ETF Perspectives
Vanguard insights for financial advisors™

The case for ETFs
Eric Balchunas: Loyal investors show that money goes where it’s treated best

Eric Balchunas, a senior ETF analyst with Bloomberg Intelligence, writes articles for Bloomberg.com and the Bloomberg Terminal and appears regularly on Bloomberg TV. Along with Bloomberg Businessweek editor Joel Weber, Balchunas hosts a podcast focused on ETFs called Trillions, available at iTunes® online store. He is also author of The Institutional ETF Toolbox.1

Balchunas has developed an “ETF Stoplight” system, based on a green-yellow-red model, to help investors identify ETFs that may carry unforeseen risks. The system is available on the Bloomberg Terminal, but as a free service for readers of ETF Perspectives, Balchunas will email the spreadsheet and methodology to any advisor who requests them. He can be reached at ebalchunas@bloomberg.net.

Vanguard: Is the growth of indexing creating issues in the markets or with capitalism itself, as some media stories have suggested?

Eric Balchunas: The headlines are over the top, and that’s what the media often do. There are usually balanced voices in the articles, but the size of indexing can be vastly overstated. It’s a classic mistake: The writer takes the percentage that index funds and ETFs make up of all fund assets and then applies it to the U.S. stock market. So he or she may write something like 45% of the stock market is owned by passive funds. That’s not true.

In this issue
How do ETFs hold up in volatile markets?
Page 6

Our view on the future of active ETFs
Page 9

Vanguard factor ETFs: Fully active, low cost
Page 11

Trained under Fama and French, Antonio Picca finds his way to Vanguard
Page 13

(continued on next page)

1 Eric Balchunas, 2016. The institutional ETF toolbox: How institutions can understand and utilize the fast-growing world of ETFs. Hoboken, N.J.: John Wiley & Sons. (Bloomberg Financial Series.)
ETFs’ percentage ownership of the asset class they track

<table>
<thead>
<tr>
<th>Asset class</th>
<th>Total market cap</th>
<th>ETF assets</th>
<th>ETF ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. equities</td>
<td>$27 trillion</td>
<td>$2 trillion</td>
<td>7%</td>
</tr>
<tr>
<td>U.S. bonds</td>
<td>$39 trillion</td>
<td>$580 billion</td>
<td>1%–2%</td>
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<tr>
<td>Gold</td>
<td>$7.5 trillion</td>
<td>$46 billion</td>
<td>0.6%</td>
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Only half of the $27 trillion U.S. stock market is owned by funds. The other half is owned by individuals, institutions, and officers of the companies. So of the half that’s owned by funds, passive is roughly 35% of that half and, therefore, 16% to 17% of the whole equity pie.

ETFs then own a little less than half of that, or 7.4% of the stock market. That fraction of stock ownership isn’t a threat to the capital markets.

Where is this criticism coming from?

**EB:** A lot of these worries, and some downright attacks, come from active managers who write newsletters or complain about passive investments. The press picks up the arguments and sometimes runs them as gospel.

But let’s remember: Active managers have a vested interest in criticizing index-based competitors who are taking their assets. I’m just pointing out the truth here. But even if I or anyone else didn’t point these things out, it wouldn’t matter.

Money goes where it’s treated best.

If you look at the volatility in the first quarter this year, you see billions of dollars traded in ETFs. It’s like a McDonald’s sign: Billions served. Most everyone had a positive experience with trading in and out of them or buying and holding them.

Because ETFs have a solid, loyal customer base, they are critic- and media-proof for now. The flows are as great as they’ve ever been because the customers themselves are loving life. A major publication may write a story that questions ETFs, but I don’t see that story affect how people invest. Advisors tell me clients will ask about it, but then the advisors will explain it and everyone just moves on.

**But could indexing become so large that it would interfere with stock prices and market efficiency?**

**EB:** If only a quarter of the stock market was actively traded and setting prices, I think that would be fine. So we’ve got a long way to go before we get there.

If prices were moving in lockstep because so many assets were in index-based products, then you would see price dispersion compress. But we’re just not seeing that. Not on a macro level and not on an individual-stock level.

No connection between indexing and price dispersion

![Graph showing dispersion vs asset percentage](source: Vanguard calculations, based on data from FactSet and Morningstar, Inc.)

