

ETF Report

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LOW THE RATE DILEMMA

How interest rates are affecting bond ETFs

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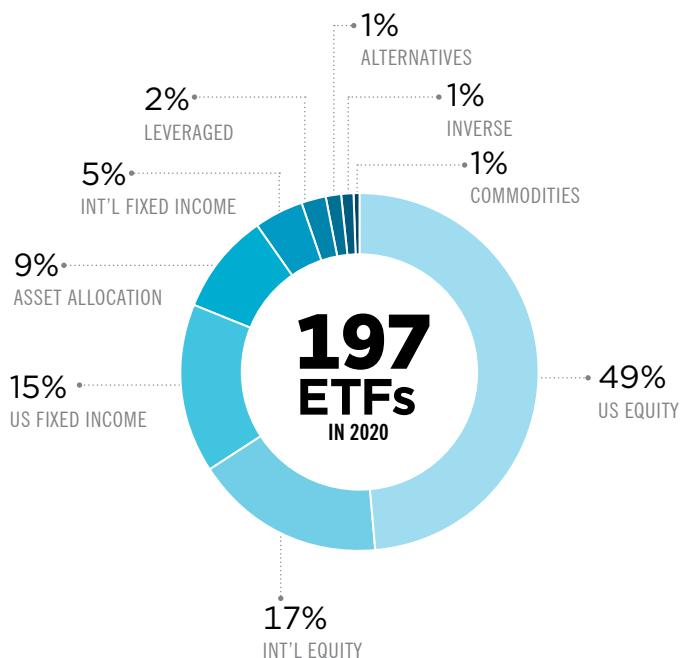
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ETF Launches



FEATURED ETF

Cambria Global Real Estate ETF (BLDG)

The new fund implements a factor-based quantitative investment approach

Cambria Investment Management is behind the September launch of a smart beta take on global real estate securities. The actively managed [Cambria Global Real Estate ETF \(BLDG\)](#) relies on a quantitative methodology that takes into account metrics related to the value, quality and momentum factors.

BLDG comes with an expense ratio of 0.59%.

Companies must be classified as real estate investment trusts or fall into the

real estate sector designation of the Standard & Poor's Global Industry Classification Standard, according to the prospectus.

From there, an algorithm identifies

companies that are attractive based on metrics related to the three targeted factors, and implements a momentum style of investment. It selects the 50 most attractive U.S. companies and the 50 most attractive companies outside the U.S., weighting all 100 stocks equally, the document says.

As of mid-October, BLDG included Macquarie Mexico Real Estate Management (1.44%), Retail Value (1.41%) and Corporate Office Properties (1.40%) among its top holdings.

"We view real estate as a core piece of the investment opportunity set, and BLDG offers investors global active exposure to real estate through a thoughtful, multifactor approach focused on value, quality and momentum," said Meb Faber, Cambria's co-founder and chief investment officer. ●

ETF LAUNCH ACTIVITY

LAUNCHES

U.S. EQUITY

- Fidelity U.S. Multifactor
- FT Cboe Vest U.S. Equity Buffer - September
- FT Cboe Vest U.S. Equity Deep Buffer - September
- Global X Nasdaq 100 Covered Call & Growth
- Global X S&P 500 Covered Call & Growth
- iShares ESG Screened S&P 500
- iShares ESG Screened S&P Mid-Cap
- iShares ESG Screened S&P Small-Cap
- LHA Market State Tactical Beta
- Natixis U.S. Equity Opportunities
- Natixis Vaughan Nelson Mid Cap
- Natixis Vaughan Nelson Select
- Simplify US Equity PLUS Convexity
- Simplify US Equity PLUS Downside Convexity
- Simplify US Equity PLUS Upside Convexity
- TrueShares Structured Outcome - September
- VictoryShares Nasdaq Next 50

INT'L EQUITY

- AdvisorShares Pure US Cannabis
- Cambria Global Real Estate
- Global X China Biotech Innovation
- iShares MSCI Kuwait

U.S. FIXED INCOME

- AAF First Priority CLO Bond
- Goldman Sachs Access U.S. Aggregate Bond
- Invesco BulletShares 2028 High Yield Corp Bond
- Invesco BulletShares 2030 Corporate Bond
- Invesco BulletShares 2030 Municipal Bond
- iShares 25+ Year Treasury STRIPS Bond
- SPDR Bloomberg Barclays 3-12 Month T-Bill
- Vanguard ESG U.S. Corporate Bond

ASSET ALLOCATION

- Cabana Target Drawdown 5
- Cabana Target Drawdown 7
- Cabana Target Drawdown 10
- Cabana Target Drawdown 13
- Cabana Target Drawdown 16

COMMODITIES

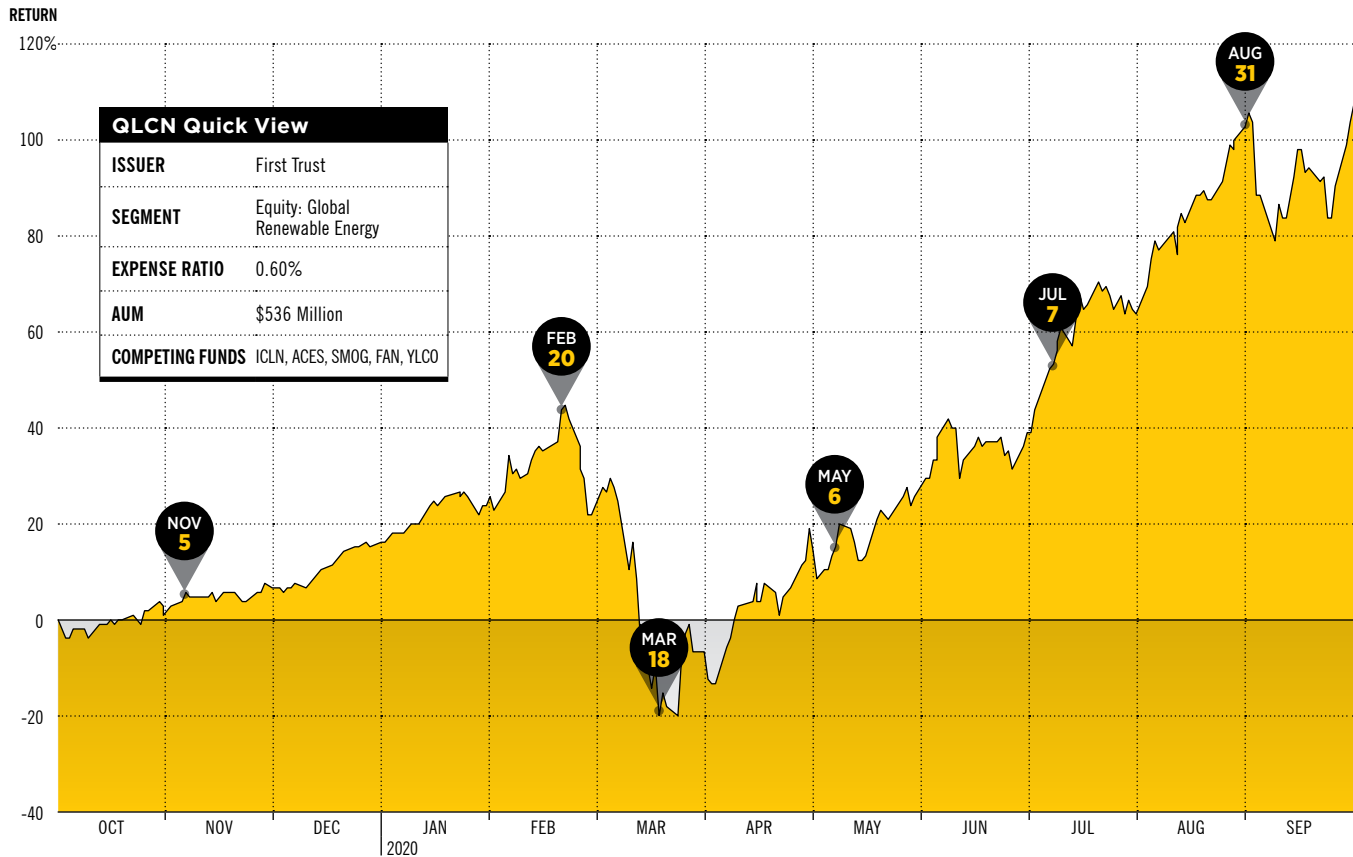
- iShares Commodity Curve Carry Strategy

Source: ETF.com. Data and information as of 9/30/2020. ETF Filings sidebar covers launches and closures for the month of September 2020.

ETF Explainer: QLCN

First Trust NASDAQ Clean Edge Green Energy Index Fund

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 \$536 million [First Trust NASDAQ Clean Edge Green Energy Index Fund \(QLCN\)](#), one of the best-performing equity funds of the last 12 months. All the companies mentioned below are holdings in QLCN, unless otherwise noted (*).



NOV 5 China-based electric carmaker NIO partners with Intel's Mobileye to develop self-driving cars, giving NIO's stock price a major bump.

FEB 20 SolarEdge, a manufacturer of solar-powered electronics, sees a second day of double-digit gains in its stock price after it reports significant growth in sales and revenue.

MAR 18 Amid a broad market decline, a report predicting hard times for the semiconductor industry due to coronavirus drove that category, including ON Semiconductor, down even further.

MAY 6 Solar energy firm Enphase reports first-quarter results including a doubling of sales and operating income growing by six times year over year.

JUL 7 Solar power firm Sunrun sees its stock price spike after it announces it will acquire Vivint Solar,* a competitor, in a \$3.2 billion deal.

AUG 31 Tesla shares reach new record highs and well-above-average volume after its five-for-one stock split takes effect, driving its market capitalization to more than \$430 billion.

Source: Bloomberg; data for 9/30/2019-9/30/2020

MONTHLY FLOWS

Below are the ETFs that experienced the top and bottom flows in September, 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	BlackRock	3,736.22	212,989.67
VTI	Vanguard Total Stock Market	Vanguard	3,554.60	161,982.55
VOO	Vanguard S&P 500	Vanguard	2,618.79	160,023.79
VXUS	Vanguard Total International Stock	Vanguard	2,279.17	26,218.78
TQQQ	ProShares UltraPro QQQ	ProShares	2,104.44	8,611.63
AGG	iShares Core U.S. Aggregate Bond	BlackRock	1,985.98	80,921.28
QQQ	Invesco QQQ Trust	Invesco	1,911.60	133,384.59
BND	Vanguard Total Bond Market	Vanguard	1,847.51	62,384.22
BNDX	Vanguard Total International Bond	Vanguard	1,833.77	32,425.98
SPY	SPDR S&P 500 ETF Trust	SSGA	1,195.70	292,966.86

BIGGEST LOSERS

TICKER	FUND	ISSUER	NET FLOWS (\$M)	AUM (\$M)
HYG	iShares iBoxx USD High Yield Corporate Bond	BlackRock	-5,135.49	25,628.27
XLK	Technology Select Sector SPDR Fund	SSGA	-1,264.81	33,835.51
XLF	Financial Select Sector SPDR Fund	SSGA	-1,224.64	16,457.89
JNK	SPDR Bloomberg Barclays High Yield Bond	SSGA	-980.66	12,094.93
IWM	iShares Russell 2000	BlackRock	-926.29	38,638.23
LQD	iShares iBoxx USD Investment Grade Corp Bond	BlackRock	-878.19	55,311.68
XLU	Utilities Select Sector SPDR Fund	SSGA	-783.82	11,308.95
IWF	iShares Russell 1000 Growth	BlackRock	-741.23	57,799.25
SLV	iShares Silver Trust	BlackRock	-660.78	13,082.87
IWB	iShares Russell 1000	BlackRock	-555.7	23,114.75

ASSET CLASSES

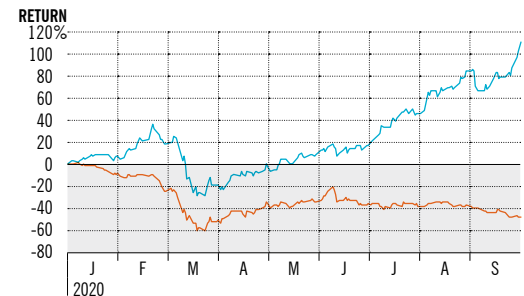
	NET FLOWS (\$M)	AUM (\$M)	% OF AUM
U.S. Equity	11,004.97	2,616,760.65	0.42%
International Equity	7,954.83	857,723.99	0.93%
U.S. Fixed Income	8,797.80	921,679.12	0.95%
International Fixed Income	3,260.00	109,180.44	2.99%
Commodities	1,392.82	146,080.12	0.95%
Currency	314.17	2,204.04	14.25%
Leveraged	1,912.31	37,050.19	5.16%
Inverse	-739.05	14,135.44	-5.23%
Asset Allocation	1,213.13	11,904.19	10.19%
Alternatives	45.16	5,117.38	0.88%

INTERESTING CHARTS OF PAST 12 MONTHS

The below charts highlight some of the key ETF trends of the past 12 months.

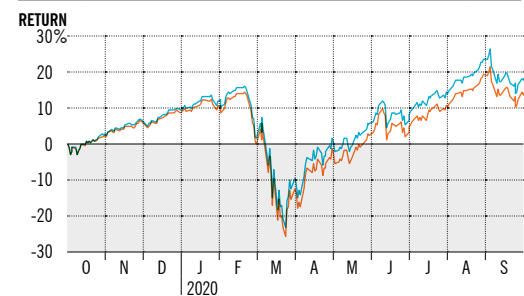
VS.	Invesco Solar ETF	TAN
	Energy Select Sector SPDR ETF	XLE

Conventional energy stocks have been some of the worst performers year to date, but solar energy has been on a tear.



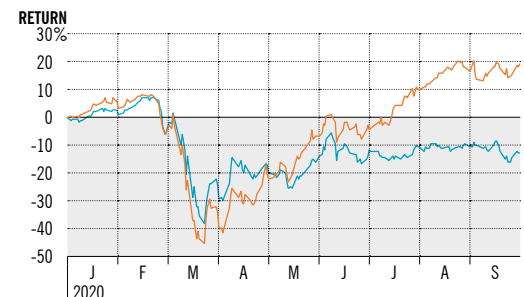
VS.	iShares ESG Aware MSCI USA ETF	ESGU
	iShares Russell 3000 ETF	IWM

During the past 12 months, ESG has had an edge over the broader market in the U.S.



VS.	Vanguard Real Estate ETF	VNO
	SPDR S&P Homebuilders ETF	XHB

Homebuilder stocks have thrived in recent months while real estate securities have struggled.



Sources: FactSet, Bloomberg; data as of 9/30/2020



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ETF UNIVERSITY

What Is an Exchange-Traded Note (ETN)?

Investors typically use the term “ETF” to mean a lot of things that aren’t technically “exchange-traded funds”: commodity pools, grantor trusts and debt securities.

We’re guilty of this too: After all, this publication covers a wide range of exchange-traded products. ETF is the term of art, so we’ll roll with it.

The most important of these structures to understand is the exchange-traded note (ETN).

ETNs are debt notes issued by a bank. When you buy an ETN, the bank promises to pay you a certain pattern of return. If you buy an ETN linked to the price of gold, for instance, the value of that ETN will increase if the gold price goes up.

This year has been a rough one for ETNs, and many have closed in 2020. Year to date, about 50 ETNs have shuttered; 125 are still trading, with roughly \$7.8 billion in assets under management.

PROS & CONS

The beauty of the ETN structure is that it can be linked to anything. There are ETNs that track commodities, and ETNs that track hard-to-reach corners of the equity market. They sometimes combine stock or bond positions with options overlays, or use other sophisticated

strategies that would be difficult to package into a traditional ETF. In the commodity space, the ETN also offers significant long-term tax advantages compared with most ETFs.

The downside of an ETN is that if the underlying bank goes bankrupt, you lose essentially all of your money. There were, for instance, a few ETNs backed by Lehman Brothers. While most investors in Lehman’s ETNs fled before the firm shut down, anyone who held to the bitter end probably still has a bad taste in their mouth.

The good news is that this credit risk in most situations is very minor. Institutional investors can “redeem” (get their money back) from the underwriter of an ETN on a daily basis. While anything can happen, you can usually see major bank defaults coming more than a day or two ahead of time.

Even better news is that credit risk is easily monitored. ETF.com daily monitors and reports on the credit risk of every ETN. We do that by watching the cost of credit default swaps (CDS) on the underwriting banks each day. CDS are like insurance—investors buy them to protect themselves against a company’s default—so they are the best possible view of the likelihood a bank will fail. ●

SELECTED TERMS

Contango/Backwardation

These are terms seen across the commodity ETF space. They pertain to roll costs associated with moving from one futures contract to another. When an expiring futures contract is cheaper than—or trading at a discount to—the next month’s contract, the futures curve is in contango. Contango translates into roll costs to an investor (or an ETF) having to move from one contract to the next. The opposite of contango is backwardation, when the expiring futures contract is trading at a premium to the next contract. Contango and backwardation impact commodity futures and futures-based ETF returns. Many commodity ETFs try to optimize their roll strategy to circumvent the impact of contango on returns.

Counterparty Risk

It’s the risk an investor faces that whoever is on the other side of the deal might fail. For example, ETF issuers offer a pattern of returns for a given fee in an ETF wrapper. They can be a source of counterparty risk if they don’t deliver on what that ETF prospectus promises. Depending on the type of exchange-traded product, counterparty risk is higher or lower. Exchange-traded notes, which are debt instruments, pose counterparty risk associated with the institutions backing them and whether they can meet these debt obligations. ETFs that use a lot of derivatives contracts in their portfolios can also face counterparty risk stemming from the parties issuing these contracts.

Exchange-Traded Note

An ETN is a debt note issued by a bank. ETNs can access just about every corner of the market, and can often package complicated strategies, but they introduce counterparty risk associated with the issuing bank.

Tracking Difference/Tracking Error

Most ETFs are designed to track an index. Tracking difference, simply put, is the disparity between the returns of an ETF and the performance of the underlying index it tracks. In a perfect world, an index-based ETF would deliver exactly the performance of the index minus its fees (the expense ratio). But other factors can contribute to tracking difference, such as trading and rebalancing costs, as well as tracking methodologies that differ from the original benchmark, among other things. Tracking difference is not to be confused with tracking error, which is a measure of how volatile the performance difference between an ETF and its index is—the standard deviation—on an annualized basis.

TOP 10 LARGEST ETNs

TICKER	FUND	EXPENSE RATIO	AUM
AMJ	JPMorgan Alerian MLP Index ETN	0.85%	\$1.40B
VXX	iPath Series B S&P 500 VIX Short Term Futures ETN	0.89%	\$1.22B
FNGU	MicroSectors FANG+ Index 3X Leveraged ETN	0.95%	\$1.01B
DJP	iPath Bloomberg Commodity Index Total Return ETN	0.70%	\$453.25M
FLGE	Credit Suisse FI Large Cap Growth Enhanced ETN	1.52%	\$274.75M
CAPE	Barclays ETN+ Shiller CAPE ETN	0.45%	\$212.70M
GSCE	GS Connect S&P GSCI Enhanced Commodity TR Strategy Index ETN	1.25%	\$184.54M
FBGX	UBS AG FI Enhanced Large Cap Growth ETN	1.29%	\$170.58M
FNGO	MicroSectors FANG+ Index 2X Leveraged ETN	0.95%	\$155.93M
MLPB	ETRACS Alerian MLP Infrastructure Index ETN Series B	0.85%	\$147.97M

Source: FactSet, data as of 10/15/2020

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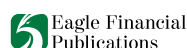


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LOW

Low rates are a problem,
but there are ways to address it

RATES:

NOWHERE

TO GO BUT

DOWN?



By **Debbie Carlson**

Contributor to ETF.com
and ETF Report

Rock-bottom interest rates are a disaster for income investors, and with the Federal Reserve telling investors that it'll keep rates low to try and boost inflation, "lower for longer" is here to stay.

The U.S. 10-year Treasury yield hovered around 0.71% in early October, while the 10-year Treasury inflation protected rate was a negative 0.95%. How can a financial advisor find sufficient yields in this environment?

It's tricky. When thinking about fixed income, not only must advisors contend with the usual aspects of duration, interest-rate and credit risk, but now they must consider potentially adding foreign exposure and possibly becoming more tactical with their positions.

HOW DID WE GET HERE?

Rob Waldner, chief fixed income strategist at Invesco, explains that colliding structural and cyclical factors are behind this stubborn environment of low rates.

A decline in inflation expectations and potential growth, along with falling productivity levels in Western countries, allowed interest rates to drop over many years.

"Those forces have driven the neutral rate down, and it's been a multidecade process," Waldner said.

During this time, the Fed was trying to contain inflation in the context of full employment, but its recent decision to let rates float even if inflation ticks up suggests it's gotten inflation wrong, Waldner notes.

"They're very serious about getting inflation up," he explained. "So the best tool they have is to keep interest rates very, very low."

The alternative to letting inflation pick up is "the Japanification of the U.S. economy. I think policymakers all look at that, and it scares them because it would be an extremely negative outcome for the U.S. economy," Waldner added.

Deidre Stoken McClurg, portfolio manager for Interactive Advisors and founder of Stoken Asset Management, points out that the Fed had difficulty as it tried to raise rates in 2018, when the economy was humming along: "That's very concerning, because at what point can we raise rates if we can't in that [stronger] part of the cycle?"

She suggests that the heavy debt burden here and globally means only slow growth is possible for the time being: "That will change, because that's how nature works, but we don't know what that's going to look like."

COVID AS A MAGNIFIER

The impact of the coronavirus magnified all of these issues.

"Just the magnitude of the effects, the negative effects, has been dramatic, globally," said Peter Yi, director of short-duration fixed income and head of taxable credit research for Northern Trust Asset Management, adding that no one expected this to be a multimonth, let alone a potentially multiyear, dynamic.

Although some sectors have performed well as advances in technology have helped people work from home and get more work done electronically, most sectors are still losing, he says. With companies prioritizing stability over profitability, "that's not a great backdrop," Yi observed.

