# ETF Report

THE MAGAZINE FOR ETF INVESTORS

OCTOBER 2021

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OCTOBER 2021

# CRYPTO

# IN FOCUS

## A Bitcoin ETF Looks To Be Just Over The Horizon

ETF.com/ETFReport

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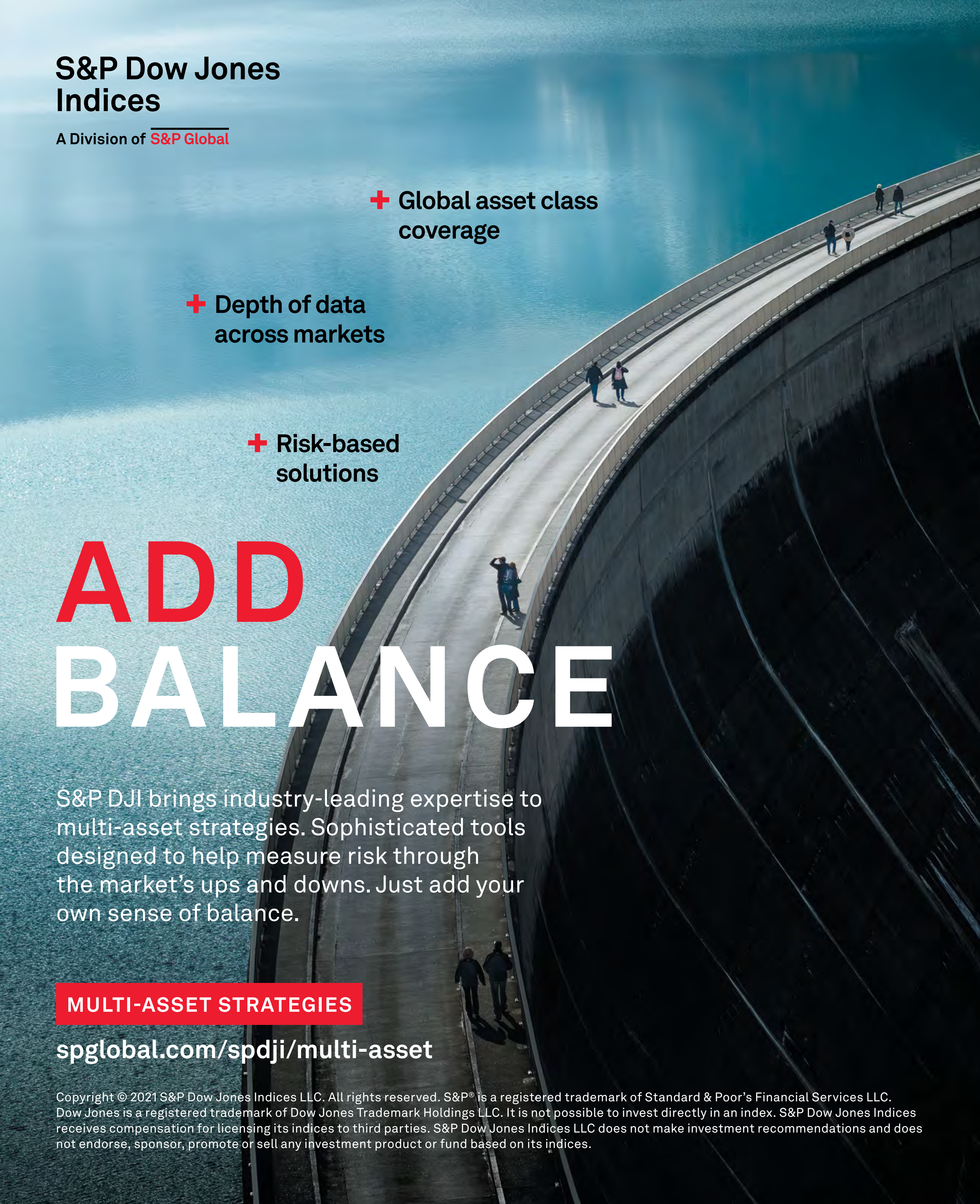
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VOLUME 21 | NO. 10

**Coming Next Issue**

An ESG & fixed income double issue!

## FEATURES



## DEPARTMENTS



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Crossword Answer Key | Crossword on p. 40

By Heather Bell

# ETF Launches

**Featured ETF**

## SPRX

### New fund has echoes of ARK's flagship ETF, but with an industrial focus.

In early August, an ETF newcomer launched a fund that has echoes of ARK's disruptive innovation focus, with some key differences. The **SPEAR Alpha ETF (SPRX)** relies heavily on in-house research and analysis to select companies that seem likely to "benefit from breakthrough innovation in industrial technology," according to its prospectus, or that could "transform" the industrial sector.

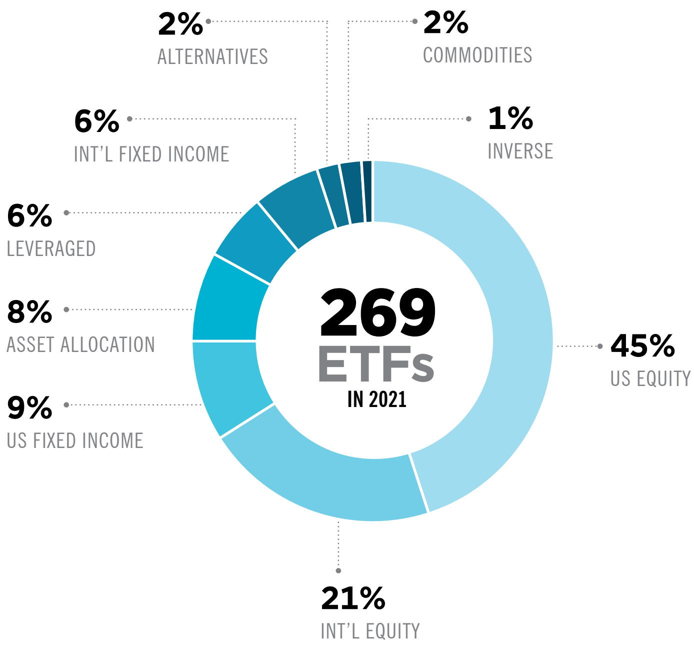
SPRX comes with an expense ratio of 0.75% and lists on the Nasdaq stock market.

Basically, the fund is looking for disruptive innovation opportunities in the industrial sector, with the categories including environmental focus and decarbonization; manufacturing digitalization; robotics and industrial automation; photonics and additive manufacturing; space exploration; and artificial intelligence.

"Although SPRX invests in innovative industrial technologies, we believe the real value comes from finding under-the-radar opportunities across the supply chain," Ivana Delevska, SPEAR Invest's founder and SPRX's manager, said in a press release.

SPRX's universe includes about 120 securities that fall under the identified themes. From there, the firm looks at aspects like competitive positioning, financial performance, management quality and ESG criteria to winnow the securities down to a high-conviction portfolio of roughly 25 holdings. Notably, SPRX only held three components in common with the ARK Innovation ETF (ARKK) when it launched.

**Launch Allocation**




**ETF Launch Activity**

**U.S. EQUITIES**
AAM Bahl & Gaynor Sm/Mid Cap Inc Growth
Global X NASDAQ 100 Collar 95-110
Global X NASDAQ 100 Risk Managed Income
Global X NASDAQ 100 Tail Risk
Global X S&P 500 Collar 95-110
Global X S&P 500 Risk Managed Income
Global X S&P 500 Tail Risk
Hartford Schroders ESG US Equity
Nuveen Small Cap Select
Nuveen Winslow Large-Cap Growth ESG
Revere Sector Opportunity
The Future Fund Active
Zacks Earnings Consistent Portfolio

**U.S. FIXED INCOME**
BNY Mellon Ultra Short Income
John Hancock Mortgage-Backed Securities

**INTERNATIONAL EQUITY**
BlackRock Future Climate/Sustainable Econ
Nuveen Dividend Growth
SonicShares Global Shipping
Spear Alpha
Virtus Duff & Phelps Clean Energy

**INVERSE**
MicroSectors FANG & Innovation -3x Inv Lev ETN

**LEVERAGED**
MicroSectors FANG & Innovation 3x Lev ETN

**SPRX Quick View**

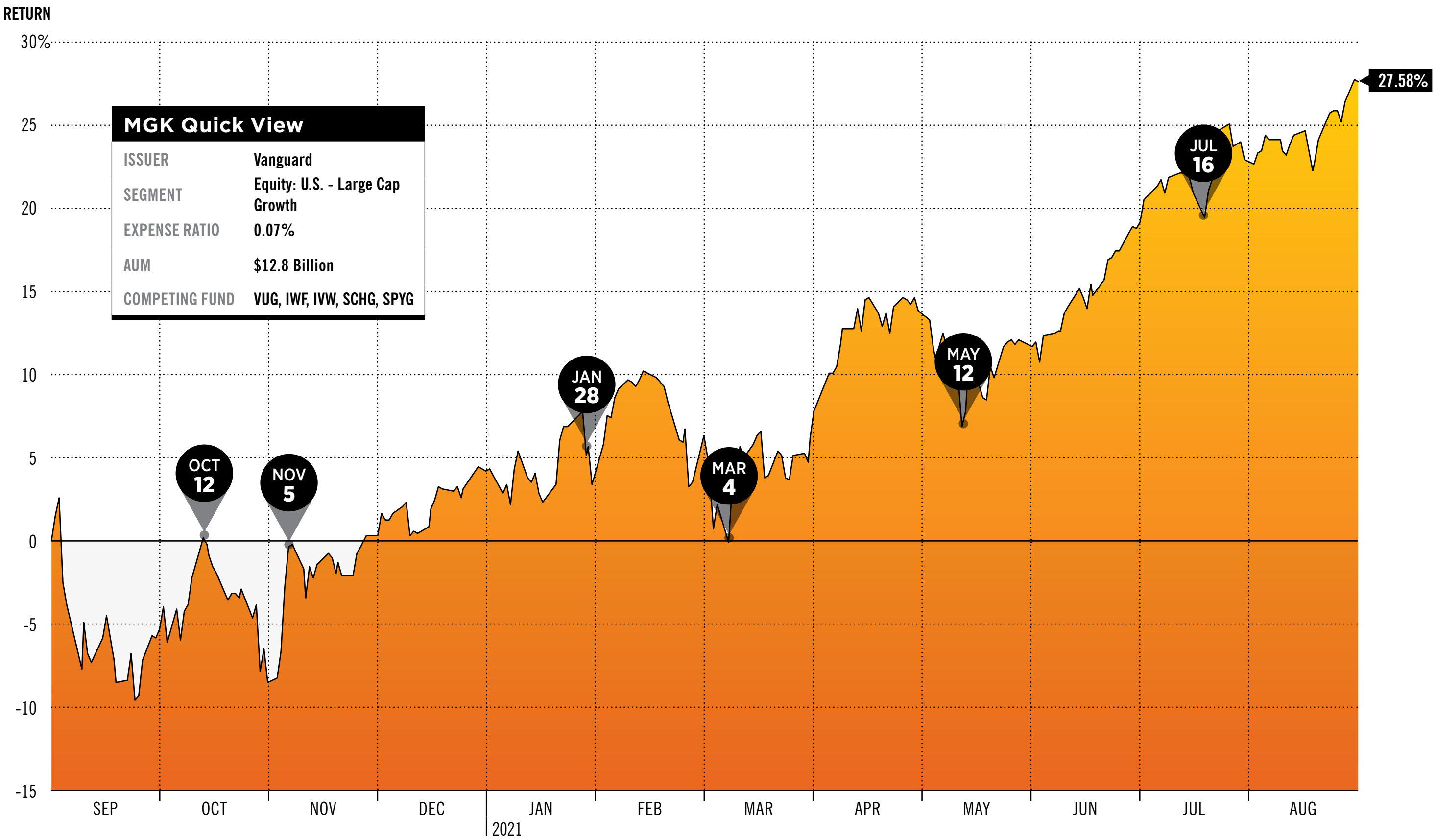
| ISSUER | SEGMENT | EXPENSE RATIO | STRUCTURE | INCEPTION |
|---|---|---|---|---|
| Spear Advisors | Equity: Global Broad Thematic | 0.75% | Open-Ended Fund | 8/2/2021 |

*Source: ETF.com. Data and information as of 8/31/2021. The above sidebar covers launches and closures for the month of August 2021.*

By Heather Bell

# ETF Explainer

Each month, we look at an ETF selected by ETF.com based on its performance and importance to investors. This month, we consider the performance of the $12.8 billion **Vanguard Mega Cap Growth ETF (MGK)**, a tech-heavy fund focused on the top tier of large cap growth stocks. All the companies mentioned below are holdings in MGK, unless otherwise noted (*).




**MGK Quick View**

| | |
|---|---|
| ISSUER | Vanguard |
| SEGMENT | Equity: U.S. - Large Cap Growth |
| EXPENSE RATIO | 0.07% |
| AUM | $12.8 Billion |
| COMPETING FUND | VUG, IWF, IWW, SCHG, SPYG |

**OCT 12** In the leadup to Amazon Prime Day (Oct. 13), the company's stock rises in anticipation of higher sales despite the pandemic, as Prime members tend to be higher-income earners.

**NOV 5** With election results still pending, top tech companies in MGK soar on expectations of gridlock in Congress, which will likely stave off prospects of higher corporate taxes.

**JAN 28** Facebook's Oversight Board overturns several of the company's decisions to remove potentially offensive content in four of five cases, its first batch of judgments since forming in fall 2020.

**MAR 4** Inflation fears put downward pressure on tech stocks, with Tesla shares particularly hard hit. The company also faces growing competition, parts shortages and increasing costs.

**MAY 12** Tech stocks including Apple lead a market downturn spurred once again by inflation fears and concerns about sky-high market valuations in the sector.

**JUL 16** NVIDIA stock sees a multiday decline, hurt by less demand from the cryptocurrency space and news of Intel's* possible acquisition of Advanced Micro Devices.

*Source: Bloomberg; data for 8/31/2020-8/31/2021*

# ETF Comparison Tool

The ETF.com Comparison Tool allows investors to make one-to-one comparisons on a variety of features and metrics between any two ETFs
www.etf.com/etfanalytics/etf-comparison-tool

## Facts & Costs

| TICKER | FUND |
|---|---|
| ONLN | ProShares Online Retail ETF |

ISSUER: **ProShares**

| AUM | EXPENSE RATIO | AVERAGE DAILY $ VOLUME | NUMBER OF HOLDINGS |
|---|---|---|---|
| $907.28M | 0.58% | $4.88M | 41 |

| AVERAGE SPREAD (%) | AVERAGE SPREAD ($) | MEDIAN TRACKING DIFFERENCE (12 MO) | MAX LT/ST CAPITAL GAINS RATE |
|---|---|---|---|
| 0.11% | $0.08 | - | 20.00% / 39.60% |

## Performance

| 1 MONTH | 3 MONTHS | YTD | 1 YEAR | 3 YEARS | 5 YEARS |
|---|---|---|---|---|---|
| -3.29% | -10.48% | -7.07% | 13.97% | 23.27% | - |

## Facts & Costs

| TICKER | FUND |
|---|---|
| IBUY | Amplify Online Retail ETF |

ISSUER: **Amplify Investments**

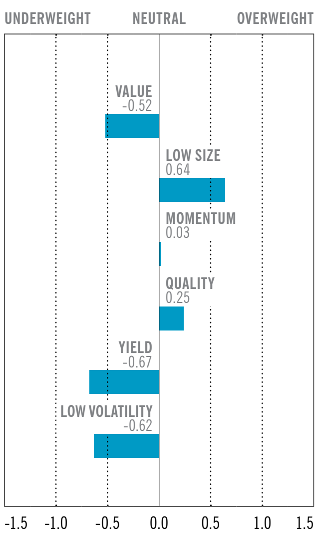
| AUM | EXPENSE RATIO | AVERAGE DAILY $ VOLUME | NUMBER OF HOLDINGS |
|---|---|---|---|
| $1.01B | 0.65% | $14.15M | 74 |

| AVERAGE SPREAD (%) | AVERAGE SPREAD ($) | MEDIAN TRACKING DIFFERENCE (12 MO) | MAX LT/ST CAPITAL GAINS RATE |
|---|---|---|---|
| 0.11% | $0.14 | 26.32% | 20.00% / 39.60% |

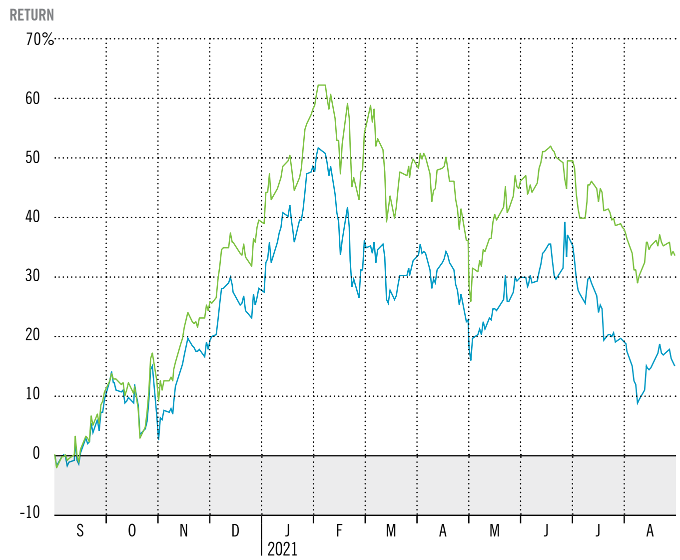
## Performance

| 1 MONTH | 3 MONTHS | YTD | 1 YEAR | 3 YEARS | 5 YEARS |
|---|---|---|---|---|---|
| -3.26% | -7.34% | 0.78% | 33.15% | 30.45% | 33.72% |

## MSCI ONLN Factors

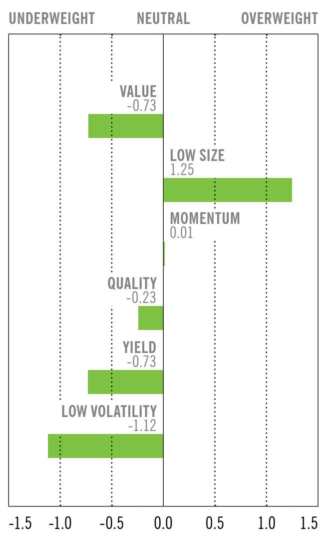



## Performance




*Source: Bloomberg, 9/10/2020-9/10/2021*

## MSCI IBUY Factors




## ONLN TOP 10 SECTORS

| | |
|---|---|
| Department Stores | 41.70% |
| Internet Services | 19.49% |
| Other Specialty Retailers | 5.32% |
| Software | 3.16% |
| Apparel & Accessories Retailers | 2.38% |
| Discount Stores | 2.31% |
| Advertising & Marketing | 2.30% |
| Drug Retailers | 2.30% |
| Auto Vehicles, Parts & Service Retailers | 2.29% |
| Business Support Services | 0.26% |

## ONLN TOP 10 HOLDINGS

| | |
|---|---|
| Amazon.com, Inc. | 24.97% |
| Alibaba Group Holding Ltd. | 12.65% |
| eBay Inc. | 4.14% |
| Sea Ltd. (Singapore) Sponsored ADR Class A | 3.25% |
| DoorDash, Inc. Class A | 3.25% |
| Pinduoduo, Inc. Class A | 2.49% |
| Etsy, Inc. | 2.41% |
| JD.com, Inc. Sponsored ADR Class A | 2.37% |
| FIGS, Inc. Class A | 2.35% |
| Wayfair, Inc. Class A | 2.18% |

## IBUY TOP 10 SECTORS

| | |
|---|---|
| Internet Services | 34.39% |
| Department Stores | 13.16% |
| Auto Vehicles, Parts & Service Retailers | 6.31% |
| Leisure & Recreation | 6.19% |
| Other Specialty Retailers | 4.64% |
| Apparel & Accessories Retailers | 3.85% |
| Home Furnishings | 2.66% |
| Software | 2.48% |
| Employment Services | 2.20% |
| Recreational Products | 2.12% |

## IBUY TOP 10 HOLDINGS

| | |
|---|---|
| Stamps.com Inc. | 3.35% |
| Just Eat Takeaway.com N.V. | 2.76% |
| DoorDash, Inc. Class A | 2.63% |
| Carvana Co. Class A | 2.47% |
| Revolve Group, Inc Class A | 2.38% |
| Etsy, Inc. | 2.37% |
| Shutterstock, Inc. | 2.28% |
| Netflix, Inc. | 2.16% |
| eBay Inc. | 2.14% |
| Airbnb, Inc. Class A | 2.10% |

*Sources: ETF.com and Bloomberg. Data and information as of 9/10/2021.*

# ETF Stock Finder

The ETF.com Stock Finder Tool helps you find which ETFs hold a certain stock and how much of it they own.
www.etf.com/etfanalytics/etf-stock-finder

Each month, we look at selected stocks based on their performance and importance to investors.
This month, we highlight NVIDIA Corporation (NVDA), Snap, Inc. Class A (SNAP) and Dick's Sporting Goods, Inc. (DKS).

Stock

## NVDA

### NVIDIA Corporation

| ETFs Holding NVDA | NVDA Shares in ETFs |
|---|---|
| **308** | **165.7 Million** |

| Biggest Holder | Largest Allocation |
|---|---|
| **QQQ** Invesco QQQ Trust | **USD** ProShares Ultra Semiconductors |

### Most NVDA Exposure

| Ticker | Fund | % of Allocation |
|---|---|---|
| USD | ProShares Ultra Semiconductors | 16.33% |
| BIBL | Inspire 100 ETF | 10.33% |
| SMH | VanEck Vectors Semiconductor ETF | 9.70% |
| ESPO | VanEck Vectors Video Gaming and eSports ETF | 9.47% |
| SOXQ | Invesco PHLX Semiconductor ETF | 9.37% |

### Most NVDA Shares

| Ticker | Fund | # of Allocation |
|---|---|---|
| QQQ | Invesco QQQ Trust | 32.15M |
| SPY | SPDR S&P 500 ETF Trust | 25.59M |
| IVV | iShares Core S&P 500 ETF | 19.72M |
| XLK | Technology Select Sector SPDR Fund | 10.70M |
| IWF | iShares Russell 1000 Growth ETF | 7.97M |

### Top ETF Strategies Using NVDA

| Strategy | # of ETFs |
|---|---|
| Vanilla ETFs | 63 |
| Active Management ETFs | 61 |
| Multi-factor ETFs | 35 |
| ESG ETFs | 31 |
| Fundamental ETFs | 31 |

Stock

## SNAP

### Snap, Inc. Class A

| ETFs Holding SNAP | SNAP Shares in ETFs |
|---|---|
| **121** | **35.7 Million** |

| Biggest Holder | Largest Allocation |
|---|---|
| **VTI** Vanguard Total Stock Market ETF | **VPOP** Simplify Volt Pop Culture Disruption ETF |

### Most SNAP Exposure

| Ticker | Fund | % of Allocation |
|---|---|---|
| VPOP | Simplify Volt Pop Culture Disruption ETF | 22.97% |
| SOCL | Global X Social Media ETF | 10.73% |
| FPX | First Trust U.S. Equity Opportunities ETF | 7.92% |
| XDAT | Franklin Exponential Data ETF | 5.67% |
| AMOM | QRAFT AI-Enhanced U.S. Large Cap Momentum | 5.37% |

### Most SNAP Shares

| Ticker | Fund | # of Allocation |
|---|---|---|
| VTI | Vanguard Total Stock Market ETF | 6.44M |
| FDN | First Trust Dow Jones Internet Index Fund | 4.52M |
| VUG | Vanguard Growth ETF | 4.20M |
| FPX | First Trust U.S. Equity Opportunities ETF | 2.14M |
| VXF | Vanguard Extended Market ETF | 2.02M |

### Top ETF Strategies Using SNAP

| Strategy | # of ETFs |
|---|---|
| Vanilla ETFs | 30 |
| Active Management ETFs | 28 |
| Fundamental ETFs | 15 |
| Multi-factor ETFs | 13 |
| ESG ETFs | 9 |

Stock

## DKS

### Dick's Sporting Goods, Inc.

| ETFs Holding DKS | DKS Shares in ETFs |
|---|---|
| **140** | **8.1 Million** |

| Biggest Holder | Largest Allocation |
|---|---|
| **IJH** iShares Core S&P Mid-Cap ETF | **FTXD** First Trust Nasdaq Retail ETF |

### Most DKS Exposure

| Ticker | Fund | % of Allocation |
|---|---|---|
| FTXD | First Trust Nasdaq Retail ETF | 4.24% |
| PEZ | Invesco DWA Consumer Cyclicals Momentum | 2.66% |
| FOVL | iShares Focused Value Factor ETF | 2.63% |
| GLRY | Inspire Faithward Mid Cap Momentum ESG ETF... | 2.49% |
| BFIT | Global X Health & Wellness ETF | 2.46% |

### Most DKS Shares

| Ticker | Fund | # of Allocation |
|---|---|---|
| IJH | iShares Core S&P Mid-Cap ETF | 1.76M |
| MDY | SPDR S&P Midcap 400 ETF Trust | 587.99K |
| VB | Vanguard Small-Cap ETF | 495.93K |
| VBR | Vanguard Small-Cap Value ETF | 462.46K |
| IJJ | iShares S&P Mid-Cap 400 Value ETF | 452.56K |

### Top ETF Strategies Using DKS

| Strategy | # of ETFs |
|---|---|
| Multi-factor ETFs | 33 |
| Vanilla ETFs | 28 |
| Value ETFs | 19 |
| Active Management ETFs | 18 |
| Fundamental ETFs | 18 |

*Source: ETF.com. Data and information as of 9/7/2021.*

Compiled by Heather Bell

# Data At A Glance

## Monthly Flows

Below are the ETFs that experienced the top and bottom flows in August 2021, as well as the net flows for major asset classes.

### TOP GAINERS

| TICKER | FUND | ISSUER | NET FLOWS ($M) | AUM ($M) |
|---|---|---|---|---|
| SPY | SPDR S&P 500 ETF Trust | SSGA | 5,124.69 | 399,669.13 |
| VOO | Vanguard S&P 500 ETF | Vanguard | 4,887.05 | 256,021.17 |
| VTI | Vanguard Total Stock Market ETF | Vanguard | 4,329.28 | 272,543.11 |
| QQQ | Invesco QQQ Trust | Invesco | 2,591.26 | 193,122.21 |
| LQD | iShares iBoxx USD Invest. Grade Corporate Bond ETF | BlackRock | 2,541.29 | 42,843.15 |
| TIP | iShares TIPS Bond ETF | BlackRock | 1,771.01 | 33,204.43 |
| SCZ | iShares MSCI EAFE Small-Cap ETF | BlackRock | 1,647.47 | 15,149.63 |
| XLF | Financial Select Sector SPDR Fund | SSGA | 1,619.89 | 43,428.28 |
| ESGU | iShares ESG Aware MSCI USA ETF | Blackrock | 1,539.22 | 22,919.72 |
| KWEB | KraneShares CSI China Internet ETF | CICC | 1,434.57 | 6,403.70 |

### BIGGEST LOSERS

| TICKER | FUND | ISSUER | NET FLOWS ($M) | AUM ($M) |
|---|---|---|---|---|
| GLD | SPDR Gold Trust | SSGA | -1,774.39 | 57,819.62 |
| SDY | SPDR S&P Dividend ETF | SSGA | -941.44 | 19,878.02 |
| MBB | iShares MBS ETF | BlackRock | -576.08 | 24,929.52 |
| SOXL | Direxion Daily Semiconductor Bull 3X Shares | Direxion | -537.56 | 3,907.70 |
| EWZ | iShares MSCI Brazil ETF | BlackRock | -519.18 | 5,084.05 |
| ARKK | ARK Innovation ETF | ARK | -512.72 | 22,485.97 |
| XOP | SPDR S&P Oil & Gas Exploration & Production ETF | SSGA | -504.65 | 2,849.08 |
| SPHD | Invesco S&P 500 High Dividend Low Volatility ETF | Invesco | -496.37 | 3,021.25 |
| XLE | Energy Select Sector SPDR Fund | SSGA | -492.54 | 22,170.64 |
| FAS | Direxion Daily Financial Bull 3x Shares | Direxion | -467.03 | 3,209.86 |

### ASSET CLASSES

| | NET FLOWS ($M) | AUM ($M) | % OF AUM |
|---|---|---|---|
| U.S. Equity | 280,854.36 | 4,039,224.14 | 6.95% |
| International Equity | 161,541.13 | 1,300,997.29 | 12.42% |
| U.S. Fixed Income | 115,531.55 | 1,079,777.69 | 10.70% |
| International Fixed Income | 27,454.62 | 149,681.55 | 18.34% |
| Commodities | -3,285.06 | 138,119.15 | -2.38% |
| Currency | 42.84 | 1,922.75 | 2.23% |
| Leveraged | -1,073.92 | 64,057.42 | -1.68% |
| Inverse | 5,150.70 | 11,850.39 | 43.46% |
| Asset Allocation | 3,532.70 | 18,322.58 | 19.28% |
| Alternatives | 2,559.32 | 6,728.61 | 38.04% |

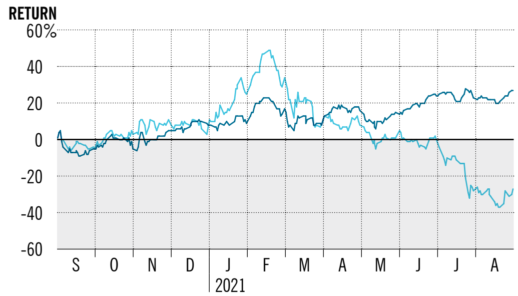
## Interesting Charts Of Past 12 Months

The below charts highlight some of the key ETF trends of the past the year so far.

**KWEB** KraneShares CSI China Internet ETF

**FDN** First Trust Dow Jones Internet Index Fund

The 12-month chart shows the recent dramatic rise and fall of China's internet industry relative to that of the U.S.




**USO** United States Oil Fund LP

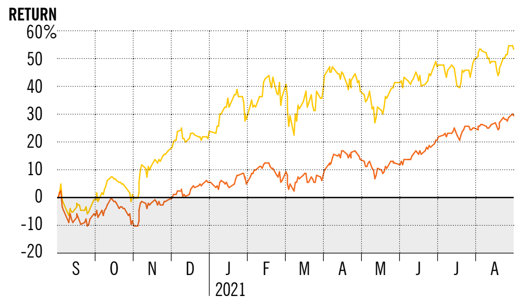
**GLD** SPDR Gold Trust

Oil has pulled ahead of gold dramatically during the 12-month period after trailing it for years.


