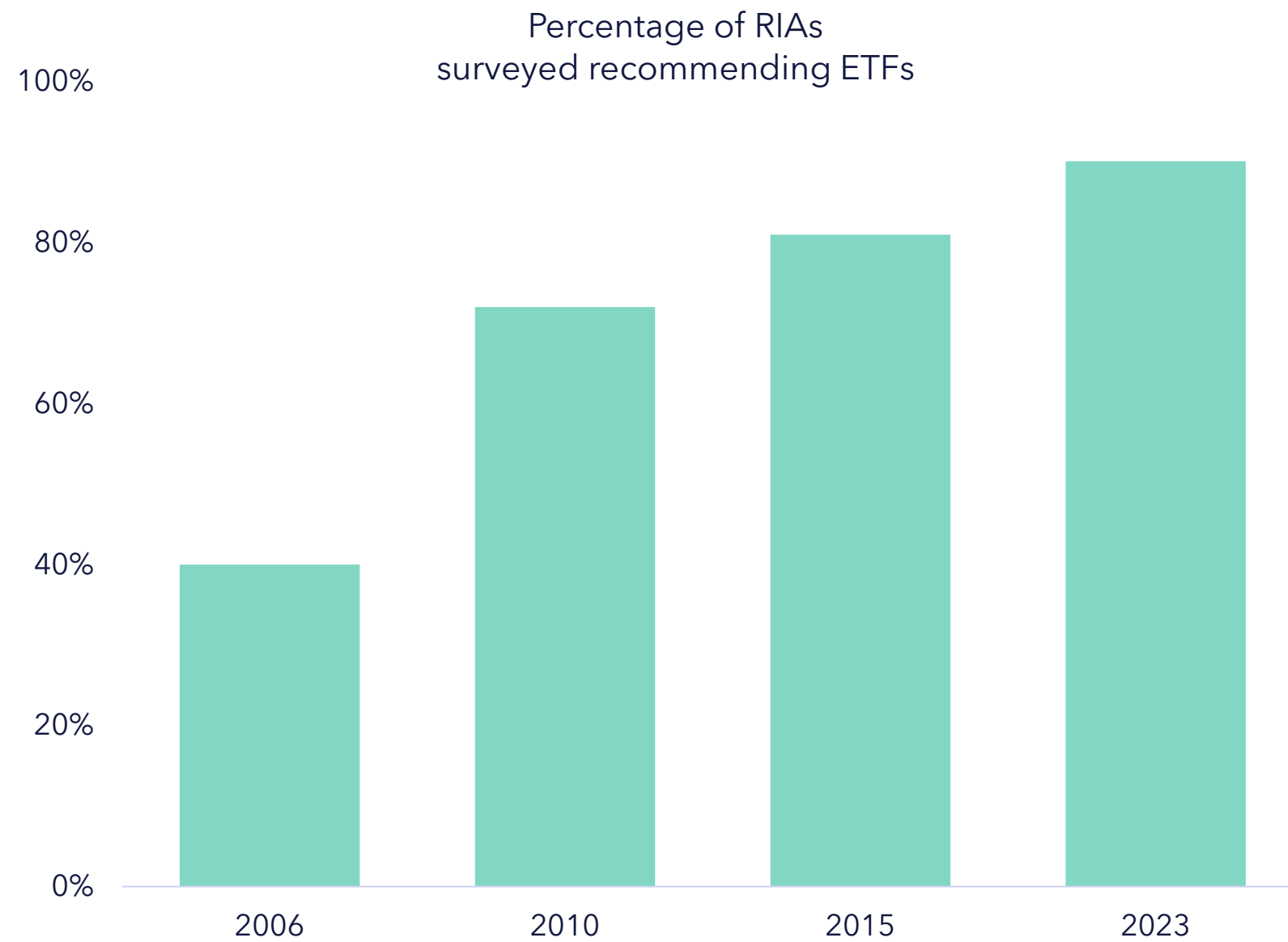
| | ETF | | Mutual Fund | Hedge Fund |
|----------------------------|---|--|--|---|
| | Active ETF | Passive ETF | | |
| Transparency | Fully transparent* | Fully transparent* | Quarterly holdings | Opaque |
| Fees | Low single fee | Very low single fee | Higher management fee + costs | Very high management fee + performance fee + costs + hidden charges |
| Investor liquidity | Intraday, slightly higher spreads | Intraday, tight spreads | Daily | Quarterly with lockups |
| Leverage | None | None | Rare | High |
| Investment approach | Active | Passive index | Active | Active |
| Turnover | Low | Very Low | Low | High |
| Risk | Alpha and beta risk | Beta risk, herding and crowding risk | Alpha and beta risk | Drawdown risk |
| Tax efficiency | In kind process = minimal capital gains distributions | In kind process = hardly any capital gains distributions | Least tax efficient due to distributable capital gains | Complicated tax structures |
| Accessibility | Widely with any brokerage account | Widely with any brokerage account | Platform has to offer | Restricted |

Notes: *Most are fully transparent, but it is possible to be semi- or non- transparent as well. See slide 9.