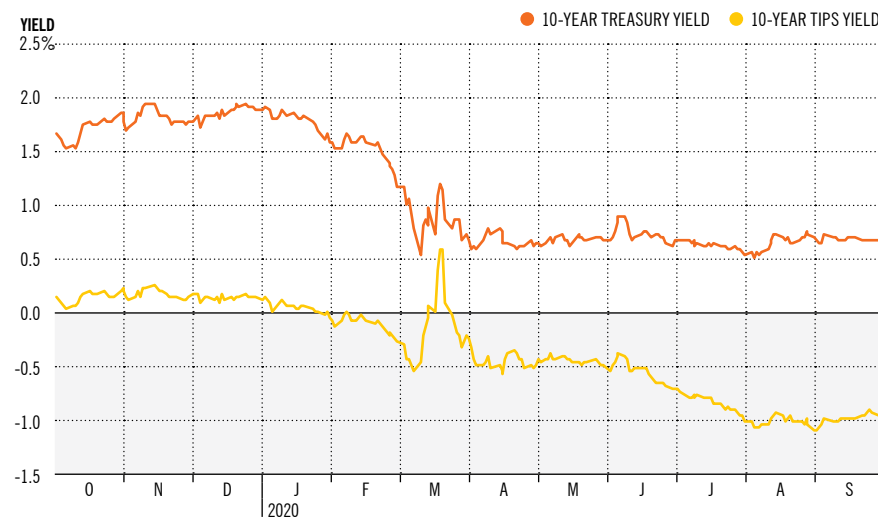
Yi expects the Fed's rates to remain at zero for at least five years, if not longer, pointing out it took the Fed six years to cautiously raise rates after the Global Financial Crisis. All developed-market central banks are in a similar place, he adds.

POSITIONING AMID LOW RATES

Todd Rosenbluth, director of ETF Research at CFRA, suggests if rates remain low for the foreseeable future, investors may get rewarded for taking more interest rate risk. He points to corporate bonds such as the [Vanguard Intermediate-Term Corporate Bond ETF \(VCIT\)](#), with its duration of around six years.

"This is a good way of getting investment-grade exposure," he explained. "You're taking on a little bit of credit risk,

YIELDS COMPARED



Source: Bloomberg, 9/30/2019-9/30/2020

but you're also taking on interest rate risk and getting rewarded."

Advisors who would rather take interest rate risk versus credit risk can look to the [iShares 20+ Year Treasury Bond ETF \(TLT\)](#), he notes, saying it's a good option for credit-sensitive investors.

With equity valuations still high, McClurg uses the [SPDR Gold Trust \(GLD\)](#) as an equity hedge, along with other alternative assets. And she still uses Treasury ETFs, including TLT, but she also holds the [iShares 1-3 Year Treasury Bond \(SHY\)](#), which she calls a "good, conservative choice with a slightly higher yield than some of the longer duration U.S. Treasury ETFs."

Muni bonds are an option, McClurg says, especially if Democrats win the White House and the Senate, suggesting that they're more likely to flood states with stimulus. In that scenario, her choice is the [iShares National Muni Bond ETF \(MUB\)](#).

CONSIDER OTHER SOLUTIONS

Rosenbluth points out there's a greater case for actively managed bond ETFs, citing the [PIMCO Active Bond ETF \(BOND\)](#). Not only does it offer different exposures than the [iShares Core U.S. Aggregate Bond ETF \(AGG\)](#), which follows the Bloomberg Barclays U.S. Aggregate Bond Index, a common benchmark, but with AGG, he explains that "you're taking on reasonable credit risk

without necessarily getting rewarded."

Additionally, Rosenbluth notes that actively managed bond ETFs can buy attractively priced debt, and choose holdings that reduce risk in certain environments.

Waldner thinks the Fed will ultimately be successful in raising inflation, but it will take time. The trend away from globalization may be one impetus. Cheap labor in the global supply chain was a deflationary force, but with global trade having peaked and likely retreating, inflation may rise a little.

Yi says that since the Fed put in place various market facilities, such as buying corporate bonds, it's a "pretty good backdrop" for risk asset classes including equities and high yield: "Our bias right now, and one of our strongest convictions, is around high yield."

Daniel Milan, financial advisor and managing partner at Cornerstone Financial Services, says he uses fixed income more as ballast against equities than for income, and he'll use fixed income ETFs when he's tactically rebalancing the portfolio: "It helps with that dollar-cost averaging, or that cost basis on the equities side."

He's willing to take more risk for a higher yield, finding some comfort from the Fed's bond ETF purchases as market support. When Milan reaches for yield, he acknowledges he minds a vehicle's duration, which will allow him some flexibility if rates rise.

LADDERING & EMERGING MARKETS

Milan is laddering target-maturity-date bond ETFs over a five-year period, specifically using the Invesco BulletShares High Yield Corporate Bond ETF series, starting with the [Invesco BulletShares 2021 High Yield Corporate Bond ETF \(BSJL\)](#). That laddering gives him an effective duration of less than two years, but a yield to maturity of 5.1%.

With real rates negative, Waldner observes, the value in fixed income isn't designed to be there, noting the current situation "is designed to get you to borrow, rather than to lend."

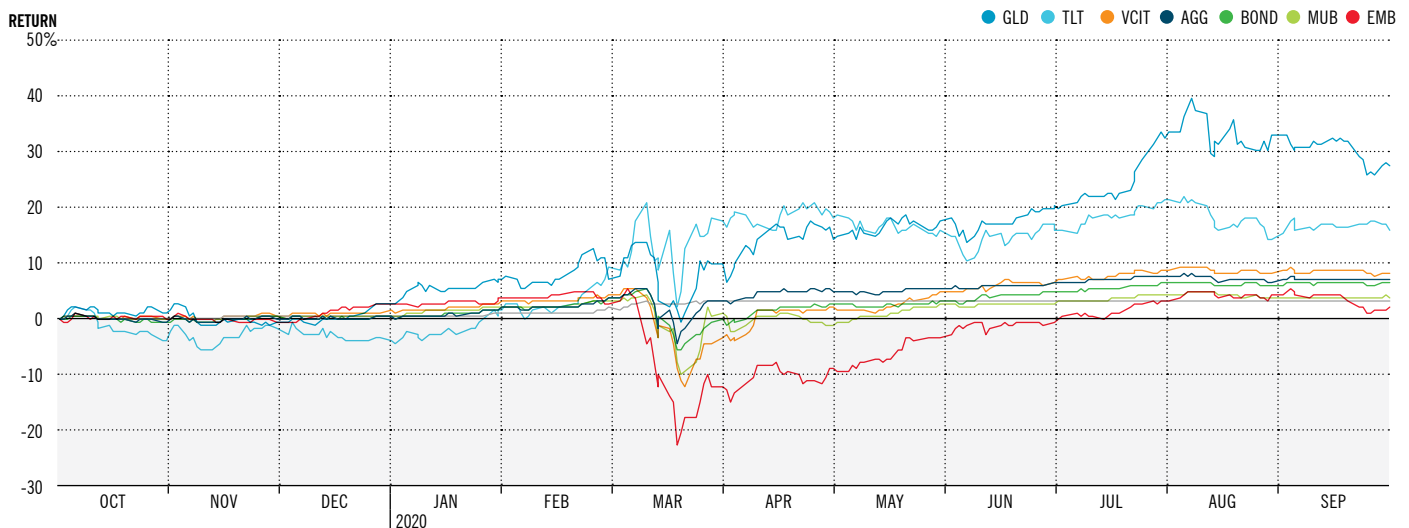
For investors who need stability, he notes that advisors look at diversified credit exposure that includes nondollar assets such as emerging markets.

Rosenbluth points to emerging market bond ETFs such as the [iShares JP Morgan USD Emerging Markets Bond \(EMB\)](#).

He cautions that investors who wade into this asset class need to consider macroeconomic risk and interest rate sensitivity of emerging market bond ETFs, and that emerging market debt isn't the same as emerging market equities. Holdings in emerging market debt ETFs are from countries like Saudi Arabia, Russia and Qatar.

"If you consider emerging markets to be China, Taiwan and South Korea, the bond market is different," Rosenbluth said. ●

PERFORMANCE OF SELECTED ETFs



Note: The ETFs included in this chart are all mentioned in the article.

Source: Bloomberg, 9/30/2019-9/30/2020



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By Cinthia Murphy
Managing Editor
of ETF.com

The pandemic has brought change to everything; for bond ETFs, that's been a good thing

FORCES FUELING DEMAND FOR BOND ETFs



This has been a phenomenal year for fixed income ETF asset growth.

Bonds may not be nearly as exciting as the big-tech glitterati, but they've certainly—and rather quietly—stolen the show when it comes to attracting investor dollars this year.

Consider the numbers: In the first three quarters of 2020, U.S.-listed ETFs gathered \$318 billion in fresh net assets. Of that pie, fixed income ETFs took in almost half of all inflows, or \$150 billion. They also outpaced net creations in equity ETFs by almost two-to-one. That's practically unheard of in the world of U.S.-listed ETFs.

By the beginning of the fourth quarter, four bond ETFs sat among 2020's 10 biggest ETF creations. Together, these funds tell this year's bond story in a nutshell: Demand has focused on two parts of the market—corporate bond ETFs and classic aggregate broad funds—courtesy of the Federal Reserve one way or another.

FED & FRONT-RUNNERS DRIVE FLOWS

The Federal Reserve's first foray into corporate bond ETF buying has been widely discussed. The year of a global pandemic saw central bankers across the globe resorting to whatever tools they had at their disposal to stabilize and bring calm to markets. Among those tools were about \$8 billion in bond ETF purchases through the Fed's Secondary Market Corporate Credit Facility between May and August.

The Fed itself isn't responsible for the massive buying we've seen in bond ETFs this year. What's \$8 billion in the face of inflows totaling \$150 billion and counting? But the Fed did help drive that demand, as investors rushed to front-run the Fed, and/or to follow its lead. The surge in bond ETF creations began in earnest right after the Fed announced its plans to buy bonds, before those government purchases actually started, and continued strongly through the summer and fall.

TOP ETFs BY YTD FLOWS

TICKER	FUND	AUM (M)	YTD FLOWS (\$M)	YTD RETURN
LQD	iShares iBoxx USD Investment Grade Corporate Bond	55,231.8	16,391.4	7.33%
VCIT	Vanguard Intermediate-Term Corporate Bond	38,758.4	11,592.8	6.88%
BND	Vanguard Total Bond Market	62,278.3	11,312.4	6.85%
AGG	iShares Core U.S. Aggregate Bond	80,897.0	8,172.9	6.70%
BNDX	Vanguard Total International Bond	32,375.8	7,293.1	3.51%
HYG	iShares iBoxx High Yield Corporate Bond	26,003.7	7,060.9	(1.25%)
IGSB	iShares 1-5 Year Investment Grade Corporate Bond	20,248.1	6,703.0	4.10%
VCSH	Vanguard Short-Term Corporate Bond	32,706.3	6,451.8	3.95%
BIL	SPDR Bloomberg Barclays 1-3 Month T-Bill	13,902.7	5,021.4	0.40%
JPST	JPMorgan Ultra-Short Income	14,510.6	4,309.7	1.85%

Sources: FactSet and Bloomberg; data as of 9/30/2020

The [iShares iBoxx USD Investment Grade Corporate Bond ETF \(LQD\)](#) led the pack, with net inflows totaling \$16.4 billion in just nine months. About \$2.5 billion of that came from Fed purchases. In all, that's asset growth of roughly 30% for this ETF in the first three quarters of 2020, pushing LQD total assets well above \$55 billion.

Year to date, LQD delivered 7.3% in returns, neck-and-neck with the [SPDR S&P 500 ETF Trust \(SPY\)](#). The fund, which is a portfolio of more than 2,300 high quality corporate bonds, is also shelling out a 30-day yield of just over 2%, with effective duration of about 9 1/2 years (as of early October). For context, the [Treasury-focused iShares 7-10 Year Treasury Bond ETF \(IEF\)](#) is yielding 0.4% for a portfolio with effective duration of nearly eight years.

Another big corporate ETF gainer found among the year's top creations is the [Vanguard Intermediate-Term Corporate Bond ETF \(VCIT\)](#), which picked up about \$11.5 billion in that same period, nearly \$1.5 billion coming from the Fed—that's also a 30% add to its total assets.

HIGH YIELD SAW HIGH INFLOWS

As a group, corporate bond ETFs took in roughly half of all net new assets flowing into U.S. fixed income funds in the first three quarters of the year. That list also reaches down the credit spectrum—high

yield bond ETFs have also benefited from the Fed effect.

The [iShares iBoxx USD High Yield Corporate Bond ETF \(HYG\)](#) picked up more than \$300 million in Fed money. Between January and the end of September, HYG saw net inflows total about \$7 billion, making it too one of the year's most popular bond funds.

Demand for such risky fare is impressive in a year when corporate solvency has been a concern, given the number of companies and industries battling the impact of shutdowns and supply chain disruptions due to the pandemic. Many have offered little to no future guidance in earnings. Risk abounds in this segment.

But a steady Fed hand—even if light in nominal terms relative to the massive asset haul these ETFs have seen—has proven quite the support for investor nerves, and the fuel for investor appetite. Credit risk seems relative when a backstop buyer of such caliber is in the picture.

MORE THAN THE FED AT PLAY

The year of the pandemic and all its uncertainty and turmoil highlighted the attributes of fixed income ETFs themselves.

They offer traditional risk diversification in an unpredictable market; income, albeit compressed in the face of low rates for longer; perceived safety, because downside losses are much more painful than upside gains are rewarding; and this year even

stronger performance, as many fixed income ETFs delivered positive returns. (Bond prices and yields move in opposite directions)

GO-TO TOOL

Bond ETFs have been gaining ground rapidly in recent years, as investors both institutional and retail increasingly turn to these vehicles for cash management, liquidity, ease of access and trading, tax benefits, and for transparency in a bond market traditionally known for opacity.

Over a year ago, State Street Global Advisors cleverly coined the drivers of growth in bond ETF adoption the “4 C factors”: cost, choice, client need and comfort. Twelve months later, its research is proving true. Put simply:

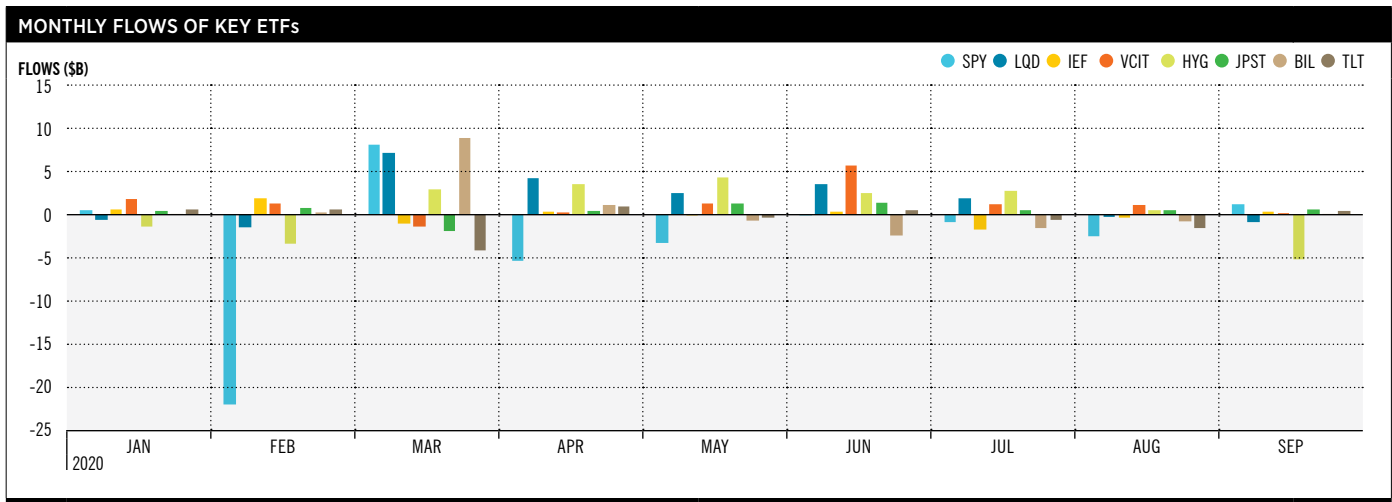
- Investors have been flocking to lower-cost vehicles such as ETFs.
- Investors have chosen bond ETFs as choices have grown—a short 15 years ago, there were only six bond ETFs on the market. Today there are more than 400 fixed income ETFs.
- Investors have increasingly turned to bond ETFs, because need for income is growing as the population ages.
- Investors have become increasingly comfortable with bond ETFs as they are battle-tested in various market environments over the years.

In 2019, U.S. fixed income ETF inflows exceeded net creations in U.S. equity ETFs for the first time. In 2020, we've seen an acceleration of this trend driving demand for bond ETFs. Today U.S.-listed fixed income ETFs—U.S. and foreign bonds—command just over \$1 trillion in combined assets, putting State Street's \$1.7 trillion-by-2022 well within sight.

Consider that many in this industry still see fixed income ETFs as a frontier. A lot of what's-next ETF product innovation is expected to come in this asset class, and much in the form of active management.

ACTIVE MANAGEMENT SHINING

In 2020, one of the most popular bond ETFs is also vying for the No. 1 spot in the ranking



Note: The ETFs included in this chart are all mentioned in the article.

Source: FactSet, 1/1/2020-9/30/2020

of most-in-demand active ETFs: the [JPMorgan Ultra-Short Income ETF \(JPST\)](#).

JPST, which has effective duration of less than one year, picked up \$4.3 billion in net new money in the first three quarters of the year, bringing its total asset base to \$14.5 billion only three years after it launched.

Like many of its peers, JPST is widely used as a cash management tool, something that has had big appeal this year, as investors look to keep cash on hand given the market's wild turns. JPST is also a broad mix of bonds that deliver both capital preservation and income.

The [SPDR Bloomberg Barclays 1-3 Month T-Bill ETF \(BIL\)](#) fulfills a similar role, but with the added value of perceived risk-free Treasuries, and saw equally strong demand from investors focusing on shorter-term debt.

WHAT'S MISSING FROM THIS PICTURE?

Notably absent from the this year's list of top fixed income gainers is longer-dated Treasury funds like the [iShares 20+ Year Treasury Bond ETF \(TLT\)](#) and IEF. TLT, the largest long-dated Treasury ETF, with \$19 billion in total assets, faced big redemptions in the January-September window, bleeding \$2.2 billion in assets. IEF, by comparison, was barely net positive, with inflows of about \$400 million in the period.

There are plenty of factors casting a shadow on the perceived risk-free asset of choice for bond investors. The Fed is a

buyer of Treasuries too—about \$80 billion a month—but it's not buying Treasury ETFs as much as it is corporates.

The strong bid under the market helped push prices higher and yields lower. The 30-year Treasury yields dropped nearly 40% in the first three quarters of the year; 10-year yields slumped some 60% in nine months. ETF investors may have trimmed exposure to longer-dated Treasuries, seeing little room for rates to go lower from here. If prices are near a top, and yields around record lows, why not trim back?

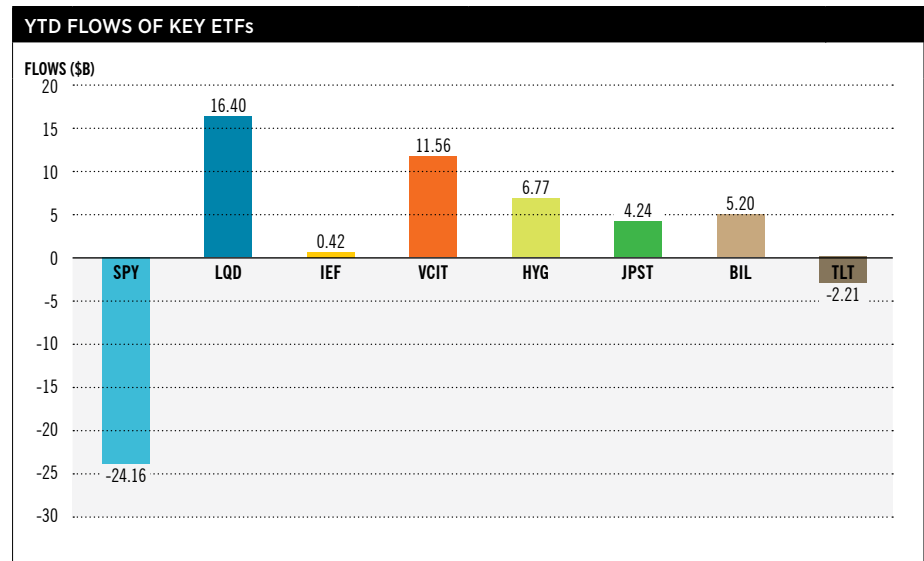
ROCK & A HARD PLACE

As a segment, Treasuries have been caught

between good-for-prices Fed support and loose monetary policies, and bad-for-prices ample supply in the form of massive new issuance aimed at funding government efforts to handle a pandemic.

There's also the concern that inflation will return, and the pace of economic recovery post-pandemic still looks very uncertain. A U.S. presidential election in November is another wrinkle, not only rattling markets, but one that could ultimately lead to policy changes down the line.

Treasuries may be seen as risk-free assets, but they aren't immune to volatility, especially when rates are this low. ●



Note: The ETFs included in this chart are all mentioned in the article.