**SOXX** iShares Semiconductor ETF

**XLK** Technology Select Sector SPDR

A global chip shortage has boosted the performance of the semiconductor industry relative to that of the broad technology sector.



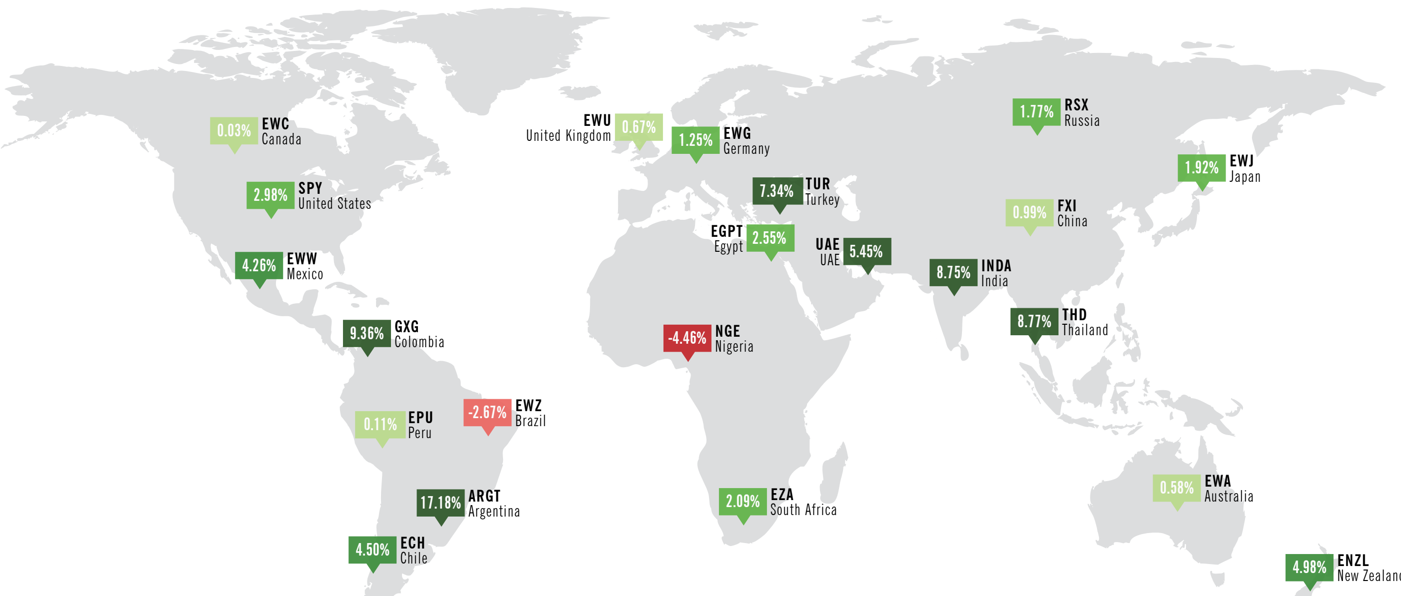

*Sources: FactSet, Bloomberg; data as of 8/31/2021*

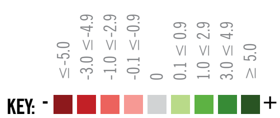
# Countries

August was a mostly positive month for country ETFs, especially in Latin America, with the **Global X MSCI Argentina ETF (ARGT)** blowing all other funds out of the water with a 17.18% return. The country represents South America's second-largest economy, and its market was boosted by positive developments around the nation's debt, recovering foreign reserves and improving COVID-19 numbers, among other factors. The second-best performer during the month was the **Global X MSCI Colombia ETF (GXG)**, up 9.36%.

At the other end of the spectrum, the **Global X MSCI Nigeria ETF (NGE)** was the worst performer, down 4.46% during the month, which it kicked off with a weeklong decline that hit the market's blue chips hard. The market was no doubt further hampered by reports of spikes in positive COVID-19 tests and fears the country was unprepared to deal with the delta variant of the virus.

The **iShares MSCI Brazil ETF (EWZ)** was the second-worst performer, down 2.67%, and the sole Latin American market to see a decline during the month. In the months preceding August, the country was hit by multiple frost events, damaging production of sugar, coffee and corn, while midmonth saw President Bolsonaro casting doubt on the integrity of the country's electoral system.




*Index Data Source: MSCI*
*Sources: Bloomberg and FactSet*
*Data from 7/30/2021 to 8/31/2021*

MSCI

## TOP INFLOWS

| TICKER | FUND | NET FLOWS ($M) | AUM ($M) |
|---|---|---|---|
| SPY | SPDR S&P 500 ETF Trust | 5,124.7 | 395,772.5 |
| EWC | iShares MSCI Canada | 387.6 | 4,175.7 |
| EWU | iShares MSCI United Kingdom | 113.8 | 3,612.8 |
| EWP | iShares MSCI Spain | 109.6 | 712.2 |
| EWL | iShares MSCI Switzerland | 107.7 | 1,777.3 |

## TOP OUTFLOWS

| TICKER | FUND | NET FLOWS ($M) | AUM ($M) |
|---|---|---|---|
| EWZ | iShares MSCI Brazil | -519.2 | 5,113.9 |
| RSX | VanEck Russia | -173.1 | 1,580.8 |
| EWG | iShares MSCI Germany | -104.9 | 2,880.6 |
| INDA | iShares MSCI India | -70.4 | 6,278.1 |
| EWS | iShares MSCI Singapore | -38.5 | 625.3 |

*Note: This list intends to capture the returns of most liquid ETFs tracking individual countries around the world. It does not capture every country in the MSCI All Country World Index.*

# Cryptocurrency Corner

ETF Report takes the pulse of the cryptocurrency space, including the performance of leading cryptocurrencies and the top related news items

## Performance

| | Bitcoin (BTC) | Ethereum (ETH) | Ripple (XRP) | Cardano (ADA) | Polkadot (DOT) | Dogecoin (DOGE) |
|---|---|---|---|---|---|---|
| YTD | ▲ 62.70% | ▲ 364.39% | ▲ 436.44% | ▲ 1429.94% | ▲ 236.96% | ▲ 5774.31% |
| 1 YEAR | ▲ 304.33% | ▲ 686.98% | ▲ 320.04% | ▲ 2169.58% | ▲ 396.79% | ▲ 8533.04% |
| 3 YEARS | ▲ 88.72% | ▲ 129.96% | ▲ 52.33% | ▲ 200.84% | N/A | ▲ 286.98% |

*(Data as of 8/31/2021)*

Data Provided By COINMETRICS

By Sumit Roy

## El Salvador Approves Crypto

**Cryptocurrencies plunged on Sept. 6 as a multiweek rally in prices stalled below the highs from earlier in the year.** Bitcoin was trading on Sept. 7 at $47,320, down 8.8%, while ether traded at $3,525, a decline of 10.5%.

For bitcoin, news that the cryptocurrency had officially become legal tender in El Salvador did little to stem the selling. The country—the first to adopt a cryptocurrency as an official currency—now has two forms of legal tender: bitcoin and the U.S. dollar.

El Salvador's president, Nayib Bukele, tweeted that the country had purchased 350 bitcoins on Sept. 5 and Sept. 6, bringing its total holdings up to 550 coins.

While a significant milestone, the news of bitcoin becoming legal tender in El Salvador wasn't a surprise, as the law to make it so had passed three months ago. El Salvador is also a small country, with GDP of around $25 billion.

The Sept. 6 drop in crypto prices seems to be a routine occurrence in a highly speculative market. Over the past few months, there has been a mania in parts of the crypto ecosystem, particularly in nonfungible tokens, which has driven up the price of cryptocurrencies native to smart contract platforms like Ethereum and Solana.

Jamie Gordon, ETF Stream

## Report Favors Blockchain ETFs

**A recent report authored by Scott Chronert, managing director and global head of ETF research at Citi,** titled "Uncorrelated Growth Opportunities in Blockchain ETFs" makes the core assertion that the suites of blockchain ETFs available in Europe and the US currently represent a good opportunity for diversification, given what Citi considers to be "muted" connections with macro and factor considerations.

There has been some overlap between blockchain strategies and growth-focused products, the report said, however, the connection between the two exposures that existed between 2017 and 2020 has subsided since the second half of last year as the blockchain theme received greater news coverage and practical applications.

In fact, the blockchain thematic ETF category and growth factor have moved largely in opposite directions since last September but the report warned against drawing connections between economic cycles and the performance of blockchain equities.

The main cause of blockchain's idiosyncrasy, Chronert said, is based both on the intensity of news coverage and the actual adoption of blockchain technologies.

By Sumit Roy

## Billionaire Paulson A Crypto Skeptic

**Nearly a decade and a half after successfully betting against the U.S. housing market, John Paulson says he has identified another bubble.** Speaking in a Bloomberg interview, the billionaire investor called cryptocurrencies a massive bubble that is sure to pop.

"I would say that cryptocurrencies are a bubble. I would describe them as a limited supply of nothing," said Paulson. "There's no intrinsic value to any of the cryptocurrencies except that there's a limited amount."

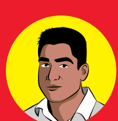
"Cryptocurrencies, regardless of where they're trading today, will eventually prove to be worthless," he added. "Once the exuberance wears off, or liquidity dries up, they will go to zero."

Unlike during the financial crisis, when Paulson used credit default swaps to profit from the implosion of the subprime mortgage market, he says it was far too risky to bet against cryptocurrencies.

"The reason we shorted subprime in size was because it was asymmetrical—shorting a bond at par that has a limited duration that trades at a 1% spread of Treasuries. So you can't lose more than the spread in the duration. In crypto, there's unlimited downside," the billionaire explained.

# WHEN WILL THE **U.S.** GET A **BITCOIN ETF**

**A deep dive into bitcoin ETF demand, the regulatory obstacles and how such products would improve markets**



**By Sumit Roy**

**Crypto Editor & ETF Analyst for ETF.com and ETF Report**

**Holding bitcoin has been an enriching experience for thousands of investors, but not everyone has had easy access to the digital currency.**

While almost any U.S. investor can go out and open a Coinbase account to trade bitcoin, not everyone is comfortable doing so. For various reasons, others may be restricted to buying and selling securities in their traditional brokerage account.

That's where a bitcoin ETF would come in handy. Unfortunately, no bitcoin ETF exists in the U.S. Could that change?

## AN 8-YEAR SAGA

It's been eight years since Cameron and Tyler Winklevoss submitted the first filing for a bitcoin ETF, the Winklevoss Bitcoin Trust. But the proposed fund was twice rejected by the Securities and Exchange Commission amid concerns about the risky nature of the nascent cryptocurrency market.

The ETF, which would have traded under the ticker symbol "COIN" (now claimed by crypto platform Coinbase) wasn't alone. The SEC has rejected more than a dozen other proposed bitcoin ETFs over the past several years, each time citing issues with inadequate investor protections in the bitcoin market.

The rejected ETFs came in all shapes and sizes, from "physical" bitcoin funds that would directly own the cryptocurrency to futures-based products that would hold derivative contracts on the Chicago Mercantile Exchange; from long-only funds to leveraged and inverse products—nothing passed muster with the SEC.

## CLAYTON ERA

There was perhaps no lower point in the journey to get a U.S.-listed bitcoin ETF approved than in the summer of 2018. That's when in a single day in August, the commission rejected a whopping nine proposed bitcoin ETFs.

"Rules and surveillance to prevent manipulative techniques do not exist on all of the exchange venues where digital currencies trade," former SEC Chairman Jay Clayton, who headed the regulator between 2017 and 2020, explained in 2018.

The issue of custody also was a sticking point for the chairman, who said that the risk in an ETF should only be the risk of the value of the underlying asset, and shouldn't include the risk of theft or disappearance of said asset.

Clayton's SEC also took issue with the then-nascent state of bitcoin futures markets.

"While CME and CBOE are regulated markets for bitcoin derivatives, there is no basis in the record for the Commission to conclude that these markets are of significant size. Additionally, because bitcoin futures have been trading on CME and CBOE only since December 2017, the Commission has no basis on which to predict how these markets may grow or develop over time, or whether or when they may reach significant size," the SEC wrote in one of its orders rejecting a futures-based bitcoin ETF in 2018.

**PROPOSED BITCOIN ETF FILINGS**

| FUND | ISSUER | TYPE | FILING DATE |
|---|---|---|---|
| **AdvisorShares Managed Bitcoin ETF** | AdvisorShares | Futures-based | 8/20/2021 |
| **Galaxy Bitcoin Strategy ETF** | Galaxy Digital | Futures-based | 8/18/2021 |
| **Valkyrie Bitcoin Strategy ETF** | Valkyrie Funds | Futures-based | 8/11/2021 |
| **Bitcoin Strategy ETF** | VanEck | Futures-based | 8/9/2021 |
| **ProShares Bitcoin Strategy ETF** | ProShares Advisors | Futures-based | 8/4/2021 |
| **Invesco Bitcoin Strategy ETF** | Invesco Capital Management | Futures-based | 8/4/2021 |
| **Global X Bitcoin Trust** | Global X Digital Assets | Physical | 7/21/2021 |
| **ARK 21Shares Bitcoin ETF** | 21Shares | Physical | 6/28/2021 |
| **One River Carbon Neutral Bitcoin Trust** | One River Digital Asset Management | Physical | 5/24/2021 |
| **Teucrium Bitcoin Futures Fund** | Teucrium Trading | Futures-based | 5/20/2021 |
| **Galaxy Bitcoin ETF** | Galaxy Digital Capital Management | Physical | 4/12/2021 |
| **Kryptoin Bitcoin ETF Trust** | Kryptoin Investment Advisors | Physical | 4/9/2021 |
| **Wise Origin Bitcoin Trust** | FD Funds Management | Physical | 3/24/2021 |
| **First Trust SkyBridge Bitcoin ETF Trust** | First Trust Advisors | Physical | 3/19/2021 |
| **WisdomTree Bitcoin Trust** | WisdomTree Digital Commodity Services | Physical | 3/11/2021 |
| **NYDIG Bitcoin ETF** | NYDIG Asset Management | Physical | 2/16/2021 |
| **Valkyrie Bitcoin Fund** | Valkyrie Digital Assets | Physical | 1/22/2021 |
| **VanEck Bitcoin Trust** | VanEck Digital Assets | Physical | 12/30/2020 |

*Source: SEC*

## THE TIME IS RIGHT

Naturally, filings for new bitcoin ETFs were few and far between in the aftermath of the SEC's decisive rejection of multiple bitcoin funds in 2018. But the dream of a U.S.-listed bitcoin ETF never died. After two quiet years, filings for bitcoin ETFs ramped up significantly this year, and expectations for a successful launch have arguably never been higher.

There are a few reasons for this. First, the cryptocurrency ecosystem has matured significantly in the past few years. As of this writing, bitcoin has a market capitalization of more than $850 billion; bitcoin futures have traded on the CME for over three years; and many reputable platforms, like PayPal and Fidelity, offer bitcoin trading and/or custody services.

Second, there have been a number of successful bitcoin ETF launches around the world—including Canada—suggesting that regulators may be coming around to the idea that cryptocurrencies are an investable asset class.

Third—and perhaps most importantly as it relates to a U.S.-listed bitcoin ETF—Gary Gensler, the new SEC chairman, directly hinted that an approval may be possible.

## GENSLER'S SPEECH

Expectations that the SEC may finally give the green light to a bitcoin ETF moved sharply higher in August after Gensler expressed an openness to considering one in a speech he gave to the Aspen Security Forum.

"I anticipate that there will be filings with regard to exchange-traded funds under the Investment Company Act ['40 Act]," Gensler said in his remarks. "When combined with the other federal securities laws, the '40 Act provides significant investor protections."

He added: "Given these important protections, I look forward to the staff's review of such filings, particularly if those are limited to these CME-traded bitcoin futures."

The reaction to Gensler's comments was immediate. In the two weeks following his speech, filings for half a dozen futures-based bitcoin ETFs entered the pipeline.

The race was on.

## EXPECTATIONS RISING

If 2018 marked the low point for expectations of a U.S.-listed bitcoin ETFs, perhaps Gensler's speech marks the high point—or at least the highest point since right before the regulator rejected the Winklevoss Bitcoin Trust the first time in 2017.

Lending support to the idea that the SEC may finally give the nod to a bitcoin ETF are the three U.S. bitcoin mutual funds that were approved this summer. Each of those funds invests in bitcoin futures, reinforcing the idea that a futures-based ETF would likely be the first type of bitcoin exchange-traded fund to launch.

Not everyone is happy about that. Handling futures introduces the potential for tracking error as a fund must roll from one futures contract to the next. Some market participants say that's an unnecessary cost to investors, because the SEC could just approve a "physical" bitcoin ETF that would own bitcoin directly.

> **Handling futures introduces the potential for tracking error**

While that may be true, there are no indications that the SEC is ready to approve that type of bitcoin ETF in the near future (though the 11 "physical" bitcoin ETFs still in the pipeline suggest that issuers haven't given up hope on the SEC eventually coming around).

If a bitcoin futures-based ETF is able to launch and trade without issues, perhaps the SEC will take the next step and approve a fund that directly owns bitcoin.

## SURE THING?

After eight years of little progress, nothing is certain when it comes to a U.S.-listed bitcoin ETF, but analysts say that if the SEC finally comes around to approving one, it could make the move as soon as this fall. Whether the commission approves one particular ETF or multiple at the same time is an open question (most people believe that the fairest outcome would be the latter).

Once approved, the first bitcoin ETF is likely to be a hit with investors—though probably not as big a hit as a "physical" bitcoin ETF would have been.

There has been a widely held belief among people in the U.S. ETF industry that a bitcoin ETF is as close to a "sure thing" as you can get. The expectation was that the first bitcoin ETF to launch would be a home run, having the potential to gather $1 billion of assets or more in just a day or two (the **SPDR Gold Trust (GLD)** currently holds the record for fastest ETF to that mark: three days) and tens of billions of dollars more in the weeks and months that follow.

But that thesis was predicated on a "physical" bitcoin ETF. It remains to be seen how much demand there is for a futures-based product.

After eight years and counting, investors will take what they can get, even though the approval of the first U.S.-listed bitcoin ETF may not be the end of this ongoing saga. ●

# CLIENT PORTFOLIOS & CRYPTO

**ADVISORS ARE WORKING TO DEFINE THE ROLE OF A BRAND NEW ASSET IN CLIENT PORTFOLIOS**

**By Debbie Carlson**

Contributor to ETF.com & ETF Report

**Cryptocurrencies have sat mostly on the sidelines of traditional investing for several years, but many financial advisors are cautiously considering a role for digital assets in portfolios as client interest increases.**

Digital coins may be a new asset class, but how advisors judge suitability for their clients in broader asset allocation hasn't changed. The basics still stand: Advisors need to understand a client's risk tolerance, time horizon and goals to determine if cryptos are a good diversifier.

Advisors who want to add cryptocurrencies should keep the allocation as an extremely small part of a total portfolio—no more than 1-3%—and have it be part of a satellite position.

## DON'T DISMISS CRYPTO

Some advisors who automatically veto cryptocurrencies without researching the asset are making a mistake, says Eric Ervin, CEO of Blockforce Capital, a cryptocurrency asset management firm, and cofounder of Onramp Invest, a technology platform allowing registered investment advisors access to cryptocurrencies.

"It's easy to say 'it's not suitable'… which is making a fiduciary decision for the client without necessarily looking at it," he said.

Clients may push back, and if advisors have no data or tools to justify their decision, the worst-case scenario is the client moves on and tries a DIY approach, Ervin adds.

"The worst thing that could happen is the client leaves, takes all of their money with them, puts it all in crypto assets and it blows up," he said.

## SIZING UP SUITABILITY

WE Family Offices offers cryptocurrencies to its ultra high net worth clients, explains Matt Farrell, senior investment manager at the firm. It offers that exposure three ways: owning actual cryptocurrencies such as bitcoin and ethereum; through private market investments into the blockchain infrastructure; and through hedge-fund-type vehicles to capture the inherent volatility in digital assets.

The firm takes a long-term view on cryptocurrencies, wanting to hold them for several years or more and stressing this to clients as part of detailed educational sessions so clients know exactly what they're getting into.

"We advise clients to come in with their eyes wide open; that they should expect volatility and drawdowns, and therefore, we size appropriately," he said.

That means keeping holdings to about 1% of total assets under management in coins or through hedge funds, and then complementing the position with private investments focused on infrastructure.

Ervin uses a rule of three: holding assets for at least three years; limit holdings to 3% to avoid making an outsized call; and for those investing regularly, allocate no more than 3% of discretionary income to the space.

## PORTFOLIO INTRODUCTION

Many advisors aren't proactively offering cryptocurrencies because of the volatility, but are talking with clients when they bring it up. A lot of it is educational.

Brian Jass, advisor at Great Waters Financial, says that one client called him with worries about stock market volatility. "He said, 'I want to buy bitcoin because it's safe,'" Jass explained, which prompted further discussion about the client's intent.

Meghan Railey, co-founder and chief financial officer of Optas Capital, says that when clients ask about investing in crypto, she frames conversations to reflect the volatility, saying it's more gambling than investing: "This is how we think about asset classes that can fluctuate so dramatically on a daily basis. We think it's still highly speculative at this point."

If clients still want to invest in cryptos, Railey directs these individuals to buy stablecoins—cryptocurrencies that attempt to use an external reference as a peg—and to buy them on a trusted exchange. The stablecoin category includes cryptocurrencies like TrueUSD and USD Tether. Railey also warns clients to be prepared that the money invested could go to zero.

## REGULAR CHECK-INS

Both Jass and Railey have clients who control their own cryptocurrency accounts, and the advisors will ask about those positions during regular check-in meetings. Jass says even though he isn't monitoring the positions, he wants to be informed, saying the last thing he wants is for a client to feel embarrassed or be secretive about it.

Some of Railey's clients have large investments in coins because they were involved in the space early on, and for

**CORRELATION MATRIX**

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CMBI Bitcoin TR USD | 1.00 | | | | | | | | | |
| 2 | S&P/TSX Composite TR | 0.10 | 1.00 | | | | | | | | |
| 3 | Bloomberg US Agg Bond TR USD | 0.05 | -0.24 | 1.00 | | | | | | | |
| 4 | Bloomberg Canada Aggregate TR CAD | 0.05 | -0.16 | 0.46 | 1.00 | | | | | | |
| 5 | S&P 500 TR USD | 0.10 | 0.74 | 0.08 | -0.19 | 1.00 | | | | | |
| 6 | NASDAQ Composite TR USD | 0.11 | 0.67 | 0.09 | -0.15 | 0.95 | 1.00 | | | | |
| 7 | MSCI World NR USD | 0.10 | 0.79 | 0.04 | -0.16 | 0.97 | 0.91 | 1.00 | | | |
| 8 | Oil Price Brent Crude PR | 0.05 | 0.40 | -0.23 | -0.13 | 0.26 | 0.23 | 0.28 | 1.00 | | |
| 9 | LBMA Gold Price PM USD | 0.14 | 0.06 | 0.38 | 0.26 | 0.13 | 0.14 | 0.11 | -0.11 | 1.00 | |
| 10 | US Dollar Index | 0.02 | 0.00 | 0.25 | -0.13 | 0.16 | 0.16 | 0.10 | 0.06 | -0.09 | 1.00 |

*Source: Morningstar Direct and Ninepoint Partners, 1/1/2016 to 12/31/2020*

1.00 to 0.80 | 0.80 to 0.60 | 0.60 to 0.40 | 0.40 to 0.20 | 0.20 to 0.00
0.00 to -0.20 | -0.20 to -0.40 | -0.40 to -0.60 | -0.60 to -0.80 | -0.80 to -1.00

> While bitcoin is like digital gold, **Ethereum is akin to making a bet on a high-growth company**

those clients whose positions require monitoring, her firm can custody those at Fidelity or Coinbase.

It's critical to find a manager who can custody the coins in a cold storage location—that's storing coins offline—to reduce hacking risks, Farrell stresses: "You sacrifice a little bit of liquidity, but what you gain is reduced operational risk."

For clients with significant positions, Railey "highly recommends" regular rebalancing, because cryptos' value fluctuates so much. The downside is tax inefficiency and potentially missing out on long-term gains. But it can help in avoiding bad decisions based on emotion, she notes.

"People could lose confidence in the stability of crypto in a second, so we want to be constantly making sure we're keeping aligned with our target allocation, whatever the policy we come up with for the allocation," Railey said.

### DIFFERENT CRYPTOS

Alex Tapscott, managing director of digital asset group for the Toronto-based Ninepoint Partners, acknowledges that every client's portfolio needs and asset allocation are different, yet "there are a lot of very compelling reasons for investors to consider owning crypto assets, specifically bitcoin."

Tapscott believes bitcoin matured into an institutional-grade investment, with now trillions of dollars invested in it. He says that bitcoin offers diversification, complementing the role gold and other precious metals play in a portfolio. Similar to gold, bitcoin has a low correlation to other assets, it's not controlled by governments, there's finite supply and it can be used for payments.

He notes bitcoin has some benefits that gold doesn't, particularly that storage is more convenient and it's easier to divide into smaller increments: "I think we've reached the end of what gold can do."

Tapscott points out that bitcoin can contribute better risk-adjusted returns because of its low correlation to other asset classes, which makes his firm comfortable recommending that investors consider the cryptocurrency.

"Do you want to bet the farm on any single asset, let's say, shares of a company or bitcoin? No, of course not," he said. "You consider the benefits of diversification of improving your overall risk-adjusted return."

Ethereum is the other cryptocurrency some in the alt-currency world consider suitable for portfolios. Both Tapscott and Ervin agree that while bitcoin is like digital gold, Ethereum is akin to making a bet on a high-growth company because of the way companies are using Ethereum as a technology platform to build businesses. Ethereum is essentially a blockchain-based network designed to support decentralized applications.

### OTHER WAYS TO INVEST

As of early September, true cryptocurrency ETFs were only available outside the U.S. Gary Gensler, chair of the SEC, strongly hinted that the commission may approve a futures-based bitcoin ETF, leading to waves of filings for such a cryptocurrency ETF in the wake of his statement.

Index providers are creating ways for ETF issuers to access the asset class. In late August, Alerian created two crypto and blockchain indexes, the Alerian Galaxy Global Blockchain Indexes and Alerian Galaxy Global Cryptocurrency-Focused Blockchain Indexes, covering several types of industries in the space.

For advisors who aren't ready to invest in coins themselves and want the ease of an ETF, blockchain ETFs are an option, such as the **Amplify Transformational Data Sharing ETF (BLOK)**.

"You're not going to necessarily have the upside [you'd get with cryptocurrencies] … but you're going to have meaningful upside, probably outperforming the S&P 500 or even a general technology ETF," Ervin said. ●

# INVESTING IN CRYPTO

**ALTHOUGH THERE'S NO CRYPTOCURRENCY ETF YET, THERE ARE NUMEROUS WAYS TO ACCESS THE SPACE**

**By Sumit Roy**
Crypto Editor & ETF Analyst for ETF.com and ETF Report

**As we point out in a separate story in this issue of ETF Report, after eight years, only modest progress has been made in the quest for a U.S.-listed bitcoin ETF.**

But the cryptomarket isn't waiting around. Every day, exciting new developments are taking place in the crypto space as developers and creatives push the boundaries of what blockchains are capable of.

From decentralized finance (DeFi) to nonfungible tokens (NFTs) to decentralized autonomous organizations (DAOs), the initialisms are piling up, as are the gains for early crypto adopters. All this excitement and money being generated in the crypto space has left anyone standing on the outside looking in with a serious case of FOMO.

For traditional ETF investors, the issue is compounded by the lack of a cryptocurrency ETF. Many investors may be interested in investing in this burgeoning nascent space, but the product they're most comfortable investing in—the exchange-traded fund—has been unable to offer them the exposure they want.

So, what's an investor to do?

## AS CONVENIENT AS AN ETF

Fortunately, even though the SEC has been reluctant to approve a cryptocurrency ETF, investors in the U.S. aren't completely without options.

One of the most popular products for investors seeking the convenience of investing in an ETF-like product is the **Grayscale Bitcoin Trust (GBTC)**. To be clear, GBTC is *not* an ETF. It's a quasi-closed-end fund that is quoted on the OTCQX. But for U.S. investors, trading GBTC is as easy as buying and selling any ETF, and for that reason, it's been a hit with them.

This is a product with a whopping $32.4 billion in assets currently, making it bigger than 98.5% of all U.S.-listed ETFs. GBTC attracted all of those assets for good reason; it was one of the earliest products to offer exposure to bitcoin in a familiar format. Quotations on the product began in May 2015, when bitcoin was at only a little over $200.

Historically, there's been so much demand for GBTC that the trust has tended to trade well above its net asset value. But more recently, with many other avenues for buying bitcoin opening up, GBTC's premium has disappeared. In fact, today GBTC trades with a discount of about 13%, meaning shares of the trust are trading below their net asset value.

The **Osprey Bitcoin Trust (OBTC)**, a copycat product with a cheaper expense ratio than GBTC—0.79% versus 2.00% for GBTC—is similarly trading at a 10% discount to NAV.

For its part, Grayscale has committed itself to converting GBTC into a full-fledged ETF if and when the SEC allows it. It may do the same for the **Grayscale Ethereum Trust (ETHE)**, the firm's $12 billion over-the-counter-traded product that holds ether, the native cryptocurrency of the Ethereum network.

## FIRST-MOVER MUTUAL FUNDS

Remember mutual funds? Investors love ETFs for the intraday liquidity and tax efficiencies they provide, but mutual funds are still a popular asset class, particularly in retirement accounts. As products registered under the Investment Company Act of 1940, mutual funds are known for their strong investor protections.

There are plenty of '40 Act ETFs too, but it's mutual funds that've gotten the green light from the SEC to buy bitcoin first—well, bitcoin futures that is.

As of this writing, there are three bitcoin futures-based mutual funds in the U.S., the Bitcoin Strategy ProFund (BTCFX), the Stone Ridge Bitcoin Strategy Fund (BTCIX) and the Cboe Vest Bitcoin Target Volatility Strategy Fund (BTCVX). The first two provide straightforward, rolling exposure to bitcoin futures, while the latter tries to smooth out the volatility of bitcoin by adjusting its futures positions up and down based on market conditions.

Notably, using futures for bitcoin exposure introduces tracking error, as futures-based funds must roll their positions forward over time.