The growth of active is coinciding with growing institutional ETF adoption



Registered investment advisors (RIAs) are increasingly recommending ETFs to clients



Large well-known pension funds are adopting ETFs

| | H1-2023 ETF AUM |
|------------------|-----------------|
| Alaska Permanent | \$1.1bn |
| CalPers | \$970m |
| Michigan ERS | \$6.5bn |
| New Jersey | \$2.4bn |
| Tennessee | \$4.5bn |
| Wisconsin | \$1.3bn |

Focussing on three less discussed features of active ETFs



Transparency

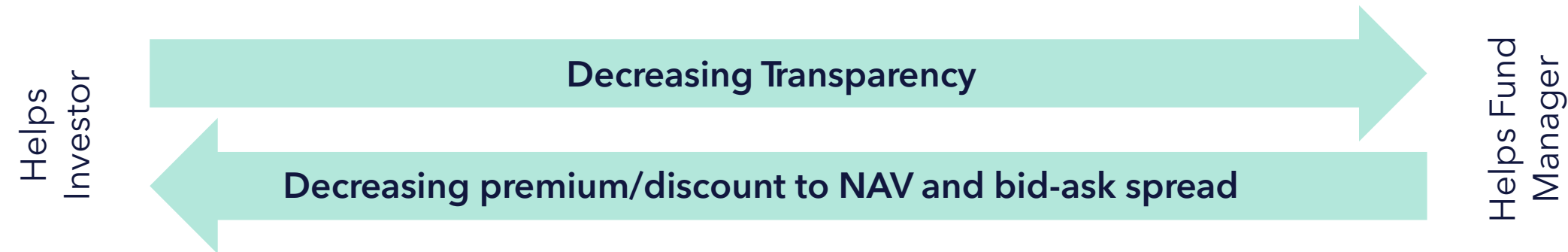


Precision
of exposure



In-kind process
for fund
managers

ETF transparency benefits investors, non-transparency helps fund managers



| Criteria | Fully Transparent | Semi-Transparent | Non-Transparent ETF |
|---|---|---|---|
| What is it? | Publish all holdings daily | Uses a model to disclose some elements of the daily portfolio | No disclosure of daily portfolio |
| Actual portfolio disclosure | Daily | Monthly to Quarterly (60-day lag) | Quarterly (60-day lag) |
| Models | Daily publication of holdings (name and weight) file on website and to AP*s and other market participants | <i>Blue Tractor</i> - disclose all names but only 90% of weights (within guardrails) <i>Proxy Basket</i> (e.g., NYSE, T. Rowe Price) - disclose some holdings or non-holdings that are representative. Can use factors | Precidian (ActiveShares) |
| Fund manager concern | Can be copied | Harder to copy | Very hard to copy |
| Premium/discount to NAV and bid-ask spreads | Tight | Wider | Widest |
| Hedging mechanism | Full holdings | Information signal | Verified intraday indicative value (VIIV) |
| Custom baskets | Possible | Possible but not all models use | No custom baskets |
| Available underlying investments | Anything | Only US equities, US contemporaneous time zone listed equities, futures | Only US stocks and futures |

Notes: *Authorized participants

Is transparency really a concern in practice?

- Introduction of semi- and non-transparent is credited with sparking interest in active ETFs