Notes: Dispersion is defined as the percentage of stocks in the Russell 3000 Index that have either outperformed or underperformed the index by at least 10 percentage points. Index fund asset percentage is the percentage of assets in U.S.-domiciled equity funds invested in index funds. Sector funds are included.
General Electric’s stock price has been dropping since early last year. During that time, the S&P 500 ETFs that hold a lot of GE have been hauling in a lot of money. But GE’s stock price has still gone down. There are many cases where, if the stock is going to sell off, it sells off. The price of Exxon Mobil stock, which declined steeply in the first week of February, is another example. I don’t see where ETFs or indexing is affecting the fundamental pricing mechanism. 

**Why did you create your stoplight system?**

**EB:** The world of ETFs can be wild. ETFs have packed up nearly every investment that existed and some that did not exist before ETFs came along. There are sectors, asset classes, currencies, alternatives, derivatives. Okay, there’s no farmland ETF and no digital-currency ETF. But barring a couple of areas, if you want to do it, there’s likely an ETF for that.

Some ETFs are more complicated than others, so there needs to be a way to know which are which. ETFs needed a rating system, sort of like movies. Advisor networks have an approved list or a nonapproved list. In the media, you tend to hear terms like safe or dangerous.

I consider everything from Vanguard as safer to trade and own, even for a relative novice. That doesn’t mean a Vanguard ETF™ will never go down, of course, but it should perform in line with the index it is seeking to track and not contain anything that would surprise an ordinary investor.

By contrast, I believe a heavily leveraged ETF is dangerous. Extra costs come with owning a product like that, and it is designed to be more volatile. A triple-leveraged oil-futures ETF? That should get the rating equivalent to NC-17 in the movies.

The yellow and red ratings in my system simply indicate that stuff in the product could be an unpleasant surprise to you. We look at leverage. Does it roll futures? Does it have hidden fees? You may have an ETF that shorts U.S. Treasuries as an inflation hedge. You need to pay for that. There are other ETFs that are classified in the same area of tax law as collectibles and come with a higher capital gains tax rate. There are minor surprises and bigger ones.

**Are ETFs helping to create a stock market bubble?**

**EB:** Blaming ETFs for the rise of the stock market is like blaming MP3s for the rise of Nickelback. The ETFs are like the MP3. If people wanted to listen to Nickelback, they could have gotten the CD, but the MP3 was a better medium. ETFs are a superior delivery vehicle: They typically come with lower costs and less in capital gains distributions. Many investors want the intraday liquidity.

Everyone assumes flows into index-based products are buying the same stocks. But passive isn’t monolithic. ETFs include smart beta strategies and bonds. It’s not as if ETFs are based only on market-capitalization weighting. You can buy cheap stocks with ETFs that may not be as heavily weighted in the big indexes. If you’re nervous about equities, ETFs have fixed income. ETFs are just providing the tools for whatever you think you want.

Some people contend that passive flows are driving up the stock prices of big companies. But the large active funds tend to hold the same stocks: Facebook, Amazon.com, Netflix, Google parent Alphabet. If those famous FANG stocks fell 40% in a day, should ETFs get the blame? No one blamed the 1990s’ tech bubble on active mutual funds, even though that’s how most people got their exposure back then. Yet now ETFs are being blamed for whatever happens in the stock market.

—Eric Balchunas
What will happen to active managers if passive products continue to dominate flows?

EB: Many advisors, I think, would have typically fired an active manager if he or she had too much tracking error relative to the S&P 500 Index. So, many active managers got in the habit of hugging the benchmark. But now that you can get the benchmark for almost free, it changes the game.

I see the portfolio of the future, if not the present, as made up of a low-cost, index- and market-cap-based core, with expense ratios under 10 basis points. Then you sprinkle on some hot sauce on the outside: factors, themes such as environmental-social-governance, and active management.

Active managers don’t want to be closet indexers. They want to make big bets; that’s why they got into the business. So let them be fully active and charge a little more, because if they do, maybe they’ll outperform their benchmark by 10 percentage points, worth their fee. That seems like the way forward for active. If so, some advisors will need to think differently about the role and form of active management.

Index funds and ETFs are being criticized for not being assertive on corporate governance. What do you think about that?

EB: Yes, some of the asset managers are now the largest shareholders in many of these companies. But I find it odd. The press seems to think that index funds and ETFs have some sort of moral obligation to make these companies act “better” in a way that active managers never had. The attitude is, “Oh, they’re active; they’re just investing for short-term profits. We’ll never bother them, but these ETFs do have that obligation.”