Source: FactSet, data as of 9/30/2020

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UPCOMING EPISODES

NOVEMBER 3

Matt Bartolini, head of SPDR Americas Research at State Street Global Advisors SPDR ETFs, talks potential investment impact of the election

Andrew Mies, chief investment officer at 6 Meridian, discusses their successful entrance into ETFs

NOVEMBER 10

Benjamin Slavin, global head of ETFs, Asset Servicing at BNY Mellon, provides a unique look behind the scenes of the ETF ecosystem

David LaValle, CEO of Alerian, examines several key ETF industry trends, including innovative uses of data and research for product creation

NOVEMBER 17

Jeff Spiegel, U.S. head of iShares megatrend & international ETFs, offers a framework for investing internationally

NOVEMBER 24

Dan Ahrens, chief operating officer & portfolio manager at AdvisorShares, explains their Pure U.S. Cannabis ETF (MSOS) and the current regulatory environment surrounding marijuana

Peter Coppa, founder of Alternative Access Funds, spotlights the AAF First Priority CLO Bond ETF (AAA)

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Nuveen: Building Durable Income

The global asset manager offers fixed income ETFs designed for the current low-rate environment



Jordan Farris
Managing Director &
Head of ETF Product Development
Nuveen

For many investors, income generation is the most difficult portfolio mandate to fulfill. Here, Nuveen's Head of ETF Product Development, Jordan Farris discusses his firm's unique take on the bond space and how it could offer solutions to investors faced with the dilemma of a low-rate environment.

Enhanced Yield Fixed Income

- [Nuveen Enhanced Yield U.S. Aggregate Bond ETF \(NUAG\)](#)
- [Nuveen Enhanced Yield 1-5 Year U.S. Aggregate Bond ETF \(NUSA\)](#)

ESG Fixed Income

- [Nuveen ESG U.S. Aggregate Bond ETF \(NUBD\)](#)
- [Nuveen ESG High Yield Corporate Bond ETF \(NUHY\)](#)

Given the unprecedented times we're living in, what are the implications that income-oriented investors need to think about now and in the future?

There are a number of challenges that investors are facing today: an aging population in need of more income, a lower-for-longer rate environment and an uncertain political climate during a global pandemic. The confluence of these events has led investors and advisors to contemplate multiple scenarios when working through how to structure the income-focused portion of their portfolios.

However, with yields at historic lows, investors may hesitate to choose between reducing the amount of income they receive and increasing the amount of risk in their portfolio. To balance the two, Nuveen offers solutions to help them identify ways to generate higher yields, while minimizing exposure to the sources of risk that may fall outside of their risk tolerance budget.

How can duration and credit be used to fine-tune portfolios to align better with investors' goals in terms of income risk and total return?

At Nuveen, we leveraged our expertise in generating income while balancing risk; the results of which can be seen in our fixed income ETFs, including the [Nuveen Enhanced Yield U.S. Aggregate Bond ETF \(NUAG\)](#) and the [Nuveen Enhanced Yield 1-5 Year U.S. Aggregate Bond ETF \(NUSA\)](#). These products are designed to increase the yield of traditional intermediate and short duration benchmarks—which are both fully investment grade—by tilting the weights of the underlying securities toward those with higher yields.

The shift toward those higher-yielding securities is done while simultaneously constraining characteristics that could bring unwanted volatility to a portfolio. Duration, sector exposure, tracking error and importantly, turnover, are all constrained so as to provide a better balance of yield and risk.

As an example, at each rebalance, the duration of NUAG's benchmark index will

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always be within three months of the traditional core fixed income benchmark from which it was designed. This provides flexibility within the rules-based methodology to take on slightly more duration if it supports a higher level of income. This robust process helps to support our investment objective, and to provide 15% to 20% more income, as compared with traditional core fixed income benchmarks over full market cycles.

How is ESG analysis used to evaluate risk in fixed income? Is it unique to Nuveen?

The last five years has seen a steep increase in the number of ESG-branded products. The majority of these products have been equity-focused, but an increase in the quantity and quality of data has provided some of the more innovative asset managers—Nuveen included—the opportunity to integrate environmental, social and governance criteria into fixed income ETFs.

In our ESG ETF suite, we offer traditional aggregate bond exposure through the [Nuveen ESG U.S. Aggregate Bond ETF \(NUBD\)](#), and high yield exposure through the [Nuveen ESG High Yield Corporate Bond ETF \(NUHY\)](#). Combined with our full suite of equity ESG ETFs, both NUBD and NUHY have given clients the opportunity to align their personal values, across the entirety of their portfolios, as opposed to being limited to a certain sleeve or a certain asset class.

We've recently witnessed somewhat of a shift in the perception that investors have had to sacrifice performance when investing in ESG. This was driven by the fact that many ESG products have performed well this year, especially during periods of higher volatility. A consistent reason for that outperformance was the overweighting of stocks and bonds with higher ESG scores, while avoiding those that have lower ESG scores.

There's a common misperception about liquidity issues with fixed income ETFs. Would you comment on that?

One of the biggest benefits of the ETF wrapper is its ability to function as a liquidity mechanism for transacting in the fixed

income markets when other sources of liquidity may not be there. ETFs are bought and sold throughout the day at market price on the exchange. The market price is generally very close to the net asset value, or the "NAV," of the ETF. However, during periods of higher volatility, like we experienced earlier this year, the gap between market prices and the NAVs, in some cases, widened. It is important for investors to have a well-formed execution strategy for ETF trades.

An example of this is using a limit order to secure a specific price or using a market order to execute the order more quickly. Both give the investor a tool for accessing liquidity within the fixed income ETF market, but we encourage investors to learn and understand both so as to be able to access this liquidity in the most effective way for their unique needs.

How do you see the fixed income ETF market evolving and expanding during the next three to five years?

At present, more than 400 of the 2,400-plus ETFs listed in the U.S. are fixed income focused. And more than 100 of those are actively managed. So the preponderance of the actively managed ETF assets exists within fixed income strategies. We think that 100 will increase substantially as more asset managers begin to distribute active fixed income capabilities through the ETF wrapper.

Bigger picture: More than \$1 trillion is invested in fixed income ETFs in the U.S. As investors become more comfortable using the ETF as a delivery mechanism for income-focused strategies, it would not be surprising if those assets reached between \$2 trillion and \$3 trillion over the next three to five years.

Disclosures:

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A word on risk

Investing involves risk; principal loss is possible. **Interest rate** risk occurs when interest rates rise, causing bond prices to fall. **Credit risk** arises from an issuer's ability to make interest and principal payments when due, as well as the prices of bonds declining when an issuer's credit quality is expected to deteriorate. For NUHY, investments in below-investment-grade or **high yield securities** are subject to liquidity risk and heightened credit risk. For NUBD and NUHY, because the indexes select securities for inclusion based on environmental, social and governance (ESG) criteria, the funds may forgo some market opportunities available to those that don't use these criteria. There is no guarantee the Funds' investment objectives will be achieved. ETFs seek to generally track the investment results of an index; however, a fund may underperform, outperform or be more volatile than the referenced index. These and other risk considerations are described in detail in the Funds' prospectuses.

Shares of ETFs are bought and sold at market price as opposed to net asset value. As a result, an investor may pay more than net asset value when buying, and receive less than net asset value when selling. In addition, brokerage commissions will reduce returns. Fund shares are not individually redeemable directly with the Fund, but blocks of shares may be acquired from the Fund and tendered for redemption to the Fund by certain institutional investors in Creation Units.

Before investing, carefully consider Fund investment objectives, risks, charges and expenses. For this and other information that should be read carefully, please request a prospectus or summary prospectus from your financial professional, contact Nuveen at 800.257.8787 or visit nuveen.com.

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VANGUARD'S ACTIVE ETFs UNDERPERFORM

With more than two years of trading under their belts, Vanguard factor ETFs are trailing their passive counterparts

More than two years ago, Vanguard rolled out a group of six actively managed ETFs targeting factor strategies. The move was almost shocking, as the company's founder basically pioneered passive investing.

Despite John Bogle advocating for cap-weighted indexing as a strategy for roughly four decades, Vanguard is actually a strong player in the active management space, with 70 out of its 132 different mutual funds implementing active strategies.

Although the issuer qualifies as a major participant in the active mutual fund space, its active ETFs have languished in terms of both assets and performance compared to the rest of Vanguard's offering. They remain the among the smallest funds in its family of 81 ETFs in terms of assets under management (AUM).

Seventeen of the funds in Vanguard's ETF lineup have less than \$1 billion in AUM. The six factor funds range in size from just \$37 million to \$134 million, which is pretty small for an issuer like Vanguard.

We compared these six active ETFs in performance with the dominant passive ETF for each category over a two-year period. Our results showed the Vanguard funds lagging in each case.

We used the iShares single-factor ETFs and Goldman Sachs' multifactor ETF, because those were the largest funds in their respective categories.

We also used the ETF.com comparison tool to look at the differences in addition to performance data from Bloomberg covering the two-year period ended Sept. 30, 2020. The factor loadings data is provided by MSCI. Keep in mind that while Vanguard's passive ETFs disclose their holdings monthly, their active ETFs disclose holdings daily.

MULTIFACTOR

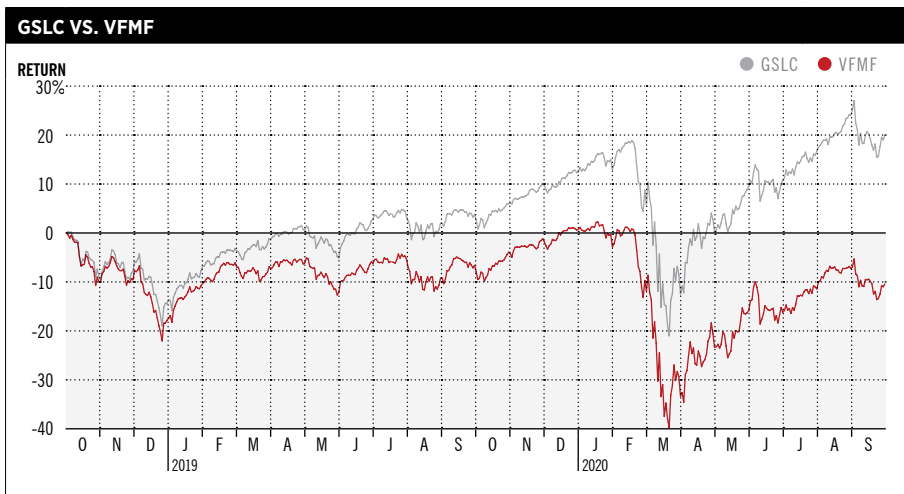
The [Vanguard U.S. Multifactor ETF \(VFMF\)](#) seems most comparable to the nearly \$10 billion multifactor [Goldman Sachs ActiveBeta U.S. Large Cap Equity ETF \(GSLC\)](#), the largest multifactor ETF. Both funds target the value, momentum, quality and low volatility factors.

VFMF has an expense ratio of 0.19%, while GSLC charges 0.09%. And VFMF has 572 holdings versus 435 for GSLC, and both share three of their top 10 components in common. Technology is the biggest sector for both funds, weighted at 23.73% for VFMF and 33.34% for GSLC.

Based on the MSCI analytics, VFMF has significant overexposure to the low size factor at 1.17 and has exposure to the value



By Heather Bell
ETF Report Editor



Source: Bloomberg, 9/30/2018-9/30/2020

VFMF AND GSLC BOTH TARGET THE VALUE, MOMENTUM, QUALITY AND LOW VOLATILITY FACTORS

factor at 0.45. Meanwhile, GSLC's largest factor loadings are momentum at 0.27 and quality at 0.19.

The difference in technology weightings and the disparity in low size exposure may be key points of differentiation, as during the two years ended Sept. 30, the two funds' performance diverges by roughly 30 percentage points in favor of GSLC. The sector has outstripped others in the S&P 500, while small caps have significantly underperformed large caps.

QUALITY

The \$47 million [Vanguard U.S. Quality Factor ETF \(VFQY\)](#) targets securities with strong fundamentals in order to capture the performance of the quality factor. The largest passively managed quality-focused ETF is the \$19 billion [iShares MSCI USA Quality Factor ETF \(QUAL\)](#). QUAL is actually the more expensive of the two, despite being an index fund, charging 0.15% to VFQY's 0.13%.

The two funds have only one stock in common in their top 10 holdings — Apple. Again, technology is the largest holding for both, but while it's a quarter of the total weight of VFQY, the sector represents more than 36% of the weight of QUAL.

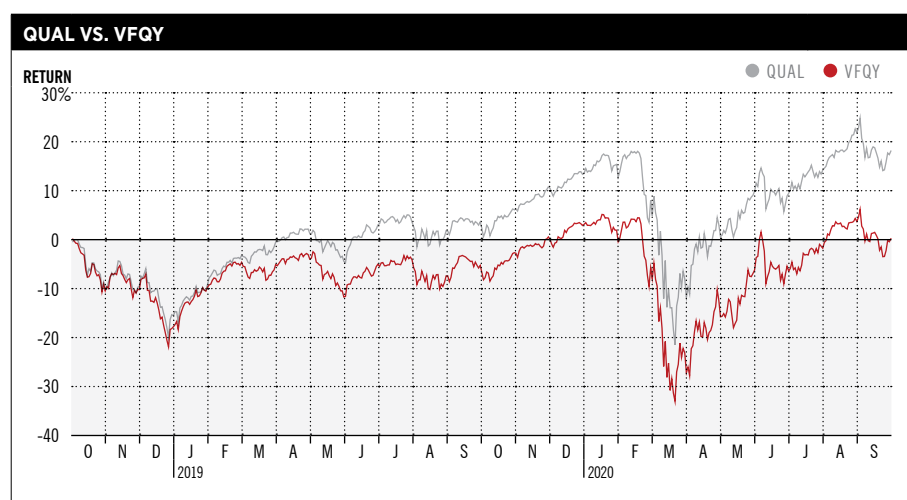
The iShares ETF also has far more

exposure to the quality factor, based on MSCI data, with a quality score of 0.46 versus 0.27 for VFQY. Interestingly, VFQY's largest factor exposure is the low size factor at 1.23

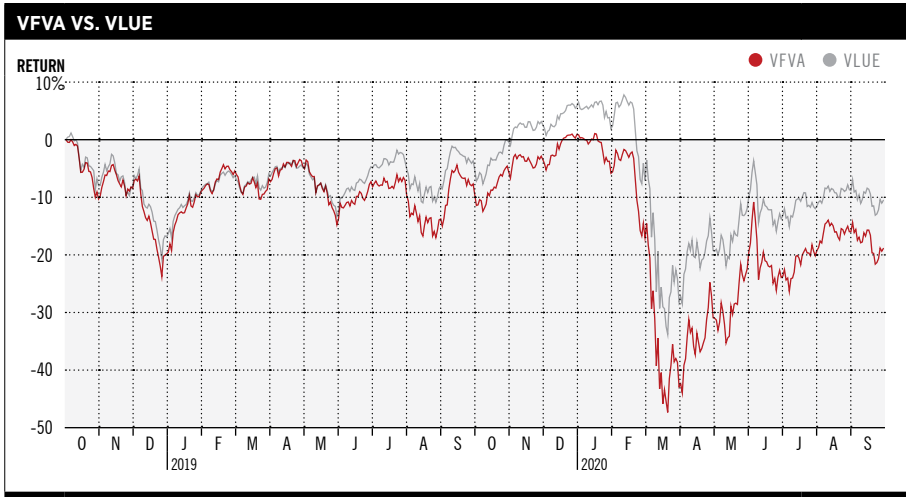
It seems like the sector disparity is again driving the difference in performance, which is about 19 percentage points in favor of QUAL.

VALUE

With \$118 million in assets, the [Vanguard U.S. Value Factor ETF \(VFVA\)](#) is the largest of the funds in the Vanguard factor ETF family, and has a counterpart in the \$6.7



Source: Bloomberg, 9/30/2018-9/30/2020



Source: Bloomberg, 9/30/2018-9/30/2020

billion [iShares MSCI USA Value Factor ETF \(VLUE\)](#). VFVA is cheaper than index-based VLUE, charging 0.14% to VLUE's 0.15%.

VLUE is a much more concentrated portfolio, with 151 holdings, while VFVA has a whopping 756 components. The funds share five of the same companies in their top 10 holdings. Financials is VFVA's largest sector, with a weighting of 28.24%, while technology, not even in VFVA's top three sectors, is the largest sector for VLUE at 25% of the portfolio.

VFVA actually has a higher exposure to the value factor than VLUE, 0.98 versus 0.84. However, VFVA's largest factor loading is low size, at 1.43.

VFVA trails VLUE by nearly 8 percentage points at the end of the two-year period.

MOMENTUM

The \$60 million [Vanguard U.S. Momentum Factor ETF \(VFMO\)](#) has a counterpart in the nearly \$12 billion [iShares MSCI USA Momentum Factor ETF \(MTUM\)](#).

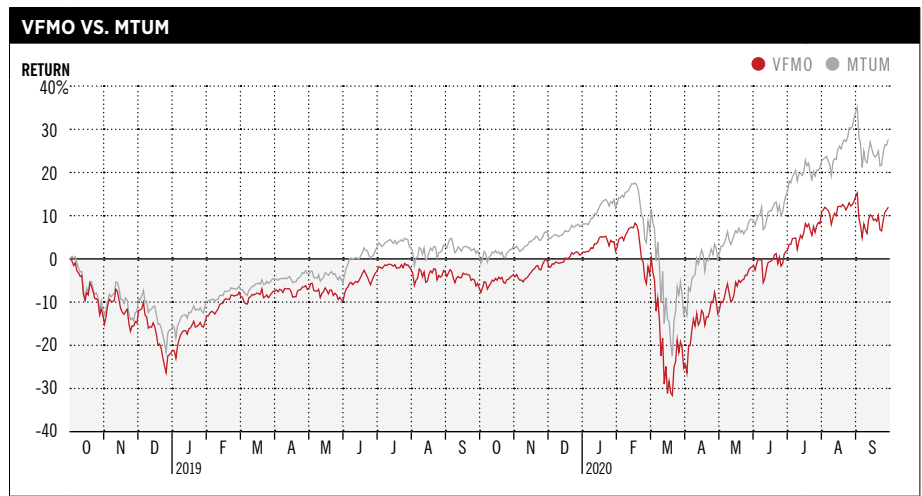
Again, the iShares fund is more expensive, costing 2 basis points more than the Vanguard fund, at 0.15%.

VFMO has the larger portfolio, with 661 holdings versus 127 for MTUM. Although both funds have Tesla as their largest holding, VFMO weights it at 1.88%, while MTUM has it weighted at 6.53%—a significant difference. In all, the funds have four securities in their top 10 holdings in common.

Technology is again the largest sector for both, but the weighting difference is not as stark. Technology stocks represent nearly 32% of VFMO's portfolio and nearly 41% of that of MTUM. Momentum is the largest factor exposure for MTUM, at 0.85, while for VFMO, it is 0.71, with low size for the Vanguard fund having a loading of 1.02.

The performance differential between the two at the end of the two-year period was roughly 15 percentage points, with VFMO trailing MTUM.

IN MOST CASES, THE VANGUARD ETFs ARE UNDERWEIGHT IN THE TECHNOLOGY SECTOR



Source: Bloomberg, 9/30/2018-9/30/2020

VOLATILITY

The \$73 million [Vanguard U.S. Minimum Volatility ETF \(VFMV\)](#) relies on a proprietary model that considers different types of risk rather than just screening for low volatility. Its index-based counterpart is the \$34 billion [iShares MSCI USA Min Vol Factor ETF \(USMV\)](#). The Vanguard fund has an expense ratio of 0.13%, while the iShares fund charges 0.15%.

VFMV has the smallest number of holdings of the Vanguard factor ETFs, with just 127 securities, while USMV has 196. Their top 10 holdings have just two companies, Verizon Communications and Merck, in common. Technology is the top sector for both funds, and in a deviation, the Vanguard ETF has the higher weighting for the sector, at nearly 29% versus 18% for the iShares ETF.

In terms of factor exposures, neither fund has low volatility as its strongest factor exposure. VFMV has a low size exposure of 1.07 and a low volatility exposure of 0.39. Meanwhile, USMV's greatest factor exposure is to yield, at 0.26 and its exposure to low volatility is just 0.11.

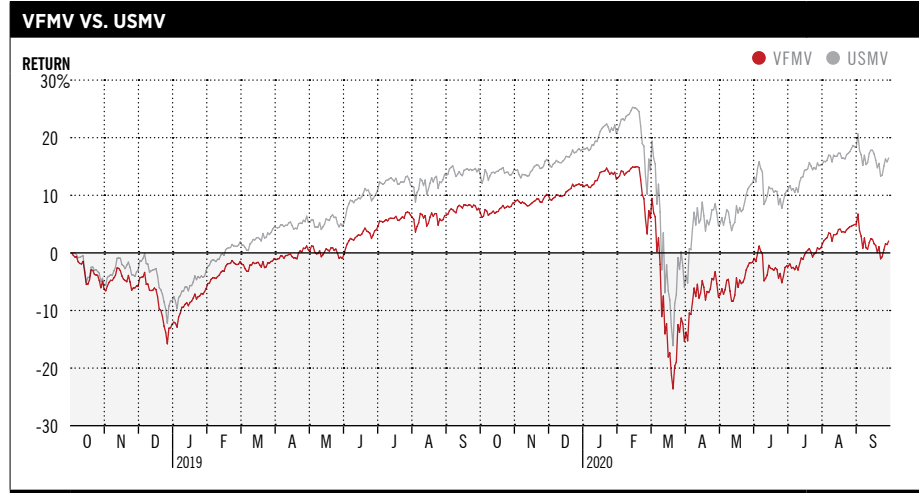
At the end of the two-year period, about 14 percentage points separated the funds' performance results.

SIZE/LIQUIDITY

Vanguard has rejected the idea that size qualifies as a factor, arguing that illiquidity is the cause of outperformance rather than small size. With that in mind, we compare the \$36 million [Vanguard U.S. Liquidity Factor ETF \(VFLQ\)](#) with the \$696 million [iShares MSCI USA Size Factor ETF \(SIZE\)](#). The iShares fund is 1 basis point more in expense ratio than the actively managed Vanguard fund, which charges 0.14%.

Portfolio size is less of an issue with these two funds. SIZE has 620 holdings to VFLQ's 779. They do not have any of their top 10 holdings in common, and neither has technology as its largest sector.