- However, not seen in data. Semi-transparent has not taken off

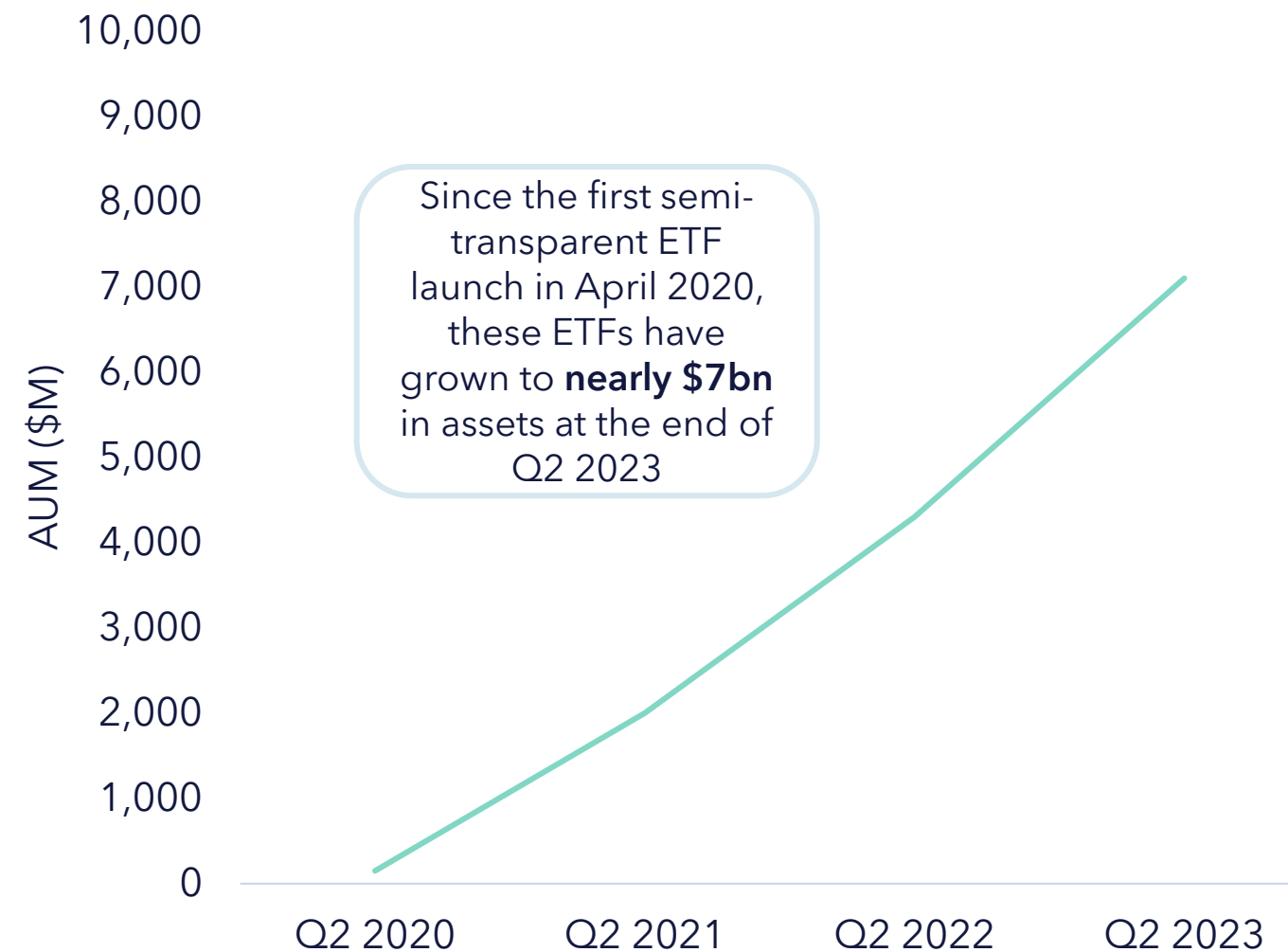
- Tema chose to do fully transparent. Why?

- Investors prefer as:
 - Low premium/discount to NAV
 - Tight bid-ask spreads
 - Experience with such funds

- For fund manager:
 - Copying is non-existent or immaterial
 - Can offer access to international equities e.g., Tema Luxury ETF (LUX)
 - Helps with marketing funds

"There's just something strong about being transparent and there's something that seems weak about being nontransparent ... [semi-transparent is a] solution in search of a problem"
Eric Balchunas, fund analyst at Bloomberg Intelligence

