

ETF Report

THE MAGAZINE FOR ETF INVESTORS

NOVEMBER / DECEMBER 2021

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ETF Report

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NOVEMBER/DECEMBER 2021

UNDERSTANDING GREEN

BONDS

[Pinning Down ESG](#) | [Fixed Income Isn't Itself](#) | [Climate Change & Sector Risk](#) | [What Inflation Means For Bonds](#) | [Crypto ETFs Unpacked](#)

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ETF Launches

Featured ETF

BITO

The first-ever bitcoin futures ETF was a blockbuster right out of the gate.

The first-ever bitcoin futures ETF made its debut on Oct. 19 with a bang. The **ProShares Bitcoin Strategy ETF (BITO)** offers actively managed exposure to bitcoin futures traded on the Chicago Mercantile Exchange. It comes with an expense ratio of 0.95%.

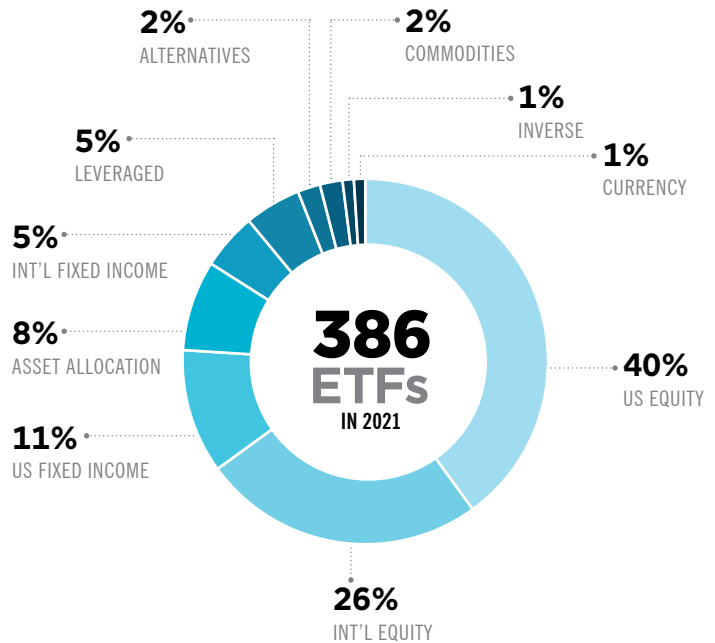
The fund invests primarily in front-month futures contracts and uses a wholly owned Cayman Islands subsidiary that can represent up to 25% of the fund's assets for this purpose. The remainder of the portfolio not held in bitcoin futures primarily consists of short-term cashlike instruments such as Treasury bills.

BITO closed its first day with roughly \$1 billion traded and was one of the most popular ETF launches ever. It ended its first trading session with roughly \$570 million in assets, putting it in the top 30% of ETFs by size, according to Bloomberg.

The arrival of BITO marks the culmination of eight years of filings and SEC rejections. Several firms have filed for futures-based or physical bitcoin ETFs, and approval on most of them is still pending.

Just one day after the ProShares fund's launch, bitcoin reached a new record high of \$64,863 despite its price being nearly cut in half earlier in the year.

Launch Allocation



BITO Quick View

ISSUER	SEGMENT	EXPENSE RATIO	STRUCTURE	INCEPTION
ProShares	Currency: Pair Long Bitcoin, Short USD Derivative	0.95%	Open-Ended Fund	10/19/2021

ETF Launch Activity

U.S. EQUITIES

AllianzIM US LrgCap 6 Mo Buffer10 Apr/Oct
Alpha Dog
Avantis US Large Cap Value
ETRACS IFED Invest with the Fed ETN
First Trust Multi-Manager SmCap Opps
FlexShares ESG & Climate US Large Cap Core
Fount Subscription Economy
FT Cboe Vest Buffered Allocation Defensive
FT Cboe Vest Buffered Allocation Growth
FT Cboe Vest Nasdaq-100 Buffer - September
Hoya Capital High Dividend Yield
Innovator Growth Accelerated Plus - Oct
Innovator US Equity Accelerated 9 Buffer - Oct
Innovator US Equity Accelerated - Oct
Innovator US Equity Accelerated Plus - Oct
Invesco ESG NASDAQ 100
Invesco ESG NASDAQ Next Gen 100
IQ Engender Equality
Janus Henderson US Sustainable Equity
JPMorgan Active Value
Lyrical US Value
Nuveen ESG Dividend
Nuveen Growth Opportunities
Pacer Swan SOS Conservative Oct
Pacer Swan SOS Flex Oct

Pacer Swan SOS Moderate Oct
Simplify Health Care
VanEck Morningstar ESG Moat
VictoryShares THB Mid Cap ESG
WisdomTree Target Range

U.S. FIXED INCOME

FlexShares ESG & Climate HiYld Corp Core
FlexShares ESG & Climate Inv Gr Corp Core
FolioBeyond Rising Rates
Harbor Scientific Alpha High-Yield
Invesco BulletShares 2031 Corporate Bond
Invesco BulletShares 2029 High Yield Corp. Bond
Invesco BulletShares 2031 Municipal Bond
iShares USD Bond Factor
Janus Henderson Sustainable Corporate Bond
Janus Henderson Sustainable & Impact Core Bond
KraneShares Quadratic Deflation
PIMCO Muni Income Opportunities Active
Simplify Risk Parity Treasury
SPDR Loomis Sayles Opportunistic Bond
T. Rowe Price QM U.S. Bond
T. Rowe Price Total Return
T. Rowe Price Ultra Short-Term Bond
VanEck HIP Sustainable Muni
VictoryShares ESG Core Plus Bond
VictoryShares ESG Corporate Bond

INTERNATIONAL EQUITY

AdvisorShares Psychedelics
ALPS Global Travel Beneficiaries
Amplify Digital and Online Trading
APEX HealthCare
Avantis Emerging Markets Value
Avantis International Large Cap Value
Avantis Real Estate
Cannabis Growth
CrossingBridge Pre-Merger SPAC
Dimensional World ex US Core 2
Dimensional International Value
ETFMG Breakwave Sea Decarbonization Tech
ETFMG Real Estate Tech
Fidelity Clean Energy
Fidelity Cloud Computing
Fidelity Digital Health
Fidelity Electric Veh/Future Transport
First Trust SkyBridge Crypto Industry/Digital Econ
FlexShares ESG & Climate Dev Mkts ex-US Core
FMQQ The Next Frontier Internet & Ecommerce
Fount Metaverse
FT Cboe Vest Intl. Equity Buffer - September
Global X Solar
Global X Wind Energy
Goldman Sachs Future Tech Leaders Equity

Innovator Emerging Mkts Power Buffer
Innovator Intl Dev Power Buffer - Oct
Invesco Blockchain Users/Decentralized Comm.
Invesco Alerian Galaxy Crypto Economy
IQ Clean Oceans
IQ Cleaner Transport
Janus Henderson Intl. Sustainable Equity
Janus Henderson Net Zero Transition Resources
KraneShares China Innovation
ProShares Nanotechnology
ProShares On-Demand
ProShares Smart Materials
ProShares S&P Kensho Cleantech
ProShares Big Data Refiners
ProShares S&P Kensho Smart Factories
Roundhill IO Digital Infrastructure
Volt Crypto Industry Revolution/Tech

INT'L FIXED INCOME

Columbia Short Duration Bond
Day Hagan/NDR Smart Sector Fixed Income
Harbor Scientific Alpha Income
Hartford Sustainable Income

ALTERNATIVES

AITShares Event-Driven

ASSET ALLOCATION

Advocate Rising Rate Hedge
Discipline Fund
Invesco Blockchain Users/Decentralized Comm.
LifeGoal Children Investment
LifeGoal Homeowner Investment
LifeGoal General Conservative Investment
LifeGoal Vacation Investment
LifeGoal Wealth Builder
Simplify Tail Risk Strategy

CURRENCY

ProShares Bitcoin Strategy
Valkyrie Bitcoin Strategy

COMMODITIES

abrdn Bloomberg Ind.Metals Strategy K-1 Free
Hartford Schroders Commodity Strategy
KraneShares Cal Carbon Allowance
KraneShares Eur Carbon Allowance

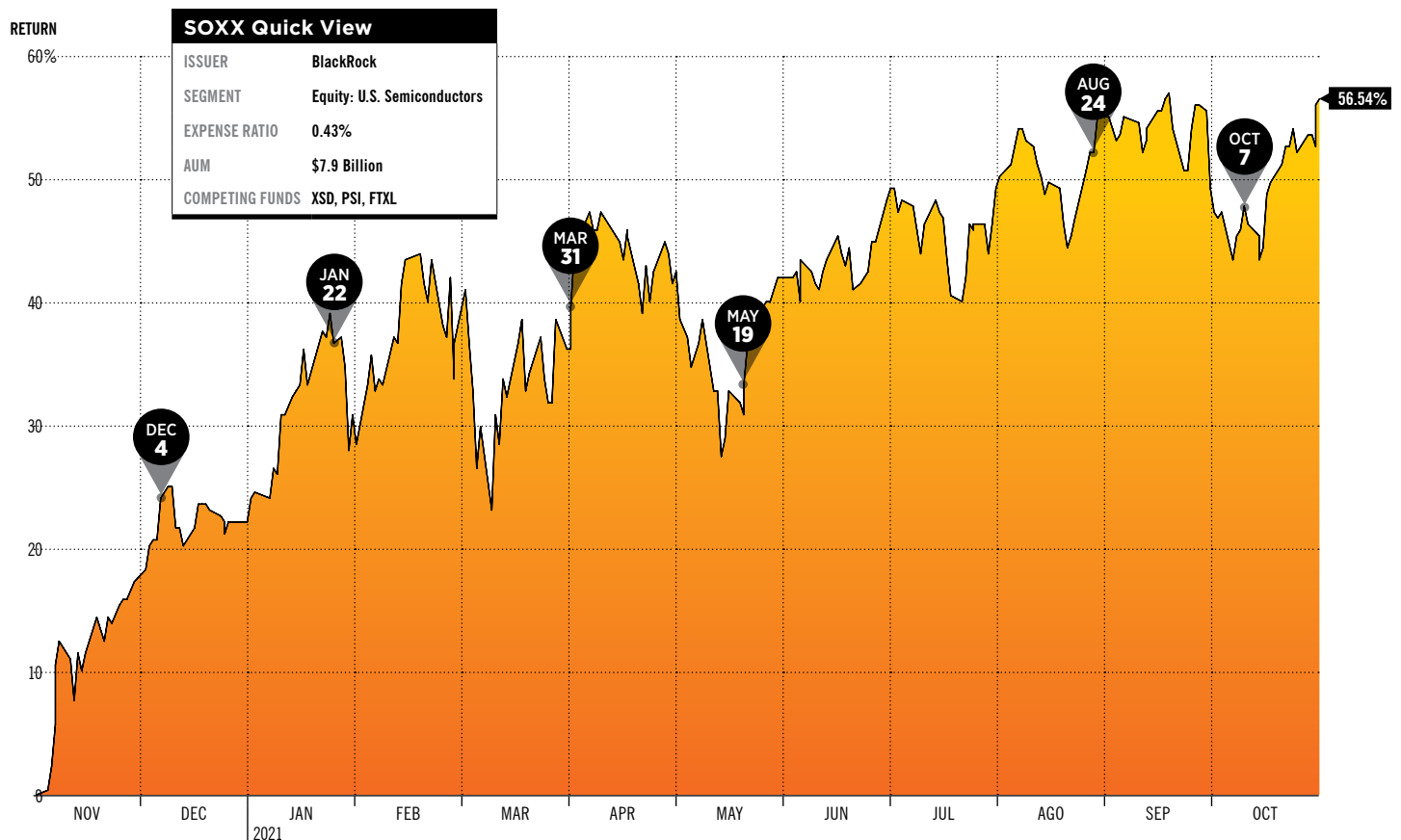
LEVERAGED/INVERSE

Dirixon Daily Select Large Caps & FANGs Bull 2X
Dirixon Daily US Infrastructure Bull 2X
ETFMG 2X Daily Inv Alt Harvest
ETRACS 2x Leveraged IFED Invest with the Fed ETN
ETRACS 2x Leveraged MSCI US ESG Focus TR ETN

Source: ETF.com. Data and information as of 10/31/2021. The above sidebar covers launches and closures for the months of September & October 2021.

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 \$7.9 billion **iShares Semiconductor ETF, (SOXX)**, the largest semiconductor ETF on the market. All the companies mentioned below are holdings in SOXX, unless otherwise noted (*).



DEC 4 Shares of Micron Technology rise sharply after multiple analysts raised their price targets and a power outage at one of its factories disrupted production, potentially increasing demand.

JAN 22 Intel's stock price spikes on better-than-expected earnings, but plunges the next day on concerns the data had been hacked before its release.

MAR 31 Applied Materials stock receives a significant boost after a Bernstein analyst initiates coverage on the company with an "outperform" rating.

MAY 19 Analog Devices exceeds expectations to deliver record-breaking results for its second fiscal quarter, with revenue up 26% year-over-year.

AUG 24 Nvidia stock rises over multiple days on a 68% y-o-y increase in earnings and news that it will provide some of the chips for a new Dept. of Energy supercomputer.

OCT 7 Shares of Marvell Technology rise sharply in the wake of an investor call during which it raised its long-term growth target to 15-20% from 10-15%.

Source: Bloomberg; data for 10/30/2020-10/29/2021

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
URNM	North Shore Global Uranium Mining ETF
ISSUER	

Exchange Traded Concepts

AUM	EXPENSE RATIO	AVERAGE DAILY \$ VOLUME	NUMBER OF HOLDINGS
\$848.78M	0.85%	\$41.51M	36
AVERAGE SPREAD (%)	AVERAGE SPREAD (\$)	MEDIAN TRACKING DIFFERENCE (12 MO)	MAX LT/ST CAPITAL GAINS RATE
0.38%	\$0.27	-	20.00% / 39.60%

Performance

1 MONTH	3 MONTHS	YTD	1 YEAR	3 YEARS	5 YEARS
13.25%	51.40%	108.18%	239.08%	-	-

Facts & Costs

TICKER	FUND
URA	Global X Uranium ETF
ISSUER	

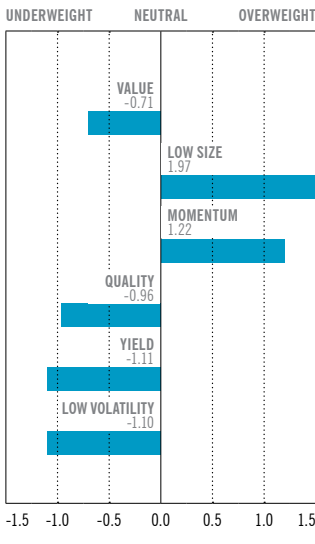
Mirae Asset Global Investments Co., Ltd.

AUM	EXPENSE RATIO	AVERAGE DAILY \$ VOLUME	NUMBER OF HOLDINGS
\$1.33B	0.69%	\$57.30M	45
AVERAGE SPREAD (%)	AVERAGE SPREAD (\$)	MEDIAN TRACKING DIFFERENCE (12 MO)	MAX LT/ST CAPITAL GAINS RATE
0.14%	\$0.03	-	20.00% / 39.60%

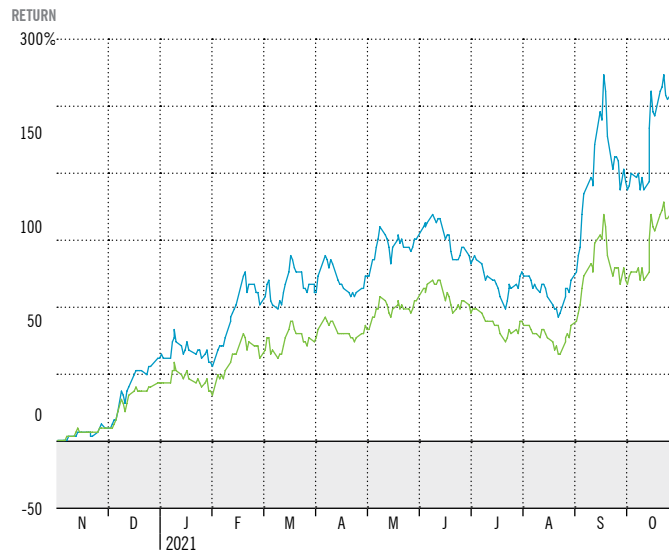
Performance

1 MONTH	3 MONTHS	YTD	1 YEAR	3 YEARS	5 YEARS
13.59%	39.36%	80.12%	155.96%	32.24%	21.40%

MSCI URNM Factors

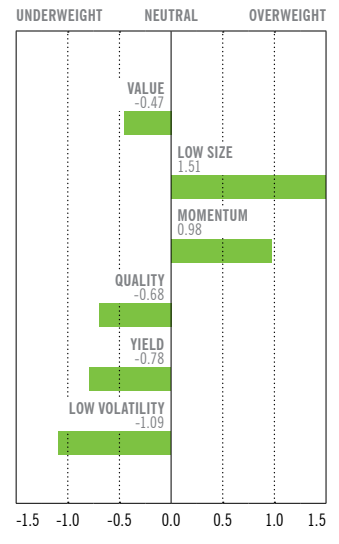


Performance



Source: Bloomberg, 10/31/2020-10/31/2021.

MSCI URA Factors



URNM TOP 3 SECTORS

Energy	80.93%
Financials	14.81%
Basic Materials	4.26%

URNM TOP 10 HOLDINGS

Cameco Corporation	16.93%
National Atomic Co. Kazatomprom JSC	16.49%
Sprott Physical Silver Trust	7.17%
Energy Fuels Inc.	5.61%
Yellow Cake Plc	5.43%
Denison Mines Corp.	5.29%
NexGen Energy Ltd.	4.87%
Uranium Energy Corp.	4.42%
Paladin Energy Ltd	3.92%
Uranium Royalty Corp	3.31%

URA TOP 5 SECTORS

Energy	69.98%
Industrials	15.74%
Basic Materials	7.89%
Financials	4.56%
Utilities	1.83%

URA TOP 10 HOLDINGS

Cameco Corporation	23.88%
National Atomic Co. Kazatomprom JSC	10.19%
NexGen Energy Ltd.	8.20%
Denison Mines Corp.	5.44%
Paladin Energy Ltd	5.33%
Energy Fuels Inc.	4.56%
Uranium Energy Corp.	3.44%
Centrus Energy Corp. Class A	2.65%
Yellow Cake Plc	2.58%
Global Atomic Corporation	1.79%

Sources: ETF.com and Bloomberg. Data and information as of 11/08/2021.

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 Amazon.com, Inc. (AMZN), Robinhood Markets, Inc. Class A (HOOD) and FuelCell Energy, Inc. (FCEL).

Stock

AMZN

Amazon.com, Inc.

ETFs Holding AMZN

AMZN Shares in ETFs

303

29.3 Million

Biggest Holder

Largest Allocation

SPY

SPDR S&P 500 ETF Trust

VCR

Vanguard Consumer Discretionary ETF

Most AMZN Exposure

Ticker	Fund	% of Allocation
VCR	Vanguard Consumer Discretionary ETF	22.74%
ONLN	ProShares Online Retail ETF	22.47%
XLY	Consumer Discretionary Select Sector SPDR	21.94%
FDIS	Fidelity MSCI Consumer Discretionary Index	21.91%
CLIX	ProShares Long Online/Short Stores ETF	20.61%

Most AMZN Shares

Ticker	Fund	# of Allocation
SPY	SPDR S&P 500 ETF Trust	4.40M
QQQ	Invesco QQQ Trust	4.28M
IVV	iShares Core S&P 500 ETF	3.39M
VOO	Vanguard S&P 500 ETF	2.73M
VTI	Vanguard Total Stock Market ETF	2.42M

Top ETF Strategies Using AMZN

Strategy	# of ETFs
Active Management ETFs	77
Vanilla ETFs	58
Multi-factor ETFs	30
Fundamental ETFs	30
Equal ETFs	22

Stock

HOOD

Robinhood Markets, Inc. Class A

ETFs Holding HOOD

HOOD Shares in ETFs

5

6.7 Million

Biggest Holder

Largest Allocation

ARKK

ARK Innovation ETF

ARKK

ARK Innovation ETF

Most HOOD Exposure

Ticker	Fund	% of Allocation
ARKK	ARK Innovation ETF	1.19%
ARKF	ARK Fintech Innovation ETF	1.02%
ARKW	ARK Next Generation Internet ETF	0.90%
ONEQ	Fidelity NASDAQ Composite Index ETF	0.10%
FPX	First Trust U.S. Equity Opportunities ETF	0.03%

Most HOOD Shares

Ticker	Fund	# of Allocation
ARKK	ARK Innovation ETF	4.89M
ARKW	ARK Next Generation Internet ETF	954.94K
ARKF	ARK Fintech Innovation ETF	680.11K
ONEQ	Fidelity NASDAQ Composite Index ETF	116.30K
FPX	First Trust U.S. Equity Opportunities ETF	10.87K

Top ETF Strategies Using HOOD

Strategy	# of ETFs
Active Management ETFs	3
Time Since Launch ETFs	1
Exchange-specific ETFs	1

Stock

FCEL

FuelCell Energy, Inc.

ETFs Holding FCEL

FCEL Shares in ETFs

59

34.6 Million

Biggest Holder

Largest Allocation

IWM

iShares Russell 2000 ETF

HJEN

Direxion Hydrogen ETF

Most FCEL Exposure

Ticker	Fund	% of Allocation
HJEN	Direxion Hydrogen ETF	4.83%
HDRO	Defiance Next Gen H2 ETF	4.33%
HYDR	Global X Hydrogen ETF	4.15%
CNRG	SPDR S&P Kensho Clean Power ETF	1.47%
CTEC	Global X CleanTech ETF	1.18%

Most FCEL Shares

Ticker	Fund	# of Allocation
IWM	iShares Russell 2000 ETF	7.30M
ICLN	iShares Global Clean Energy ETF	5.41M
PBW	Invesco WilderHill Clean Energy ETF	3.13M
QCLN	First Trust NASDAQ Clean Edge Green Energy	2.78M
VB	Vanguard Small-Cap ETF	2.58M

Top ETF Strategies Using FCEL

Strategy	# of ETFs
Vanilla ETFs	27
Multi-factor ETFs	7
Fundamental ETFs	6
Active Management ETFs	5
Equal ETFs	4

Data At A Glance

Monthly Flows

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

TOP GAINERS

TICKER	FUND	ISSUER	NET FLOWS (\$M)	AUM (\$M)
IVV	iShares Core S&P 500 ETF	BlackRock	9,119.51	315,543.91
QQQ	Invesco QQQ Trust	Invesco	4,260.19	200,420.28
SPY	SPDR S&P 500 ETF Trust	SSGA	3,965.20	416,428.26
VOO	Vanguard S&P 500 ETF	Vanguard	3,834.17	267,483.86
VTI	Vanguard Total Stock Market ETF	Vanguard	2,441.59	282,562.07
IEFA	iShares Core MSCI EAFE ETF	BlackRock	2,134.15	104,012.93
TIP	iShares TIPS Bond ETF	BlackRock	1,897.95	35,841.17
NUGO	Nuveen Growth Opportunities ETF	Nuveen Securities	1,636.44	1,677.91
XLF	Financial Select Sector SPDR Fund	SSGA	1,447.61	45,525.93
SCHP	Schwab U.S. TIPS ETF	Charles Schwab	1,440.11	21,428.28

BIGGEST LOSERS

TICKER	FUND	ISSUER	NET FLOWS (\$M)	AUM (\$M)
LQD	iShares iBoxx USD Inv. Grade Corp. Bond ETF	BlackRock	-2,917.16	37,903.46
TLT	iShares 20+ Year Treasury Bond ETF	BlackRock	-1,862.85	15,243.40
JGSB	iShares 1-5 Year Inv. Grade Corp. Bond ETF	BlackRock	-1,460.18	23,596.06
BBJP	JPMorgan BetaBuilders Japan ETF	JPMorgan Chase	-967.44	8,002.81
PDP	Invesco DWA Momentum ETF	Invesco	-645.62	1,865.14
IYR	iShares U.S. Real Estate ETF	BlackRock	-574.18	7,330.02
IXN	iShares Global Tech ETF	BlackRock	-557.38	5,552.61
XLI	Industrial Select Sector SPDR Fund	SSGA	-549.36	17,833.61
FAS	Direxion Daily Financial Bull 3x Shares	Direxion	-519.07	3,643.71
TQQQ	ProShares UltraPro QQQ	ProShares	-484.02	17,122.40

ASSET CLASSES

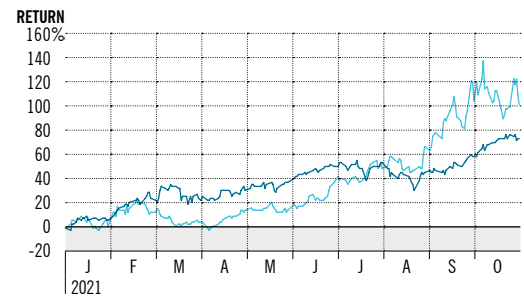
	NET FLOWS (\$M)	AUM (\$M)	% OF AUM
U.S. Equity	51,225.99	4,168,658.43	1.23%
International Equity	10,084.17	1,323,105.36	0.76%
U.S. Fixed Income	12,905.41	1,095,280.85	1.18%
International Fixed Income	980.93	149,475.52	0.66%
Commodities	542.34	140,771.43	0.39%
Currency	1,321.95	3,140.70	42.09%
Leveraged	-1,633.28	69,494.52	-2.35%
Inverse	556.36	12,541.61	4.44%
Asset Allocation	434.99	19,287.96	2.26%
Alternatives	474.75	7,061.44	6.72%

Interesting Charts Of Past 12 Months

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

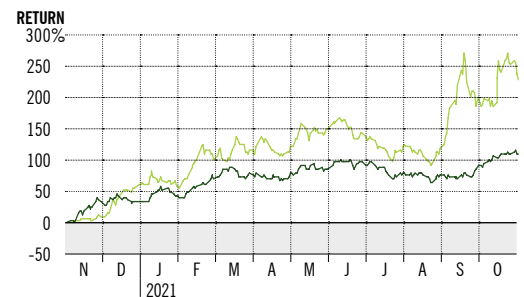
- UNG** United States Natural Gas Fund LP
- USO** United States Oil Fund LP

Natural gas prices have seen a sharp spike, allowing UNG to outperform USO during 2021.



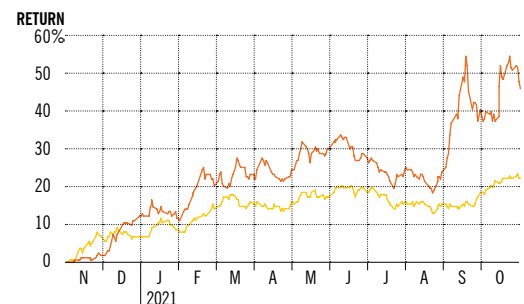
- URNM** North Shore Global Uranium Mining ETF
- XLE** Energy Select Sector SPDR

URNM's performance exploded relative to that of the broad energy sector, even as other forms of clean energy lagged during the past 12 months.



- IWB** iShares Russell 1000 ETF
- IWM** iShares Russell 2000 ETF

Small caps have outperformed large caps over the past 12 months, but the gap between the two segments has narrowed in recent months.