That may be why none of these products have attracted significant interest from investors—though in their defense,

> Grayscale has committed itself to **converting GBTC into a full-fledged ETF**

**CRYPTOCURRENCY INVESTMENT VEHICLES**

| TICKER | FUND | STRUCTURE | EXPENSE RATIO | AUM | INCEPTION |
|---|---|---|---|---|---|
| **GBTC** | Grayscale Bitcoin Trust | Grantor Trust | 2.00% | $31.80B | 9/25/2013 |
| **OBTC** | Osprey Bitcoin Trust | Grantor Trust | 0.79% | $132.37M | 1/22/2019 |
| **ETHE** | Grayscale Ethereum Trust | Grantor Trust | 2.50% | $11.33B | 12/14/2017 |
| **BTCFX** | Bitcoin Strategy ProFund | Mutual Fund | 1.15% | $11.50M | 7/28/2021 |
| **BTCVX** | Cboe Vest Bitcoin Target Volatility Strategy Fund | Mutual Fund | 1.45% | $0.40M | 8/13/2021 |

*Source: Issuer Websites*

**BLOCKCHAIN & DIGITAL ECONOMY ETFs**

| TICKER | FUND | EXPENSE RATIO | AUM | INCEPTION |
|---|---|---|---|---|
| **BLOK** | Amplify Transformational Data Sharing ETF | 0.71% | $1.35B | 1/16/2018 |
| **BLCN** | Siren Nasdaq NexGen Economy ETF | 0.68% | $292.53M | 1/7/2020 |
| **ELGR** | First Trust Indxx Innovative Transaction & Process ETF | 0.65% | $127.23M | 1/24/2018 |
| **BITQ** | Bitwise Crypto Industry Innovators ETF | 0.85% | $78.52M | 5/11/2021 |
| **DAPP** | VanEck Digital Transformation ETF | 0.50% | $60.26M | 4/9/2021 |

*Source: FactSet, data as of 9/9/2021*

**Blockchain ETFs hold shares of public companies that are operating in the crypto space**

they're all quite new, having launched in July and August of this year. Annual expense ratios for the funds range from 1.15% to 1.45%.

## BLOCKCHAIN ETFs

So far, none of the products we've discussed in this story are ETFs. The reason for that is obvious—there are no U.S.-listed cryptocurrency ETFs.

But that doesn't mean there aren't any U.S.-listed crypto ETFs. While the field of cryptography has been around for thousands of years, today "crypto" is widely used to refer to blockchains and the use cases that they support.

Cryptocurrencies are one part of the broader crypto ecosystem, but they aren't the only part of it. There are countless other crypto assets, as well as an ever-growing number of companies involved in the crypto space in varying capacities, some of which enable users to interact with blockchain-based assets and applications more easily.

Bitcoin and ether ETFs aren't available for trading in the U.S., but ETFs targeting some of these other parts of the crypto space are available.

These are sometimes referred to as blockchain ETFs to distinguish them from cryptocurrency ETFs. These blockchain ETFs don't hold any crypto assets per se; rather, they hold shares of public companies that are operating in the crypto space.

That includes shares of companies like Coinbase, a cryptocurrency exchange; Square, a provider of a mobile wallet that allows cryptocurrency trading; Hut 8 Mining, a Bitcoin and Ethereum miner; and others.

As time goes on, more and more publicly traded companies focused on crypto will likely come to market, expanding the universe of stocks that are available for these blockchain ETFs to buy.

Currently, the largest ETFs in the category are the $1.3 billion Amplify Transformational Data Sharing ETF (BLOK), the $290 million **Siren Nasdaq NexGen Economy ETF (BLCN)**, the $127 million **First Trust Indxx Innovative Transaction & Process ETF (LEGR)**, the $75 million **Bitwise Crypto Industry Innovators ETF (BITQ)** and the $60 million **VanEck Digital Transformation ETF (DAPP)**.

## OTHER OPTIONS

If you're an investor and you still aren't satisfied with the types of crypto products mentioned in this story, there are a few more things you can do.

One, you could buy one of the overseas-listed cryptocurrency ETFs. Regulators outside of the U.S. have been more permissive than the SEC when it comes to something like a bitcoin ETF. A number of such funds launched in Canada this year, including the 3iQ CoinShares Bitcoin ETF and the Purpose Bitcoin ETF.

Just note that major U.S. brokerages typically require special accounts to trade international securities, a category that includes bitcoin ETFs listed in Canada, Europe and elsewhere.

Another option is to skip the fund structure altogether and go straight to the source. Coinbase, Gemini and other crypto exchanges allow investors to trade dozens of cryptocurrencies on their platforms. Adventurous investors can go even further by custodying their cryptocurrencies themselves, either in a software or a hardware "wallet." Going this route opens up the possibility to interact with blockchain protocols more directly and own countless other crypto assets, including NFTs.

But going down these more direct paths to crypto ownership opens up security vulnerabilities the average investor may not be equipped to handle. Especially in the crypto space, where transactions are almost always final, something like an ETF—which can handle security and custody on the behalf of investors—makes a lot of sense. ●

# Q+A

## TYRONE ROSS JR.

### Why Advisors Should Care About Crypto

By Sumit Roy

**Tyrone Ross Jr. is an investment advisor and the CEO of Onramp Invest, a technology company providing access to cryptoassets for registered investment advisors. He was recognized by WealthManagement.com as a top 10 advisor set to change the industry in 2019, and made Investment News's 40 Under 40 that same year.**

**ETF Report sat down with Ross to discuss why advisors should care about crypto and what it means for their clients.**

**Why should advisors care about crypto at all?**

They should care about it because their clients own it—and clients are seeing it everywhere, and they're going to have questions. Who cares if you think it's tulips or not? You should be conversant.

Also, they should care because it's going to completely revolutionize our business as advisors. Our business is going to look a lot different in the future due to crypto.

**Could you get into that a little bit more? How do you think the advisor space is going to change because of crypto?**

For one, in decentralized finance (DeFi) right now, you can get yields ranging from 4% to 400%, compared to a 0.03% yield on client cash right now at Schwab. There's over $1 trillion of advisor-managed client cash sitting, earning nothing. We hear the frustration about that from advisors over and over.

How do you look at these yields and not be lacking in fiduciary responsibility if you know you can get them relatively safely? There's some risk involved, but you should look into that and understand the counterparty risk.

There are a million reasons why financial advisors should care, but decentralization and self-custody [are two others]. How investors custody their assets and hold them is changing. And then you look at how portfolios are going to change as well, because I may have NFTs [nonfungible tokens], I may have stablecoins, I may have bitcoin, I may have all these different things. Advisors really need to understand crypto, because it's not going away.

**How should people view an investment in crypto? Is it like investing in technology, like investing in gold or something completely different?**

I'm not in the camp that bitcoin is digital gold. I think it can be; I think it has some of those properties. But right now, if you're investing in crypto, you're investing in the power of networks, the power of community and the future of finance.

I'd look at it as more of a venture investment, because it's still so early. A lot of people would benefit if they look at it as investing in technology and networks as opposed to digital gold.

**Given crypto's risk profile, what type of investor should have these types of assets in their portfolio? Is it the type that's really comfortable with high risk, early-stage investments?**

Yes. Most advisors and probably most retail investors shouldn't be investing in crypto right now because it's an incredibly obtuse thing to understand, from the buying to the selling, to the storage, to the rules and regulations, the lack of investor protections and what have you.

The folks who should be investing in crypto now are those who can stomach a lot of risk. That's why I tell advisors to take their client back to the "core four" if they mention crypto: risk tolerance; investor policy statement; financial plan; and estate planning.

What you have to be able to do if

you want to invest in crypto is stomach the volatility—up 90%, down 30%—you've got to be able to deal with that.

Look, investing in Robinhood is a risk. There are different types of risk, but there are so many more risks in crypto than the things that you'd look at through a traditional investment lens.

To invest in crypto, you should: 1) have a long time horizon; 2) be able to stomach a lot of volatility; 3) have some bare minimum amount of tech savviness to at least be able to navigate doing things on a phone and on an app. You also need to have the discipline to dollar cost average and rebalance frequently.

But that's just me, because I'm a purist and I'm a bad proxy. A lot of financial advisors are going to want an ETF. They don't care about alpha; they just want exposure. They want to satisfy the clients' needs. They can do that through active management or they can do that through some type of passive fund.

**As exciting as the crypto space is, it can also be very overwhelming. What's an advisor or an investor to do if they want to get involved but don't necessarily have the time to follow the day-to-day developments in the space?**

There's this wonderful resource that we built called Onramp Academy that helps advisors get educated on all things crypto. But outside of that, the traditional resources that advisors rely on have failed: Barron's, Morningstar, Wall Street Journal, CNBC. They're getting their act together, but the resources for advisors aren't there, which is why we created the Academy.

I will say Twitter is a great resource, even though it can be a dumpster fire at times. The smartest minds are there. But to follow the price action 24/7/365 is not good for most advisors, and they shouldn't be doing that.

**Has the SEC offered any guidance for advisors on crypto?**

Yes, there's plenty of guidance from the SEC. Just to recap it really quick: The IRS says bitcoin is property; the SEC says bitcoin and ether are nonsecurities; and the CFTC says, for their purposes, bitcoin is a commodity.

The SEC has given three updates: one in February, one in December and one in March. The Feb. 27 risk alert gave advisors everything—all of the guidelines on custody, pricing, valuation methodologies, policies/procedures, books/records, etc. They gave you the full blueprint.

I interviewed SEC Commissioner Hester Peirce and she said that the SEC wants advisors to do one thing: Be advisors, do your job and just get smart on this. You have everything you need, all of the guidance you need. Just do your job.

It would be wonderful if the SEC and the CFTC got together and gave unified guidance, especially on bitcoin. We all would love that; that would be great for RIAs especially.

One small caveat here that's very important: If I'm a hybrid RIA, I'm a registered rep; I have a Series 7; I sell securities. Bitcoin and ether are not securities. That scares me. So, I don't want to buy bitcoin and ether because the SEC says those aren't securities and I may not have a Series 3. In that case, I want an ETF, because it'd be a '40 Act product, so I'll be safe.

A lot of it has to do with what type of an advisor you are. But no matter who you are—RIA, hybrid or wirehouse—the SEC has given all the guidance that advisors need to do their job. ●

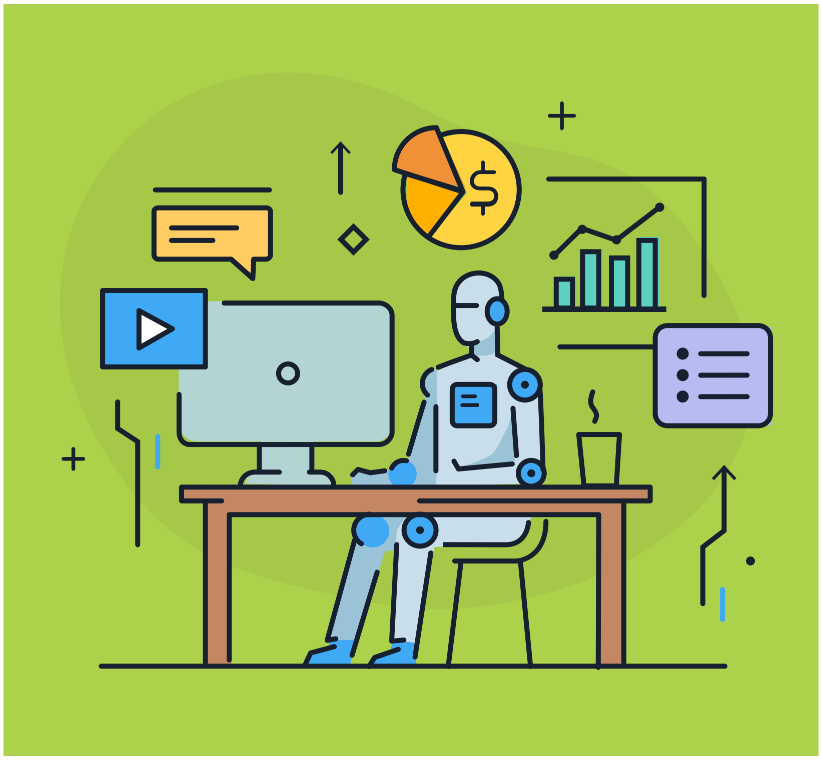
## The SEC has given all the guidance that advisors need to do their job

**What type of crypto assets should advisors and investors focus on? Just the big ones like bitcoin and ether? Or maybe the index route is the way to go?**

I'm a purist. The co-founder of my firm Onramp Invest, Eric Ervin, ran Reality Shares. We have a lot of ETF industry people who are either investors in Onramp or associated with us. I know them all, and I understand where things are with an ETF. I get it.

I've always been pro-ETF, but because I'm such a purist, I think putting something like crypto in an ETF is just weird.

You know what would be really cool? To have a bitcoin allocation as part of an ESG ETF. I'd love that! That would be phenomenal. But a pure bitcoin ETF? No. I'm very much a purist because I just believe in holding the underlying; I actually want to buy it directly.



# ROBO ADVISORS AN EVOLVING FIELD

**The concept is changing shape to meet increasingly complex customer needs**


**By Gerrard Cowan**

Contributor to ETF.com & ETF Report


**Robo advisors have a wealth of untapped potential, according to industry experts, not the least due to demand for more sophisticated services from younger investors. The industry is looking to expand, with some keen to combine algorithms with the human touch and others doubling down on automation.**

While dozens of robo advisors have launched over the past five to 10 years, there has been “a bit of a shakeout” recently, says Skip Schweiss, national president of the Financial Planning Association, with a handful of firms attracting much of the interest in the space. While many are well-known, they have plenty of room for growth, he says, notably in expanding the financial advice they provide, in areas from student loans to budgeting.

When people engage with a financial advisor today, it is typically later in their working life, when they have a relatively high level of accumulated assets and a good income, notes Schweiss.

However, this is only “a small slice of society,” he says. There’s a far bigger segment that needs financial advice in a range of areas, who may be unwilling to go to a certified professional planner (CFP). While many robo advisors are targeting such markets, there’s great potential to expand much further, according to Schweiss: “[These investors] need the help. Digital tools can do that, but I don’t think we’re there yet.”

## YOUNGER DEMOGRAPHIC

Wealthfront is one of the biggest brands in the robo advisor space, with services in banking, investing, borrowing and financial planning. The company’s clients have always skewed younger, says Kate Wauck, its chief communications officer, with about 75% age 40 or below, and an average age of 34.

Wealthfront’s clients tend to be relatively well off, with an average income of about $120,000 and a liquid net worth of the same level. However, they don’t want to use a financial advisor, she says, for a variety of reasons. For example, they don’t meet the minimum asset requirements, or they prefer to use a software-based approach with lower costs.

The growing interest in investing among young people—exemplified by the recent “meme stock” craze—has shown up in Wealthfront’s

**5 Robo Advisor**
Fast Facts

**1** **The first robo advisors launched in the wake of the 2008 financial crisis**

**2** **They usually have no or a very low minimum investment**

**3** **Some provide consultations with live financial professionals**

**4** **Business Insider reported in September 2020 that 8% of U.S. households use robo advisors**

**5** **Digital In The Round notes in a June 2021 article that assets invested with robo advisors are projected to reach nearly $1.4 trillion in AUM this year**

AUM, Wauck notes. In March 2021, the firm had one of its highest net deposit months so far, not including market appreciation, though she didn't provide a specific figure.

The company intends to expand its suite to meet these users' evolving needs, but will do so using automated tools, Wauck says. The goal is to "become a full-suite wealth manager to people 40 or under. … As their needs change and grow, we're going to find a way to add services that address those needs."

Wauck notes that while Wealthfront has in-house experts that customers can consult, most clients tend to stick to its online platforms. The robo advisor tools are already close to replicating many of the services offered by human advisors, she posits, and in some ways, offer an advantage, such as the ability to continuously update and analyze financial statements in real time.

## HYBRID MODEL

Others believe the future will see a mix of automated and human elements. Edelman Financial Engines was among the first firms (through its Financial Engines predecessor) to launch a robo advisor service, with an "Online Advice" offering in 1998 enabling employees to manage their 401(k) and outside accounts. It currently offers a range of advice and management tools.

However, "We've always believed that a 'robo' is a capability, not a business model as a stand-alone offering," explained Jason Van de Loo, Wealthfront's head of retail.

While the services continue to be popular with "DIY-ers" who want validation from an independent tool, the firm has learned over time that the robo can only take a person so far, that most customers want to migrate to a more high-touch service. Wealthfront has augmented its engines over the past decade or so with increased access to advisors to amplify human connections, Van de Loo notes.

This demand was underlined by the COVID-19 pandemic, he says. While robos work well for those with less complexity in their financial lives, an advisor connection "can provide immense peace of mind and the emotional intelligence not available with a pure robo," something that came through during the pandemic, he says.

## CHOICES FOR INVESTORS

Vanguard offers two digital advice services for U.S. investors. Personal Advisor Services combines an automated portfolio management system with access to a human advisor, while Digital Advisor is an all-digital financial planning and money management service.

These services have different investors in mind. Personal Advisor Services is targeted at clients who are nearing or entering retirement and may need support with drawdown strategies or building estate plans, says Brian Concannon, head of Vanguard's Digital Advisor.

On the other hand, Digital Advisor is aimed at younger individuals. However, the new service—launched in May 2020—has embraced the trend toward increasingly wide-ranging financial planning services, providing guidance on paying down debt, setting savings goals and more.

"Millennials, for example, are often facing big life decisions with significant financial consequences, such as going to grad school, paying for a wedding, saving for a first home and having children," Concannon explained. "Perhaps they haven't built an emergency fund, are dealing with credit card debt and student loans, or haven't prioritized saving enough for retirement."

## BROAD MENU NEEDED

There's no single approach that will define the future of the sector, says a spokesperson for Schwab, which offers several robo advisor services, including Schwab Intelligent Portfolios, which builds and rebalances a portfolio of low cost ETFs for clients, and Schwab Intelligent Portfolios Premium, a hybrid service that combines automated investing with unlimited access to CFPs for planning.

Schwab expects to see an evolution of robo advisors in an effort to meet changing investor needs, driven by the continuing rise of young investors and other trends. However, the company believes there'll continue to be a mix of fully automated services with those supported by CFPs, reflecting the varied nature of investor demand.

"We have clients with preferences across the board. Some prefer automation, some prefer a person and many prefer a combination," the spokesperson said. ●

# ETF DATA

### U.S.-LISTED ETFs BY ASSET CLASS AND YEAR-TO-DATE RETURN

- Data as of 08/31/2021
- Exp Ratio is annual expense ratio
- AUM is net assets in $US millions
- YTD is year-to-date
- 3YR and 5YR returns are annualized
- Includes all U.S.-listed ETFs and ETNs with assets of $170 million and above
- Source: ETF.com

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| **U.S. EQUITY: TOTAL MARKET** | | | | | | |
| Cambria Shareholder Yield | SYLD | 0.59 | 299.1 | 41.97 | 18.62 | 18.53 |
| Invesco BuyBack Achievers | PKW | 0.64 | 1,807.5 | 30.39 | 17.85 | 16.39 |
| Vident Core US Equity | VUSE | 0.48 | 432.9 | 28.48 | 9.67 | 12.41 |
| VictoryShares MSCI USA Val Momentum | ULVM | 0.20 | 435.0 | 25.15 | 10.06 | - |
| Schwab Fundamental US Broad Market | FNDB | 0.25 | 384.1 | 24.93 | 14.74 | 14.95 |
| iShares MSCI USA ESG Select | SUSA | 0.25 | 3,974.9 | 23.86 | 21.27 | 19.11 |
| Xtrackers MSCI USA ESG Leaders Equity | USSG | 0.10 | 3,895.9 | 23.69 | - | - |
| iShares US Tech Breakthrough Multisector | TECB | 0.40 | 457.3 | 23.49 | - | - |
| VanEck Morningstar Wide Moat | MOAT | 0.47 | 6,821.0 | 23.48 | 20.16 | 18.79 |
| iShares ESG MSCI USA Leaders | SUSL | 0.10 | 4,040.9 | 23.41 | - | - |
| American Century STOXX US Quality Value | VALQ | 0.29 | 268.4 | 23.27 | 10.07 | - |
| iShares MSCI KLD 400 Social | DSI | 0.25 | 3,480.5 | 23.07 | 19.67 | 18.41 |
| Avantis US Equity | AVUS | 0.15 | 1,489.1 | 22.63 | - | - |
| TrimTabs US Free Cash Flow Quality | TTAC | 0.59 | 197.8 | 22.58 | 14.42 | - |
| iShares MSCI USA Quality Factor | QUAL | 0.15 | 25,638.9 | 22.45 | 18.31 | 17.87 |
| FlexShares Mstar US Market Factor Tilt | TILT | 0.25 | 1,790.7 | 22.42 | 15.52 | 16.15 |
| IQ Candriam ESG US Equity | IQSU | 0.09 | 485.2 | 22.26 | - | - |
| American Century STOXX US Qual Growth | QGRO | 0.29 | 303.9 | 22.21 | - | - |
| iShares ESG Advanced MSCI USA | USXF | 0.10 | 439.1 | 22.19 | - | - |
| iShares MSCI USA Equal Weighted | EUSA | 0.09 | 499.8 | 22.02 | 15.82 | 15.60 |
| FlexShares STOXX US ESG Select | ESG | 0.32 | 180.0 | 21.80 | 19.07 | 18.72 |
| SPDR Portfolio S&P 1500 Composite | SPTM | 0.03 | 5,587.1 | 21.61 | 17.45 | 17.74 |
| iShares MSCI USA Size Factor | SIZE | 0.15 | 664.3 | 21.34 | 16.95 | 15.92 |
| Goldman Sachs MarketBeta US Equity | GSUS | 0.07 | 429.6 | 21.31 | - | - |
| Global X Adaptive US Factor | AUSF | 0.27 | 177.3 | 21.29 | 10.85 | - |
| Global X Conscious Companies | KRMA | 0.43 | 498.9 | 21.26 | 17.86 | 17.78 |
| AI Powered Equity | AIEQ | 0.80 | 171.6 | 21.26 | 17.07 | - |
| iShares ESG Aware MSCI USA | ESGU | 0.15 | 22,919.7 | 21.24 | 19.43 | - |
| JPMorgan BetaBuilders US Equity | BBUS | 0.02 | 722.5 | 21.13 | - | - |
| SPDR MSCI USA StrategicFactors | QUS | 0.15 | 1,004.3 | 21.02 | 17.10 | 16.89 |
| iShares Dow Jones US | IYY | 0.20 | 1,756.2 | 20.99 | 17.94 | 17.86 |
| Vanguard ESG US Stock | ESGV | 0.12 | 5,256.3 | 20.90 | - | - |
| Invesco PureBeta MSCI USA | PBUS | 0.04 | 2,178.1 | 20.78 | 19.44 | - |
| Schwab US Broad Market | SCHB | 0.03 | 22,395.6 | 20.68 | 17.87 | 17.96 |
| iShares Core S&P Total US Stock Market | ITOT | 0.03 | 43,147.3 | 20.62 | 17.80 | 17.93 |
| Dimensional US Core Equity Market | DFAU | 0.12 | 1,171.9 | 20.58 | - | - |
| Vanguard Total Stock Market | VTI | 0.03 | 272,543.1 | 20.56 | 17.90 | 18.00 |
| iShares Russell 3000 | IWV | 0.20 | 12,334.3 | 20.34 | 17.64 | 17.77 |
| Vanguard Russell 3000 | VTHR | 0.10 | 1,125.5 | 20.32 | 17.83 | 17.85 |

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| iShares MSCI USA Multifactor | LRGF | 0.20 | 1,210.7 | 19.59 | 12.03 | 14.44 |
| Motley Fool 100 | TMFC | 0.50 | 529.3 | 19.48 | 24.65 | - |
| FlexShares Quality Dividend | QDF | 0.37 | 1,758.7 | 19.43 | 10.70 | 12.39 |
| iShares Core Dividend Growth | DGRO | 0.08 | 20,749.4 | 19.15 | 15.38 | 16.24 |
| Innovator IBD 50 | FFTY | 0.80 | 257.2 | 19.07 | 8.60 | 16.10 |
| FlexShares US Quality Low Volatility | QLV | 0.22 | 172.9 | 18.86 | - | - |
| VictoryShares US Multi-Factor Min Vol | VSMV | 0.35 | 183.0 | 18.86 | 12.27 | - |
| Fidelity NASDAQ Composite | ONEQ | 0.21 | 4,567.0 | 18.65 | 24.61 | 25.03 |
| WisdomTree US Total Dividend | DTD | 0.28 | 974.1 | 18.62 | 11.39 | 12.26 |
| iShares Morningstar US Equity | ILCB | 0.03 | 937.7 | 18.54 | 17.32 | 17.01 |
| Legg Mason Low Volatility High Dividend | LVHD | 0.27 | 759.0 | 18.50 | 10.57 | 9.70 |
| FlexShares Quality Dividend Defensive | QDEF | 0.37 | 478.4 | 18.44 | 10.82 | 12.31 |
| Invesco Dynamic Market | PWC | 0.60 | 176.8 | 18.36 | 6.67 | 12.42 |
| Etho Climate Leadership US | ETHO | 0.48 | 178.0 | 17.87 | 19.28 | 19.30 |
| WisdomTree US Quality Dividend Growth | DGRW | 0.28 | 6,503.9 | 16.43 | 14.70 | 16.28 |
| SPDR SSGA US Sector Rotation | XLSR | 0.70 | 190.8 | 16.17 | - | - |
| Vanguard Dividend Appreciation | VIG | 0.06 | 63,836.9 | 15.95 | 16.21 | 16.00 |
| Invesco Dividend Achievers | PFM | 0.53 | 672.3 | 15.94 | 13.75 | 12.89 |
| iShares MSCI USA Min Vol Factor | USMV | 0.15 | 28,807.1 | 15.18 | 13.29 | 13.27 |
| Goldman Sachs Hedge Industry VIP | GVIP | 0.45 | 222.6 | 13.18 | 21.49 | - |
| iShares MSCI USA Momentum Factor | MTUM | 0.15 | 15,057.8 | 13.14 | 16.85 | 20.15 |
| First Trust US Equity Opportunities | FPX | 0.57 | 2,105.7 | 9.09 | 20.07 | 19.86 |
| Invesco DWA Momentum | PDP | 0.62 | 1,896.1 | 7.43 | 16.58 | 17.46 |
| Renaissance IPO | IPO | 0.60 | 522.4 | 3.63 | 29.91 | 26.59 |
| Dimensional US Core Equity 2 | DFAC | 0.19 | 14,008.1 | - | - | - |
| Dimensional US Equity | DFUS | 0.11 | 5,912.5 | - | - | - |
| VanEck Social Sentiment | BUZZ | 0.75 | 221.0 | - | - | - |
| **U.S. EQUITY: TOTAL MARKET GROWTH** | | | | | | |
| iShares Core S&P US Growth | IUSG | 0.04 | 12,904.0 | 23.18 | 22.28 | 22.28 |
| iShare Morningstar Growth | ILCG | 0.04 | 2,222.9 | 20.01 | 24.07 | 24.12 |
| First Trust Multi Cap Growth AlphaDEX | FAD | 0.63 | 254.4 | 19.47 | 17.40 | 18.98 |
| American Century Focused Dynamic Growth | FDG | 0.45 | 232.7 | 16.65 | - | - |
| Janus Henderson Sm/Mid Cap Gr Alpha | JSMD | 0.30 | 201.9 | 9.78 | 13.80 | 18.77 |
| **U.S. EQUITY: TOTAL MARKET VALUE** | | | | | | |
| Vanguard US Value Factor | VFVA | 0.14 | 403.1 | 30.03 | 9.80 | - |
| Alpha Architect US Quantitative Value | QVAL | 0.49 | 222.7 | 29.04 | 5.62 | 10.90 |
| SPDR S&P 1500 Value Tilt | VLU | 0.12 | 219.3 | 25.07 | 14.44 | 15.27 |
| iShares MSCI USA Value Factor | VLUE | 0.15 | 16,327.4 | 22.08 | 8.76 | 12.80 |
| iShares Core S&P US Value | IUSV | 0.04 | 10,587.9 | 19.63 | 12.00 | 12.33 |
| iShares Morningstar Value | ILCV | 0.04 | 765.1 | 19.59 | 10.50 | 11.41 |
| Dimensional US Targeted Value | DFAT | 0.34 | 6,142.7 | - | - | - |
| **U.S. EQUITY: EXTENDED CAP** | | | | | | |
| First Trust SMID Cap Rising Div Achievers | SDVY | 0.60 | 190.9 | 25.74 | 12.81 | - |
| Invesco FTSE RAFI US 1500 Small-Mid | PRFZ | 0.39 | 2,005.7 | 24.08 | 9.88 | 13.61 |
| iShares Russell 2500 | SMMD | 0.15 | 335.2 | 17.74 | 13.24 | - |
| Vanguard Extended Market | VXF | 0.06 | 17,702.5 | 16.16 | 16.57 | 17.58 |
| **U.S. EQUITY: LARGE CAP** | | | | | | |
| Pacer US Cash Cows 100 | COWZ | 0.49 | 763.6 | 34.99 | 15.74 | - |
| Invesco S&P 500 High Beta | SPHB | 0.25 | 1,682.5 | 32.36 | 20.54 | 20.42 |
| SPDR Russell 1000 Yield Focus | ONEY | 0.20 | 687.4 | 31.44 | 13.86 | 13.66 |
| HCM Defender 500 | LGH | 1.23 | 265.1 | 30.23 | - | - |
| SPDR Portfolio S&P 500 High Dividend | SPYD | 0.07 | 4,793.4 | 26.01 | 7.26 | 8.48 |
| VictoryShares US EQ Inc Enh Volatility Wtd | CDC | 0.37 | 964.0 | 25.77 | 14.74 | 14.07 |
| VictoryShares US Lrg Cap High Div Vol Wtd | CDL | 0.35 | 227.6 | 25.64 | 10.83 | 11.73 |
| Overlay Shares Large Cap Equity | OVL | 0.79 | 201.3 | 25.06 | - | - |
| Schwab Fundamental US Large Company | FNDX | 0.25 | 7,449.8 | 24.88 | 15.04 | 15.05 |
| First Trust Rising Dividend Achievers | RDVY | 0.50 | 5,615.9 | 24.80 | 18.06 | 19.39 |
| iPath Shiller CAPE ETN | CAPE | 0.45 | 442.8 | 24.54 | 19.28 | 19.53 |
| Invesco RAFI Strategic US | IUS | 0.19 | 180.1 | 24.48 | - | - |
| Invesco FTSE RAFI US 1000 | PRF | 0.39 | 5,409.7 | 24.38 | 13.87 | 14.24 |
| ProShares Large Cap Core Plus | CSM | 0.46 | 505.3 | 24.29 | 13.28 | 14.50 |
| Inspire 100 | BIBL | 0.35 | 292.8 | 24.25 | 19.21 | - |
| Invesco S&P 500 Equal Weight | RSP | 0.20 | 29,702.2 | 23.46 | 15.66 | 15.29 |
| First Trust Lunt US Factor Rotation | FCTR | 0.65 | 459.7 | 22.95 | 20.70 | - |
| Fidelity Quality Factor | FQAL | 0.29 | 266.3 | 22.94 | 16.72 | - |