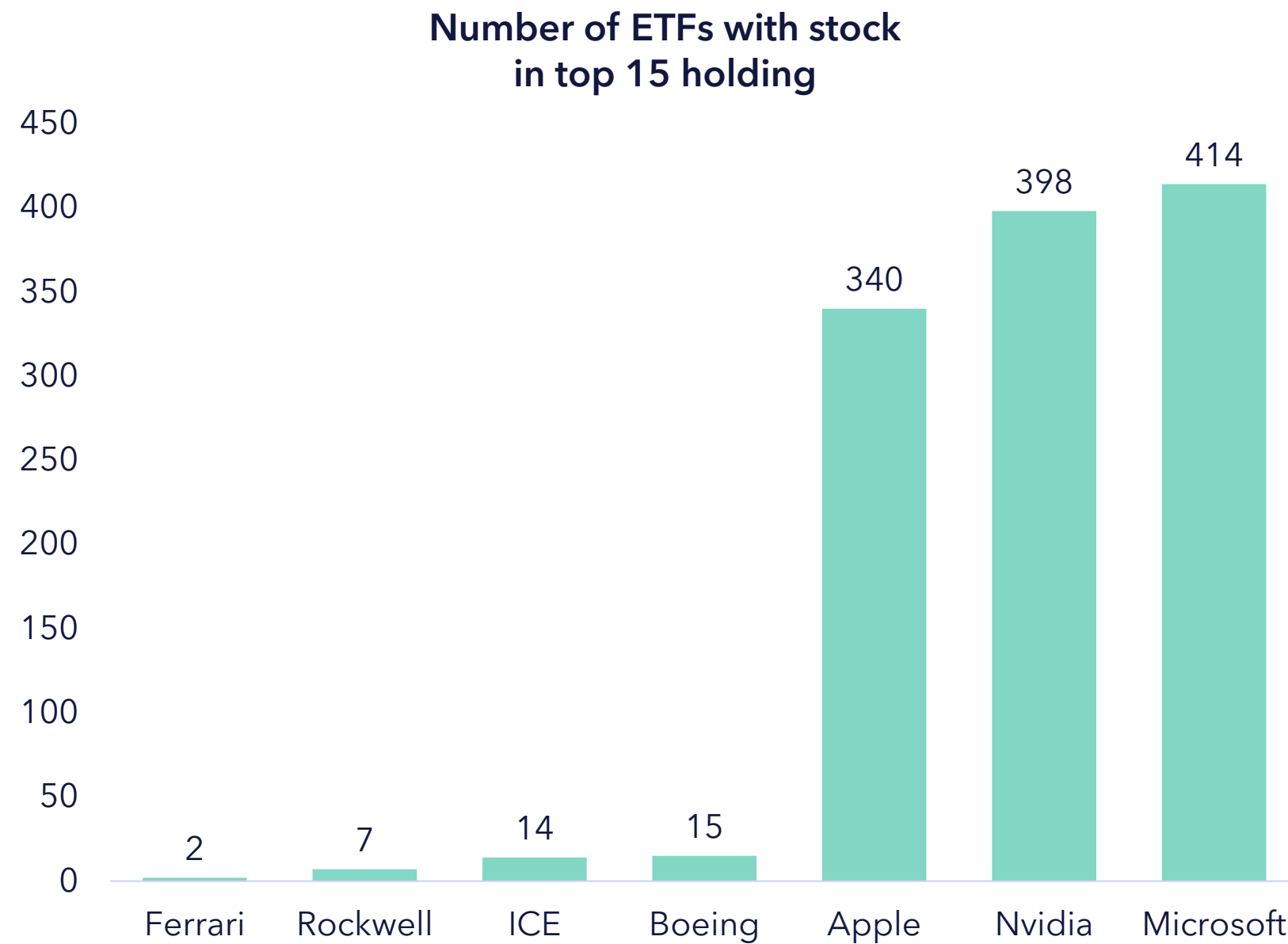
Active Semi-transparent ETF AuM



Precision of exposure is a big issue in passive thematic ETFs. Why?

1. Many ETFs just hold the same stocks...

...despite carrying markedly different names



Themes that hold NVDA & MSFT

- Artificial Intelligence
- US Carbon Transition Readiness
- Video Games
- Millennials
- Robocar Disruption
- Cloud and Cybersecurity
- Longevity Economy
- Metaverse

| The SEC is making naming a key focus

SEC Adopts Rule Enhancements to Prevent Misleading or Deceptive Investment Fund Names

FOR IMMEDIATE RELEASE
2023-188

- SEC has issued final decision on amending the “Names Rule”
- Fund’s name
 - = consistent with English meaning
 - = consistent with investment content
- Special consideration for ESG and related terms (“sustainable”, “green”, “socially responsible”) but not integration funds (that employ some ESG factors)
- Expanding scope to terms like “growth” or “value”
- Require quarterly review that assets match name
- [Final rule](#)

Precision of exposure is a big issue in passive thematic ETFs. Why?

