The Morningstar Guide to ETFs

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Dear Fellow Investor,

Even though exchange-traded funds have been around for almost two decades now, they've caught on with investors only in the past few years. But they've caught on in a big way. ETFs are seen as the ultimate index funds: dirt cheap, extremely tax efficient, and liquid. The market has grown by leaps and bounds, and investors now have hundreds of ETFs from which to choose.

But with progress comes complication; the old assumption that all ETFs are simple, solid vehicles is no longer true. The market has evolved beyond plain index funds. Investors must do more due diligence on newer structures to reap the full benefits of innovation.

This guide attempts to cut through the confusion by focusing on the basics. I've pulled together several pieces from our staff of ETF analysts on a wide range of topics, ranging from the basics to using ETFs as hedges to building a portfolio of bond ETFs. Armed with a clear understanding of how ETFs work, as well as their strengths and weaknesses, you'll be better equipped to sort through the options and make smart investment decisions about how to incorporate them in your portfolio.

The content of this report and our newsletter, *Morningstar® ETFInvestor,℠* comes from our point of view. But we always welcome your input. Please don't hesitate to email your feedback and suggestions to paul.justice@morningstar.com.

Best wishes for profitable investing,

Paul Justice, CFA,
Director of North American ETF Research
Editor, *Morningstar ETFInvestor*

The ABCs of ETFs

Samuel Lee, ETF Analyst

Let's start with the basics. ETFs are investment funds that, like stocks, are traded on exchanges. In that regard, they're no different from closed-end funds, which have been around for nearly a century. So why have ETFs taken off while closed-end funds have languished? The answer lies in ETFs' core innovation, their daily creation and redemption mechanism, which keeps ETF market prices from straying far from their fundamental values. ETF investors don't have to deal with large, sustained discounts or premiums.

Under the Hood

ETFs require a whole new ecosystem to exist, one unfamiliar to many investors. There's the ETF provider, analogous to the fund company, which runs the fund and holds the underlying securities. The provider can create or redeem shares at the end of each day but will do so only in big blocks called creation units, often worth millions of dollars each. Most creation units are made up of the securities that comprise the ETF's portfolio, though some are just cash. Naturally, most investors can't deal with these huge creation units. That's where the authorized participant steps in. The AP is a specially designated institutional investor given the right to redeem or create ETF shares with the provider. By creating and redeeming shares, APs help adjust the supply of ETF shares to match demand and keep the ETF from straying far from its net asset value.

ETF Creation/Redemption Process

Authorized participants don't act out of the goodness of their hearts. They make money by pocketing the difference between the total value of an ETF's underlying holdings and the ETF's prevailing market price. For example, if the ETF's shares trade at a premium to its NAV, an AP can assemble a creation unit, redeem it with the provider for ETF shares, and sell the shares for a profit. If the ETF trades at a discount, an AP can buy the ETF's shares and redeem them for the fund's underlying holdings, which the AP can then sell for a profit.

The mechanism is usually extremely efficient. Most ETFs trade at minuscule premiums or discounts.

In order for this system to work, most ETFs must disclose their holdings daily. Anyone can see exactly what they own virtually in real-time. The daily disclosure requirement is the main reason why most ETFs are passive, rather than actively managed. Few managers are willing to reveal their secret sauce.

Why Are They So Cheap?

Now that we've briefly covered how they work, we can delve into why ETFs are so cheap. The savings partly come from the outsourcing of duties traditional funds are normally responsible for: bookkeeping and trading.

ETF providers don't have to spend money on maintaining relationships with investors; brokerages do that for them by using existing bookkeeping infrastructure for stocks. ETFs don't have to engage in en masse buying and selling, thanks to their creation/redemption mechanism, which keeps a lid on costs incurred by trading. Most importantly, the majority of ETFs are simple, straightforward index funds. Computers do most of the work, with no need to dish out lavish bonuses for star managers. As index funds, ETFs have to compete on fees, though this market dynamic is changing with the advent of more-specialized ETFs.

Not All the Same

Exchange-traded funds are a varied bunch. In fact,

some ETFs aren't technically even funds, giving rise to the more precise terminology "exchange-traded product." Below, we review some of the structural differences of certain ETPs and their advantages and their pitfalls.