Instead, both have financials as their largest sector, with VFLQ weighting it at 32.8% and SIZE weighting it at 21%. That said, SIZE has technology as its second-largest sector,



Source: Bloomberg, 9/30/2018-9/30/2020

while it is the fourth-largest sector in VFLQ.

In terms of factor exposure, VFLQ has the higher exposure to low size, despite its focus being on the liquidity factor, with an exposure of 1.66, while SIZE has an exposure to the same factor of 0.61.

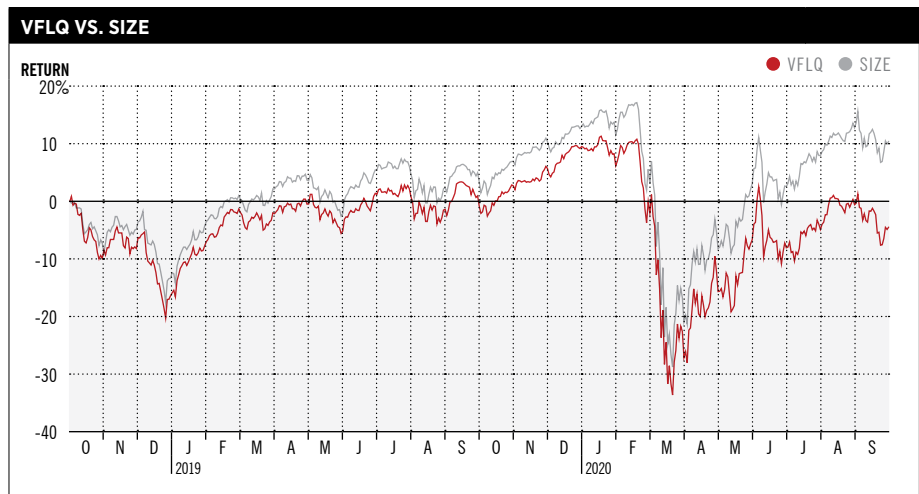
Technology exposure and small-size exposure appear to be the drivers of the funds' performance difference at the end of the two-year period, with VFLQ trailing SIZE by roughly 14 percentage points.

FINAL THOUGHTS

Vanguard is known for its passive investments, but it's no slouch in the active

management department, with a full array of actively managed mutual funds. The fact that its actively managed ETFs underperform similar passively managed funds so significantly is surprising.

However, in most cases, the Vanguard ETFs are underweight in the technology sector, which has outperformed significantly in recent years. Similarly, many of the Vanguard funds have strong exposures to the low size factor, and small caps have been underperforming recently. These two key and fairly consistent differences across the family have no doubt contributed to the funds' lagging performance. ●



Source: Bloomberg, 9/30/2018-9/30/2020

RBC iShares: ESG, Bonds & Factors



Steven Leong
Director and Head of Canada
iShares Product at BlackRock

Steven Leong is director and head of Canada iShares product at BlackRock. Here, he discusses three core parts of the RBC iShares lineup, highlighting what makes them stand out in the Canadian market.

The pandemic has coincided with an increase in investor interest in ESG.

Why is that the case?

This represents the intersection of two things. First, we see the shift towards ESG-oriented investment strategies as a secular, long-term shift, where investors will increasingly seek out strategies that incorporate ESG in some manner. At the same time, the pandemic has created an organic need to really take another look at portfolios.

We experienced a very dramatic period in financial markets in the spring. Many investors viewed this as a good opportunity to take a serious look at how they can incorporate ESG into their portfolio. We've seen a natural interplay where advisors and investors were already starting to gravitate towards ESG, and then you have this market event that creates an urgent need to think about portfolio construction.

How have ESG strategies' returns compared with those of conventional investment strategies?

Our perspective is that businesses are going to be meaningfully impacted by their ability to manage ESG-related risks and factors. Those companies that are able to do so are going to have differentiated and likely superior financial performance compared with companies that are less focused on these issues or less prepared for this recent transition.

Over time, we believe that incorporating ESG considerations should result in superior, risk-adjusted returns. However, it is too early to say that this will absolutely be the case. Certainly in the past year, we have seen ESG strategies outperform traditional, market-cap strategies, in general. But one should be very

cautious about over-extrapolating from a very short-term track record. There can be lots of short-term factors that could cause that, factors that aren't necessarily repeatable. But we do think over the long run, this orientation towards ESG, emphasizing companies that better manage these risks, will deliver superior financial performance.

What is the best way for advisors to approach building an ESG portfolio?

One of the things we tried to do is recognize that this is a new mode of thinking, an incremental change in what investors and advisors need to consider. We have tried to create different flavors of ESG products that can allow advisors to decide how fully they want to embrace ESG within their portfolios. At one end of the spectrum we have our "Aware" series of product. These are products that are built around maintaining a tight similarity to the traditional benchmark from the perspective of tracking our overall risk.

Advisors don't need to start all over from scratch, in terms of building a portfolio. Instead, they can take a portfolio construction or asset allocation that they're already using, that already works, that they are already familiar with, and they can plug and play some ESG into that approach. And we see a lot of advisors using that as the beginning of embracing ESG or building a business around ESG, because it extends very naturally from what they are doing today.

By the same token, we have our "Advanced" products that have a greater emphasis on ESG, which in turn drives higher tracking error relative to a traditional benchmark. The Advanced strategies are screen oriented, which means that they exclude companies that don't qualify. And they do that in two ways. First, there's an overall ESG ratings dimension of this, where we look at companies that are at least average or better. A company has to be an average ESG performer in its industry or better to be eligible. And then the strategy also excludes a lot of specific industries, like fossil fuels.

That's a more advanced approach, but we definitely see some advisors starting to embrace that. We've also created "all-in-one ETFs," where someone looking for a balanced portfolio and risk profile or a growth portfolio can access a diversified group of ESG-oriented equity strategies plus an appropriate fixed income component to get that 60/40 or that 80/20 allocation. You've got that ESG orientation on the equity side, and you've got your government bonds on the fixed income side. It's everything you need in an ETF wrapper.



iShares

With yields at all-time lows on a global level, there are a lot of investors questioning the place of fixed income in a portfolio. How should an advisor respond to that? What role does fixed income play in a diversified portfolio at this point?

We've been in a historically low-yield environment for several years even prior to the pandemic. There was a time—one that is rapidly receding from memory—where your investment-grade fixed income could do everything for you.

The yield was high enough that it was going to generate income, and it was a good, general-purpose, all-weather portfolio diversifier. If you're primarily a growth investor, primarily an equity investor, it wasn't too complicated to own a high-quality bond portfolio and it would do the job for you. The low-yield environment eliminates the ability of the high-quality fixed income to be that all-purpose diversifier.

As a result, you really need to be more targeted with fixed income, depending on what role it is going to play in the portfolio. For an income-oriented investment, for example, government bonds are just not going to generate much income, with interest rates where they are, so there is really a need to climb higher in the yield space or lower in the quality space. This means corporate bonds, high-yield bonds; things like that for income-oriented investors.

By the same token, if you are really equity heavy and looking for bonds to primarily be diversifiers, there's a need to potentially hold more duration than one might have traditionally held. Instead of a portfolio with a duration of five or six years, maybe you really need to go out to something longer in order to maximize the diversification benefit of government bonds.

You can also consider different sources of portfolio balance or portfolio resilience such as inflation-linked bonds. The top minds at BlackRock are thinking about elevating inflation risks as we come out of the pandemic, driven both by potential supply factors as well as by very loose monetary policy. Inflation-linked bonds are an example of something that hasn't really been a mainstream asset class for a lot of investors.

Bonds still play an important role in the portfolio. In the past, the broad universe or aggregate might have been able to do it all for you. Now, depending on whether you're income oriented or more balanced and diversification oriented, and the nature of the fixed income product that makes sense for the portfolio, you have to be a little more specific.

Global fixed income had grown tremendously. What has triggered the appetite? Is it due to uncertainty about markets, or is there something else going on?

We are in maybe the third or fourth inning of ETF adoption at large—and really only the first or second inning of fixed income ETF adoption. There is a long and exciting runway for continued growth of fixed income ETFs. This is driven by the fact that ETFs can provide an exceptional market structure for fixed income as an asset class.

The traditional, fixed income market is an over-the-counter market. An ETF provides on-screen liquidity and on-screen quoting, without the need to call a bond desk. That just by itself is a huge improvement.

Additionally, ETFs really bring all of the market participants to the same place. We're all meeting over the exchange, and there are huge market-structure benefits to that. And then also I'm not trading one bond, I'm trading a diversified package or basket of bonds. I'm getting that immediate diversification of credit or inflation expectations or interest rates, all available through the exchange. So, this is really a significant revolution in the way fixed income is priced and traded.

We've seen a lot of discussion about factor investing in recent years. What do you think makes a strategy qualify as a factor strategy?

For a factor to be a factor, there has to be a broad and persistent driver of return, one that is not limited to a very short time period or a small number of securities. But it is also a much broader phenomenon, where securities that share a particular attribute also share positive or negative performance, as a group.

For example, the value premium has been studied for close to 100 years—and has generally been quite reliable, even if it's had its struggles recently. There should be some plausible explanation for why companies with securities with those attributes behave in that singular manner. And those explanations can be behavioral.

Then there's the question of compensa-

tion for risk. And there can be other issues like market-structural factors, limitations to arbitrage, things like that that are proposed as explanations. It's very difficult to prove that any of the explanations are correct, but you do want to have that plausible source of return.

What does a well-constructed factor portfolio actually look like?

The balance sheet of your average software company is going to look different from the balance sheet of your average industrial manufacturer. One thing that we try to do when we are constructing factors and building factor portfolios is correct for some of those phenomena. So, we're really distilling into the factor itself, and not, for example, a sector effect. In recent markets, where dispersion between sectors is so heightened, having that unintended bet on some sectors over others can actually cause a lot of difference in your outcome relative to the market.

Our factor products are almost always built with that sector bias in mind. The factor scores are measured on a sector-relative basis, and the portfolio is constructed or optimized to set limits on how far you can diverge on a sector basis.

What can an advisor do to effectively incorporate factors into an existing portfolio?

Market timing is extremely difficult, and we would not advise portfolios to be built around the idea that the investor can get short-term timing right. But for a medium-term orientation, one approach would be to put tilts into the portfolio. We think that in the wake of the pandemic, the quality factor is likely something that is good to own in a portfolio. If you have a core position in the S&P 500, you can tilt towards quality by adding a factor ETF. And if you are an even stronger believer in the long-term performance of factors, you could actually replace a lot more of your S&P 500 exposure on a permanent basis with a factor-oriented strategy.

A factor strategy needs time to play out. Factor returns can be very cyclical, and no single factor is going to outperform in all market environments.

Disclosures:

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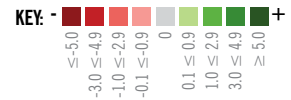
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September was a fairly devastating month for commodity ETFs, with only two funds racking up positive returns. The [Aberdeen Standard Physical Palladium Shares ETF \(PALL\)](#) was the best performer, with a gain of just 2.19%; followed by the [iPath Series B Bloomberg Cotton Subindex Total Return ETN \(BAL\)](#), which was up 0.61%; and the [Invesco DB Agriculture Fund \(DBA\)](#), which was flat for the month. At the other end of the performance spectrum is the [United States Natural Gas Fund LP \(UNG\)](#), which plunged 19.31% in September; while the [iShares Silver Trust \(SLV\)](#) and the [iPath Series B Bloomberg Coffee Subindex Total Return ETN \(JO\)](#) fell 17.5% and 14.57%, respectively. In terms of flows, the [SPDR Gold Trust \(GLD\)](#) gained \$1.1 billion, while the [Aberdeen Standard Physical Platinum Shares ETF \(PPLT\)](#) pulled in a far smaller \$55.0 million, and the [First Trust Global Tactical Commodity Strategy Fund \(FTGC\)](#) increased by \$38.5 million. Meanwhile, SLV saw outflows of \$660.8 million, while the [United States Oil Fund LP \(USO\)](#) lost \$161.4 million and the [Invesco Optimum Yield Diversified Commodity Strategy No K-1 ETF \(PDBC\)](#) dropped by \$78.9 million. ●

Commodity Performance

SEPTEMBER 2020

BROAD-BASED	AGS	ENERGY	INDUST. METALS	PRECIOUS METALS
BROAD USCI -3.29%	BROAD DBA 0.00%	BROAD DBE -5.82%	BROAD DBB -2.95%	BROAD GLTR -7.22%
BROAD DBC -3.55%	COFFEE JO -14.57%	GASOLINE UGA -2.16%	COPPER JJC -1.10%	GOLD GLD -4.17%
BROAD DJP -4.42%	SUGAR SGG -0.02%	NATURAL GAS UNG -19.31%	NICKEL JJN -8.36%	PLATINUM PPLT -4.44%
BROAD FTGC -2.16%	COCOA NIB -5.36%	CRUDE OIL USO -7.49%	LEAD LD -9.77%	SILVER SLV -17.50%
BROAD GCC -2.59%	COTTON BAL 0.61%		ALUMINUM JJU -3.32%	PALLADIUM PALL 2.19%
BROAD GSG -4.44%			TIN JJT -2.19%	
BROAD PDBC -3.80%				



Top Inflows

TICKER	NET FLOWS (\$M)	AUM (\$M)
SPDR Gold GLD	1,116.0	76,833.2
Aberdeen Std Phys Platinum PPLT	55.0	1,084.9
First Trust Glob Tactical Commodity FTGC	38.5	160.0
Aberdeen Std Phys Precious Metals GLTR	29.4	748.1
United States Natural Gas UNG	25.9	314.8

Top Outflows

TICKER	NET FLOWS (\$M)	AUM (\$M)
iShares Silver SLV	-660.8	13,082.9
United States Oil USO	-161.4	3,970.1
Invesco Opt Yld Diversfd Commodity No K-1 PDBC	-78.9	2,578.6
Invesco DB Commodity DBC	-23.4	1,040.2
United States Gasoline UGA	-15.8	81.0

Sources: Bloomberg and FactSet. Data from 8/31/2020 to 9/30/2020. ETFs chosen to represent each sector based on the most liquid ETF in each segment of the ETF.com ETF Classification System.

Country Returns

SEPTEMBER 2020

DEVELOPED MARKETS			EMERGING MARKETS			FRONTIER MARKETS
AMERICAS	EMEA	ASIA-PACIFIC	AMERICAS	EMEA	ASIA-PACIFIC	
CANADA EWC -4.53%	AUSTRIA EWO -6.10%	AUSTRALIA EWA -5.15%	ARGENTINA ARGT -9.48%	EGYPT EGPT -2.57%	CHINA FXI -4.46%	NIGERIA NGE 3.90%
UNITED STATES SPY -3.74%	BELGIUM EWK -3.29%	HONG KONG EWH -3.44%	BRAZIL EWZ -7.24%	GREECE GREK -3.22%	INDIA INDA 1.47%	VIETNAM VNM 1.02%
	DENMARK EDEN 0.82%	JAPAN EWJ 1.81%	CHILE ECH -4.97%	POLAND EPOL -9.26%	INDONESIA EIDO -11.93%	
	FINLAND EFNL -3.15%	NEW ZEALAND ENZL -5.07%	COLOMBIA GXG -6.69%	QATAR QAT 2.46%	MALAYSIA EWM -1.28%	
	FRANCE EWQ -4.51%	SINGAPORE EWS -1.78%	MEXICO EWW 1.37%	RUSSIA RSX -7.63%	PAKISTAN PAK -1.19%	
	GERMANY EWG -3.22%		PERU EPU -6.32%	SAUDI ARABIA KSA 2.88%	PHILIPPINES EPHE 0.11%	
	IRELAND EIRL -5.63%			SOUTH AFRICA EZA -0.65%	SOUTH KOREA EWY 3.60%	
	ISRAEL EIS -7.09%			TURKEY TUR -1.05%	TAIWAN EWT 2.16%	
	ITALY EWI -5.28%			UAE UAE -0.09%	THAILAND THD -8.09%	
	NETHERLANDS EWN -1.44%					
	NORWAY NORW -6.93%					
	PORTUGAL PGAL -7.80%					
	SPAIN EWP -6.00%					
	SWITZERLAND EWL -1.58%					
	UNITED KINGDOM EWU -4.32%					

September was a mostly negative month for country ETFs. The [Global X MSCI Nigeria ETF \(NGE\)](#) was the top performer, up 3.90%; that was followed by the [iShares MSCI South Korea ETF \(EWY\)](#) and the [iShares MSCI Saudi Arabia ETF \(KSA\)](#), up 3.60% and 2.88%, respectively. The downside was much more dramatic, with the [iShares MSCI Indonesia ETF \(EIDO\)](#) falling 11.93%, the [Global X MSCI Argentina ETF \(ARGT\)](#) declining 9.48% and the [iShares MSCI Poland ETF \(EPOL\)](#) sinking 9.26%. Flows were fairly muted, with the [SPDR S&P 500 ETF Trust \(SPY\)](#) pulling in \$1.2 billion, the [iShares MSCI Germany ETF \(EWG\)](#) gaining \$146.3 million and the [iShares MSCI United Kingdom ETF \(EWU\)](#) adding \$115.2 million during the month. The [iShares MSCI Japan ETF \(EWJ\)](#) bled \$231.8 million, while the [iShares MSCI Brazil ETF \(EWZ\)](#) lost \$187.5 million and the [iShares MSCI Mexico ETF \(EWW\)](#) shrank by \$181.8 million. ●

Top Inflows

	TICKER	NET FLOWS (\$M)	AUM (\$M)	
	SPDR S&P 500	SPY	1,195.7	292,966.9
	iShares MSCI Germany	EWG	146.3	2,977.4
	iShares MSCI United Kingdom	EWU	115.2	2,195.1
	iShares MSCI Taiwan	EWT	71.6	4,331.2
	iShares MSCI Denmark	EDEN	33.4	144.7

Top Outflows

	TICKER	NET FLOWS (\$M)	AUM (\$M)	
	iShares MSCI Japan	EWJ	-231.8	9,940.2
	iShares MSCI Brazil	EWZ	-187.5	4,706.6
	iShares MSCI Mexico	EWW	-181.8	666.5
	iShares MSCI Hong Kong	EWH	-161.2	1,100.4
	iShares MSCI South Korea	EWY	-84.4	4,877.3



Index Data Source: MSCI.
Sources: Bloomberg and FactSet.
Data from 8/31/2020 to 9/30/2020.

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.



ETF DATA

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

- Data as of 09/30/2020
- 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 \$93 million and above
- Source: ETF.com

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
U.S. EQUITY: TOTAL MARKET						
Renaissance IPO	IPO	0.60	222.2	68.52	25.74	21.82
ERShares Entrepreneur 30	ENTR	0.49	140.9	35.02	-	-
Motley Fool 100	TMFC	0.50	327.8	27.66	-	-
Fidelity NASDAQ Composite	ONEQ	0.21	3,012.2	25.08	20.96	20.57
Goldman Sachs Hedge Industry VIP	GVIP	0.45	115.3	22.33	15.23	-
American Century STOXX US Qual Growth	QGRO	0.29	211.5	21.48	-	-
First Trust US Equity Opportunities	FPX	0.58	1,498.6	20.72	15.59	15.53
Global X Millennials Thematic	MLN	0.50	96.2	20.61	20.74	-
SPDR S&P Kensho New Economies Comp	KOMP	0.20	1,145.9	19.50	-	-
Invesco DWA Momentum	PDP	0.62	2,028.3	19.01	16.53	14.14
iShares MSCI USA Momentum Factor	MTUM	0.15	11,966.0	18.43	17.02	18.18
IQ Candriam ESG US Equity	IQSU	0.09	155.3	15.13	-	-
iShares MSCI USA ESG Select	SUSA	0.25	1,729.1	10.99	13.87	15.10
Vanguard ESG US Stock	ESGV	0.12	1,964.1	10.32	-	-
iShares ESG Aware MSCI USA	ESGU	0.15	8,745.9	8.17	13.46	-
iShares MSCI KLD 400 Social	DSI	0.25	2,139.9	7.81	13.01	14.25
Innovator IBD 50	FFTY	0.80	189.1	7.41	5.71	11.35
Nationwide Max Divrs US Core	MXDU	0.34	97.1	7.39	11.36	-
JPMorgan BetaBuilders US Equity	BBUS	0.02	215.5	6.73	-	-
Xtrackers MSCI ESG Leaders Equity	USSG	0.10	2,547.4	6.40	-	-
iShares ESG MSCI USA Leaders	SUSL	0.10	2,510.3	6.04	-	-
iShares Dow Jones U.S.	IYY	0.20	1,273.3	5.72	11.79	13.63
Vanguard Total Stock Market	VTI	0.03	161,982.6	5.47	11.63	13.68
Schwab US Broad Market	SCHB	0.03	15,568.9	5.28	11.54	13.60
Vanguard Russell 3000	VTHR	0.10	676.9	5.26	11.48	13.56
iShares Core S&P Total US Stock Market	ITOT	0.03	26,886.0	5.26	11.56	13.69
iShares Russell 3000	IWW	0.20	9,413.7	5.13	11.40	13.48
TrimTabs All Cap US Free-Cash-Flow	TTAC	0.59	180.0	4.68	10.30	-
Vanguard Dividend Appreciation	VIG	0.06	47,268.9	4.67	12.86	14.04
SPDR Portfolio S&P 1500 Composite	SPTM	0.03	3,587.2	4.18	11.37	13.63
iShares MSCI USA Quality Factor	QUAL	0.15	19,190.8	4.10	12.38	13.49
Global X Conscious Companies	KRMA	0.43	363.2	4.07	11.98	-
WisdomTree US Quality Div Growth	DGRW	0.28	4,444.6	3.90	11.59	14.10
Franklin Liberty US Low Volatility	FLV	0.29	115.6	2.75	13.21	-
First Trust DW Momentum & Low Vol	DVOL	0.60	124.2	1.77	-	-
FlexShares US Quality Low Volatility	QLV	0.22	109.4	1.73	-	-
RiverFront Dynamic US Div Advantage	RFDA	0.52	128.2	1.24	7.43	-
SPDR MSCI USA StrategicFactors	QUS	0.15	770.0	0.81	11.38	13.60
Avantis US Equity	AVUS	0.15	432.5	0.52	-	-