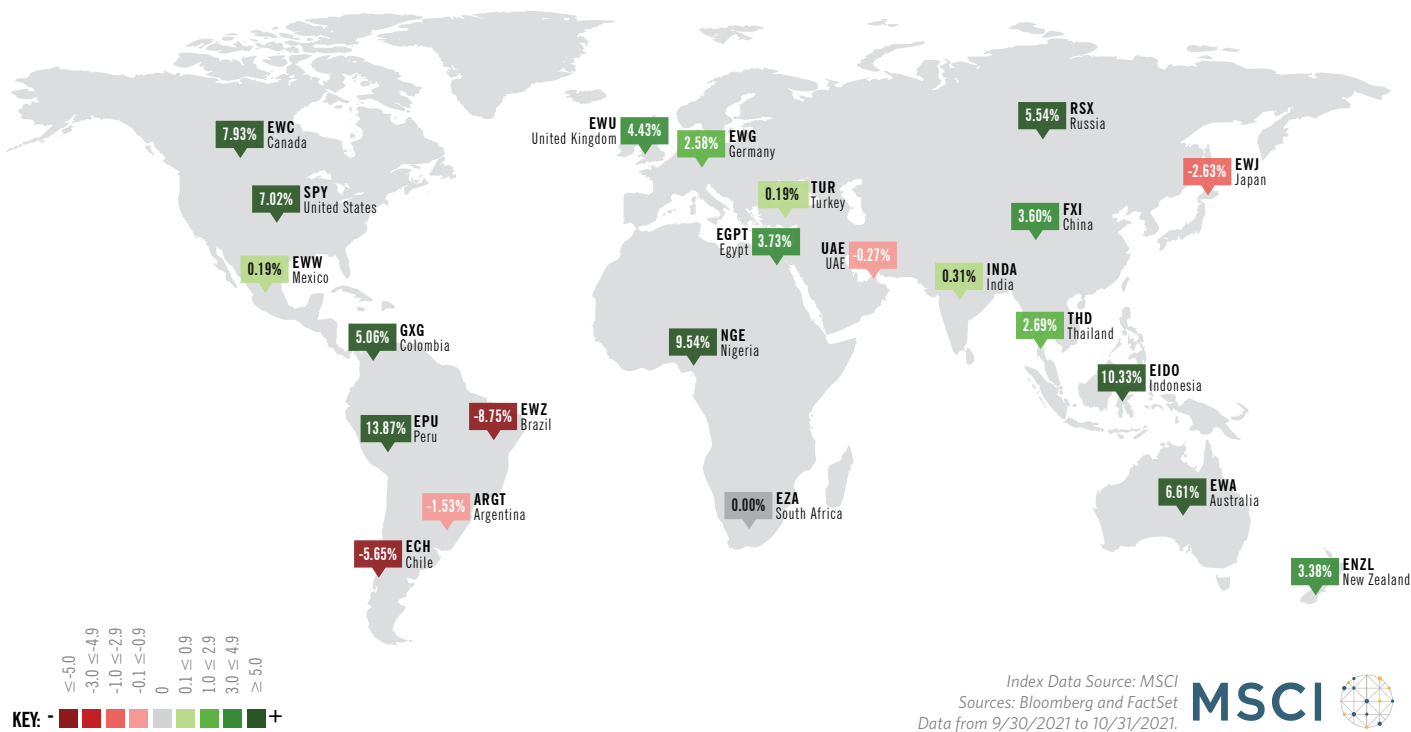


Sources: FactSet, Bloomberg; data as of 10/29/2021

Countries

In October, the **iShares MSCI Peru ETF (EPU)** led returns among country-specific ETFs, with a gain of 13.87% on the month, despite a credit downgrade by Fitch Ratings. It was followed by the **iShares MSCI Indonesia ETF (EIDO)**, with a gain of 10.33% and the **Global X MSCI Nigeria ETF (NGE)**, up 9.54%. The **iShares MSCI Brazil ETF (EWZ)** was the biggest loser, seeing losses of 8.75%. The **iShares MSCI Chile ETF (ECH)** had the second-worst return profile, with a loss of 5.65%, followed by the **iShares MSCI Japan ETF (EWJ)** decreasing by 2.63%. The **SPDR S&P 500 ETF Trust (SPY)**

led inflows for country-specific ETFs, pulling in nearly \$4 billion during the month as its underlying index hit a new high. EWJ was in a distant second place, adding \$400 million in the month, while the **iShares MSCI Canada ETF (EWC)** saw \$212 million in inflows. Leading the outflows was the **iShares MSCI United Kingdom ETF (EWU)**, which decreased by \$433 million, followed by the **iShares MSCI Taiwan ETF (EWT)**, with just shy of \$300 million in outflows and the **iShares MSCI South Korea ETF (EWY)**, with a loss of \$169 million.



TOP INFLOWS

TICKER	FUND	NET FLOWS (\$M)	AUM (\$M)
SPY	SPDR S&P 500 ETF Trust	3,965.2	411,269.6
EWJ	iShares MSCI Japan	400.4	12,691.0
EWC	iShares MSCI Canada	212.0	4,222.1
EWZ	iShares MSCI Brazil	122.7	4,770.0
EZA	iShares MSCI South Africa	58.5	325.2

TOP OUTFLOWS







TICKER	FUND	NET FLOWS (\$M)	AUM (\$M)
EWU	iShares MSCI United Kingdom	-433.4	3,020.2
EWT	iShares MSCI Taiwan	-299.9	7,010.5
EWY	iShares MSCI South Korea	-168.9	5,568.6
EWL	iShares MSCI Switzerland	-88.9	1,626.6
EWP	iShares MSCI Spain	-68.9	686.5

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 ▲ 111.67%	YTD ▲ 481.03%	YTD ▲ 404.32%	YTD ▲ 983.05%	YTD ▲ 361.67%	YTD ▲ 5838.08%
1 YEAR ▲ 344.93%	1 YEAR ▲ 1010.74%	1 YEAR ▲ 364.60%	1 YEAR ▲ 2017.10%	1 YEAR ▲ 924.81%	1 YEAR ▲ 10892.51%
3 YEARS ▲ 113.57%	3 YEARS ▲ 179.39%	3 YEARS ▲ 35.36%	3 YEARS ▲ 204.27%	3 YEARS N/A	3 YEARS ▲ 321.16%

(Data as of 10/31/2021)

Data Provided By
COINMETRICS

By Dan Mika

By Dan Mika

By Sumit Roy

First-Ever Bitcoin Futures ETFs Debut

The ProShares Bitcoin Strategy ETF (BITO) closed its first day of trading on Oct. 19 as one of the most popular ETF launches ever.

After a particularly volatile hour of early trading in which its price reached a high of \$42.55 per share and a low of \$40.94, BITO rose beyond the \$41 per share mark on calmer volumes over the next several hours. It ended the day at \$41.94 per share, with the NYSE ultimately recording \$1.01 billion in trades shortly before 5 p.m. on the launch day, including trades executed after the close.

Its dollar volume of approximately \$968 million made it the second-largest ETF debut in history, according to data compiled by Bloomberg ETF analyst Eric Balchunas. Only the **BlackRock U.S. Carbon Transition Readiness ETF (LCTU)** had a larger first day, with \$1.16 billion in volume upon its debut in April.

On Oct. 21, the **Valkyrie Bitcoin Strategy ETF (BTF)** followed BITO into the market, but its debut was much less impressive, ending the day with \$38 million in AUM. BITO and BTF both primarily invest in bitcoin futures, although BITO reserves the right to purchase stakes in foreign ETFs and investment vehicles that hold bitcoin directly.

Geared Bitcoin ETF Filings Withdrawn

In just under a full week, the SEC put the kibosh on two issuers seeking to launch inverse and leveraged versions of bitcoin futures-linked ETFs.

In the span of hours on Tuesday, Oct. 26, Valkyrie Funds filed for an ETF that provided leverage of a multiple of 1.25 over the price of bitcoin futures, while Direxion filed for a fund providing -1x exposure.

However, both issuers pulled their filings within days, saying that the SEC had requested withdrawals of those ETF proposals that same day based on reasons from a 2018 letter outlining the SEC's questions on cryptocurrencies and fund management.

Valkyrie issued a withdrawal form on Oct. 29, while Direxion pulled its filing Nov. 2.

Neither issuer disclosed which parts of the letter the SEC had determined were grounds for objection for those filings moving forward, and the SEC did not immediately respond to a request for comment.

While U.S. regulators allowed the **ProShares Bitcoin Strategy ETF (BITO)** and the **Valkyrie Bitcoin Strategy ETF (BTF)** to launch midway through October, the next test for backers of the cryptocurrency is approval of a physical bitcoin ETF. However, the SEC denied VanEck's application for just such a fund as recently as mid-November.

Crypto By The Numbers

Crypto seems to be everywhere lately. But just how big is crypto really, based on the cold hard numbers?

According to CoinMarketCap, the total market capitalization of all crypto assets is \$2.6 trillion. That's a big number, but one that is dwarfed by the market value of traditional assets like stocks and bonds. For instance, as of this writing, the market cap of Apple alone is over \$2.5 trillion.

The market cap of all the stocks within the S&P 500 is \$40.3 trillion; the market value of the MSCI ACWI Index is \$92 trillion; and the global bond market is worth \$119 trillion.

From that perspective, crypto looks quite small. And that's even more the case when you consider that, of crypto's market cap, 46% comes from bitcoin alone and 19% from ether. All the other crypto assets only account for 35% of the crypto market cap, or \$900 billion.

If you go one step further and strip out the top 10 crypto assets—like tether, ada, dogecoin and XRP—the market value shrinks further to \$500 billion.

However, for bitcoin to come out of nowhere and be worth more than \$1 trillion, and for other crypto assets to collectively be worth hundreds of billions of dollars is an impressive feat.



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UNDERSTANDING GREEN BONDS

THIS FAIRLY NEW ASSET CLASS
IS GROWING RAPIDLY



By **Debbie Carlson**
Contributor to ETF.com
& ETF Report



The green bond market could soon reach US\$1 trillion in annual issuance volume globally by 2023, as governments, supranational entities and corporations make pledges to reduce carbon or have net-zero carbon emissions by 2050.

That's still a tiny part of the \$100 trillion total global debt, but considering the infrastructure upgrades that must be made to cut greenhouse gases – everything from improving the electrical grid to developing more efficient use of natural resources – the debt markets will play

a key role in financing these projects.

“Green bonds are really well-suited to achieve those goals,” said William Sokol, product manager, ETFs, for VanEck, which issues the **VanEck Green Bond ETF (GRNB)**.

But the market is still relatively new, having launched in 2007, when the World Bank and the European Investment Bank issued AAA investment-grade bonds from multilateral institutions, according to the Climate Bonds Initiative, a global non-profit focused on using debt markets for climate solutions.

Green bonds fit in the larger environmental, social and governance framework, but advisors interested in adding them to client portfolios should understand their differences.

FUNDING ENVIRONMENTAL PROJECTS

Green financing has always existed in some respects, such as when municipalities would issue bonds for stormwater remediation, observes Trenton Allen, managing director and CEO at Sustainable Capital Advisors, which specializes

in sustainable finance, including project finance.

What’s different now is, under the green-bond structure, investors can isolate and track the environmental component of the proceeds’ use, Allen explains, adding that by offering green bonds, issuers might be able to increase their investor base, and perhaps demand for their particular bonds, which may reduce their overall funding costs.

Although the issuer offers additional information about the bonds by explaining proceeds use, Sokol says investors still need to do their standard credit due diligence before buying these.

When green bonds come to market, the Climate Bonds Initiative reviews issuance using a taxonomy it developed based on the latest climate science and research from the Intergovernmental Panel on Climate Change, the International Energy Agency and other experts.

The taxonomy includes a broad list of assets and projects that will help reduce greenhouse gas emissions by 50% by 2030, and will achieve net-zero by 2050. Based on the list, it will designate whether a green bond meets its taxonomy, and its

designation is considered the gold standard for third-party certification.

The group’s taxonomy includes eight categories for green bonds, including energy, water, buildings and waste.

Some green bonds get oversubscribed and have a “greenium” — a green premium, which means their yields are lower than a similar non-green bond. However, TD Securities notes premiums in recent green-bond sales have declined, so this may become less of an issue for income seekers.

HOW GREEN BONDS FIT WITH ESG

Ashley Schulten, head of responsible investing for global fixed income at BlackRock, which offers the **iShares Global Green Bond ETF (BGRN)**, points out that green bonds share some similarities with other ESG-type offerings, but they aren’t interchangeable.

Green bonds focus specifically on the “E” part of ESG. Many sustainably minded investors often consider all three pillars of ESG, so they may avoid buying a green bond from a company that doesn’t consider the social or governance criteria.

ESG investments are subjective, Sokol

notes, and an overall ESG score is based on several data points, while green bonds are solely about proceeds earmarked to a project: “You’re not necessarily looking at ESG scores, or even the broader activities of the issuer.”

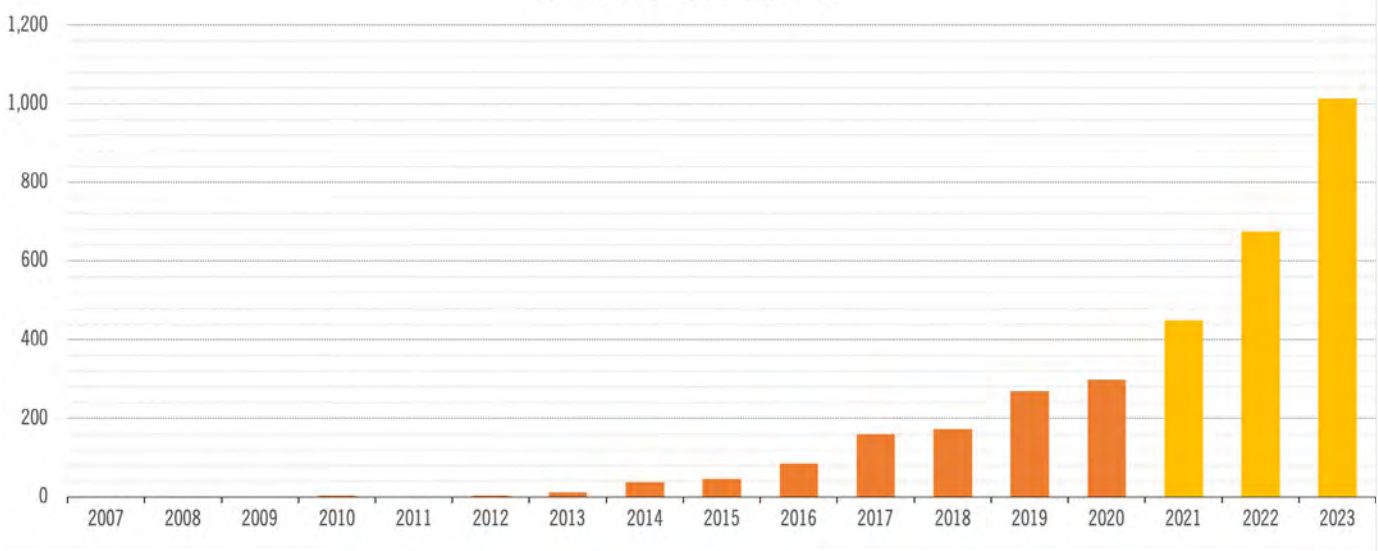
Companies that are just starting to address climate change internally may offer green bonds as a way to fund that transition, Schulten remarks.

“I think those are the most interesting stories in the green space,” she said. “How can we use this funding tool to help companies go through this really rapid restructuring of the types of businesses they do, even if their parent company might not be the chosen child of today’s ESG portfolio?”

Jim Pratt-Heaney, founding partner of Coastal Bridge Advisors, stresses that advisors need to understand the distinction between green bonds and ESG if they’re considering green bonds for their sustainable investors.

“You have to look at the broader picture. For instance, if a project sounds really good, but [the issuer] is horrible to their people, I wouldn’t call that a green bond,” he noted.

Growth of Green Bonds (\$B)



Source: Climate Bonds Initiative

‘There’s a whole spectrum now where you can be dark green or light green’

AVOIDING GREENWASHING

Sustainable investing’s popularity has led to some “greenwashing,” in which issuers sell green bonds that don’t align with carbon reduction. For example, a few years ago, Spanish energy company Repsol issued green bonds to make their oil refineries more energy efficient.

Mark Haefele, chief investment officer, global wealth management, at UBS, reassures investors that greenwashing isn’t widespread, and he expects it to become less of an issue as regulations and external reviews become more prevalent.

To identify greenwashing, UBS verifies whether the issuer is only refinancing existing activities or projects they must implement; is investing mostly in non-green business or aims to maintain existing polluting activities for as long as possible; doesn’t set any ambitious environmental targets on a corporate level; and how much transparency it offers.

BlackRock’s Schulten observes there aren’t huge incentives to greenwash bonds because of the transparency involved in stating bond proceeds. What investors may see are some debates about what can be included as green, such as blue hydrogen, which is made from methane.

“I think there is this agreement that we really need to stay away from fossil fuel upgrades in green bonds, or if they’re extending the life of some of these assets,” she explained. “[Those] have to be decommissioned if we’re actually to have any shot of getting to net zero.”

“Transition” bonds have started to become a small part of the green-bond market. These are bonds of companies that are legitimately transitioning from fossil fuels by aligning with Paris Agreement goals to reduce carbon emissions.

“There’s this whole spectrum now where you can be dark green or light

green,” Sokol said. “Investors can take different views of what they want to invest in.”

VanEck’s green-bond ETF’s methodology doesn’t include transition bonds because, if the bond issuer’s offering doesn’t align with the Climate Bonds Initiative’s definition of green, the firm won’t include it.

“As the green finance market expands, I think there’ll be the ability to differentiate,” he noted. “I guess the question is whether investors want that lighter green transitional [bond]. We’ll have to see.”

EXPANDING THE MARKET

Sustainable Capital Advisors’ Allen expects this market to continue to grow, especially if issuers believe there’s a way to expand their investor base, and he adds that if growth continues, it needs to be met by ever-improving transparency into proceeds’ use and metrics that can quantify outcomes such as the amounts of carbon avoided or energy saved.

“As we start to get comfortable with the longer-term disclosure and performance of these particular assets, how are we going to deem impact and how will we evaluate targets?” he asked.

Schulten believes issuers have also become more comfortable with giving information and understanding what data investors want, which helps bring more credibility to the sector. With the green bond markets expected to reach US\$1 trillion in annual issuance volume in a few years, she says she’d rather see a better market than a bigger market.

“I’m not keen on seeing growth just for growth,” Schulten noted. “If growth is there, because the actual projects are there, then great. But let’s not widen our standards just to incentivize larger AUM numbers.” ●



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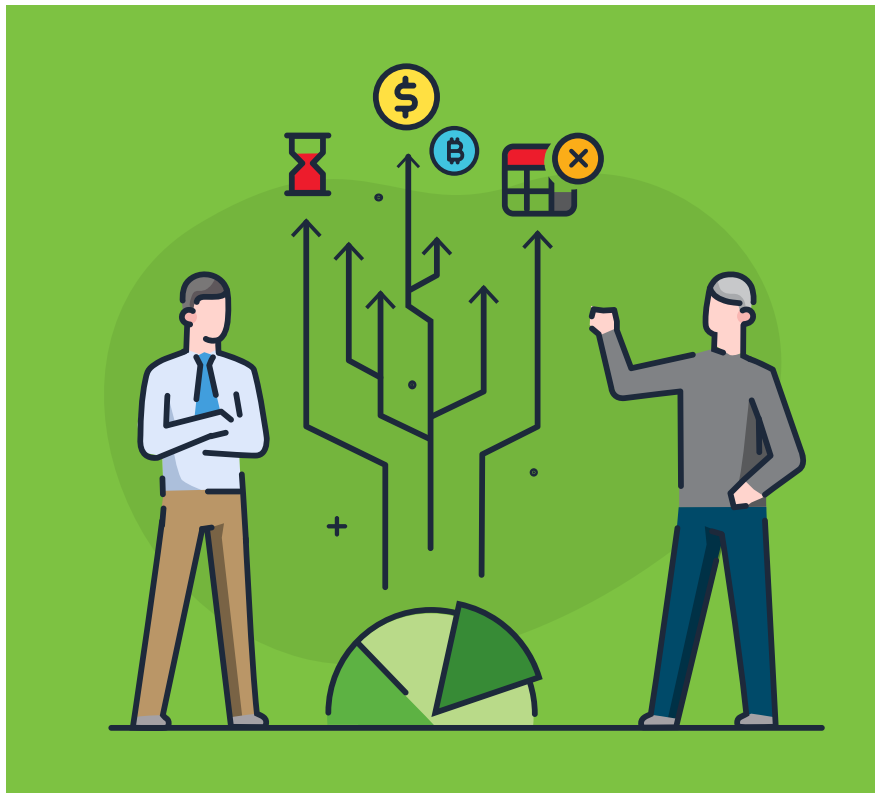
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FIXED INCOME ISN'T ITSELF

A PARADIGM SHIFT
REQUIRES NEW WAYS
OF LOOKING AT AN
ENTIRE ASSET CLASS



By **Debbie Carlson**
Contributor to ETF.com
& ETF Report



Interest rates have been at rock-bottom lows for years, and there's no sign that rates will rise substantially enough to satisfy a fixed income investor's hunger for yield. To feed that appetite, financial advisors need to find alternatives.

But there are risks. Staying in traditional debt markets means accepting lower-to-negative returns for stability, while seeking income in stocks or credit brings different risks. It comes down to what type of risk advisors and investors can accept, market watchers note.

HOW DID WE GET HERE?

Interest rates peaked in 1981, with the U.S. 10-year Treasury note yielding 15.8% that September, and have sloped downward since. As recently as November 2018, benchmark yields topped 3%, and a year later, they were at 1.8%. When the global pandemic happened, rates dropped sub-1% for the first time, falling as low as 0.55% in July. Rates are creeping up, but remain below pre-COVID levels.

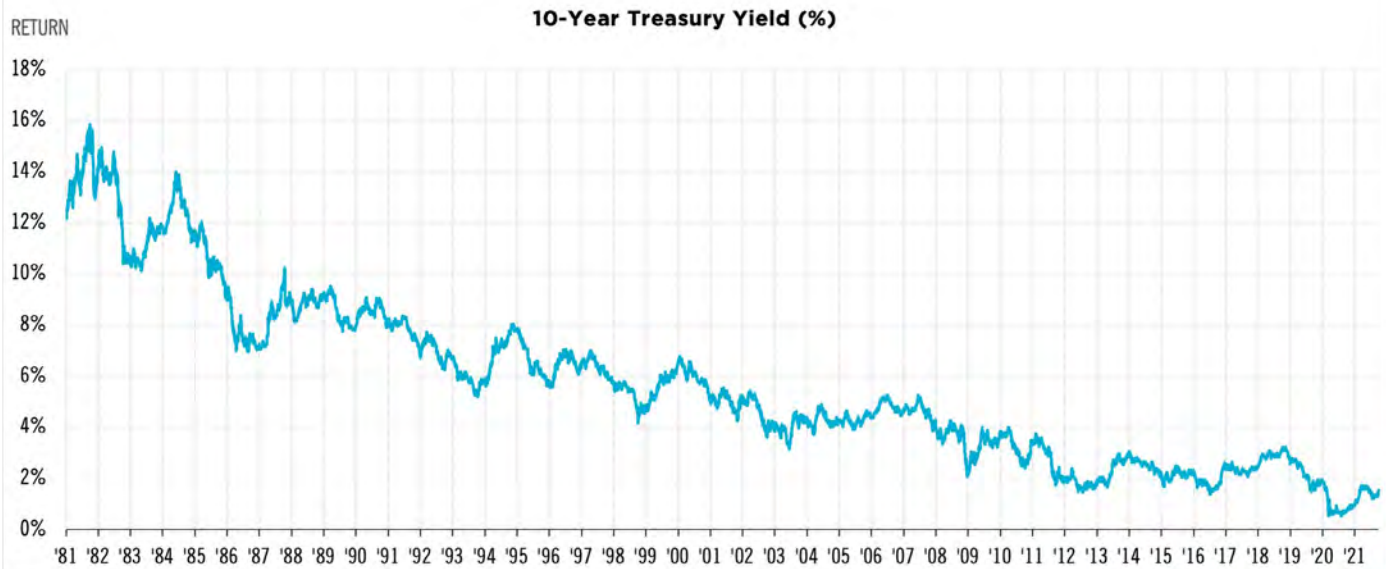
Pat O'Hare, chief market analyst at Briefing.com, says that the pandemic caused a confluence of factors to weigh on rates as buyers snapped up U.S. Treasuries, spooked by global recession worries, and the Federal Reserve bought government and corporate debt to stabilize markets.

Foreign buyers have long sought U.S. debt, appreciating meager yields here versus negative interest rates offered in some of their home markets, he adds. Finally, short-covering – buying back previously sold positions – may be suppressing rates.

O'Hare notes there's a mindset that rates are artificially low, which enticed fixed income short-sellers, particularly in Treasuries. Yet yields continue to fall, triggering short-covering, which further pressures those yields.

All three factors are why rates can be so low, even with an economy showing 6%-plus gross domestic product growth. "That's how we got here," O'Hare observed.

How investors and advisors approach the fixed income market depends on their view on interest rates, O'Hare suggests.



Source: Federal Reserve Bank of St. Louis, 1/1/1981-9/30/2021.

Inflation expectations play a big factor in this, especially with the Consumer Price Index at 5.3% as of August 2021.

Fed Chairman Jay Powell and U.S. Treasury Secretary Janet Yellen have both said that inflation is temporary and should run its course once the U.S. gets through the supply chain bottleneck. If deflation occurs, U.S. Treasuries should still be OK to hold, O'Hare believes.

But he notes some people think rates should rise for a variety of reasons, including the Fed tapering its extraordinary monetary policy, and that inflation may not completely retreat. Even if inflation cools to a 3% annual rate or even meets the Fed's stated 2% target, U.S. 10-year Treasury yields should be higher than the current 1.5% yield, O'Hare posits.

SOLUTIONS

A standard approach for principal protection while addressing inflation concerns is to buy Treasury inflation-protected securities, such as the **iShares TIPS Bond ETF (TIP)**, O'Hare says.

Chris Shea, chief investment officer of WealthSource, still uses some Treasuries,

and reminds clients that fixed income is a ballast against equities in a portfolio, at least from a principal-protection perspective, and advocates that investors consider total return, not just yield. He's also selective about credit and duration, but he admits fixed income isn't easy.

"I wish there was a really good answer," he said. "When you're thinking long-only, liquid solutions, it's challenging."

Some advisors and exchange-traded fund providers are using a variety of strategies to handle low yields, including options strategies designed to offer risk management and income.

Garrett Paoletta, managing director and portfolio manager at Harvest Volatility Management, subadvisor for the **Nationwide Risk-Managed Income ETF (NUSI)**, explains the ETF uses covered calls and puts to create high income while offering protection when stock markets are falling.

The actively managed ETF fully replicates the Nasdaq-100 Index, and each month it sells a Nasdaq-100 call option against that replicated portfolio. The ETF takes a portion of the income generated

from the call to buy an out-of-the-money put. The fund has a managed monthly distribution of 0.65% to ensure consistency for investors, which works out to a 7.8% distribution yield.

ALLOCATION ENHANCEMENT

"It's a net credit collar, so that you always have a degree of income to be distributed to your shareholders through the cash generated from that net credit," Paoletta said, noting most investors are using it as an enhancement to their overall asset allocation.

David Miller, chief investment officer of Strategy Shares, which issues the **Strategy Shares Nasdaq 7 HANDL Index ETF (HANDL)**, designed the ETF as a total portfolio solution for the investor looking for a 7% return or higher.

Half of the ETF is a fixed allocation core portfolio of 30% large cap U.S. equities, and 70% Bloomberg Barclays bond aggregate. The other 50% is allocated to a "Dorsey Wright Explore Portfolio," a tactical allocation that uses a relative strength algorithm to allocate to whatever asset class demonstrates the best relative strength at any given point in

‘All preferred securities aren’t created equal’

time. Those asset classes include U.S. fixed income, U.S. blend, U.S. equity and U.S. alternative assets.

The ETF works as a total portfolio solution, although Miller sees investors slot it into portfolios by reducing part of their equity and fixed income asset allocation, or by reducing their corporate bond exposure.

Lori Van Dusen, founder and CEO of LVW Advisors, sticks with high quality, shorter duration investments since there’s “no substitute” for the safety those offer.

In the past, she’s used the **First Trust Low Duration Opportunities ETF (LMBS)**. The fund holds 90% bonds rated AAA or government-backed debt. It has a 12-month distribution of about 2% with a duration of two months. “It’s not very exciting, but if somebody says, ‘I want to get more income than what I’m getting in cash or bonds,’ it’s potentially a good alternative,” she said.

EXTRA CREDIT

With a relatively good economy and the outlook for rates cloudy, some advisors are taking higher credit risk for their clients who seek income. Senior loans are one way to wade into this part of the market.

John Ingram, chief investment officer at Crestwood Advisors, recommends the **SPDR Blackstone Senior Loan ETF (SRLN)**, noting in December 2020 and in January, his firm increased exposure to floating-rate notes. Historically the firm was wary of credit-risk vehicles such as high yield bonds since they act like stocks in troubled times, but the pandemic changed that.

“We’ve taken on a little bit more credit risk just to get some yield, and also shortened duration. Floating-rate notes have been great in that area,” he said, noting this is more of a tactical view because of the higher risk.

Van Dusen also has used a senior loan ETF, the First Trust Senior Loan Fund (FTSL).