Cash vs. In-Kind

The creation/redemption mechanism common to all ETFs can be conducted either in-kind or with cash. In-kind is by far the most common method and gives ETFs much of their cost advantage. An in-kind exchange is comparable to a modern-day barter; the provider trades ETF shares directly for the ETF's underlying securities and vice versa. In-kind transactions are not taxable events, creating a lot of tax-saving opportunities.

ETFs can selectively give out low-cost-basis securities in their portfolios, purging the fund of unrealized capital gains. In-kind exchange also means ETFs don't accumulate capital gains or losses simply by creation and redemption activity, unlike a mutual fund. Finally, the mechanism shifts the cost of acquiring shares to authorized participants. The in-kind exchange mechanism is the heart and soul of ETF tax efficiency. However, for this complicated process to function efficiently, the underlying holdings must be fairly liquid.

What about ETFs holding less-liquid securities, like high-yield foreign bonds? In many cases, cash creation and redemptions are the best solution. Investors may lose out on some tax efficiencies and cost savings, because cash transactions are taxable events, but they gain the ability to own more obscure or hard-to-access securities.

Physical Replication vs. Synthetic

Most ETFs directly own the securities they hold, as do plain-vanilla mutual funds. A growing minority, however, gain their exposures through derivatives. These synthetic funds can offer more-precise tracking to a less-liquid asset class, and they do it for less. The big caveat is that they introduce counterparty risk; if the bank on the other side of the derivative contract declares bankruptcy, the fund investor can be left in the lurch. A good way to see if a fund is synthetic is to check its portfolio for swaps. Many leveraged, long-short and inverse funds are synthetic.

Exchange-Traded Notes

Exchange-traded notes look and behave like ETFs but are actually bank-issued IOUs that promise to track an index. If the issuing bank goes bust, an ETN investor has to stand in line with other creditors in order to recover his money. You don't want to hold an ETN without keeping an eye on its issuing bank's health. However, ETNs have a big advantage: Due to a quirk in tax law, they are taxed like stocks, regardless of their underlying exposures (with the exception of currencies). ETNs can hide inherently tax-inefficient asset classes, such as commodity futures, under a sleek, tax-efficient structure. Because they're contracts, they offer perfect tracking. One caveat is that ETN fees can be a bit involved, with fees tacked on or calculated with differing methodologies.

Keep It Simple… or Not

As long as you stick with big, well-known ETFs, you probably won't have to deal with the intricacies of the ETF structure. Most of them are plain-vanilla, physically replicated funds that enjoy the tax efficiencies of in-kind creation and redemption. They're safe, rock-solid, and a favorite tool of every kind of investor, from militant indexers to market-timing hedge fund managers.

But if you do want to delve into more-exotic asset classes and use more-complicated ETFs, things get trickier. Always read the prospectus and understand the risks you're taking on. Try to figure out if the ETF is synthetic, uses cash creation and redemption, or holds more-exotic assets, such as commodities or derivatives. All these factors can affect the ETF's tax treatment, risks, and costs. Even professional ETF users

have been walloped with unexpected tax treatment or performance behavior because they didn't read the fine print. Of course, our research is here to guide you in the right direction and raise any red flags of note.

The Many Uses of ETFs

ETFs may be the first truly big-tent fund structure, attracting gobs of money from all kinds of investors. Indexers like their ultralow costs, often beating institutional share class mutual fund fees. Hedge funds like ETFs' liquid, low-cost exposure and the ability to short them. Fund managers use ETFs to equitize cash, lowering their tracking error. Traders of all stripes appreciate the intraday liquidity and access to a wide variety of tools.

One growing use of ETFs is the core-and-explore approach. The strategy is motivated by the acknowledgement that many markets are fairly efficient, with low payoffs for active management. Another impetus is the growing realization that many active managers offer substantial beta, or passive, exposure, yet charge alphalike fees for the whole pie; by using a core of passive vehicles combined with concentrated active funds, investors get more bang for their buck and greater control over their portfolios.

Strategy ETFs are another popular trend. There are ETFs for deep-value exposure, dividend champions, low-volatility stocks, and even hedge-fund trackers. Investors have a sea of options to complement or replace traditional options. Even if investors don't directly invest in these strategies, their existence likely puts competitive pressure on the asset-management industry as a whole, lowering fees for everyone.

For more hands-on investors, ETFs offer a cheap way to make macroeconomic bets, whether it's on Australian stocks or the Brazilian real. The thin slicing of the market enables finely tuned bets. Advisors are increasingly using ETFs to manage their clients' portfolios, seizing the rewards that come with being a money manager.