2. Questionable index provider stock selection methodology gives imprecise exposure

S&P Global Luxury Index top 20 holdings¹

| Holdings | Weighting % |
|-----------------|-------------|
| LVMH | 8.6 |
| Richemont | 8.0 |
| Hermes | 6.9 |
| Mercedes | 5.5 |
| Kering | 5.5 |
| Estee Lauder | 5.0 |
| Tesla | 5.0 |
| Pernod | 4.0 |
| Diageo | 4.0 |
| Ferrari | 3.8 |
| Nike | 3.5 |
| Marriot | 3.0 |
| BMW | 2.9 |
| Lululemon | 2.8 |
| Hilton | 2.6 |
| Las Vegas Sands | 1.5 |
| Shiseido | 1.5 |
| Moncler | 1.4 |
| Burberry | 1.3 |
| Porsche | 1.3 |

25% are simply consumer exposure

Is Tesla luxury?
Some Tesla models now priced below average of US car

Is Nike luxury?
It is a mass consumer brand

Yet bigger weight than Burberry + Moncler combined

Source: S&P Global Luxury Index holdings reflected via Bloomberg

Precision of exposure is a big issue in passive thematic ETFs

3. Even when exposure is precise, passive thematic ETFs give no thought to quality of exposure

- AI craze means stocks are included with no consideration for quality

- 23 ETFs hold C3.ai

- 2.5% holding in CHAT US

- Company has a history of renaming itself to latest fad

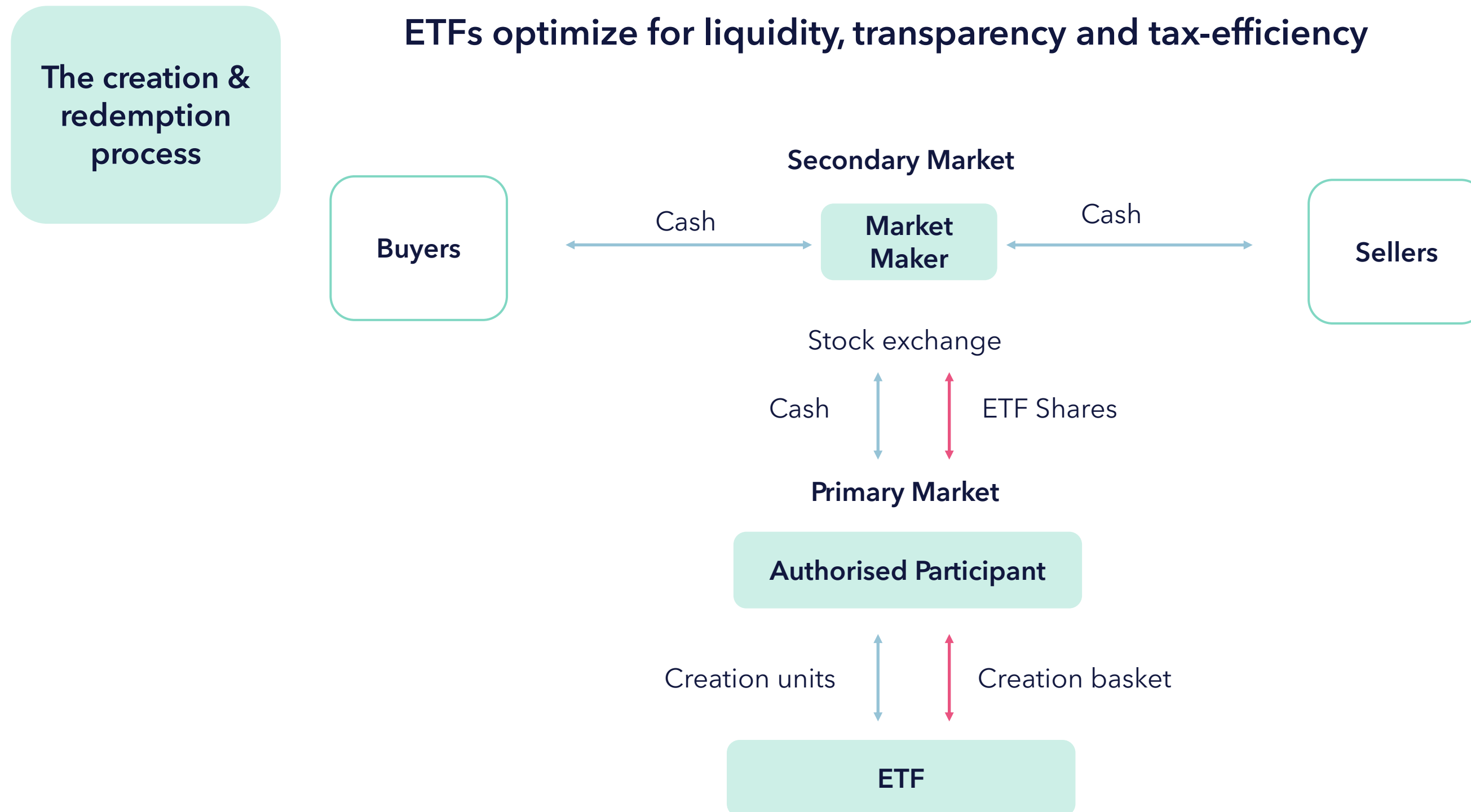
- Company has extremely poor financials

History [\[edit\]](#)