If an index fund owns a company, you could argue that it’s a better owner because it can’t get divorced. It can push on certain issues. It’s not just concerned with short-term profit. It’s just a different kind of owner.

What is your biggest concern about ETFs?

EB: I have a concern about a potential effect I call vampiring. ETFs trade like crazy: Equity ETFs make up almost a third of all equity trading, if you count the ETF shares that trade on the secondary market, which do not need a creation or redemption. If ETFs ever got to half of all equity trading volume, it may show up in the premiums.

I can see the attraction: ETFs are so easy to trade that many active investors, including institutions, may decide to stop buying individual stocks and instead buy sectors as the smallest slice of the market they are willing to hold.

You don’t want ETFs to steal too much from those who trade individual stocks and bonds. You want securities to be liquid. That liquidity means market makers will be comfortable keeping the bid-ask spreads tight through

The growth of indexing and market volatility

Source: Vanguard calculations, based on data from FactSet and Morningstar, Inc.

Notes: Index fund asset percentage is the percentage of assets in U.S.-domiciled equity funds invested in index funds. Sector funds are included.
the arbitrage process, which means, of course, low premiums and discounts and, hence, low costs for the end investor or client.

If ETFs “vampire” too much liquidity from the stocks they hold, investors may see incremental cost increases. The market makers will look at the basket and say the spread has to be, say, eight cents instead of four cents. The price will have to drift from the net asset value (NAV) a little longer before the market maker steps in and arbitrages that gap. The price you get on the exchange would be more expensive.

I’m not suggesting ETFs will blow up the markets. I’m saying that spreads in some sectors, such as REITs, could get wider if ETFs held enough of the underlying stocks. We also know that the market, by nature, tends to correct itself over time if prices vary from their fundamental value.

*Do you have any other concerns?*

**EB:** There is another issue, and it is one that advisors can help alleviate.

The potential problem with ETFs is that they are so easy to trade you can trade yourself into the poorhouse. A study out of Germany found that investors in ETFs did less well because they traded too much.

Some of the measures around this, such as daily turnover, suggest that everyone is trading ETFs regularly. That’s just not true. The real answer is that it’s hard to tell, and we don’t know which types of traders are trading.

Advisors should and do coach people to be prepared for sell-offs, so they’re not tempted to do anything when the market goes down. I’ve also heard of advisors who allow people to trade a small, set portion of their portfolio, just to give them a sense of control, but not enough to affect their household finances.

As Vanguard research found, the greatest measurable value that advisors add is through behavioral coaching.

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4 Based on data from Bloomberg Intelligence.
FROM THE ETF CAPITAL MARKETS DESK

How do ETFs hold up in volatile markets?

Recent volatility in global markets provides a great opportunity to examine how ETFs trade during times of market stress—an increasingly important consideration given the rising popularity of ETFs.

During the week of February 5, measures of broad equity market volatility nearly tripled after many months of relative calm.1

ETFs are no stranger to market volatility. They have survived several market disruptions, including the 2008 global financial crisis. During those periods, they tracked the value of their underlying portfolios, gained in assets and trading volume, and provided low-cost access to a variety of asset classes for millions of investors.

Still, concern among some investors over liquidity during volatile periods remains. To be sure, avoiding trading on days of heightened volatility is one way to steer clear of market uncertainty.

But for investors who must trade when markets are turbulent, let’s look first at how ETFs performed during the recent volatile period and then consider how advisors can help ensure a positive trading outcome for their clients during volatile times.

ETF trading surges during volatile times

ETFs, unlike conventional mutual funds, trade on an exchange, providing intraday liquidity for those investors who want or need to trade.

Intraday liquidity across the entire equity market has tended to spike during large swings in the market—and that includes the recent episode of volatility. For example, average daily volume in U.S.-listed equities soared to roughly $600 billion during the week of February 5, up from its previous three-month average of $315 billion.2

The figure below shows the spike in volume for equity and fixed income ETFs for that week.

The takeaway is that investors who had to buy or sell ETFs during the recent turbulence found a deeper secondary market than usual—a clear positive.

ETFs act as shock absorbers

Vanguard research has shown that from 2012 to 2015, the median daily ETF volume that resulted in a creation or redemption was 6% for equity ETFs and 17% for fixed income ETFs. In other words, for every $1 of trading volume, only 6 cents for equity ETFs and 17 cents for fixed income ETFs resulted in a creation or redemption.