ETF innovation may even be obviating that role. PIMCO has launched several active fixed-income strategies. Many big asset managers have actively managed ETFs in the works. A handful of managers have launched trend-following strategies. ETFs may begin to package more active management, further encroaching on mutual funds' turf.

ETF Dangers

ETFs may be too easy to use, especially leveraged and exotic ones. With actively managed funds, a professional makes the decision to execute a complicated strategy or buy an obscure asset class. ETFs don't provide that layer of due diligence and accountability, but on the other hand, offer exposure previously accessible to professional investors only.

We've seen investors burned by leveraged funds, commodity futures, and obscure asset classes because they didn't understand what they were buying. The ETFs were largely blameless. It's investors who failed to understand them.

Of course, there are poorly designed ETFs. Micro-cap funds are a good example. Because the micro-cap market is relatively illiquid, index funds tracking it can often move share prices by buying or selling. As of October 31, 2011, most of the micro-cap ETFs have far lagged behind small-cap stocks and even micro-cap mutual funds since inception. Investors shouldn't assume that every fund out there will do a good job tracking its index or even offer efficient exposure. Generally speaking, funds that hold illiquid, opaque securities traded in inefficient markets will have a difficult time tracking their indexes.

Finally, there's counterparty risk. Most ETFs have a tiny smidgen of it from securities lending, the practice of lending out shares in exchange for a fee. However, share-lending practices vary from provider to provider, though the industry is generally conservative. And as we mentioned earlier, ETNs, which are basically unsecured IOUs issued by banks, are most exposed to counterparty risk. However, there's no real appetite for ETNs from wobbly banks, so most ETNs are from investment-grade issuers. Swap-based ETFs also have some counterparty risk.

ETFs and You

ETFs are an innovation that could help virtually any investor's portfolio. Armed with a clearer understanding of the underlying mechanisms of ETFs, their types, and their uses, you're well-positioned to benefit from the ETF revolution, rather than be hurt by it.

We invite you to enjoy a free 30-day trial of our newsletter, *Morningstar ETFInvestor*, which we believe will help you harness the full potential of this powerful investment vehicle.

Please go to www.morningstar.com/goto/etfguide to sign up for your free 30-day trial.

Choosing ETFs the Morningstar® ETFInvestor℠ Way

Paul Justice, CFA, Director of North American ETF Research

As Morningstar's director of North American ETF research and editor of *Morningstar ETFInvestor*, I have developed guidelines for evaluating exchange-traded funds. I hew to these guidelines when providing profitable investment ideas that can help my subscribers reach their long-term financial goals and when managing our model portfolios.

The Morningstar ETFInvestor Philosophy

ETFs have a multitude of uses. Some are great core long-term holdings, some are good for playing sector themes, and some serve as valuable hedging tools. At *Morningstar ETFInvestor*, we approach ETFs from the position of an individual investor or a professional advising individuals who use ETFs as their primary investment vehicle.

We believe in the power of Modern Portfolio Theory and also believe that ETFs provide the best avenue for investors and advisors to allocate assets effectively. The core of our model portfolios will always be a well-diversified, low-cost portfolio of ETFs that provides broad exposure across the entire investment universe. Although we will generally treat this as a passive strategy, we will occasionally need to rebalance the holdings to make sure that our exposures adhere to our diversification discipline. We will generally maintain a moderate risk stance in our core portfolio but may tilt our exposures to more-aggressive or conservative stances as we see fit.

ETFs are also a great way to take advantage of sector, theme, and commodity investing. To that end, we will also look for investment opportunities to augment our core holdings and give us exposure to attractive industries, themes, or asset classes. We will always be mindful of how these "satellite" holdings fit with our core positions, and we will weight our positions accordingly.

When evaluating these satellite holdings, we are always looking for value, and we prefer sectors with positive macroeconomic trends. Even though we like value, we want to keep a moderate risk/reward profile, so we don't do too much bottom-fishing. Rather, we are more likely to tilt our investments toward areas with growth opportunities or sectors that are in the midst of secular and cyclical upswings.

When it comes to valuations, we rely heavily on Morningstar's equity research team to uncover undervalued stocks and sectors, as well as asset themes. In terms of equity-based ETFs, the Morningstar Rating for stocks plays a key role in our valuation analysis.