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| Invesco S&P 500 Top 50 | XLG | 0.20 | 2,174.5 | 22.58 | 20.48 | 19.85 |
| Invesco S&P 500 Revenue | RWL | 0.39 | 1,047.5 | 22.57 | 13.88 | 14.57 |
| SPDR S&P 500 ESG | EFIV | 0.10 | 341.5 | 22.44 | - | - |
| First Trust Large Cap Core AlphaDEX | FEX | 0.59 | 1,220.1 | 22.42 | 12.79 | 13.81 |
| Global X S&P 500 Catholic Values | CATH | 0.29 | 573.4 | 22.36 | 18.22 | 18.20 |
| Xtrackers S&P 500 ESG | SNPE | 0.10 | 745.6 | 22.32 | - | - |
| SPDR Russell 1000 Low Volatility Focus | ONEV | 0.20 | 579.3 | 22.14 | 14.69 | 14.33 |
| Invesco Russell 1000 Dynamic Multifactor | OMFL | 0.29 | 1,708.2 | 22.12 | 20.95 | - |
| iShares S&P 100 | OEF | 0.20 | 8,305.4 | 21.94 | 19.31 | 18.82 |
| IQ Chaikin US Large Cap | CLRG | 0.25 | 324.0 | 21.92 | 12.35 | - |
| SPDR Russell 1000 Momentum Focus | ONEO | 0.20 | 325.9 | 21.80 | 11.92 | 13.49 |
| Main Sector Rotation | SECT | 0.80 | 973.9 | 21.75 | 14.87 | - |
| WisdomTree US LargeCap | EPS | 0.08 | 618.6 | 21.69 | 16.38 | 17.00 |
| SPDR Portfolio S&P 500 | SPLG | 0.03 | 12,429.3 | 21.63 | 18.13 | 18.06 |
| Vanguard S&P 500 | VOO | 0.03 | 256,021.2 | 21.59 | 18.03 | 17.97 |
| SPDR S&P 500 Trust | SPY | 0.09 | 399,669.1 | 21.57 | 17.99 | 17.92 |
| ALPS Equal Sector Weight | EQL | 0.28 | 213.2 | 21.57 | 15.17 | 14.62 |
| Invesco S&P 500 Quality | SPHQ | 0.15 | 3,262.2 | 21.54 | 18.14 | 16.74 |
| Goldman Sachs Equal Weight US Large Cap | GSEW | 0.09 | 858.1 | 21.42 | 16.07 | - |
| Invesco QQQ Trust | QQQ | 0.20 | 193,122.2 | 21.39 | 27.69 | 27.72 |
| SPDR S&P 500 Fossil Fuel Reserves Free | SPYX | 0.20 | 1,212.0 | 21.35 | 18.64 | 18.51 |
| JPMorgan Diversified Return US Equity | JPUS | 0.18 | 705.6 | 21.28 | 12.79 | 13.54 |
| Invesco NASDAQ 100 | QQQM | 0.15 | 1,811.7 | 21.27 | - | - |
| Vanguard Mega Cap | MGC | 0.07 | 4,303.8 | 21.23 | 19.18 | 18.96 |
| iShares Core S&P 500 | IVV | 0.03 | 305,669.5 | 21.21 | 17.73 | 17.81 |
| Vanguard Large-Cap | VV | 0.04 | 26,326.3 | 21.12 | 18.72 | 18.43 |
| JPMorgan US Quality Factor | JQUA | 0.12 | 396.0 | 21.12 | 17.18 | - |
| Pacer Trendpilot US Large Cap | PTLC | 0.60 | 1,991.9 | 21.09 | 9.33 | 12.46 |
| Schwab US Large-Cap | SCHX | 0.03 | 33,103.3 | 21.07 | 18.57 | 18.36 |
| Goldman Sachs JUST US Large Cap Equity | JUST | 0.20 | 264.7 | 20.99 | 17.42 | - |
| iShares Russell Top 200 | IWL | 0.15 | 1,022.5 | 20.97 | 19.36 | 19.17 |
| John Hancock Multifactor Large Cap | JHML | 0.29 | 763.4 | 20.91 | 16.93 | 17.01 |
| ALPS Sector Dividend Dogs | SDOG | 0.40 | 1,191.4 | 20.83 | 8.84 | 8.95 |
| Vanguard Russell 1000 | VONE | 0.08 | 2,686.7 | 20.79 | 18.35 | 18.15 |
| Goldman Sachs ActiveBeta US Large Cap | GSLC | 0.09 | 13,792.8 | 20.77 | 17.16 | 17.44 |
| iShares Russell 1000 | IWB | 0.15 | 31,674.4 | 20.67 | 18.26 | 18.09 |
| Schwab 1000 | SCHK | 0.05 | 2,089.6 | 20.53 | 18.20 | - |
| VictoryShares US 500 Enh Volatility Wtd | CFO | 0.35 | 997.9 | 20.46 | 14.06 | 15.37 |
| BNY Mellon US Large Cap Core Equity | BKLC | 0.00 | 360.5 | 20.34 | - | - |
| VictoryShares US 500 Volatility Wtd | CFA | 0.35 | 713.6 | 20.33 | 14.12 | 15.41 |
| Hartford Multifactor US Equity | ROUS | 0.19 | 413.6 | 20.24 | 10.05 | 13.45 |
| Xtrackers Russell US Multifactor | DEUS | 0.17 | 206.6 | 20.18 | 12.82 | 13.70 |
| Day Hagan/NDR Smart Sector | SSUS | 0.81 | 287.4 | 20.11 | - | - |
| Franklin LibertyQ US Equity | FLQL | 0.15 | 1,287.9 | 19.73 | 15.11 | - |
| Invesco Russell 1000 Equal Weight | EQAL | 0.20 | 673.8 | 19.67 | 13.78 | 13.96 |
| Davis Select US Equity | DUSA | 0.62 | 397.4 | 19.64 | 12.81 | - |
| Timothy Plan US Large/Mid Cap Core | TPLC | 0.52 | 196.7 | 19.34 | - | - |
| Invesco S&P 500 High Dividend Low Vol | SPHD | 0.30 | 3,021.3 | 19.29 | 6.14 | 6.54 |
| WisdomTree US Dividend ex-Financials | DTN | 0.38 | 559.9 | 19.15 | 6.27 | 8.20 |
| ProShares S&P 500 Dividend Aristocrats | NOBL | 0.35 | 9,119.9 | 19.14 | 13.37 | 11.87 |
| JPMorgan US Momentum Factor | JMOM | 0.12 | 208.4 | 19.07 | 18.57 | - |
| SPDR SSGA US Large Cap Low Volatility | LGLV | 0.12 | 620.2 | 19.04 | 15.83 | 14.72 |
| Distillate US Fundamental Stability & Val | DSTL | 0.39 | 385.4 | 19.02 | - | - |
| LHA Market State Tactical Beta | MSTB | 1.18 | 200.2 | 18.75 | - | - |
| Simplify US Eq PLUS Downside Convexity | SPD | 0.28 | 283.7 | 18.74 | - | - |
| SPDR SSGA Gender Diversity | SHE | 0.20 | 280.7 | 18.71 | 15.41 | 15.20 |
| Principal US Mega-Cap | USMC | 0.12 | 2,068.4 | 18.63 | 16.91 | - |
| FT Cboe Vest S&P 500 Div Aristo Target Inc | KNG | 0.75 | 255.9 | 18.60 | 13.90 | - |
| First Trust Capital Strength | FTCS | 0.56 | 8,660.4 | 18.57 | 13.97 | 14.82 |
| WisdomTree US LargeCap Dividend | DLN | 0.28 | 3,151.8 | 17.85 | 12.44 | 12.99 |
| 6 Meridian Hedged Equity-Index Option | SIXH | 0.87 | 254.7 | 17.79 | - | - |
| Fidelity Low Volatility Factor | FDLO | 0.29 | 538.8 | 17.74 | 15.98 | - |
| Invesco Defensive Equity | DEF | 0.53 | 301.0 | 17.49 | 13.44 | 14.00 |
| JPMorgan Equity Premium Income | JEPI | 0.35 | 3,372.0 | 16.60 | - | - |
| SPDR Dow Jones Industrial Average Trust | DIA | 0.16 | 30,679.5 | 16.46 | 12.94 | 16.28 |

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| O?Shares US Quality Dividend | OUSA | 0.48 | 736.5 | 16.35 | 13.54 | 12.45 |
| VictoryShares Dividend Accelerator | VSDA | 0.35 | 346.4 | 16.32 | 16.25 | - |
| Direxion NASDAQ-100 Equal Weighted | QQQE | 0.35 | 423.3 | 16.28 | 23.22 | 21.79 |
| First Trust Nasdaq-100 Equal Weighted | QQEW | 0.58 | 1,364.7 | 16.12 | 22.41 | 20.97 |
| Aptus Drawdown Managed Equity | ADME | 0.79 | 268.5 | 14.77 | 5.16 | 11.03 |
| Invesco S&P 500 Low Volatility | SPLV | 0.25 | 8,214.4 | 14.77 | 10.92 | 11.07 |
| Invesco S&P 500 BuyWrite | PBP | 0.49 | 175.0 | 14.35 | 4.22 | 6.71 |
| Amplify CWP Enhanced Dividend Income | DIVO | 0.55 | 648.5 | 14.17 | 13.77 | - |
| Invesco NASDAQ Next Gen 100 | QQQJ | 0.15 | 1,212.1 | 12.79 | - | - |
| FT Cboe Vest US Equity Buffer - February | FFEB | 0.85 | 258.4 | 12.79 | - | - |
| Aptus Collared Income Opportunity | ACIO | 0.79 | 263.4 | 12.37 | - | - |
| Invesco S&P 500 Downside Hedged | PHDG | 0.40 | 227.2 | 12.01 | 9.00 | 10.75 |
| Global X S&P 500 Covered Call | XYLD | 0.60 | 480.1 | 11.35 | 4.90 | 8.43 |
| Pacer Trendpilot 100 | PTNQ | 0.65 | 815.5 | 10.57 | 17.07 | 21.07 |
| Innovator US Equity Power Buffer - Feb | PFEB | 0.79 | 181.2 | 9.63 | - | - |
| FT Cboe Vest Fund of Buffer | BUFR | 1.05 | 302.0 | 8.71 | - | - |
| Nationwide Risk-Managed Income | NUSI | 0.68 | 583.2 | 7.57 | - | - |
| Innovator US Equity Buffer - July | BJUL | 0.79 | 187.3 | 7.40 | - | - |
| Innovator US Equity Power Buffer - Jan | PJAN | 0.79 | 319.8 | 7.36 | - | - |
| FT Cboe Vest US Equity Deep Buffer - Feb | DFEB | 0.85 | 283.4 | 6.95 | - | - |
| Innovator US Equity Power Buffer - Sept | PSEP | 0.79 | 172.7 | 6.23 | - | - |
| Global X NASDAQ 100 Covered Call | QYLD | 0.60 | 4,240.1 | 5.83 | 7.10 | 10.71 |
| Innovator US Equity Power Buffer - May | PMAY | 0.79 | 242.0 | 5.76 | - | - |
| Innovator US Equity Power Buffer - April | PAPR | 0.79 | 244.3 | 5.76 | - | - |
| Innovator US Equity Power Buffer - August | PAUG | 0.79 | 182.8 | 5.02 | - | - |
| Innovator US Equity Power Buffer - July | PJUL | 0.79 | 263.6 | 4.73 | 6.00 | - |
| Invesco S&P 500 QVM Multi-Factor | QVML | 0.11 | 794.2 | - | - | - |

### U.S. EQUITY: LARGE CAP GROWTH

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| Invesco S&P 500 GARP | SPGP | 0.36 | 712.5 | 29.08 | 20.96 | 23.44 |
| Invesco S&P 500 Pure Growth | RPG | 0.35 | 3,281.4 | 24.92 | 19.65 | 19.91 |
| Nuveen ESG Large-Cap Growth | NULG | 0.35 | 888.4 | 23.94 | 26.54 | - |
| Vanguard S&P 500 Growth | VOOG | 0.10 | 6,769.6 | 23.65 | 22.83 | 22.55 |
| SPDR Portfolio S&P 500 Growth | SPYG | 0.04 | 14,268.5 | 23.60 | 22.90 | 22.59 |
| iShares S&P 500 Growth | IVW | 0.18 | 37,522.9 | 23.48 | 22.75 | 22.49 |
| iShares Russell Top 200 Growth | IWY | 0.20 | 4,279.0 | 22.39 | 25.40 | 25.25 |
| Vanguard Mega Cap Growth | MGK | 0.07 | 12,722.7 | 22.32 | 25.83 | 24.59 |
| Schwab US Large-Cap Growth | SCHG | 0.04 | 16,611.4 | 22.27 | 25.30 | 24.32 |
| SoFi Select 500 | SFY | 0.00 | 309.9 | 22.25 | - | - |
| First Trust Large Cap Growth AlphaDEX | FTC | 0.60 | 1,322.5 | 21.69 | 19.31 | 18.82 |
| Vanguard Growth | VUG | 0.04 | 86,351.0 | 21.45 | 25.23 | 23.67 |
| Vanguard Russell 1000 Growth | VONG | 0.08 | 7,468.6 | 21.17 | 24.50 | 24.23 |
| iShares Russell 1000 Growth | IWF | 0.19 | 76,007.3 | 20.95 | 24.37 | 24.11 |
| First Trust Multi-Manager Large Growth | MMLG | 0.85 | 171.2 | 17.78 | - | - |
| Invesco Dynamic Large Cap Growth | PWB | 0.56 | 1,024.9 | 16.31 | 18.49 | 20.55 |

### U.S. EQUITY: LARGE CAP VALUE

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| Invesco S&P 500 Pure Value | RPV | 0.35 | 2,616.1 | 27.34 | 6.43 | 10.34 |
| JPMorgan US Value Factor | JVAL | 0.12 | 951.7 | 25.20 | 14.04 | - |
| Fidelity Value Factor | FVAL | 0.29 | 467.8 | 24.58 | 15.10 | - |
| First Trust Large Cap Value AlphaDEX | FTA | 0.60 | 1,098.6 | 23.28 | 7.39 | 9.64 |
| Vanguard Value | VTV | 0.04 | 85,572.4 | 20.45 | 11.57 | 12.94 |
| Vanguard Russell 1000 Value | VONV | 0.08 | 6,572.1 | 20.38 | 11.39 | 11.60 |
| iShares Russell 1000 Value | IWD | 0.19 | 55,307.3 | 20.20 | 11.31 | 11.51 |
| Schwab US Large-Cap Value | SCHV | 0.04 | 9,919.2 | 19.92 | 11.23 | 12.17 |
| Vanguard Mega Cap Value | MGV | 0.07 | 4,590.7 | 19.51 | 11.71 | 13.03 |
| Vanguard S&P 500 Value | VOOV | 0.10 | 2,351.0 | 19.24 | 12.07 | 12.23 |
| SPDR Portfolio S&P 500 Value | SPYV | 0.04 | 12,595.3 | 19.22 | 12.07 | 12.44 |
| Invesco Dynamic Large Cap Value | PWV | 0.58 | 906.8 | 19.15 | 9.23 | 10.12 |
| iShares S&P 500 Value | IVE | 0.18 | 23,076.1 | 19.15 | 11.91 | 12.19 |
| iShares Russell Top 200 Value | IWX | 0.20 | 1,192.6 | 18.97 | 11.20 | 11.57 |
| Nuveen ESG Large-Cap Value | NULV | 0.35 | 1,107.4 | 18.34 | 11.23 | - |
| American Century Focused Large Cap Value | FLV | 0.42 | 264.2 | 15.49 | - | - |

### U.S. EQUITY: MID CAP

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| Invesco S&P MidCap 400 Revenue | RWK | 0.39 | 395.5 | 28.65 | 13.65 | 13.87 |
| WisdomTree US MidCap | EZM | 0.38 | 744.4 | 24.43 | 10.09 | 12.67 |
| WisdomTree US MidCap Dividend | DON | 0.38 | 3,003.4 | 24.14 | 7.19 | 9.66 |

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| Invesco Zacks Mid-Cap | CZA | 0.69 | 228.5 | 24.02 | 12.70 | 13.86 |
| First Trust Mid Cap Core AlphaDEX | FNX | 0.60 | 1,061.7 | 23.16 | 11.99 | 13.99 |
| JPMorgan Diversified Return US Mid Cap | JPME | 0.24 | 237.5 | 21.94 | 12.25 | 13.18 |
| Vanguard Mid-Cap | VO | 0.04 | 52,933.9 | 20.51 | 16.22 | 15.67 |
| iShares Core S&P Mid-Cap | IJH | 0.05 | 64,421.9 | 20.32 | 12.14 | 13.69 |
| SPDR Portfolio S&P 400 Mid Cap | SPMD | 0.05 | 4,737.3 | 20.30 | 11.17 | 13.97 |
| Vanguard S&P Mid-Cap 400 | IVOO | 0.10 | 1,493.3 | 20.22 | 12.07 | 13.63 |
| SPDR S&P Midcap 400 Trust | MDY | 0.23 | 21,316.9 | 20.15 | 11.98 | 13.49 |
| John Hancock Multifactor Mid Cap | JHMM | 0.42 | 2,414.5 | 20.07 | 14.96 | 15.49 |
| iShares Russell Mid-Cap | IWR | 0.19 | 30,457.2 | 19.98 | 15.42 | 15.24 |
| iShares Morningstar Mid-Cap | IMCB | 0.04 | 919.8 | 19.04 | 14.78 | 13.87 |
| Invesco S&P Midcap Quality | XMHQ | 0.25 | 272.7 | 18.86 | 16.90 | 15.89 |
| Schwab US Mid-Cap | SCHM | 0.04 | 9,989.7 | 17.78 | 12.68 | 14.52 |
| ProShares S&P MidCap 400 Div Aristocrats | REGL | 0.41 | 1,047.8 | 16.12 | 8.76 | 9.41 |
| JPMorgan BetaBuilders US Mid Cap Equity | BBMC | 0.07 | 1,659.9 | 16.09 | - | - |
| Invesco S&P MidCap Low Volatility | XMLV | 0.25 | 1,455.4 | 15.59 | 6.28 | 9.24 |
| Invesco S&P Midcap Momentum | XMMO | 0.33 | 931.7 | 11.79 | 17.39 | 23.02 |
| Pacer Trendpilot US Mid Cap | PTMC | 0.60 | 436.7 | 10.13 | 3.00 | 7.94 |
| Invesco S&P MidCap 400 QVM Multi-Factor | QVMM | 0.15 | 207.2 | - | - | - |
| **U.S. EQUITY: MID CAP GROWTH** | | | | | | |
| Vanguard Mid-Cap Growth | VOT | 0.07 | 11,897.0 | 17.18 | 20.95 | 19.36 |
| Nuveen ESG Mid-Cap Growth | NUMG | 0.40 | 375.2 | 16.42 | 22.89 | - |
| iShares Russell Mid-Cap Growth | IWP | 0.23 | 16,460.5 | 15.11 | 20.71 | 20.20 |
| First Trust Mid Cap Growth AlphaDEX | FNY | 0.70 | 471.8 | 15.09 | 17.33 | 19.54 |
| Vanguard S&P Mid-Cap 400 Growth | IVOG | 0.15 | 943.7 | 14.90 | 13.03 | 14.42 |
| iShares S&P Mid-Cap 400 Growth | IJK | 0.17 | 8,322.2 | 14.88 | 12.93 | 14.38 |
| SPDR S&P 400 Mid Cap Growth | MDYG | 0.15 | 1,737.2 | 14.82 | 13.00 | 14.42 |
| iShares Morningstar Mid-Cap Growth | IMCG | 0.06 | 1,326.7 | 13.87 | 22.77 | 22.22 |
| Invesco S&P MidCap 400 Pure Growth | RFG | 0.35 | 403.4 | 13.11 | 11.23 | 13.11 |
| **U.S. EQUITY: MID CAP VALUE** | | | | | | |
| Invesco S&P MidCap Value w/ Momentum | XMVM | 0.39 | 177.0 | 29.09 | 16.15 | 12.88 |
| iShares Morningstar Mid-Cap Value | IMCV | 0.06 | 466.6 | 26.48 | 8.93 | 10.76 |
| iShares S&P Mid-Cap 400 Value | IJJ | 0.18 | 8,805.1 | 25.61 | 10.39 | 12.06 |
| Vanguard S&P Mid-Cap 400 Value | IVOV | 0.15 | 823.4 | 25.59 | 10.47 | 12.16 |
| SPDR S&P 400 Mid Cap Value | MDYV | 0.15 | 1,568.6 | 25.54 | 10.52 | 12.17 |
| Nuveen ESG Mid-Cap Value | NUMV | 0.40 | 254.8 | 24.61 | 12.11 | - |
| Vanguard Mid-Cap Value | VOE | 0.07 | 14,907.0 | 23.58 | 11.01 | 11.76 |
| iShares Russell Mid-Cap Value | IWS | 0.23 | 14,539.1 | 22.60 | 11.21 | 11.32 |
| **U.S. EQUITY: SMALL CAP** | | | | | | |
| Invesco S&P SmallCap 600 Revenue | RWJ | 0.39 | 646.4 | 46.40 | 16.12 | 16.35 |
| Pacer US Small Cap Cash Cows 100 | CALF | 0.59 | 435.0 | 40.82 | 14.84 | - |
| Principal US Small-Cap Multi-Factor | PSC | 0.38 | 1,626.8 | 29.69 | 11.04 | - |
| WisdomTree US SmallCap | EES | 0.38 | 607.8 | 27.20 | 8.16 | 13.41 |
| Schwab Fundamental US Small Company | FNDA | 0.25 | 4,696.9 | 26.20 | 10.63 | 13.23 |
| JPMorgan Diversified Return US Small Cap | JPSE | 0.29 | 170.7 | 23.53 | 11.62 | - |
| IQ Chaikin US Small Cap | CSML | 0.35 | 207.4 | 23.40 | 8.12 | - |
| SPDR S&P 600 Small Cap | SLY | 0.15 | 1,782.5 | 23.00 | 9.16 | 14.23 |
| Vanguard S&P Small-Cap 600 | VIOO | 0.10 | 1,810.8 | 22.97 | 9.16 | 14.21 |
| SPDR Portfolio S&P 600 Small Cap | SPSM | 0.05 | 4,200.2 | 22.85 | 10.42 | 14.22 |
| iShares Core S&P Small-Cap | IJR | 0.06 | 69,867.8 | 22.85 | 9.11 | 14.24 |
| iShares MSCI USA Small-Cap Multifactor | SMLF | 0.30 | 1,062.3 | 22.78 | 9.14 | 13.43 |
| VictoryShares MSCI USA SmCap Val Mom | USVM | 0.24 | 344.6 | 21.91 | 9.59 | - |
| VictoryShares US SmCap High Div Vol Wtd | CSB | 0.35 | 254.6 | 21.79 | 11.34 | 13.97 |
| SPDR SSGA US Small Cap Low Volatility | SMLV | 0.12 | 223.3 | 21.69 | 7.96 | 10.90 |
| First Trust Small Cap Core AlphaDEX | FYX | 0.63 | 932.2 | 21.40 | 9.92 | 13.54 |
| WisdomTree US SmallCap Dividend | DES | 0.38 | 1,854.1 | 21.07 | 4.21 | 7.97 |
| Invesco S&P SmallCap Low Volatility | XSLV | 0.25 | 1,155.8 | 20.22 | 1.10 | 7.10 |
| Goldman Sachs ActiveBeta US Small Cap | GSSC | 0.20 | 411.7 | 20.19 | 10.47 | - |
| iShares ESG Aware MSCI USA Small-Cap | ESML | 0.17 | 1,128.8 | 18.51 | 13.22 | - |
| iShares Morningstar Small-Cap | ISCB | 0.04 | 242.8 | 18.02 | 9.12 | 11.18 |
| Global X Russell 2000 Covered Call | RYLD | 0.60 | 349.1 | 17.56 | - | - |
| WisdomTree US Smallcap Qual Div Growth | DGRS | 0.38 | 199.3 | 17.45 | 8.79 | 10.79 |
| Schwab US Small-Cap | SCHA | 0.04 | 16,603.9 | 16.99 | 11.39 | 14.11 |
| Vanguard Small-Cap | VB | 0.05 | 47,943.8 | 16.84 | 12.57 | 14.77 |
| Nuveen ESG Small-Cap | NUSC | 0.40 | 1,035.6 | 16.77 | 13.46 | - |

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| John Hancock Multifactor Small Cap | JHSC | 0.42 | 440.1 | 16.18 | 8.86 | - |
| JPMorgan BetaBuilders US Small Cap Equity | BBSC | 0.09 | 443.8 | 16.00 | - | - |
| Invesco DWA SmallCap Momentum | DWAS | 0.60 | 453.8 | 15.67 | 13.78 | 18.43 |
| Vanguard Russell 2000 | VTWO | 0.10 | 6,201.2 | 15.65 | 10.79 | 14.44 |
| iShares Russell 2000 | IWM | 0.19 | 68,387.5 | 15.62 | 10.66 | 14.33 |
| iShares MSCI USA Small-Cap Min Vol Factor | SMMV | 0.20 | 877.1 | 14.51 | 7.14 | - |
| Invesco S&P SmallCap Momentum | XSMO | 0.39 | 173.6 | 13.49 | 10.50 | 16.46 |
| ProShares Russell 2000 Dividend Growers | SMDV | 0.41 | 840.6 | 12.63 | 3.75 | 6.87 |
| Dimensional US Small Cap | DFAS | 0.34 | 4,095.0 | - | - | - |
| **U.S. EQUITY: SMALL CAP GROWTH** | | | | | | |
| SPDR S&P 600 Small Cap Growth | SLYG | 0.15 | 2,405.7 | 18.80 | 10.04 | 15.70 |
| Vanguard S&P Small-Cap 600 Growth | VIOG | 0.16 | 566.4 | 18.74 | 10.06 | 15.65 |
| iShares S&P Small-Cap 600 Growth | IJT | 0.18 | 6,384.2 | 18.65 | 9.89 | 15.60 |
| First Trust Small Cap Growth AlphaDEX | FYC | 0.71 | 380.5 | 18.64 | 11.47 | 17.22 |
| Vanguard Small-Cap Growth | VBK | 0.07 | 16,349.0 | 9.14 | 16.05 | 18.13 |
| Vanguard Russell 2000 Growth | VTWG | 0.15 | 732.6 | 6.77 | 12.27 | 16.56 |
| iShares Russell 2000 Growth | IWO | 0.24 | 12,056.2 | 6.72 | 12.21 | 16.56 |
| MFAM Small-Cap Growth | MFMS | 0.85 | 189.0 | 5.73 | - | - |
| iShares Morningstar Small-Cap Growth | ISCG | 0.06 | 479.7 | 1.87 | 12.97 | 17.07 |
| **U.S. EQUITY: SMALL CAP VALUE** | | | | | | |
| Invesco S&P SmallCap Val w/ Momentum | XSVM | 0.39 | 320.9 | 46.06 | 17.11 | 16.58 |
| Invesco S&P SmallCap 600 Pure Value | RZV | 0.35 | 286.7 | 41.46 | 6.57 | 9.99 |
| Avantis US Small Cap Value | AVUV | 0.25 | 1,571.4 | 33.63 | - | - |
| SPDR S&P 600 Small Cap Value | SLYV | 0.15 | 4,032.0 | 27.23 | 7.74 | 13.39 |
| Vanguard S&P Small-Cap 600 Value | VIOV | 0.15 | 1,338.6 | 27.09 | 7.75 | 12.38 |
| iShares S&P Small-Cap 600 Value | IJS | 0.18 | 8,782.4 | 27.00 | 7.57 | 12.26 |
| Vanguard Russell 2000 Value | VTWV | 0.15 | 1,031.7 | 25.11 | 8.33 | 11.55 |
| iShares Russell 2000 Value | IWN | 0.24 | 15,697.1 | 25.08 | 8.19 | 11.49 |
| iShares Morningstar Small Cap Value | ISCV | 0.06 | 411.7 | 24.73 | 5.93 | 8.63 |
| Vanguard Small-Cap Value | VBR | 0.07 | 24,866.0 | 23.54 | 9.19 | 11.70 |
| First Trust Small Cap Value AlphaDEX | FYT | 0.72 | 239.5 | 22.96 | 8.83 | 10.54 |
| **U.S. EQUITY: MICRO CAP** | | | | | | |
| iShares Micro-Cap | IWC | 0.60 | 1,283.9 | 25.70 | 11.84 | 15.62 |
| **U.S. EQUITY: BASIC MATERIALS** | | | | | | |
| SPDR S&P Metals & Mining | XME | 0.35 | 1,922.7 | 32.98 | 11.13 | 13.32 |
| Invesco Water Resources | PHO | 0.60 | 2,048.9 | 26.89 | 23.45 | 19.84 |
| Invesco DWA Basic Materials Momentum | PYZ | 0.60 | 213.6 | 26.77 | 10.85 | 10.81 |
| First Trust Water | FIW | 0.54 | 1,302.4 | 26.05 | 21.55 | 19.72 |
| iShares North Am Natural Resources | IGE | 0.43 | 439.0 | 24.05 | -3.47 | 0.10 |
| Invesco S&P 500 Equal Weight Materials | RTM | 0.40 | 483.1 | 23.69 | 18.61 | 16.40 |
| First Trust Materials AlphaDEX | FXZ | 0.67 | 463.2 | 22.50 | 11.59 | 11.19 |
| Fidelity MSCI Materials | FMAT | 0.08 | 546.8 | 20.09 | 13.93 | 13.65 |
| Vanguard Materials | VAW | 0.10 | 3,939.4 | 19.98 | 13.85 | 13.65 |
| Materials Select Sector SPDR | XLB | 0.12 | 8,588.1 | 19.27 | 15.43 | 14.30 |
| SPDR S&P North American Natural Res | NANR | 0.35 | 476.9 | 18.58 | 7.52 | 5.96 |
| iShares US Basic Materials | IYM | 0.43 | 1,050.6 | 18.13 | 11.45 | 12.62 |
| **U.S. EQUITY: CONSUMER CYCLICALS** | | | | | | |
| SPDR S&P Retail | XRT | 0.35 | 1,190.2 | 49.66 | 24.33 | 18.31 |
| Invesco Dynamic Leisure/Entertainment | PEJ | 0.55 | 1,376.6 | 24.48 | 2.56 | 7.98 |
| Invesco S&P 500 Equal Wt Consumer Discr | RCD | 0.40 | 767.5 | 22.75 | 13.65 | 12.66 |
| First Trust Consumer Discr AlphaDEX | FXD | 0.63 | 2,002.7 | 21.92 | 12.27 | 11.65 |
| Vanguard Consumer Discretionary | VCR | 0.10 | 6,699.3 | 16.82 | 22.76 | 22.17 |
| Fidelity MSCI Consumer Discretionary | FDIS | 0.08 | 1,647.6 | 16.19 | 23.45 | 22.58 |
| Consumer Discr Select Sector SPDR | XLY | 0.12 | 20,032.5 | 14.57 | 17.59 | 19.41 |
| iShares US Consumer Services | IYC | 0.43 | 1,425.3 | 13.32 | 15.84 | 17.73 |
| ETFMG Travel Tech | AWAY | 0.75 | 275.3 | 4.05 | - | - |
| Amplify Online Retail | IBUY | 0.65 | 1,066.3 | 1.36 | 29.23 | 33.89 |
| ProShares Online Retail | ONLN | 0.58 | 915.7 | -5.89 | 22.12 | - |
| **U.S. EQUITY: CONSUMER NON-CYCLICALS** | | | | | | |
| First Trust Consumer Staples AlphaDEX | FXG | 0.63 | 268.6 | 12.09 | 6.43 | 3.75 |
| Vanguard Consumer Staples | VDC | 0.10 | 6,094.9 | 9.07 | 13.09 | 8.81 |
| Fidelity MSCI Consumer Staples | FSTA | 0.08 | 839.2 | 8.99 | 13.41 | 8.91 |
| Consumer Staples Select Sector SPDR | XLP | 0.12 | 13,344.5 | 8.40 | 13.45 | 8.78 |
| iShares US Consumer Goods | IYK | 0.43 | 709.1 | 8.19 | 18.58 | 12.23 |
| Invesco S&P 500 Eq Wt Consumer Staples | RHS | 0.40 | 487.9 | 7.24 | 9.98 | 7.24 |