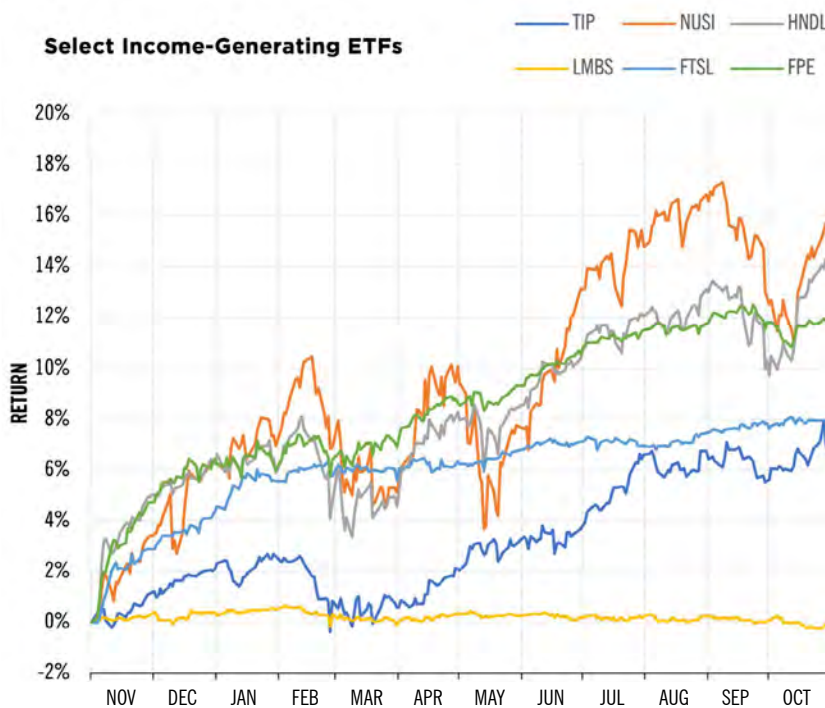
Briefing.com’s O’Hare says firms that issue bank loans may not be in the best financial shape, but those loans are also at the top of the capital structure, and typically they’re collateralized loans. Bank loan ETFs might also benefit from inflation because they’re floating-rate structures.

“It’s another type of inflation hedge that could work well for investors,” he noted.

Van Dusen suggests preferred stocks could be an alternative for fixed income investors, and ETF investors should seek an actively managed fund such as the **First Trust Preferred Securities & Income ETF (FPE)**: “All preferreds aren’t created equal.”

Because FPE invests in preferred securities, its dividends are “qualified,” and therefore taxed at the long-term capital gains rate. These tax savings boost its current 12-month yield to 4.5%, with an average duration of four years.

“That’s a tool for someone who’s looking to get higher income, and not extend a lot of risk,” she said. ●



Source: FactSet, 10/30/2020-10/29/2021.



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With no specific definition, ESG funds run the gamut from broadly diversified to more niche in nature

PINNING DOWN ESG



By Jessica Ferringer
Writer & Analyst for
ETF.com and ETF Report

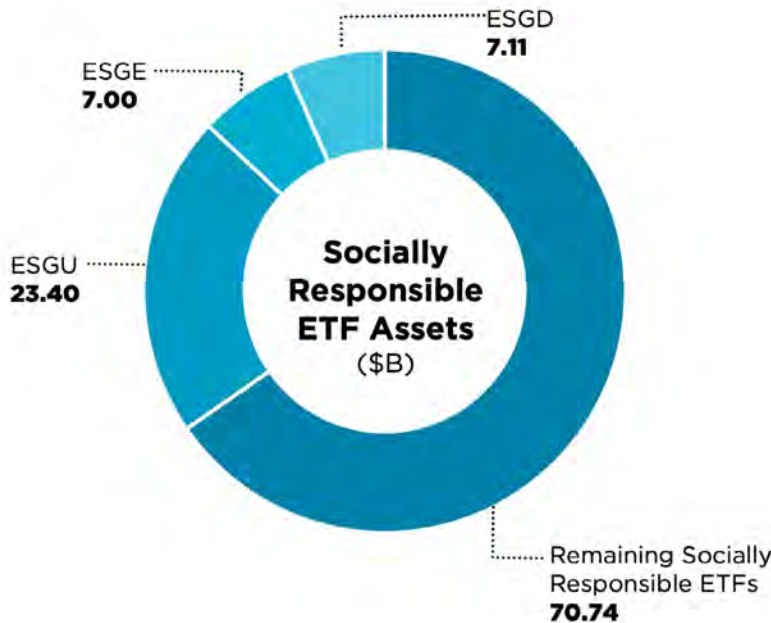
Investments that meet certain environmental, social or governance criteria—otherwise known as ESG or socially responsible investments—have gained interest from investors and issuers alike this year.

The pandemic, extreme weather events and the movement for racial justice have drawn attention to the importance of sustainability and social responsibility. According to data from FactSet, there are now 160 socially responsible ETFs, with assets totaling over \$89 billion.

Yet a glance at the funds that fall under this umbrella reveals a wide range, from the broad-based to the more thematic. Even those that sound alike can differ based on how the issuer or index defines ESG.

Since ESG preferences are personal to every investor, understanding the differences between these funds is essential to ensure the investors' values align with the funds they're selecting. Having a framework to analyze and consider the various





Source: FactSet; data as of 10/29/2021.

types of ESG funds is critical for those who would like to invest within this space.

ISHARES LEADS PACK

Some of the biggest socially responsible ETFs come from iShares and are the issuer’s take on ESG as it pertains to broad domestic equity, international equity and emerging markets. Three ETFs make up 40% of all assets invested in socially responsible ETFs

The largest is the **iShares ESG Aware MSCI USA ETF (ESGU)**, which, at \$22 billion in AUM, is nearly a quarter of all socially responsible ETF assets by itself. The fund has a similar investment universe as that of the **SPDR S&P 500 ETF Trust (SPY)**. According to the prospectus, the index selects and weights companies for positive ESG characteristics.

The **iShares ESG Aware MSCI EAFE ETF (ESGD)** and the **iShares ESG Aware MSCI EM ETF (ESGE)** have similar philosophies applied to international developed and emerging markets, respectively.

ESG FOR EVERYBODY

These three ETFs fall under MSCI’s “ESG Aware” series. Other flavors of ESG offered by the issuer include “ESG Screened” and “ESG Advanced.” The ESG Aware series falls in the middle of the spectrum, seeking exposure to similar risks and returns as broad non-ESG ETFs, while targeting slightly more sustainable companies.

The process uses negative screening, excluding companies such as those that are classified as producers of civilian firearms and tobacco, or others that derive more than 5% of their revenue from oil sands

extraction or the mining of thermal coal.

The benefit of using these basic, negative screens is that most who are interested in ESG investing are likely to agree that companies involved in these activities should be excluded for social or sustainability reasons.

Another benefit of these ETFs is that they’re fairly cheap, ranging from 0.15% to 0.25%. While more expensive than some traditional ETFs offered by iShares, this means that investors can get access to a portfolio that excludes the worst offenders in terms of ESG at a reasonable price.

ENVIRONMENTALLY FRIENDLY ETFs

However, these ETFs are unlikely to satisfy more discerning ESG investors who want a specific set of values to be reflected throughout their portfolio. For that, investors should turn to the wide array of thematic ESG ETFs that are available.

While these ETFs haven’t drawn the same assets as more broad-based diversified ESG funds, they do have more targeted investment mandates that help align the portfolio with specific sustainable or socially responsible criteria.

Many of these ETFs target environmental concerns. Nearly a quarter of the 160 socially responsible ETFs use the words “clean,” “low carbon,” “fossil fuels,” “green” or “climate” in the fund name.

The largest of these ETFs is, once again, an iShares fund. The **iShares Global Clean Energy ETF (ICLN)** invests in global clean energy companies, defined as those involved in the biofuels, ethanol, geothermal, hydroelectric, solar and wind industries.

TRADITIONAL VS. ESG FUND FEE COMPARISON

ASSET CLASS	TRADITIONAL*	ESG
Domestic Equity	IVV 0.03%	ESGU 0.15%
Developed International	IEFA 0.07%	ESGD 0.20%
Emerging Markets	IEMG 0.11%	ESGE 0.25%

*iShares Core S&P 500 ETF (IVV), iShares Core MSCI EAFE ETF (IEFA) and iShares Core MSCI Emerging Markets ETF (IEMG)

What is greenwashing, and what are some examples of it in the ETF space?

With investor and issuer interest in ESG growing, there has also been increased skepticism of just how ESG-aware these ETFs truly are. Some ETFs are even accused of using “greenwashing” practices.

In other words, these funds are being deceptively marketed as more sustainable or ESG-friendly than they actually are. ESG’s fuzzy definition only further complicates the matter.

While many ESG funds are focused on environmental sustainability goals, over 80% of equity ESG ETFs have some exposure to fossil fuel users and producers. This includes those ETFs that have carbon-emissions-related screens in place.

The **iShares ESG Aware MSCI USA ETF (ESGU)**, the largest socially responsible ETF by assets, has nearly as much exposure to the energy sector as the **SPDR S&P 500 ETF Trust (SPY)**. However, as it looks to closely mirror the broad market it represents, that’s not surprising.

Another large ESG fund, the **Vanguard ESG U.S. Stock ETF (ESGV)**, holds several companies in its top holdings that could be deemed problematic from an ESG lens. Many of the top holdings are in line with that of SPY, including Amazon and Facebook.

The National Council on Occupational Safety and Health releases a “Dirty Dozen” list of companies on an annual basis, highlighting companies that put workers and communities at risk. Amazon is a repeat offender, appearing as a finalist on 2019’s list as well as being included as a dishonorable mention in 2020.

For those who prioritize workers’ rights and humane working conditions, Amazon would likely not be a suitable company for their ESG portfolio. Yet it’s included in many broad-based ESG funds since it doesn’t violate the basic exclusionary screens used by such funds.

Facebook has recently come under fire for prioritizing profits over the safety of its users. The company has also been fined in the past by the Federal Trade Commission for its use of deceptive practices regarding its users’ privacy preferences.

While ESG ETFs like these do have some ESG criteria used within their index construction process, they are proof that having “ESG” within the name of the fund doesn’t necessarily mean the companies included within the portfolio have low ESG risk. Investors should be sure to look beyond the name when analyzing just how ESG-aware a fund truly is.

State Street is another large issuer with its own take on environmentally friendly ETFs. The **SPDR S&P 500 Fossil Fuel Reserves Free ETF (SPYX)**, for example, tracks an S&P 500-based index, excluding companies with known fossil fuel reserves.

These two portfolios look significantly different from one another, even though they’re both different versions of an environmentally friendly ETF. And earlier this year, BlackRock rolled out two actively managed ETFs covering companies that are likely to benefit from the transition to a low-carbon economy. The **BlackRock World ex U.S. Carbon Transition Readiness ETF (LCTD)** and the **BlackRock U.S. Carbon Transition Readiness ETF (LCTU)** launched in April, with LCTU ending its first day of trading with \$1.25 billion – the fastest ETF to reach the \$1 billion threshold ever – and LCTD racking up \$586 million. While investors can get more targeted exposure through ETFs like these, there’s still due diligence required to ensure the theme is being expressed in the way the investor prefers.

SOCIAL ISSUES IN FOCUS

Environmental issues are not the only ones ETFs seek to address. Those who care about social issues such as gender diversity and racial equity can also find ways to implement those values within a portfolio through the ETF wrapper.

Here, State Street has an option as well. The **SPDR SSGA Gender Diversity Index ETF (SHE)** is one of the largest socially focused ETFs, with nearly \$300 million in AUM.

This ETF invests in companies that employ women in high-level leadership roles, defined as being on the board of directors or in executive positions at the senior VP level or higher. While this fund has a targeted focus, performance is highly correlated with that of SPY, at an expense ratio of 0.20%.

SPY Vs. SHE



Source: Bloomberg, 10/30/2020-10/29/2021.

GOVERNANCE: NEBULOUS CONCEPT

While the “E” and “S” are well-represented in the ETF space, there are very few ETFs that strictly consider corporate governance. Corporate governance metrics are a factor in many ESG funds, and some ETFs like SHE straddle the line between being a social or corporate governance fund. But very few governance-focused ETFs exist.

The **WisdomTree Emerging Markets ex-State-Owned Enterprises Fund (XSOE)** is an example of an ETF that might be as close to a governance pure-play as possible. This ETF tracks an index of emerging market companies, excluding state-owned enterprises. Another option might be the **Global X Founder-Run Companies ETF (BOSS)**.

However, just because a fund has strong corporate governance does not mean it scores well on environmental or social measures. As the concept of what makes good governance is so nebulous, it’s often a secondary factor in ESG ETFs.

FAITH-BASED FUNDS

Those who want to align their portfolio with specific religious principles are in luck

too. Inspire is one of the most prolific issuers in this space, offering eight faith-based ETFs aimed at conservative Christians.

Inspire’s largest ETF is the **Inspire 100 ETF (BIBL)**, which has \$266 million in AUM and holds U.S. large cap stocks that align with the index provider’s definition of biblical values and positive impact on the world. The methodology excludes companies with any degree of participation in activities such as abortion, gambling, alcohol, tobacco, pornography, support of the LGBT community or rights violations.

Other religious beliefs have options as well. The **Global X S&P 500 Catholic Values ETF (CATH)** and the **Wahed FTSE USA Shariah ETF (HLAL)** track cap-weighted indices of U.S. equities selected based on Catholic and Muslim beliefs, respectively, but there is only about 35% overlap between the two portfolios.

Fixed income ETFs can also be in the ESG bucket. While fixed income ETF options are less numerous than their equity counterparts, options here range from the **iShares ESG Aware U.S. Aggregate Bond ETF (EAGG)** to ETFs that spe-

cifically invest in “green bonds” that fund climate-related or environmental projects.

ESG EVOLVING

While these ETFs encompass some of the major themes seen in the ESG ETF market, this space is continually evolving. Of the 160 current U.S.-listed ETFs, 31 have launched this year alone.

And while ESG’s fuzzy definition lends itself to hurdles such as “greenwashing,” the increased scrutiny brought on by the growth of investor interest and asset flow could bring greater regulation to the space. Such efforts are already happening in Europe with the EU’s Sustainable Finance Disclosure Regulation.

For now, ESG investors should decide whether broadly diversified ESG funds meet their needs or if a more thematic approach is necessary. Some might even choose to incorporate both into their portfolio.

Due to a lack of specificity regarding the meaning of ESG, selecting ETFs means investors shouldn’t just opt for a fund with the acronym in the name. Further research is required. ●

SEVERE WEATHER POSES ETF SECTOR RISKS

CLIMATE CHANGE IS INTENSIFYING WILDFIRES AND HURRICANES, THREATENING PEOPLE AND PORTFOLIOS



By Dan Mika

Writer & Analyst for
ETF.com and ETF Report

Climate change is here, and it's already wreaking billions of dollars' worth of damage.

The National Oceanic and Atmospheric Administration estimates that severe weather events in 2021 so far have generated an inflation-adjusted **\$104.8 billion** in damage, and that isn't including the ongoing droughts and wildfires in the Western portion of the country.

While these disasters aren't directly generated by human-driven climate change, a hotter world means drier forests prone to burning out of control, and warmer sea water that can intensify tropical storms and ultimately cause more damage to life and property.

Swiss Re, the second-largest reinsurer in the world, estimated in April that 11-14% of global gross domestic product is at risk if the world's temperature rises past 2 degrees Celsius by midcentury compared with pre-industrial levels. That doesn't even encompass the political instability and human suffering that would come from droughts, crop failures, deadly heat waves and mass migration out of environments newly inhospitable to people.

So what – if anything – can investors do to prepare for a crisis that at minimum will be highly damaging to the economy

as we know it today, and potentially catastrophic if it can't be solved?

Derek Lemoine, a professor of economics at the University of Arizona who has a doctorate in energy and resource studies, says it's difficult to quantify the current and future costs of climate change on the economy because there's no direct historical analog with which to compare a modern economy operating in an abnormally hot climate.

However, he expects the interconnected nature of the global economy will cause severe weather events to generate knock-on effects across the world in a way that's hard to defend against in a portfolio.

"It does seem like it's really hard to escape any exposure by focusing on certain sectors," he said.

CLIMATE CHANGE HITTING INSURANCE

The shift in the climate is also forcing fundamental shifts to what the business world has taken for granted for decades.

Take the insurance industry, which faces the prospect of more loss events in the wake of climate-driven weather events like hurricanes and wildfires. More people and more property will congregate on a smaller amount of land around the world as rising oceans make coastal communities uninhabitable or too expensive to insure.

Lynne McChristian, director of the Office of Risk Management & Insurance Research at the University of Illinois Gies College of Business, said insurers are having to balance pressure both from regulators to be able to cover claims and from the rising risk of costlier weather events cutting into profitability.

That may mean the cost to build homes in wildfire or hurricane-prone areas can rise due to the higher premiums demanded to cover that property, with the knock-on effects rippling into other industries like construction and real estate.

These trends are here to stay, as the Intergovernmental Panel on Climate Change's latest report estimates it would take anywhere between several decades and several thousands of years to reverse

temperature increases caused by carbon emissions.

And damage from weather events themselves is setting up a vicious cycle. McChristian notes that wildfires burning available timber can reduce the amount of wood available to rebuild, and COVID-19's effects on the global supply chain have disrupted the flow of key materials needed to rebuild property damaged by a severe weather event.

"What the insurance companies are doing—whether they're mutuals or whether they're stock companies—is trying to tell people they need to pay more attention to their vulnerability, and the costs are going to change," she said.

RISK ACROSS ALL SECTORS

Derek Horstmeyer, a finance professor at George Mason University, said investors will need to demand better risk management from companies they hold. He points to Pacific Gas & Electric, a California utility that went bankrupt after fire officials determined its lapses in safety measures led to several wildfires, including the 2018 Camp Fire that burned 153,000 acres, destroyed 18,800 structures and killed 85.

The company's stock was trading north of \$70 per share in late 2017, but has traded around \$10 per share since the start of 2020, after a sharp series of declines in late 2018 and early 2019. Horstmeyer notes that risk of share prices tanking will drive more volatility after several years of recovery from the 2008 financial crisis, and that volatility is likely to be spread unevenly across sectors.

For example, the real estate sector faces obvious risk regarding buildings being susceptible to severe weather damage. But if an affected building happens to host a server for a major technology company, it could easily disrupt services for a sector that isn't thought of as carrying much climate risk.

"Maybe our notions of what are safe ETFs, safe sector ETFs, might change," he posited. "Not so much in volatility, but maybe in crash risk."

RACING TOWARD 2030

The Intergovernmental Panel on Climate Change's latest report estimates that the world will breach the 1.5 degree Celsius of average warming from pre-industrial levels sometime within the decade unless severe decarbonization happens across every industry.

That poses a quandary in the finance world, where companies are incentivized to put quarterly results and shareholder value ahead of spending capital to mitigate emissions or build resistance to adverse weather events.

Horstmeyer said novel ideas like a special dividend that kicks in after a shareholder holds their position over five years could reduce short-term pressures for financial performance. However, he sees an opportunity for climate-minded activist investors to put pressure on heavy emitters or companies seen as unprepared

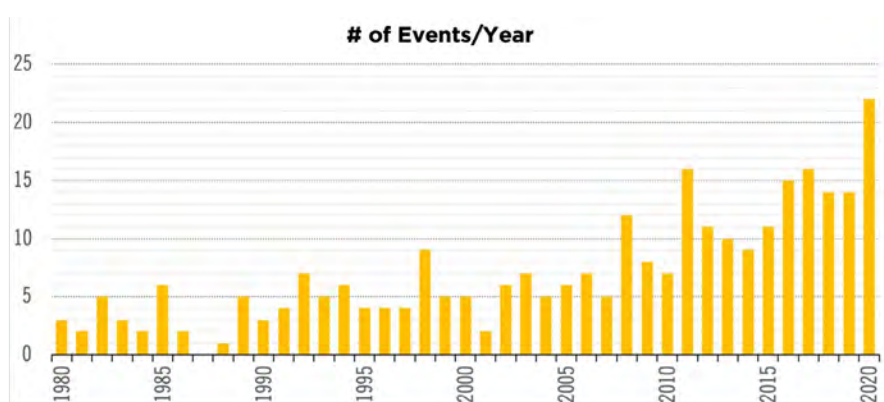
because the cost of borrowing capital for a campaign is extremely low right now.

"Having activist investors target companies to hopefully change these things, to get these things in line, will add value to a company if they don't have good protocols in place," he explained.

But UofA's Lemoine said there's reason for hope. He points to the plummeting price of solar panels, commitments from automakers toward phasing out internal combustion-powered cars and carbon-capture technologies as promising ways to avoid a worst-case climate scenario.

While those technologies aren't magic and their initial costs would be high, he argues that widespread adoption of zero-carbon technologies at scale will drop the price burden.

"There are ways to deal with the problem that I think don't warrant just sticking heads in the sand," he said. ●



Source: National Centers For Environmental Information.

WHAT INFLATION MEANS FOR BOND ETFs

WITH INFLATION RUNNING AT A THREE-DECADE HIGH, SHOULD BOND INVESTORS BE CONCERNED?

According to the latest reading of consumer prices in the U.S., inflation hasn't been this hot since the early-1990s. The core Consumer Price Index (CPI) for September 2021 registered growth of 4% year-over-year, down from the previous month's 4.5% print, but still double the Fed's 2% inflation target.

The core CPI measure strips out food and energy prices, but if you leave those in, inflation is running even hotter – 5.4% as of September.

Consumers are feeling the pinch. Everything from home prices to car prices to food prices has been surging, and many are starting to worry that the U.S. could be entering a sustained period of higher inflation.

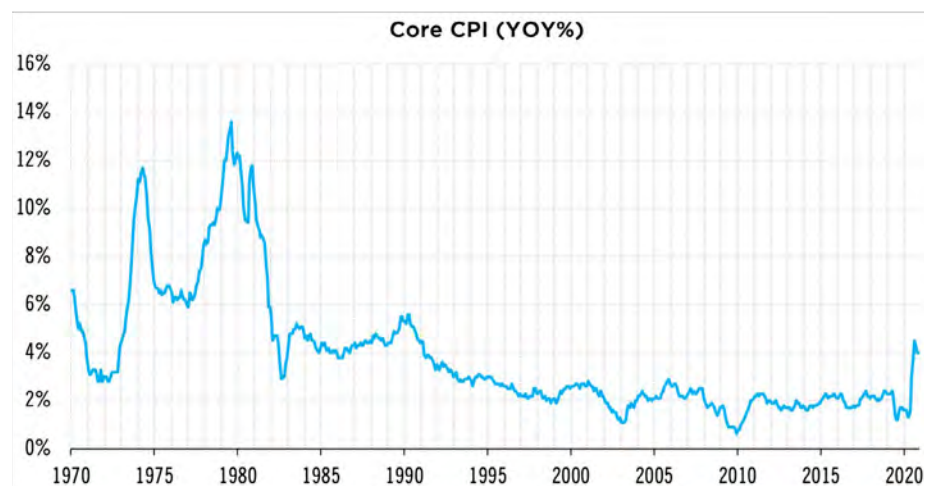
If that's the case, bond ETFs could take a hit ... but that's only one possible scenario. There's still the potential for a much more benign future in which inflation cools down significantly from here.

TRANSITORY CAMP

Those who foresee this more optimistic course for inflation – a group that includes the Federal Reserve – argue that high inflation is merely transitory, the consequence of massive one-off economic stimulus, a post-pandemic reopening of the economy, and base effects (unusually low inflation last year).

Regarding the latter, the core CPI only increased by 1.7% year-over-year in September 2020, when the economy was still very much at the mercy of COVID trends. Comparing prices this year to last year's depressed levels makes inflation seem hotter than it would be under more normal circumstances.

Additionally, the \$5 trillion of fiscal stimulus unleashed due to COVID – including hundreds of billions of dollars' worth of direct cash payments to taxpayers – is obviously not something that will be repeated on an ongoing basis.



Source: Bloomberg, 11/30/1970-9/30/2021.



By Sumit Roy
 Writer & Analyst for
 ETF.com and ETF Report

Likewise, the immediate post-pandemic period, when a colossal amount of pent-up demand was released all at once, is a one-time situation. It's this third factor that's driven severe supply constraints and logistics bottlenecks across the world, and it may be the biggest driver of inflation today.

As Fed Chair Powell recently said: "The process of reopening the economy is unprecedented, as was the shutdown at the onset of the pandemic. As the reopening continues, bottlenecks, hiring difficulties, and other constraints could again prove to be greater and longer lasting than anticipated, posing upside risks to inflation."

However, he added: "While these supply effects are prominent for now, they will abate, and as they do, inflation is expected to drop back toward [the Fed's] longer-run goal."

DEFLATIONARY TRENDS

Powell and the Fed expect inflation to average 2.2% in 2022, down from 4.2% this year. If that's the case, the "inflation is transitory" camp will have won out, putting inflation back on a much more subdued path, in line with what the economy saw during the decade after the financial crisis.

In the period between the end of 2009 and the end of 2019, inflation only averaged 1.8%, while interest rates lurched ever lower.

The great savings glut, an aging of the population and deflationary technological trends were factors driving inflation and rates downward during that period. If those secular trends reassert themselves, today's high levels of inflation won't last long.

On the other hand, if something has truly changed post-COVID—say, sustained, higher levels of fiscal spending—perhaps inflation could linger at more elevated levels than before. The economy only has a certain amount of productive capacity. If there's more demand than supply, higher prices will result.

RISKS TO BOND ETFs

Nowhere would the risk of high inflation manifest itself more clearly than in the



Source: Bloomberg, 11/2/2011-11/2/2021.

bond market. Bond investors are hypersensitive to vagaries in the inflation rate, as inflation matters a great deal regarding what "real" (inflation-adjusted) return those investors receive.

Higher-than-expected inflation could spark a sell-off in bonds, particularly in bonds with longer maturities that are more sensitive to changes in interest rates (bond prices and yields move inversely). The **iShares 20+ Year Treasury Bond ETF (TLT)** dropped 5.9% this year, as long-term rates climbed off their record lows of 2020.

The **iShares 7-10 Year Treasury Bond ETF (IEF)**, which hews closely to the all-important 10-year Treasury bond, has fallen 3.9% on a year-to-date basis.

If inflation surprises to the upside, these ETFs will likely take a hit. Conversely, they could also rally if the long-term disinflationary trend that was evident prepandemic reasserts itself.

CREDIT SPREADS & CORPORATE BONDS

Corporate bond ETFs, like the **iShares iBoxx USD Investment Grade Corporate Bond ETF (LQD)** and the **iShares iBoxx USD High Yield Corporate Bond ETF (HYG)**, face a somewhat different dynamic than Treasuries. Interest rates matter for them, of course, but so do credit spreads—or the additional yield that investors demand for taking on credit risk.

As the economy has boomed and corporations find themselves flush with cash, credit spreads have narrowed to all-time-low levels, offsetting some of the negative pressure from rising rates. LQD is down 1.9% on a year-to-date basis, but HYG has risen by 2.5%.

DEBATE RAGES ON

With the Fed set to begin unwinding its massive stimulus programs in the coming months, all eyes will be on the inflation data. The trajectory for consumer prices will have ramifications for how quickly or slowly the central bank tightens its monetary spigots, shifting interest rates in the process.

Recently, just the hint of the Fed tapering its bond purchases in the coming months was enough to push rates all over the place.

Since the start of the year, the 30-year Treasury bond yield, which is sensitive to inflation expectations, edged up from 1.64% to 1.97%, while the two-year Treasury yield, which is driven more by the Fed's policy rate, surged from 0.12% to 0.51%, its highest point in a year and a half.

This flattening of the yield curve is a win of the "inflation is transitory" camp, though the inflation debate is far from over. ●

Harbor Capital: Accessing Income With Science

The ETF issuer offers investors a compelling angle on fixed income investing



Steve Cook
Managing Director & Head of ETFs
Harbor Capital

Steve Cook, managing director and head of ETFs at Harbor Capital, explains scientific fixed income investing, how it may help investors achieve their income investing goals, and ways to access the approach with Harbor Scientific Alpha ETFs.

Tell us about scientific fixed income investing. What are the potential benefits to investors?

The scientific method has been the primary means of solving hard problems for over 400 years. In a scientific light, investing is data-driven decision-making in the face of uncertainty. We believe that this challenge can be robustly met with the application of a scientific investment process.

At its essence, scientific fixed income investing stipulates that its investment process is grounded in the scientific method and subject to continual refinement.

What does this mean? It means that the investment process engages in each aspect of the scientific method—systematic observation, gathering of information, formulation of hypotheses, experimentation, drawing conclusions, and the continual modification of hypotheses.

We recently launched our first two ETFs at Harbor. Each is managed by BlueCove, who are seasoned professionals in scientific fixed income portfolio management.

Using this scientific process is obviously a distinctly different approach than what

Scientific Method

- Mitigates cognitive and behavioral biases
- Improves transparency and lowers costs
- Optimizes portfolio construction



- People build the investment process
- People validate it
- People drive continuous improvement

Systematic observation	Intuit market relationships
Gathering of information	Gather data from multiple sources
Formulation of hypotheses	Analyse data
Experimentation	Test intuition
Drawing conclusions	Implement investment conclusions
Modification of hypotheses	Learn, refine and repeat



Trusted Partnerships > Trusted Solutions

BlueCove's Business Model Is Custom-Built for Scientific Investing



many investors would consider traditional discretionary active, or index investing in fixed income, and has exhibited multiple outcome benefits for investors, including:

- Has the potential to offer low correlations to traditional discretionary strategies while removing unwanted market exposures
- Can potentially improve returns by mitigating cognitive and behavioral biases that can compromise traditional discretionary investment strategies via the application of tested market insights across a large set of instruments and markets
- Harnesses large datasets to help create innovative sources of alpha
- Applies modern portfolio construction techniques by targeting consistent risk-adjusted returns while mitigating transactions costs
- Adapts to changes in market behavior by transparently attributing performance

You mentioned BlueCove is the investment manager of your Scientific Fixed Income ETFs. Why was BlueCove the right fit?