Most ETF transactions took place in the secondary market.3

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1 The average value of the VIX Index, a widely referenced gauge of market volatility, was 11.1 in January 2018. During the week of February 5, 2018, it was 31.5.
2 Vanguard calculations, based on data from Cboe.
Drilling more deeply into the recent experience, the figure below shows that in volatile markets, ETFs act as “shock absorbers,” soaking up even more volume in the secondary market than usual, reducing the impact on the underlying portfolio. This spike in secondary volume keeps downward pressure on the bid-ask spreads that investors pay to transact, and it also helps prevent costly turnover in the underlying portfolio, which can occur when transactions require underlying stocks and bonds to fulfill creations and redemptions.

ETFs as shock absorbers: During volatile times, ETF trading surges relative to primary-market creation/redemption activity

Limit orders and other alternatives can protect investors

Even though ETFs remain liquid and tradable during volatile periods, wide market swings can cause ETF prices to move sharply. These swings can lead to wider bid-ask spreads or larger premiums and discounts to NAV, both of which can add to the costs of trading ETFs.

The figure on the next page shows that the volume-weighted average bid-ask spread across the ETF industry during the early February spike in volatility was largely in line with spikes in volatility in the past few years. The next figure tells a similar tale regarding premiums and discounts, which can be larger in magnitude in roiled markets and give traders incentive to create or redeem shares. But as the chart indicates, the range of premiums/discounts was also modest by historical standards during the volatile period earlier this year.

Still, leery investors can protect themselves from wider trading spreads or large premiums to NAV by using limit orders, which enable them to set the price at which they are willing to buy or sell an ETF.

These orders prioritize price certainty over execution certainty, presenting a trade-off for some investors who absolutely must complete a trade.4

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How do ETFs hold up in volatile markets? (continued)

Investors have choices

Investors’ experience with ETFs will largely reflect the underlying market conditions. When compared with conventional mutual funds, ETFs provide more intraday transparency into their underlying portfolios. If transaction costs in the portfolio are increasing because of uncertainty and volatility in the marketplace, an ETF’s price will reflect this.

ETF bid-ask spreads simply reflect uncertainty in the marketplace

Trailing five-day volume-weighted average bid-ask spread for U.S.-listed domestic equity ETFs

ETF premiums simply reflect uncertainty in the underlying portfolio

Range of premiums/discounts across the 25th to 75th percentiles of U.S.-listed domestic equity ETFs from January 1, 2005, through February 15, 2018

While volume tends to be available for investors who want to transact during volatile times, cost-conscious, long-term investors who are concerned about bid-ask spreads and premiums have a straightforward defense: Avoid trading during times of market uncertainty, or alternatively, use limit orders to protect themselves if they do trade.

If you are interested in speaking with someone on the U.S. ETF Capital Markets Team, please contact your Vanguard sales executive at 800-997-2798.
Our view on the future of active ETFs

Active management will survive, and maybe thrive, if it’s available at a low cost. ETFs, then, offer an attractive vehicle.

Active management is not new for Vanguard. We have believed in low-cost, long-term active strategies since our founding more than four decades ago. In fact, Vanguard Wellington™ Fund started in 1929, and today Vanguard has more than 60 traditional active funds.

With the recent launch of our first active ETFs—a suite of low-cost factor-based funds—we wanted to share some thoughts regarding the past, the present, and the future of active management in the context of ETFs as you seek to find the best ways to help your clients meet their goals.

In short, we believe active management strategies do have a future, though we also believe that the relatively expensive active strategies of the past are likely to fall increasingly out of favor.

First, a little history …

As ETFs celebrate their 25th anniversary this year, there’s little doubt that ETFs are still widely associated with index investing. But did you know that U.S.-listed active ETFs have been around for more than a decade?

Since active ETFs became part of the ETF ecosystem, many firms and commentators have predicted that actively managed ETFs would likely fuel ETF development. Dozens of firms have filed with the Securities and Exchange Commission (SEC) to offer active ETFs in the hope of taking advantage of this potential opportunity. As of February 28, 2018, the active ETF marketplace consisted of 208 ETFs offered by more than 60 issuers.

Active fixed income ETFs leading the way

Ten years into the age of active ETFs, it’s fair to say that investors have yet to adopt these investment vehicles the way they did their index-based counterparts. As of March 20, 2018, U.S.-listed ETF assets stood at about $3.6 trillion, with 2017 inflows shattering previous cash-flow records. Yet active ETFs languished in this extremely favorable environment of ETF adoption.