We recognize that investors have varying risk appetites. To that end, we think that ETFs are great for investing in damaged areas of the marketplace or for shorting overheated ones. As such, you can expect to get our take on a wide variety of sector themes in *Morningstar ETFInvestor*, even if it is not necessarily something that we would put into our model portfolios. We want to make sure that we highlight the potential upside of these investments, as well as their risks and suitability so investors can make the best informed decisions.

Finally, we're price-conscious. Because most ETFs are index funds, it's imperative that their expenses are kept low to maintain a key advantage over active managers. When comparing similar ETFs, we'll typically give the edge to the cheapest, unless there's a good reason to think an ETF can overcome its expense hurdle.

An ETF Primer for Retirees and Conservative Investors

Michael Rawson, CFA, ETF Analyst

Do ETFs belong in conservative portfolios? Regulators have warned about hidden risks in ETFs and the dangers of exotic investment options. While many of their concerns are valid, we think avoiding all ETFs is like throwing the baby out with the bath water. In fact, the characteristics of many ETFs, simplicity, low costs, and diversification, make them suitable for a retiree's portfolio. Here are our quick tips on how to navigate the muddied waters.

Investing with ETFs requires a little more work than investing with mutual funds. In other words, you can save a few bucks changing the motor oil on your car yourself, but I wouldn't recommend it to everyone. ETFs are bought and sold like stocks, and therefore have similar liquidity considerations. Trading a small ETF with less than $100 million in assets requires a bit more caution than buying a mutual fund. You might end up buying at a premium or selling at a discount, which would negatively impact your returns. Fortunately, the cheapest, most efficient ETFs tend to be liquid and trade with insignificant premiums or discounts. Stick to big ETFs with assets of more than $500 million for an added measure of safety. And always use limit orders to buy ETFs near net asset value. You can get a real-time NAV quote on Morningstar.com.

A key consideration is that ETFs incur trading costs. If you're paying $7 a trade and are trading only a few hundred dollars at a time, a mutual fund is probably a better choice. ETFs are more suitable when the trade is large enough to make the trading commission small on a percentage basis or when trading in a low-cost or commission-free account. Smaller investors should look to Vanguard, Schwab, Fidelity, Scottrade, E*Trade, or TD Ameritrade for free trading with a selection of ETFs. It may be prudent to avoid ETFs if you know you have bad investing habits that could be exacerbated by the liquidity and variety of ETFs. Bad habits might include trading too frequently and attempting to play macroeconomic themes through wholesale shifts of your asset allocation, regardless of tax and cost considerations. When Vanguard's Jack Bogle found out that ETFs would allow trading of the S&P 500 all the time, he pointedly asked, "What lunatic would want to do that?" Bogle rightly brought the focus back to investor behavior. The investment vehicle does not matter as much as the investment process. Avoiding behavioral mistakes can save you a lot more than the relatively minor savings you can gain with ETFs.

Older investors also need to consider estate-planning issues. If you hold a large number of ETFs that need to be manually rebalanced, will your children remember to do this? Will you be able to monitor your statements should you have a medical emergency or if you need to be away from your computer for several weeks? If not, you might be better off in an allocation or target-risk fund.

A retiree who does not actively trade his account can use ETFs for asset allocation. ETFs such as **Vanguard Total Stock Market** VTI or **iShares Barclays Aggregate Bond** AGG are great choices. They're diversified, transparent, cheap, and liquid.

While most ETFs are index funds, not all indexes are created equal. Some are computer-run active strategies or use alternative weightings that may result in a more risky portfolio. An ETF's name may not correctly convey its investment strategy. We recommend investors conduct some due diligence before considering any ETF.

In summary, retirees and conservative investors can benefit from certain ETFs, and there is no obligation to go outside your comfort zone. Keep in mind that not all ETFs are user-friendly and all ETFs require at least some basic trading knowledge. When planning your estate, it's best to simplify your portfolio to avoid creating a future burden.