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| **U.S. EQUITY: ENERGY** | | | | | | |
| First Trust Natural Gas | FCG | 0.60 | 234.3 | 59.11 | -13.16 | -10.42 |
| iShares US Oil & Gas Expl & Production | IEO | 0.42 | 283.3 | 43.47 | -9.58 | -0.83 |
| SPDR S&P Oil & Gas Expl & Production | XOP | 0.35 | 2,849.1 | 42.42 | -19.75 | -9.58 |
| InfraCap MLP | AMZA | 2.01 | 275.5 | 41.08 | -19.88 | -12.00 |
| iPath Select MLP ETN | ATMP | 0.95 | 181.1 | 35.31 | -4.34 | -1.55 |
| Alerian MLP | AMLP | 0.90 | 5,051.0 | 34.47 | -7.46 | -4.43 |
| JPMorgan Alerian MLP ETN | AMJ | 0.85 | 2,095.5 | 33.68 | -6.65 | -3.50 |
| Global X MLP | MLPA | 0.46 | 946.3 | 33.67 | -7.41 | -4.60 |
| Vanguard Energy | VDE | 0.10 | 4,839.7 | 33.58 | -9.50 | -3.20 |
| Fidelity MSCI Energy | FENY | 0.08 | 855.1 | 33.02 | -9.69 | -3.41 |
| Global X MLP & Energy Infrastructure | MLPX | 0.45 | 679.7 | 32.00 | 0.61 | 1.72 |
| Invesco S&P 500 Equal Weight Energy | RYE | 0.40 | 173.4 | 31.77 | -10.58 | -4.28 |
| iShares US Energy | IYE | 0.42 | 2,126.4 | 31.13 | -9.67 | -3.43 |
| First Trust Energy AlphaDEX | FXN | 0.64 | 259.7 | 31.03 | -15.17 | -6.79 |
| Energy Select Sector SPDR | XLE | 0.12 | 22,170.6 | 30.34 | -8.36 | -2.40 |
| ETRACS Alerian MLP Infrastr ETN Ser B | MLPB | 0.85 | 195.7 | 29.31 | -7.09 | -6.16 |
| Tortoise North American Pipeline | TPYP | 0.40 | 429.3 | 27.50 | 1.86 | 3.63 |
| First Trust North Am Energy Infrastructure | EMLP | 0.96 | 2,067.4 | 18.49 | 2.88 | 1.34 |
| First Trust NASDAQ Cln Edge Green Energy | QCLN | 0.60 | 2,686.9 | -4.60 | 48.40 | 34.93 |
| SPDR S&P Kensho Clean Power | CNRG | 0.45 | 372.5 | -8.68 | - | - |
| ALPS Clean Energy | ACES | 0.55 | 942.0 | -11.75 | 40.81 | - |
| BlackRock US Carbon Transition Readiness | LCTU | 0.15 | 1,470.4 | - | - | - |
| **U.S. EQUITY: FINANCIALS** | | | | | | |
| iShares US Broker-Dealers/Sec Exchanges | IAI | 0.41 | 891.3 | 38.54 | 20.62 | 23.24 |
| First Trust Nasdaq Bank | FTXO | 0.60 | 228.8 | 35.07 | 5.72 | - |
| First Trust Financials AlphaDEX | FXO | 0.62 | 1,384.2 | 34.28 | 11.91 | 13.27 |
| SPDR S&P Capital Markets | KCE | 0.35 | 181.7 | 33.30 | 22.29 | 22.20 |
| Invesco KBW Bank | KBWB | 0.35 | 2,981.2 | 32.74 | 7.90 | 14.52 |
| Invesco S&P 500 Equal Weight Financials | RYF | 0.40 | 411.3 | 31.74 | 15.06 | 16.81 |
| Financial Select Sector SPDR | XLF | 0.12 | 43,428.3 | 31.35 | 13.12 | 16.29 |
| Vanguard Financials | VFH | 0.10 | 10,937.9 | 31.25 | 12.39 | 15.70 |
| Fidelity MSCI Financials | FNCL | 0.08 | 1,828.4 | 31.16 | 12.40 | 15.67 |
| VanEck BDC Income | BIZD | 10.07 | 466.8 | 30.34 | 10.63 | 9.08 |
| iShares US Regional Banks | IAT | 0.41 | 1,194.8 | 29.93 | 7.05 | 12.97 |
| Invesco KBW High Dividend Yield Financial | KBWD | 1.24 | 464.4 | 28.77 | 3.60 | 7.01 |
| iShares US Financial Services | IYG | 0.42 | 2,553.4 | 28.27 | 13.57 | 18.15 |
| SPDR S&P Regional Banking | KRE | 0.35 | 4,451.3 | 28.10 | 4.30 | 11.41 |
| iShares US Financials | IYF | 0.42 | 2,312.8 | 27.67 | 12.90 | 14.97 |
| SPDR S&P Bank | KBE | 0.35 | 3,096.9 | 26.01 | 4.54 | 11.24 |
| SPDR S&P Insurance | KIE | 0.35 | 497.7 | 19.23 | 9.53 | 11.77 |
| **U.S. EQUITY: HEALTH CARE** | | | | | | |
| Invesco S&P 500 Equal Weight Health Care | RYH | 0.40 | 992.9 | 20.93 | 16.87 | 15.74 |
| iShares US Medical Devices | IHI | 0.41 | 8,594.2 | 20.33 | 21.79 | 22.81 |
| Health Care Select Sector SPDR | XLV | 0.12 | 33,764.1 | 20.06 | 15.51 | 15.17 |
| iShares US Healthcare | IYH | 0.43 | 3,032.8 | 19.65 | 15.59 | 15.75 |
| Vanguard Health Care | VHT | 0.10 | 16,911.9 | 17.99 | 15.81 | 16.25 |
| Fidelity MSCI Health Care | FHLC | 0.08 | 2,971.6 | 17.84 | 15.72 | 16.19 |
| First Trust Health Care AlphaDEX | FXH | 0.61 | 1,655.5 | 16.46 | 14.79 | 15.67 |
| Invesco Dynamic Pharmaceuticals | PJP | 0.58 | 453.8 | 15.52 | 4.62 | 5.94 |
| SPDR S&P Health Care Services | XHS | 0.35 | 204.6 | 15.06 | 14.62 | 15.95 |
| SPDR S&P Health Care Equipment | XHE | 0.35 | 819.8 | 15.05 | 14.14 | 20.65 |
| iShares US Healthcare Providers | IHF | 0.42 | 1,161.9 | 14.73 | 12.91 | 18.30 |
| iShares Biotechnology | IBB | 0.45 | 11,247.4 | 13.84 | 12.34 | 13.22 |
| Invesco S&P SmallCap Health Care | PSCH | 0.29 | 523.8 | 12.49 | 9.65 | 21.10 |
| Invesco Dynamic Biotechnology & Genome | PBE | 0.59 | 307.8 | 11.92 | 9.38 | 14.58 |
| iShares US Pharmaceuticals | IHE | 0.42 | 397.2 | 8.57 | 5.93 | 6.76 |
| Invesco DWA Healthcare Momentum | PTH | 0.60 | 522.3 | 6.17 | 20.17 | 28.88 |
| First Trust NYSE Arca Biotechnology | FBT | 0.55 | 1,924.9 | 3.50 | 3.40 | 12.66 |
| SPDR S&P Biotech | XBI | 0.35 | 7,629.1 | -5.61 | 10.00 | 17.38 |
| SPDR S&P Pharmaceuticals | XPH | 0.35 | 233.7 | -6.58 | -0.32 | 2.22 |
| ALPS Medical Breakthroughs | SBIO | 0.50 | 211.2 | -8.41 | 7.66 | 15.32 |
| **U.S. EQUITY: INDUSTRIALS** | | | | | | |
| First Trust RBA Amer Industr Renaissance | AIRR | 0.70 | 234.2 | 25.60 | 15.03 | 16.93 |
| Invesco Dynamic Building & Construction | PKB | 0.60 | 359.1 | 24.67 | 18.78 | 14.74 |

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| Invesco S&P 500 Equal Weight Industrials | RGI | 0.40 | 495.8 | 22.69 | 17.07 | 17.16 |
| First Trust Industrials/Prod Dur AlphaDEX | FXR | 0.64 | 1,864.9 | 22.12 | 12.98 | 15.92 |
| SPDR S&P Transportation | XTN | 0.35 | 503.1 | 21.40 | 9.55 | 14.14 |
| Industrial Select Sector SPDR | XLI | 0.12 | 19,426.1 | 18.75 | 12.84 | 14.47 |
| iShares US Industrials | IYJ | 0.42 | 1,798.4 | 18.43 | 15.52 | 16.37 |
| Fidelity MSCI Industrials | FIDU | 0.08 | 882.1 | 17.95 | 13.41 | 14.55 |
| Vanguard Industrials | VIS | 0.10 | 5,490.8 | 17.80 | 12.71 | 14.18 |
| iShares U.S Transportation Average | IYT | 0.42 | 1,629.5 | 15.22 | 8.77 | 13.60 |
| First Trust Nasdaq Transportation | FTXR | 0.60 | 1,128.6 | 14.34 | 9.15 | - |
| iShares US Aerospace & Defense | ITA | 0.42 | 2,866.8 | 12.42 | 2.02 | 11.56 |
| Invesco DWA Industrials Momentum | PRN | 0.60 | 265.7 | 11.86 | 17.32 | 16.44 |
| Invesco Aerospace & Defense | PPA | 0.61 | 697.9 | 8.97 | 8.69 | 14.84 |
| SPDR S&P Aerospace & Defense | XAR | 0.35 | 1,259.2 | 7.50 | 9.61 | 17.04 |
| **U.S. EQUITY: TECHNOLOGY** | | | | | | |
| HCM Defender 100 | QQH | 1.14 | 288.3 | 28.71 | - | - |
| iShares US Technology | IYW | 0.43 | 9,012.9 | 27.44 | 31.22 | 31.07 |
| Invesco Dynamic Semiconductors | PSI | 0.56 | 776.3 | 24.60 | 33.08 | 33.38 |
| VanEck Semiconductor | SMH | 0.35 | 6,037.0 | 24.00 | 37.33 | 34.22 |
| iShares Semiconductor | SOXX | 0.43 | 7,530.5 | 23.85 | 36.62 | 35.43 |
| iShares Expanded Tech Sector | IGM | 0.43 | 3,899.1 | 22.83 | 27.39 | 29.58 |
| Technology Select Sector SPDR | XLK | 0.12 | 46,589.5 | 22.66 | 29.69 | 29.32 |
| First Trust NASDAQ-100 Technology Sector | QTEC | 0.57 | 3,922.2 | 21.23 | 27.23 | 27.75 |
| Fidelity MSCI Information Technology | FTEC | 0.08 | 6,504.8 | 21.01 | 29.09 | 30.10 |
| Vanguard Information Technology | VGT | 0.10 | 51,556.4 | 20.99 | 29.55 | 30.78 |
| Invesco S&P 500 Equal Weight Technology | RYT | 0.40 | 2,870.4 | 20.62 | 23.09 | 25.52 |
| Invesco S&P SmallCap Information Tech | PSCT | 0.29 | 479.6 | 20.30 | 18.22 | 19.41 |
| iShares Expanded Tech-Software Sector | IGV | 0.43 | 5,469.9 | 19.51 | 28.52 | 30.57 |
| SPDR S&P Semiconductor | XSD | 0.35 | 1,104.9 | 18.68 | 37.74 | 32.36 |
| First Trust Dow Jones Internet | FDN | 0.51 | 11,184.8 | 17.51 | 19.62 | 25.83 |
| SPDR S&P NYSE Technology | XNTK | 0.35 | 727.2 | 16.48 | 32.18 | 30.66 |
| SPDR S&P Software & Services | XSW | 0.35 | 604.2 | 15.83 | 25.42 | 27.20 |
| First Trust Cloud Computing | SKYY | 0.60 | 6,456.1 | 15.38 | 24.59 | 26.61 |
| First Trust Technology AlphaDEX | FXL | 0.61 | 2,751.9 | 14.70 | 26.88 | 29.44 |
| WisdomTree Cloud Computing | WCLD | 0.45 | 1,382.4 | 13.70 | - | - |
| Invesco DWA Technology Momentum | PTF | 0.60 | 295.5 | 12.96 | 32.68 | 31.55 |
| Invesco NASDAQ Internet | PNQI | 0.60 | 1,112.8 | 11.84 | 22.63 | 24.71 |
| SPDR FactSet Innovative Technology | XITK | 0.45 | 347.7 | 5.35 | 29.93 | 30.88 |
| SPDR S&P Kensho Smart Mobility | HAIL | 0.45 | 191.2 | 3.85 | 24.07 | - |
| Invesco Dynamic Software | PSJ | 0.56 | 596.5 | 0.12 | 21.18 | 26.39 |
| **U.S. EQUITY: TELECOMMUNICATIONS** | | | | | | |
| Global X US Infrastructure Development | PAVE | 0.47 | 4,611.0 | 28.54 | 17.31 | - |
| Communication Svcs Select Sector SPDR | XLC | 0.12 | 15,821.6 | 27.33 | 21.38 | - |
| Fidelity MSCI Communication Services | FCOM | 0.08 | 976.6 | 25.34 | 24.19 | 16.58 |
| Vanguard Communication Services | VOX | 0.10 | 4,892.3 | 25.10 | 21.08 | 11.75 |
| iShares US Infrastructure | IFRA | 0.40 | 694.5 | 22.30 | 12.11 | - |
| iShares US Telecommunications | IYZ | 0.42 | 453.3 | 15.73 | 7.72 | 4.14 |
| **U.S. EQUITY: UTILITIES** | | | | | | |
| First Trust Utilities AlphaDEX | FXU | 0.62 | 186.9 | 12.53 | 5.09 | 4.17 |
| Invesco S&P 500 Equal Weight Utilities | RYU | 0.40 | 213.1 | 11.81 | 10.91 | 9.44 |
| Utilities Select Sector SPDR | XLU | 0.12 | 13,661.7 | 10.98 | 12.27 | 10.45 |
| Fidelity MSCI Utilities | FUTY | 0.08 | 1,140.7 | 10.66 | 11.28 | 10.30 |
| Vanguard Utilities | VPU | 0.10 | 5,128.2 | 10.52 | 11.19 | 10.28 |
| iShares US Utilities | IDU | 0.43 | 862.3 | 10.36 | 10.77 | 9.74 |
| **U.S. EQUITY: REAL ESTATE** | | | | | | |
| SPDR S&P Homebuilders | XHB | 0.35 | 1,903.9 | 35.91 | 26.22 | 17.73 |
| iShares Residential/Multisector Real Est | REZ | 0.48 | 841.8 | 35.03 | 15.12 | 10.34 |
| Real Estate Select Sector SPDR | XLRE | 0.12 | 4,393.1 | 32.54 | 16.07 | 11.21 |
| iShares Cohen & Steers REIT | ICF | 0.34 | 2,612.6 | 31.56 | 13.55 | 8.66 |
| SPDR Dow Jones REIT | RWR | 0.25 | 1,894.1 | 31.53 | 9.15 | 6.21 |
| iShares US Home Construction | ITB | 0.41 | 2,439.9 | 31.37 | 25.42 | 20.89 |
| iShares Core US REIT | USRT | 0.08 | 2,351.7 | 30.20 | 11.05 | 7.87 |
| JPMorgan BetaBuilders MSCI US REIT | BBRE | 0.11 | 1,428.9 | 30.02 | 11.12 | - |
| Fidelity MSCI Real Estate | FREL | 0.09 | 1,936.5 | 29.55 | 13.15 | 9.57 |
| Vanguard Real Estate | VNQ | 0.12 | 44,879.3 | 29.50 | 13.15 | 8.39 |
| First Trust S&P REIT | FRI | 0.50 | 194.7 | 29.45 | 7.49 | 3.97 |

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| Schwab US REIT | SCHH | 0.07 | 6,414.6 | 29.17 | 7.10 | 5.09 |
| Pacer Benchmark Industrial Real Estate | INDS | 0.60 | 265.7 | 29.06 | 24.89 | - |
| iShares US Real Estate | IYR | 0.41 | 5,447.3 | 28.27 | 12.56 | 9.22 |
| iShares Mortgage Real Estate | REM | 0.48 | 1,474.3 | 20.36 | 2.48 | 6.05 |
| VanEck Mortgage REIT Income | MORT | 0.40 | 320.5 | 19.58 | 0.99 | 5.64 |
| Invesco KBW Premium Yield Equity REIT | KBWY | 0.35 | 350.0 | 18.13 | -6.15 | -1.78 |
| Pacer Benchmark Data/Infrastr Real Estate | SRVR | 0.60 | 1,618.8 | 17.91 | 18.21 | - |
| **U.S. EQUITY: HIGH DIVIDEND YIELD** | | | | | | |
| iShares Select Dividend | DVY | 0.39 | 18,343.6 | 25.67 | 9.63 | 10.50 |
| Invesco S&P Ultra Dividend Revenue | RDIV | 0.39 | 736.4 | 24.03 | 6.36 | 9.26 |
| Schwab US Dividend Equity | SCHD | 0.06 | 27,919.9 | 22.88 | 17.65 | 16.42 |
| Global X SuperDividend US | DIV | 0.45 | 678.6 | 22.84 | -0.54 | 2.19 |
| SPDR S&P Dividend | SDY | 0.35 | 19,878.0 | 19.32 | 11.41 | 11.47 |
| Invesco High Yield Equity Div Achievers | PEY | 0.53 | 954.7 | 19.21 | 8.18 | 9.22 |
| Vanguard High Dividend Yield | VYM | 0.06 | 38,996.1 | 19.16 | 10.74 | 11.57 |
| First Trust Value Line Dividend | FVD | 0.70 | 12,294.1 | 19.11 | 10.27 | 9.40 |
| WisdomTree US High Dividend | DHS | 0.38 | 825.8 | 18.01 | 7.26 | 7.43 |
| First Trust Morningstar Dividend Leaders | FDL | 0.45 | 1,681.5 | 17.13 | 5.59 | 4.81 |
| iShares Core High Dividend | HDV | 0.08 | 7,330.9 | 12.96 | 6.83 | 7.38 |
| **GLOBAL EQUITY** | | | | | | |
| T. Rowe Price Blue Chip Growth | TCHP | 0.57 | 218.0 | 20.35 | - | - |
| iShares Global 100 | IOO | 0.40 | 3,527.2 | 19.76 | 17.62 | 17.28 |
| First Trust Dorsey Wright Focus 5 | FV | 0.87 | 2,851.8 | 19.00 | 15.35 | 16.68 |
| First Trust Dorsey Wright Dynamic Focus 5 | FVC | 0.71 | 226.7 | 18.82 | 8.33 | 12.38 |
| SPDR Portfolio MSCI Global Stock Market | SPGM | 0.09 | 565.2 | 18.18 | 14.71 | 14.14 |
| ClearBridge All Cap Growth ESG | CACG | 0.53 | 231.7 | 16.79 | 18.39 | - |
| Vanguard Total World Stock | VT | 0.08 | 24,423.1 | 16.02 | 14.31 | 14.43 |
| iShares MSCI ACWI | ACWI | 0.32 | 17,363.4 | 15.83 | 14.40 | 14.48 |
| iShares MSCI Global Min Vol Factor | ACWV | 0.20 | 5,301.3 | 11.16 | 9.49 | 9.51 |
| iShares MSCI Global Impact | SDG | 0.49 | 594.3 | 7.82 | 21.33 | 17.13 |
| Davis Select Worldwide | DWLD | 0.63 | 386.2 | 1.13 | 8.13 | - |
| Horizon Kinetics Inflation Beneficiaries | INFL | 0.85 | 678.8 | - | - | - |
| **GLOBAL EQUITY EX-U.S.** | | | | | | |
| Invesco International Dividend Achievers | PID | 0.56 | 610.7 | 19.40 | 8.51 | 8.49 |
| Avantis International Small Cap Value | AVDV | 0.36 | 1,061.8 | 17.15 | - | - |
| Vanguard FTSE All-World ex-US Small-Cap | VSS | 0.11 | 10,019.2 | 15.43 | 9.74 | 10.49 |
| WisdomTree Glb ex-US Qual Div Growth | DNL | 0.58 | 441.6 | 14.32 | 16.28 | 14.46 |
| Vident International Equity | VIDI | 0.59 | 485.1 | 13.22 | 6.47 | 8.12 |
| Vanguard International Div Appreciation | VIGI | 0.20 | 4,042.5 | 12.63 | 13.40 | 11.93 |
| FlexShares Intl Quality Dividend | IQDF | 0.47 | 628.3 | 11.62 | 7.70 | 7.62 |
| American Century Quality Diversified Intl | QINT | 0.39 | 208.5 | 10.92 | - | - |
| iShares Core MSCI Total International Stock | IXUS | 0.09 | 30,751.8 | 10.71 | 9.69 | 10.26 |
| Vanguard Total International Stock | VXUS | 0.08 | 50,610.9 | 10.65 | 9.72 | 10.14 |
| Vanguard FTSE All-World ex-US | VEU | 0.08 | 35,568.0 | 9.87 | 9.74 | 10.13 |
| Vanguard ESG International Stock | VSGX | 0.17 | 2,549.2 | 9.77 | - | - |
| SPDR MSCI ACWI ex-US | CWI | 0.30 | 1,814.4 | 9.74 | 9.48 | 9.81 |
| iShares International Dividend Growth | IGRO | 0.15 | 244.6 | 9.44 | 9.40 | 9.27 |
| iShares MSCI ACWI ex US | ACWX | 0.32 | 4,447.0 | 9.32 | 9.17 | 9.71 |
| First Trust Dorsey Wright Intl Focus 5 | IFV | 1.06 | 283.4 | 8.10 | 6.82 | 8.35 |
| First Trust Intl Equity Opportunities | FPXI | 0.70 | 1,289.6 | 0.75 | 25.96 | 21.36 |
| Davis Select International | DINT | 0.65 | 270.0 | -12.68 | 4.20 | - |
| **INTERNATIONAL EQUITY: BLENDED DEVELOPMENT** | | | | | | |
| Fidelity Blue Chip Growth | FBCG | 0.59 | 444.0 | 19.94 | - | - |
| ClearBridge Large Cap Growth ESG | LRGE | 0.59 | 174.5 | 18.15 | 21.49 | - |
| iShares MSCI All Country Asia ex Japan | AAXJ | 0.70 | 5,391.6 | -0.66 | 9.25 | 10.51 |
| iShares Asia 50 | AIA | 0.50 | 2,583.1 | -4.20 | 11.94 | 13.67 |
| **INTERNATIONAL EQUITY: DEVELOPED** | | | | | | |
| iShares MSCI Saudi Arabia | KSA | 0.74 | 893.5 | 33.78 | 14.27 | 16.33 |
| iShares MSCI Netherlands | EWN | 0.51 | 329.0 | 28.93 | 21.46 | 18.60 |
| WisdomTree Europe SmallCap Dividend | DFE | 0.58 | 358.1 | 23.33 | 10.32 | 11.16 |
| iShares MSCI Sweden | EWD | 0.51 | 658.8 | 23.18 | 17.58 | 14.42 |
| Invesco DWA Dev Markets Momentum | PIZ | 0.80 | 245.8 | 22.70 | 14.64 | 13.42 |
| Fidelity High Dividend | FDVV | 0.29 | 1,128.4 | 22.40 | 11.96 | - |
| JPMorgan BetaBuilders Canada | BBCA | 0.19 | 5,719.3 | 22.10 | 12.27 | - |
| iShares MSCI Canada | EWC | 0.51 | 4,167.2 | 21.82 | 11.52 | 10.41 |

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| WisdomTree Europe Hedged Equity | HEDJ | 0.58 | 2,137.9 | 21.76 | 9.88 | 10.69 |
| iShares Currency Hedged MSCI Eurozone | HEZU | 0.54 | 746.0 | 20.93 | 11.33 | 11.82 |
| iShares MSCI Europe Small-Cap | IEUS | 0.40 | 472.2 | 20.68 | 12.51 | 13.60 |
| Xtrackers MSCI Europe Hedged Equity | DBEU | 0.46 | 644.0 | 19.96 | 10.48 | 10.83 |
| iShares MSCI Kokusai | TOK | 0.25 | 213.9 | 19.77 | 15.91 | 15.57 |
| Fidelity Dividend for Rising Rates | FDRR | 0.29 | 499.1 | 19.14 | 13.79 | - |
| FlexShares STOXX Global ESG Select | ESGG | 0.42 | 183.9 | 18.82 | 15.78 | 15.91 |
| First Trust Europe AlphaDEX | FEP | 0.80 | 563.9 | 18.68 | 7.49 | 11.29 |
| iShares MSCI World | URTH | 0.24 | 1,572.2 | 18.37 | 15.34 | 15.00 |
| Xtrackers MSCI Kokusai Equity | KOKU | 0.09 | 804.5 | 18.37 | - | - |
| WisdomTree Intl Hedged Qual Div Growth | IHDG | 0.58 | 1,070.0 | 17.92 | 14.09 | 13.41 |
| First Trust RiverFront Dyn Dev Intl | RFDI | 0.83 | 181.2 | 17.60 | 9.04 | 9.76 |
| iShares MSCI France | EWQ | 0.51 | 754.4 | 17.56 | 9.57 | 12.31 |
| Vanguard FTSE Europe | VGK | 0.08 | 21,449.2 | 17.55 | 10.47 | 10.75 |
| iShares Core MSCI Europe | IEUR | 0.09 | 5,391.4 | 17.36 | 10.21 | 10.77 |
| Global X Artificial Intelligence & Tech | AIQ | 0.68 | 181.2 | 17.23 | 26.99 | - |
| JPMorgan BetaBuilders Europe | BBEU | 0.09 | 9,082.5 | 17.22 | 10.12 | - |
| Franklin FTSE Europe | FLEE | 0.09 | 202.8 | 16.90 | 10.19 | - |
| SPDR Portfolio Europe | SPEU | 0.09 | 315.4 | 16.87 | 12.19 | 10.71 |
| iShares Europe | IEV | 0.59 | 2,145.1 | 16.45 | 9.66 | 9.85 |
| iShares MSCI Eurozone | EZU | 0.51 | 8,239.3 | 16.41 | 9.71 | 10.85 |
| iShares Currency Hedged MSCI EAFE | HEFA | 0.35 | 2,960.0 | 16.34 | 9.86 | 11.00 |
| SPDR Euro STOXX 50 | FEZ | 0.29 | 2,978.3 | 16.32 | 10.32 | 10.62 |
| Xtrackers MSCI EAFE Hedged Equity | DBEF | 0.36 | 4,142.9 | 16.17 | 9.79 | 10.90 |
| iShares MSCI Switzerland | EWL | 0.51 | 1,769.5 | 15.89 | 15.61 | 13.28 |
| WisdomTree International SmallCap Div | DLS | 0.58 | 1,512.8 | 15.83 | 6.15 | 8.74 |
| iShares MSCI Intl Small-Cap Multifactor | ISCF | 0.40 | 204.5 | 15.72 | 9.01 | 11.49 |
| IQ 500 International | IQIN | 0.25 | 245.4 | 15.60 | - | - |
| Schwab International Small-Cap Equity | SCHC | 0.11 | 3,826.5 | 15.55 | 9.34 | 10.31 |
| iShares MSCI Intl Value Factor | IVLU | 0.30 | 1,128.2 | 15.21 | 4.36 | 6.70 |
| Invesco FTSE RAFI Dev Markets ex-US | PXF | 0.45 | 1,242.9 | 14.98 | 7.08 | 8.98 |
| Schwab Fundamental Intl Small Company | FNDC | 0.39 | 2,760.0 | 14.93 | 7.60 | 9.48 |
| Franklin FTSE United Kingdom | FLGB | 0.09 | 250.6 | 14.87 | 4.47 | - |
| Invesco RAFI Strategic Developed ex-US | ISDX | 0.23 | 301.0 | 14.69 | - | - |
| iShares MSCI United Kingdom | EWU | 0.51 | 3,612.5 | 14.60 | 3.07 | 4.73 |
| iShares MSCI EAFE Small-Cap | SCZ | 0.40 | 15,149.6 | 14.53 | 10.10 | 11.64 |
| Knowledge Leaders Developed World | KLDW | 0.75 | 200.5 | 14.47 | 12.70 | 13.47 |
| Schwabamental Intl Large Company | FNDF | 0.25 | 6,822.6 | 14.19 | 7.40 | 9.07 |
| Avantis International Equity | AVDE | 0.23 | 998.4 | 14.01 | - | - |
| FlexShares Mstar DM ex-US Factor Tilt | TLTD | 0.39 | 683.9 | 13.99 | 7.61 | 9.03 |
| WisdomTree Intl Quality Dividend Growth | IQDG | 0.42 | 287.2 | 13.99 | 13.25 | 12.24 |
| iShares MSCI Intl Multifactor | INTF | 0.30 | 929.0 | 13.86 | 6.21 | 8.45 |
| First Trust Dev Mkts ex-US AlphaDEX | FDT | 0.80 | 410.8 | 13.80 | 4.92 | 8.10 |
| Dimensional Intl Core Equity Market | DFAI | 0.18 | 578.9 | 13.71 | - | - |
| IQ 50 Percent Hedged FTSE International | HFXI | 0.20 | 325.2 | 13.62 | 9.90 | 10.63 |
| iShares MSCI Intl Quality Factor | IQLT | 0.30 | 3,909.3 | 13.62 | 13.14 | 12.02 |
| Invesco FTSE RAFI DM ex-U.S. Small-Mid | PDN | 0.49 | 438.6 | 13.58 | 8.13 | 10.01 |
| iShares Core MSCI Intl Developed Markets | IDEV | 0.05 | 6,291.9 | 13.46 | 9.82 | - |
| iShares MSCI Italy | EWI | 0.51 | 593.9 | 13.29 | 9.78 | 11.02 |
| Hartford Multifactor Dev Markets (ex-US) | RODM | 0.29 | 2,025.3 | 13.25 | 5.77 | 8.16 |
| IQ Candriam ESG International Equity | IQSI | 0.15 | 209.1 | 13.17 | - | - |
| SPDR MSCI EAFE StrategicFactors | QEFA | 0.30 | 820.6 | 12.94 | 9.97 | 9.87 |
| SPDR S&P International Small Cap | GWX | 0.40 | 844.5 | 12.83 | 8.07 | 9.47 |
| John Hancock Multifactor Developed Intl | JHMD | 0.39 | 523.8 | 12.81 | 8.47 | - |
| iShares Core MSCI EAFE | IEFA | 0.07 | 101,524.4 | 12.66 | 9.35 | 10.17 |
| Vanguard FTSE Developed Markets | VEA | 0.05 | 105,772.7 | 12.53 | 9.74 | 10.31 |
| Goldman Sachs ActiveBeta International | GSIE | 0.25 | 3,098.4 | 12.49 | 8.70 | 9.87 |
| iShares ESG Advanced MSCI EAFE | DMXF | 0.12 | 246.0 | 12.41 | - | - |
| SPDR Portfolio Developed World ex-US | SPDW | 0.04 | 11,874.5 | 12.40 | 9.81 | 10.34 |
| iShares ESG Aware MSCI EAFE | ESGD | 0.20 | 6,668.0 | 12.27 | 9.77 | 10.04 |
| Schwab International Equity | SCHF | 0.06 | 28,332.3 | 12.18 | 9.65 | 10.15 |
| WisdomTree Japan Hedged Equity | DXJ | 0.48 | 1,749.2 | 12.08 | 5.66 | 9.63 |
| iShares MSCI EAFE | EFA | 0.32 | 58,195.4 | 12.03 | 9.07 | 9.65 |
| JPMorgan BetaBuilders International | BBIN | 0.07 | 3,715.5 | 11.92 | - | - |
| iShares MSCI EAFE Value | EFV | 0.39 | 15,133.9 | 11.89 | 4.24 | 6.35 |