C3.ai was founded in 2009 by [Thomas Siebel](#) as "C3".^[1] Originally the "C" in the company's name was a reference to "[carbon](#)" and the "3" was a reference to "measure, mitigate and monetize" because the company's original goal was to help manage corporate carbon footprints.^[2] For some time in 2016 the company was named **C3IoT** and before that was briefly named **C3 Energy**.^{[3][1]} The company went public in 2020.^[1]

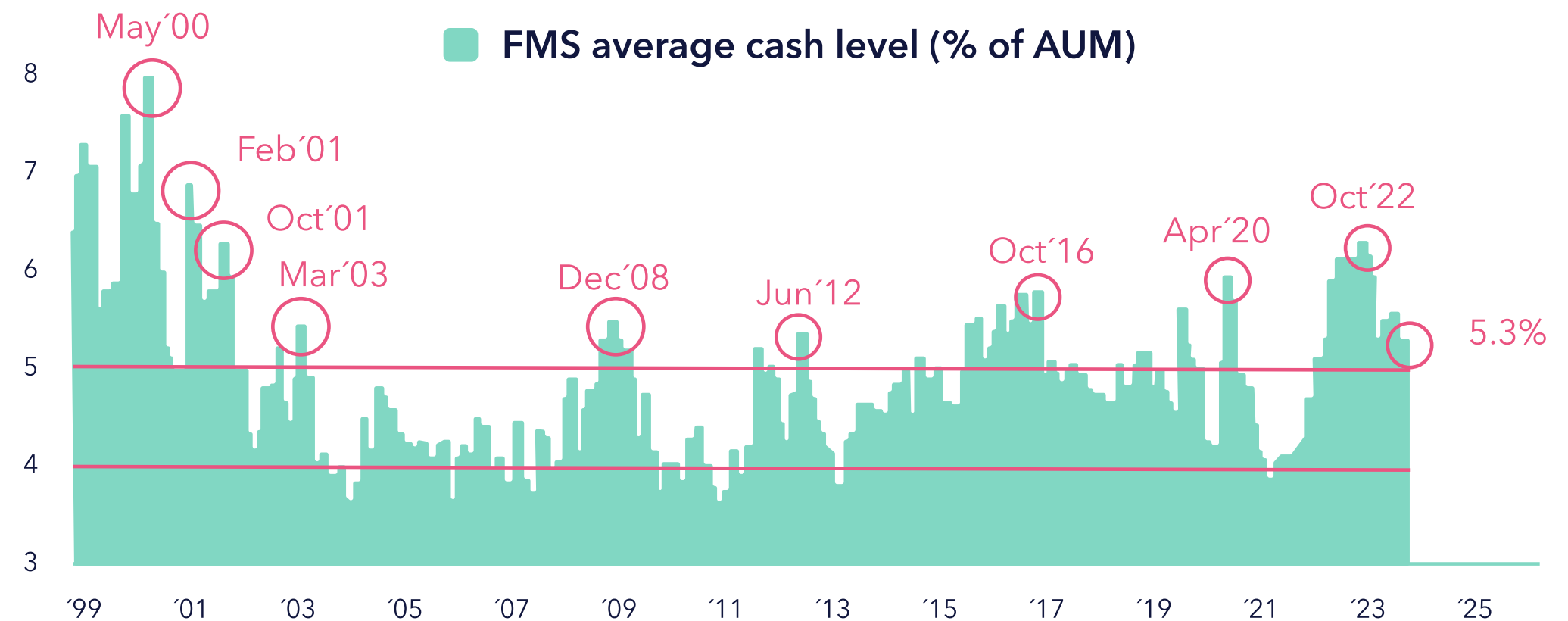
| Year ending 30 th April | 2019 | 2020 | 2021 | 2022 | 2023 |
|------------------------------------|------|------|------|------|------|
| FcF | -42 | -64 | -39 | -90 | -186 |

In-kind process is THE unique feature of ETFs



What does the in-kind process mean for an active manager?