It's important to share that sourcing specialized investment talent is at Harbor's core. BlueCove stands out as a firm that is solely dedicated to scientific fixed income investment management.

The firm was founded in 2018, and brings together leading fixed income industry investment and engineering professionals with expertise and a collective passion for scientific investment management.

BlueCove is focused on researching and developing state-of-the-art scientific investment processes applicable to fixed income investment management. Their mission is to create market-leading scientific fixed income investment solutions designed to give investors both an alternative and a complement to the index-based and traditional active discretionary fixed income strategies that dominate the industry today.

More specifically, their approach to the management of fixed income aims to strip the traditional investment process of its weaknesses. It is thus reduced to its component parts—universe definition, data sourcing, alpha sourcing, portfolio construction, trade execution and process review—which are then reassembled, with people and technology assigned the roles to which BlueCove feels they are best suited.

BlueCove uses a firm-level investment process in which human discretion is principally focused on process design and improvement and directed away from areas

in which it is relatively weak, such as subjective forecasting.

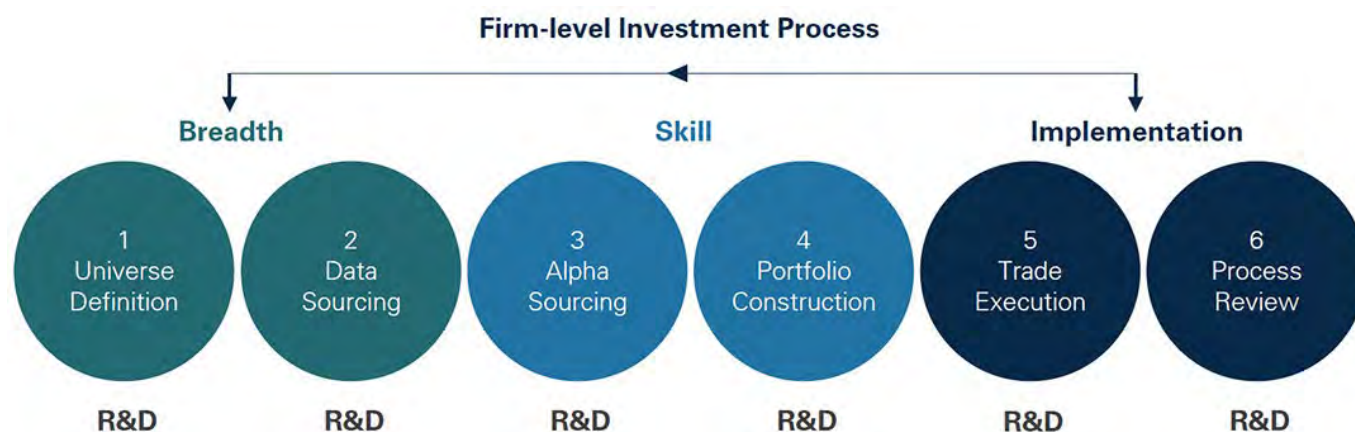
When BlueCove's capabilities are coupled with its scientific investment process, the firm is able to create innovative and powerful active investment solutions. It is this combination, joined with the added potential benefits of the ETF structure, that we feel makes our new ETFs so compelling.

Tell us more about your new ETF offerings, SIFI and SIHY. Why these strategies, and why was now the right time to launch these ETFs?

Historically, fixed income investors have had two choices: traditional active discretionary investing or index investing. We believe that scientific active fixed income investing provides a compelling third choice to investors looking to achieve alpha potential plus income, a particularly welcome choice in today's low yield environment.

The Harbor Scientific Alpha Income ETF (SIFI) seeks to provide income and total return to investors with a lower volatility than investing solely in the high yield market. The Harbor Scientific Alpha High-Yield ETF (SIHY) seeks to outperform a broad USD high yield index while also delivering high-yielding income to investors.

Both are active strategies that we believe have a place in investor and allocator portfolios in all market conditions. We believe investors will welcome the potential



for diversifying their core allocations with new sources of high quality returns versus similarly themed traditionally active or index products.

Ultimately, SIFI and SIHY offer cost-efficient solutions to gaining access to differentiated, actively managed and scientifically driven fixed income exposure in the U.S. multisector and high yield bond categories.

This is a challenging market environment for income-seeking investors. How may scientific fixed income and your ETFs benefit investors?

Scientific investing is characterized by higher instrument liquidity, broad portfolio diversification, and a transparent portfolio construction framework that takes into account transaction costs, risk and liquidity considerations.

In the current environment, many income-seeking investors are looking to diversify their exposures through differentiated strategies.

BlueCove's proprietary investment process is designed to deliver multiple potential outcome benefits to a portfolio, such as enhanced alpha, increased diversification, reduced risk potential, plus income generation. Because of this, both SIFI and SIHY may be impactful solutions for many investors in the current environment.

About Harbor

Harbor offers a diverse family of cost-aware investment solutions managed by institutional-caliber firms. We source talented investment teams to manage portfolios and apply a rigorous fiduciary oversight program to monitor their performance and investment decisions. Harbor had combined assets under management of approximately \$63 billion as of September 30, 2021. For more information, visit harborcapital.com.

BEFORE INVESTING YOU SHOULD CAREFULLY CONSIDER A FUND'S INVESTMENT OBJECTIVES, RISKS, CHARGES, AND EXPENSES. THIS AND OTHER INFORMATION IS IN THE PROSPECTUS. PLEASE READ THE PROSPECTUS CAREFULLY BEFORE YOU INVEST. FOR PROSPECTUS OR SUMMARY PROSPECTUS WITH THIS AND OTHER INFORMATION ABOUT THE FUND, PLEASE VISIT OUR WEBSITE AT WWW.HARBORCAPITAL.COM.

All investments involve risk including the possible loss of principal. Fixed income securities fluctuate in price in response to various factors, including changes in interest rates, changes in market conditions and issuer-specific events, and the value of your investment in the Fund may go down. There is a greater risk that the Funds will lose money because they invest in below investment-grade fixed income securities and unrated securities of similar credit quality (commonly referred to as "high-yield securities" or "junk bonds"). These securities are considered speculative because they have a higher risk of issuer default, are subject to greater price volatility, and may be illiquid. Because the Funds may invest in securities of foreign issuers, an investment in the Funds is subject to special risks in addition to those of U.S. securities. These risks include heightened political and economic risks, greater volatility, currency fluctuations, higher transaction costs, delayed settlement, possible foreign controls on investment, possible sanctions by government bodies of other countries and less stringent investor protection and disclosure standards of foreign markets.

Unlike mutual funds, ETFs may trade at a premium or discount to their net asset value. The ETFs are new and have limited operating history to judge.

Forside Fund Services, LLC is the Distributor of the Harbor Scientific Alpha High-Yield ETF and the Harbor Scientific Alpha Income ETF.

BlueCove Limited is a third-party subadviser to the Harbor Scientific Alpha Income ETF and the Harbor Scientific Alpha High-Yield ETF.

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Recapping ETF.com's recent webinar featuring a lively discussion among bitcoin and crypto ETF experts



By Sumit Roy
Writer & Analyst for
ETF.com and ETF Report

CRYPTO ETFs UNPACKED

ETF.com's webinar "Unpacking The Crypto ETF Dilemma" was a fast-paced, insightful rundown of the crypto ETF space, with plenty of broader crypto-related nuggets of information thrown in as well.

The panel—which consisted of Bitwise's Matt Hougan, Ric Edelman of the Digital Assets Council of Financial Professionals and CME Group's Tim McCourt— was broadly in agreement that the recent launch of bitcoin futures ETFs was a significant step toward bringing the new crypto asset class to mainstream investors.

"We should applaud the SEC for approving the first bitcoin futures ETFs," said Matt Hougan, chief investment officer of Bitwise. He noted that the crypto industry wasn't mature enough to support an ETF back in 2013, when the first bitcoin ETF attempted to come to market, but it is now.

"Over the past eight years, the crypto industry has matured incredibly. There were a large number of regulated insured custodians in the market; we've seen [the CME Group] bring regulated bitcoin futures to the market; and billions of dollars of bitcoin trade per day at pennywide spreads. We've emerged into a truly institutional ecosystem," he noted.

FLOURISHING FUTURES MARKET

Of course, the latest batch of bitcoin futures ETFs wouldn't have been possible without the growth and success of the underlying bitcoin futures market. Tim McCourt, managing director and global head of equity

products at CME Group, explained how his firm's futures contracts work and why they've been so popular.

"The bitcoin futures are financially settled, which makes it easy for market participants who are already trading futures contracts to make that leap into trading crypto derivatives. It works the same way e-mini S&P 500 futures or micro Nasdaq futures work," he said.

McCourt noted that there's a wide range of market participants who use the contracts: "We have active individual traders, we have institutions, we have asset managers, hedge funds and crypto firms."

"The contract has grown up a lot and emulates a lot of the characteristics and benefits that futures contracts provide in other asset classes. You have commercial end users, you have professional trading firms, you have liquidity providers, you have hedgers, you have people who are being a little bit more opportunistic about their trading," he added.

"It's that diversity of personalities that really enable efficient, two-way price discovery and offers all of this in a regulated futures market in the U.S. It's enabling some of the product innovations that we're seeing such as ETFs and other structured products around the globe," McCourt continued.

A BETTER ETF

As excited as Hougan is about bitcoin futures and bitcoin futures ETFs, his firm, Bitwise, is focused on another type of product.

BITCOIN PRICE



Source: Bloomberg, 11/18/2018-11/17/2021.

Bitwise had previously filed for a bitcoin futures ETF, but it recently withdrew the application. Instead, the fund manager is now focused on bringing a spot bitcoin ETF to market, a product that Hougan says is superior.

"For long-term investors, a spot-based ETF is a better solution. Futures-based ETFs are a valid and important product, particularly for short-term traders, but they face a number of significant challenges, including that the bitcoin futures market has historically traded in contango, and that contango has represented a 5-10% annualized head wind," he explained.

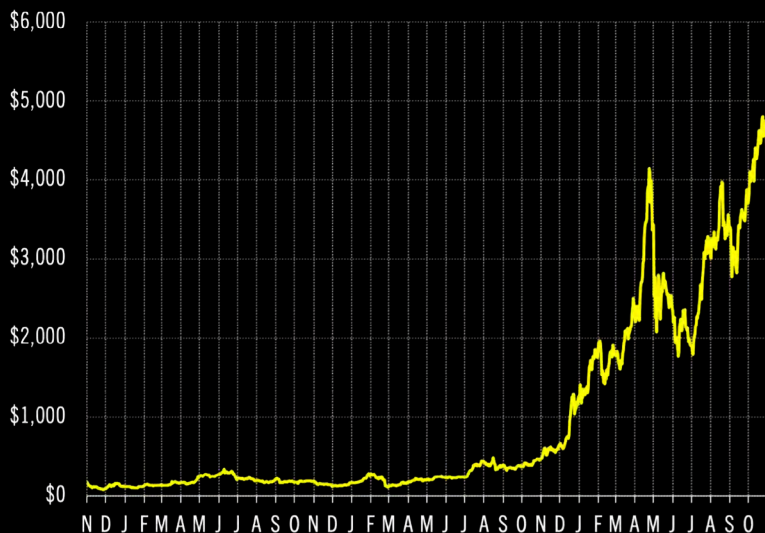
"I do think we'll get a spot-based ETF much sooner than many people anticipate. I think we're closer than we've ever been, and I feel relatively certain that it won't be three years until we get a spot-based ETF; it's going to happen sooner than that," Hougan added.

ADVISORS NEED TO CONSIDER CRYPTO

Ric Edelman, founder of the Digital Assets Council of Financial Professionals and a financial advisor with more than 30 years of experience, agreed with Hougan's prediction for a spot bitcoin ETF.

"We'll eventually get there, but in the meantime, the price has been continuing to rise," he said. "So, the question for investment advisors is, how long are you going to wait?"

Ethereum Price



Source: Bloomberg, 11/18/2018-11/17/2021.

Most advisors are still not investing in bitcoin and crypto, which, according to Edelman, is a problem.

"It doesn't matter whether you like bitcoin or not. Take a look at your diversified portfolios today. You already have assets in your portfolio you don't like. But you have them there anyway because you recognize the importance of broad-based diversification," he said.

"Bitcoin has proved itself as an asset that's additive to your effort to provide your clients with improved returns and lower risks. That's all there is to it," Edelman noted.

He added that there are many financial products offering exposure to crypto that advisors and investors can use in portfolios. In addition to bitcoin futures ETFs, he pointed out that there are ETFs of crypto-related companies and OTC-traded index funds from firms like Bitwise that are easily accessible.

MERITS OF ETHEREUM

The panel was particularly bullish on the prospects for Ethereum and some of the other smart contract platforms. While bitcoin has greater name recognition and holds the "store of value" crown within the crypto space, Ethereum is fundamentally rewiring how big parts of the world work, they said.

"If you're an investor in the crypto space, and your thesis isn't specific to wanting a nonsovereign store of value as a hedge against runaway inflation," you need more than just bitcoin, explained Bitwise's Hougan.

"If you're making a bet on the idea that programmable money is going to be a big thing; if you're making a bet on the idea that digital property rights are going to be a big thing; if you're making a bet on the idea that Web 3 is going to be a big thing, then you need exposure to these other more powerful, more flexible blockchains, like Ethereum and Solana," he added.

Hougan suggested taking a look at the Bitwise 10 Crypto Index Fund (BITW), the world's first crypto index fund, which is available both as private placement and an OTC-traded product.

*The above summary is a brief overview of all the topics covered in the webinar. Hougan, Edelman and McCourt also answered myriad audience questions pertaining to everything from the energy efficiency of various blockchains to the merits of investing in crypto-related companies versus cryptoassets directly. **Check out the full webinar on ETF.com.***



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ETF DATA

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

- Data as of 10/31/2021
- 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 \$177 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	311.4	42.20	22.40	18.68
Invesco BuyBack Achievers	PKW	0.64	1,810.0	29.23	19.37	16.50
iShares ESG MSCI USA Leaders	SUSL	0.10	4,221.3	28.27	-	-
Xtrackers MSCI USA ESG Leaders Equity	USSG	0.10	4,096.6	28.27	-	-
iShares MSCI KLD 400 Social	DSI	0.25	3,816.7	28.13	24.43	20.03
Vident Core US Equity	VUSE	0.48	437.1	28.04	13.50	12.87
VictoryShares USAA MSCI USA Val Mom	ULVM	0.20	372.6	27.48	13.27	-
Schwab Fundamental US Broad Market	FNDB	0.25	397.6	27.05	17.67	15.77
iShares MSCI USA ESG Select	SUSA	0.25	4,079.5	26.51	24.88	20.33
Avantis US Equity	AVUS	0.15	1,648.2	25.35	-	-
IQ Candriam ESG US Equity	IQSU	0.09	479.6	25.03	-	-
FlexShares Mstar US Market Factor Tilt	TILT	0.25	1,725.7	24.64	19.44	17.07
TrimTabs US Free Cash Flow Quality	TTAC	0.59	208.6	24.62	18.98	18.98
FlexShares STOXX US ESG Select	ESG	0.32	191.1	24.44	22.09	19.55
SPDR Portfolio S&P 1500 Composite	SPTM	0.03	5,772.9	24.00	21.17	18.60
American Century STOXX US Qual Growth	QGRO	0.29	242.9	23.76	29.80	-
iShares ESG Advanced MSCI USA	USXF	0.10	485.4	23.74	-	-
iShares MSCI USA Equal Weighted	EUSA	0.09	495.6	23.60	19.50	16.47
iShares ESG Aware MSCI USA	ESGU	0.15	23,552.4	23.59	22.75	-
Goldman Sachs MarketBeta US Equity	GSUS	0.07	444.5	23.54	-	-
iShares MSCI USA Quality Factor	QUAL	0.15	24,131.7	23.38	21.33	18.56
JPMorgan BetaBuilders US Equity	BBUS	0.02	781.1	23.27	-	-
iShares Dow Jones US	IYY	0.20	1,789.4	23.16	21.51	18.73
Invesco PureBeta MSCI USA	PBUS	0.04	2,544.8	23.08	22.03	-
Vanguard ESG US Stock	ESGV	0.12	5,769.1	23.07	24.18	-
Schwab US Broad Market	SCHB	0.03	23,161.1	23.01	21.63	18.89
iShares MSCI USA Size Factor	SIZE	0.15	642.9	22.90	19.49	16.68
Vanguard Total Stock Market	VTI	0.03	282,562.1	22.88	21.66	18.93
iShares Core S&P Total US Stock Market	ITOT	0.03	44,978.6	22.85	21.52	18.86
iShares Russell 3000	IIVW	0.20	12,452.7	22.66	21.39	18.70
Global X Conscious Companies	KRMA	0.43	741.8	22.66	20.78	18.64
Innovator IBD 50	FFTY	0.80	272.4	22.66	17.20	17.94
Dimensional US Core Equity Market	DFAU	0.12	1,326.1	22.64	-	-
Vanguard Russell 3000	VTHR	0.10	1,187.7	22.62	21.46	18.77
Vanguard US Momentum Factor	VFMO	0.13	186.0	22.56	22.14	-
VanEck Morningstar Wide Moat	MOAT	0.47	6,987.3	22.55	21.80	19.59
Motley Fool 100	TMFC	0.50	548.4	22.28	28.95	-
AI Powered Equity	AIEQ	0.80	247.6	22.05	21.77	-
SPDR MSCI USA StrategicFactors	QUS	0.15	1,011.8	21.76	19.21	17.47

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
iShares Morningstar US Equity	ILCB	0.03	939.3	20.76	20.19	17.62
Fidelity NASDAQ Composite	ONEQ	0.21	4,698.1	20.61	29.72	25.51
American Century STOXX US Quality Value	VALQ	0.29	216.2	20.54	11.59	-
iShares Core Dividend Growth	DGRO	0.08	21,078.1	20.39	17.68	17.02
WisdomTree US Total Dividend	DTD	0.28	978.0	20.21	13.77	13.16
Etho Climate Leadership US	ETHO	0.48	192.4	20.01	23.69	20.40
FlexShares Quality Dividend	QDF	0.37	1,644.0	19.76	13.04	12.87
iShares MSCI USA Multifactor	LRGF	0.20	1,235.7	19.52	15.16	14.70
iShares MSCI USA Momentum Factor	MTUM	0.15	16,985.1	18.80	22.50	21.64
FlexShares Quality Dividend Defensive	QDEF	0.37	448.4	18.57	12.66	12.84
Invesco Dividend Achievers	PFM	0.53	701.6	17.84	15.51	13.84
Vanguard Dividend Appreciation	VIG	0.06	64,798.6	17.81	18.76	17.05
WisdomTree US Quality Dividend Growth	DGRW	0.28	6,663.4	17.22	17.13	17.06
Legg Mason Low Volatility High Dividend	LVHD	0.27	744.5	16.90	10.80	9.86
SPDR SSGA US Sector Rotation	XLSR	0.70	186.0	15.72	-	-
iShares MSCI USA Min Vol Factor	USMV	0.15	29,090.1	15.47	14.48	14.11
Goldman Sachs Hedge Industry VIP	GVIP	0.45	225.5	12.11	24.26	-
Invesco DWA Momentum	PDP	0.62	1,865.1	11.32	22.83	19.17
First Trust US Equity Opportunities	FPX	0.57	2,055.1	10.64	24.98	20.81
Renaissance IPO	IPO	0.60	509.7	6.31	37.74	28.04
Dimensional US Core Equity 2	DFAC	0.19	14,448.5	-	-	-
Dimensional US Equity	DFUS	0.11	6,028.3	-	-	-
VanEck Social Sentiment	BUZZ	0.75	192.9	-	-	-

U.S. EQUITY: TOTAL MARKET GROWTH

iShares Core S&P US Growth	IUSG	0.04	13,120.2	26.49	26.68	23.47
iShare Morningstar Growth	ILCG	0.04	2,237.3	22.84	28.65	25.29
First Trust Multi Cap Growth AlphaDEX	FAD	0.63	257.6	21.58	23.48	20.75
American Century Focused Dyn Growth	FDG	0.45	218.4	18.03	-	-
Janus Henderson Sm/Mid Cap Gro Alpha	JSMD	0.30	200.7	8.42	18.85	19.14

U.S. EQUITY: TOTAL MARKET VALUE

Vanguard US Value Factor	VFVA	0.14	437.2	32.99	13.98	-
Alpha Architect US Quantitative Value	QVAL	0.49	224.3	28.97	9.80	11.38
SPDR S&P 1500 Value Tilt	VLU	0.12	229.6	26.97	17.21	15.67
iShares Morningstar Value	ILCV	0.04	788.6	21.30	12.30	12.07
iShares Core S&P US Value	IUSV	0.04	11,126.9	20.88	14.43	12.98
iShares MSCI USA Value Factor	VLUE	0.15	15,460.1	20.70	10.65	12.67
Dimensional US Targeted Value	DFAT	0.34	6,462.5	-	-	-

U.S. EQUITY: EXTENDED CAP

Invesco FTSE RAFI US 1500 Small-Mid	PRFZ	0.39	1,880.6	26.99	15.54	14.89
First Trust SMID Cap Rising Div Achievers	SDVY	0.60	285.8	25.20	16.48	-
iShares Russell 2500	SMMD	0.15	386.8	19.43	18.33	-
Vanguard Extended Market	VXF	0.06	18,228.8	17.66	21.94	18.58

U.S. EQUITY: LARGE CAP

Invesco S&P 500 High Beta	SPHB	0.25	1,512.8	39.52	28.60	21.62
Pacer Lunt Large Cap Alternator	ALTL	0.60	210.6	37.36	-	-
Pacer US Cash Cows 100	COWZ	0.49	940.5	35.53	19.61	-
HCM Defender 500	LGH	1.25	301.1	33.45	-	-
SPDR Russell 1000 Yield Focus	ONEY	0.20	704.2	31.32	16.12	14.31
Overlay Shares Large Cap Equity	OVL	0.79	208.5	27.31	-	-
Schwab Fundamental US Large Company	FNDX	0.25	8,165.1	26.92	17.77	15.88
SPDR Portfolio S&P 500 High Dividend	SPYD	0.07	5,071.6	26.91	8.84	9.04
Invesco FTSE RAFI US 1000	PRF	0.39	5,571.3	26.82	16.89	15.10
SPDR S&P 500 ESG	EFIV	0.10	352.3	26.45	-	-
VictoryShares US EQ Income Enh Vol Wtd	CDC	0.37	993.7	26.45	17.10	14.37
VictoryShares US Lrg Cap High Div Vol Wtd	CDL	0.35	226.1	26.39	13.14	12.05
ProShares Large Cap Core Plus	CSM	0.46	511.3	26.29	16.66	15.34
Invesco S&P 500 Top 50	XLG	0.20	2,274.7	26.23	24.07	20.96
First Trust Rising Dividend Achievers	RDVY	0.50	6,674.5	26.22	21.60	19.28
Xtrackers S&P 500 ESG	SNPE	0.10	815.9	25.84	-	-
Invesco RAFI Strategic US	IUS	0.19	183.3	25.44	19.68	-
Invesco S&P 500 Equal Weight	RSP	0.20	30,633.7	25.08	19.04	16.14
Fidelity Quality Factor	FQAL	0.29	225.1	24.88	19.96	18.10
ALPS Equal Sector Weight	EQL	0.28	212.4	24.79	18.31	15.65
Inspire 100	BIBL	0.35	293.9	24.74	23.07	-
iShares S&P 100	IEF	0.20	8,822.3	24.72	22.64	19.70

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
iPath Shiller CAPE ETN	CAPE	0.45	455.1	24.71	22.03	19.92
Global X S&P 500 Catholic Values	CATH	0.29	593.2	24.53	21.30	18.91
iShares ESG Screened S&P 500	XV	0.08	277.3	24.42	-	-
Invesco S&P 500 Revenue	RWL	0.39	1,086.9	24.35	16.54	15.48
Invesco Russell 1000 Dynamic Multifactor	OMFL	0.29	1,847.2	24.26	22.82	-
Vanguard S&P 500	VOO	0.03	267,483.9	24.08	21.44	18.87
SPDR Portfolio S&P 500	SPLG	0.03	13,181.0	24.07	21.67	18.94
First Trust Large Cap Core AlphaDEX	FEX	0.59	1,207.8	24.06	16.84	14.71
SPDR S&P 500 Trust	SPY	0.09	416,428.3	24.05	21.42	18.81
iShares Core S&P 500	IVV	0.03	315,543.9	24.04	21.43	18.88
Main Sector Rotation	SECT	0.78	1,002.7	23.91	19.06	-
Vanguard Mega Cap	MGC	0.07	4,379.8	23.62	22.46	19.81
Vanguard Large-Cap	VV	0.04	27,171.9	23.57	22.19	19.33
iShares Russell Top 200	IWL	0.15	980.9	23.53	22.61	19.97
Invesco QQQ Trust	QQQ	0.20	200,420.3	23.50	32.45	27.98
Invesco NASDAQ 100	QQQM	0.15	2,503.7	23.44	-	-
Pacer Trendplot US Large Cap	PTLC	0.60	2,013.0	23.44	12.88	13.34
Schwab US Large-Cap	SCHX	0.03	34,100.4	23.44	22.06	19.25
Day Hagan/ND Research Smart Sector	SSUS	0.81	333.7	23.39	-	-
Vanguard Russell 1000	VONE	0.08	2,785.8	23.21	21.95	19.07
JPMorgan US Momentum Factor	JMOM	0.12	221.1	23.20	23.45	-
SPDR Russell 1000 Momentum Focus	ONEO	0.20	325.9	23.20	16.13	14.23
SPDR S&P 500 Fossil Fuel Reserves Free	SPYX	0.20	1,262.5	23.18	21.82	19.23
iShares Russell 1000	IWB	0.15	31,849.2	23.06	21.83	19.00
Invesco S&P 500 Quality	SPHQ	0.15	3,251.1	23.04	20.83	17.64
Schwab 1000	SCHK	0.05	2,228.0	22.90	21.80	-
Goldman Sachs Equal Wt US Large Cap	GSEW	0.09	903.2	22.84	19.52	-
John Hancock Multifactor Large Cap	JHML	0.29	781.7	22.83	20.33	17.82
JPMorgan Diversified Return US Equity	JPUS	0.18	710.9	22.68	15.65	14.39
WisdomTree US LargeCap	EPS	0.08	629.0	22.55	18.71	17.38
SPDR Russell 1000 Low Volatility Focus	ONEV	0.20	583.0	22.50	16.83	15.19
JPMorgan US Quality Factor	JQUA	0.12	391.6	22.38	19.60	-
BNY Mellon US Large Cap Core Equity	BKLC	0.00	390.5	22.25	-	-
Goldman Sachs JUST US Large Cap Equity	JUST	0.20	276.4	22.20	20.65	-
Goldman Sachs ActiveBeta US Large Cap	GSLC	0.09	14,143.2	22.01	20.31	18.23
IQ Chaikin US Large Cap	CLRG	0.25	326.4	21.80	15.17	-
Principal US Mega-Cap	USMC	0.12	2,439.4	21.64	19.09	-
Invesco Russell 1000 Equal Weight	EQAL	0.20	689.2	21.60	17.53	14.93
Xtrackers Russell US Multifactor	DEUS	0.17	207.8	21.43	16.35	14.48
VictoryShares US 500 Volatility Wtd	CFA	0.35	709.0	21.29	17.83	16.16
Hartford Multifactor US Equity	ROUS	0.19	402.9	21.27	13.63	14.05
VictoryShares US 500 Enhanced Vol Wtd	CFO	0.35	1,028.1	21.26	17.77	16.08
SPDR SSGA US Large Cap Low Volatility	LGLV	0.12	633.6	20.88	17.64	16.07
First Trust Lunt US Factor Rotation	FCTR	0.65	561.7	20.88	23.23	-
Timothy Plan US Large/Mid Cap Core	TPLC	0.52	197.4	20.49	-	-
Distillate US Fundamental Stability & Val	DSTL	0.39	431.6	20.28	21.63	-
SPDR SSGA Gender Diversity	SHE	0.20	293.3	20.21	18.19	16.10
ALPS Sector Dividend Dogs	SDOG	0.40	1,185.9	20.05	10.40	9.36
Fidelity Low Volatility Factor	FDLV	0.29	515.2	19.49	18.16	17.27
First Trust Capital Strength	FTCS	0.56	8,702.4	19.47	16.31	15.76
Franklin LibertyQ US Equity	FLQL	0.15	968.1	19.33	16.98	-
Davis Select US Equity	DUSA	0.62	398.0	19.28	17.15	-
WisdomTree US LargeCap Dividend	DNL	0.28	3,177.8	19.23	14.53	13.78
ProShares S&P 500 Dividend Aristocrats	NOBL	0.35	9,237.1	19.07	15.35	13.34
Simplify US Eq PLUS Downside Convexity	SPD	0.29	352.0	18.96	-	-
SPDR Dow Jones Industrial Average	DIA	0.16	29,903.8	18.69	14.92	17.05
Amplify CWP Enhanced Dividend Income	DIVO	0.55	763.8	18.56	16.16	-
FT Cboe Vest S&P 500 Div Arist Target Inc	KNG	0.75	294.4	18.50	15.39	-
LHA Market State Tactical Beta	MSTB	1.18	294.5	18.35	-	-
Invesco S&P 500 High Dividend Low Vol	SPHD	0.30	2,979.1	18.04	6.92	7.09
WisdomTree US Dividend ex-Financials	DTN	0.38	544.8	17.50	8.05	8.27
Global X S&P 500 Covered Call	XYLD	0.60	669.6	17.41	8.65	10.00
Invesco Defensive Equity	DEF	0.53	260.8	17.38	15.39	14.53
JPMorgan Equity Premium Income	JEPI	0.35	4,481.0	16.87	-	-
VictoryShares Dividend Accelerator	VSDA	0.35	340.2	16.85	18.30	-
First Trust Nasdaq-100 Equal Weighted	QQEW	0.58	1,376.9	16.44	26.44	21.18