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| iShares MSCI Germany | EWG | 0.51 | 2,884.7 | 11.88 | 7.32 | 8.34 |
| VictoryShares MSCI Intl Value Momentum | UIVM | 0.35 | 362.0 | 11.68 | 3.93 | - |
| SPDR MSCI EAFE Fossil Fuel Reserves Free | EFAX | 0.20 | 248.3 | 11.53 | 9.69 | - |
| WisdomTree International Equity | DWM | 0.48 | 631.9 | 11.49 | 4.98 | 6.87 |
| Goldman Sachs MarketBeta International | GSID | 0.20 | 357.5 | 11.38 | - | - |
| iShares MSCI EAFE Growth | EFG | 0.40 | 12,547.6 | 11.19 | 13.09 | 12.30 |
| WisdomTree Intl LargeCap Dividend | DOL | 0.48 | 366.4 | 11.15 | 5.02 | 6.65 |
| ALPS International Sector Dividend Dogs | IDOG | 0.50 | 189.4 | 11.02 | 6.28 | 7.69 |
| Global X Robotics & Artificial Intelligence | BOTZ | 0.68 | 2,654.2 | 10.85 | 17.81 | - |
| Global X FinTech | FINX | 0.68 | 1,393.3 | 10.13 | 20.72 | - |
| iShares MSCI Australia | EWA | 0.51 | 1,510.1 | 9.73 | 8.94 | 9.53 |
| JPMorgan Diversified Return International | JPIN | 0.37 | 890.9 | 9.01 | 5.67 | 7.01 |
| WisdomTree International High Dividend | DTH | 0.58 | 181.7 | 8.89 | 2.88 | 5.22 |
| Xtrackers MSCI Japan Hedged Equity | DBJP | 0.46 | 191.6 | 8.87 | 8.19 | 11.28 |
| iShares MSCI Singapore | EWS | 0.51 | 627.8 | 8.80 | 2.60 | 5.10 |
| iShares MSCI EAFE Min Vol Factor | EFAV | 0.20 | 8,640.3 | 8.69 | 5.76 | 6.57 |
| iShares Currency Hedged MSCI Japan | HEWJ | 0.51 | 532.0 | 8.50 | 8.00 | 11.23 |
| JPMorgan BetaBuilders Dev Asia ex-Japan | BBAX | 0.19 | 4,107.2 | 8.43 | 8.44 | - |
| Invesco S&P Intl. Developed Low Volatility | IDLV | 0.25 | 722.5 | 8.37 | 2.76 | 4.54 |
| iShares MSCI Pacific ex-Japan | EPP | 0.48 | 2,450.5 | 8.04 | 7.24 | 8.66 |
| Xtrackers MSCI EAFE High Dividend Yield | HDEF | 0.20 | 812.2 | 7.67 | 6.17 | 4.52 |
| iShares MSCI Hong Kong | EWH | 0.51 | 1,048.8 | 6.07 | 4.98 | 7.37 |
| iShares MSCI Intl Momentum Factor | IMTM | 0.30 | 854.4 | 5.85 | 11.51 | 10.52 |
| WisdomTree Japan SmallCap Dividend | DFJ | 0.58 | 227.8 | 5.65 | 2.39 | 7.49 |
| iShares MSCI Spain | EWP | 0.51 | 707.5 | 5.44 | 1.39 | 4.58 |
| iShares Core MSCI Pacific | IPAC | 0.09 | 1,101.8 | 4.96 | 7.77 | 9.23 |
| ARK Israel Innovative Technology | IZRL | 0.49 | 284.4 | 4.31 | 13.68 | - |
| Vanguard FTSE Pacific | VPL | 0.08 | 5,564.8 | 3.99 | 8.27 | 9.61 |
| Franklin FTSE Japan | FLJP | 0.09 | 612.6 | 2.42 | 7.41 | - |
| JPMorgan BetaBuilders Japan | BBJP | 0.19 | 8,877.3 | 2.34 | 7.39 | - |
| iShares MSCI Japan | EWJ | 0.51 | 11,817.5 | 1.99 | 7.21 | 8.58 |
| BlueStar Israel Technology | ITEQ | 0.75 | 208.8 | 0.44 | 23.81 | 22.31 |
| BlackRock World ex US Carbon Trans Ready | LCTD | 0.20 | 613.4 | - | - | - |

### INTERNATIONAL EQUITY: EMERGING

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| iShares MSCI India Small Cap | SMIN | 0.81 | 327.1 | 37.12 | 10.77 | 11.50 |
| WisdomTree India Earnings | EPI | 0.84 | 911.9 | 25.79 | 12.08 | 12.16 |
| iShares MSCI Russia | ERUS | 0.59 | 584.3 | 22.82 | 18.49 | 14.97 |
| iShares MSCI Taiwan | EWT | 0.59 | 7,511.3 | 22.38 | 22.65 | 19.09 |
| iShares MSCI Poland | EPOL | 0.59 | 279.0 | 21.78 | 0.42 | 7.17 |
| VanEck Russia | RSX | 0.67 | 1,580.5 | 21.24 | 18.87 | 14.51 |
| iShares MSCI India | INDA | 0.69 | 6,287.9 | 20.95 | 11.69 | 11.30 |
| iShares India 50 | INDY | 0.90 | 719.0 | 20.73 | 11.62 | 11.62 |
| iShares MSCI Mexico | EWW | 0.51 | 1,168.4 | 19.82 | 2.61 | 2.29 |
| SPDR S&P Emerging Markets Small Cap | EWX | 0.65 | 664.7 | 18.40 | 12.10 | 10.48 |
| iShares MSCI Emerging Markets Small-Cap | EEMS | 0.71 | 414.6 | 18.14 | 12.19 | 10.21 |
| WisdomTree EM SmallCap Dividend | DGS | 0.63 | 2,288.6 | 17.87 | 9.91 | 10.05 |
| Schwab Fundamental EM Large Company | FNDE | 0.39 | 4,915.4 | 15.50 | 8.19 | 9.95 |
| Invesco S&P Emerging Markets Low Vol | EELV | 0.30 | 336.6 | 14.40 | 4.61 | 5.73 |
| iShares MSCI South Africa | EZA | 0.59 | 268.8 | 13.77 | 3.56 | 3.92 |
| VictoryShares MSCI EM Value Momentum | UEVM | 0.45 | 246.9 | 13.73 | 6.68 | - |
| PIMCO RAFI Dynamic Multi-Factor EM | MFEM | 0.49 | 407.6 | 13.05 | 10.88 | - |
| First Trust Emerging Markets AlphaDEX | FEM | 0.80 | 513.0 | 12.74 | 7.28 | 9.53 |
| WisdomTree Emerging Markets High Div | DEM | 0.63 | 1,993.6 | 12.64 | 6.41 | 8.63 |
| Invesco DWA Emerging Mkts Momentum | PIE | 0.90 | 234.7 | 12.19 | 12.62 | 11.43 |
| SPDR S&P Emerging Markets Dividend | EDIV | 0.49 | 302.8 | 11.54 | 3.42 | 5.71 |
| iShares MSCI Emerging Markets ex China | EMXC | 0.25 | 1,267.1 | 11.07 | 10.97 | - |
| Invesco FTSE RAFI Emerging Markets | PXH | 0.50 | 1,503.8 | 10.74 | 6.69 | 8.91 |
| iShares Emerging Markets Dividend | DVYE | 0.49 | 824.8 | 10.71 | 6.57 | 8.22 |
| iShares MSCI EM Multifactor | EMGF | 0.45 | 750.4 | 9.39 | 8.79 | 9.93 |
| Avantis Emerging Markets Equity | AVEM | 0.33 | 851.1 | 9.24 | - | - |
| FlexShares Mstar EM Factor Tilt | TLTE | 0.59 | 329.5 | 8.78 | 8.60 | 8.59 |
| iShares ESG MSCI EM Leaders | LDEM | 0.16 | 870.4 | 6.80 | - | - |
| Dimensional Emerging Core Equity Mkt | DFAE | 0.35 | 332.1 | 6.61 | - | - |
| KraneShares MSCI China Clean Technology | KGRN | 0.79 | 196.5 | 6.48 | 36.21 | - |
| John Hancock Multifactor EM | JHEM | 0.49 | 722.1 | 6.39 | - | - |

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| iShares MSCI EM Min Vol Factor | EEMV | 0.25 | 3,834.3 | 5.43 | 5.23 | 6.31 |
| Vanguard FTSE Emerging Markets | VWO | 0.10 | 80,918.3 | 4.91 | 10.44 | 9.78 |
| SPDR Portfolio Emerging Markets | SPEM | 0.11 | 5,888.0 | 4.90 | 9.85 | 10.13 |
| iShares MSCI Thailand | THD | 0.59 | 408.1 | 4.79 | -1.87 | 3.56 |
| iShares Core MSCI Emerging Markets | IEMG | 0.11 | 79,463.6 | 4.03 | 9.85 | 10.35 |
| Schwab Emerging Markets Equity | SCHE | 0.11 | 9,360.5 | 3.64 | 10.02 | 9.84 |
| iShares ESG Aware MSCI EM | ESGE | 0.25 | 6,997.6 | 3.32 | 10.73 | 10.82 |
| iShares Currency Hedged MSCI EM | HEEM | 0.70 | 201.2 | 2.63 | 9.34 | 9.89 |
| Goldman Sachs ActiveBeta Emerging Mkt | GEM | 0.45 | 1,368.6 | 2.59 | 8.10 | 9.00 |
| iShares Latin America 40 | ILF | 0.48 | 1,483.9 | 2.02 | 2.04 | 3.60 |
| iShares MSCI Emerging Markets | EEM | 0.70 | 30,512.1 | 1.87 | 8.97 | 9.69 |
| SPDR MSCI EM Fossil Fuel Reserves Free | EEMX | 0.30 | 176.7 | 1.35 | 9.46 | - |
| SPDR S&P Emerging Asia Pacific | GMF | 0.49 | 622.4 | 1.18 | 10.76 | 11.85 |
| iShares MSCI South Korea | EWY | 0.59 | 6,004.5 | 0.74 | 10.35 | 10.85 |
| Franklin FTSE Brazil | FLBR | 0.19 | 226.2 | 0.70 | 7.66 | - |
| iShares MSCI Emerging Markets Asia | EEMA | 0.50 | 867.8 | 0.35 | 9.96 | 11.24 |
| iShares MSCI Brazil | EWZ | 0.59 | 5,084.1 | -0.30 | 6.61 | 4.23 |
| WisdomTree Emerging Markets ex-SOE | XSOE | 0.32 | 4,485.7 | -0.37 | 12.51 | 12.82 |
| iShares MSCI China A | CNYA | 0.60 | 650.2 | -0.80 | 20.21 | 11.26 |
| KraneShares Bosera MSCI China A Share | KBA | 0.60 | 751.9 | -1.61 | 19.93 | 10.72 |
| iShares MSCI Chile | ECH | 0.59 | 472.4 | -3.79 | -11.08 | -2.85 |
| iShares MSCI Malaysia | EWM | 0.51 | 265.4 | -4.94 | -3.42 | -0.68 |
| Xtrackers Harvest CSI 300 China A-Shares | ASHR | 0.65 | 2,148.0 | -5.42 | 16.46 | 9.56 |
| Invesco BLDRS Emerging Markets 50 ADR | ADRE | 0.30 | 206.0 | -6.76 | 10.16 | 10.80 |
| iShares MSCI Turkey | TUR | 0.59 | 296.8 | -7.56 | 8.42 | -6.34 |
| iShares MSCI Indonesia | EIDO | 0.59 | 349.8 | -8.65 | -1.68 | -2.09 |
| SPDR S&P China | GXC | 0.59 | 1,764.5 | -10.86 | 7.20 | 10.40 |
| iShares MSCI China | MCHI | 0.59 | 6,044.7 | -12.38 | 6.61 | 10.17 |
| WisdomTree China ex-SOE | CXSE | 0.32 | 1,000.0 | -14.36 | 15.74 | 18.75 |
| Invesco Golden Dragon China | PGJ | 0.69 | 224.4 | -26.65 | 5.66 | 9.21 |
| KraneShares CSI China Internet | KWEB | 0.76 | 6,403.7 | -33.57 | 1.44 | 6.55 |
| JPMorgan ActiveBuilders Emerging Mkts | JEMA | 0.39 | 319.8 | - | - | - |

### INTERNATIONAL EQUITY: FRONTIER

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| iShares MSCI Frontier and Select EM | FM | 0.79 | 498.2 | 22.35 | 10.28 | 10.15 |
| VanEck Vietnam | VNM | 0.66 | 551.7 | 12.92 | 6.83 | 6.61 |

### GLOBAL EQUITY: SECTOR

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| VanEck Rare Earth/Strategic Metals | REMX | 0.59 | 1,022.8 | 79.79 | 31.22 | 23.04 |
| North Shore Global Uranium Mining | URNM | 0.85 | 334.8 | 46.32 | - | - |
| Amplify Transformational Data Sharing | BLOK | 0.71 | 1,256.4 | 41.51 | 36.77 | - |
| VanEck Steel | SLX | 0.56 | 203.2 | 39.95 | 16.42 | 19.35 |
| Global X Lithium & Battery Tech | LIT | 0.75 | 4,779.6 | 38.33 | 41.02 | 31.12 |
| Global X Uranium | URA | 0.69 | 613.6 | 36.82 | 19.78 | 11.78 |
| Davis Select Financial | DFNL | 0.64 | 219.3 | 29.03 | 9.83 | - |
| Invesco S&P Global Water | CGW | 0.57 | 1,171.2 | 26.97 | 21.06 | 16.36 |
| Invesco Global Listed Private Equity | PSP | 1.44 | 271.6 | 26.27 | 16.30 | 16.40 |
| iShares MSCI Global Metals/Mining Prod | PICK | 0.39 | 1,111.7 | 25.45 | 18.87 | 20.14 |
| 3D Printing | PRNT | 0.66 | 522.2 | 25.07 | 13.75 | 14.19 |
| iShares Global REIT | REET | 0.14 | 3,370.7 | 24.57 | 8.37 | 5.76 |
| SPDR Dow Jones Global Real Estate | RWO | 0.50 | 1,725.7 | 23.80 | 7.38 | 5.11 |
| Invesco Global Water | PIO | 0.75 | 326.3 | 23.50 | 19.91 | 15.69 |
| iShares Global Energy | IXC | 0.43 | 1,463.5 | 23.17 | -7.86 | -0.98 |
| iShares Global Financials | IXG | 0.43 | 2,990.2 | 22.84 | 8.84 | 11.56 |
| First Trust Cln Edge Smart Grid Infrastr | GRID | 0.70 | 551.2 | 22.75 | 26.14 | 21.56 |
| FlexShares Global Quality Real Estate | GQRE | 0.45 | 407.5 | 22.35 | 6.85 | 5.88 |
| Global X Copper Miners | COPX | 0.65 | 1,071.9 | 22.14 | 22.46 | 20.33 |
| iShares Global Comm Services | IXP | 0.43 | 339.4 | 21.71 | 19.32 | 10.69 |
| Roundhill Sports Betting & iGaming | BETZ | 0.75 | 401.7 | 20.74 | - | - |
| iShares Global Tech | IXN | 0.43 | 6,016.5 | 20.69 | 28.14 | 28.55 |
| VanEck Oil Services | OIH | 0.35 | 2,216.8 | 20.64 | -26.48 | -18.01 |
| KraneShares Electric Veh/Future Mobility | KARS | 0.70 | 264.4 | 20.61 | 31.04 | - |
| First Trust NASDAQ Technology Dividend | TDIV | 0.50 | 1,699.2 | 20.36 | 18.39 | 18.15 |
| Global X Millennial Consumer | MILN | 0.50 | 227.7 | 20.21 | 24.25 | 23.57 |
| Global X Autonomous & Electric Vehicles | DRIV | 0.68 | 1,138.7 | 20.14 | 26.66 | - |
| Global X Internet of Things | SNSR | 0.68 | 490.6 | 19.93 | 23.19 | - |
| VanEck Agribusiness | MOO | 0.56 | 1,132.6 | 19.18 | 14.38 | 14.50 |

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| Siren Nasdaq NexGen Economy | BLCN | 0.68 | 288.6 | 17.50 | 26.58 | - |
| iShares Genomics Immunology/Healthcare | IDNA | 0.47 | 351.8 | 17.38 | - | - |
| SPDR S&P Global Natural Resources | GNR | 0.40 | 2,313.4 | 17.30 | 5.60 | 9.55 |
| ETFMG Alternative Harvest | MJ | 0.75 | 1,227.5 | 16.90 | -17.58 | -6.80 |
| iShares Self-Driving EV and Tech | IDRV | 0.47 | 436.1 | 16.52 | - | - |
| iShares Global Industrials | EXI | 0.43 | 444.7 | 16.37 | 11.99 | 12.79 |
| iShares Global Healthcare | IXJ | 0.43 | 3,518.7 | 16.32 | 14.54 | 13.62 |
| First Trust NASDAQ Cybersecurity | CIBR | 0.60 | 4,866.5 | 16.24 | 21.64 | 22.40 |
| iShares MSCI ACWI Low Carbon Target | CRBN | 0.20 | 898.5 | 16.06 | 15.01 | 14.53 |
| FlexShares Mstar Glb Upstr Nat Res | GUNR | 0.46 | 5,638.4 | 16.06 | 7.46 | 10.01 |
| iShares Exponential Technologies | XT | 0.47 | 4,102.5 | 15.59 | 20.77 | 21.84 |
| Defiance Next Gen Connectivity | FIVG | 0.30 | 1,322.6 | 15.53 | - | - |
| VanEck Retail | RTH | 0.35 | 256.9 | 15.44 | 18.90 | 19.49 |
| VanEck Pharmaceutical | PPH | 0.35 | 341.6 | 15.43 | 8.05 | 7.20 |
| Global X Cybersecurity | BUG | 0.50 | 769.5 | 15.26 | - | - |
| ProShares Pet Care | PAWZ | 0.50 | 349.6 | 15.18 | - | - |
| Global X SuperDividend REIT | SRET | 0.58 | 506.1 | 15.04 | -7.45 | -0.96 |
| First Trust Indxx NextG | NXTG | 0.70 | 1,108.6 | 14.87 | 17.45 | 16.00 |
| iShares Global Materials | MXI | 0.43 | 874.9 | 14.61 | 14.28 | 14.53 |
| Goldman Sachs Innovate Equity | GINN | 0.50 | 491.6 | 14.53 | - | - |
| iShares Cybersecurity and Tech | IHAK | 0.47 | 663.7 | 14.15 | - | - |
| iShares Global Timber & Forestry | WOOD | 0.43 | 312.1 | 13.63 | 6.67 | 14.44 |
| SPDR S&P Kensho New Econ Composite | KOMP | 0.20 | 2,112.9 | 13.23 | - | - |
| Amplify Lithium & Battery Technology | BATT | 0.59 | 214.8 | 12.40 | 6.75 | - |
| ETFMG Prime Cyber Security | HACK | 0.60 | 2,445.9 | 12.23 | 17.73 | 20.04 |
| iShares Robotics/AI Multisector | IRBO | 0.47 | 441.6 | 12.00 | 21.49 | - |
| ROBO Global Healthcare Tech/Innovation | HTEC | 0.68 | 243.0 | 11.64 | - | - |
| First Trust Nasdaq AI/Robotics | ROBT | 0.65 | 263.3 | 11.53 | 20.09 | - |
| FlexShares STOXX Global Broad Infrastr | NFRA | 0.47 | 2,814.0 | 10.74 | 10.64 | 8.49 |
| ROBO Global Robotics and Automation | ROBO | 0.95 | 1,865.9 | 10.59 | 16.82 | 20.43 |
| ALPS Disruptive Technologies | DTEC | 0.50 | 243.2 | 10.59 | 19.77 | - |
| ARK Autonomous Technology & Robotics | ARKQ | 0.75 | 2,779.5 | 10.41 | 33.03 | 33.24 |
| Global X Cloud Computing | CLOU | 0.68 | 1,377.0 | 9.64 | - | - |
| iShares Global Consumer Discretionary | RXI | 0.43 | 453.9 | 8.85 | 13.51 | 14.93 |
| ETFMG Prime Mobile Payments | IPAY | 0.75 | 1,286.1 | 8.52 | 19.62 | 23.67 |
| SPDR S&P Global Infrastructure | GII | 0.40 | 444.2 | 8.42 | 6.18 | 6.00 |
| ARK Fintech Innovation | ARKF | 0.75 | 3,708.4 | 8.33 | - | - |
| iShares Global Consumer Staples | KXI | 0.43 | 629.0 | 8.07 | 10.12 | 7.18 |
| iShares Global Infrastructure | IGF | 0.43 | 3,082.3 | 7.93 | 6.08 | 5.77 |
| iShares Global Utilities | JXI | 0.43 | 174.3 | 7.21 | 11.89 | 9.79 |
| Global X Social Media | SOCL | 0.65 | 443.0 | 6.94 | 25.95 | 23.12 |
| AdvisorShares Pure Cannabis | YOLO | 0.75 | 281.6 | 5.41 | - | - |
| O'Shares Global Internet Giants | OGIG | 0.48 | 669.0 | 4.24 | 32.39 | - |
| ARK Next Generation Internet | ARKW | 0.79 | 5,861.5 | 3.22 | 42.81 | 48.60 |
| Invesco MSCI Sustainable Future | ERTH | 0.55 | 431.2 | 3.07 | 20.80 | 19.80 |
| U.S. Global Jets | JETS | 0.60 | 3,376.0 | 2.68 | -10.30 | 0.77 |
| Global X Genomics & Biotechnology | GNOM | 0.50 | 282.9 | 2.12 | - | - |
| Global X E-commerce | EBIZ | 0.50 | 211.9 | 1.98 | - | - |
| VanEck Video Gaming and eSports | ESPO | 0.55 | 716.8 | -1.51 | - | - |
| ARK Innovation | ARKK | 0.75 | 22,486.0 | -1.98 | 37.25 | 44.57 |
| VanEck Low Carbon Energy | SMOG | 0.62 | 303.7 | -2.04 | 39.06 | 26.24 |
| Global X Video Games & Esports | HERO | 0.50 | 559.8 | -2.11 | - | - |
| Global X Telemedicine & Digital Health | EDOC | 0.68 | 620.2 | -4.05 | - | - |
| First Trust Global Wind Energy | FAN | 0.62 | 401.8 | -4.91 | 20.22 | 10.85 |
| ARK Genomic Revolution | ARKG | 0.75 | 8,434.5 | -8.13 | 38.15 | 38.59 |
| iShares MSCI Global Gold Miners | RING | 0.39 | 551.3 | -8.82 | 24.55 | 5.72 |
| VanEck Gold Miners | GDX | 0.52 | 13,543.8 | -9.49 | 21.37 | 5.63 |
| AdvisorShares Pure US Cannabis | MSOS | 0.74 | 817.6 | -10.27 | - | - |
| Sprott Gold Miners | SGDM | 0.50 | 227.3 | -10.31 | 20.60 | 3.67 |
| Global X Silver Miners | SIL | 0.65 | 1,137.7 | -11.26 | 19.84 | 0.36 |
| Invesco Global Clean Energy | PBD | 0.75 | 412.4 | -14.47 | 37.43 | 23.82 |
| Invesco Solar | TAN | 0.69 | 3,224.2 | -16.67 | 58.29 | 34.64 |
| iShares Global Clean Energy | ICLN | 0.42 | 6,235.3 | -16.93 | 40.62 | 22.85 |
| ETFMG Prime Junior Silver Miners | SILJ | 0.69 | 826.7 | -17.35 | 16.22 | -1.64 |
| iShares MSCI Global Silver/Metals Miners | SLVP | 0.39 | 263.1 | -17.86 | 20.92 | 2.54 |