Since 2008, 271 active ETFs were launched, though 63 were shuttered, leaving the 208 cited above. That compares with about 1,700 index ETFs listed on U.S. exchanges today.

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1 Vanguard considers any deviation from broad-market, capitalization-weighted indexing to be active management—even non-cap-weighted strategies in rules-based indexes. But this article is solely focused on traditional active management that involves human portfolio managers making changes based on quantitative models or other tools.

Active ETF launches

![Chart showing active ETF launches from 2000 to 2018](chart.png)

Source: Vanguard, as of February 28, 2018.
The number of active ETFs accounted for only 11% of all ETFs on U.S. markets; assets in these strategies reached $40.6 billion, or less than 1.2% of all U.S.-listed ETF assets. Drilling into that relatively low figure, fixed income strategies dominated the active ETF space, gathering 75% of active ETF assets under management, Morningstar data show.

Despite the available runway for active ETFs, issuers still hesitate. At this time, the SEC requires firms to provide full transparency into ETFs’ daily holdings. Some issuers are concerned that this disclosure will prove harmful because it reveals proprietary alpha-generation techniques. As a result, many active issuers have petitioned the SEC to allow “nontransparent ETFs,” but these requests have yet to materialize, except for one instance. The one instance, a new structure, is an exchange-traded managed fund and it is not technically an ETF. Rather, it is a hybrid structure that has features of both ETFs and traditional mutual funds. So far, 15 products have launched in this structure, with collective assets of about $135 million, according to Morningstar.

Other ETF firms have become more comfortable with full transparency of active ETFs that follow certain strategies. Since the start of 2017, 24 issuers have offered an active ETF for the first time. For Vanguard, we have launched only actively managed strategies that can accommodate daily holdings disclosure. These generally include high-capacity, model-driven strategies with trading flexibility.

**Our view of the future**

The current active ETFs may lead the way forward as due diligence teams at home offices begin incorporating active ETF evaluation into their oversight processes. As more active ETFs are placed on trading platforms, advisors may gravitate toward the potential advantages of building active portfolios for clients with low-cost, transparent, and tradable ETFs.

Broadly, we believe that active management has a future, but only if it’s delivered in low-cost products.

One potential source for new active ETFs could be issuers who have yet to enter the market. Notably, some of the largest mutual fund shops have yet to launch an ETF.

Research shows that in the past ten years, $829 billion moved into U.S. equity funds in the lowest-cost quartile, while $893 billion exited all other U.S. equity funds. Therefore, if active management is available in a low-cost wrapper, we see a bright future for active ETFs.

Our launch in February of a suite of low-cost, active factor-based ETFs is part of this future. These ETFs are among the least-expensive active ETFs on the market. (See articles on page 11 about Vanguard’s new factor ETFs and on page 13 about Vanguard’s new head of factor-based strategies, Antonio Picca.)

**Active and passive, not active or passive**

Given our belief that active ETFs are likely to become more prominent, we need to answer how active and passive approaches work together. To begin, the idea that an investor must choose either active or passive is overly simplistic and outdated.

Some clients might favor passive approaches, others might want only active strategies, and some may want a combination of both. Our colleagues in Vanguard Investment Strategy Group recently produced a paper providing a framework for active and passive decision-making that sheds light on the key considerations.

How you balance active and passive strategies is a decision between you and your clients. Our aim is to help you expand your tool kit with low-cost products that help you help your clients meet their objectives.
Vanguard factor ETFs: Fully active, low cost

The new products offer a way to focus on five established equity factors

Vanguard’s new factor ETFs are intended to complement a broad-market portfolio, with five of the six ETFs designed to outperform over time as part of a strategic tilt.

The ETFs, which launched in February, are all long-only, transparent, diversified, and low cost. They also are active. Managers have the authority to trade holdings on any day in order to maintain exposure to the desired factors, even as they publish holdings daily, as required by the Securities and Exchange Commission. Index-based factor ETFs, by contrast, typically rebalance at preset times.