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
Direxion NASDAQ-100 Equal Weighted	QQQE	0.35	430.3	16.42	27.14	21.91
O?Shares US Quality Dividend	OUSA	0.48	729.7	16.41	14.32	13.24
Aptus Drawdown Managed Equity	ADME	0.79	292.0	16.33	11.26	11.85
6 Meridian Hdg Equity-Index Option	SIXH	0.87	251.2	15.02	-	-
Invesco S&P 500 Low Volatility	SPLV	0.25	8,059.5	14.69	12.17	11.80
FT Cboe Vest US Equity Buffer - February	FFEB	0.85	263.3	14.43	-	-
Aptus Collared Income Opportunity	ACIO	0.79	315.8	14.43	-	-
Invesco NASDAQ Next Gen 100	QQQJ	0.15	1,241.9	13.34	-	-
Invesco S&P 500 Downside Hedged	PHDG	0.40	249.8	12.02	11.04	11.13
Pacer Trendplot 100	PTNQ	0.65	814.3	11.53	21.14	21.10
FT Cboe Vest Fund of Buffer	BUFR	1.05	443.5	10.15	-	-
Global X NASDAQ 100 Covered Call	QYLD	0.60	5,025.2	9.98	10.61	11.19
FT Cboe Vest US Equity Buffer - August	FAUG	0.85	208.8	9.40	-	-
Innovator US Equity Buffer - July	BJUL	0.79	183.1	8.93	10.03	-
Nationwide Risk-Managed Income	NUSI	0.68	756.5	8.88	-	-
Innovator US Equity Power Buffer - Oct	POCT	0.79	209.8	8.27	9.06	-
Innovator US Equity Power Buffer - Jan	PIAN	0.79	296.0	8.21	-	-
FT Cboe Vest US Equity Deep Buffer - Feb	DFEB	0.85	250.3	7.92	-	-
Innovator US Equity Power Buffer - Sept	PSEP	0.79	303.4	7.31	-	-
Innovator US Equity Power Buffer - May	PMAY	0.79	239.1	6.68	-	-
Innovator US Equity Power Buffer - April	PAPR	0.79	242.8	6.62	-	-
Innovator US Equity Power Buffer - August	PAUG	0.79	186.1	6.12	-	-
Innovator US Equity Power Buffer - July	PJUL	0.79	219.0	5.98	7.35	-
Nuveen Growth Opportunities	NUGO	0.55	1,677.9	-	-	-
Invesco S&P 500 QVM Multi-Factor	QVML	0.11	809.5	-	-	-
FT Cboe Vest Fund of Deep Buffers	BUFD	1.05	212.9	-	-	-
U.S. EQUITY: LARGE CAP GROWTH						
Invesco S&P 500 Pure Growth	RPG	0.35	3,458.8	30.04	25.95	21.53
Invesco S&P 500 GARP	SPGP	0.36	650.0	29.66	25.23	24.08
Nuveen ESG Large-Cap Growth	NULG	0.25	933.9	27.90	31.84	-
Vanguard S&P 500 Growth	VOOG	0.10	7,178.2	27.03	27.18	23.65
SPDR Portfolio S&P 500 Growth	SPYG	0.04	14,723.9	27.00	27.25	23.70
iShares S&P 500 Growth	IVW	0.18	38,419.1	26.89	27.06	23.57
Schwab US Large-Cap Growth	SCHG	0.04	17,213.6	25.96	30.08	25.56
iShares Russell Top 200 Growth	IWY	0.20	4,513.2	25.66	29.98	26.23
SoFi Select 500	SFY	0.00	352.4	25.31	-	-
Vanguard Mega Cap Growth	MGK	0.07	13,309.8	25.18	30.48	25.54
Vanguard Growth	VUG	0.04	88,011.6	24.48	30.13	24.78
First Trust Large Cap Growth AlphaDEX	FTC	0.60	1,307.4	24.31	24.97	20.53
Vanguard Russell 1000 Growth	VONG	0.08	7,829.0	24.25	29.30	25.37
iShares Russell 1000 Growth	IWF	0.19	76,990.9	24.10	29.15	25.26
Invesco Dynamic Large Cap Growth	PWB	0.56	833.5	17.19	21.79	21.25
U.S. EQUITY: LARGE CAP VALUE						
Invesco S&P 500 Pure Value	RPV	0.35	2,903.5	30.80	9.66	11.12
JPMorgan US Value Factor	JVAL	0.12	432.6	25.73	16.40	-
Fidelity Value Factor	FVAL	0.29	432.4	24.24	17.25	16.68
Invesco Dynamic Large Cap Value	PWV	0.58	778.0	24.19	12.72	11.32
First Trust Large Cap Value AlphaDEX	FTA	0.60	1,093.2	23.57	10.00	9.67
Vanguard Russell 1000 Value	VONV	0.08	6,970.7	22.04	13.85	12.29
Vanguard Value	VTV	0.04	88,393.0	22.00	13.73	13.59
iShares Russell 1000 Value	IWD	0.19	56,808.4	21.89	13.73	12.21
Vanguard Mega Cap Value	MGV	0.07	4,713.7	21.22	13.74	13.74
Schwab US Large-Cap Value	SCHV	0.04	10,089.8	21.15	13.56	12.77
iShares Russell Top 200 Value	IWX	0.20	1,222.2	20.60	13.06	12.17
SPDR Portfolio S&P 500 Value	SPYV	0.04	13,241.5	20.56	14.42	13.10
Vanguard S&P 500 Value	VOOV	0.10	2,406.5	20.54	14.30	12.90
iShares S&P 500 Value	IVE	0.18	23,104.4	20.45	14.24	12.86
Nuveen ESG Large-Cap Value	NULV	0.25	1,178.6	19.73	13.51	-
American Century Focused Large Cap Value	FLV	0.42	245.5	14.58	-	-
U.S. EQUITY: MID CAP						
Invesco S&P MidCap 400 Revenue	RWK	0.39	401.5	28.38	17.92	14.49
WisdomTree US MidCap Dividend	DON	0.38	3,055.7	26.25	10.94	10.70
WisdomTree US MidCap	EZM	0.38	802.5	26.01	14.87	13.60
First Trust Mid Cap Core AlphaDEX	FNX	0.60	1,061.0	24.52	17.10	15.15
JPMorgan Diversified Ret US Mid Cap	JPME	0.24	240.2	23.95	15.80	14.17
Invesco Zacks Mid-Cap	CZA	0.69	227.5	23.26	15.65	13.99

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
Vanguard Mid-Cap	VO	0.04	55,173.6	23.07	20.66	16.78
iShares Core S&P Mid-Cap	IJH	0.05	66,134.7	22.33	17.03	14.83
SPDR Portfolio S&P 400 Mid Cap	SPMD	0.05	4,972.7	22.31	16.42	15.12
Vanguard S&P Mid-Cap 400	IVOO	0.10	1,560.4	22.26	16.99	14.77
SPDR S&P Midcap 400 Trust	MDY	0.23	21,179.5	22.12	16.86	14.61
John Hancock Multifactor Mid Cap	JHMM	0.41	2,486.7	22.01	19.37	16.43
iShares Russell Mid-Cap	IWR	0.19	30,872.3	21.96	19.70	16.31
iShares Morningstar Mid-Cap	IMCB	0.04	925.7	21.61	18.59	15.27
Invesco S&P Midcap Quality	XMHQ	0.25	289.2	19.80	20.83	16.80
JPMorgan BetaBuilders US Mid Cap Equity	BBMC	0.07	1,698.8	19.54	-	-
Schwab US Mid-Cap	SCHM	0.04	10,191.8	19.50	17.06	15.59
Invesco S&P Midcap Momentum	XMMO	0.33	1,012.7	16.24	24.68	25.33
Invesco S&P MidCap Low Volatility	XMLV	0.25	1,364.9	15.67	8.27	9.81
ProShares S&P MidCap 400 Div Aristocrats	REGL	0.41	1,030.0	14.52	10.52	10.02
Pacer Trendpilot US Mid Cap	PTMC	0.60	470.6	11.17	6.26	8.85
Invesco S&P MidCap 400 QVM Multi-Factor	QVMM	0.15	209.7	-	-	-
U.S. EQUITY: MID CAP GROWTH						
Vanguard Mid-Cap Growth	VOT	0.07	12,391.4	21.42	26.77	21.05
Vanguard S&P Mid-Cap 400 Growth	IVOG	0.15	942.4	18.42	18.79	16.23
iShares S&P Mid-Cap 400 Growth	IJK	0.17	8,453.4	18.39	18.75	16.18
Invesco S&P MidCap 400 Pure Growth	RFG	0.35	410.8	18.36	17.91	15.56
SPDR S&P 400 Mid Cap Growth	MDY	0.15	1,740.9	18.22	18.79	16.23
iShares Russell Mid-Cap Growth	IWP	0.23	16,614.0	17.22	25.92	21.65
iShares Morningstar Mid-Cap Growth	IMCG	0.06	1,348.0	16.69	28.90	23.72
Nuveen ESG Mid-Cap Growth	NUMG	0.30	400.2	16.68	28.05	-
First Trust Mid Cap Growth AlphaDEX	FNYY	0.70	441.1	16.38	23.66	21.34
U.S. EQUITY: MID CAP VALUE						
Invesco S&P MidCap Value w/ Momentum	XMVM	0.39	183.4	28.82	18.13	13.07
iShares Morningstar Mid-Cap Value	IMCV	0.06	481.8	28.62	12.24	11.14
Nuveen ESG Mid-Cap Value	NUMV	0.30	278.1	28.00	15.36	-
Vanguard S&P Mid-Cap 400 Value	IVOV	0.15	821.1	26.30	14.58	12.73
SPDR S&P 400 Mid Cap Value	MDYV	0.15	1,602.1	26.24	14.60	12.74
iShares S&P Mid-Cap 400 Value	IJJ	0.18	9,185.6	26.17	14.40	12.64
iShares Russell Mid-Cap Value	IWS	0.23	14,737.8	24.32	14.86	12.09
Vanguard Mid-Cap Value	VOE	0.07	15,286.9	24.08	14.16	12.31
U.S. EQUITY: SMALL CAP						
Invesco S&P SmallCap 600 Revenue	RWJ	0.39	689.6	48.89	22.38	17.56
Pacer US Small Cap Cash Cows 100	CALF	0.59	513.1	37.91	19.06	-
WisdomTree US SmallCap	EES	0.38	651.0	29.95	13.15	14.54
Principal US Small-Cap Multi-Factor	PSC	0.38	2,009.8	28.80	15.63	14.64
Schwab Fundamental US Small Company	FNDA	0.25	4,868.7	28.41	15.69	14.28
Invesco DWA SmallCap Momentum	DWAS	0.60	562.2	25.00	23.95	21.88
IQ Chaikin US Small Cap	CSML	0.35	224.3	24.87	14.19	-
First Trust Small Cap Core AlphaDEX	FYX	0.63	959.4	24.73	16.22	15.45
iShares Core S&P Small-Cap	IJR	0.06	71,644.4	24.17	14.83	15.37
Vanguard S&P Small-Cap 600	VIOO	0.10	1,882.6	24.11	14.83	15.39
SPDR S&P 600 Small Cap	SLY	0.15	1,784.6	24.10	14.80	15.33
SPDR Portfolio S&P 600 Small Cap	SPSM	0.05	4,435.8	24.08	15.85	15.27
iShares MSCI USA Small-Cap Multifactor	SMLF	0.30	1,092.2	24.06	13.99	14.11
SPDR SSGA US Small Cap Low Volatility	SMLV	0.12	221.2	23.67	11.93	11.84
Global X Russell 2000 Covered Call	RYLD	0.60	554.5	23.39	-	-
VictoryShares MSCI USA SmCap Val Mom	USVM	0.24	301.4	22.62	13.74	-
Goldman Sachs ActiveBeta US Small Cap	GSSC	0.20	445.0	22.56	15.84	-
Invesco S&P SmallCap Low Volatility	XSLV	0.25	1,207.7	21.75	4.97	7.93
WisdomTree US SmallCap Dividend	DES	0.38	1,848.4	21.74	8.16	8.87
iShares ESG Aware MSCI USA Small-Cap	ESML	0.17	1,205.8	20.26	18.54	-
VictoryShares US SmCap High Div Vol Wtd	CSB	0.35	236.3	20.24	14.52	14.42
iShares Morningstar Small-Cap	ISCB	0.04	242.4	19.42	13.77	12.40
Vanguard Small-Cap	VB	0.05	49,721.2	18.80	17.87	16.02
John Hancock Multifactor Small Cap	JHSC	0.42	445.8	18.76	14.03	-
Invesco S&P SmallCap Momentum	XSMO	0.39	182.7	18.59	18.12	18.97
Schwab US Small-Cap	SCHA	0.04	17,227.3	18.34	16.97	15.24
Nuveen ESG Small-Cap	NUSC	0.30	1,108.0	18.08	19.09	-
JPMorgan BetaBuilders US SmCap Equity	BBSC	0.09	451.0	17.88	-	-
WisdomTree US SmCap Qual Div Growth	DGRS	0.38	206.3	17.84	12.69	11.69

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
Vanguard Russell 2000	VTWO	0.10	6,564.1	17.20	16.57	15.58
iShares Russell 2000	IWM	0.19	70,353.9	17.06	16.42	15.45
BNY Mellon US Small Cap Core Equity	BKSE	0.04	181.0	16.40	-	-
iShares MSCI USA SmCap Min Vol Factor	SMMV	0.20	862.1	13.37	8.88	11.49
ProShares Russell 2000 Dividend Growers	SMDV	0.41	825.7	13.28	6.23	7.24
Dimensional US Small Cap	DFAS	0.34	4,284.2	-	-	-
U.S. EQUITY: SMALL CAP GROWTH						
First Trust Small Cap Growth AlphaDEX	FYC	0.71	348.9	22.40	18.83	19.56
Vanguard S&P Small-Cap 600 Growth	VIQG	0.16	595.0	19.47	16.00	17.00
SPDR S&P 600 Small Cap Growth	SLYG	0.15	2,378.8	19.38	15.97	16.97
iShares S&P Small-Cap 600 Growth	IJT	0.18	6,122.5	19.28	15.81	16.87
Vanguard Small-Cap Growth	VBK	0.07	16,886.5	10.69	21.91	19.67
Vanguard Russell 2000 Growth	VTWG	0.15	731.7	7.62	18.69	17.89
iShares Russell 2000 Growth	IWO	0.24	12,150.7	7.46	18.55	17.85
iShares Morningstar Small-Cap Growth	ISCG	0.06	472.9	2.76	19.08	18.69
U.S. EQUITY: SMALL CAP VALUE						
Invesco S&P SmCap Val w/ Momentum	XSVM	0.39	453.7	51.81	22.22	18.09
Invesco S&P SmallCap 600 Pure Value	RZV	0.35	305.5	46.25	12.66	11.03
Avantis US Small Cap Value	AVUV	0.25	1,947.9	39.42	-	-
SPDR S&P 600 Small Cap Value	SLV	0.15	4,163.8	28.77	13.21	14.37
Vanguard S&P Small-Cap 600 Value	VIOV	0.15	1,315.3	28.74	13.24	13.43
iShares S&P Small-Cap 600 Value	IJS	0.18	8,874.9	28.73	13.05	13.23
iShares Russell 2000 Value	IWN	0.24	16,070.9	27.50	13.27	12.46
Vanguard Russell 2000 Value	VTWV	0.15	982.6	27.37	13.44	12.57
iShares Morningstar Small Cap Value	ISCV	0.06	418.2	26.95	10.46	9.51
Vanguard Small-Cap Value	VBR	0.07	26,019.3	25.88	14.05	12.72
First Trust Small Cap Value AlphaDEX	FYT	0.72	217.6	25.05	13.86	12.04
U.S. EQUITY: MICRO CAP						
iShares Micro-Cap	IWC	0.60	1,303.1	24.81	17.26	16.13
U.S. EQUITY: BASIC MATERIALS						
iShares North American Natural Resources	IGE	0.43	474.5	40.54	4.78	2.58
SPDR S&P North Amer Natural Resources	NANR	0.35	517.2	33.73	14.74	8.65
SPDR S&P Metals & Mining	XME	0.35	1,885.1	31.18	14.47	13.13
First Trust Materials AlphaDEX	FXZ	0.67	497.3	26.13	18.74	12.86
First Trust Water	FIW	0.54	1,425.5	25.80	26.42	20.76
Invesco Water Resources	PHO	0.60	2,013.3	24.97	26.58	20.20
Invesco S&P 500 Equal Weight Materials	RTM	0.40	456.7	23.28	21.99	17.01
Fidelity MSCI Materials	FMAT	0.08	493.6	19.80	18.99	14.35
Vanguard Materials	VAW	0.10	3,865.8	19.78	18.94	14.34
iShares US Basic Materials	IYM	0.43	858.2	19.15	16.80	13.44
Materials Select Sector SPDR	XLB	0.12	7,688.6	19.11	19.87	15.02
U.S. EQUITY: CONSUMER CYCLICALS						
SPDR S&P Retail	XRT	0.35	861.1	47.34	27.74	19.08
Invesco Dynamic Leisure/Entertainment	PEJ	0.55	1,437.6	26.36	6.73	7.44
Consumer Discr Select Sector SPDR	XLY	0.12	22,510.8	25.68	25.43	22.30
Invesco S&P 500 Eq Wt Cons Discretionary	RCD	0.40	567.8	25.55	17.27	13.91
Vanguard Consumer Discretionary	VCR	0.10	7,170.9	23.93	29.76	24.28
Fidelity MSCI Consumer Discretionary	FDIS	0.08	1,722.2	23.18	29.77	24.73
First Trust Consumer Discr AlphaDEX	FXD	0.63	1,967.5	21.95	15.37	12.61
iShares US Consumer Discretionary	IYC	0.43	1,402.8	19.46	20.87	19.52
ETFMG Travel Tech	AWAY	0.75	329.7	5.17	-	-
Amplify Online Retail	IBUY	0.65	900.0	-3.25	36.60	32.54
ProShares Online Retail	ONLN	0.58	861.9	-10.10	28.62	-
U.S. EQUITY: CONSUMER NON-CYCLICALS						
First Trust Consumer Staples AlphaDEX	FXG	0.63	262.2	12.68	7.53	4.78
Vanguard Consumer Staples	VDC	0.10	5,946.0	8.56	12.05	9.23
Fidelity MSCI Consumer Staples	FSTA	0.08	822.0	8.46	12.22	9.34
iShares US Consumer Staples	IYK	0.43	693.3	7.60	18.84	12.86
Consumer Staples Select Sector SPDR	XLP	0.12	11,792.5	7.55	12.04	9.12
Invesco S&P 500 Eq Wt Consumer Staples	RHS	0.40	452.0	4.50	9.12	7.40
U.S. EQUITY: ENERGY						
First Trust Natural Gas	FCG	0.60	512.3	110.07	0.00	-4.11
SPDR S&P Oil & Gas Expl & Prod	XOP	0.35	4,164.6	84.02	-7.84	-4.10
iShares US Oil & Gas Expl & Production	IEO	0.42	378.5	81.57	2.52	4.07
Invesco S&P 500 Equal Weight Energy	RYE	0.40	271.2	63.10	0.59	-0.16

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
Vanguard Energy	VDE	0.10	5,988.5	61.49	-0.21	0.62
Fidelity MSCI Energy	FENY	0.08	1,071.3	60.75	-0.42	0.40
First Trust Energy AlphaDEX	FXN	0.64	404.5	60.59	-5.44	-2.48
iShares US Energy	IYE	0.42	2,435.3	58.99	-0.49	0.44
Energy Select Sector SPDR	XLE	0.12	28,022.4	56.70	0.62	1.11
InfraCap MLP	AMZA	2.01	301.3	51.10	-13.47	-10.35
iPath Select MLP ETN	ATMP	0.95	193.4	49.18	2.04	0.57
Global X MLP & Energy Infrastructure	MLPX	0.45	816.2	48.61	10.05	3.89
Alerian MLP	AMPL	0.90	5,527.8	45.69	-1.75	-2.41
Global X MLP	MLPA	0.46	1,092.2	45.09	-1.55	-2.53
JPMorgan Alerian MLP Index ETN	AMJ	0.85	2,292.5	44.25	-0.70	-1.47
ETRACS Alerian MLP Infrastr ETN Ser B	MLPB	0.85	203.0	39.91	-5.10	-
Tortoise North American Pipeline	TPYP	0.40	455.9	38.48	7.53	5.15
First Trust North American Energy Infrastr	EMLP	0.96	2,146.9	22.65	6.18	1.79
First Trust Clean Edge Green Energy	QCLN	0.60	3,072.2	10.24	60.54	39.77
SPDR S&P Kensho Clean Power	ACRS	0.45	410.7	1.75	58.86	-
ALPS Clean Energy	ACES	0.55	1,072.3	-0.71	50.32	-
BlackRock US Carbon Transition Readiness	LCTU	0.15	1,478.0	-	-	-

U.S. EQUITY: FINANCIALS

First Trust Nasdaq Bank	FTXO	0.60	293.3	44.88	12.56	12.82
iShares US Broker-Dealers & Sec Exch	IAI	0.41	1,018.9	44.53	25.33	24.39
SPDR S&P Capital Markets	KCE	0.35	219.8	43.27	29.98	25.02
Invesco KBW Bank	KBWB	0.35	3,574.5	43.19	14.59	15.63
iShares US Regional Banks	IAT	0.41	1,362.3	42.75	14.81	14.42
First Trust Financials AlphaDEX	FXO	0.62	1,498.2	39.70	17.10	14.74
Vanguard Financials	VFH	0.10	11,955.7	38.77	17.65	17.10
SPDR S&P Regional Banking	KRE	0.35	5,479.3	38.62	12.64	12.68
Fidelity MSCI Financials	FNCL	0.08	1,953.7	38.60	17.56	17.07
Financial Select Sector SPDR	XLF	0.12	45,525.9	38.32	17.83	17.62
Invesco S&P 500 Equal Weight Financials	RYF	0.40	496.0	37.87	20.14	18.10
VanEck BDC Income	BIZD	10.07	521.7	36.14	14.45	10.58
iShares US Financials	IYF	0.42	2,455.6	35.00	17.79	16.64
SPDR S&P Bank	KBE	0.35	3,463.8	34.47	11.85	12.25
Invesco KBW High Dividend Yld Financial	KBWD	1.24	506.6	34.43	8.00	8.60
iShares US Financial Services	IYG	0.42	2,696.0	34.34	18.80	19.19
SPDR S&P Insurance	KIE	0.35	506.8	21.95	12.62	12.37

U.S. EQUITY: HEALTH CARE

iShares US Medical Devices	IHI	0.41	8,750.0	20.09	24.51	24.24
iShares US Healthcare Providers	IHF	0.42	1,262.5	19.34	15.66	20.36
Health Care Select Sector SPDR	XLV	0.12	31,540.7	19.25	16.84	16.71
iShares US Healthcare	IYH	0.43	2,995.1	18.45	17.08	17.12
Invesco S&P 500 Equal Weight Health Care	RYH	0.40	994.8	18.16	18.70	17.06
Vanguard Health Care	VHT	0.10	16,557.0	16.58	17.60	17.68
Fidelity MSCI Health Care	FHLC	0.08	2,921.8	16.39	17.51	17.61
First Trust Health Care AlphaDEX	FXH	0.61	1,579.9	12.24	16.81	16.73
Invesco Dynamic Pharmaceuticals	PIP	0.58	431.6	11.53	7.13	7.96
SPDR S&P Health Care Equipment	XHE	0.35	780.6	10.54	17.73	21.55
Invesco S&P SmallCap Health Care	PSCH	0.29	492.2	7.47	14.35	22.22
Invesco Dynamic Biotech & Genome	PBE	0.59	295.9	7.04	13.60	15.20
iShares US Pharmaceuticals	IHE	0.42	373.4	6.11	8.84	8.12
iShares Biotechnology	IBB	0.45	10,374.9	5.54	15.55	13.54
Invesco DWA Healthcare Momentum	PTH	0.60	476.2	2.11	25.81	29.59
First Trust NYSE Arca Biotechnology	FBT	0.55	1,797.6	-1.24	7.44	13.81
SPDR S&P Pharmaceuticals	XPH	0.35	231.9	-7.43	4.22	4.52
ALPS Medical Breakthroughs	SBIO	0.50	208.7	-10.07	12.05	17.20
SPDR S&P Biotech	XBI	0.35	7,190.1	-11.32	16.52	17.50

U.S. EQUITY: INDUSTRIALS

First Trust RBA American Industrial Ren	AIRR	0.70	238.3	29.31	21.96	17.78
SPDR S&P Transportation	XTN	0.35	854.5	28.46	16.68	15.00
Invesco S&P 500 Equal Weight Industrials	RGI	0.40	443.8	23.66	21.81	17.88
iShares U.S. Transportation Average	IYT	0.42	1,818.4	23.56	15.26	14.62
Invesco Dynamic Building & Construction	PKB	0.60	278.9	22.02	25.03	15.67
First Trust Nasdaq Transportation	FTXR	0.60	1,195.6	21.84	13.78	12.18
First Trust Industr/Prod Dur AlphaDEX	FXR	0.64	1,831.1	20.85	18.10	15.68
Fidelity MSCI Industrials	FIDU	0.08	854.7	19.18	17.83	15.44

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
Industrial Select Sector SPDR	XLI	0.12	17,833.6	19.12	16.54	14.96
Vanguard Industrials	VIS	0.10	5,169.1	19.05	17.06	14.96
Invesco DWA Industrials Momentum	PRN	0.60	264.9	18.42	25.28	19.43
iShares US Industrials	IYJ	0.42	1,648.9	15.25	18.28	16.26
iShares US Aerospace & Defense	ITA	0.42	2,577.9	11.04	4.17	11.21
Invesco Aerospace & Defense	PPA	0.61	677.9	8.49	11.48	14.89
SPDR S&P Aerospace & Defense	XAR	0.35	1,189.1	4.73	11.60	16.52

U.S. EQUITY: TECHNOLOGY

HCM Defender 100	QQH	1.25	323.9	31.57	-	-
iShares US Technology	IYW	0.43	9,176.2	30.06	36.41	31.08
SPDR S&P Semiconductor	XSD	0.35	1,220.1	29.68	49.42	34.95
Invesco Dynamic Semiconductors	PSI	0.56	757.1	29.65	43.31	34.07
iShares Semiconductor	SOXX	0.43	7,823.8	25.86	44.43	35.15
VanEck Semiconductor	SMH	0.35	6,759.4	25.28	45.03	33.67
Technology Select Sector SPDR	XLK	0.12	47,484.0	24.94	34.18	29.46
iShares Expanded Tech-Software Sector	IGV	0.43	6,532.5	23.99	34.15	31.56
Vanguard Information Technology	VGIT	0.10	53,229.4	23.39	34.22	30.80
Fidelity MSCI Information Technology	FTEC	0.08	6,637.2	23.37	34.05	30.10
iShares Expanded Tech Sector	IGM	0.43	3,873.4	23.05	32.29	29.11
First Trust NASDAQ-100 Technology Sector	QTEC	0.57	3,900.5	23.01	33.43	27.22
iShares US Tech Breakthrough Multisector	TECB	0.40	451.3	22.63	-	-
Invesco S&P 500 Equal Weight Technology	RYT	0.40	2,854.4	20.76	27.48	25.13
Invesco DWA Technology Momentum	PTF	0.60	364.8	20.57	44.06	33.98
First Trust Cloud Computing	SKYY	0.60	6,662.9	19.85	29.89	26.99
First Trust Technology AlphaDEX	FXL	0.61	2,837.6	18.62	34.05	30.12
SPDR S&P Software & Services	XSW	0.35	594.8	17.77	31.48	28.06
SPDR S&P NYSE Technology	XNTK	0.35	738.6	17.69	38.11	30.38
Invesco S&P SmallCap Information Tech	PSCT	0.29	485.6	17.13	24.27	18.83
WisdomTree Cloud Computing	WCLD	0.45	1,389.4	16.83	-	-
First Trust Dow Jones Internet	FDN	0.51	10,885.0	15.19	24.72	24.62
SPDR S&P Kensho Smart Mobility	HAIL	0.45	179.8	8.26	33.44	-
Invesco NASDAQ Internet	PNQI	0.60	1,063.1	7.55	27.10	23.10
SPDR FactSet Innovative Technology	XITK	0.45	331.9	6.74	37.39	32.39
Invesco Dynamic Software	PSJ	0.56	473.0	-0.64	26.24	26.64