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| VanEck Junior Gold Miners | GDXJ | 0.53 | 4,673.6 | -20.52 | 16.99 | 2.23 |
| Invesco WilderHill Clean Energy | PBW | 0.61 | 1,868.5 | -20.57 | 48.73 | 35.58 |
| ARK Space Exploration & Innovation | ARKX | 0.75 | 610.6 | - | - | - |
| **GLOBAL EX-U.S. EQUITY: SECTOR** | | | | | | |
| VanEck Biotech | BBH | 0.35 | 619.6 | 27.36 | 17.43 | 14.19 |
| SPDR Dow Jones International Real Estate | RWX | 0.59 | 943.0 | 12.95 | 4.80 | 3.80 |
| iShares International Developed Real Est | IFGL | 0.48 | 270.7 | 12.68 | 5.78 | 5.38 |
| Xtrackers International Real Estate | HAUZ | 0.10 | 511.5 | 11.45 | 3.98 | 7.34 |
| Vanguard Global ex-U.S. Real Estate | VNQI | 0.12 | 5,209.4 | 9.11 | 4.81 | 5.47 |
| **INTERNATIONAL EQUITY: DEVELOPED SECTOR** | | | | | | |
| iShares MSCI Europe Financials | EUFN | 0.48 | 1,581.3 | 16.90 | 3.72 | 6.75 |
| **INTERNATIONAL EQUITY: EMERGING SECTOR** | | | | | | |
| Xtrackers EM Carbon Redctn/Climate Impr | EMCR | 0.15 | 487.3 | 12.03 | - | - |
| KraneShares MSCI All China Health Care | KURE | 0.65 | 208.5 | -8.22 | 14.84 | - |
| Invesco China Technology | CQQQ | 0.70 | 1,503.4 | -13.81 | 13.18 | 13.58 |
| Global X MSCI China Consumer Discr | CHIQ | 0.65 | 695.5 | -14.22 | 25.48 | 22.58 |
| Emerging Markets Internet & Ecommerce | EMQQ | 0.86 | 1,313.2 | -15.95 | 18.02 | 16.35 |
| **GLOBAL EQUITY: HIGH DIVIDEND YIELD** | | | | | | |
| First Trust Dow Jones Global Select Div | FGD | 0.59 | 537.2 | 21.39 | 3.52 | 3.67 |
| SPDR S&P Global Dividend | WDIV | 0.40 | 326.1 | 14.65 | 4.88 | 6.13 |
| Global X SuperDividend | SDIV | 0.59 | 967.5 | 10.85 | -5.57 | -1.38 |
| **GLOBAL EX-U.S. EQUITY: HIGH DIVIDEND YIELD** | | | | | | |
| Vanguard International High Dividend Yld | VYMI | 0.27 | 2,793.8 | 14.44 | 7.14 | 7.95 |
| SPDR S&P International Dividend | DWX | 0.45 | 670.8 | 12.10 | 6.08 | 6.80 |
| **INTERNATIONAL EQUITY: HIGH DIVIDEND YIELD** | | | | | | |
| First Trust Stoxx European Select Dividend | FDD | 0.58 | 307.0 | 17.71 | 4.88 | 4.94 |
| iShares International Select Dividend | IDV | 0.49 | 4,451.5 | 13.00 | 5.80 | 7.31 |
| **U.S. FIXED INCOME: BROAD MARKET - BROAD MATURITIES** | | | | | | |
| iShares Core Total USD Bond Market | IUSB | 0.06 | 15,409.0 | -0.36 | 5.64 | 3.33 |
| iShares ESG Advanced Total USD Bond Mkt | EUSB | 0.12 | 450.7 | -0.55 | - | - |
| Fidelity Corporate Bond | FCOR | 0.36 | 294.9 | -0.99 | 7.66 | 4.67 |
| **U.S. FIXED INCOME: BROAD MARKET - LONG-TERM** | | | | | | |
| iShares Core 10+ Year USD Bond | ILTB | 0.06 | 406.5 | -1.68 | 10.75 | 5.67 |
| **U.S. FIXED INCOME: BROAD MARKET - SHORT-TERM** | | | | | | |
| VictoryShares USAA Core Short-Term Bond | USTB | 0.34 | 275.0 | 1.03 | 3.84 | - |
| iShares Core 1-5 Year USD Bond | ISTB | 0.06 | 6,029.6 | 0.34 | 3.89 | 2.57 |
| First Trust Enhanced Short Maturity | FTSM | 0.25 | 4,352.6 | 0.13 | 1.51 | 1.57 |
| First Trust Low Duration Strategic Focus | LDSF | 0.77 | 184.0 | -0.05 | - | - |
| **U.S. FIXED INCOME: GOVERNMENT/CREDIT - INTERMEDIATE** | | | | | | |
| VictoryShares Core Intermediate Bond | UITB | 0.38 | 1,033.0 | 1.18 | 6.86 | - |
| Vident Core US Bond Strategy | VBND | 0.39 | 416.2 | 0.35 | 5.27 | 2.70 |
| **U.S. FIXED INCOME: GOVERNMENT/CREDIT - LONG-TERM** | | | | | | |
| iShares Int Rate Hedged Long-Term Corp | IGBH | 0.16 | 790.8 | 2.05 | 2.72 | 4.41 |
| iShares 10+ Year Inv Grade Corporate Bond | IGLB | 0.06 | 2,584.1 | -0.58 | 10.83 | 6.17 |
| Vanguard Long-Term Corporate Bond | VCLT | 0.05 | 5,593.2 | -0.73 | 10.96 | 6.41 |
| SPDR Portfolio Long Term Corporate Bond | SPLB | 0.07 | 1,009.5 | -0.99 | 10.86 | 6.17 |
| **U.S. FIXED INCOME: GOVERNMENT** | | | | | | |
| iShares Treasury Floating Rate Bond | TFLO | 0.15 | 281.5 | 0.00 | 1.04 | 1.08 |
| WisdomTree Floating Rate Treasury | USFR | 0.15 | 1,093.3 | 0.00 | 1.07 | 1.08 |
| iShares US Treasury Bond | GOVT | 0.05 | 15,482.1 | -0.93 | 4.86 | 2.33 |
| Franklin Liberty US Treasury Bond | FLGV | 0.09 | 424.6 | -1.43 | - | - |
| Invesco 1-30 Laddered Treasury | PLW | 0.25 | 416.0 | -3.12 | 6.90 | 2.81 |
| **U.S. FIXED INCOME: TREASURY - SHORT TERM** | | | | | | |
| Vanguard Short-Term Treasury | VGSH | 0.05 | 13,385.4 | 0.06 | 2.60 | 1.64 |
| Schwab Short-Term US Treasury | SCHO | 0.05 | 9,541.4 | 0.05 | 2.61 | 1.61 |
| iShares 0-3 Month Treasury Bond | SGOV | 0.03 | 725.2 | 0.02 | - | - |
| Invesco Treasury Collateral | CLTL | 0.08 | 667.9 | 0.00 | 1.29 | - |
| iShares 1-3 Year Treasury Bond | SHY | 0.15 | 19,182.0 | -0.01 | 2.51 | 1.55 |
| SPDR Portfolio Short Term Treasury | SPTS | 0.06 | 3,496.5 | -0.02 | 2.65 | 1.46 |
| Goldman Sachs Access Treasury 0-1 Year | GBIL | 0.12 | 1,857.7 | -0.04 | 1.15 | - |
| iShares Short Treasury Bond | SHV | 0.15 | 14,335.4 | -0.05 | 1.27 | 1.12 |
| SPDR Bloomberg Barclays 1-3 Month T-Bill | BIL | 0.14 | 12,053.5 | -0.08 | 1.01 | 0.96 |
| Franklin Liberty Short Dur US Government | FTSD | 0.25 | 469.7 | -0.40 | 1.97 | 1.51 |
| **U.S. FIXED INCOME: TREASURY - INTERMEDIATE** | | | | | | |
| iShares 3-7 Year Treasury Bond | IEI | 0.15 | 11,100.0 | -0.83 | 4.57 | 2.33 |

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| SPDR Portfolio Intermediate Treasury | SPTI | 0.06 | 3,136.5 | -0.97 | 5.02 | 2.72 |
| Vanguard Intermediate-Term Treasury | VGIT | 0.05 | 8,152.6 | -0.99 | 5.01 | 2.47 |
| Schwab Intermediate-Term US Treasury | SCHR | 0.05 | 4,047.5 | -1.00 | 5.01 | 2.47 |
| iShares 7-10 Year Treasury Bond | IEF | 0.15 | 14,647.4 | -1.87 | 6.16 | 2.67 |

### U.S. FIXED INCOME: TREASURY - LONG-TERM

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| iShares 10-20 Year Treasury Bond | TLH | 0.15 | 1,548.2 | -4.30 | 7.20 | 2.91 |
| SPDR Portfolio Long Term Treasury | SPTL | 0.06 | 4,177.1 | -4.68 | 9.24 | 3.54 |
| Vanguard Long-Term Treasury | VGLT | 0.05 | 2,371.7 | -4.69 | 9.19 | 3.56 |
| iShares 20+ Year Treasury Bond | TLT | 0.15 | 17,118.5 | -4.78 | 9.26 | 3.48 |
| iShares 25+ Year Treasury STRIPS Bond | GOVZ | 0.07 | 422.5 | -6.38 | - | - |
| PIMCO 25+ Year Zero Coupon US Treasury | ZROZ | 0.15 | 416.0 | -6.50 | 12.25 | 4.17 |
| Vanguard Extended Duration Treasury | EDV | 0.07 | 1,286.5 | -6.51 | 11.49 | 4.07 |

### U.S. FIXED INCOME: AGENCIES

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| iShares Agency Bond | AGZ | 0.20 | 899.4 | 0.13 | 4.37 | 2.53 |

### U.S. FIXED INCOME: AGENCY MBS

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| Janus Henderson MBS | JMBS | 0.32 | 781.4 | 0.23 | - | - |
| First Trust Low Duration Opportunities | LMBS | 0.68 | 6,790.6 | -0.02 | 0.20 | -0.27 |
| iShares MBS | MBB | 0.06 | 24,929.5 | -0.45 | 3.74 | 2.19 |
| Vanguard Mortgage-Backed Securities | VMBS | 0.05 | 15,022.3 | -0.47 | 3.59 | 2.15 |
| SPDR Portfolio Mortgage Backed Bond | SPMB | 0.04 | 4,140.6 | -0.63 | 3.74 | 2.11 |
| iShares GNMA Bond | GNMA | 0.15 | 491.7 | -1.26 | 3.15 | 1.78 |

### U.S. FIXED INCOME: TIPS

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| FlexShares iBoxx 5-Yr Target Duration TIPS | TDTF | 0.18 | 675.1 | 4.56 | 7.18 | 4.55 |
| FlexShares iBoxx 3 Yr Target Duration TIPS | TDTT | 0.18 | 1,456.7 | 4.47 | 5.49 | 3.62 |
| SPDR Bloomberg Barclays 1-10 Year TIPS | TIPX | 0.15 | 883.9 | 4.35 | 6.26 | 4.02 |
| PIMCO 1-5 Year US TIPS | STPZ | 0.20 | 1,059.3 | 4.35 | 4.67 | 3.14 |
| iShares 0-5 Year TIPS Bond | STIP | 0.05 | 6,336.0 | 4.32 | 4.62 | 3.22 |
| Schwab US TIPS | SCHP | 0.05 | 19,375.9 | 4.23 | 7.31 | 4.56 |
| PIMCO Broad US TIPS | TIPZ | 0.20 | 192.5 | 4.17 | 7.31 | 4.52 |
| Vanguard Short-Term Infl-Protected Sec | VTIP | 0.05 | 16,555.4 | 4.10 | 4.49 | 3.16 |
| iShares TIPS Bond | TIP | 0.19 | 33,204.4 | 4.01 | 7.16 | 4.45 |
| SPDR Portfolio TIPS | SPIP | 0.12 | 2,928.2 | 3.93 | 7.42 | 4.59 |
| PIMCO 15+ Year US TIPS | LTPZ | 0.20 | 698.4 | 2.78 | 12.53 | 7.13 |
| Quadratic Interest Rate Vol/Infl Hedge | IVOL | 0.99 | 3,227.9 | 1.55 | - | - |

### U.S. FIXED INCOME: MUNICIPAL - BROAD MARKET

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| VanEck CEF Municipal Income | XMPT | 2.02 | 217.6 | 9.05 | 10.77 | 5.41 |
| First Trust Municipal High Income | FMHI | 0.55 | 296.3 | 6.46 | 6.70 | - |
| Hartford Municipal Opportunities | HMOP | 0.29 | 200.1 | 1.98 | 4.66 | - |
| First Trust Managed Municipal | FMB | 0.50 | 2,357.8 | 1.88 | 4.94 | 3.46 |
| iShares New York Muni Bond | NYF | 0.25 | 539.3 | 1.32 | 4.35 | 2.59 |
| IQ MacKay Municipal Insured | MMIN | 0.31 | 493.2 | 1.27 | 6.07 | - |
| Invesco National AMT-Free Muni Bond | PZA | 0.28 | 2,470.1 | 1.20 | 5.15 | 3.39 |
| Invesco Taxable Municipal Bond | BAB | 0.28 | 2,371.6 | 1.07 | 7.58 | 4.74 |
| iShares National Muni Bond | MUB | 0.07 | 23,418.2 | 1.06 | 4.80 | 2.92 |
| Vanguard Tax-Exempt Bond | VTEB | 0.06 | 13,939.6 | 1.02 | 4.87 | 3.08 |
| iShares California Muni Bond | CMF | 0.25 | 1,901.0 | 0.60 | 4.23 | 2.60 |

### U.S. FIXED INCOME: MUNICIPAL - SHORT-TERM

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| VanEck Short Muni | SMB | 0.20 | 313.0 | 0.44 | 3.09 | 1.76 |
| PIMCO Short Term Municipal Bond Active | SMMU | 0.35 | 545.9 | 0.40 | 2.40 | 1.71 |
| iShares Short-Term National Muni Bond | SUB | 0.07 | 5,926.5 | 0.29 | 2.20 | 1.45 |
| JPMorgan Ultra-Short Municipal Income | JMST | 0.18 | 2,090.5 | 0.27 | - | - |
| First Trust Ultra Short Duration Municipal | FUMB | 0.35 | 174.5 | 0.27 | - | - |
| iShares iBonds Dec 2023 Term Muni Bond | IBML | 0.18 | 329.9 | 0.19 | 2.91 | - |
| BlackRock Short Maturity Municipal Bond | MEAR | 0.25 | 283.5 | 0.16 | 1.33 | 1.09 |
| iShares iBonds Dec 2022 Term Muni Bond | IBMK | 0.18 | 380.2 | 0.14 | 2.31 | 1.22 |
| SPDR Nuveen Bloomberg Short Term Muni | SHM | 0.20 | 4,948.9 | 0.03 | 2.33 | 1.36 |
| iShares iBonds Dec 2021 Term Muni Bond | IBMJ | 0.18 | 289.4 | -0.12 | 1.56 | 0.82 |

### U.S. FIXED INCOME: MUNICIPAL - INTERMEDIATE

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| IQ MacKay Municipal Intermediate | MMIT | 0.31 | 205.8 | 1.48 | 6.37 | - |
| PIMCO Intermediate Muni Bond Active | MUNI | 0.35 | 670.7 | 1.09 | 4.68 | 2.87 |
| iShares iBonds Dec 2024 Term Muni Bond | IBMM | 0.18 | 237.7 | 0.18 | 3.66 | - |
| iShares iBonds Dec 2025 Term Muni Bond | IBMN | 0.18 | 174.0 | 0.11 | - | - |
| VanEck Intermediate Muni | ITM | 0.24 | 1,947.0 | -0.04 | 5.18 | 3.03 |

### U.S. FIXED INCOME: MUNICIPAL - LONG-TERM

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| VanEck Long Muni | MLN | 0.24 | 241.3 | 1.94 | 6.42 | 3.75 |

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| Invesco California AMT-Free Municipal | PWZ | 0.28 | 520.0 | 1.13 | 5.03 | 3.23 |
| SPDR Nuveen Bloomberg Municipal Bond | TFI | 0.23 | 3,750.4 | 0.33 | 4.92 | 2.82 |

### U.S. FIXED INCOME: MUNICIPAL - HIGH YIELD -

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| SPDR Nuveen Bloomberg HiYld Muni | HYMB | 0.35 | 1,805.1 | 5.04 | 6.23 | 4.27 |
| VanEck Short High Yield Muni | SHYD | 0.35 | 414.9 | 4.26 | 4.50 | 3.21 |
| VanEck High Yield Muni | HYD | 0.35 | 3,977.8 | 3.76 | 4.08 | 3.67 |

### U.S. FIXED INCOME: CORPORATE - INVESTMENT GRADE - BROAD MATURITIES -

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| iShares Interest Rate Hedged Corporate | LQDH | 0.24 | 608.2 | 1.33 | 3.13 | 3.75 |
| ProShares Inv Grade-Interest Rate Hedged | IGHG | 0.30 | 949.3 | 1.18 | 3.33 | 3.57 |
| Fidelity Low Duration Bond Factor | FLDR | 0.15 | 235.5 | -0.02 | 2.16 | - |
| Principal Inv Grade Corporate Active | IG | 0.26 | 490.8 | -0.05 | 8.18 | - |
| WisdomTree Interest Rate Hedged US Agg | AGZD | 0.23 | 215.4 | -0.06 | 1.43 | 1.77 |
| PIMCO Investment Grade Corporate Bond | CORP | 0.20 | 829.2 | -0.15 | 7.70 | 4.63 |
| iShares Broad USD Inv Grade Corporate | USIG | 0.04 | 6,017.8 | -0.19 | 7.45 | 4.49 |
| SPDR Portfolio Corporate Bond | SPBO | 0.03 | 419.2 | -0.26 | 8.04 | 4.78 |
| Vanguard Total Corporate Bond | VTC | 0.05 | 695.6 | -0.35 | 7.51 | - |
| iShares ESG Aware USD Corporate Bond | SUSC | 0.18 | 810.6 | -0.38 | 7.52 | - |
| SPDR Portfolio Aggregate Bond | SPAB | 0.03 | 6,402.1 | -0.69 | 5.38 | 3.07 |
| iShares iBoxx USD Inv Grade Corporate | LQD | 0.14 | 42,843.2 | -0.72 | 8.68 | 5.01 |
| Schwab US Aggregate Bond | SCHZ | 0.04 | 9,317.4 | -0.72 | 5.38 | 3.02 |
| Franklin Liberty US Core Bond | FLCB | 0.15 | 1,626.2 | -0.74 | - | - |
| iShares ESG Aware US Aggregate Bond | EAGG | 0.10 | 1,489.0 | -0.74 | - | - |
| Goldman Sachs Access Inv Gr Corporate | GIGB | 0.14 | 777.1 | -0.75 | 7.43 | - |
| JPMorgan US Aggregate Bond | JAGG | 0.07 | 1,092.6 | -0.76 | - | - |
| Vanguard ESG US Corporate Bond | VCEB | 0.12 | 217.5 | -0.76 | - | - |
| iShares Core US Aggregate Bond | AGG | 0.04 | 89,419.6 | -0.76 | 5.40 | 3.05 |
| Vanguard Total Bond Market | BND | 0.04 | 81,573.8 | -0.82 | 5.53 | 3.12 |
| Goldman Sachs Access US Aggregate Bond | GCOR | 0.14 | 220.1 | -0.82 | - | - |
| Franklin Liberty Inv Grade Corporate | FLCO | 0.35 | 1,050.5 | -0.86 | 7.38 | - |
| Nuveen Enh Yield US Aggregate Bond | NUAG | 0.20 | 354.3 | -0.95 | 5.40 | - |
| Nuveen ESG US Aggregate Bond | NUBD | 0.20 | 264.8 | -1.08 | 5.00 | - |
| iShares Aaa-A Rated Corporate Bond | QLTA | 0.15 | 1,211.5 | -1.15 | 6.85 | 3.90 |
| WisdomTree Yield Enhanced US Aggregate | AGGY | 0.12 | 1,090.8 | -1.17 | 5.21 | 2.96 |
| Vanguard Long-Term Bond | BLV | 0.05 | 6,117.1 | -2.08 | 10.79 | 6.64 |

### U.S. FIXED INCOME: CORPORATE - INVESTMENT GRADE - SHORT-TERM

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| PGIM Ultra Short Bond | PULS | 0.15 | 1,876.4 | 0.47 | 1.91 | - |
| iShares 1-5 Yr Inv Grade Corporate Bond | IGSB | 0.06 | 25,440.4 | 0.39 | 4.46 | 2.99 |
| SPDR SSgA Ultra Short Term Bond | ULST | 0.20 | 410.5 | 0.38 | 1.85 | 1.73 |
| PIMCO Enhanced Short Maturity Active ESG | EMNT | 0.27 | 173.2 | 0.32 | - | - |
| SPDR Portfolio Short Corporate Bond | SPSB | 0.07 | 7,735.5 | 0.31 | 3.35 | 2.44 |
| JPMorgan Ultra-Short Income | JPST | 0.18 | 17,738.4 | 0.31 | 2.17 | - |
| Vanguard Short-Term Corporate Bond | VCSH | 0.05 | 41,500.4 | 0.28 | 4.31 | 2.91 |
| Schwab 1-5 Year Corporate Bond | SCHJ | 0.05 | 640.4 | 0.27 | - | - |
| iShares ESG Aware 1-5 Year USD Corporate Bond | SUSB | 0.12 | 997.5 | 0.22 | 4.15 | - |
| BlackRock Ultra Short-Term Bond | ICSH | 0.08 | 5,610.1 | 0.20 | 1.91 | 1.81 |
| PIMCO Enhanced Short Maturity Active | MINT | 0.37 | 14,068.9 | 0.20 | 1.85 | 1.84 |
| iShares 0-5 Year Inv Grade Corporate Bond | SLQD | 0.06 | 2,481.2 | 0.19 | 3.85 | 2.68 |
| ClearShares Ultra-Short Maturity | OPER | 0.20 | 175.2 | 0.17 | 1.19 | - |
| iShares iBonds Dec 2022 Term Corporate | IBDN | 0.10 | 1,581.1 | 0.11 | 3.75 | 2.44 |
| iShares iBonds Dec 2021 Term Corporate | IBDM | 0.10 | 1,391.1 | 0.10 | 2.74 | 1.87 |
| Goldman Sachs Access Ultra Short Bond | GSST | 0.16 | 330.9 | 0.10 | - | - |
| Vanguard Short-Term Bond | BSV | 0.05 | 41,203.7 | -0.06 | 3.61 | 2.20 |
| Invesco BulletShares 2022 Corporate Bond | BSCM | 0.10 | 2,392.8 | -0.17 | 3.54 | 2.34 |
| WisdomTree Yield Enh US Short Aggregate | SHAG | 0.12 | 199.8 | -0.19 | 3.54 | - |
| Invesco BulletShares 2023 Corporate Bond | BSCN | 0.10 | 2,105.5 | -0.24 | 4.57 | 2.93 |
| Invesco BulletShares 2021 Corporate Bond | BSCL | 0.10 | 1,616.9 | -0.25 | 2.45 | 1.70 |
| Vanguard Ultra-Short Bond | VUSB | 0.10 | 1,515.8 | - | - | - |

### U.S. FIXED INCOME: CORPORATE - INVESTMENT GRADE - INTERMEDIATE

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| iShares iBonds Dec 2024 Term Corporate | IBDP | 0.10 | 1,446.8 | 0.25 | 5.68 | 3.52 |
| iShares iBonds Dec 2023 Term Corporate | IBDO | 0.10 | 1,649.4 | 0.16 | 4.93 | 3.06 |
| FlexShares Credit-Scored US Corporate | SKOR | 0.22 | 303.9 | -0.05 | 6.56 | 3.85 |
| SPDR Portfolio Intermediate Corporate | SPIB | 0.07 | 6,059.9 | -0.05 | 5.96 | 3.77 |
| iShares iBonds Dec 2027 Term Corporate | IBDS | 0.10 | 501.1 | -0.10 | 7.77 | - |
| Invesco BulletShares 2024 Corporate Bond | BSCO | 0.10 | 1,631.9 | -0.17 | 5.69 | 3.55 |
| iShares 5-10 Yr Inv Grade Corporate Bond | IGIB | 0.06 | 12,039.8 | -0.24 | 7.74 | 4.77 |

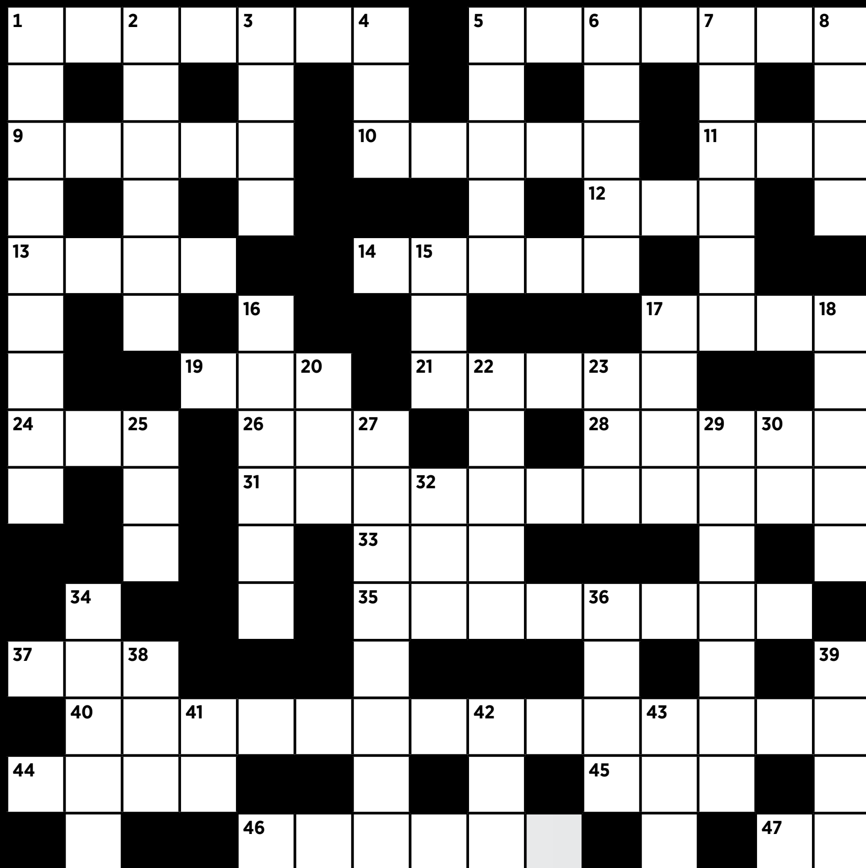
| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| iShares iBonds Dec 2025 Term Corporate | IBDQ | 0.10 | 1,175.8 | -0.27 | 6.80 | 4.06 |
| Vanguard Intermediate Corporate Bond | VCIT | 0.05 | 46,886.4 | -0.34 | 7.56 | 4.53 |
| iShares iBonds Dec 2028 Term Corporate | IBDT | 0.10 | 285.7 | -0.37 | - | - |
| Schwab 5-10 Year Corporate Bond | SCHI | 0.05 | 352.0 | -0.37 | - | - |
| iShares iBonds Dec 2026 Term Corporate | IBDR | 0.10 | 763.2 | -0.37 | 7.51 | - |
| Inspire Corporate Bond Impact | IBD | 0.49 | 213.4 | -0.44 | 4.11 | - |
| Invesco BulletShares 2025 Corporate Bond | BSCP | 0.10 | 1,056.6 | -0.71 | 6.37 | 3.72 |
| Invesco BulletShares 2027 Corporate Bond | BSCR | 0.10 | 353.2 | -0.76 | 7.52 | - |
| Invesco BulletShares 2026 Corporate Bond | BSCQ | 0.10 | 578.7 | -0.84 | 7.17 | - |
| Invesco BulletShares 2028 Corporate Bond | BSCS | 0.10 | 226.0 | -1.01 | 7.26 | - |
| **U.S. FIXED INCOME: CORPORATE - INVESTMENT GRADE - FLOATING RATE** | | | | | | |
| Invesco Variable Rate Investment Grade | VRIG | 0.30 | 465.5 | 0.76 | 2.02 | - |
| VanEck Investment Grade Floating Rate | FLTR | 0.14 | 705.0 | 0.70 | 2.13 | 2.34 |
| SPDR Bloomberg Inv Grade Floating Rate | FLRN | 0.15 | 2,484.0 | 0.41 | 1.64 | 1.82 |
| iShares Floating Rate Bond | FLOT | 0.20 | 6,643.5 | 0.39 | 1.65 | 1.76 |
| **U.S. FIXED INCOME: CORPORATE - HIGH YIELD - BROAD MATURITIES** | | | | | | |
| VanEck Fallen Angel High Yield Bond | ANGL | 0.35 | 5,209.1 | 6.20 | 10.24 | 8.61 |
| FlexShares High Yield Value-Scored Bond | HYGV | 0.37 | 449.7 | 5.08 | 7.45 | - |
| iShares Fallen Angels USD Bond | FALN | 0.25 | 3,215.6 | 5.01 | 10.07 | 8.49 |
| SPDR Portfolio High Yield Bond | SPHY | 0.10 | 477.4 | 4.66 | 7.44 | 5.44 |
| iShares Broad USD HiYld Corp Bond | USHY | 0.15 | 8,065.6 | 4.24 | 6.70 | - |
| SPDR Bloomberg Barclays High Yield Bond | JNK | 0.40 | 9,493.4 | 3.52 | 6.06 | 5.63 |
| Xtrackers USD HiYld Corp Bond | HYLB | 0.15 | 6,661.0 | 3.45 | 5.94 | - |
| iShares iBoxx USD HiYld Corp Bond | HYG | 0.48 | 20,044.2 | 3.33 | 5.78 | 5.47 |
| JPMorgan High Yield Research Enhanced | JPHY | 0.24 | 1,609.6 | 3.29 | 6.45 | - |
| Franklin Liberty Senior Loan | FLBL | 0.45 | 180.9 | 2.79 | 3.54 | - |
| WisdomTree US HiYld Corp Bond | WFHY | 0.38 | 179.9 | 2.55 | 6.90 | 5.20 |
| Xtrackers Low Beta High Yield Bond | HYDW | 0.20 | 750.0 | 2.39 | 5.78 | - |
| Goldman Sachs Access HiYld Corp Bond | GHYB | 0.34 | 231.6 | 2.32 | 6.00 | - |
| Pacer Trendpilot US Bond | PTBD | 0.60 | 1,250.6 | 1.69 | - | - |
| Invesco Senior Loan | BKLN | 0.65 | 6,287.1 | 0.61 | 2.34 | 2.78 |
| **U.S. FIXED INCOME: CORPORATE - HIGH YIELD - SHORT-TERM** | | | | | | |
| SPDR Bloomberg Short Term High Yld Bond | SJNK | 0.40 | 4,914.7 | 4.41 | 5.37 | 5.55 |
| iShares 0-5 Year HiYld Corp Bond | SHYG | 0.30 | 5,393.7 | 3.93 | 4.61 | 4.96 |
| PIMCO 0-5 Year HiYld Corp Bond | HYS | 0.56 | 1,914.6 | 3.82 | 4.47 | 5.15 |
| Invesco BulletShares 2022 HiYld Corp Bond | BSJM | 0.42 | 910.8 | 1.16 | 2.29 | 3.32 |
| Invesco BulletShares 2021 HiYld Corp Bond | BSJL | 0.42 | 547.5 | 0.09 | 1.17 | 2.79 |
| **U.S. FIXED INCOME: CORPORATE - HIGH YIELD - INTERMEDIATE** | | | | | | |
| Invesco BulletShares 2024 HiYld Corp Bond | BSJO | 0.42 | 363.6 | 2.42 | 4.76 | - |
| Invesco BulletShares 2025 HiYld Corp Bond | BSJP | 0.42 | 292.8 | 2.27 | 5.27 | - |
| Invesco Fundamental HiYld Corp Bond | PHB | 0.50 | 834.3 | 2.22 | 5.60 | 4.81 |
| Invesco BulletShares 2023 HiYld Corp Bond | BSJN | 0.42 | 677.4 | 1.49 | 3.34 | 3.95 |
| iShares Intermediate Govt/Credit Bond | GVI | 0.20 | 2,436.6 | -0.53 | 4.51 | 2.56 |
| Vanguard Intermediate-Term Bond | BIV | 0.05 | 15,076.1 | -0.82 | 6.74 | 3.60 |
| iShares Government/Credit Bond | GBF | 0.20 | 296.8 | -1.30 | 5.84 | 3.17 |
| **U.S. FIXED INCOME: CORPORATE - ASSET-BACKED** | | | | | | |
| First Trust TCW Securitized Plus | DEED | 0.65 | 227.6 | 2.01 | - | - |
| iShares CMBS | CMBS | 0.25 | 801.2 | 0.11 | 5.71 | 3.21 |
| **U.S. FIXED INCOME: CORPORATE - CONVERTIBLES** | | | | | | |
| SPDR Bloomberg Convertible Securities | CWB | 0.40 | 6,686.7 | 6.24 | 21.53 | 18.17 |
| iShares Convertible Bond | ICVT | 0.20 | 1,759.3 | 5.99 | 23.48 | 20.23 |
| **U.S. FIXED INCOME: CORPORATE - PREFERRED STOCK** | | | | | | |
| VanEck Preferred Securities ex Financials | PFXF | 0.40 | 1,041.6 | 7.58 | 8.61 | 6.42 |
| iShares Preferred and Income Securities | PFF | 0.46 | 20,252.6 | 5.18 | 6.77 | 5.20 |
| Global X US Preferred | PFFD | 0.23 | 2,352.8 | 4.01 | 7.44 | - |
| Invesco Variable Rate Preferred | VRP | 0.50 | 1,929.8 | 3.44 | 6.15 | 5.20 |
| Innovator S&P Inv Grade Preferred | EPRF | 0.47 | 226.5 | 1.34 | 6.20 | 4.40 |
| Invesco Preferred | PGX | 0.52 | 7,460.8 | 1.19 | 6.07 | 4.89 |
| SPDR ICE Preferred Securities | PSK | 0.45 | 1,502.4 | 1.18 | 5.75 | 4.48 |
| Invesco Financial Preferred | PGF | 0.55 | 1,799.6 | 0.86 | 5.71 | 4.63 |
| **GLOBAL FIXED INCOME** | | | | | | |
| First Trust SSI Strategic Convertible Sec | FCVT | 0.95 | 274.7 | 6.44 | 20.29 | 16.62 |
| First Trust Preferred Securities & Income | FPE | 0.85 | 7,519.7 | 4.01 | 7.06 | 6.12 |
| First Trust TCW Unconstrained Plus Bond | UCON | 0.76 | 608.1 | 3.06 | 3.02 | - |
| FormulaFolios Tactical Income | FFTI | 1.04 | 201.9 | 1.31 | 3.02 | - |