Vanguard ETFs® focused on individual factors are U.S. Value Factor (VFVA), U.S. Momentum Factor (VFMO), U.S. Quality Factor (VFQY), U.S. Liquidity Factor (VFLQ), and U.S. Minimum Volatility (VFMV). The U.S. Multifactor ETF (VFMF)—the only Vanguard factor ETF with a fund share class (Admiral™ Shares, VFMFX)—uses a composite selection of value, momentum, and quality. All the single-factor ETFs come with an expense ratio of 13 basis points, except for the U.S. Multifactor ETF and fund, which have an 18-basis-point expense ratio.¹

Antonio Picca, head of factor-based strategies for Vanguard Quantitative Equity Group, said the goal for managers of the Vanguard factor ETFs is to consistently and intensely focus on the designated factor(s) exposure. Because of that, advisors who use factors to enhance returns should be able to use these ETFs in relatively modest amounts and still influence the expected returns of a client’s portfolio.

“You really only need a few teaspoons of factors to get the nice flavor that you want,” Picca said.

For example, Vanguard U.S. Value Factor ETF offers an average exposure to the value factor close to 100%, more than twice that of many market-capitalization-weighted style index ETFs. That means an advisor who wants a value

¹ Expense ratios are estimated as of February 15, 2018.

Five factors targeted by Vanguard factor ETFs and the basis for their respective premiums

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<thead>
<tr>
<th>Factor</th>
<th>Description</th>
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<tbody>
<tr>
<td>Value</td>
<td>Relatively inexpensive stocks from undervalued companies historically have earned higher returns than expensive stocks.</td>
</tr>
<tr>
<td>Momentum</td>
<td>Stocks with strong recent performance historically have earned higher returns going forward than those with weak recent performance.</td>
</tr>
<tr>
<td>Quality</td>
<td>Well-established companies with strong earnings and strong balance sheet quality historically have outperformed companies with weak earnings.</td>
</tr>
<tr>
<td>Liquidity</td>
<td>Stocks that are less frequently traded historically have earned higher returns than more liquid stocks.</td>
</tr>
<tr>
<td>Volatility</td>
<td>Stocks with low volatility historically have achieved higher risk-adjusted returns than those with higher volatility.</td>
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</tbody>
</table>

Source: Vanguard. For further information see: Scott N. Pappas and Joel M. Dickson, 2015. **Factor-based investing.** Valley Forge, Pa.: The Vanguard Group.
exposure of 5 percentage points could put 5% of a portfolio into the U.S. Value Factor ETF, as opposed to, say, 10% or more in a market-cap-weighted style index ETF, Picca said.

**How they’re built**

The stock-selection universe for all the Vanguard factor products begins with the Russell 3000 Index.

For the Vanguard value, momentum, quality, and liquidity factor ETFs, the portfolio is then parsed into three market-cap buckets: the top 200 (large-cap), the next 800 (mid-cap), and the bottom 2,000 (small-cap). Stocks are selected from each bucket according to a composite score that reflects each stock’s exposure to the targeted factor. Stocks with a positive score for the targeted factor are selected, up to one-third of the market cap in each bucket.

The methodology allows market cap to influence—but not dictate—the portfolios of the ETFs. “When it comes to capturing a strong factor exposure in a consistent way over time, full market-cap-weighted indexing doesn’t make a lot of sense,” Picca said.

The rules governing Vanguard U.S. Multifactor ETF and Fund follow the same bucketing methodology, but instead of selecting stocks that exhibit a strong exposure to a single factor, the rules guide managers to select stocks that exhibit the best combination of value, momentum, and quality characteristics. Those factors are intended to balance one another, because value and momentum tend to be negatively correlated, and value and quality tend to have little correlation with each other, Picca said.

Despite the emphasis on the designated factors, five of the Vanguard factor ETFs hold more than 500 stocks each, giving them broad diversification, Picca added.

“If you think about some of the other factor funds out there, some invest in only 100 to 150 stocks, and they may have more than 10% of their holdings in a given stock or 50% in a given sector,” Picca said. “The rules governing our factor ETFs don’t allow such concentration.”

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**A four-step factor selection and maintenance process**

1. **DEFINE**
   - Segment the Russell 3000 Index into market-cap buckets
   - 33% U.S. large-cap
   - 33% U.S. mid-cap
   - 33% U.S. small-cap

2. **SCORE**
   - Score each stock based on three characteristics that target the factor
   - Value
   - Momentum
   - Quality
   - Liquidity

3. **WEIGHT**
   - Select/weight stocks by factor strength

4. **REBALANCE**
   - Rebalance the portfolio when the targeted factor exposure drops

(continued on page 14)
Trained under Fama and French, Antonio Picca finds his way to Vanguard

Antonio Picca couldn’t get a job. The Italian native applied all around London but never landed an offer. It was 2009, and the global financial crisis was roiling Europe. Even as a recent master’s graduate from the London School of Economics and Political Science, Picca was going to find job hunting difficult. "I must have interviewed 100 times," he said.