- Portfolio manager does not need to hold cash
- Nor sell stocks for redemptions (usually coincide with worst point)
- Reduces cash drag to performance
- Big behavioural benefits:
 - Stay invested
 - Don't use cash to try to time the market - not good at it



Risk management required for full adoption of active ETFs



ETF risk management has historically been neglected
but this is now changing



ETF risk management has not been prioritized



Active ETFs have flexibility to manage risk



Required for institutionalization of (active) ETFs

Which risk management concerns are important for active ETFs - liquidity risk

- Key is that underlying equities or bonds are not illiquid

- Liquidity analysis rule of thumb - liquidation of a basket (typically 10%) without significantly moving price in under 8 days

- Illiquid positions can't be >15% of NAV

- Active have more room as can use custom baskets, change portfolio composition

- IMF analysis of 2020 stress of Bond ETFs - shows funds went to 5% discount, but weathered storm well

ETF Hub Exchange traded funds

The inside story of how ETFs weathered the March 2020 storm

As markets went into meltdown the people who worked in the industry stepped into overdrive

Which risk management concerns are important for active ETFs – company fundamental risk

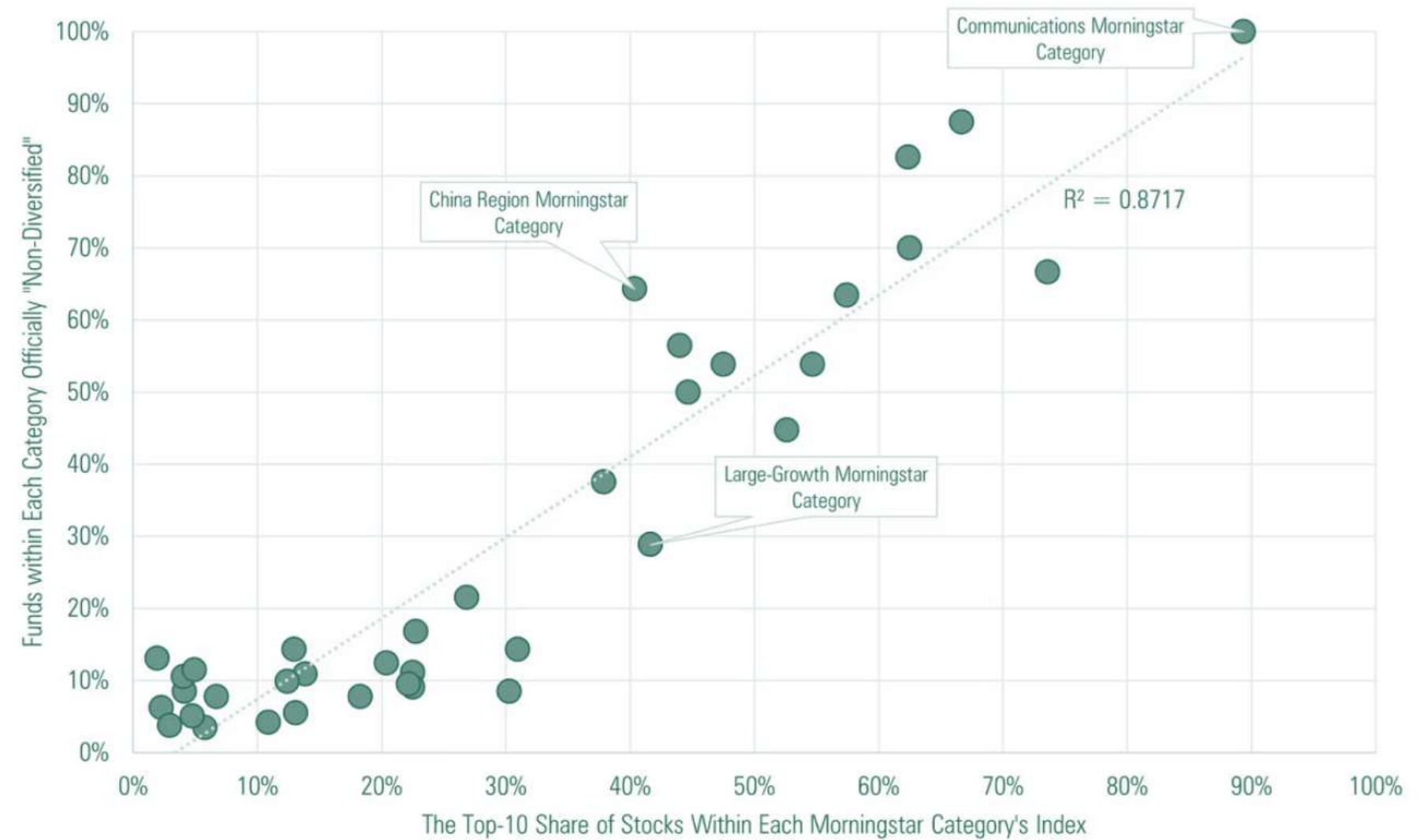
Factors to actively managed to reduce individual equity risk