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
Invesco Dividend Achievers	PFM	0.53	405.7	-0.09	9.34	11.63
Invesco Defensive Equity	DEF	0.55	262.6	-0.22	9.55	11.87
VanEck Vectors Morningstar Wide Moat	MOAT	0.48	3,365.9	-0.35	12.15	16.06
WisdomTree US Multifactor	USMF	0.28	137.0	-0.59	7.98	-
Timothy Plan US Large/Mid Cap Core	TPLC	0.52	149.0	-0.75	-	-
iShares MSCI USA Min Vol Factor	USMV	0.15	33,804.7	-1.27	10.41	12.30
ALPS Barron's 400	BFOR	0.65	106.5	-1.74	2.67	8.05
VictoryShares US Multi-Factor Min Vol	VSMV	0.35	146.9	-2.10	10.41	-
iShares MSCI USA Size Factor	SIZE	0.15	704.5	-2.30	7.68	10.77
iShares MSCI USA Multifactor	LRGF	0.20	794.1	-2.35	5.90	9.75
FlexShares Mstar US Market Factor Tilt	TILT	0.25	1,181.6	-2.62	6.81	10.79
iShares MSCI Equal Weighted	EUSA	0.15	218.9	-3.02	7.11	10.53
iShares Core Dividend Growth	DGRO	0.08	11,625.2	-3.39	9.69	13.09
Invesco Dynamic Market	PWC	0.58	121.0	-4.20	2.51	7.54
FlexShares Quality Dividend Defensive	QDEF	0.37	431.1	-5.48	6.70	9.88
FlexShares Quality Dividend	QDF	0.37	1,303.0	-5.84	5.27	9.51
Schwab Fundamental US Broad Market	FNDB	0.25	221.0	-7.55	5.35	9.53
WisdomTree US Total Dividend	DTD	0.28	720.7	-9.03	5.18	9.71
VictoryShares MSCI USA Val Momentum	ULVM	0.20	461.8	-9.16	-	-
American Century STOXX US Qual Value	VALQ	0.29	133.6	-10.98	-	-
Legg Mason Low Volatility High Dividend	LVHD	0.27	689.1	-11.24	2.66	-
Invesco BuyBack Achievers	PKW	0.62	645.4	-11.30	4.21	8.07
Vident Core US Equity	VUSE	0.48	312.1	-12.39	-1.19	5.11
Global X Adaptive US Factor	AUSF	0.27	141.4	-13.73	-	-
Invesco Raymond James SB-1 Equity	RYJ	0.76	102.1	-17.20	-0.74	5.24
C-Tracks M/H Strategic Div Reinvestor	DIVC	0.70	113.2	-23.00	-4.48	3.99
Virtus Real Asset Income	VRAI	0.55	104.5	-24.29	-	-
iShares US Tech Breakthrough Multisector	TECB	0.40	349.2	-	-	-
Goldman Sachs MarketBeta US Equity	GSUS	0.07	244.6	-	-	-
U.S. EQUITY: TOTAL MARKET GROWTH						
iShares Core S&P US Growth	IUSG	0.04	9,253.7	19.31	18.23	17.72
First Trust Multi Cap Growth AlphaDEX	FAD	0.66	176.0	11.83	12.21	13.18
Janus Henderson Sm/Mid Cap Gr Alpha	JSMD	0.30	112.9	7.69	13.50	-
American Century Focused Dyn Growth	FDG	0.45	195.9	-	-	-
U.S. EQUITY: TOTAL MARKET VALUE						
iShares Core S&P US Value	IUSV	0.04	6,550.6	-11.93	3.80	8.62
iShares MSCI USA Value Factor	VLUE	0.15	6,744.7	-15.83	1.15	6.97
Alpha Architect US Quantitative Value	QVAL	0.49	112.4	-18.61	-1.76	2.83
Vanguard US Value Factor	VFVA	0.14	119.4	-19.63	-	-
U.S. EQUITY: EXTENDED CAP						
Vanguard Extended Market	VXF	0.06	10,028.2	3.81	8.07	11.25
iShares Russell 2500	SMMD	0.15	104.8	-5.80	4.61	-
Invesco FTSE RAFI US 1500 Small-Mid	PRFZ	0.39	1,413.8	-13.41	-0.91	6.46
U.S. EQUITY: LARGE CAP						
Invesco QQQ Trust	QQQ	0.20	133,384.6	31.37	25.08	23.36
Pacer Trendpilot 100	PTNQ	0.65	791.8	19.19	19.86	15.82
Invesco S&P 500 Downside Hedged	PHDG	0.39	143.6	18.56	9.63	8.40
Direxion NASDAQ-100 Equal Weighted	QQEQ	0.35	285.0	17.85	16.73	17.49
First Trust NASDAQ-100 Ex-Tech Sector	QQXT	0.60	118.7	17.79	13.60	12.38
First Trust Nasdaq-100 Equal Weighted	QQEW	0.59	919.8	17.45	16.47	17.21
JPMorgan US Momentum Factor	JMOM	0.12	134.4	15.11	-	-
Invesco S&P 500 Top 50	XLG	0.20	1,597.6	13.62	15.80	16.72
First Trust Lunt US Factor Rotation	FCTR	0.65	100.7	12.13	-	-
Inspire 100	BIBL	0.35	118.7	10.46	-	-
Aptus Drawdown Managed Equity	ADME	0.79	160.2	10.25	6.14	-
iShares S&P 100	IEF	0.20	6,866.3	9.53	14.03	15.21
iShares Russell Top 200	IWL	0.15	789.3	8.90	12.37	13.41
Nationwide Risk-Managed Income	NUSI	0.68	130.8	8.52	-	-
Vanguard Mega Cap	MGC	0.07	2,896.2	8.14	11.88	13.10
Xtrackers S&P 500 ESG	SNPE	0.10	271.9	7.63	-	-
SPDR S&P 500 Fossil Fuel Reserves Free	SPYX	0.20	662.1	7.32	13.07	-
Vanguard Large-Cap	VW	0.04	18,812.4	7.28	12.82	14.40
iShares Morningstar Large-Cap	JKD	0.20	791.8	7.01	11.25	14.17
Invesco S&P 500 Quality	SPHQ	0.15	2,224.1	6.92	12.18	13.86
Overlay Shares Large Cap Equity	OVL	0.78	110.9	6.72	-	-

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
Principal US Mega-Cap	USMC	0.12	1,550.7	6.57	-	-
Innovator S&P 500 Power Buffer - June	PJUN	0.79	96.4	6.55	-	-
Goldman Sachs JUST US Large Cap Equity	JUST	0.20	146.3	6.37	-	-
Vanguard Russell 1000	VONE	0.08	1,667.7	6.33	12.26	13.94
iShares Russell 1000	IWB	0.15	23,114.8	6.29	12.24	13.95
Distillate US Fundamental Stability/Value	DSTL	0.39	178.3	6.29	-	-
Schwab 1000	SCHK	0.05	1,105.3	6.10	-	-
Global X S&P 500 Catholic Values	CATH	0.29	384.3	6.08	12.11	-
Schwab US Large-Cap	SCHX	0.03	22,162.8	6.06	10.71	12.23
Goldman Sachs ActiveBeta US Large Cap	GSAC	0.09	9,981.1	5.99	12.46	13.37
SPDR Portfolio S&P 500	SPLG	0.03	6,687.6	5.65	12.32	14.15
First Trust Capital Strength	FTCS	0.58	6,053.6	5.61	11.46	13.46
SPDR S&P 500 Trust	SPY	0.09	292,966.9	5.58	12.18	14.04
Vanguard S&P 500	VOO	0.03	160,023.8	5.46	12.21	14.10
Nationwide Risk-Based US Equity	RBUS	0.30	106.7	5.24	10.57	-
Fidelity Quality Factor	FQAL	0.29	147.1	5.11	11.22	-
Innovator S&P 500 Power Buffer - August	PAUG	0.79	109.3	5.00	-	-
Aptus Collared Income Opportunity	ACIO	0.79	140.3	4.98	-	-
Innovator S&P 500 Power Buffer - October	POCT	0.80	175.1	4.80	-	-
JPMorgan US Quality Factor	JQUA	0.12	390.2	4.77	-	-
Barclays ETN + Shiller CAPE ETN	CAPE	0.45	203.4	4.65	12.48	16.19
iShares Core S&P 500	IVV	0.03	212,989.7	3.97	9.94	11.76
VictoryShares US 500 Enh Vol Wtd	CFO	0.35	634.7	3.94	7.41	11.14
FT Cboe Vest US Equity Buffer - November	FNOV	0.85	131.3	3.94	-	-
FT Cboe Vest US Equity Deep Buffer - Aug	DAUG	0.85	138.0	3.80	-	-
Innovator S&P 500 Buffer - January	BIAN	0.80	149.5	3.64	-	-
Fidelity Low Volatility Factor	FDLO	0.29	361.1	3.62	13.20	-
Innovator S&P 500 Power Buffer - July	PJUL	0.79	118.1	3.45	-	-
Amplify CWP Enhanced Dividend Income	DIVO	0.49	97.7	3.36	11.23	-
Innovator S&P 500 Power Buffer - January	PJAN	0.79	295.9	3.24	-	-
Innovator S&P 500 Ultra Buffer - January	UJAN	0.79	117.6	2.74	-	-
FT Cboe Vest US Equity Deep Buffer - Nov	DNOV	0.85	139.8	2.64	-	-
HCM Defender 500	LGH	1.25	108.0	2.50	-	-
Main Sector Rotation	SECT	0.80	571.8	2.45	7.98	-
John Hancock Multifactor Large Cap	JHML	0.29	876.4	2.27	10.24	12.65
Innovator S&P 500 Power Buffer - April	PAPR	0.79	191.7	2.14	-	-
Innovator S&P 500 Power Buffer - Sept	PSEP	0.79	221.8	2.11	-	-
VictoryShares Dividend Accelerator	VSDA	0.35	271.4	2.03	13.00	-
Xtrackers Russell 1000 US QARP	QARP	0.19	107.6	1.63	-	-
Franklin LibertyQ US Equity	FLQL	0.15	1,230.2	0.92	11.02	-
0?Shares US Quality Dividend	OUSA	0.48	524.6	0.75	9.11	12.00
SPDR SSGA Gender Diversity	SHE	0.20	133.0	0.55	8.37	-
Global X NASDAQ 100 Covered Call	QQLD	0.60	1,304.1	-0.23	7.56	9.43
ProShares Large Cap Core Plus	CSM	0.46	411.9	-0.54	7.07	10.70
First Trust Horizon Managed Vol Domestic	HUSV	0.70	198.5	-0.78	8.73	-
SPDR Dow Jones Industrial Average Trust	DIA	0.16	22,693.0	-0.98	9.81	13.84
Goldman Sachs Eq Wt US Large Cap Equity	GSEW	0.09	330.5	-1.10	7.96	-
Invesco RAFI Strategic US	IUS	0.19	136.0	-1.68	-	-
VictoryShares US EQ Income Enh Vol Wtd	CDC	0.35	569.2	-2.17	5.16	9.83
First Trust Large Cap Core AlphaDEX	FEX	0.60	902.5	-2.43	5.05	8.76
WisdomTree US LargeCap	EPS	0.08	405.6	-2.43	7.25	10.41
Davis Select US Equity	DUSA	0.63	264.3	-2.44	6.32	-
ALPS Equal Sector Weight	EQL	0.28	149.1	-2.55	5.69	8.47
ProShares S&P 500 Dividend Aristocrats	NOBL	0.35	6,128.2	-2.78	9.08	11.55
VictoryShares US 500 Volatility Wtd	CFA	0.35	620.9	-3.35	7.25	10.95
SPDR SSGA US Large Cap Low Volatility	LGVL	0.12	566.0	-3.70	9.98	12.47
Invesco Russell 1000 Equal Weight	EQUAL	0.20	446.5	-4.18	4.78	8.99
Hartford Multifactor US Equity	ROUS	0.19	243.8	-4.26	5.49	9.27
Invesco S&P 500 Equal Weight	RSP	0.20	12,901.3	-4.79	6.32	9.95
Xtrackers Russell 1000 Compr Factor	DEUS	0.17	139.8	-5.13	5.81	-
SPDR Russell 1000 Momentum Focus	OMO	0.20	214.3	-5.18	4.02	-
JPMorgan Diversified Return US Equity	JNEU	0.18	542.9	-5.55	5.70	9.70
WisdomTree CBOE S&P 500 PutWrite	PUTW	0.44	114.9	-6.04	0.39	-
IQ Chaikin US Large Cap	CLRG	0.25	245.3	-6.26	-	-
Invesco S&P 500 Low Volatility	SPLV	0.25	8,681.9	-6.28	7.82	10.75
WisdomTree US LargeCap Dividend	DLN	0.28	2,255.3	-6.40	6.67	10.59

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
Pacer US Cash Cows 100	COWZ	0.49	212.0	-6.84	3.67	-
Invesco Russell 1000 Dynamic Multifactor	OMFL	0.29	939.8	-6.87	-	-
Global X S&P 500 Covered Call	XYLD	0.60	104.1	-7.00	3.62	7.63
Invesco S&P 500 Revenue	RWL	0.39	748.3	-7.06	4.18	7.54
Schwab Fundamental US Large Company	FNDX	0.25	4,486.4	-7.16	5.85	9.78
First Trust Rising Dividend Achievers	RDVY	0.50	1,281.5	-7.55	7.29	11.99
SPDR Russell 1000 Low Volatility Focus	ONEV	0.20	400.3	-8.13	6.82	-
Invesco FTSE RAFI US 1000	PRF	0.39	3,786.4	-8.30	4.37	8.93
Invesco S&P 500 High Beta	SPHB	0.25	152.7	-8.48	3.84	9.79
Invesco S&P 500 BuyWrite	PBP	0.49	171.1	-10.07	0.10	3.90
Pacer Trendplot US Large Cap	PTLC	0.60	1,908.1	-11.75	3.93	5.52
Timothy Plan High Dividend Stock	TPHD	0.52	108.2	-13.41	-	-
WisdomTree US Dividend ex-Financials	DTN	0.38	505.7	-16.21	-0.09	6.03
ALPS Sector Dividend Dogs	SDOG	0.40	903.9	-16.34	-1.25	6.07
SPDR Russell 1000 Yield Focus	ONEY	0.20	365.0	-18.26	0.89	-
VictoryShares US Lrg Cap High Div Vol Wtd	CDL	0.35	174.1	-19.02	0.65	6.99
Invesco S&P 500 High Div Low Vol	SPHD	0.30	2,314.8	-21.93	-2.77	5.23
SPDR Portfolio S&P 500 High Dividend	SPYD	0.07	1,953.8	-27.76	-4.06	-
FT Cboe Vest US Equity Deep Buffer - Feb	DFEB	0.85	531.0	-	-	-
FT Cboe Vest US Equity Buffer - February	FFEB	0.85	234.4	-	-	-
6 Meridian Hedged Equity-Index Option	SIXH	0.81	191.4	-	-	-
Innovator S&P 500 Power Buffer - Feb	PFEF	0.79	115.7	-	-	-
Day Hagan/Ned Davis Res Smart Sector	SSUS	0.79	114.4	-	-	-
6 Meridian Mega Cap Equity	SIXA	0.82	105.5	-	-	-
U.S. EQUITY: LARGE CAP GROWTH						
Vanguard Mega Cap Growth	MGK	0.07	9,328.3	28.00	22.14	20.36
iShares Morningstar Large-Cap Growth	JKE	0.25	1,746.2	27.74	23.00	19.94
iShares Russell Top 200 Growth	IWY	0.20	3,032.5	26.57	22.83	21.23
Vanguard Growth	VUG	0.04	60,195.8	25.75	20.99	19.22
Schwab US Large-Cap Growth	SCHG	0.04	12,020.6	24.63	21.51	19.38
iShares Russell 1000 Growth	IWF	0.19	57,799.3	24.15	21.44	19.89
Vanguard Russell 1000 Growth	VONG	0.08	4,704.3	24.06	21.51	19.96
Nuveen ESG Large-Cap Growth	NULG	0.35	346.7	22.80	22.07	-
Invesco Dynamic Large Cap Growth	PWB	0.56	739.1	20.77	17.49	16.94
SPDR Portfolio S&P 500 Growth	SPYG	0.04	9,033.7	20.68	19.05	18.28
Vanguard S&P 500 Growth	VOOG	0.10	4,257.1	20.44	18.89	18.18
iShares S&P 500 Growth	IWV	0.18	29,798.3	20.29	18.83	18.14
First Trust Large Cap Growth AlphaDEX	FTC	0.61	999.7	15.84	14.12	13.66
Invesco S&P 500 Pure Growth	RPG	0.35	2,478.5	12.34	13.03	13.57
SoFi Select 500	SFY	0.00	111.0	11.34	-	-
Invesco S&P 500 GARP	SPGP	0.34	177.1	-4.32	13.10	14.53
U.S. EQUITY: LARGE CAP VALUE						
Fidelity Value Factor	FVAL	0.29	210.0	-4.61	7.63	-
Vanguard Mega Cap Value	MGV	0.07	2,899.1	-10.19	5.04	9.69
Schwab US Large-Cap Value	SCHV	0.04	6,653.7	-10.56	3.50	8.76
Vanguard Value	VTV	0.04	50,572.2	-10.76	4.35	9.25
iShares Russell Top 200 Value	IWX	0.20	660.6	-11.01	3.37	8.17
Nuveen ESG Large-Cap Value	NULV	0.35	515.7	-11.34	4.32	-
SPDR Portfolio S&P 500 Value	SPYV	0.04	5,345.6	-11.43	4.36	8.97
Vanguard S&P 500 Value	VOOV	0.10	1,243.4	-11.57	4.06	8.71
iShares Russell 1000 Value	IWD	0.19	35,929.0	-11.64	2.48	7.48
iShares S&P 500 Value	IVE	0.18	15,513.1	-11.65	3.98	8.65
Vanguard Russell 1000 Value	VONV	0.08	2,619.5	-11.68	2.55	7.53
iShares Morningstar Large-Cap Value	JKF	0.25	445.4	-13.31	2.79	8.19
First Trust Large Cap Value AlphaDEX	FTA	0.60	609.1	-15.55	-0.76	6.50
Invesco Dynamic Large Cap Value	PWV	0.56	629.9	-15.60	-0.57	6.49
Invesco S&P 500 Pure Value	RPV	0.35	596.7	-27.37	-4.91	2.86
U.S. EQUITY: MID CAP						
Invesco S&P Midcap Momentum	XMMO	0.34	685.2	8.98	20.39	18.51
Vanguard Mid-Cap	VO	0.04	34,250.9	0.18	7.99	10.34
iShares Russell Mid-Cap	IWR	0.19	20,643.2	-2.47	6.99	9.96
John Hancock Multifactor Mid Cap	JHMM	0.42	1,539.4	-3.31	6.50	10.03
iShares Morningstar Mid-Cap	JKG	0.25	647.8	-3.36	6.23	9.48
Schwab US Mid-Cap	SCHM	0.04	6,413.4	-6.67	5.05	8.97
JPMorgan Diversified Return US Mid Cap	JPME	0.24	216.3	-8.01	3.81	-
First Trust Mid Cap Core AlphaDEX	FNX	0.61	580.1	-8.20	3.33	7.70