Not finding employment then may have been the best thing that ever happened to Picca, who is now a senior portfolio manager and the head of factor-based strategies in Vanguard Quantitative Equity Group (QEG).

Picca instead decided to pursue a Ph.D. He chose to attend the University of Chicago Booth School of Business instead of his other option, Stanford University in California. "I picked Chicago because of the good weather," Picca deadpanned.

The real reason was that going to Chicago meant studying under a towering figure in financial economics, Gene Fama, who was a 2013 Nobel co-laureate in economic sciences, along with Robert Shiller and Lars Peter Hansen. During his time at the University of Chicago, Picca was a teaching and research assistant for several professors, including Fama. He defended his doctoral dissertation on dividend risk premia in front of a committee coheaded by Fama and John Heaton in 2015.

Working with Fama gave Picca the opportunity to establish a connection with Dimensional Fund Advisors (DFA). He worked at DFA while pursuing his Ph.D. and joined its strategy-research team after his graduation. At DFA, he worked with another giant of financial economics, Ken French, whose name is often mentioned with Fama’s, or their names are hyphenated together, for their work on factor models.

"Working with Ken and Gene was an incredible privilege but was not easy," Picca said. "They are very intense people. Gene keeps reminding his students that he could not work well with Merton Miller, another Nobel laureate and one of the founding fathers of financial economics, because Miller was an eight-to-five person. Gene gets along with Ken because they are both 24/7 people.

The two most valuable lessons that I learned from working with them are to be extremely rigorous in my empirical analysis and to always prefer the most simple and elegant solution to a problem."

Picca joined Vanguard in September 2017. "Vanguard represents a wonderful opportunity for me," he said. "Even though Vanguard is large, the factor products are just starting, so my team can lead the development of the strategies and implement them as well. It is my opportunity to gain more responsibility and have a broader impact on the organization. At Vanguard, my team and I are more independent, but we are not on our own. We are supported by the great talent and experience of other QEG members."

Picca is in charge of QEG’s factor team, which manages 16 funds and ETFs offered across the United States, Canada, and Europe. The other members of the team are Liqian Ren and Sasha Bereznak. Ren is another Chicago Ph.D. graduate and an experienced researcher and portfolio manager. During her 11 years at Vanguard, Ren has worked on a broad variety of research projects, including alpha research, economic forecasting, investor behavior, and retirement solutions. She has also been a portfolio manager on many of the quantitative strategies managed in QEG. Bereznak is a Vanguard-grown talent. She started as a portfolio review analyst and moved to investment management to work for Joe Brennan, the head of the Equity Index Group. Since joining QEG, Bereznak has demonstrated an innate talent for quantitative thinking and portfolio management.

“We are a really diverse but cohesive group,” Picca said. “Each one of us brings something unique to the team.”
Vanguard single-factor product construction
Three underlying signals are used to determine factor exposure

Because of that diversification, Picca said, he would consider it reasonable for an advisor who has a high degree of conviction in a factor to put 10% to 15% of a client’s portfolio in one of the factor products. However, the advisor needs to make sure that the client is comfortable with the higher tracking error associated with this allocation. Combining this factor allocation with other factors or broad index funds could reduce tracking error.

Although the Vanguard value, momentum, quality, liquidity, and multifactor ETFs are designed to outperform, it may take time, perhaps even 10 or 20 years, to capture that outperformance. As with any active strategy, factors can have long periods of underperformance.

Vanguard U.S. Minimum Volatility ETF (VFMV) is designed differently from the other Vanguard factor ETFs. VFMV held 144 stocks as of February 28, 2018. The stocks in the portfolio are selected for either their tendency to perform with less volatility than the overall market or for the tendency of certain stocks to counterbalance one another and potentially offer a smoother portfolio return. The U.S. Minimum Volatility ETF is not designed to outperform the market over time.

Reasons to use Vanguard factor ETFs
Advisors may want to select Vanguard factor ETFs for client portfolios for several reasons. They may find that the Vanguard factor ETFs represent a lower-cost alternative to higher-cost active funds or so-called smart beta ETFs. Vanguard U.S. Liquidity Factor ETF may offer a broadly diversified and easier-to-trade way to access the liquidity premium that advisors might otherwise seek by accessing private equity, real estate, collectibles, or master limited partnerships. Advisors may also find that one or more factor ETFs can help even out a portfolio’s factor exposures.