Avoiding the Dividend Trap

Michael Rawson, CFA, ETF Analyst

Dividend-paying stocks are often viewed as higher-quality and more stable, relative to their non-dividend-paying counterparts. Thus, on the risk/return spectrum, they can sit between lower-risk bonds and higher-risk stocks. But there is a point at which dividend-paying stocks become riskier than the average stock. In the summer of 2010, shares of **BP** BP offered a trailing 12-month dividend yield of 9%. This would be a great deal if it were sustainable; after all, **ExxonMobil**'s XOM yield at the time was less than 3%. But the market was correctly forecasting that BP's dividend would be cut. Another example is New Century Financial, a subprime mortgage REIT that offered a dividend yield of around 18% at the peak of the housing bubble. That high dividend was nothing more than a trap, as the firm filed for bankruptcy when the housing bubble burst. In this article, we'll explain the ways dividend-focused exchange-traded funds attempt to avoid this siren song.

Dividends, and reinvesting those dividends, have historically accounted for 40% of the returns from investing in stocks. According to data from finance professor Kenneth French, the top third of dividend payers have returned about 11% per year since 1927 compared with 8% per year from nonpayers, resulting in an ending wealth from the dividend payers that is 8 times larger than that from the nondividend payers. Despite conventional wisdom, high-dividend-payout companies tend to have strong earnings growth. So, the case for investing in companies that pay dividends is a strong one.

It would seem that a logical way to achieve a high yield on a dividend fund would be to weight stocks by their dividend yield, so that high-yielding stocks would make up a larger percentage of the fund. Unfortunately, it does not follow that if dividends are good, a higher dividend yield must be better. That is because high-dividend-yielders can be low-quality, risky companies that are likely to cut their dividends in the future, or even file for bankruptcy.

Look for Consistent Dividend Increases

One approach to overcoming the challenge of the dividend trap is to select companies that have shown a consistent pattern of increasing dividends. **Vanguard Dividend Appreciation** VIG and **PowerShares Dividend Achievers** PFM select stocks from a list of companies that have increased dividends for 10 or more years. **SPDR S&P Dividend** SDY kicks this up a notch by requiring at least 25 years of dividend increases and then weights by yield rather than market cap. This results in just 60 holdings for SDY and a tilt toward smaller-cap stocks, so it is perhaps too concentrated to serve as a core equity holding.

While **PowerShares HighYield Dividend Achievers** PEY requires 10 years of dividend growth, it is similar to SDY in that it uses a dividend-yield-weighting methodology rather than the modified market-cap-weighting approach followed by VIG and PFM. This results in a higher yield but also in higher volatility, as the highest-yielding stocks tend to be smaller and riskier. VIG and PFM, because of their focus on high-quality stocks and their use of market-cap-weighting, have a higher percentage of assets (about 60% each, versus 41% for the S&P 500) invested in stocks with wide economic moats, or sustainable competitive advantages. In contrast, SDY has 23% and PEY has just 9% of assets in wide-moat stocks.

It is no surprise that these dividend ETFs tend to be heavy in consumer-staples stocks and stocks with strong brand recognition such as **Procter & Gamble** PG, **Coca-Cola** KO, **PepsiCo** PEP, and **McDonald's** MCD. Firms with strong brands that are able to generate steady, repeat business are more likely to grow their dividends over time.

Check Weighting Methodology

A second approach to avoiding the dividend trap is to weight stocks based on the total dollar amount of dividends paid rather than by dividend yield. This results in a tilt toward larger-cap companies, as they tend to be the ones that pay out the largest dividends on an absolute dollar basis rather than on a percentage basis. **WisdomTree LargeCap Dividend** DLN follows this approach, and its two largest holdings are **AT&T** T and **ExxonMobil** XOM. **iShares Dow Jones Select Dividend Index** DVY weights 100 stocks by dividend per share rather than total dividends, which results in some odd tilts and a lower average market cap. However, it does use some additional screening criteria, such as requiring five years of dividend growth and an average dividend payout ratio of less than 60%. Another option from the iShares family is **iShares High Dividend Equity ETF** HDV. This ETF combines both a qualitative assessment of the firms' competitive advantage with a quantitative measure of balance sheet and market risk. The fund weights its holdings by dividends paid, which results in a large-cap value tilt.

First Trust Value Line Dividend Index FVD picks stocks with a higher-than-average dividend yield, but it requires that they be ranked in the top two out of five safety rankings, which are based on stock-price stability and balance-sheet quality. Combining these two measures has had good results. The fund then equal weights these stocks.