U.S. EQUITY: TELECOMMUNICATIONS

Global X US Infrastructure Development	PAVE	0.47	4,902.5	30.52	23.16	-
iShares US Infrastructure	IFRA	0.30	729.6	22.06	15.78	-
Communication Svcs Select Sector SPDR	XLC	0.12	15,014.2	19.63	21.41	-
Vanguard Communication Services	VOX	0.10	4,603.8	18.64	21.31	11.34
Fidelity MSCI Communication Services	FCOM	0.08	928.7	18.55	21.69	16.06
iShares US Telecommunications	IYZ	0.42	426.0	7.61	6.74	3.02

U.S. EQUITY: UTILITIES

First Trust Utilities AlphaDEX	FXU	0.62	179.4	10.04	4.16	3.58
iShares US Utilities	IDU	0.43	835.1	9.44	10.16	9.26
Utilities Select Sector SPDR	XLU	0.12	12,267.4	9.16	11.18	9.81
Fidelity MSCI Utilities	FUTY	0.08	1,151.1	9.15	10.50	9.71
Vanguard Utilities	VPU	0.10	5,090.4	9.01	10.40	9.67
Invesco S&P 500 Equal Weight Utilities	RYU	0.40	252.6	8.64	9.01	8.82

U.S. EQUITY: REAL ESTATE

iShares Residential/Multisector Real Est	REZ	0.48	1,173.4	37.32	16.98	11.79
Pacer Benchmark Industrial Real Estate	INDS	0.60	309.9	36.20	27.93	-
SPDR S&P Homebuilders	XHB	0.35	2,030.4	35.17	32.93	20.75
SPDR Dow Jones REIT	RWR	0.25	1,998.6	34.41	11.92	8.37
Real Estate Select Sector SPDR	XLRE	0.12	4,716.3	33.68	18.07	12.98
JPMorgan BetaBuilders MSCI US REIT	BBRE	0.11	1,469.3	32.48	13.61	-
iShares Core US REIT	USRT	0.08	2,560.8	32.45	13.85	9.70
iShares Cohen & Steers REIT	ICF	0.33	2,731.8	32.28	15.32	10.45
First Trust S&P REIT	FRI	0.50	212.3	32.14	10.49	6.14
Fidelity MSCI Real Estate	FREL	0.09	2,116.2	30.91	15.63	11.27
Vanguard Real Estate	VNQ	0.12	46,233.6	30.87	15.70	10.31
Schwab US REIT	SCHH	0.07	6,761.7	30.07	9.33	6.90
iShares US Real Estate	IYR	0.41	7,330.0	29.87	15.04	10.94
iShares US Home Construction	ITB	0.41	2,774.2	29.40	32.92	23.41
iShares Mortgage Real Estate	REM	0.48	1,512.2	22.28	4.14	6.26
VanEck Mortgage REIT Income	MORT	0.40	319.1	21.84	2.96	5.96

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
Invesco KBW Premium Yield Equity REIT	KBWY	0.35	337.2	21.28	-1.07	0.58
Pacer Benchmark Data/Infrastr Real Est	SRVR	0.60	1,634.1	14.51	20.48	-
U.S. EQUITY: HIGH DIVIDEND YIELD						
iShares Select Dividend	DVY	0.39	18,581.6	25.88	11.30	10.89
Global X SuperDividend US	DIV	0.45	673.7	24.61	0.57	3.29
Schwab US Dividend Equity	SCHD	0.06	29,783.1	23.55	19.78	16.87
Vanguard High Dividend Yield	VYM	0.06	39,799.0	21.02	12.84	12.29
Invesco HiYld Equity Dividend Achievers	PEY	0.53	968.4	20.67	10.47	9.77
Invesco S&P Ultra Dividend Revenue	RDIV	0.39	845.1	20.21	6.95	9.24
First Trust Value Line Dividend	FVD	0.70	12,375.1	19.03	11.73	9.88
SPDR S&P Dividend	SDY	0.35	20,856.2	18.66	12.94	12.35
First Trust Morningstar Dividend Leaders	FDL	0.45	1,671.2	17.17	6.26	5.43
WisdomTree US High Dividend	DHS	0.38	809.2	16.15	8.22	7.89
iShares Core High Dividend	HDV	0.08	7,407.6	15.12	7.54	8.29
GLOBAL EQUITY						
iShares Global 100	I00	0.40	3,651.5	21.30	20.33	17.80
First Trust Dorsey Wright Focus 5	FV	0.87	2,881.5	21.25	22.19	17.38
First Trust Dorsey Wright Dynamic Focus 5	FVC	0.71	224.8	21.23	14.89	13.08
T. Rowe Price Blue Chip Growth	TCHP	0.57	244.2	20.24	-	-
Global X Internet of Things	SNSR	0.68	499.2	19.90	29.63	21.36
SPDR Portfolio MSCI Global Stock Market	SPGM	0.09	647.8	19.48	17.60	14.73
Vanguard Total World Stock	VT	0.08	25,238.3	16.99	17.75	14.89
iShares MSCI ACWI	ACWI	0.32	17,186.3	16.91	17.51	14.92
ClearBridge All Cap Growth ESG	CACG	0.53	230.8	16.54	21.88	-
iShares MSCI Global Min Vol Factor	ACWV	0.20	5,282.2	10.10	10.47	9.88
iShares MSCI Global Impact	SDG	0.49	567.9	4.04	23.33	17.11
Davis Select Worldwide	DWLD	0.63	388.6	0.78	13.60	-
Horizon Kinetics Inflation Beneficiaries	INFL	0.85	892.7	-	-	-
GLOBAL EQUITY EX-U.S.						
Invesco International Dividend Achievers	PID	0.56	625.5	22.24	11.78	9.14
Avantis International Small Cap Value	AVDV	0.36	1,161.4	17.22	-	-
Vanguard FTSE All-World ex-US Small-Cap	VSS	0.11	10,025.0	14.22	13.97	10.29
WisdomTree Global ex-US Qual Div Gro	DNL	0.58	438.5	12.08	19.50	14.33
Vanguard Intl Dividend Appreciation	VIGI	0.20	4,186.5	11.64	17.20	12.36
Vident International Equity	VIDI	0.59	466.9	11.24	8.26	7.38
FlexShares International Quality Dividend	IQDF	0.47	621.3	10.43	9.71	7.37
iShares Core MSCI Total Intl Stock	IXUS	0.09	31,790.0	9.99	12.60	10.12
Vanguard Total International Stock	VXUS	0.08	52,246.1	9.91	12.71	10.05
SPDR MSCI ACWI ex-US	CWI	0.30	1,822.5	9.12	12.21	9.71
Vanguard FTSE All-World ex-US	VEU	0.08	35,841.3	9.11	12.53	10.01
iShares International Dividend Growth	IGRO	0.15	251.5	8.91	12.23	9.49
iShares MSCI ACWI ex US	ACWX	0.32	4,648.2	8.73	11.87	9.66
Vanguard ESG International Stock	VSGX	0.17	2,852.3	8.44	13.06	-
American Century Quality Diversified Intl	QINT	0.39	213.6	8.41	15.16	-
First Trust Dorsey Wright Intl Focus 5	IFV	1.06	272.2	5.67	10.47	7.15
First Trust International Equity Opps	FPXI	0.70	1,180.5	-4.20	28.99	19.76
Davis Select International	DINT	0.65	262.4	-12.08	9.01	-
INTERNATIONAL EQUITY: BLENDED DEVELOPMENT						
Fidelity Blue Chip Growth	FBCG	0.59	484.3	22.95	-	-
ClearBridge Large Cap Growth ESG	LRGE	0.59	177.0	21.15	25.62	-
iShares MSCI All Country Asia ex Japan	AAJX	0.70	5,251.9	-3.40	12.87	9.81
iShares Asia 50	AIA	0.50	2,377.8	-7.76	15.56	12.47
INTERNATIONAL EQUITY: DEVELOPED						
iShares MSCI Saudi Arabia	KSA	0.74	954.7	40.30	15.81	17.19
JPMorgan BetaBuilders Canada	BBCA	0.19	6,129.6	28.52	17.44	-
iShares MSCI Canada	EWC	0.51	4,282.7	27.82	16.50	11.44
iShares MSCI Netherlands	EWN	0.51	367.8	26.86	25.35	18.56
Fidelity High Dividend	FDVV	0.29	961.4	24.32	13.99	13.72
iShares MSCI Sweden	EWD	0.51	741.0	23.18	20.84	15.26
iShares Currency Hedged MSCI Eurozone	HEZU	0.54	724.8	22.45	14.27	11.73
iShares MSCI Kokusai	TOK	0.25	206.7	21.56	19.30	16.31
Xtrackers MSCI Europe Hedged Equity	DEU	0.46	611.9	21.12	12.66	10.88
WisdomTree Europe Hedged Equity	HEDJ	0.58	2,117.6	21.05	12.14	10.26
FlexShares STOXX Global ESG Select	ESGG	0.42	186.0	20.96	19.40	16.62
Fidelity Dividend for Rising Rates	FDRR	0.29	517.2	20.20	15.67	15.14

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
iShares MSCI World	URTH	0.24	1,632.9	20.01	18.47	15.75
Xtrackers MSCI Kokusai Equity	KOKU	0.09	665.8	19.54	-	-
iShares MSCI France	EWQ	0.51	732.1	19.51	13.45	12.51
Invesco DWA Developed Mkts Momentum	PIZ	0.80	254.3	19.22	18.99	13.77
WisdomTree Europe SmallCap Dividend	DFE	0.58	340.3	18.58	12.62	10.68
iShares MSCI Israel	EIS	0.59	185.7	18.50	14.16	11.69
Xtrackers MSCI EAFE Hedged Equity	DBEF	0.36	4,156.3	17.96	12.29	10.89
iShares Currency Hedged MSCI EAFE	HEFA	0.35	3,190.9	17.94	12.26	10.96
iShares MSCI Denmark	EDEN	0.53	183.6	17.65	27.09	18.46
First Trust Europe AlphaDEX	FEP	0.80	558.0	17.00	11.70	11.37
iShares MSCI United Kingdom	EWU	0.51	3,021.5	16.93	5.64	6.21
Vanguard FTSE Europe	VGK	0.08	21,770.3	16.82	13.28	11.23
JPMorgan BetaBuilders Europe	BBEU	0.09	9,518.5	16.77	12.83	-
Global X Artificial Intel/Technology	AIQ	0.68	178.4	16.72	32.39	-
iShares MSCI Europe Small-Cap	IEUS	0.40	388.0	16.58	15.95	13.55
iShares Core MSCI Europe	IEUR	0.09	5,323.6	16.53	13.07	11.16
SPDR Portfolio Europe	SPEU	0.09	371.4	16.39	14.19	11.35
Franklin FTSE United Kingdom	FLGB	0.09	629.7	16.37	6.91	-
WisdomTree Japan Hedged Equity	DXJ	0.48	1,916.2	16.35	8.48	9.45
iShares Europe	IEV	0.59	2,174.7	16.11	12.39	10.37
Invesco FTSE RAFI DM ex-US	PXF	0.45	1,211.0	16.10	9.83	8.99
Franklin FTSE Europe	FLEE	0.09	202.6	16.06	12.82	-
SPDR Euro STOXX 50	FEZ	0.29	2,636.1	16.02	13.37	10.66
WisdomTree Intl Hdgd Qual Div Growth	IHDG	0.58	1,082.9	15.98	16.60	13.50
IQ 500 International	IQIN	0.25	246.6	15.79	-	-
Schwab Fundamental Intl Large Company	FNDF	0.25	7,200.3	15.74	10.26	9.12
iShares MSCI Intl Value Factor	IVLU	0.30	1,154.4	15.56	6.01	6.40
iShares MSCI Eurozone	EZU	0.51	8,005.8	15.24	12.97	10.68
iShares MSCI Italy	EWI	0.51	636.9	15.11	13.30	11.40
Schwab International Small-Cap Equity	SCHC	0.11	3,924.6	14.66	13.22	10.39
Avantis International Equity	AVDE	0.23	1,086.0	14.31	-	-
Invesco RAFI Strategic Developed ex-US	ISDX	0.23	308.3	14.28	11.37	-
iShares MSCI Intl Small-Cap Multifactor	ISCF	0.40	211.3	14.20	12.53	11.39
Global X Robotics & Artificial Intelligence	BOTZ	0.68	2,768.6	13.91	25.23	20.87
FlexShares Mstar DM ex-US Factor Tilt	TLTD	0.39	654.4	13.85	10.58	8.86
Dimensional Intl Core Equity Market	DFAI	0.18	773.9	13.82	-	-
iShares Core MSCI Intl Developed Markets	IDEV	0.05	6,586.4	13.72	12.80	-
Schwab Fundamental Intl Small Company	FNDC	0.39	2,805.9	13.62	10.80	8.85
iShares MSCI Switzerland	EWL	0.51	1,651.2	13.58	16.74	13.72
Knowledge Leaders Developed World	KLDW	0.75	201.6	13.58	15.93	13.31
iShares MSCI Singapore	EWS	0.51	648.2	13.28	6.37	6.44
WisdomTree International SmallCap Div	DLS	0.58	1,483.1	13.11	8.49	7.98
iShares MSCI Intl Quality Factor	IQLT	0.30	4,074.2	12.91	15.99	12.53
Xtrackers MSCI Japan Hedged Equity	DBJP	0.46	198.4	12.80	11.03	11.09
IQ 50 Percent Hedged FTSE International	HPXI	0.20	324.4	12.68	12.01	10.38
Invesco FTSE RAFI DM ex-US Small-Mid	PDN	0.49	438.8	12.63	11.87	9.64
iShares MSCI EAFE Small-Cap	SCZ	0.40	15,502.4	12.60	13.53	11.24
iShares Currency Hedged MSCI Japan	HEWJ	0.51	587.6	12.51	10.75	11.06
iShares Core MSCI EAFE	IEFA	0.07	104,012.9	12.31	12.21	10.28
IQ Candriam ESG International Equity	IQSI	0.15	214.3	12.30	-	-
iShares ESG Aware MSCI EAFE	ESGD	0.20	7,173.5	12.28	12.52	10.32
Vanguard FTSE Developed Markets	VEA	0.05	107,596.5	12.24	12.71	10.43
SPDR Portfolio Developed World ex-US	SPDW	0.04	12,360.0	12.22	12.88	10.47
SPDR MSCI EAFE StrategicFactors	QEFA	0.30	849.6	12.13	12.13	10.18
John Hancock Multifactor Developed Intl	JHMD	0.39	533.3	12.05	11.01	-
iShares MSCI Australia	EWA	0.51	1,493.6	12.02	12.95	9.92
SPDR S&P International Small Cap	GWX	0.40	843.1	12.01	12.10	9.25
iShares MSCI EAFE Value	EFV	0.39	15,711.1	11.93	6.11	6.09
Schwab International Equity	SCHF	0.06	28,990.7	11.93	12.50	10.28
JPMorgan BetaBuilders International	BBIN	0.07	3,712.5	11.85	-	-
iShares MSCI EAFE	EFA	0.32	58,457.1	11.82	11.77	9.81
First Trust Dev Mkts ex-US AlphaDEX	FDT	0.80	420.7	11.72	8.65	7.74
iShares ESG Advanced MSCI EAFE	DMXF	0.12	273.3	11.57	-	-
iShares MSCI Intl Multifactor	INTF	0.30	926.5	11.49	8.50	8.04
Goldman Sachs ActiveBeta International	GSIE	0.25	3,198.6	11.20	11.48	9.80

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
Goldman Sachs MarketBeta International	GSID	0.20	354.2	11.12	-	-
SPDR MSCI EAFE Fossil Fuel Reserves Free	EFAX	0.20	252.2	10.94	12.47	9.76
iShares MSCI EAFE Growth	EFG	0.40	12,831.2	10.85	16.78	12.89
VictoryShares MSCI Intl Val Momentum	UVVM	0.35	358.9	10.83	6.30	-
WisdomTree Intl Quality Dividend Growth	IQDG	0.42	318.3	10.74	16.06	12.51
Hartford Multifactor Dev Mkts (ex-US)	RODM	0.29	1,960.1	10.55	7.56	7.88
Global X FinTech	FINX	0.68	1,429.4	10.06	27.01	28.27
ALPS International Sector Dividend Dogs	IDOG	0.50	182.7	9.98	7.92	7.73
WisdomTree International Equity	DWM	0.48	622.1	9.57	6.65	6.70
WisdomTree International LargeCap Div	DOL	0.48	368.5	9.27	6.29	6.42
JPMorgan BetaBuilders Dev Asia ex-Japan	BBAX	0.19	4,170.9	8.97	12.06	-
iShares MSCI Pacific ex-Japan	EPP	0.48	2,478.3	8.33	10.91	8.56
iShares MSCI Germany	EWG	0.51	2,766.4	8.10	9.83	7.85
Invesco S&P Intl Developed Low Volatility	IDLV	0.25	706.3	7.29	4.27	5.03
JPMorgan Diversified Return International	JPIN	0.37	851.2	7.23	8.10	7.10
WisdomTree International High Dividend	DTH	0.58	177.2	7.18	4.11	4.99
iShares MSCI Intl Momentum Factor	IMTM	0.30	912.0	6.97	15.18	11.76
iShares MSCI EAFE Min Vol Factor	EFMV	0.20	8,339.8	6.23	6.95	6.82
iShares MSCI Spain	EWP	0.51	697.8	6.04	4.01	3.96
iShares Core MSCI Pacific	IPAC	0.09	1,110.6	4.98	10.42	8.73
Xtrackers MSCI EAFE High Dividend Yld	HDEF	0.20	820.6	4.64	6.88	3.69
ARK Israel Innovative Technology	IZRL	0.49	263.7	3.91	17.13	-
WisdomTree Japan SmallCap Dividend	DFJ	0.58	235.1	3.68	4.39	5.56
Vanguard FTSE Pacific	VPL	0.08	5,549.4	2.82	10.90	8.93
JPMorgan BetaBuilders Japan	BBJP	0.19	8,002.8	2.16	9.44	-
BlueStar Israel Technology	ITEQ	0.75	199.3	2.16	29.17	23.96
Franklin FTSE Japan	FLJP	0.09	757.8	2.15	9.47	-
iShares MSCI Japan	EWJ	0.51	12,837.8	1.99	9.37	7.97
iShares MSCI Hong Kong	EHK	0.51	974.0	1.00	7.58	5.79
BlackRock World ex US Carbon Transition	LCTD	0.20	600.5	-	-	-
INTERNATIONAL EQUITY: EMERGING						
iShares MSCI India Small Cap	SMIN	0.81	356.0	42.03	20.83	11.26
iShares MSCI Russia	ERUS	0.59	664.4	37.11	21.33	16.56
VanEck Russia	RXS	0.67	1,663.7	32.51	20.91	15.98
WisdomTree India Earnings	EPI	0.84	972.7	29.16	19.80	12.64
iShares MSCI Poland	EPOL	0.59	308.5	22.62	4.64	6.61
iShares India 50	INDY	0.90	762.8	21.79	17.99	12.12
iShares MSCI India	INDA	0.69	6,314.7	21.54	18.28	11.81
iShares MSCI Taiwan	EWT	0.59	7,057.2	18.73	27.02	17.25
iShares MSCI Emerging Markets Small-Cap	EEMS	0.71	398.7	16.42	17.03	9.77
SPDR S&P Emerging Markets Small Cap	EWX	0.65	652.2	15.71	16.04	9.56
Invesco S&P Emerging Markets Low Vol	EELV	0.30	361.7	15.24	6.87	6.27
Schwab Fundamental EM Large Company	FNDE	0.39	5,102.0	15.11	9.87	8.58
iShares MSCI Mexico	EMX	0.51	993.6	13.35	6.93	1.02
WisdomTree EM SmallCap Dividend	DGS	0.58	2,277.3	12.73	12.79	8.95
iShares Emerging Markets Dividend	DVYE	0.49	810.7	10.55	7.75	7.50
KraneShares MSCI China Clean Technology	KGRN	0.79	204.7	10.44	43.87	-
SPDR S&P Emerging Markets Dividend	EDIV	0.49	295.7	9.76	4.86	4.86
WisdomTree Emerging Markets High Div	DEM	0.63	1,912.9	9.44	7.34	7.39
VictoryShares USAA MSCI EM Value Mom	UEVM	0.45	239.2	9.23	8.42	-
Invesco DWA Emerging Mkts Momentum	PIE	0.90	214.5	9.02	17.67	11.08
iShares MSCI South Africa	EZA	0.59	323.5	8.26	6.31	1.84
Invesco FTSE RAFI Emerging Markets	PXH	0.50	1,375.3	8.26	7.14	6.84
iShares MSCI Emerging Markets ex China	EMXC	0.25	1,650.4	7.34	12.50	-
First Trust Emerging Markets AlphaDEX	FEM	0.80	465.7	6.44	7.76	7.88
FlexShares Mstar EM Factor Tilt	TLTE	0.59	336.5	6.38	11.50	7.70
iShares MSCI Emerging Mkts Multifactor	EMGF	0.45	842.4	5.35	11.89	8.79
Avantis Emerging Markets Equity	AVEM	0.33	905.8	5.22	-	-
iShares MSCI Emrg Mkts Min Vol Factor	EEMV	0.25	3,754.6	3.93	7.32	6.18
iShares ESG MSCI EM Leaders	LDEM	0.16	875.1	3.69	-	-
SPDR Portfolio Emerging Markets	SPEM	0.11	5,825.2	3.08	12.46	9.19
Dimensional Emerging Core Equity Market	DFAE	0.35	398.4	2.84	-	-
iShares MSCI Indonesia	EIDO	0.59	425.8	2.83	4.34	-0.31
Vanguard FTSE Emerging Markets	VVO	0.10	80,919.4	2.73	13.13	8.81
John Hancock Multifactor Emerging Mkts	JHEM	0.49	714.9	2.56	11.80	-

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
iShares MSCI China A	CNYA	0.60	709.4	1.72	23.54	12.04
Schwab Emerging Markets Equity	SCHE	0.11	9,488.5	1.47	12.31	8.85
KraneShares Bosera MSCI China A Share	KBA	0.60	746.0	1.42	23.68	11.90
iShares Core MSCI Emerging Markets	IEMG	0.11	80,272.6	1.33	12.64	9.42
iShares MSCI Thailand	THD	0.59	399.8	0.97	-1.75	3.78
iShares Curr Hgdg MSCI Emerging Mkts	HEEM	0.70	194.5	0.47	11.99	9.26
iShares ESG Aware MSCI EM	ESGE	0.25	6,935.7	0.23	13.13	10.03
SPDR S&P Emerging Asia Pacific	GMF	0.49	613.6	-0.44	14.88	11.31
iShares MSCI Emerging Markets	EEM	0.70	30,389.4	-1.02	11.50	8.70
iShares Core MSCI Emerging Markets Asia	EEMA	0.50	868.2	-2.23	13.87	10.68
Goldman Sachs ActiveBeta EM Equity	GEM	0.45	1,365.7	-2.59	9.30	7.45
WisdomTree EM ex-SOE	XSOE	0.32	4,217.7	-3.22	16.25	11.87
Xtrackers Harvest CSI 300 China A-Shares	ASHR	0.65	2,396.9	-3.25	19.83	10.51
iShares MSCI Malaysia	EWM	0.51	256.0	-6.02	-1.43	-0.41
iShares MSCI South Korea	EWY	0.59	5,578.9	-7.62	12.49	9.33
Invesco BLDRS Emerging Markets 50 ADR	ADRE	0.30	192.9	-11.31	11.30	8.70
SPDR S&P China	GXC	0.59	1,741.4	-13.19	11.02	9.67
iShares Latin America 40	ILF	0.48	1,231.7	-13.53	-6.17	-1.72
iShares MSCI China	MCHI	0.59	6,520.0	-14.30	10.57	9.54
WisdomTree China ex-SOE	CXSE	0.32	1,095.5	-15.10	21.66	17.43
iShares MSCI Turkey	TUR	0.59	246.0	-17.23	-0.42	-8.09
iShares MSCI Chile	ECH	0.59	429.9	-17.42	-14.28	-7.46
Franklin FTSE Brazil	FLBR	0.19	188.3	-19.03	-7.17	-
iShares MSCI Brazil	EWZ	0.59	4,691.9	-19.70	-7.60	-2.53
Invesco Golden Dragon China	PGJ	0.69	245.9	-30.61	9.90	7.54
KraneShares CSI China Internet	KWEB	0.76	8,571.1	-37.83	5.88	4.79
JPMorgan ActiveBuilders EM Equity	JEMA	0.39	329.2	-	-	-
INTERNATIONAL EQUITY: FRONTIER						
iShares MSCI Frontier and Select EM	FM	0.79	525.7	29.44	13.56	10.96
VanEck Vietnam	VNM	0.66	573.7	16.07	10.99	8.44
GLOBAL EQUITY: SECTOR						
North Shore Global Uranium Mining	URNM	0.85	867.2	104.36	-	-
VanEck Rare Earth/Strategic Metals	REMX	0.59	1,053.1	79.54	36.58	24.37
Global X Uranium	URA	0.69	1,339.0	75.42	32.64	20.44
Amplify Transformational Data Sharing	BLOK	0.71	1,465.2	58.58	49.63	-
Global X Lithium & Battery Tech	LIT	0.75	5,593.8	48.58	47.26	33.47
iShares Global Energy	IXC	0.43	1,721.6	45.28	-0.42	2.06
VanEck Oil Services	OIH	0.35	2,845.5	36.52	-18.54	-16.23
Davis Select Financial	DFNL	0.64	230.8	34.44	14.29	-
Invesco Global Listed Private Equity	PSP	1.44	280.0	30.38	21.77	17.32
KraneShares Electric Veh/Future Mobility	KARS	0.70	309.0	30.15	39.81	-
iShares Global Financials	IXG	0.43	2,936.4	28.11	12.79	12.27
First Trust Clean Edge Smart Grid Infrastr	GRID	0.70	625.6	26.59	34.87	22.32
Invesco S&P Global Water	CGW	0.57	1,205.2	26.20	24.46	16.99
Global X Autonomous & Electric Vehicles	DRIV	0.68	1,113.8	25.78	33.55	-
iShares Global REIT	REET	0.14	3,438.3	25.10	10.56	7.45
Amplify Lithium & Battery Technology	BATT	0.59	209.5	24.41	16.70	-
SPDR Dow Jones Global Real Estate	RWO	0.50	1,740.8	24.29	9.55	6.80
FlexShares Global Quality Real Estate	GQRE	0.45	423.1	24.09	10.10	7.43
Global X Copper Miners	COPX	0.65	994.4	23.46	26.98	18.17
VanEck Agribusiness	MOO	0.56	1,182.1	22.85	17.50	15.95
FlexShares Mstar Global Upstrm Nat Res	GUNR	0.46	6,090.0	22.58	10.99	10.46
Siren Nasdaq NexGen Economy	BLCN	0.68	300.7	22.50	32.96	-
SPDR S&P Global Natural Resources	GNR	0.40	2,380.1	22.25	9.22	9.96
iShares Self-Driving EV and Tech	IDRV	0.47	470.9	21.82	-	-
First Trust NASDAQ Cybersecurity	CIBR	0.60	5,374.6	21.78	29.43	22.68
iShares Global Tech	IXN	0.43	5,552.6	21.36	32.52	28.16
Invesco Global Water	PIO	0.75	323.8	20.39	22.19	15.92
Global X Millennial Consumer	MILN	0.50	234.8	19.65	27.47	24.24
VanEck Retail	RTH	0.35	218.9	18.72	22.86	21.40
3D Printing	PRNT	0.66	474.0	18.72	20.02	13.31
Global X Cybersecurity	BUG	0.50	1,008.3	18.27	-	-
First Trust NASDAQ Technology Dividend	TDIV	0.50	1,646.9	18.03	20.45	17.72
ProShares Pet Care	PAWC	0.50	352.0	17.16	-	-
iShares MSCI ACWI Low Carbon Target	CRBN	0.20	1,187.1	17.00	18.23	14.98