| Factor | Example variables to consider | Bad examples | Good examples |
|---|---|---|--|
| Business model | Gross margin economics at scale | High fixed cost with high discounting | Network effects |
| Well invested business | R&D as % of sales over time | R&D as % of sales below peers | <ul style="list-style-type: none"> Flat to rising R&D as % of sales Budgets protected in downcycles |
| Management incentives/shareholding | <ul style="list-style-type: none"> Long term investment plan (LTIP) criteria in proxy statements Management shareholdings as % of fixed pay | <ul style="list-style-type: none"> No personal shareholding Incentives on sales or EPS History of changing targets | <ul style="list-style-type: none"> Shareholding 3-6x fixed annual pay LTIP focussed on free cash flow and ROIC |
| Profitability | Focus on firms that are profitable | Unprofitable tech firms | High ROIC businesses |
| Accounting red flags | <ul style="list-style-type: none"> F-score - accounting misstatement risk model Z-score - bankruptcy risk model | <ul style="list-style-type: none"> Frequent material exceptional Receivables factoring | <ul style="list-style-type: none"> Conservative revenue recognition |
| Cash flow profile | Free cash flow modelling | <ul style="list-style-type: none"> Persistent negative free cash flow Not accounting for share issuance | <ul style="list-style-type: none"> High free cash flow conversion |
| Balance sheets | Debt profile, off-balance sheet arrangements, pensions | <ul style="list-style-type: none"> High financial leverage combined weak cash generation | <ul style="list-style-type: none"> Low financial debt Clean profile of non-financial debt |

Which risk management concerns are important for active ETFs - concentration risk

- Funds can be diversified or non-diversified (IRS/SEC)
- Non-diversified - positions over 5% of the fund can't sum to >50% of the fund
- Diversified - positions over 5% of the fund can't sum to >25% of the fund
- Non-diversified does not equal more risk
- Key is managing top position size, number of stocks, and stock selection
- As ETFs are always open - monitor shareholding size of underlying

More concentrated categories naturally have more non-diversified funds



Tema's risk management framework - foundation of investment process



| | |
|-----------------------------|--|
| Theme | <ul style="list-style-type: none">• Uncrowded, attractively valued, structural themes |
| Stock Level | <ul style="list-style-type: none">• See discussion above• Ex ante analysis of downside risks• Avoid permanent capital impairment risks e.g. balance sheets |
| Portfolio | <ul style="list-style-type: none">• Portfolio construction guidelines |
| Investment Oversight | <ul style="list-style-type: none">• Bi-weekly CIO oversight meeting• Full agenda and dashboard |
| Portfolio Execution | <ul style="list-style-type: none">• Bloomberg AIM• NEOS Investments execution• Tema internal operations controls |
| Firm Wide | <ul style="list-style-type: none">• Quarterly firmwide risk meeting• Scenario analysis and factor analysis |



ETF is the most efficient wrapper for active management



Active facilitates product precision and integrity



Institutional adoption drives risk management focus

Tema: Asset manager focused on first mover Strategic Active ETFs



Tema Management Team



Maurits Pot
Founder & CEO



Yuri Khodjamirian, CFA
CIO & PM



Matt Keeling
COO

Tema ETF Lineup



Healthcare

- Oncology
- Obesity
- Neurology



Strategic Equity

- Monopolies
- Reshoring
- Luxury



Alternatives

- Listed Alternatives
- Commodities
- Hedge Funds

Tema Backers and Experience



Tema Investment Process

● Fundamental ● Systematic



¹Tema's products are created with the aim to be suitable for financial institutions, e.g., pension funds or endowment funds. These institutions often have strict investment requirements based on factors such as risk management and precision of exposure. ²Index Ventures and Accel ranked among the top 10 VCs globally according to 2022 Global Venture Capital Investor Prominence Ranking report issued by dealroom.co. Criteria for evaluation are based on a comprehensive and quantitative list, including investors' success in backing unicorns (privately held startup company with a value of over \$1 billion) and future unicorns, as well as their level of deal activity in the last 12 months. ³Company logos in this slide (excluding Index Ventures and Accel) showcase the past experiences of Tema's management team.

Reading list

-
- CFA Comprehensive Primer on ETFs (2015)
-
- Introduction to thematic investing
-
- Legal handbook on ETFs (Third Edition)
-
- CFA brief on ETFs and Systematic Risks and webinar
-
- Overcoming performance anxiety through purity of exposure
-

Thank you for joining us today, we hope this presentation is informative and please reach out to us below for further information.

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