Advisors should not, however, think of these products as passive, Picca added.

“These are active strategies; we look at the portfolios every day,” Picca said. “They take a lot of portfolio management resources. When you go out there and offer these at 13 or 18 basis points, this is quite competitive, especially when you think about how much work these funds require. I think that’s a steal.”

Source: Vanguard.
Note: Charts represent Vanguard’s proprietary factor portfolio construction process and are for illustration purposes only.
At two top conferences in June:

• At the Inside Smart Beta & Active ETFs Summit, June 6–7 in New York City, Doug Grim, a senior analyst in Investment Strategy Group, will answer questions about smart beta, and Rich Powers, head of ETF Product Management, will present on active ETFs.

• At the Morningstar Investment Conference, June 11–13 in Chicago, Senior Portfolio Manager Antonio Picca will be on a panel discussion about multifactor products.

ETF.com named Vanguard as ETF Issuer of the Year1 for 2017 at an annual awards ceremony in New York City on March 22 hosted by Inside ETFs.

A panel of industry leaders honored Vanguard as “the issuer that has done the most to improve investor outcomes through product introductions, product performance, fund management, asset gathering, investor support, and innovation.”

In commenting about their reasons for giving the award to Vanguard, the judges wrote:

"Vanguard is the second-largest ETF issuer in the U.S. today, commanding more than $870 billion in U.S.-listed ETF assets. Its reputation as a steward for investor interests, however, is second to none. In 2017, the firm hit yet another milestone: 15 consecutive years of growing market share. Vanguard’s success in the ETF space is a direct result of its commitment to investor outcomes and its focus on distribution. Today Vanguard is synonymous with low cost. Among the firm’s entire lineup of ETFs, the average expense ratio is only 0.11%, or $11 per $10,000 invested."2

ETF.com Award winners are selected in a three-part process designed to leverage the insights and opinions of leaders throughout the ETF industry. The awards process began with an open nomination period running from December 4, 2017, through January 2, 2018. Following the open nominations, the ETF.com Awards Nominating Committee—made up of senior leaders at ETF.com, Inside ETFs, and FactSet—voted to select up to five finalists in each category. Winners from these finalists were selected by a majority vote of the ETF.com Awards Selection Committee, a group of independent ETF experts. Committee members recused themselves from voting in any category in which they or their firms appeared as finalists. Ties were decided where possible with head-to-head runoff votes.

2 As of December 31, 2017.
Comments? Topics of interest?
Write to us at ETFPerspectives@vanguard.com

Connect with Vanguard® > advisors.vanguard.com

For more information about Vanguard funds or Vanguard ETFs, visit advisors.vanguard.com or call 800-997-2798 to obtain a prospectus or, if available, a summary prospectus. Investment objectives, risks, charges, expenses, and other important information are contained in the prospectus; read and consider it carefully before investing.

Vanguard ETF Shares are not redeemable with the issuing Fund other than in very large aggregations worth millions of dollars. Instead, investors must buy and sell Vanguard ETF Shares in the secondary market and hold those shares in a brokerage account. In doing so, the investor may incur brokerage commissions and may pay more than net asset value when buying and receive less than net asset value when selling.

Past performance is no guarantee of future results. All investing is subject to risk, including possible loss of principal. Diversification does not ensure a profit or protect against a loss.

Prices of mid- and small-cap stocks often fluctuate more than those of large-company stocks.

Funds that concentrate on a relatively narrow market sector face the risk of higher share-price volatility.

Factor funds are subject to investment style risk, which is the chance that returns from the types of stocks in which the fund invests will trail returns from the stock market. Factor funds are subject to manager risk, which is the chance that poor security selection will cause the fund to underperform relevant benchmarks or other funds with a similar investment objective.

There is no guarantee that any particular asset allocation or mix of funds will meet your investment objectives or provide you with a given level of income. There may be other material differences between products that must be considered prior to investing.

Bond funds are subject to interest rate risk, which is the chance bond prices overall will decline because of rising interest rates, and credit risk, which is the chance a bond issuer will fail to pay interest and principal in a timely manner or that negative perceptions of the issuer’s ability to make such payments will cause the price of that bond to decline.

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