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
iShares Core S&P Mid-Cap	IJH	0.05	43,167.6	-8.69	2.84	8.03
SPDR S&P Midcap 400 Trust	MDY	0.23	14,383.3	-8.71	2.67	7.83
SPDR Portfolio S&P 400 Mid Cap	SPMD	0.05	2,533.5	-8.72	2.67	7.79
Vanguard S&P Mid-Cap 400	IVOO	0.10	839.7	-8.79	2.76	7.94
ProShares S&P MidCap 400 Div Aristocrats	REGL	0.41	680.4	-10.00	2.71	9.33
Pacer Trendpilot US Mid Cap	PTMC	0.60	390.5	-11.16	-1.67	4.05
Invesco Zacks Mid-Cap	CZA	0.69	213.1	-14.31	2.89	8.43
Invesco S&P MidCap 400 Revenue	RWK	0.39	195.7	-16.06	-0.92	5.02
WisdomTree US MidCap	EZM	0.38	508.4	-17.60	-1.30	5.19
Invesco S&P MidCap Low Volatility	XMLV	0.25	1,815.7	-20.82	0.74	7.42
WisdomTree US MidCap Dividend	DON	0.38	2,395.7	-22.26	-2.13	4.99
U.S. EQUITY: MID CAP GROWTH						
iShares Morningstar Mid-Cap Growth	JKH	0.30	1,135.4	22.00	19.45	16.87
Nuveen ESG Mid-Cap Growth	NUMG	0.40	180.9	19.79	17.39	-
Vanguard Mid-Cap Growth	VOT	0.07	8,287.4	14.07	14.84	14.05
iShares Russell Mid-Cap Growth	IWP	0.24	13,091.8	13.79	16.00	15.30
First Trust Mid Cap Growth AlphaDEX	FNYP	0.70	370.0	11.97	13.78	14.06
Invesco S&P MidCap 400 Pure Growth	RFG	0.35	325.7	10.38	5.95	7.01
Vanguard S&P Mid-Cap 400 Growth	IVOG	0.15	695.3	1.47	7.00	10.06
SPDR S&P 400 Mid Cap Growth	MDYG	0.15	1,398.0	1.18	6.93	10.04
iShares S&P Mid-Cap 400 Growth	IJK	0.24	6,589.5	1.16	6.85	9.95
U.S. EQUITY: MID CAP VALUE						
iShares Russell Mid-Cap Value	IWS	0.24	9,705.6	-13.02	0.64	6.17
Vanguard Mid-Cap Value	VOE	0.07	8,962.4	-13.13	1.09	6.42
Nuveen ESG Mid-Cap Value	NUMV	0.40	114.1	-15.62	1.08	-
SPDR S&P 400 Mid Cap Value	MDYV	0.15	905.8	-19.26	-1.96	5.32
Vanguard S&P Mid-Cap 400 Value	IVOV	0.15	444.9	-19.41	-2.01	5.34
iShares S&P Mid-Cap 400 Value	IJJ	0.25	4,276.0	-19.45	-2.12	5.17
iShares Morningstar Mid-Cap Value	JKI	0.30	325.7	-20.13	-1.98	5.41
U.S. EQUITY: SMALL CAP						
Invesco DWA SmallCap Momentum	DWAS	0.60	326.1	4.31	8.01	10.08
Invesco S&P SmallCap Momentum	XSMO	0.39	105.6	2.48	9.78	11.99
Nuveen ESG Small-Cap	NUSC	0.40	331.5	-4.85	4.45	-
Vanguard Small-Cap	VB	0.05	28,324.8	-6.29	4.39	8.95
iShares ESG Aware MSCI USA Small-Cap	ESML	0.17	369.5	-7.47	-	-
Vanguard Russell 2000	VTWO	0.10	1,803.3	-8.54	1.83	8.06
iShares Russell 2000	IWM	0.19	38,638.2	-8.58	1.72	8.02
Schwab US Small-Cap	SCHA	0.04	9,612.3	-8.70	1.95	7.67
VictoryShares USA SmCap Val Momentum	USVM	0.24	244.9	-9.75	-	-
07Shares US Small-Cap Quality Dividend	OUSM	0.48	99.3	-9.85	2.39	-
First Trust Small Cap Core AlphaDEX	FYX	0.63	404.2	-10.40	0.35	6.73
Goldman Sachs ActiveBeta US Small Cap	GSSC	0.20	153.2	-10.42	1.03	-
Invesco S&P SmallCap 600 Revenue	RWJ	0.39	214.7	-11.37	-3.20	4.46
JPMorgan Diversified Return US Small Cap	JPSE	0.29	147.4	-11.73	1.15	-
John Hancock Multifactor Small Cap	JHSC	0.42	479.8	-11.88	-	-
iShares MSCI USA Small-Cap Multifactor	SMLF	0.30	548.7	-12.28	0.57	6.97
Principal US Small-Cap Multi-Factor	PSC	0.38	632.0	-13.16	-1.16	-
SPDR S&P 600 Small Cap	SLY	0.15	1,000.1	-15.07	-0.32	7.26
SPDR Portfolio S&P 600 Small Cap	SPSM	0.05	2,299.6	-15.12	-0.43	6.75
Vanguard S&P Small-Cap 600	VIOO	0.10	992.7	-15.13	-0.38	7.16
iShares Core S&P Small-Cap	IJR	0.06	41,274.8	-15.20	-0.34	7.22
iShares Morningstar Small-Cap	JKU	0.25	179.1	-15.82	-0.56	5.99
iShares MSCI USA SmCap Min Vol Factor	SMMV	0.20	819.4	-16.69	2.76	-
Schwab Fundamental US Small Company	FNDA	0.25	2,837.9	-16.90	-1.59	5.46
WisdomTree US SmCap Qual Div Growth	DGRS	0.38	96.7	-17.14	-1.43	5.86
IQ Chaikin US Small Cap	CSML	0.35	116.3	-18.38	-5.22	-
WisdomTree US SmallCap	EES	0.38	378.9	-21.31	-3.66	5.49
ProShares Russell 2000 Dividend Growers	SMDV	0.41	532.4	-22.35	-3.59	6.49
SPDR SSGA US Small Cap Low Volatility	SMLV	0.12	192.2	-22.89	-3.21	5.14
WisdomTree US SmallCap Dividend	DES	0.38	1,303.6	-24.99	-6.30	3.14
Invesco S&P SmallCap Low Volatility	XSLV	0.25	1,428.1	-32.96	-7.64	3.13
Innovator Russell 2000 Power Buffer - Jan	KJAN	0.79	155.8	-	-	-
U.S. EQUITY: SMALL CAP GROWTH						
MFAM Small-Cap Growth	MFMS	0.85	104.4	19.65	-	-
iShares Morningstar Small-Cap Growth	JKK	0.30	259.5	12.22	12.21	13.66

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
Vanguard Small-Cap Growth	VBK	0.07	11,098.8	8.55	12.85	13.70
Vanguard Russell 2000 Growth	VTWG	0.15	362.0	4.00	8.21	11.49
iShares Russell 2000 Growth	IWO	0.24	9,063.4	3.95	8.14	11.48
First Trust Small Cap Growth AlphaDEX	FYC	0.70	150.6	1.29	4.90	10.39
Vanguard S&P Small-Cap 600 Growth	VIOG	0.16	303.4	-7.79	3.49	9.12
SPDR S&P 600 Small Cap Growth	SLYG	0.15	1,514.3	-7.92	3.50	9.17
iShares S&P Small-Cap 600 Growth	IJT	0.25	4,091.4	-8.09	3.32	9.06
Invesco S&P SmallCap 600 Pure Growth	RZG	0.35	100.6	-9.31	-0.47	6.38
U.S. EQUITY: SMALL CAP VALUE						
Vanguard Small-Cap Value	VBR	0.07	12,966.7	-18.15	-2.67	4.81
Avantis US Small Cap Value	AVUV	0.25	371.8	-20.26	-	-
Vanguard Russell 2000 Value	VTWV	0.15	286.6	-21.39	-5.13	4.09
iShares Russell 2000 Value	IWN	0.24	7,752.6	-21.49	-5.28	4.01
SPDR S&P 600 Small Cap Value	SLYV	0.15	1,952.6	-22.62	-3.28	4.90
Vanguard S&P Small-Cap 600 Value	VIOV	0.15	476.4	-22.68	-4.47	4.89
iShares S&P Small-Cap 600 Value	IUS	0.25	4,674.6	-22.74	-4.57	4.83
iShares Morningstar Small Cap Value	JKL	0.30	247.5	-24.41	-7.97	1.28
Invesco S&P SmallCap 600 Pure Value	RZV	0.35	108.5	-27.00	-9.18	-0.05
U.S. EQUITY: MICRO CAP						
iShares Micro-Cap	IWC	0.60	726.0	-8.13	-0.25	6.64
First Trust Dow Jones Select MicroCap	FDM	0.60	99.4	-25.46	-5.48	4.88
U.S. EQUITY: BASIC MATERIALS						
Materials Select Sector SPDR	XLB	0.13	3,876.1	5.43	6.06	12.08
Invesco S&P 500 Equal Weight Materials	RTM	0.40	178.7	2.65	6.06	12.35
iShares US Basic Materials	IYM	0.43	405.4	2.24	2.86	10.75
Fidelity MSCI Materials	FMAT	0.08	178.5	1.97	3.47	11.10
Vanguard Materials	VAW	0.10	1,687.6	1.85	3.51	11.13
First Trust Materials AlphaDEX	FXZ	0.65	104.2	-4.80	-0.81	8.42
SPDR S&P Metals & Mining	XME	0.35	562.9	-19.61	-8.37	8.78
U.S. EQUITY: CONSUMER CYCLICALS						
ProShares Online Retail	ONLN	0.58	304.6	74.02	-	-
ProShares Long Online/Short Stores	CLIX	0.65	236.0	72.67	-	-
Amplify Online Retail	IBUY	0.65	891.4	71.80	34.39	-
Fidelity MSCI Consumer Discretionary	FDIS	0.08	1,018.5	29.54	21.38	17.50
iShares US Home Construction	ITB	0.42	2,370.6	28.13	16.37	17.34
Vanguard Consumer Discretionary	VCR	0.10	3,743.4	26.48	19.79	16.59
VanEck Vectors Retail	RTH	0.35	179.4	23.95	23.69	16.90
SPDR S&P Homebuilders	XHB	0.35	1,327.2	19.40	11.77	10.50
Consumer Discr Select Sector SPDR	XLY	0.13	15,562.0	18.28	19.26	16.24
iShares US Consumer Services	IYC	0.43	1,027.1	10.22	16.08	13.77
SPDR S&P Retail	XRT	0.35	273.8	9.16	7.57	3.80
First Trust Consumer Discr AlphaDEX	FXD	0.64	1,081.7	-5.62	4.42	5.43
Invesco S&P 500 Eq Wt Consumer Discr	RCD	0.40	218.7	-6.31	5.13	5.70
Invesco Dynamic Leisure/Entertainment	PEJ	0.63	282.1	-28.56	-7.60	-1.47
U.S. EQUITY: CONSUMER NON-CYCLICALS						
iShares US Consumer Goods	IYK	0.43	605.4	13.79	9.85	10.28
Consumer Staples Select Sector SPDR	XLP	0.13	13,527.5	3.80	8.88	9.22
Fidelity MSCI Consumer Staples	FSTA	0.08	770.2	3.40	8.52	8.94
Vanguard Consumer Staples	VDC	0.10	5,457.4	3.17	8.39	8.86
Invesco DWA Consumer Staples Momtm	PSL	0.60	125.2	3.07	7.87	8.06
Invesco S&P 500 Eq Wt Consumer Staples	RHS	0.40	500.9	-0.29	7.72	8.37
First Trust Consumer Staples AlphaDEX	FXG	0.64	252.3	-2.71	3.61	4.53
U.S. EQUITY: ENERGY						
First Trust North Amer Energy Infrastr	EMLP	0.96	1,698.4	-22.25	-4.35	1.46
Tortoise North American Pipeline	TPYP	0.40	276.4	-32.60	-9.59	-0.99
Global X MLP & Energy Infrastructure	MLPX	0.45	443.5	-36.31	-13.84	-6.31
First Trust Energy AlphaDEX	FXN	0.65	112.4	-43.89	-24.76	-15.32
Barclays ETN+ Select MLP ETN	ATMP	0.95	132.5	-45.76	-19.63	-9.65
JPMorgan Alerian MLP ETN	AMJ	0.85	1,309.9	-46.50	-21.22	-12.22
ETRACS Alerian MLP Infrastr ETN Ser B	MLPB	0.85	142.8	-47.22	-22.67	-
Energy Select Sector SPDR	XLE	0.13	8,419.4	-47.39	-20.06	-9.51
iShares US Energy	IYE	0.42	357.0	-48.07	-21.14	-10.80
Fidelity MSCI Energy	FENY	0.08	388.4	-48.48	-21.76	-11.18
Vanguard Energy	VDE	0.10	2,401.1	-48.54	-21.76	-10.94
Alerian MLP	AMLPL	0.87	3,066.9	-48.82	-22.55	-13.12

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
Davis Select Worldwide	DWLD	0.63	274.7	2.71	4.03	-
iShares MSCI ACWI Low Carbon Target	CRBN	0.20	475.4	2.10	7.58	10.63
iShares MSCI ACWI	ACWI	0.32	12,511.5	1.69	7.34	10.57
SPDR Portfolio MSCI Global Stock Market	SPGM	0.09	394.9	1.48	7.01	9.69
Vanguard Total World Stock	VT	0.08	14,146.7	0.96	6.89	10.35
iShares MSCI Global Min Vol Factor	ACWV	0.20	5,811.6	-3.08	6.58	9.07
Principal Active Global Dividend Income	GDVD	0.58	282.8	-4.37	4.67	-
First Trust Dorsey Wright Dyn Focus 5	FVC	0.71	223.4	-4.91	3.14	-
Inspire Global Hope	BLES	0.52	106.6	-7.10	2.70	-
GLOBAL EQUITY EX-U.S.						
First Trust Intl Equity Opps	FPXI	0.70	356.1	41.66	19.16	18.95
Davis Select International	DIINT	0.68	222.9	5.28	-	-
American Century Qual Diversified Intl	QINT	0.39	109.1	3.78	-	-
WisdomTree Glb ex-US Qual Div Growth	DNL	0.58	225.8	3.02	7.91	11.21
Vanguard Intl Div Appreciation	VIGI	0.20	2,486.2	0.96	5.88	-
Vanguard ESG International Stock	VSGX	0.17	1,224.6	-2.17	-	-
Vanguard FTSE All-World ex-US	VEU	0.08	24,756.3	-4.69	1.42	6.45
iShares Core MSCI Total Intl Stock	IXUS	0.09	20,950.8	-4.82	1.26	6.40
Xtrackers MSCI All World ex US Hedged	DBAW	0.40	102.6	-4.88	2.84	6.74
Vanguard FTSE All-World ex-US SmCap	VSS	0.11	5,185.9	-4.92	-0.24	5.86
Vanguard Total International Stock	VXUS	0.08	26,218.8	-4.96	1.24	6.29
iShares MSCI ACWI ex U.S.	ACWX	0.32	3,005.2	-5.27	1.00	6.05
SPDR MSCI ACWI ex-US	CWI	0.30	1,271.3	-5.52	1.16	6.27
iShares International Dividend Growth	IGRO	0.22	100.7	-7.27	1.21	-
First Trust Dorsey Wright Intl Focus 5	IFV	1.06	217.3	-10.69	-1.99	3.84
FlexShares Intl Quality Dividend	IQDF	0.47	464.8	-11.93	-3.12	3.80
Avantis International Small Cap Value	AVDV	0.36	277.3	-14.09	-	-
Vident International Equity	VIDI	0.59	414.5	-16.11	-5.81	3.44
Invesco Intl Dividend Achievers	PID	0.53	470.3	-23.24	-3.97	1.40
INTERNATIONAL EQUITY: BLENDED DEVELOPMENT						
ClearBridge Large Cap Growth ESG	LRGE	0.59	113.6	20.47	20.49	-
iShares Asia 50	AIA	0.50	1,797.4	9.27	7.63	14.09
iShares MSCI All Country Asia ex Japan	AAJU	0.68	4,359.9	5.40	4.28	10.04
INTERNATIONAL EQUITY: DEVELOPED						
BlueStar Israel Technology	ITEQ	0.75	126.5	28.46	21.13	-
iShares MSCI Denmark	EDEN	0.53	144.8	23.57	9.70	11.62
iShares MSCI Intl Momentum Factor	IMTM	0.30	549.1	9.82	6.14	9.02
Invesco DWA DM Momentum	PIZ	0.81	202.8	8.28	5.90	8.15
iShares MSCI Sweden	EWD	0.55	315.0	7.66	2.95	7.50
iShares MSCI EAFE Growth	EFG	0.40	8,720.4	4.59	6.76	8.90
Knowledge Leaders Developed World	KLDW	0.75	155.7	3.86	6.83	10.95
WisdomTree Intl Quality Div Growth	IQDG	0.42	140.8	3.53	4.91	-
iShares MSCI Netherlands	EWN	0.50	186.8	3.48	5.65	10.61
Invesco S&P Intl Developed Quality	IDHQ	0.29	98.6	3.45	6.21	8.92
FlexShares STOXX Global ESG Impact	ESGG	0.42	114.7	3.18	8.85	-
iShares MSCI Switzerland	EWL	0.50	1,688.3	2.70	7.62	8.41
iShares MSCI Kokusai	TOK	0.25	155.2	1.85	8.56	11.04
WisdomTree Intl Hedged Qual Div Growth	IHDG	0.58	807.5	1.85	7.30	9.77
iShares MSCI World	URTH	0.24	1,011.5	1.76	8.04	10.64
Franklin FTSE Japan	FLJP	0.09	460.9	0.95	-	-
JPMorgan BetaBuilders Japan	BBJP	0.19	5,368.4	0.53	-	-
iShares MSCI Japan	EWJ	0.49	9,940.3	0.51	3.72	7.05
iShares MSCI New Zealand	ENZL	0.50	144.0	0.31	10.38	16.60
iShares MSCI Germany	EWG	0.49	2,977.4	0.11	-1.44	5.56
Vanguard FTSE Pacific	VPL	0.08	3,697.9	-1.37	2.62	7.65
ProShares MSCI EAFE Dividend Growers	EFAD	0.51	119.9	-1.55	3.95	4.64
Xtrackers MSCI Japan Hedged Equity	DBJP	0.45	191.9	-1.71	3.28	5.35
iShares MSCI Intl Quality Factor	IQLT	0.30	1,959.5	-1.83	4.96	7.94
iShares Currency Hedged MSCI Japan	HEWJ	0.49	208.0	-2.12	3.17	5.37
iShares MSCI Saudi Arabia	KSA	0.74	504.3	-2.32	7.01	5.78
iShares Core MSCI Pacific	IPAC	0.09	978.5	-2.50	3.01	7.64
Nationwide Risk-Based International	RBIN	0.42	111.6	-3.39	1.84	-
WisdomTree Japan SmallCap Dividend	DFJ	0.58	252.1	-3.51	-0.19	7.63
SPDR S&P International Small Cap	GWX	0.40	697.0	-3.58	-0.48	6.02
IQ Candriam ESG International Equity	IQSI	0.15	111.8	-3.69	-	-

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
iShares MSCI Intl Small-Cap Multifactor	ISCF	0.40	134.3	-4.17	1.59	7.65
First Trust RiverFront Dynamic Dev Intl	RFDI	0.83	136.4	-4.32	-1.25	-
iShares MSCI EAFE Small-Cap	SCZ	0.40	9,245.1	-4.32	1.13	7.14
SPDR MSCI EAFE Fossil Fuel Reserves Free	EFAX	0.20	123.0	-4.66	1.21	-
Fidelity Dividend for Rising Rates	FDRR	0.29	279.9	-4.99	7.29	-
Invesco FTSE RAFI DM ex-US SmMid	PDN	0.49	322.5	-5.27	-0.70	5.84
SPDR Portfolio Developed World ex-US	SPDW	0.04	7,990.4	-5.65	1.05	5.76
Vanguard FTSE Developed Markets	VEA	0.05	74,867.9	-5.77	0.92	5.79
Goldman Sachs ActiveBeta International	GSIE	0.25	1,790.7	-5.79	1.35	-
Schwab International Equity	SCHF	0.06	19,599.2	-5.88	0.90	5.68
Schwab International Small-Cap Equity	SCHC	0.11	2,529.3	-6.12	-0.39	5.32
iShares Core MSCI Intl Dev Markets	IDEV	0.05	3,386.6	-6.19	1.17	-
SPDR MSCI EAFE StrategicFactors	QEFA	0.30	387.8	-6.25	1.88	5.76
JPMorgan BetaBuilders Intl Equity	BBIN	0.07	1,933.6	-6.36	-	-
JPMorgan BetaBuilders Canada	BBCA	0.19	3,777.0	-6.46	-	-
iShares Core MSCI EAFE	IEFA	0.07	71,611.5	-6.47	0.85	5.62
iShares ESG MSCI EAFE	ESGD	0.20	3,132.4	-6.76	0.99	-
iShares MSCI Europe Small-Cap	IEUS	0.40	127.8	-6.76	0.13	6.11
IQ 50 Percent Hedged FTSE International	HFHI	0.20	262.0	-6.78	1.81	5.86
iShares MSCI EAFE	EFA	0.32	47,660.2	-7.04	0.48	5.08
iShares MSCI EAFE Min Vol Factor	EFAV	0.20	10,601.4	-7.25	1.74	5.13
iShares MSCI Canada	EWC	0.49	2,181.7	-7.37	0.51	5.86
John Hancock Multifactor Dev Intl	JHMD	0.39	443.9	-7.40	-0.48	-
Avantis International Equity	AVDE	0.23	339.9	-7.64	-	-
JPMorgan Diversified Return International	JPIN	0.37	917.9	-7.72	-0.48	4.18
WisdomTree Japan Hedged Equity	DXJ	0.48	1,593.5	-7.77	-1.26	3.43
SPDR Portfolio Europe	SPEU	0.09	134.5	-8.01	0.45	4.09
iShares MSCI Hong Kong	EWH	0.49	1,100.4	-8.15	-0.58	6.11
Xtrackers MSCI EAFE Hedged Equity	DBEF	0.35	3,647.3	-8.29	2.43	6.19
iShares Currency Hedged MSCI EAFE	HEFA	0.35	2,193.7	-8.52	2.39	6.20
Franklin FTSE Europe	FLEE	0.09	211.2	-8.54	-	-
First Trust DM ex-US AlphaDEX	FDT	0.80	398.5	-8.72	-3.16	4.36
iShares MSCI Eurozone	EZU	0.49	4,222.5	-8.75	-1.97	4.53
JPMorgan BetaBuilders Europe	BBEU	0.09	5,007.2	-8.77	-	-
Vanguard FTSE Europe	VGK	0.08	12,254.8	-8.80	-0.41	4.54
iShares MSCI Intl Multifactor	INTF	0.30	883.4	-8.83	-1.63	4.54
iShares Core MSCI Europe	IEUR	0.09	3,478.6	-9.10	-0.43	4.47
SPDR Euro STOXX 50	FEZ	0.29	1,758.9	-9.20	-1.58	4.32
Schwab Fundamental Intl Small Co	FNDC	0.39	1,843.8	-9.67	-2.51	5.50
iShares Europe	IEV	0.59	1,407.8	-9.77	-1.04	3.81
JPMorgan BetaBuilders Dev Asia ex-Japan	BBAX	0.19	1,471.0	-10.23	-	-
Hartford Multifactor DM (ex-US)	RODM	0.29	2,009.8	-10.42	-0.57	5.58
First Trust Europe AlphaDEX	FEP	0.80	348.4	-10.46	-1.98	5.44
WisdomTree Europe Hedged Equity	HEDJ	0.58	1,792.2	-10.50	0.75	6.46
Xtrackers MSCI Europe Hedged Equity	DBEU	0.45	429.0	-10.58	1.79	6.15
iShares MSCI Pacific ex-Japan	EPP	0.48	1,821.5	-11.15	-0.17	6.35
VictoryShares MSCI Intl Val Momentum	UIVM	0.35	349.6	-11.53	-	-
iShares Currency Hedged MSCI Eurozone	HEZU	0.52	552.3	-11.59	0.71	5.60
iShares MSCI Australia	EWA	0.50	1,185.4	-11.61	0.24	6.65
Fidelity High Dividend	FDVV	0.29	531.6	-11.81	4.94	-
FlexShares Mstar DM ex-US Factor Tilt	TLTD	0.39	529.3	-11.97	-2.65	3.95
IQ 500 International	IQIN	0.25	227.3	-12.48	-	-
Invesco RAFI Strategic Developed ex-US	ISDX	0.23	240.6	-12.86	-	-
WisdomTree International Equity	DWM	0.48	556.4	-12.90	-2.62	3.44
WisdomTree Intl Dividend ex-Financials	DOO	0.58	122.3	-12.93	-1.59	2.85
WisdomTree International MidCap Div	DIM	0.58	151.9	-12.95	-2.61	4.07
WisdomTree Intl LargeCap Dividend	DOL	0.48	337.6	-13.58	-2.55	2.95
WisdomTree Intl SmallCap Dividend	DLS	0.58	1,285.8	-13.82	-3.69	4.96
WisdomTree Dyn Currency Hedged Intl	DDWM	0.35	150.0	-13.84	-1.59	-
iShares MSCI France	EWQ	0.50	792.3	-14.02	-1.30	5.34
Schwab Fundamental Intl Large Company	FNDF	0.25	4,099.3	-14.33	-3.23	3.58
Invesco FTSE RAFI Dev Markets ex-US	PXF	0.45	907.2	-14.65	-3.90	3.13
Pacer Trendpilot International	PTIN	0.66	137.9	-15.01	-	-
Invesco S&P International Dev Low Vol	IDLV	0.25	813.9	-15.14	-1.21	3.97
First Trust Horizon Managed Vol Dev Intl	HDMV	0.80	109.5	-15.61	-2.35	-