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
iShares MSCI Global Metals/Miner Prod	PICK	0.39	1,086.2	16.87	17.74	15.82
iShares Cybersecurity and Tech	IHAK	0.47	688.7	16.61	-	-
Roundhill Sports Betting & iGaming	BETZ	0.75	377.9	15.98	-	-
iShares Global Consumer Discretionary	RXI	0.43	432.3	15.98	20.02	16.82
iShares Global Industrials	EXI	0.43	412.5	15.78	15.39	12.99
Global X SuperDividend REIT	SRET	0.58	474.6	15.75	-5.48	-0.08
iShares Global Comm Services	IXP	0.43	307.3	15.36	18.62	10.55
iShares Global Healthcare	IXJ	0.43	3,509.9	14.98	15.76	15.03
VanEck Pharmaceutical	PPH	0.35	326.2	14.62	9.53	9.74
ETFMG Prime Cyber Security	HACK	0.60	2,423.2	14.50	23.20	20.60
Goldman Sachs Innovate Equity	GINN	0.50	493.5	14.49	-	-
iShares Exponential Technologies	XT	0.47	4,101.0	14.21	24.24	22.26
Defiance Next Gen Connectivity	FIWG	0.30	1,292.7	13.58	-	-
Global X Cloud Computing	CLOU	0.68	1,503.2	13.41	-	-
SPDR S&P Kensho New Economies	KOMP	0.20	2,096.7	13.14	31.41	-
iShares Robotics/AI Multisector	IRBO	0.47	449.5	13.05	28.43	-
ROBO Global Robotics and Automation	ROBO	0.95	1,905.3	12.40	23.91	20.20
ALPS Disruptive Technologies	DTEC	0.50	252.1	11.83	26.77	-
First Trust Indx NextG	NXTG	0.70	1,020.6	11.71	20.83	15.05
ARK Autonomous Technology & Robotics	ARKQ	0.75	2,644.8	11.15	39.46	33.86
SPDR S&P Global Infrastructure	GII	0.40	458.3	11.15	8.86	6.71
First Trust Nasdaq Artificial Intel/Robotics	ROBT	0.65	277.4	10.99	25.47	-
iShares Global Infrastructure	IGF	0.43	3,173.1	10.86	8.81	6.64
Invesco MSCI Sustainable Future	ERTH	0.55	445.8	10.76	29.20	22.09
iShares Global Materials	MXI	0.43	660.0	10.37	16.19	13.24
FlexShares STOXX Global Broad Infrastr	NFRA	0.47	2,668.2	9.24	11.40	8.64
iShares Gen Immunology/Healthcare	IDNA	0.47	351.2	8.28	-	-
ARK Fintech Innovation	ARKF	0.75	3,421.8	7.40	-	-
ARK Next Generation Internet	ARKW	0.79	5,502.8	7.25	49.90	49.33
iShares Global Consumer Staples	KXI	0.43	656.6	6.96	10.21	7.69
iShares Global Timber & Forestry	WOOD	0.43	297.8	6.82	10.51	12.80
ROBO Global Healthcare Tech/Innovation	HTEC	0.68	241.0	6.76	-	-
VanEck Low Carbon Energy	SMOG	0.62	331.3	6.31	48.17	28.84
O'Shares Global Internet Giants	OGIG	0.48	615.3	3.72	40.29	-
U.S. Global Jets	JETS	0.60	3,414.4	-0.71	-8.42	-1.16
Global X Social Media	SOCL	0.65	406.5	-1.07	28.15	21.47
VanEck Video Gaming and eSports	ESPO	0.55	644.3	-1.39	35.43	-
ETFMG Prime Mobile Payments	IPAY	0.75	1,152.9	-1.88	18.97	21.52
Global X E-commerce	EBIZ	0.50	198.6	-2.10	-	-
Global X CleanTech	CTEC	0.50	184.4	-2.28	-	-
ARK Innovation	ARKK	0.75	21,460.7	-2.58	44.21	45.38
Invesco Solar	TAN	0.69	3,978.7	-3.56	75.65	41.17
Global X Video Games & eSports	HERO	0.50	496.1	-4.92	-	-
First Trust Global Wind Energy	FAN	0.62	400.0	-5.03	25.42	11.10
Global X Telemedicine & Digital Health	EDOC	0.68	578.4	-5.19	-	-
ETFMG Alternative Harvest	MJ	0.75	1,025.5	-5.38	-21.24	-11.06
Global X Genomics & Biotechnology	GNOM	0.50	275.1	-9.27	-	-
Invesco Global Clean Energy	PBD	0.75	398.4	-9.52	44.13	26.16
iShares Global Clean Energy	ICLN	0.42	6,873.3	-10.02	47.95	25.74
AdvisorShares Pure Cannabis	YOLO	0.76	224.9	-11.71	-	-
iShares MSCI Global Gold Miners	RING	0.39	505.4	-11.77	22.71	5.65
Sprott Gold Miners	SGDM	0.50	232.9	-11.91	20.49	4.46
VanEck Gold Miners	GDX	0.52	13,742.5	-11.97	19.44	5.87
Invesco WilderHill Clean Energy	PBW	0.61	1,977.9	-13.45	58.39	38.98
Global X Silver Miners	SIL	0.65	1,127.3	-14.52	21.03	0.79
ETFMG Prime Junior Silver Miners	SILJ	0.69	852.7	-19.07	20.24	-0.27
iShares MSCI Global Silver/Metals Miners	SLVP	0.39	270.7	-19.27	22.35	3.19
ARK Genomic Revolution	ARKG	0.75	7,369.0	-19.47	42.29	37.00
VanEck Junior Gold Miners	GDXJ	0.53	4,776.3	-20.22	17.59	2.84
AdvisorShares Pure US Cannabis	MSOS	0.73	746.0	-25.75	-	-
ARK Space Exploration & Innovation	ARKX	0.75	544.4	-	-	-
Goldman Sachs Future Tech Leaders Equity	GTEK	0.75	231.6	-	-	-
GLOBAL EX-U.S. EQUITY: SECTOR						
VanEck Biotech	BBH	0.35	583.5	17.57	19.11	14.66
iShares Intl Developed Real Estate	IFGL	0.48	284.4	10.17	7.29	6.01

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
Xtrackers International Real Estate	HAUZ	0.10	544.4	10.06	8.23	6.87
SPDR Dow Jones International Real Estate	RWX	0.59	892.7	9.66	5.98	4.56
Vanguard Global ex-U.S. Real Estate	VNQI	0.12	5,143.1	6.99	7.07	5.87
INTERNATIONAL EQUITY: DEVELOPED SECTOR						
iShares MSCI Europe Financials	EUFN	0.48	1,755.2	22.45	8.02	7.21
INTERNATIONAL EQUITY: EMERGING SECTOR						
Xtrackers EM Carbon Reducers	EMCR	0.15	483.7	8.08	-	-
KraneShares MSCI All China Health Care	KURE	0.65	204.1	-9.04	21.79	-
Global X MSCI China Consumer Discr	CHIQ	0.65	657.3	-16.78	31.49	21.39
Invesco China Technology	CQQQ	0.70	1,527.8	-17.10	19.07	12.44
Emerging Markets Internet & Ecommerce	EMQQ	0.86	1,275.9	-20.62	22.50	14.94
GLOBAL EQUITY: HIGH DIVIDEND YIELD						
First Trust Dow Jones Global Select Div	FGD	0.59	521.6	20.49	5.40	3.92
SPDR S&P Global Dividend	WDIV	0.40	334.0	14.03	6.48	6.26
Global X SuperDividend	SDIV	0.59	936.9	7.47	-4.43	-1.24
GLOBAL EX-U.S. EQUITY: HIGH DIVIDEND YIELD						
Vanguard International HiDiv Yield	YIMI	0.27	3,091.2	15.15	9.29	8.03
SPDR S&P International Dividend	DWX	0.45	653.3	9.45	7.52	5.96
INTERNATIONAL EQUITY: HIGH DIVIDEND YIELD						
First Trust Stoxx European Select Dividend	FDD	0.58	296.2	14.51	5.78	5.00
iShares International Select Dividend	IDV	0.49	4,433.1	11.10	6.96	7.17
U.S. FIXED INCOME: BROAD MARKET - BROAD MATURITIES						
Fidelity Corporate Bond	FCOR	0.36	274.0	-1.25	8.46	4.91
iShares Core Total USD Bond Market	IUSB	0.06	15,924.5	-1.36	5.75	3.29
iShares ESG Adv Total USD Bond Market	EUSB	0.12	548.7	-1.50	-	-
U.S. FIXED INCOME: BROAD MARKET - LONG-TERM						
iShares Core 10+ Year USD Bond	ILTB	0.06	355.2	-2.89	11.95	6.23
U.S. FIXED INCOME: BROAD MARKET - SHORT-TERM						
VictoryShares USAA Core Short-Term Bond	USTB	0.34	273.5	0.68	3.71	-
First Trust Enhanced Short Maturity	FTSM	0.25	4,411.5	0.06	1.39	1.53
iShares Core 1-5 Year USD Bond	ISTB	0.06	6,234.6	-0.49	3.65	2.38
First Trust Low Duration Strategic Focus	LDSF	0.77	202.8	-0.79	-	-
U.S. FIXED INCOME: GOVERNMENT/CREDIT - INTERMEDIATE						
VictoryShares Core Intermediate Bond	UITB	0.38	1,112.6	0.22	7.36	-
Vident Core US Bond Strategy	VBND	0.39	421.4	-0.44	5.54	2.56
U.S. FIXED INCOME: GOVERNMENT/CREDIT - LONG-TERM						
iShares Int Rate Hedged Long-Term Corp	IGBH	0.16	831.6	2.64	2.94	4.59
Vanguard Long-Term Corporate Bond	VCLT	0.05	5,361.4	-1.28	12.21	6.93
iShares 10+ Year Inv Grade Corporate Bond	IIGL	0.06	2,636.3	-1.28	12.04	6.81
SPDR Portfolio Long Term Corporate Bond	SPLB	0.07	899.7	-1.55	12.09	6.77
U.S. FIXED INCOME: GOVERNMENT						
iShares New York Muni Bond	NYF	0.25	541.6	0.43	4.50	2.77
WisdomTree Floating Rate Treasury	USFR	0.15	1,743.9	0.00	0.96	1.02
iShares Treasury Floating Rate Bond	TFLO	0.15	261.4	-0.01	0.93	1.07
iShares US Treasury Bond	GOVT	0.05	15,664.0	-2.06	4.92	2.32
Franklin Liberty US Treasury Bond	FLGV	0.09	413.0	-2.39	-	-
Invesco 1-30 Laddered Treasury	PLW	0.25	408.6	-4.13	7.63	3.28
U.S. FIXED INCOME: TREASURY - SHORT TERM						
iShares 0-3 Month Treasury Bond	SGOV	0.03	795.2	0.03	-	-
Invesco Treasury Collateral	CLTL	0.08	683.6	0.01	1.22	-
Goldman Sachs Access Treasury 0-1 Year	GBIL	0.12	1,809.3	-0.06	1.04	1.05
SPDR Bloomberg 1-3 Month T-Bill	BIL	0.14	13,052.5	-0.08	0.91	0.95
iShares Short Treasury Bond	SHV	0.15	13,622.6	-0.08	1.15	1.10
Vanguard Short-Term Treasury	VGSH	0.05	13,615.1	-0.36	2.47	1.53
Schwab Short-Term US Treasury	SCHO	0.05	9,380.7	-0.37	2.47	1.53
iShares 1-3 Year Treasury Bond	SHY	0.15	20,029.6	-0.45	2.36	1.45
SPDR Portfolio Short Term Treasury	SPTS	0.06	3,464.3	-0.45	2.48	1.38
Franklin Liberty Short Duration US Govt	FTSD	0.25	453.3	-0.66	1.97	1.40
U.S. FIXED INCOME: TREASURY - INTERMEDIATE						
iShares 3-7 Year Treasury Bond	IEI	0.15	10,594.6	-2.43	4.22	2.06
SPDR Portfolio Intermediate Treasury	SPTI	0.06	3,033.1	-2.84	4.70	2.43
Vanguard Intermediate-Term Treasury	VGIT	0.05	9,058.9	-2.67	4.69	2.22
Schwab Intermediate-Term US Treasury	SCHR	0.05	4,051.4	-2.71	4.66	2.22
iShares 7-10 Year Treasury Bond	IEF	0.15	14,363.4	-3.87	5.97	2.51

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
U.S. FIXED INCOME: TREASURY - LONG-TERM						
iShares 20+ Year Treasury Bond	TLT	0.15	15,243.4	-5.27	11.23	4.63
Vanguard Long-Term Treasury	VGLT	0.05	2,646.1	-5.61	10.92	4.52
SPDR Portfolio Long Term Treasury	SPTL	0.06	4,421.7	-5.64	10.94	4.51
iShares 25+ Year Treasury STRIPS Bond	GOVZ	0.15	413.2	-5.76	-	-
PIMCO 25+ Year Zero Coupon US Treasury	ZROZ	0.15	395.5	-5.98	16.45	6.40
iShares 10-20 Year Treasury Bond	TLH	0.15	1,520.3	-6.15	7.56	3.05
Vanguard Extended Duration Treasury	EDV	0.07	1,274.9	-6.93	14.68	5.81
U.S. FIXED INCOME: AGENCIES						
iShares Agency Bond	AGZ	0.20	771.6	-0.82	4.16	2.40
U.S. FIXED INCOME: AGENCY MBS						
Janus Henderson MBS	JMBS	0.32	848.0	-0.25	5.02	-
First Trust Low Duration Opportunities	LMBS	0.68	6,780.2	-0.61	0.20	-0.61
Vanguard Mortgage-Backed Securities	VMBS	0.05	15,254.1	-1.06	3.79	2.03
iShares MBS	MBB	0.06	25,900.9	-1.06	3.94	2.06
SPDR Portfolio Mortgage Backed Bond	SPMB	0.04	4,213.2	-1.49	3.76	1.99
iShares GNMA Bond	GNMA	0.11	483.7	-1.70	3.41	1.67
U.S. FIXED INCOME: TIPS						
iShares 0-5 Year TIPS Bond	STIP	0.05	7,425.3	5.01	5.08	3.21
FlexShares iBoxx 3 Year Target Dur TIPS	TDTT	0.18	1,428.5	4.99	6.05	3.58
PIMCO 1-5 Year US TIPS	STPZ	0.20	1,198.7	4.96	5.14	3.10
Vanguard Short-Term Inflation-Protected Sec	VTIP	0.05	18,018.1	4.77	4.94	3.12
SPDR Bloomberg Barclays 1-10 Year TIPS	TIPX	0.15	997.9	4.71	6.89	3.91
FlexShares iBoxx 5-Yr Target Duration TIPS	TDTF	0.18	712.2	4.69	7.97	4.38
Schwab US TIPS	SCHP	0.05	21,428.3	4.60	8.32	4.60
PIMCO Broad US TIPS	TIPZ	0.20	210.9	4.46	8.38	4.56
iShares TIPS Bond	TIP	0.19	35,841.2	4.34	8.17	4.47
SPDR Portfolio TIPS	SPIP	0.12	3,282.5	4.28	8.50	4.63
PIMCO 15+ Year US TIPS	LTPZ	0.20	889.5	3.07	15.81	7.69
Quadratic Int Rate Vol/Inflation Hedge	IVOL	1.05	3,622.9	0.80	-	-
U.S. FIXED INCOME: MUNICIPAL - BROAD MARKET						
First Trust Municipal High Income	FMHI	0.55	335.0	5.80	7.17	-
VanEck CEF Muni Income	XMPT	2.32	197.8	4.62	11.74	6.11
American Century Diversified Muni	TAXF	0.29	183.6	1.74	5.87	-
First Trust Managed Municipal	FMB	0.50	2,392.8	1.33	5.26	3.68
Invesco Taxable Municipal Bond	BAB	0.28	2,496.9	0.97	8.34	5.23
Hartford Municipal Opportunities	HMOP	0.29	218.2	0.90	4.58	-
Invesco National AMT-Free Muni Bond	PZA	0.28	2,495.3	0.87	5.79	3.69
Vanguard Tax-Exempt Bond	VTEB	0.06	14,132.3	0.34	5.08	3.22
iShares National Muni Bond	MUB	0.07	23,833.8	0.30	4.97	3.08
IQ MacKay Municipal Insured	MMIN	0.31	479.6	0.16	6.07	-
iShares California Muni Bond	CMF	0.25	1,908.4	-0.13	4.66	2.78
U.S. FIXED INCOME: MUNICIPAL - SHORT-TERM						
First Trust Ultra Short Duration Municipal	FUMB	0.35	180.3	0.25	-	-
JPMorgan Ultra-Short Municipal Income	JMST	0.18	2,244.0	0.22	1.64	-
PIMCO Short Term Municipal Bond Active	SMMU	0.35	548.7	0.11	2.38	1.73
iShares iBonds Dec 2022 Term Muni Bond	IBMK	0.18	379.1	0.09	2.54	1.40
iShares iBonds Dec 2023 Term Muni Bond	IBML	0.18	336.4	0.04	3.15	-
BlackRock Short Maturity Municipal Bond	SEAR	0.25	293.2	-0.01	1.17	1.07
iShares Short-Term National Muni Bond	SUB	0.07	6,326.6	-0.08	2.22	1.46
iShares iBonds Dec 2021 Term Muni Bond	IBMJ	0.18	276.4	-0.11	1.77	1.03
VanEck Short Muni	SMB	0.20	330.5	-0.11	2.99	1.80
SPDR Nuveen Bloomberg Short Term Muni	SHM	0.20	5,095.0	-0.41	2.43	1.42
U.S. FIXED INCOME: MUNICIPAL - INTERMEDIATE						
IQ MacKay Municipal Intermediate	MMIT	0.31	232.8	0.55	5.96	-
PIMCO Intermediate Muni Bond Active	MUNI	0.35	682.1	0.13	4.70	2.96
iShares iBonds Dec 2024 Term Muni Bond	IBMM	0.18	243.2	-0.13	3.99	-
iShares iBonds Dec 2025 Term Muni Bond	IBMN	0.18	182.5	-0.48	-	-
VanEck Intermediate Muni	ITM	0.24	1,930.1	-1.41	5.35	3.08
U.S. FIXED INCOME: MUNICIPAL - LONG-TERM						
Invesco California AMT-Free Municipal	PWZ	0.28	564.3	0.76	5.68	3.63
VanEck Long Muni	MLN	0.24	242.4	0.50	6.80	3.95
SPDR Nuveen Bloomberg Municipal Bond	TFI	0.23	4,052.5	-0.66	5.20	2.98
U.S. FIXED INCOME: MUNICIPAL - HIGH YIELD						
SPDR Nuveen Bloomberg High Yield Muni	HYMB	0.35	1,827.6	3.40	6.19	4.22
VanEck Short High Yield Muni	SHYD	0.35	423.0	2.70	4.41	3.04

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VanEck High Yield Muni	HYD	0.35	3,548.8	2.04	4.38	3.67
U.S. FIXED INCOME: CORPORATE - INVESTMENT GRADE - BROAD MATURITIES						
iShares Int Rate Hedged Corporate Bond	LQDH	0.24	717.0	2.01	3.30	3.78
ProShares Inv Grade-Interest Rate Hedged	IGHG	0.30	1,037.1	1.02	3.09	3.27
WisdomTree Int Rate Hedged US Agg Bond	AGZD	0.23	227.3	0.80	1.86	1.95
Fidelity Low Duration Bond Factor	FLDR	0.15	234.8	-0.15	2.07	-
Principal Inv Grade Corporate Active	IG	0.26	491.7	-0.82	8.38	-
PIMCO Investment Grade Corporate Bond	CORP	0.20	799.8	-1.04	8.14	4.71
SPDR Portfolio Corporate Bond	SPBO	0.03	411.5	-1.08	8.34	4.81
iShares Broad USD Inv Grade Corporate	USIG	0.04	6,702.1	-1.10	7.79	4.57
iShares ESG Aware USD Corporate Bond	SUSC	0.18	854.5	-1.20	7.78	-
Vanguard Total Corporate Bond	VTC	0.05	708.5	-1.21	7.82	-
Franklin Liberty US Core Bond	FLCB	0.15	1,667.9	-1.65	-	-
SPDR Portfolio Aggregate Bond	SPAB	0.03	6,541.8	-1.68	5.55	3.03
iShares Core US Aggregate Bond	AGG	0.04	89,161.4	-1.68	5.52	3.02
iShares ESG Aware US Aggregate Bond	EAGG	0.10	1,629.8	-1.68	5.44	-
Schwab US Aggregate Bond	SCHZ	0.04	9,235.7	-1.69	5.52	2.99
WisdomTree Yield Enhanced US Agg	AGGY	0.12	1,110.7	-1.70	5.90	3.22
iShares iBoxx USD Inv Grade Corporate	LQD	0.14	37,903.5	-1.70	9.12	5.19
JPMorgan US Aggregate Bond	JAGG	0.07	1,075.2	-1.76	-	-
Vanguard Total Bond Market	BND	0.04	83,001.3	-1.76	5.70	3.09
Goldman Sachs Access Inv Grade Corp	GIGB	0.14	790.5	-1.81	7.72	-
Franklin Liberty Investment Grade Corp	FLCO	0.35	1,017.3	-1.89	7.73	4.33
Vanguard ESG US Corporate Bond	VCEB	0.12	243.8	-1.92	-	-
Goldman Sachs Access US Agg Bond	GCOR	0.14	236.5	-1.93	-	-
Nuveen Enhanced Yield US Aggregate	NUAG	0.20	361.9	-1.93	5.66	3.07
iShares Aaa-A Rated Corporate Bond	QLTA	0.15	1,171.8	-2.12	7.11	4.00
Nuveen ESG US Aggregate Bond	NUBD	0.15	268.8	-2.22	5.16	-
BNY Mellon Core Bond	BKAG	0.00	194.7	-2.55	-	-
Vanguard Long-Term Bond	BLV	0.05	6,099.3	-2.91	11.92	7.25
U.S. FIXED INCOME: CORPORATE - INVESTMENT GRADE - SHORT-TERM						
PGIM Ultra Short Bond	PULS	0.15	1,959.1	0.45	1.79	-
SPDR SSGA Ultra Short Term Bond	ULST	0.20	483.7	0.31	1.71	1.67
ClearShares Ultra-Short Maturity	OPER	0.20	180.2	0.31	1.16	-
PIMCO Enh Short Maturity Active ESG	EMNT	0.24	177.9	0.22	-	-
BlackRock Ultra Short-Term Bond	ICSH	0.08	5,806.6	0.21	1.79	1.80
JPMorgan Ultra-Short Income	JPST	0.18	18,424.6	0.14	1.99	-
iShares iBonds Dec 2021 Term Corporate	IBDM	0.10	1,222.0	0.09	2.80	1.91
PIMCO Enhanced Short Maturity Active	MINT	0.35	14,104.0	0.08	1.69	1.76
Invesco BulletShares 2022 Corporate Bond	BSCM	0.10	2,391.5	0.06	3.99	2.54
iShares iBonds Dec 2022 Term Corporate	IBDN	0.10	1,578.6	0.05	3.90	2.46
Invesco BulletShares 2021 Corporate Bond	BSDL	0.10	1,467.5	-0.01	2.71	1.85
Goldman Sachs Access Ultra Short Bond	GSST	0.16	329.0	-0.02	-	-
SPDR Portfolio Short Term Corporate Bond	SPSB	0.07	7,886.0	-0.11	3.24	2.34
Invesco BulletShares 2023 Corporate Bond	BSCN	0.10	2,191.5	-0.18	4.90	3.19
iShares 1-5 Year Inv Grade Corporate Bond	IGSB	0.06	23,596.1	-0.34	4.28	2.85
iShares 0-5 Yr Inv Grade Corporate Bond	SLQD	0.06	2,521.7	-0.43	3.72	2.58
Vanguard Short-Term Corporate Bond	VCSH	0.05	42,790.7	-0.46	4.11	2.79
Schwab 1-5 Year Corporate Bond	SCHJ	0.05	639.8	-0.50	-	-
iShares ESG Aware 1-5 Year USD Corporate Bond	SUSB	0.12	1,055.6	-0.53	3.97	-
Vanguard Short-Term Bond	BSV	0.05	42,632.1	-0.88	3.36	2.05
Vanguard Ultra-Short Bond	VUSB	0.10	1,848.2	-	-	-
U.S. FIXED INCOME: CORPORATE - INVESTMENT GRADE - INTERMEDIATE						
iShares iBonds Dec 2023 Term Corporate	IBDO	0.10	1,666.4	-0.13	5.08	3.11
iShares iBonds Dec 2024 Term Corporate	IBDP	0.10	1,503.9	-0.34	5.84	3.52
Invesco BulletShares 2024 Corporate Bond	BSCO	0.10	1,679.3	-0.52	5.94	3.71
FlexShares Credit-Scored US Corporate	SKOR	0.22	315.8	-1.18	6.37	3.74
iShares iBonds Dec 2025 Term Corporate	IBDQ	0.10	1,256.3	-1.19	6.91	4.10
SPDR Portfolio Intermediate Corporate	SPIB	0.07	6,072.4	-1.22	5.79	3.58
Invesco BulletShares 2025 Corporate Bond	BSCP	0.10	1,104.3	-1.28	6.78	3.88
Inspire Corporate Bond Impact	IBD	0.49	233.6	-1.33	4.16	-
iShares iBonds Dec 2027 Term Corporate	IBDS	0.10	523.0	-1.52	7.91	-
iShares iBonds Dec 2026 Term Corporate	IBDR	0.10	861.7	-1.56	7.53	4.16
Invesco BulletShares 2026 Corporate Bond	BSCQ	0.10	598.7	-1.70	7.59	4.13
iShares iBonds Dec 2028 Term Corporate	IBDT	0.10	305.2	-1.71	8.02	-

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
iShares 5-10 Yr Inv Grade Corporate Bond	IGIB	0.06	11,939.5	-1.72	7.70	4.53
Vanguard Intermediate Corporate Bond	VCIT	0.05	45,891.1	-1.75	7.54	4.38
Invesco BulletShares 2028 Corporate Bond	BSCS	0.10	229.5	-1.83	8.04	-
Schwab 5-10 Year Corporate Bond	SCHI	0.05	340.3	-1.85	-	-
Invesco BulletShares 2027 Corporate Bond	BSCR	0.10	360.1	-1.87	7.77	-
U.S. FIXED INCOME: CORPORATE - INVESTMENT GRADE - FLOATING RATE						
Invesco Variable Rate Investment Grade	VRIG	0.30	471.6	1.06	2.10	2.25
VanEck Investment Grade Floating Rate	FLTR	0.14	748.9	0.70	2.07	2.31
iShares Floating Rate Bond	FLOT	0.15	7,001.8	0.47	1.58	1.73
SPDR Bloomberg Inv Grade Floating Rate	FLRN	0.15	2,453.0	0.47	1.58	1.76
U.S. FIXED INCOME: CORPORATE - HIGH YIELD - BROAD MATURITIES						
VanEck Fallen Angel High Yield Bond	ANGL	0.35	5,235.7	6.19	10.97	8.39
WisdomTree Interest Rate Hedged HiYld	HYZD	0.43	182.0	5.25	2.98	4.11
iShares Fallen Angels USD Bond	FALN	0.25	4,671.2	5.08	10.68	8.22
FlexShares High Yield Value-Scored Bond	HYGV	0.37	575.5	5.05	7.89	-
SPDR Portfolio High Yield Bond	SPHY	0.10	556.1	4.61	7.99	5.40
iShares Broad USD HiYld Corp Bond	USHY	0.15	8,312.0	3.99	7.06	-
Franklin Liberty Senior Loan	FLBL	0.45	186.0	3.73	3.49	-
WisdomTree US HiYld Corp Bond	WFHY	0.38	188.5	3.11	7.29	5.21
SPDR Bloomberg High Yield Bond	JNK	0.40	8,528.9	2.94	6.36	5.46
Xtrackers USD HiYld Corp Bond	HYLB	0.15	6,757.0	2.91	6.22	-
JPMorgan High Yield Research Enhanced	JPHY	0.24	1,573.8	2.83	6.83	5.03
iShares iBoxx USD HiYld Corp Bond	HYG	0.48	20,052.4	2.63	6.06	5.31
Xtrackers Low Beta High Yield Bond	HYDW	0.20	900.1	1.65	5.74	-
Goldman Sachs Access HiYld Corp Bond	GHYB	0.34	192.0	1.59	6.10	-
Invesco Senior Loan	BKLN	0.65	6,934.6	1.45	2.56	2.89
Pacer Trendpilot US Bond	PTBD	0.60	1,322.0	-0.12	-	-
U.S. FIXED INCOME: CORPORATE - HIGH YIELD - SHORT-TERM						
SPDR Bloomberg Short Term High Yld Bond	SJNK	0.40	4,648.9	4.49	5.71	5.38
iShares 0-5 Year HiYld Corp Bond	SHYG	0.30	5,435.4	3.96	4.89	4.81
PIMCO 0-5 Year HiYld Corp Bond	HYS	0.55	2,011.3	3.84	4.86	4.98
Invesco BulletShares 2022 HiYld Corp Bond	BSJM	0.42	902.9	2.03	2.97	3.44
Invesco BulletShares 2021 HiYld Corp Bond	BSJL	0.42	522.0	0.81	1.78	2.86
U.S. FIXED INCOME: CORPORATE - HIGH YIELD - INTERMEDIATE						
Invesco BulletShares 2024 HiYld Corp Bond	BSJO	0.42	394.2	3.27	5.72	4.81
Invesco BulletShares 2025 HiYld Corp Bond	BSJP	0.42	298.5	3.17	6.35	-
Invesco Fundamental HiYld Corp Bond	PHB	0.50	916.1	2.83	6.32	4.97
Invesco BulletShares 2023 HiYld Corp Bond	BSJN	0.42	694.5	2.33	4.23	4.26
iShares Intermediate Govt/Credit Bond	GVI	0.20	2,464.9	-1.59	4.32	2.40
iShares Government/Credit Bond	GBF	0.20	450.9	-2.29	6.00	3.22
Vanguard Intermediate-Term Bond	BIV	0.05	14,720.6	-2.59	6.51	3.39
U.S. FIXED INCOME: CORPORATE - ASSET-BACKED						
First Trust TCW Securitized Plus	DEED	0.65	277.4	0.99	-	-
iShares CMBS	CMBS	0.25	820.4	-1.35	5.57	3.19
U.S. FIXED INCOME: CORPORATE - CONVERTIBLES						
SPDR Bloomberg Convertible Securities	CWB	0.40	7,250.3	7.25	24.99	18.37
iShares Convertible Bond	ICVT	0.20	1,907.3	6.65	26.68	20.22
U.S. FIXED INCOME: CORPORATE - PREFERRED STOCK						
VanEck Preferred Securities ex Financials	PPFX	0.40	1,071.7	9.22	10.89	7.25
iShares Preferred and Income Securities	PFF	0.46	20,396.1	5.92	8.45	5.78
Global X US Preferred	PFFD	0.23	2,481.8	4.59	8.92	-
Invesco Variable Rate Preferred	VRP	0.50	1,991.3	4.23	7.27	5.44
Invesco Preferred	PGX	0.52	7,536.3	2.91	8.01	5.71
Invesco Financial Preferred	PGF	0.55	1,799.9	2.36	7.31	5.47
Innovator S&P Inv Grade Preferred	EPRF	0.47	222.6	1.86	7.83	4.91
SPDR ICE Preferred Securities	PSK	0.45	1,504.0	1.36	7.12	4.92
GLOBAL FIXED INCOME						
First Trust SSI Strategic Convertible Sec	FCVT	0.95	304.7	7.55	24.00	17.64
First Trust Preferred Securities & Income	FPE	0.85	7,695.5	5.22	8.34	6.39
First Trust TCW Unconstrained Plus Bond	UCON	0.76	739.5	2.52	2.97	-
Invesco Global Short Term High Yield Bond	PGHY	0.35	236.5	1.57	3.25	3.11
Janus Henderson AAA CLO	JAAA	0.25	260.0	1.17	-	-
FormulaFolios Tactical Income	FTTI	0.93	190.8	0.53	3.09	-
ETFMG Sit Ultra Short	VALT	0.30	232.2	0.42	-	-
BlackRock Short Maturity Bond	NEAR	0.25	4,853.9	0.39	1.79	1.74