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| Janus Henderson AAA CLO | JAAA | 0.25 | 199.4 | 1.08 | - | - |
| JPMorgan Intl Bond Opportunities | JPIB | 0.50 | 298.2 | 0.86 | 5.78 | - |
| Invesco Global Short Term High Yield Bond | PGHY | 0.35 | 239.2 | 0.73 | 2.75 | 2.99 |
| SPDR DoubleLine Short Dur Total Return | STOT | 0.45 | 206.4 | 0.60 | 2.62 | 1.92 |
| ETFMG Sit Ultra Short | VALT | 0.30 | 241.4 | 0.49 | - | - |
| IQ Ultra Short Duration | ULTR | 0.25 | 257.6 | 0.47 | - | - |
| BlackRock Short Maturity Bond | NEAR | 0.25 | 4,779.7 | 0.44 | 1.87 | 1.78 |
| Invesco Total Return Bond | GTO | 0.50 | 881.9 | 0.39 | 6.47 | 4.97 |
| FlexShares Ready Access Variable Income | RAVI | 0.25 | 381.0 | 0.31 | 2.07 | 1.79 |
| PIMCO Enhanced Low Duration Active | LDUR | 0.56 | 1,157.9 | 0.29 | 3.20 | 2.51 |
| PIMCO Active Bond | BOND | 0.57 | 4,318.8 | 0.21 | 5.85 | 3.92 |
| Hartford Total Return Bond | HTRB | 0.29 | 1,073.5 | 0.09 | 6.39 | - |
| Invesco Ultra Short Duration | GSY | 0.22 | 2,978.1 | 0.04 | 1.90 | 1.94 |
| SPDR DoubleLine Total Return Tactical | TOTL | 0.55 | 3,099.8 | -0.03 | 3.87 | 2.45 |
| Janus Henderson Short Duration Income | VNLA | 0.26 | 2,769.9 | -0.10 | 2.44 | - |
| JPMorgan Core Plus Bond | JCPB | 0.40 | 170.3 | -0.15 | - | - |
| First Trust TCW Opportunistic Fixed Income | FIXD | 0.56 | 5,302.5 | -0.16 | 3.42 | - |
| Fidelity Total Bond | FBND | 0.36 | 2,050.8 | -0.25 | 5.57 | 3.56 |
| SPDR FTSE Intl Govt Inflation-Protected | WIP | 0.50 | 444.9 | -0.37 | 5.79 | 2.99 |
| Columbia Diversified Fixed Inc Allocation | DIAL | 0.28 | 1,182.5 | -0.39 | 7.32 | - |
| Fidelity Limited Term Bond | FLTB | 0.36 | 283.2 | -0.45 | 3.90 | 2.48 |
| Hartford Core Bond | HCRB | 0.29 | 265.1 | -0.80 | - | - |
| iShares Core International Aggregate Bond | IAGG | 0.08 | 4,011.2 | -0.82 | 4.48 | 3.01 |
| Vanguard Total World Bond | BNDW | 0.06 | 582.4 | -1.01 | - | - |
| Franklin Liberty Intl Aggregate Bond | FLIA | 0.25 | 172.2 | -1.02 | 2.77 | - |
| Vanguard Total International Bond | BNDX | 0.08 | 45,175.1 | -1.08 | 4.27 | 2.86 |
| iShares Global Green Bond | BGRN | 0.20 | 241.7 | -1.26 | - | - |
| SPDR Bloomberg Short Term Intl Treasury | BWZ | 0.35 | 211.6 | -3.75 | 0.92 | 0.46 |
| SPDR Bloomberg Intl Corporate Bond | IBND | 0.50 | 181.7 | -3.98 | 3.13 | 2.18 |
| SPDR Bloomberg Intl Treasury Bond | BWX | 0.35 | 1,008.3 | -5.22 | 3.27 | 1.46 |
| **GLOBAL FIXED INCOME: CORPORATE - PREFERRED STOCK** | | | | | | |
| Global X SuperIncome Preferred | SPFF | 0.58 | 228.1 | 5.30 | 6.03 | 3.81 |
| First Trust Institutional Pref Sec/Income | FPEI | 0.85 | 417.0 | 3.51 | 7.25 | - |
| Principal Spectrum Preferred Sec Active | PREF | 0.55 | 392.7 | 3.24 | 7.98 | - |
| **GLOBAL FIXED INCOME: HIGH YIELD** | | | | | | |
| SPDR Blackstone Senior Loan | SRLN | 0.70 | 7,281.1 | 3.32 | 4.24 | 4.26 |
| Franklin Liberty HiYld Corp | FLHY | 0.40 | 350.9 | 3.16 | 7.81 | - |
| First Trust Tactical High Yield | HYLS | 1.01 | 2,323.7 | 3.01 | 1.62 | 0.62 |
| First Trust Senior Loan | FTSL | 0.86 | 2,600.8 | 2.79 | 0.74 | 0.29 |
| Fidelity High Yield Factor | FDHY | 0.45 | 277.1 | 2.69 | 8.20 | - |
| **INTERNATIONAL FIXED INCOME: DEVELOPED** | | | | | | |
| iShares US & Intl High Yield Corp Bond | GHYG | 0.40 | 201.9 | 2.37 | 5.91 | 5.58 |
| iShares International Treasury Bond | IGOV | 0.35 | 1,316.3 | -5.20 | 2.98 | 1.43 |
| **INTERNATIONAL FIXED INCOME: EMERGING** | | | | | | |
| VanEck Emerging Markets High Yield Bond | HYEM | 0.40 | 1,331.9 | 2.15 | 8.28 | 5.45 |
| iShares J.P. Morgan EM High Yield Bond | EMHY | 0.50 | 479.7 | 1.97 | 7.29 | 4.05 |
| iShares J.P. Morgan EM Corporate Bond | CEMB | 0.50 | 479.0 | 1.02 | 7.46 | 4.80 |
| iShares JP Morgan USD Emrg Mkts Bond | EMB | 0.39 | 20,976.3 | 0.01 | 7.09 | 3.99 |
| Vanguard EM Government Bond | VWOB | 0.25 | 3,075.8 | -0.01 | 7.07 | 4.25 |
| Invesco Emerging Markets Sovereign Debt | PCY | 0.50 | 2,832.0 | -1.84 | 5.92 | 2.63 |
| iShares JP Morgan EM Local Currency Bond | LEMB | 0.30 | 521.1 | -3.47 | 3.78 | 0.84 |
| SPDR Bloomberg EM Local Bond | EBND | 0.30 | 1,359.8 | -4.36 | 4.81 | 2.20 |
| VanEck JP Morgan EM Local Currency Bond | EMLC | 0.30 | 3,686.1 | -5.55 | 3.88 | 1.52 |
| First Trust EM Local Currency Bond | FEMB | 0.85 | 283.2 | -7.65 | 2.80 | 0.92 |
| iShares China Large-Cap | FXI | 0.74 | 4,851.4 | -11.54 | 1.05 | 4.56 |
| SPDR Bloomberg Barclays EM USD Bond | EMHC | 0.23 | 188.5 | - | - | - |
| **COMMODITIES: BROAD MARKET** | | | | | | |
| Invesco Opt Yld Divrsfd Commod No K-1 | PDBC | 0.59 | 6,090.8 | 31.26 | 4.15 | 6.29 |
| Invesco DB Commodity | DBC | 0.88 | 2,534.5 | 30.48 | 4.34 | 6.53 |
| iShares GSCI Commodity Dynamic Roll | COMT | 0.48 | 2,613.8 | 29.10 | 0.93 | 5.94 |
| iShares S&P GSCI Commodity | GSG | 0.85 | 1,301.3 | 29.03 | -3.01 | 2.24 |
| iPath Bloomberg Commodity ETN | DJP | 0.70 | 819.1 | 26.03 | 5.85 | 3.95 |
| Direxion Auspice Broad Commodity Strat | COM | 0.70 | 216.6 | 23.05 | 8.52 | - |
| First Trust Global Tactical Commodity Strat | FTGC | 0.95 | 1,772.1 | 22.76 | 7.25 | 3.47 |
| United States Commodity | USCI | 1.03 | 235.5 | 22.34 | -1.38 | -0.73 |

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| GraniteShares Comm Broad Strat No K-1 | COMB | 0.25 | 224.1 | 21.97 | 5.43 | - |
| abrdn Bloomberg All Commodity K-1 Free | BCI | 0.25 | 722.8 | 21.74 | 5.47 | - |
| DeltaShares S&P 500 Managed Risk | DMRL | 0.35 | 432.4 | 20.32 | 11.49 | - |
| WisdomTree U.S. Efficient Core | NTSX | 0.20 | 603.5 | 18.24 | 20.08 | - |
| Cabana Target Drawdown 13 | TDSD | 0.69 | 260.5 | 16.80 | - | - |
| WisdomTree Enh Commodity Strategy | GCC | 0.55 | 189.2 | 15.59 | 6.95 | 2.62 |
| iShares Core Aggressive Allocation | AOA | 0.25 | 1,512.6 | 13.44 | 12.09 | 11.90 |
| Multi-Asset Diversified Income | MDIV | 0.73 | 479.4 | 13.11 | 1.38 | 2.32 |
| Invesco CEF Income Composite | PCEF | 2.34 | 953.7 | 12.80 | 9.25 | 8.52 |
| Cabana Target Drawdown 10 | TDSC | 0.69 | 786.5 | 12.70 | - | - |
| Amplify High Income | YYY | 2.45 | 466.9 | 12.55 | 6.52 | 6.32 |
| DeltaShares S&P Intl Managed Risk | DMRI | 0.50 | 186.4 | 11.54 | 3.98 | - |
| SPDR SSgA Global Allocation | GAL | 0.35 | 293.4 | 11.12 | 9.61 | 9.45 |
| Merlyn.AI SectorSurfer Momentum | DUDE | 1.32 | 175.1 | 10.78 | - | - |
| iShares Core Growth Allocation | AOR | 0.25 | 1,944.0 | 10.16 | 10.54 | 9.79 |
| Amplify BlackSwan Growth/Treasury Core | SWAN | 0.49 | 871.3 | 9.32 | - | - |
| Cabana Target Drawdown 7 | TDSB | 0.69 | 299.5 | 8.43 | - | - |
| Principal Active High Yield | YLD | 0.49 | 232.8 | 8.19 | 5.85 | 5.89 |
| iShares Core Moderate Allocation | AOM | 0.25 | 1,750.8 | 6.59 | 8.85 | 7.56 |
| Strategy Shares NASDAQ 7 HANDL | HNDL | 0.97 | 999.8 | 5.96 | 9.35 | - |
| iShares Core Conservative Allocation | AOK | 0.25 | 971.1 | 4.79 | 7.95 | 6.46 |
| iShares Morningstar Multi-Asset Income | IYLD | 0.60 | 244.3 | 3.42 | 4.57 | 4.24 |
| Aptus Defined Risk | DRSK | 0.78 | 787.5 | 1.05 | 9.62 | - |
| Cambria Tail Risk | TAIL | 0.59 | 339.8 | -8.82 | -2.13 | - |
| Cabana Target Leading Sector Moderate | CLSM | 0.69 | 238.3 | - | - | - |
| Adaptive Growth Opportunities | AGOX | 1.55 | 194.6 | - | - | - |
| Cabana Target Leading Sector Consrvative | CLSC | 0.69 | 186.9 | - | - | - |
| **COMMODITIES: AGRICULTURE** | | | | | | |
| Invesco DB Agriculture | DBA | 0.94 | 899.2 | 18.53 | 4.80 | -0.59 |
| **COMMODITIES: ENERGY** | | | | | | |
| United States Natural Gas | UNG | 1.28 | 265.8 | 66.52 | -13.84 | -14.64 |
| KraneShares Global Carbon | KRBN | 0.79 | 718.8 | 61.75 | - | - |
| Invesco DB Oil | DBO | 0.78 | 438.6 | 48.52 | 0.77 | 8.94 |
| United States Oil | USO | 0.79 | 2,659.3 | 45.53 | -25.82 | -10.33 |
| United States Brent Oil | BNO | 0.90 | 263.3 | 45.11 | -4.86 | 6.27 |
| **COMMODITIES: INDUSTRIAL METALS** | | | | | | |
| United States Copper | CPER | 0.80 | 286.8 | 22.86 | 16.88 | 14.28 |
| Invesco DB Base Metals | DBB | 0.80 | 417.4 | 20.68 | 9.76 | 9.73 |
| **COMMODITIES: PRECIOUS METALS** | | | | | | |
| Aberdeen Standard Physical Palladium | PALL | 0.60 | 451.4 | 0.63 | 35.29 | 28.98 |
| Credit Suisse X-Links Silver Cov Call ETN | SLVO | 0.65 | 268.0 | -1.37 | 10.69 | 1.75 |
| GraniteShares Gold Trust | BAR | 0.17 | 1,061.5 | -4.61 | 14.60 | - |
| SPDR Gold MiniShares Trust | GLDM | 0.18 | 4,519.0 | -4.65 | 14.60 | - |
| Aberdeen Standard Physical Gold | SGOL | 0.17 | 2,386.3 | -4.65 | 14.60 | 6.47 |
| VanEck Merk Gold Trust | OUNZ | 0.25 | 501.5 | -4.70 | 14.43 | 6.37 |
| iShares Gold Trust | IAU | 0.25 | 28,653.9 | -4.77 | 14.50 | 6.50 |
| SPDR Gold Trust | GLD | 0.40 | 57,819.6 | -4.86 | 14.34 | 6.34 |
| Aberdeen Standard Phys Precious Metals | GLTR | 0.60 | 1,051.0 | -5.66 | 17.09 | 7.29 |
| Aberdeen Standard Physical Platinum | PPLT | 0.60 | 1,233.5 | -5.92 | 8.26 | -1.21 |
| Aberdeen Standard Physical Silver | SIVR | 0.30 | 967.6 | -9.75 | 17.76 | 4.77 |
| iShares Silver Trust | SLV | 0.50 | 13,000.6 | -9.89 | 17.49 | 4.55 |
| iShares Gold Trust Micro | IAUM | 0.15 | 589.8 | - | - | - |
| Goldman Sachs Physical Gold | AAAU | 0.18 | 381.1 | -4.65 | 14.60 | - |
| **CURRENCY: DEVELOPED** | | | | | | |
| Invesco DB U.S. Dollar Bullish | UUP | 0.76 | 467.9 | 2.68 | 0.62 | 0.69 |
| Invesco CurrencyShares Canadian Dollar | FXC | 0.40 | 179.2 | 0.53 | 1.33 | 0.86 |
| Invesco CurrencyShares Euro | FXE | 0.40 | 291.7 | -3.97 | -0.31 | 0.28 |
| Invesco CurrencyShares Swiss Franc | FXF | 0.40 | 251.7 | -4.10 | 0.75 | 0.28 |
| Invesco CurrencyShares Japanese Yen | FXY | 0.40 | 201.1 | -6.51 | -0.23 | -1.74 |
| **ALTERNATIVES: ABSOLUTE RETURN** | | | | | | |
| First Trust Long/Short Equity | FTLS | 1.60 | 395.6 | 14.18 | 7.64 | 9.40 |
| Core Alternative | CCOR | 1.09 | 214.3 | 6.36 | 7.40 | - |
| RPAR Risk Parity | RPAR | 0.51 | 1,442.2 | 5.77 | - | - |
| IQ Hedge Multi-Strategy Tracker | QAI | 0.79 | 811.3 | 0.81 | 3.51 | 3.07 |
| IQ Merger Arbitrage | MNA | 0.77 | 741.0 | -1.44 | 2.11 | 3.14 |

| FUND NAME | TICKER | EXP RATIO % | AUM ($M) | YTD % | 3YR % | 5YR % |
|---|---|---|---|---|---|---|
| **ALTERNATIVES: TACTICAL TOOLS** | | | | | | |
| iPath Ser B S&P 500 VIX Short Tm Futs ETN | VXX | 0.89 | 1,004.0 | -62.05 | -40.13 | - |
| ProShares VIX Short-Term Futures | VIXY | 0.85 | 312.7 | -62.06 | -39.84 | -46.63 |
| **LEVERAGED** | | | | | | |
| ProShares Ultra QQQ | QLD | 0.95 | 5,541.1 | 185.50 | 86.52 | 73.82 |
| Direxion Daily Financial Bull 3x | FAS | 0.99 | 3,209.9 | 104.95 | 19.49 | 32.89 |
| ProShares Ultra Bloomberg Crude Oil | UCO | 0.95 | 1,129.6 | 98.51 | -55.31 | -31.39 |
| Direxion Daily Homebuilders/Supp Bull 3X | NAIL | 1.00 | 394.3 | 93.09 | 20.01 | 24.32 |
| MicroSectors US Big Oil 3X Leveraged ETN | NRGU | 0.95 | 417.6 | 80.92 | - | - |
| Direxion Dly S&P Oil/Gas Exp/Prod Bull 2X | GUSH | 1.17 | 749.8 | 78.00 | -83.37 | -66.24 |
| Direxion Daily Regional Banks Bull 3X | DPST | 0.99 | 463.6 | 73.68 | -35.80 | -8.83 |
| ProShares UltraPro S&P500 | UPRO | 0.93 | 2,896.7 | 71.97 | 33.16 | 40.25 |
| Direxion Daily S&P 500 Bull 3X | SPXL | 1.01 | 2,864.8 | 71.81 | 33.11 | 40.06 |
| Direxion Daily Technology Bull 3X | TECL | 1.08 | 2,938.6 | 68.43 | 60.06 | 72.06 |
| Direxion Daily Healthcare Bull 3x | CURE | 1.08 | 244.4 | 66.50 | 28.35 | 31.92 |
| ProShares UltraPro QQQ | TQQQ | 0.95 | 14,697.8 | 64.46 | 60.61 | 71.39 |
| ProShares Ultra Oil & Gas | DIG | 0.95 | 174.6 | 60.70 | -34.15 | -20.16 |
| ProShares Ultra Technology | ROM | 0.95 | 1,088.8 | 59.55 | 55.22 | 58.78 |
| ProShares Ultra Financials | UYG | 0.95 | 989.4 | 58.36 | 14.06 | 21.57 |
| Direxion Daily Energy Bull 2x | ERX | 1.00 | 514.6 | 57.91 | -59.36 | -39.89 |
| ProShares UltraPro Dow30 | UDOW | 0.95 | 1,108.4 | 53.85 | 15.08 | 32.93 |
| Direxion Daily Semiconductor Bull 3X | SOXL | 0.96 | 3,907.7 | 49.76 | 61.56 | 76.81 |
| ProShares Ultra Semiconductors | USD | 0.95 | 291.3 | 46.96 | 48.71 | 52.00 |
| ProShares Ultra S&P 500 | SSO | 0.91 | 4,700.7 | 45.00 | 27.98 | 30.07 |
| Credit Suisse FI Large Cap Growth Enh ETN | FLGE | 1.52 | 283.8 | 43.30 | 38.36 | 41.94 |
| UBS AG FI Enhanced Large Cap Growth ETN | FBGX | 1.29 | 174.8 | 42.86 | 38.68 | 42.14 |
| Credit Suisse Mo Pay 2xLev Mort REIT ETN | REML | 1.30 | 226.1 | 41.48 | -22.63 | -6.58 |
| ProShares Ultra Health Care | RXL | 0.95 | 200.3 | 40.85 | 24.46 | 26.58 |
| ProShares Ultra MidCap400 | MVV | 0.95 | 176.2 | 40.24 | 12.76 | 19.08 |
| ProShares UltraPro Russell2000 | URTY | 0.95 | 388.6 | 38.37 | -1.26 | 19.07 |
| Direxion Daily Small Cap Bull 3x | TNA | 1.12 | 1,617.7 | 37.74 | -1.52 | 18.76 |
| MicroSectors FANG+ 3X Leveraged ETN | FNGU | 0.95 | 1,988.8 | 34.92 | 75.54 | - |
| ProShares Ultra Dow30 | DDM | 0.95 | 482.4 | 34.47 | 17.38 | 26.67 |
| MicroSectors FANG+ 2X Leveraged ETN | FNGO | 0.95 | 236.6 | 28.60 | 67.05 | - |
| ProShares Ultra Russell2000 | UWM | 0.95 | 280.3 | 28.42 | 9.38 | 20.17 |
| Direxion Daily Aerospace & Def Bull 3X | DFEN | 0.99 | 324.5 | 28.35 | -26.04 | - |
| ProShares Ultra NASDAQ Biotechnology | BIB | 0.95 | 311.5 | 21.83 | 14.45 | 18.04 |
| Virtus InfraCap U.S. Preferred Stock | PFFA | 1.47 | 492.9 | 17.57 | 7.26 | - |
| Direxion Daily MSCI EM Bull 3x | EDC | 1.33 | 180.2 | -3.25 | 2.05 | 8.85 |
| Direxion Daily MSCI Brazil Bull 2X | BRZU | 1.29 | 179.2 | -8.03 | -43.73 | -38.46 |
| ProShares Ultra Gold | UGL | 0.95 | 249.4 | -12.40 | 21.56 | 6.48 |
| Direxion Daily 20+ Year Treasury Bull 3X | TMF | 1.05 | 404.5 | -17.49 | 16.55 | 0.98 |
| Direxion Daily Gold Miners Bull 2X | NUGT | 1.17 | 824.5 | -24.35 | -7.27 | -31.62 |
| ProShares Ultra Silver | AGQ | 0.93 | 571.2 | -26.29 | 16.72 | -3.81 |
| Direxion Daily S&P Biotech Bull 3X | LABU | 1.02 | 733.7 | -33.98 | -14.62 | 12.42 |
| Direxion Daily FTSE China Bull 3X | YINN | 1.37 | 439.6 | -39.75 | -18.79 | -6.67 |
| Direxion Daily Junior Gold Miners Bull 2X | JNUG | 1.12 | 564.8 | -43.64 | -44.00 | -53.59 |
| Direxion Daily CSI China Internet Bull 2X | CWEB | 1.30 | 212.7 | -62.31 | -12.53 | - |
| ProShares Ultra VIX Short-Term Futures | UVXY | 0.95 | 984.9 | -97.93 | -82.64 | -83.82 |
| **INVERSE** | | | | | | |
| ProShares Short VIX Short-Term Futures | SVXY | 1.38 | 394.8 | 39.77 | 0.72 | -16.88 |
| Direxion Daily 20+ Year Treasury Bear 3x | TMV | 1.04 | 292.8 | 6.65 | -32.48 | -17.94 |
| ProShares UltraShort 20+ Year Treasury | TBT | 0.92 | 1,483.3 | 5.72 | -20.92 | -10.23 |
| ProShares Short 20+ Year Treasury | TBF | 0.94 | 627.3 | 2.79 | -9.90 | -4.28 |
| ProShares Short Dow30 | DOG | 0.95 | 243.3 | -15.79 | -15.54 | -16.38 |
| ProShares Short Russell2000 | RWM | 0.95 | 294.2 | -17.11 | -16.41 | -16.89 |
| ProShares Short S&P500 | SH | 0.90 | 1,396.1 | -19.09 | -18.49 | -17.09 |
| ProShares Short QQQ | PSQ | 0.95 | 575.3 | -19.99 | -26.09 | -24.63 |
| ProShares UltraShort S&P500 | SDS | 0.91 | 603.1 | -34.79 | -37.24 | -33.87 |
| ProShares UltraShort QQQ | QID | 0.95 | 213.5 | -37.15 | -49.24 | -46.10 |
| ProShares UltraPro Short Dow30 | SDOW | 0.95 | 402.1 | -41.45 | -49.82 | -48.45 |
| Direxion Daily Small Cap Bear 3X | TZA | 1.07 | 445.8 | -47.71 | -54.61 | -51.80 |
| Direxion Daily S&P 500 Bear 3X | SPXS | 1.07 | 399.6 | -48.11 | -54.33 | -49.34 |
| ProShares UltraPro Short S&P500 | SPXU | 0.93 | 601.4 | -48.24 | -54.22 | -49.17 |
| ProShares UltraPro Short QQQ | SQQQ | 0.95 | 1,540.6 | -51.78 | -67.57 | -63.35 |

# Crossword Puzzle



## ACROSS

1. Nonbitcoin token and cryptocurrency
5. Satoshi Nakamoto's invention
9. Microsoft co-founder
10. System in which a data is maintained across a decentralized network of computers (with 14 across)
11. Put two and two together, say
12. Legal title, abbr.
13. Coral ridge
14. See 10 across
17. Electronic alert
19. Small drop in the market
21. Proposal
24. Concealed
26. A mouse moves over it
28. From the neighborhood
31. Concept adapted for securing digital money, 3 words
33. Kind of feeling or instinct
35. The first general purpose blockchain platform
37. Airport traffic overseer, abbr.
40. Digital money in which the record of transactions is kept by a decentralized system
44. ______coin: fork of Bitcoin created by Charlie Lee
45. Naval rank, abbr.
46. Process through which new bitcoin is minted
47. Augusta's state, abbr.

## DOWN

1. Process or set of rules to be followed in calculations or other problem-solving operations
2. Largest stablecoin linked to the U.S. dollar
3. Throw out of office
4. Seize
5. Flora and fauna of a region
6. Represents value on a blockchain
7. Opposite of transparent
8. In cryptocurrency, a computer that connects to a cryptocurrency network
15. Medical care group, abbr.
16. Company that created XRP cryptocurrency
17. Often-furrowed facial feature
18. Cryptocurrency using multichain architecture (with 25 down)
20. Golfing goal
22. 20%
23. Santa's little helper
25. See 18 down
27. Cryptocurrency created by software engineers originally as a joke, later made popular by Elon Musk
29. Spreadsheet sections
30. Little Rock's state, abbr.
32. Not in
34. Unspoken, like a silent agreement
36. Uncommon
38. Wall hanging or sculpture
39. Physics unit
41. You (archaic)
42. Ashes holder
43. Conclusion

Crossword Answers on p. 5

# THE LAST WORD

## ADVISORS & THE CRYPTO CONUNDRUM

**BY HEATHER BELL**
Editor

I never thought about a new asset class emerging in my lifetime. New industries or even sectors, sure, but a whole new asset class? Things like bonds, equities, commodities and currencies all have a century or more of trading behind them, if not millennia.

If I *had* seen digital assets coming even, say, eight years ago, I'd be rich beyond my wildest dreams. But hindsight is 20/20, and the fact is, digital assets are here to stay.

If you're in retirement, in a comfortable spot and merely looking to maintain the lifestyle you already have, digital assets have nothing meaningful to offer you unless you're really into risk. But for younger investors, digital assets—especially cryptocurrencies like bitcoin—are likely something you can't afford to ignore. And if you're an advisor, you really need to understand the space for the sake of your clients.

### SHIFTING ASSET ALLOCATION

Let's face it, the nature of asset allocation has changed. Fixed income no longer behaves the way we were all taught to expect. The traditional 60/40 portfolio will no longer deliver the results it did in the past. In the last few years especially, with yields drying up, the discussion over how to find a way to fill that void has reached fever pitch.

Clearly, cryptocurrencies in their current (volatile) state aren't going to replace fixed income in the asset allocation paradigm, but maybe it's time for an entirely new model. After all, it can't be a coincidence that as fixed income began to falter in its traditional role, a new asset class emerged almost simultaneously. Something had to fill that vacuum.

Fixed income and cryptocurrency have very little in common—possibly the understatement of the century. It may be time to take a step (or many steps) back and reconsider *all* asset classes from a bird's-eye view and how they fit together in a portfolio. Maybe options and futures strategies could even fill some of the gaps, especially given how options in particular can provide both income and ballast to a portfolio.

An addition of cryptocurrency exposure could bring potential upside and greater diversification to a portfolio given the space's volatility and lack of correlation with existing asset classes.

### OPPORTUNITY FOR ADVISORS

All of this suggests cryptocurrency could be a boon to the advisory industry if RIAs are willing to seize the opportunity. But it means they're going to have to do quite a bit of work. Digital assets aren't exactly a simple subject, so the learning curve is intimidating, but not impossible.

With ETFs democratizing investing and robo advisors taking on much of the work of building portfolios, advisors need to be able to offer added value, and understanding the crypto space is foremost. Many firms add value by providing comprehensive planning services around things like taxes, life milestones and becoming more high-touch with their clients. Crypto now offers them the chance to add yet another arrow to their quiver.

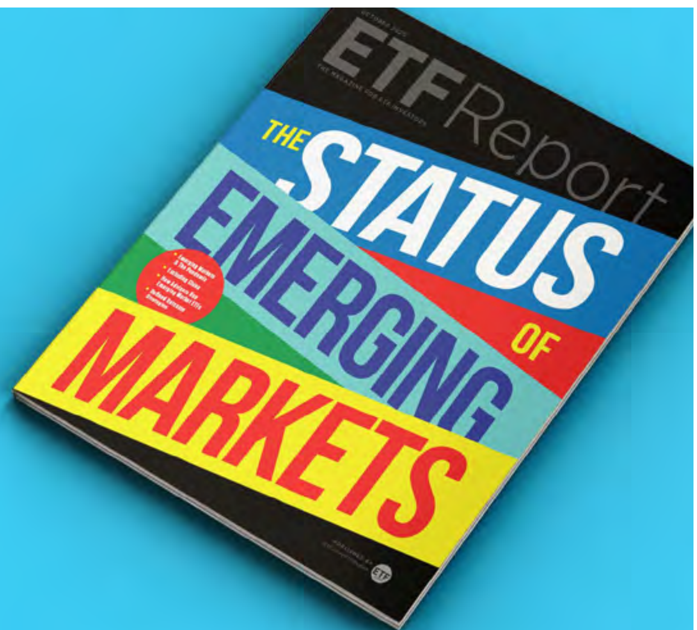
Investors are asking for guidance on digital assets, especially cryptocurrencies, where new ones are cropping up regularly – not all of them equal, some of them farcical. By educating themselves about cryptocurrencies and the wider digital assets space, advisors can bring that expertise to their clients' portfolios and demonstrate the power of their value proposition.

At the very least, advisors cannot afford to ignore the crypto space any longer. ●

*Heather Bell is editor of ETF Report.*


*Best ETF administrator*
*2021 Fund Intelligence Operation & Service Awards*




ETF Report
THE STATUS OF EMERGING MARKETS