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
WisdomTree Europe SmallCap Dividend	DFE	0.58	306.9	-16.38	-5.10	3.35
iShares MSCI Italy	EWI	0.49	180.3	-16.49	-5.02	-0.11
iShares MSCI EAFE Value	EFV	0.39	5,788.0	-18.17	-6.05	0.90
Pacer Global Cash Cows Dividend	GCOW	0.60	119.8	-18.79	-2.72	-
iShares MSCI Intl Value Factor	IVLU	0.30	449.5	-18.85	-5.41	0.95
ALPS International Sector Dividend Dogs	IDOG	0.50	147.2	-18.99	-4.02	2.72
iShares MSCI Singapore	EWS	0.50	488.5	-21.56	-4.66	1.63
iShares MSCI Spain	EWP	0.50	375.4	-24.05	-10.73	-2.72
iShares MSCI United Kingdom	EWU	0.50	2,195.1	-24.12	-6.17	-0.99
Global X MSCI Greece	GREK	0.57	124.7	-33.83	-8.80	-5.02
Xtrackers MSCI Kokusai Equity	KOKU	0.09	743.6	-	-	-
Goldman Sachs MarketBeta Intl Equity	GSID	0.20	274.0	-	-	-
INTERNATIONAL EQUITY: EMERGING						
KraneShares CSI China Internet	KWEB	0.76	2,794.8	40.06	7.61	19.08
WisdomTree China ex-SOE	CXSE	0.32	354.4	36.06	13.66	22.62
Invesco Golden Dragon China	PGJ	0.70	185.4	27.04	7.54	16.56
KraneShares Boseru MSCI China A Share	KBA	0.60	634.2	21.00	8.16	6.42
iShares MSCI China A	CNYA	0.60	497.1	20.94	8.44	-
First Trust Chindia	FNI	0.60	168.7	20.25	8.73	14.55
SPDR S&P China	GXC	0.59	1,397.8	16.37	7.06	13.78
Xtrackers Harvest CSI 300 China A-Shares	ASHR	0.65	1,792.1	16.33	6.81	7.52
iShares MSCI China	MCHI	0.59	5,816.2	16.16	7.19	12.91
iShares MSCI Taiwan	EWT	0.59	4,331.2	9.17	10.60	13.85
WisdomTree Emerging Markets ex-SOE	XSOE	0.32	1,849.3	8.73	6.08	12.97
SPDR S&P Emerging Asia Pacific	GMF	0.49	533.6	8.36	6.01	11.58
Invesco BLDERS Emerging Markets 50 ADR	ADRE	0.18	132.8	6.63	5.20	12.84
iShares MSCI Emerging Markets Asia	EEMA	0.50	559.3	5.91	4.37	10.33
iShares MSCI South Korea	EYW	0.59	4,877.3	5.07	0.30	8.16
iShares MSCI BRIC	BKF	0.69	230.7	2.96	4.62	11.42
iShares Currency Hedged MSCI EM	HEEM	0.68	177.6	2.88	4.20	8.43
Xtrackers MSCI EM Hedged Equity	DBEM	0.65	101.8	2.70	3.57	7.54
Invesco DWA EM Momentum	PIE	0.90	166.6	1.68	2.83	6.70
iShares MSCI India Small Cap	SMIN	0.76	192.9	1.12	-6.08	3.38
iShares ESG MSCI EM	ESGE	0.25	3,614.5	-0.22	3.11	-
iShares Core MSCI Emerging Markets	IEMG	0.13	52,842.6	-0.87	2.12	8.55
iShares MSCI Emerging Markets	EEM	0.68	23,336.7	-1.16	1.84	8.47
Vanguard FTSE Emerging Markets	VWO	0.10	59,314.8	-1.21	2.49	8.30
Schwab Emerging Markets Equity	SCHE	0.11	6,961.4	-1.80	2.76	8.65
SPDR Portfolio Emerging Markets	SPEM	0.11	4,284.7	-1.88	2.26	8.90
iShares MSCI Emerging Markets Small-Cap	EEMS	0.69	201.2	-2.53	-1.25	4.56
iShares MSCI Emerging Mkts Multifactor	EMGF	0.45	533.6	-2.64	0.51	-
SPDR S&P Emerging Markets Small Cap	EWX	0.65	502.6	-2.82	-0.74	6.66
Goldman Sachs ActiveBeta EM	GEM	0.45	1,670.6	-3.31	1.51	7.71
iShares MSCI India	INDA	0.69	3,102.8	-3.41	2.02	4.49
WisdomTree India Earnings	EPI	0.85	588.0	-4.49	-1.09	4.52
iShares MSCI EM Min Vol Factor	EEMV	0.25	4,034.7	-4.93	0.88	4.67
Avantis Emerging Markets Equity	AVEM	0.33	245.5	-5.22	-	-
iShares MSCI Malaysia	EWM	0.49	336.4	-6.18	-2.61	1.06
SPDR MSCI EM StrategicFactors	EQM	0.30	147.0	-6.27	0.14	5.84
John Hancock Multifactor EM	JHEM	0.49	656.9	-7.22	-	-
FlexShares Mstar EM Factor Tilt	TLTE	0.59	221.3	-8.50	-2.59	5.58
PIMCO RAFI Dynamic Multi-Factor EM	MFEM	0.49	641.7	-8.60	-0.53	-
iShares India 50	INDY	0.93	584.5	-9.71	1.20	5.00
WisdomTree EM SmallCap Dividend	DGS	0.63	1,446.4	-10.75	-1.81	6.78
VictoryShares MSCI EM Value Momentum	UEVM	0.45	187.0	-11.19	-	-
First Trust EM Small Cap AlphaDEX	FEMS	0.80	133.0	-12.44	-2.60	8.55
Invesco S&P EM Low Volatility	EELV	0.29	274.0	-13.51	-2.26	2.69
JPMorgan Diversified Return EM	JPEM	0.44	240.8	-15.70	-2.50	4.94
First Trust Emerging Markets AlphaDEX	FEM	0.80	392.1	-15.84	-4.13	6.93
VanEck Vectors Russia	RSX	0.67	1,039.0	-16.10	2.90	10.24
Invesco FTSE RAFI Emerging Markets	PXH	0.50	964.3	-18.91	-3.04	7.32
WisdomTree EM High Dividend	DEM	0.63	1,499.7	-19.91	-2.02	5.49
Schwab Fundamental EM Large Company	FNDE	0.39	2,918.1	-20.02	-3.20	7.20
iShares MSCI Poland	EPOL	0.61	226.5	-21.11	-12.82	-2.60
SPDR S&P Emerging Markets Dividend	EDIV	0.49	253.1	-21.41	-3.71	3.39

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iShares Emerging Markets Dividend	DVYE	0.49	603.2	-21.98	-4.61	4.99
iShares MSCI Philippines	EPHE	0.59	116.1	-22.09	-9.84	-4.41
iShares MSCI Russia	ERUS	0.59	410.9	-23.18	4.26	10.41
iShares MSCI South Africa	EZA	0.59	318.0	-23.33	-8.91	-2.44
iShares MSCI Mexico	EWW	0.49	666.6	-25.64	-13.27	-6.35
iShares MSCI Chile	ECH	0.59	390.6	-26.31	-19.22	-4.16
iShares MSCI Turkey	TUR	0.59	188.8	-26.57	-19.97	-9.24
iShares MSCI Thailand	THD	0.59	389.5	-27.04	-7.89	2.76
iShares MSCI Indonesia	EIDO	0.59	273.1	-32.03	-12.06	1.04
iShares Latin America 40	ILF	0.48	790.5	-37.24	-13.23	1.17
iShares MSCI Brazil	EWZ	0.59	4,706.6	-41.00	-10.39	7.29
iShares ESG MSCI EM Leaders	LDEM	0.16	627.5	-	-	-
INTERNATIONAL EQUITY: FRONTIER						
VanEck Vectors Vietnam	VNM	0.66	381.7	-7.13	0.74	0.93
iShares MSCI Frontier 100	FM	0.79	375.0	-13.40	-3.05	3.29
GLOBAL EQUITY: SECTOR						
Invesco Solar	TAN	0.71	1,493.3	110.36	45.45	21.76
ARK Genomic Revolution	ARKG	0.75	2,291.9	90.07	37.27	29.34
ARK Next Generation Internet	ARKW	0.76	2,427.3	88.57	45.55	43.22
First Trust Clean Edge Green Energy	OCLN	0.60	536.0	79.16	33.27	27.02
Invesco WilderHill Clean Energy	PBW	0.70	741.7	78.71	39.18	26.34
O'Shares Global Internet Giants	OGIG	0.48	406.0	68.89	-	-
ALPS Clean Energy	ACES	0.65	391.3	65.98	-	-
Global X Video Games & Esports	HERO	0.50	351.3	65.97	-	-
ARK Fintech Innovation	ARKF	0.75	670.8	65.31	-	-
VanEck Vectors Video Gaming/eSports	ESPO	0.55	519.3	61.50	-	-
iShares Global Clean Energy	ICLN	0.46	1,500.7	58.04	29.57	18.05
Invesco Global Clean Energy	PBD	0.75	105.1	54.86	22.38	17.83
ARK Autonomous Technology & Robotics	ARKQ	0.75	632.3	54.52	23.50	28.39
WedbushMG Video Game Tech	GAMR	0.75	121.1	52.75	16.59	-
Global X Cloud Computing	CLOU	0.68	1,226.0	51.71	-	-
Global X Lithium & Battery Tech	LIT	0.75	743.6	47.24	5.09	19.07
VanEck Vectors Low Carbon Energy	SMOG	0.62	155.0	45.04	23.00	18.28
Global X Social Media	SOCL	0.65	205.8	40.88	16.39	23.19
iShares MSCI Global Silver/Metals Miners	SLVP	0.39	217.8	38.98	14.35	23.47
iShares MSCI Global Gold Miners	RING	0.39	532.7	36.19	21.39	25.65
Reality Shares Nasdaq NexGen Economy	BLCN	0.68	129.8	34.33	-	-
VanEck Vectors Gold Miners	GDX	0.52	17,030.0	33.74	20.27	24.07
Sprott Gold Miners	SGDM	0.50	280.5	33.24	18.11	22.33
Global X Silver Miners	SIL	0.66	1,015.5	31.13	10.70	19.10
VanEck Vectors Junior Gold Miners	GDJ	0.53	6,200.6	31.00	18.48	24.78
Sprott Junior Gold Miners	SGDJ	0.50	102.9	30.89	8.41	18.28
iShares Genomics Immunology/Healthcare	IDNA	0.47	146.6	30.75	-	-
Amplify Transformational Data Sharing	BLOK	0.70	121.9	30.72	-	-
Global X Robotics & Artificial Intelligence	BOTZ	0.68	1,790.2	27.78	9.55	-
U.S. Global GO Gold/Prec Metal Miners	GOAU	0.60	119.0	27.33	21.14	-
iShares Global Tech	IXN	0.46	4,360.2	25.80	24.04	25.27
Global X FinTech	FINX	0.68	729.7	24.99	22.41	-
iShares Cybersecurity and Tech	IHAK	0.47	136.3	22.79	-	-
iShares Robotics and AI Multisector	IRBO	0.47	188.4	21.78	-	-
First Trust Global Wind Energy	FAN	0.62	203.9	21.12	12.31	14.72
ALPS Disruptive Technologies	DTEC	0.50	120.7	19.80	-	-
First Trust NASDAQ Cybersecurity	CIBR	0.60	2,180.6	17.87	17.61	15.98
Invesco Cleantech	PZD	0.65	294.1	17.84	12.93	18.15
ROBO Global Robotics and Automation	ROBO	0.95	1,282.4	14.64	7.85	17.01
iShares Exponential Technologies	XT	0.47	2,625.4	14.25	13.73	17.50
ETFMG Prime Cyber Security	HACK	0.60	1,507.1	14.18	16.45	13.77
First Trust Nasdaq AI & Robotics	ROBT	0.65	120.5	13.39	-	-
Global X Internet of Things	SNSR	0.68	231.1	11.08	13.03	-
ETFMG Prime Junior Silver Miners	SILJ	0.69	406.0	11.01	6.31	21.95
ETFMG Prime Mobile Payments	IPAY	0.75	799.4	9.77	18.83	18.75
Defiance Next Gen Connectivity	FIGV	0.30	492.1	9.65	-	-
First Trust Indxx NextG	NXTG	0.70	588.3	8.70	7.09	12.84
iShares Global Comm Services	IXP	0.46	308.7	7.95	5.96	6.46
iShares Global Consumer Discretionary	RXI	0.46	282.3	7.61	11.37	11.17

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
iShares Global Healthcare	IXJ	0.46	2,262.2	5.30	10.32	9.94
iShares Global Materials	MXI	0.45	414.7	4.18	4.87	12.07
Invesco Global Water	PIO	0.75	210.3	3.49	9.97	11.09
First Trust NASDAQ Technology Dividend	TDIV	0.50	1,239.0	3.13	13.31	15.40
Invesco Water Resources	PHO	0.60	1,091.7	3.13	12.18	14.63
Global X Copper Miners	COPX	0.65	99.2	2.39	-4.02	11.97
Global X Uranium	URA	0.71	156.1	1.91	-4.02	-1.51
First Trust Water	FIW	0.55	528.7	1.34	10.81	17.89
iShares Global Consumer Staples	KXI	0.46	625.3	0.99	5.39	6.97
Invesco S&P Global Water	CGW	0.59	702.7	0.53	8.24	11.30
VanEck Vectors Agribusiness	MOO	0.56	605.2	-1.80	6.16	10.11
VanEck Vectors Pharmaceutical	PPH	0.36	233.1	-2.11	4.37	1.72
iShares Global Timber & Forestry	WOOD	0.46	237.8	-2.67	0.78	9.81
iShares Global Industrials	EXI	0.46	238.7	-3.33	3.40	9.74
iShares Global Utilities	JXI	0.46	133.9	-3.38	6.78	8.57
Global X US Infrastructure Development	PAVE	0.47	239.7	-5.10	3.75	-
FlexShares STOXX Global Broad Infrastr	NFRA	0.47	1,880.1	-5.73	4.00	6.85
VanEck Vectors Rare Earth/Strat Metals	REMX	0.60	173.1	-6.40	-16.98	1.32
iShares MSCI Global Metals/Mining Prod	PICK	0.39	310.8	-8.55	-0.59	11.02
Invesco Global Listed Private Equity	PSP	1.58	147.0	-10.43	1.44	7.26
SPDR S&P North American Natural Res	NANR	0.35	446.6	-14.38	-3.33	-
FlexShares Mstar Global Upstr Nat Res	GUNR	0.46	3,023.5	-14.74	-0.64	7.11
ProShares DJ Brookfield Global Infrastr	TOLZ	0.47	134.6	-16.15	-0.61	4.19
SPDR S&P Global Natural Resources	GNR	0.40	1,039.4	-17.58	-3.39	6.16
FlexShares Global Quality Real Estate	GQRE	0.45	274.0	-17.63	-2.03	2.65
SPDR S&P Global Infrastructure	GII	0.40	341.5	-18.26	-2.00	4.08
iShares Global Infrastructure	IGF	0.46	3,091.2	-18.57	-2.25	3.61
SPDR Dow Jones Global Real Estate	RWO	0.50	1,459.5	-21.33	-2.49	0.98
iShares Global REIT	REET	0.14	2,070.7	-21.39	-1.54	2.05
iShares Global Financials	IXG	0.46	231.4	-21.79	-4.81	3.31
Davis Select Financial	DFNL	0.64	127.7	-25.21	-3.42	-
iShares North American Natural Res	IGE	0.46	325.2	-32.20	-12.99	-4.35
ETFMG Alternative Harvest	MJ	0.75	496.7	-36.33	-27.85	-
Global X SuperDividend REIT	SRET	0.59	321.8	-45.51	-13.44	-1.70
iShares Global Energy	IXC	0.46	1,025.4	-45.78	-17.94	-6.91
US Global Jets	JETS	0.60	1,642.0	-46.35	-16.57	-5.77
VanEck Vectors Oil Services	IOH	0.35	388.7	-63.13	-41.42	-27.66
Global X Telemedicine & Digital Health	EDOC	0.68	349.8	-	-	-
Roundhill Sports Betting & iGaming	BETZ	0.75	132.8	-	-	-
GLOBAL EX-U.S. EQUITY: SECTOR						
VanEck Vectors Biotech	BBH	0.35	484.9	16.25	7.00	7.65
Xtrackers International Real Estate	HAUZ	0.10	264.2	-17.61	-1.88	5.02
Vanguard Global ex-U.S. Real Estate	VNQI	0.12	4,345.8	-17.74	-1.63	3.62
iShares Intl Developed Real Estate	IFGL	0.48	236.6	-18.64	-1.00	2.29
SPDR Dow Jones Intl Real Estate	RWX	0.59	843.8	-21.24	-2.78	0.09
INTERNATIONAL EQUITY: DEVELOPED SECTOR						
iShares MSCI Europe Financials	EUFN	0.48	627.1	-28.66	-12.87	-3.99
INTERNATIONAL EQUITY: EMERGING SECTOR						
Global X MSCI China Consumer Discr	CHIQ	0.65	278.7	48.72	18.73	20.55
Emerging Markets Internet & Ecommerce	EMQQ	0.86	978.9	47.96	13.68	22.72
KraneShares MSCI All China Health Care	KURE	0.65	122.2	45.22	-	-
Invesco China Technology	CQQQ	0.70	940.0	31.53	7.21	19.84
KraneShares EM Consumer Technology	KEMQ	0.60	139.0	17.64	-	-
Columbia Emerging Markets Consumer	ECON	0.59	159.9	6.73	-2.11	3.91
GLOBAL EQUITY: HIGH DIVIDEND YIELD						
SPDR S&P Global Dividend	WDIV	0.40	212.7	-22.55	-3.60	2.41
First Trust Dow Jones Global Select Div	FGD	0.59	343.1	-24.28	-6.22	1.45
Global X SuperDividend	SDIV	0.59	623.0	-35.42	-14.62	-4.32
GLOBAL EX-U.S. EQUITY: HIGH DIVIDEND YIELD						
SPDR S&P International Dividend	DWV	0.45	572.0	-13.14	-1.45	4.69
Vanguard Intl High Dividend Yield	VYMI	0.27	1,340.2	-16.07	-3.74	-
INTERNATIONAL EQUITY: HIGH DIVIDEND YIELD						
Xtrackers MSCI EAFE High Div Yield Equity	HDEF	0.20	445.7	-14.84	-2.75	1.70
WisdomTree International High Dividend	DTH	0.58	159.8	-19.13	-5.16	1.58
iShares International Select Dividend	IDV	0.49	3,205.2	-21.14	-4.02	3.18