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
IQ Ultra Short Duration	ULTR	0.25	234.7	0.37	-	-
FlexShares Ready Access Variable Income	RAVI	0.25	374.4	0.15	1.89	1.73
SPDR DoubleLine Short Dur Tot Ret Tactical	STOT	0.45	192.7	0.10	2.61	1.78
Invesco Ultra Short Duration	GSY	0.22	2,941.9	0.06	1.82	1.90
PIMCO Enhanced Low Duration Active	LDUR	0.49	1,211.8	-0.02	2.88	2.39
JPMorgan International Bond Opps	JPIB	0.50	309.8	-0.26	5.48	-
Janus Henderson Short Duration Income	VNLA	0.26	2,778.1	-0.33	2.28	-
Invesco Total Return Bond	GTO	0.50	996.5	-0.39	7.53	5.37
Fidelity Total Bond	FBND	0.36	2,084.3	-0.64	6.60	3.94
Hartford Total Return Bond	HTRB	0.29	1,043.8	-0.83	6.47	-
PIMCO Active Bond	BOND	0.55	4,290.5	-0.83	5.84	3.73
SPDR DoubleLine Total Return Tactical	TOTL	0.55	3,050.7	-0.84	3.79	2.32
Fidelity Limited Term Bond	FLT	0.36	288.3	-0.97	3.81	2.41
First Trust TCW Opportunistic Fixed Income	FIXD	0.56	5,322.5	-1.44	3.55	-
Hartford Core Bond	HRB	0.29	262.0	-1.68	-	-
Columbia Diversified Fixed Income Alloc	DIAL	0.28	1,217.1	-1.78	7.40	-
Franklin Liberty International Aggregate	FLIA	0.25	222.6	-2.09	2.39	-
Vanguard Total World Bond	BNDW	0.06	571.5	-2.24	4.71	-
iShares Core International Aggregate Bond	IAGG	0.08	3,893.5	-2.38	3.91	2.97
Vanguard Total International Bond	BNDX	0.08	45,482.4	-2.58	3.80	2.80
iShares Global Green Bond	BGRN	0.20	237.4	-2.81	-	-
SPDR FTSE Intl Govt Inflation-Protected	WIP	0.50	448.8	-3.02	4.81	2.90
SPDR Bloomberg Short Intl Treasury Bond	BWZ	0.35	209.0	-5.53	0.93	0.43
SPDR Bloomberg Intl Treasury Bond	BWX	0.35	952.4	-7.88	3.12	1.56
GLOBAL FIXED INCOME: CORPORATE - PREFERRED STOCK						
Global X SuperIncome Preferred	SPFF	0.58	234.4	5.77	7.48	4.52
First Trust Institutional Pref Sec/Income	FPEI	0.85	489.5	4.73	8.22	-
Principal Spectrum Preferred Sec Active	PREF	0.55	430.1	2.55	8.07	-
GLOBAL FIXED INCOME: HIGH YIELD						
SPDR Blackstone Senior Loan	SRLN	0.70	7,949.6	3.93	4.34	4.19
Fidelity High Yield Factor	FDHY	0.45	294.3	3.34	9.39	-
Franklin Liberty HiYld Corp	FLHY	0.40	322.2	2.79	8.03	-
First Trust Senior Loan	FTSL	0.86	2,864.8	2.70	0.83	0.26
First Trust Tactical High Yield	HYLS	1.01	2,307.1	1.82	1.84	0.54
INTERNATIONAL FIXED INCOME: DEVELOPED						
iShares US & Intl High Yield Corp Bond	GHYG	0.40	194.2	1.24	6.07	5.32
iShares International Treasury Bond	IGOV	0.35	1,197.2	-8.13	2.71	1.50
INTERNATIONAL FIXED INCOME: EMERGING						
iShares J.P. Morgan EM Corporate Bond	CEMB	0.50	518.6	-0.43	6.91	4.58
VanEck Emerging Markets High Yield Bond	HYEM	0.40	1,302.1	-0.82	6.09	4.53
iShares J.P. Morgan EM High Yield Bond	EMHY	0.50	476.3	-1.81	5.14	3.27
Vanguard Emerging Markets Govt Bond	VWOB	0.25	3,028.1	-2.38	6.14	3.98
iShares JP Morgan USD EM Bond	EMB	0.39	19,646.8	-2.47	6.38	3.75
Invesco Emerging Markets Sovereign Debt	PCY	0.50	2,729.4	-3.80	5.72	2.74
iShares JPM EM Local Currency Bond	LEMB	0.30	519.6	-7.49	1.44	0.10
SPDR Bloomberg EM Local Bond	EBND	0.30	1,274.2	-8.89	2.77	1.26
VanEck JPM EM Local Currency Bond	EMLC	0.30	3,457.4	-10.06	1.91	0.35
First Trust EM Local Currency Bond	FEMB	0.85	260.1	-11.90	1.54	0.11
iShares China Large-Cap	FXI	0.74	5,183.7	-12.85	3.12	4.36
SPDR Bloomberg EM USD Bond	EMHC	0.23	180.5	-	-	-
COMMODITIES: BROAD MARKET						
Invesco DB Commodity	DBC	0.88	2,942.0	45.24	9.02	7.99
Invesco Opt Yld Diversfd Commod No K-1	PDBC	0.59	6,892.5	45.02	8.52	7.62
iShares S&P GSCI Commodity	GSG	0.85	1,429.2	44.77	1.66	4.16
iShares GSCI Commodity Dyn Roll Strategy	COMT	0.48	2,836.9	40.46	4.66	6.92
iPath Bloomberg Commodity ETN	DJP	0.70	925.3	38.04	9.29	5.26
United States Commodity	USCI	1.03	253.1	33.68	2.10	0.78
GraniteShares Commodity Broad No K-1	COMB	0.25	280.4	31.63	8.35	-
iShares Bloomberg Roll Select Commodity	CMDY	0.28	210.8	31.51	8.28	-
abrdr Bloomberg All Commodity K-1 Free	BCI	0.25	854.6	31.37	8.33	-
First Trust Global Tactical Commodity	FTGC	0.95	2,105.8	30.16	9.68	4.81
Direxion Auspice Broad Commodity	COM	0.70	254.0	29.95	11.09	-
WisdomTree Enhanced Commodity	GCC	0.55	190.7	21.73	8.29	3.41
COMMODITIES: AGRICULTURE						
Invesco DB Agriculture	DBA	0.94	938.0	19.52	4.39	-0.71

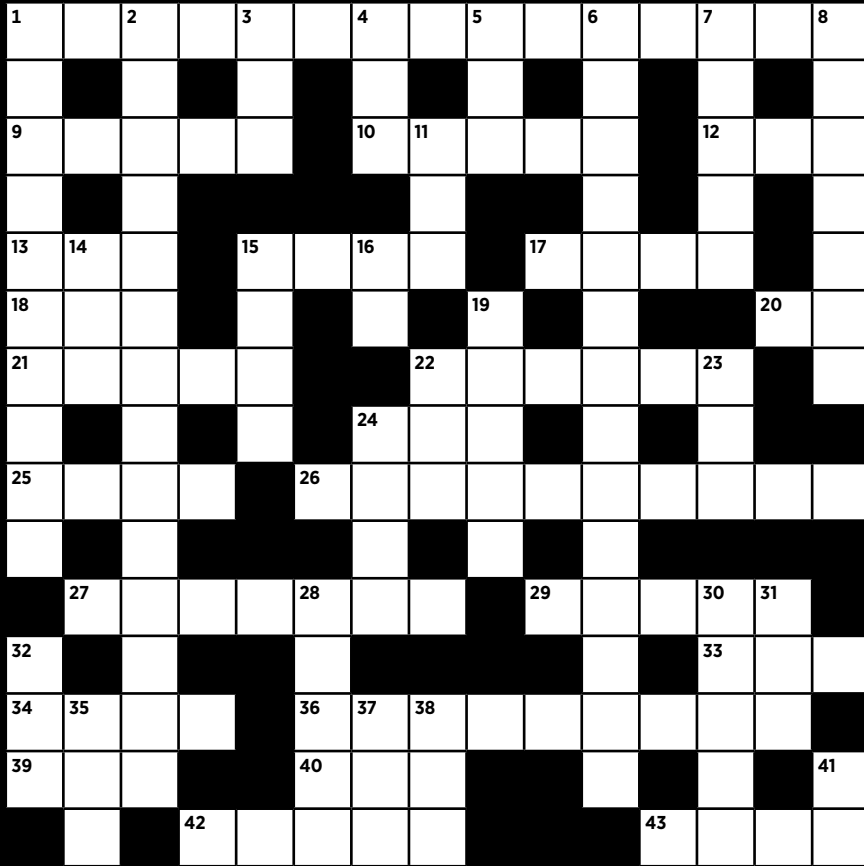
FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
COMMODITIES: ENERGY						
United States Natural Gas	UNG	1.28	509.5	100.65	-11.58	-10.60
Invesco DB Oil	DBO	0.78	493.4	79.48	8.70	12.77
United States Oil	USO	0.79	2,739.0	73.13	-19.69	-7.47
United States Brent Oil	BNO	0.90	254.5	72.75	1.64	9.91
KraneShares Global Carbon	KRBN	0.79	1,062.9	65.85	-	-
COMMODITIES: INDUSTRIAL METALS						
Invesco DB Base Metals	DBB	0.80	462.5	24.10	11.71	8.99
United States Copper	CPER	0.80	290.5	23.50	17.18	13.18
COMMODITIES: PRECIOUS METALS						
Credit Suisse Silver Covered Call ETN	SLVO	0.65	243.8	-1.78	10.97	2.41
Aberdeen Standard Physical Platinum	PPLT	0.60	1,245.6	-5.98	5.94	0.14
GraniteShares Gold Trust	BAR	0.17	891.4	-6.35	13.44	-
SPDR Gold MiniShares Trust	GLDM	0.18	4,300.9	-6.39	13.39	-
Goldman Sachs Physical Gold	AAAU	0.18	411.5	-6.39	13.36	8.59
Aberdeen Standard Physical Gold	SGOL	0.17	2,394.0	-6.40	13.36	6.59
VanEck Merk Gold Trust	OUNZ	0.25	576.7	-6.43	13.22	6.48
iShares Gold Trust	IAU	0.25	28,703.5	-6.43	13.28	6.61
SPDR Gold Trust	GLD	0.40	56,931.5	-6.57	13.11	6.45
Aberdeen Standard Phys Precious Metals	GLTR	0.60	995.1	-9.43	14.88	7.19
Aberdeen Standard Physical Silver	SIVR	0.30	1,012.9	-9.94	18.30	5.63
iShares Silver Trust	SLV	0.50	13,156.3	-10.09	18.10	5.42
Aberdeen Standard Physical Palladium	PALL	0.60	368.1	-19.09	21.88	25.60
iShares Gold Trust Micro	IAUM	0.15	810.5	-	-	-
CURRENCY: DEVELOPED						
Invesco DB US Dollar Index Bullish	UUP	0.76	513.3	4.17	0.28	0.50
Invesco CurrencyShares Canadian Dollar	FXC	0.40	202.7	2.52	2.25	1.73
Invesco CurrencyShares Swiss Franc	FXF	0.40	261.8	-4.31	2.07	0.39
Invesco CurrencyShares Euro	FXE	0.40	266.5	-6.19	-0.24	0.17
Invesco CurrencyShares Japanese Yen	FXJ	0.40	182.3	-9.84	-0.89	-2.17
ProShares Bitcoin Strategy	BITO	0.95	1,201.4	-	-	-
ASSET ALLOCATION						
DeltaShares S&P 500 Managed Risk	DMRL	0.35	436.9	22.76	14.47	-
WisdomTree US Efficient Core	NTSX	0.20	790.3	18.98	22.87	-
Cabana Target Drawdown 13	TDSO	0.69	301.2	18.17	-	-
Multi-Asset Diversified Income	MDIV	0.73	472.3	15.93	3.43	4.10
Amplify High Income	YYY	2.45	447.2	15.48	9.98	7.57
Invesco CEF Income Composite	PCEF	2.34	968.8	15.27	12.65	9.68
iShares Core Aggressive Allocation	AOA	0.15	1,556.1	13.98	14.74	12.24
Cabana Target Drawdown 10	TDSO	0.69	843.0	13.41	-	-
DeltaShares S&P Intl Managed Risk	DMRI	0.50	185.3	11.35	6.54	-
SPDR SSGA Global Allocation	GAL	0.35	293.3	11.31	11.74	9.94
iShares Core Growth Allocation	AOR	0.15	2,026.5	10.04	12.39	9.98
Amplify BlackSwan Growth/Treasury Core	SWAN	0.49	905.2	9.05	-	-
Principal Active High Yield	YLD	0.39	233.2	8.70	7.06	6.01
Cabana Target Drawdown 7	TDSB	0.69	278.9	7.97	-	-
Strategy Shares NASDAQ 7 HANDL	HNDL	0.97	1,283.1	6.50	11.25	-
iShares Core Moderate Allocation	AOM	0.15	1,844.4	6.26	10.15	7.77
iShares Core Conservative Allocation	AOK	0.15	962.5	4.29	8.95	6.57
iShares Morningstar Multi-Asset Income	IYLD	0.60	233.8	2.47	4.95	4.28
Aptus Defined Risk	DRSK	0.79	811.3	0.63	8.96	-
Cambria Tail Risk	TAIL	0.59	328.9	-11.99	-3.86	-
Cabana Target Leading Sector Moderate	CLSM	0.69	269.4	-	-	-
Adaptive Alpha Opportunities	AGOX	1.69	213.7	-	-	-
Cabana Target Leading Sector Aggressive	CLSA	0.69	193.7	-	-	-
Cabana Target Leading Sector Conservative	CLSC	0.69	185.4	-	-	-
ALTERNATIVES: ABSOLUTE RETURN						
First Trust Long/Short Equity	FTLS	1.60	430.5	15.58	10.01	9.85
RPAR Risk Parity	RPAR	0.51	1,528.0	6.11	-	-
Core Alternative	CCOR	1.09	240.5	5.41	6.29	-
IQ Hedge Multi-Strategy Tracker	QAI	0.79	820.9	0.53	4.41	3.30
IQ Merger Arbitrage	MNA	0.77	728.5	-1.41	1.77	3.21
ALTERNATIVES: TACTICAL TOOLS						
iPath Series B S&P 500 VIX Short Fut ETN	VXX	0.89	1,081.3	-68.08	-47.75	-
ProShares VIX Short-Term Futures	VIXY	0.85	304.8	-68.18	-47.92	-47.88

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
LEVERAGED						
ProShares Ultra Bloomberg Natural Gas	BOIL	0.95	206.7	215.88	-42.21	-37.79
MicroSectors US Big Oil 3X Lev ETN	NRGU	0.95	734.0	211.31	-	-
ProShares Ultra QQQ	QLD	0.95	5,937.7	193.77	101.54	74.49
Direxion Daily Oil/Gas Exp/Prod Bull 2X	GUSH	1.17	904.0	189.45	-76.63	-61.59
ProShares Ultra Bloomberg Crude Oil	UCO	0.95	1,184.0	166.03	-48.57	-27.48
Direxion Daily Financial Bull 3x	FAS	0.99	3,643.7	139.04	36.31	38.47
ProShares Ultra Oil & Gas	DIG	0.95	223.3	130.80	-20.25	-13.84
Direxion Daily Energy Bull 2x	ERX	1.00	609.2	124.33	-49.14	-35.49
Direxion Daily Regional Banks Bull 3X	DPST	0.99	447.9	113.26	-18.97	-5.17
Direxion Daily HomeBldr/Supplies Bull 3X	NAIL	1.00	395.2	80.50	43.58	32.21
ProShares UltraPro S&P500	UPRO	0.93	3,182.5	80.40	45.64	43.40
Direxion Daily S&P 500 Bull 3X	SPXL	1.01	3,329.2	80.32	45.61	43.27
Direxion Daily Technology Bull 3X	TECL	1.08	3,035.6	74.80	78.99	72.43
ProShares UltraPro QQQ	TQQQ	0.95	17,292.1	70.69	81.25	72.35
ProShares Ultra Financials	UYG	0.95	984.8	69.33	22.86	24.19
ProShares Ultra Technology	ROM	0.95	1,074.7	63.85	67.85	58.48
Direxion Daily Healthcare Bull 3x	CURE	1.08	247.1	61.06	33.28	37.30
ProShares UltraPro Dow30	UDOW	0.95	912.6	58.97	21.02	35.04
ProShares Ultra Semiconductors	USD	0.95	366.5	57.36	68.84	53.39
Direxion Daily Semiconductor Bull 3X	SOXL	0.96	4,233.8	53.29	93.02	75.46
MicroSectors FANG+ 3X Leveraged ETN	FNGU	0.95	2,274.7	53.16	110.91	-
Credit Suisse FI Large Cap Growth Enh ETN	FLGE	1.52	292.9	50.14	49.09	44.49
ProShares Ultra S&P 500	SSO	0.91	4,779.9	50.10	35.78	32.05
ProShares Ultra MidCap400	MVV	0.95	186.8	44.12	22.98	21.49
ProShares UltraPro Russell2000	URTY	0.95	383.8	41.32	15.26	22.63
MicroSectors FANG+ 2X Leveraged ETN	FNGO	0.95	260.5	40.85	89.89	-
Credit Suisse Mo Pay 2x Lev Mort REIT ETN	REML	1.30	220.7	40.74	-21.13	-6.71
Direxion Daily Small Cap Bull 3x	TNA	1.12	1,510.4	40.59	15.00	22.30
ProShares Ultra Dow30	DDM	0.95	487.2	37.79	21.28	28.03
ProShares Ultra Russell2000	UWM	0.95	287.3	30.92	21.23	22.59
Direxion Daily Aerospace/Defense Bull 3X	DFEN	0.99	275.1	21.84	-20.78	-
Virtus InfraCap US Preferred Stock	PFFA	1.47	524.6	18.56	10.05	-
ProShares Ultra NASDAQ Biotechnology	BIB	0.95	233.5	5.39	21.95	19.11
ProShares Ultra Gold	UGL	0.95	230.9	-16.06	19.05	6.73
Direxion Daily 20+ Year Treasury Bull 3X	TMF	1.05	356.5	-19.81	22.89	4.33
ProShares Ultra Silver	AGQ	0.93	570.3	-27.44	17.79	-2.18
Direxion Daily Gold Miners Index Bull 2X	NUGT	1.17	793.9	-29.25	-9.20	-29.28
Direxion Daily MSCI Brazil Bull 2X	BRZU	1.29	195.5	-41.85	-59.57	-47.23
Direxion Daily Jr Gold Miners Bull 2X	JNUG	1.12	545.4	-43.91	-42.48	-51.04
Direxion Daily FTSE China Bull 3X	YINN	1.37	504.6	-44.32	-13.44	-7.41
Direxion Daily S&P Biotech Bull 3X	LABU	1.02	814.4	-46.83	2.90	13.23
Direxion Daily CSI China Internet Bull 2X	CWEB	1.30	330.7	-68.02	-4.71	-
ProShares Ultra VIX Short-Term Futures	UVXY	0.95	1,056.2	-98.50	-86.15	-84.27
MicroSectors FANG+ Innovtn 3x Lev ETN	BULZ	0.95	296.9	-	-	-
INVERSE						
ProShares Short VIX Short-Term Futures	SVXY	1.38	376.1	48.62	8.22	-15.58
ProShares UltraPro Short 20+ Year Treasury	TTT	0.95	202.3	7.20	-36.26	-20.22
Direxion Daily 20+ Year Treasury Bear 3x	TMV	1.04	325.5	6.09	-36.44	-20.75
ProShares UltraShort 20+ Year Treasury	TBT	0.92	1,541.7	5.79	-24.01	-12.22
ProShares Short 20+ Year Treasury	TBF	0.94	713.5	2.79	-11.74	-5.38
ProShares Short Dow30	DOG	0.95	272.1	-17.35	-16.96	-16.85
ProShares Short Russell2000	RWM	0.95	262.9	-18.69	-20.66	-17.72
ProShares Short S&P500	SH	0.90	1,407.3	-20.98	-20.90	-17.71
ProShares Short QQQ	PSQ	0.95	550.4	-21.79	-28.76	-24.81
ProShares UltraShort S&P500	SDS	0.91	562.8	-37.85	-40.76	-34.89
ProShares UltraShort QQQ	QID	0.95	206.0	-40.07	-52.69	-46.37
ProShares UltraPro Short Dow30	SDOW	0.95	403.1	-44.94	-52.17	-49.34
Direxion Daily Small Cap Bear 3X	TZA	1.07	505.7	-51.15	-61.04	-53.22
Direxion Daily S&P 500 Bear 3X	SPXS	1.07	392.7	-51.99	-58.08	-50.53
ProShares UltraPro Short S&P500	SPXU	0.93	650.9	-52.03	-57.96	-50.36
ProShares UltraPro Short QQQ	SQQQ	0.95	1,558.0	-55.27	-70.69	-63.63
ProShares UltraShort Bloomberg Nat Gas	KOLD	0.95	193.3	-84.99	-38.27	-27.40

Crossword Puzzle

ACROSS

- 1. Key driver of climate change, 2 words
- 9. Lessens the stress
- 10. Bio_____ (derived from plants or animals)
- 12. Yours and mine (singular)
- 13. Suffix with "ideal"
- 15. Agency led by Jelena McWilliams, abbr.
- 17. It's set by the FOMC
- 18. Drink served hot and cold
- 20. ___ display
- 21. It's defined by the high and low prices over a trading period
- 22. Last word in the concept that the world's weather patterns have become a threat to human survival
- 24. Golf course starting point
- 25. Indicator
- 26. Fixed income instruments earmarked to raise money for climate and environmental projects, 2 words
- 27. Stockpiled
- 29. Type of energy that is renewable
- 33. An undesirable or failing security or line of business
- 34. Slipped below the surface
- 36. Economic condition marked by rising prices and falling money values
- 39. Clock standard, abbr.
- 40. Link
- 42. Income returned on an investment
- 43. Stop or stanch or dam up



DOWN

- 1. Possibility of loss resulting from inability of a borrower to pay, 2 words
- 2. Forecasting and evaluating financial dangers together with identifying procedures to avoid or minimize their impact, 2 words
- 3. Approves, abbr.
- 4. An investment unit traded on a stock exchange, abbr.
- 5. Frozen water
- 6. Concept of acting for the benefit and survival of the whole environment
- 7. Global warming concern
- 8. Filters potential investments according to specific criteria
- 11. California college, abbr.
- 14. Ocean
- 15. Gratis
- 16. _/then statement
- 19. Balance _____
- 22. Middling grade
- 23. Poet's dusk (archaic)
- 24. Green symbol of life and energy
- 28. Collection of software offerings
- 30. Take up as a policy
- 31. ___ sequitur
- 32. Standards framework for socially conscious investors
- 35. The lowest price at which a seller will sell a stock
- 37. Zero (chiefly British)
- 38. Slang for the Federal Reserve, with The
- 41. Dawn time, abbr.

Crossword Answers on p. 5



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THE LAST WORD

UNPACKING 2 PARADIGM SHIFTS



BY HEATHER BELL
Editor

It may be hard to look away from all the action—and the attention—that crypto assets get these days. But if you do, you’ll find that fixed income and ESG are the other topics du jour in the asset management industry. And for very different reasons.

Fixed income, in a nutshell, just isn’t doing what it’s historically done, largely because interest rates have been at rock-bottom levels for such a long time. ESG, meanwhile, is gaining attention because climate change, as predicted by many scientists, is becoming a very real threat to human existence, and social issues rank high in everyone’s minds these days.

RESTORING FIXED INCOME’S ROLE

Although fixed income has been misbehaving for over a decade, raising interest rates could go a long way to restoring its traditional role as a source of income and ballast in a portfolio. The Fed has indicated it intends to do just that—though the exact timeline and degree are still a question mark.

Even if that doesn’t do the trick, investors have other choices to consider in their search for income and stability. Options strategies, preferred stocks and pass-through securities can all add income and diversification to a portfolio’s bond allocation. There are also defined outcome ETFs that protect against downside losses up to a certain point in exchange for accepting more muted positive returns.

Low interest rates have immediate and clear ramifications for retirees, but the implications of artificially tamping down on them extend like subtle tendrils to other areas of the economy, like a highly unpredictable but slow-moving Rube Goldberg machine.

ESG TO THE RESCUE?

Given the past few years of rising temperatures, epic wildfires and flooding around the globe, it’s not surprising the world is suddenly paying attention to climate change and very concerned about the “E” in ESG.

That’s not to say the other pillars aren’t important. Corporate governance is still a

concern as it ensures that capitalism works, and does so as fairly as possible, and social issues have come to the forefront with the rise of Black Lives Matter and other human rights movements. Indeed, recent surveys have concluded that social issues are actually the biggest concern for ESG investors. However, climate change is literally about the air we breathe. Ultimately, an uninhabitable planet benefits absolutely no one.

One could also argue that the “E” is a crucial element of the other two letters in the acronym. After all, from a social perspective, marginalized populations tend to be disproportionately affected by climate change and have fewer resources to address it. And given that something like 100 corporations account for more than 70% of carbon emissions, governance can have a meaningful impact on climate change depending on how a company chooses to address it.

Of course, ESG investing practices alone will not fix climate change, but given enough momentum and enough investment dollars, they could help move the needle to where we need it to be. Given the powerlessness of the average person in the face of global trends, ESG investment strategies give every investor the ability to let their portfolios be their voice.

CHANGE DOMINATES

The disruption in fixed income and the rise of ESG investing both represent paradigm shifts in their own ways.

The former may be reversible. If it’s not, the ingenuity of the financial industry will likely generate an acceptable solution to the persistent income problem and other related ones before long.

The latter, however, is a permanent change—a genie that will not return to its bottle. Most market participants expect that ESG criteria will be incorporated across the investment space and become the standard in most investment approaches in the near future. To use an overused term, we may very well be at the early days of our “new normal”—whatever “normal” means in the face of constant change. ●

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