Diversification Matters

Vanguard High Dividend Yield Index VYM uses a diversification and market-cap-weighting approach to minimize the impact a few low-quality stocks can have on the portfolio. The fund ranks stocks by dividend yield and then includes all stocks until it accumulates 50% of the market cap of the broader universe. This methodology allows for more-stable, larger names to dominate the portfolio, but also includes hundreds of smaller-cap stocks that pay high dividends. In total, VYM holds more than 400 stocks. The comprehensive **WisdomTree Total Dividend** DTD weights stocks by dividends paid and includes all stocks that trade on U.S. exchanges which meet certain liquidity requirements, resulting in a whopping 800 holdings.

Unfortunately, many dividend-focused ETFs were heavy in financial stocks heading into the 2008 financial crisis, and this hurt their performance relative to the S&P 500 over the past three years. For example, PEY had 62% of assets in financial stocks and DVY had 46%. On the other hand, VIG had just 17% of assets in financial stocks.

Dividend funds can also be a good way to invest internationally, particularly when the investor is concerned about the quality and transparency of international financial markets. **WisdomTree Emerging Markets SmallCap Dividend** DGS weights stocks by dividends paid and has earned 5 stars for its solid three-year performance. Because it invests in emerging-markets stocks, investors should expect the ride here to be more volatile.

For income investors who want to invest in just the highest-quality stocks, we recommend Vanguard Dividend Appreciation ETF. Not only has this fund had a better-than-average return over the past three years to Oct. 31, 2011, it has also had the lowest volatility of the funds mentioned in this article that have at least a three-year track record. On the flip side, for investors who want an even higher yield and are willing to accept the higher risk inherent in that strategy, we'd recommend a closer look at SPDR S&P Dividend or iShares High Dividend Equity.

**Disclosure: Morningstar, Inc., receives fees for licensing its indexes to ETF/ETN providers. These fees are mainly based on fund assets under management. BlackRock Asset Management; First Trust; Invesco; Merrill Lynch; Northern Trust; and Scottrade currently license Morningstar Indexes. These ETFs and ETNs are not sponsored, issued, marketed, or sold by Morningstar. Morningstar does not make any representation regarding the advisability of investing in ETFs or ETNs that are based on the Morningstar Indexes.*

Create Your Own Bond Portfolio Using ETFs

Timothy Strauts,
ETF Analyst

We often encounter investors who own as many as eight different funds to cover their equity exposure but only one or two bond funds for their fixed-income exposure. Conventional asset-allocation theory dictates that investors should have at least 30% of their portfolio in bonds. We find it perplexing that investors don't show the same level of attention and differentiation to the fixed-income portion of their portfolio as they do their equity stakes. This disproportionate tilt toward completely passive investing in fixed income could be the result of less familiarity to the composition of the Barclays U.S. Aggregate Bond Index, which is the most widely followed U.S. bond index. The two largest ETFs that track this index are **iShares Barclays Aggregate Bond** AGG and **Vanguard Total Bond Market** BND. Many investors buy these funds for their entire bond allocation because both offerings offer a simple way to gain access to the U.S. bond market in a low-cost package.

There is nothing wrong with simplicity. However, the composition of the Barclays U.S. Aggregate Bond Index may surprise some investors. This index replicates the U.S. investment-grade bond market based on market weightings, so bond types with the most issuance have the highest weighting in the index. As of November 2011, the index consisted of 44% U.S. government securities (Treasury and agency), 31% mortgage securities, 18% corporate securities, and 5% foreign securities. The index has been a great choice for investors over the past 10 years, returning 5.5% per year as Oct. 31, 2011. The main reason for this performance was the long period of declining interest rates. In the last decade, the 10-year Treasury yield has declined to 2.0% in November 2011 from 6.0% in July 2000. Investors need to consider that, at some point, yields can't go lower and will start to rise. When this will happen is unknown, but you can start to prepare your portfolio today.

Using ETFs to create your own bond portfolio will allow you to reduce the large positions in the Barclays Index, incorporate investments not represented in the index, and allow you to tailor the portfolio to your own unique risk tolerance and time horizon. Here is a list of ETFs we recommend as building blocks for a diversified bond portfolio, with our suggested allocations.

iShares Barclays 3-7 Year Treasury Bond IEI
Suggested Allocation: 15%
IShares Barclays 3-7 Year Treasury Bond was chosen from the many Treasury ETFs because of its similar duration to the broad index. With the great performance of government bonds over the past 10 years and historically low interest rates, it may make sense to have a lower exposure to this area of the market relative to the Barclays Index's 44%. And although this is not an immediate concern, IEI provides no protection from inflation in the future. Long-term inflation, since 1925, has averaged about 3% per year.