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
First Trust Stoxx European Select Div	FDD	0.58	179.0	-23.74	-4.60	1.44
U.S. FIXED INCOME: BROAD MARKET - BROAD MATURITIES						
Fidelity Corporate Bond	FCOR	0.36	220.1	7.66	6.63	6.30
iShares Core Total USD Bond Market	IUSB	0.06	5,459.3	6.23	5.07	4.42
iShares Yield Optimized Bond	BYLD	0.20	199.5	2.39	4.53	4.55
iShares Edge US Fixed Inc Balanced Risk	FIBR	0.25	132.1	1.68	3.49	3.84
U.S. FIXED INCOME: BROAD MARKET - LONG-TERM						
iShares Core 10+ Year USD Bond	ILTB	0.06	424.7	13.16	9.74	8.84
U.S. FIXED INCOME: BROAD MARKET - SHORT-TERM						
iShares Core 1-5 Year USD Bond	ISTB	0.06	4,565.0	3.90	3.41	2.85
VictoryShares USAA Core Short Bond	USTB	0.34	219.7	3.63	-	-
First Trust Enhanced Short Maturity	FTSM	0.40	5,103.1	0.92	2.01	1.69
First Trust Low Duration Strategic Focus	LDSF	0.82	132.4	0.81	-	-
U.S. FIXED INCOME: GOVERNMENT/CREDIT - INTERMEDIATE						
VictoryShares Core Intermediate Bond	UITB	0.38	468.9	5.61	-	-
iShares Core 5-10 Year USD Bond	IMTB	0.06	130.8	5.18	4.66	-
Vident Core US Bond Strategy	VBND	0.41	400.7	4.23	4.09	3.44
U.S. FIXED INCOME: GOVERNMENT/CREDIT - LONG-TERM						
iShares 10+ Year Inv Grade Corp Bond	IIGL	0.06	1,805.5	8.13	8.59	8.66
Vanguard Long-Term Corporate Bond	VCLT	0.05	5,252.8	7.91	8.62	8.86
SPDR Portfolio Long Term Corporate Bond	SPLB	0.07	793.5	7.89	8.45	8.85
iShares iBonds Dec 2028 Term Corporate	IBDT	0.10	197.8	6.97	-	-
Invesco BulletShares 2027 Corporate Bond	BSCR	0.10	237.3	6.83	6.38	-
ProShares Inv Grade-Int Rate Hedged	IGHG	0.30	198.0	-5.79	1.06	3.03
U.S. FIXED INCOME: GOVERNMENT						
Invesco 1-30 Laddered Treasury	PLW	0.25	195.6	14.85	8.30	5.61
iShares US Treasury Bond	GOVT	0.15	14,845.3	8.77	5.37	3.63
WisdomTree Floating Rate Treasury	USFR	0.15	1,486.9	0.57	1.58	1.04
iShares Treasury Floating Rate Bond	TFLO	0.15	417.4	0.45	1.58	1.16
Franklin Liberty US Treasury Bond	FLGV	0.09	426.5	-	-	-
U.S. FIXED INCOME: TREASURY - SHORT TERM						
SPDR Portfolio Short Term Treasury	SPTS	0.06	3,156.8	3.09	2.41	1.69
Schwab Short-Term US Treasury	SCHO	0.05	7,758.9	3.04	2.57	1.73
iShares 1-3 Year Treasury Bond	SHY	0.15	21,505.7	3.02	2.51	1.67
Vanguard Short-Term Treasury	VGSH	0.05	9,532.0	3.00	2.58	1.75
Franklin Liberty Short Duration US Govt	FTSD	0.25	505.9	2.75	2.28	1.61
Invesco Treasury Collateral	CLTL	0.08	963.4	0.88	1.74	-
iShares Short Treasury Bond	SHV	0.15	20,348.1	0.80	1.69	1.18
Goldman Sachs Access Treasury 0-1 Year	GBIL	0.12	3,037.3	0.79	1.68	-
SPDR Bloomberg Barclays 1-3 Month T-Bill	BIL	0.14	13,999.0	0.40	1.45	0.99
iShares 0-3 Month Treasury Bond	SGOV	0.03	890.2	-	-	-
U.S. FIXED INCOME: TREASURY - INTERMEDIATE						
iShares 7-10 Year Treasury Bond	IEF	0.15	20,097.6	11.44	6.63	4.40
Schwab Intermediate-Term US Treasury	SCHR	0.05	3,487.4	8.17	5.04	3.39
SPDR Portfolio Intermediate Treasury	SPTI	0.06	2,566.5	8.17	5.29	3.45
Vanguard Intermediate-Term Treasury	VGIT	0.05	6,715.0	8.14	5.01	3.39
iShares 3-7 Year Treasury Bond	IEI	0.15	11,288.3	7.14	4.51	3.06
U.S. FIXED INCOME: TREASURY - LONG-TERM						
PIMCO 25+ Year Zero Coupon US Treasury	ZROZ	0.15	490.8	29.37	16.46	11.26
Vanguard Extended Duration Treasury	EDV	0.07	1,948.9	28.62	15.56	10.72
iShares 20+ Year Treasury Bond	TLT	0.15	18,692.4	21.78	11.92	8.26
SPDR Portfolio Long Term Treasury	SPTL	0.06	2,656.4	21.68	11.81	8.12
Vanguard Long-Term Treasury	VGLT	0.05	2,448.8	21.19	11.76	8.13
iShares 10-20 Year Treasury Bond	TLH	0.15	1,308.3	17.07	9.09	6.01
U.S. FIXED INCOME: AGENCIES						
iShares Agency Bond	AGZ	0.20	878.7	5.79	4.21	3.04
U.S. FIXED INCOME: AGENCY MBS						
FlexShares Disciplined Duration MBS	MBSD	0.20	97.7	4.90	3.58	2.60
Janus Henderson MBS	JMBS	0.32	545.2	4.59	-	-
SPDR Portfolio Mortgage Backed Bond	SPMB	0.06	2,609.0	4.07	3.67	2.84
iShares MBS	MBB	0.06	22,379.1	3.78	3.62	2.83
Vanguard Mortgage-Backed Securities	VMBS	0.05	11,712.6	3.49	3.55	2.82
iShares GNMA Bond	GNMA	0.15	459.2	3.22	3.19	2.53
First Trust Low Duration Opportunities	LMBS	0.67	6,160.3	1.33	2.34	3.24

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
Goldman Sachs Access HiYld Corp Bond	GHYB	0.34	140.0	0.68	4.10	-
IQ S&P High Yield Low Volatility Bond	HYLV	0.40	107.2	0.23	4.45	-
FlexShares High Yield Value-Scored Bond	HYGV	0.37	187.8	-0.04	-	-
SPDR Portfolio High Yield Bond	SPHY	0.15	128.0	-0.07	3.27	5.28
JPMorgan High Yield Research Enhanced	JPHY	0.24	218.8	-0.08	3.74	-
iShares Broad USD HiYld Corp Bond	USHY	0.15	5,740.7	-0.25	-	-
Xtrackers USD HiYld Corp Bond	HYLB	0.15	6,092.8	-0.88	3.56	-
SPDR Bloomberg Barclays High Yield Bond	JNK	0.40	12,094.9	-1.20	3.21	5.37
iShares iBoxx USD HiYld Corp Bond	HYG	0.49	25,628.3	-1.25	3.34	5.55
Invesco Senior Loan	BKLN	0.65	3,936.9	-2.22	2.15	3.08
High Yield	HYLD	1.25	103.2	-4.45	1.64	4.00
WisdomTree Int Rate Hedged HiYld Bond	HYZD	0.43	125.6	-6.58	0.36	3.67
U.S. FIXED INCOME: CORPORATE - HIGH YIELD - SHORT-TERM						
SPDR Bloomberg Barclays Short High Yield	SJNK	0.40	3,388.1	-0.20	3.02	4.95
Invesco BulletShares 2020 HiYld Corp Bond	BSJK	0.42	690.3	-1.03	1.78	4.37
iShares 0-5 Year HiYld Corp Bond	SHYG	0.30	4,895.3	-1.92	2.62	4.79
PIMCO 0-5 Year HiYld Corp Bond	HYS	0.56	1,166.2	-2.92	2.20	4.85
U.S. FIXED INCOME: CORPORATE - HIGH YIELD - INTERMEDIATE						
Vanguard Intermediate-Term Bond	BIV	0.05	14,905.8	8.90	6.24	4.87
iShares Intermediate Govt/Credit Bond	GVI	0.20	2,266.3	5.88	4.23	3.22
Invesco Fundamental HiYld Corp Bond	PHB	0.50	735.3	-0.64	3.28	5.25
Invesco BulletShares 2025 HiYld Corp Bond	BSJP	0.42	128.8	-1.81	3.22	-
Invesco BulletShares 2024 HiYld Corp Bond	BSJO	0.42	173.1	-2.34	2.74	-
Invesco BulletShares 2023 HiYld Corp Bond	BSJN	0.42	396.9	-2.95	2.34	-
Invesco BulletShares 2022 HiYld Corp Bond	BSJM	0.42	662.1	-3.64	1.61	4.79
Invesco BulletShares 2021 HiYld Corp Bond	BSJL	0.42	967.9	-4.33	1.58	4.54
U.S. FIXED INCOME: CORPORATE - ASSET-BACKED						
iShares CMBS	CMBS	0.25	478.3	6.98	5.29	4.02
U.S. FIXED INCOME: CORPORATE - CONVERTIBLES						
iShares Convertible Bond	ICVT	0.20	948.0	29.93	17.11	15.87
SPDR Bloomberg Barclays Convertible Sec	CWB	0.40	5,030.8	25.74	15.17	14.58
U.S. FIXED INCOME: CORPORATE - PREFERRED STOCK						
Innovator S&P Inv Grade Preferred	EPRF	0.47	98.5	3.82	5.73	-
Invesco Financial Preferred	PGF	0.61	1,615.8	3.38	5.08	6.15
Global X US Preferred	PFFD	0.23	736.6	2.71	5.23	-
SPDR Wells Fargo Preferred Stock	PSK	0.45	1,234.7	2.25	4.72	5.54
InBND Preferred	PGX	0.52	6,334.4	2.14	4.96	5.98
iShares Preferred and Income Securities	PFF	0.46	16,978.1	0.72	3.58	4.71
Invesco Variable Rate Preferred	VRP	0.50	1,440.4	-1.35	3.07	5.36
VanEck Vectors Pref Sec ex Financials	PPXF	0.41	754.0	-1.64	4.31	5.56
GLOBAL FIXED INCOME						
First Trust SSI Strategic Convertible Sec	FCVT	0.95	242.2	22.98	14.18	-
Invesco Total Return Bond	GTO	0.50	393.4	8.36	7.05	-
Fidelity Total Bond	FBND	0.36	1,427.9	7.62	5.72	5.39
First Trust TCW Opportunistic Fixed Inc	FIXD	0.55	3,953.5	7.47	5.62	-
JPMorgan Core Plus Bond	JCPB	0.40	106.0	7.28	-	-
Western Asset Total Return	WBND	0.47	147.0	7.07	-	-
Hartford Total Return Bond	HTRB	0.30	730.3	7.03	-	-
PIMCO Active Bond	BOND	0.73	3,729.4	6.27	5.12	4.64
RiverFront Dynamic Core Income	RFCI	0.52	114.2	5.84	4.43	-
SPDR Dorsey Wright Fixed Income Alloc	DWFI	0.60	121.5	5.31	1.93	-
Columbia Diversified Fixed Income Alloc	DIAL	0.28	470.9	5.30	-	-
iShares Global Green Bond	BGRN	0.20	105.3	5.27	-	-
Vanguard Total World Bond	BNDW	0.06	453.7	5.22	-	-
SPDR Bloomberg Intl Corporate Bond	IBND	0.50	234.5	4.57	1.67	3.02
Fidelity Limited Term Bond	FLTB	0.36	186.1	4.46	3.68	2.94
PIMCO Enhanced Low Duration Active	LDUR	0.79	653.2	3.97	3.24	3.07
SPDR Bloomberg Barclays Intl Treasury	BWX	0.35	932.1	3.72	2.97	3.35
First Trust TCW Unconstrained Plus Bond	UCON	0.75	215.8	3.59	-	-
Vanguard Total International Bond	BNDX	0.08	32,426.0	3.51	5.10	4.35
iShares Core Intl Aggregate Bond	IAGG	0.09	3,060.9	3.29	5.17	-
JPMorgan Intl Bond Opportunities	JPIB	0.50	165.5	2.65	3.94	-
Janus Henderson Short Duration Income	VNLA	0.26	2,435.2	2.61	2.98	-
SPDR DoubleLine Total Return Tactical	TOTL	0.55	3,234.8	2.60	3.28	3.13
Anfield Universal Fixed Income	AFIF	1.32	109.5	1.91	-	-

FUND NAME	TICKER	EXP RATIO %	AUM (\$M)	YTD %	3YR %	5YR %
SPDR Bloomberg Short Intl Treasury Bond	BWZ	0.35	241.5	1.85	0.07	1.32
FlexShares Ready Access Variable Income	RAVI	0.25	463.6	1.84	2.47	1.90
SPDR DoubleLine Short Dur Tot Ret Tactical	STOT	0.45	144.4	1.81	2.31	-
Invesco Ultra Short Duration	GSY	0.23	2,980.8	1.49	2.49	2.15
RiverFront Strategic Income	RIGS	0.47	125.1	1.37	2.89	4.64
iShares Short Maturity Bond	NEAR	0.25	5,393.6	0.94	2.12	1.83
ETFMG Sit Ultra Short	VALT	0.30	105.8	0.61	-	-
Franklin Liberty Intl Aggregate Bond	FLIA	0.25	230.0	0.30	-	-
IQ Ultra Short Duration	ULTR	0.25	166.0	0.09	-	-
Aware Ultra-Short Duration Enh Income	AWTM	0.23	275.0	-0.43	-	-
SPDR FTSE Intl Govt Infl-Protected Bond	WIP	0.50	322.6	-0.59	1.23	3.22
First Trust Preferred Securities & Income	FPE	0.85	5,305.6	-0.93	3.96	6.19
Invesco Global Short High Yield Bond	PGHY	0.35	196.1	-1.04	1.54	4.28
FormulaFolios Tactical Income	FFTI	1.04	227.1	-2.90	1.41	-
Hartford Core Bond	HCRC	0.29	126.5	-	-	-
GLOBAL FIXED INCOME: CORPORATE - PREFERRED STOCK						
Principal Spectrum Pref Securities Active	PREF	0.55	156.6	3.02	4.69	-
First Trust Institutional Pref Sec/Inc	FPEI	0.85	302.5	-0.02	3.99	-
Global X SuperIncome Preferred	SPFF	0.58	183.2	-1.55	1.95	2.78
GLOBAL FIXED INCOME: HIGH YIELD						
Fidelity High Yield Factor	FDHY	0.45	123.0	4.29	-	-
Franklin Liberty HiYld Corp	FLHY	0.40	165.5	1.42	-	-
First Trust Tactical High Yield	IHY	0.40	97.5	0.74	3.05	6.14
VanEck Vectors International High Yield	HYLS	1.23	1,972.8	0.12	4.03	5.04
SPDR Blackstone / GSO Senior Loan	SRLN	0.70	1,565.3	-0.57	3.10	3.35
First Trust Senior Loan	FTSL	0.86	1,316.7	-1.58	2.51	2.96
INTERNATIONAL FIXED INCOME: DEVELOPED						
iShares International Treasury Bond	IGOV	0.35	1,071.6	5.38	2.60	3.34
Invesco International Corporate Bond	PICB	0.50	117.9	4.54	2.79	3.55
iShares US & Intl High Yield Corp Bond	GHYG	0.40	172.0	-0.62	2.80	5.48
INTERNATIONAL FIXED INCOME: EMERGING						
iShares J.P. Morgan EM Corporate Bond	CEMB	0.50	204.9	2.69	4.51	6.54
Vanguard Emerging Markets Government	VWOB	0.25	1,784.5	-0.13	3.70	6.02
VanEck Vectors EM High Yield Bond	HYEM	0.40	425.0	-0.24	3.03	6.48
iShares JP Morgan USD EM Bond	EMB	0.39	16,061.1	-0.52	3.20	5.77
iShares China Large-Cap	FXI	0.74	3,167.8	-2.93	1.11	6.24
SPDR Bloomberg EM Local Bond	EBND	0.30	867.1	-3.26	0.25	4.23
iShares JPM EM High Yield Bond	EMHY	0.50	304.6	-4.28	0.88	5.57
iShares JPM EM Local Currency Bond	LEMB	0.30	438.7	-4.69	-2.13	2.64
Invesco EM Sovereign Debt	PCY	0.50	2,824.0	-4.87	1.75	4.85
VanEck Vectors JPM EM Local Currency	EMLC	0.30	3,027.6	-5.92	-1.30	3.45
WisdomTree EM Local Debt	ELD	0.55	123.9	-8.22	-1.12	3.44
First Trust EM Local Currency Bond	FEMB	0.85	175.2	-8.94	-2.18	2.30
COMMODITIES: BROAD MARKET						
Teucrium Soybean	SOYB	2.50	125.3	0.06	-4.80	-2.52
First Trust Glb Tactical Commodity	FTGC	0.95	160.0	-10.25	-4.57	-4.71
Teucrium Corn	CORN	3.71	148.7	-11.42	-9.42	-11.06
Aberdeen Standard All Commod K-1 Free	BCI	0.25	262.7	-12.21	-4.50	-
iPath Bloomberg Commodity ETN	DJP	0.70	450.2	-14.71	-5.74	-4.44
Invesco Opt Yld Diversfd Commodity No K-1	PDBC	0.59	2,578.6	-17.45	-4.75	-2.38
Invesco DB Commodity	DBC	0.89	1,040.2	-18.12	-4.43	-2.36
United States Commodity	USCI	1.03	106.3	-19.51	-9.48	-6.62
iShares Commodities Select Strategy	COMT	0.48	202.9	-24.14	-5.05	-1.24
iShares S&P GSCI Commodity	GSG	0.85	708.3	-33.68	-10.31	-8.84
COMMODITIES: AGRICULTURE						
Invesco DB Agriculture	DBA	0.89	588.7	-10.99	-7.27	-6.24
COMMODITIES: ENERGY						
United States Natural Gas	UNG	1.28	320.8	-32.33	-24.28	-24.48
Invesco DB Oil	DBO	0.78	415.5	-32.61	-5.45	-8.13
United States 12 Month Oil	USL	0.82	209.2	-34.54	-6.21	-6.07
United States Brent Oil	BNO	0.88	351.1	-48.92	-11.10	-8.54
United States Oil	USO	0.79	3,992.4	-72.39	-30.27	-24.77
COMMODITIES: INDUSTRIAL METALS						
Invesco DB Base Metals	DBB	0.80	133.8	1.34	-4.74	4.26

THE LAST WORD

BRAVE NEW BOND WORLD



HEATHER BELL
ETF Report Editor

For a very long time, a 60/40 stock-to-bond portfolio split was the typical advice for the average investor, with the expectation of increasing bond exposure as they neared and then entered retirement.

Then the Great Financial Crisis tossed everything on its head, including the world of bonds, which then faced unbeknownst years of a concerted global effort to lower rates.

But this is really the first year where I have seen such widespread complaints about fixed income “not doing its job.” Toss on the coronavirus pandemic and the market crash to a near-negative-rate environment, and the need for safety, diversification and portfolio ballast comes into sharp relief.

Maybe it’s time to rethink the perhaps-outdated use of bonds as a one-stop shop when looking for something to balance out stocks.

There are many ways to dampen the volatility of stocks to give your portfolio some ballast and diversification. If you look at charts of multiple asset classes in the last market crash, a broad bond allocation actually seemed to do what it was supposed to, as did physical gold.

Bonds Still A Balancing Force

The broad investment-grade market exhibited steady performance with a mild decline and quick recovery, while stocks crashed dramatically, and gold has soared since the market blowup. And if you really want diversification—or at least a strong hedge—an allocation to a volatility-linked ETF could be very rewarding.

For example, the [SPDR S&P 500 ETF Trust \(SPY\)](#) bottomed out on March 23, falling more than 30% year to date. At the same time, the [iShares Core U.S. Aggregate Bond ETF \(AGG\)](#) was up 0.66%, and the [SPDR Gold Trust \(GLD\)](#) was up more than 2%.

During that same time period, the [iPath Series B S&P 500 VIX Short Term Futures ETN \(VXX\)](#), which covers short-term VIX futures, was up more than 350%. Clearly, a counterweight to stocks is not exactly hard to find.

But income ... well, that’s another story. MLP ETFs seem to offer the most income, but since they’re mostly dependent on the energy space, their performance has been as abysmal as the energy sector itself.

[The Global X MLP ETF \(MLPA\)](#) has a distribution yield well over 16%, but on March 23, it was down nearly 63% year to date. Indeed, when it comes to equities that provide dividends—as with bonds—the more yield you get, the worse the price performance.

Fixed income offers *some* yield, with the [FlexShares High Yield Value-Scored Bond Index Fund \(HYGV\)](#) at the top of the yield-to-maturity rankings, offering more than 7%. But that’s a high yield fund. AGG offers a yield to maturity of a little more than 1%. You’ve got to take on quite a bit more risk to get that extra yield.

Another Path?

So maybe the goal should be to find ways to remove risk from other parts of your portfolio. The newest ETF risk management tool—defined outcome ETFs—could be a reasonable alternative, though they don’t pay any dividends, and come with derivatives risk. But with a risk-managed approach to equities, perhaps an investor could offset that by taking a little more risk in bonds to gain more income.

The bond market has evolved from the version that was the basis for the traditional 60/40 portfolio, but many have been slow to shift their attention to the new tools available to help achieve their goals. That may involve expanding the number of asset classes they invest in and toggling their risk exposures accordingly.

But all that really means is, more than ever, investors need to understand how financial markets work, as well as risk trade-offs and possible pitfalls. Bonds are still an important part of a portfolio, but the growing complexity of financial markets means they shouldn’t be the only tool an investor reaches for. ●

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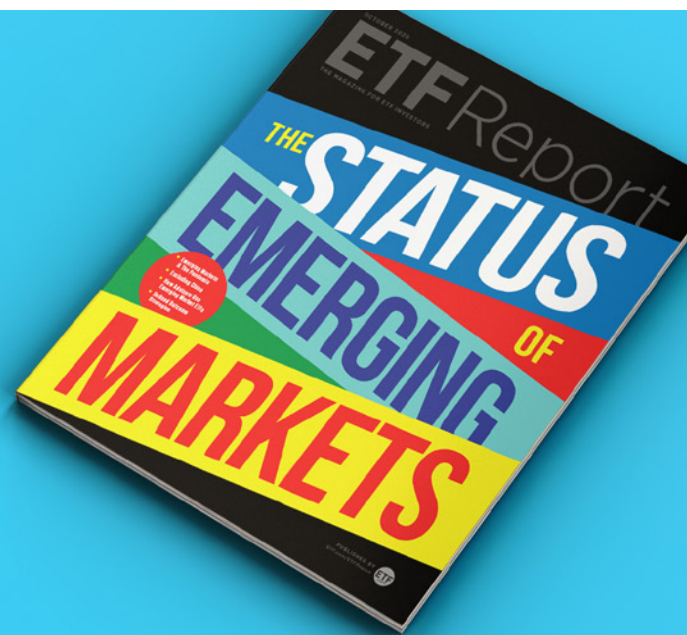
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