iShares Barclays TIPS Bond TIP
Suggested Allocation: 15%
Treasury Inflation-Protected Securities, which are not part of the Barclays Index, offer a yield that adjusts depending on increases or decreases in inflation. TIPS principal is linked to changes in the Consumer Price Index and provides an effective hedge against inflation in an investor's portfolio relative to standard Treasury bonds. As the CPI rises, the principal in the individual TIPS is adjusted upward. The coupon on the bond is then paid on the higher principal, which raises the overall effective yield of the security. An investment in this ETF will provide a hedge if the market is wrong and inflation is higher in the future.

iShares Barclays MBS Bond MBB
Suggested Allocation: 20%
The mortgage-backed securities in MBB are rated AAA because they are backed by the U.S. government.

Investors might be wary of investing in mortgage bonds considering the current real estate market problems, but the key feature of bonds issued by Fannie Mae and Ginnie Mae is that they guarantee payment of principal and interest. So even if a large percentage of homeowners default on their mortgages, the bonds backed by these bonds will still pay their interest payments on time. The high-quality nature of the portfolio means it will have similar returns to a U.S. Treasury bond over the long term. Mortgage bonds carry prepayment risk because homeowners have the ability to pay more than the minimum payment or pay it off completely in a refinance. However, an efficient market predicts the level of prepayment when pricing a mortgage bond. If interest rates rise unexpectedly, there will be lower prepayments than forecast, because fewer people will be able to refinance, and returns will suffer. We recommend an allocation lower than the Barclays Index allocation of 31%. This will allow you to diversify into other areas less correlated with U.S. Treasuries and with lower risks in the event that interest rates rise.

iShares Barclays Credit Bond CFT
Suggested Allocation: 30%
IShares Barclays Credit Bond is composed of about 80% U.S. corporate bonds and 20% non-U.S. sovereign bonds denominated in U.S. dollars. **IShares iBoxx $ Investment Grade Corporate Bond** LQD is the more popular fund in the category, with more than $16 billion in assets. However, we chose CFT because of its lower duration and exposure to non-U.S. sovereign bonds. The Barclays Index includes non-U.S. securities, so we don't want to exclude them from the portfolio. Our recommended 30% weighting in this ETF is only slightly higher than the 23% allocation (18% corporate and 5% foreign securities) in the broad index. Corporate bonds, because of higher credit risk than their U.S. government counterparts, carry a higher relative yield, which helps returns if interest rates rise.

SPDR Barclays Capital High Yield Bond JNK
Suggested Allocation: 10%
High-yield bonds are not included in the Barclays U.S. Aggregate Bond Index, but they can be an important portfolio diversifier. Corporate bonds are denoted high yield for the sole reason that firms issuing them are highly leveraged. With increased leverage comes the increased probability of default and bankruptcy. In the grand scheme of things, risk equals return, and the high yield of these bonds is designed to compensate investors for this risk. High-yield bonds have historically outperformed their investment-grade counterparts but with higher volatility.

WisdomTree Emerging Markets Local Debt ELD
Suggested Allocation: 10%
WisdomTree Emerging Markets Local Debt is composed of government bonds from emerging-markets countries. The bonds are denominated in local currency, so investors need to be aware of the foreign-currency risk associated with this fund. Emerging currencies have been steadily rising versus the U.S. dollar in the past few years and, if the trend continues, will add to the returns of ELD. The fund follows an active strategy that seeks to put a higher percentage of assets in the countries that maintain strong fiscal discipline. Emerging-markets countries, which have historically been considered riskier, currently have lower debt levels and better GDP growth rates than most of the developed world.

Target-Maturity Bond ETFs: The Next Evolution in Fixed-Income Investing

Timothy Strauts,
ETF Analyst

Which are better for investors: individual bonds or bond funds? The decision usually comes down to what the particular goals are for the investor. For those who want complete control of their portfolio's maturity, yield, and credit quality, individual bonds are best. For investors seeking broad diversification, liquidity, and consistent portfolio characteristics, bond funds are the answer. Currently, there are ETFs from iShares and Guggenheim that seek to bridge these differences into a product that could appeal to both types of investors.

Target-maturity bond ETFs are very similar to regular bond ETFs except for one key difference. The bonds in a target-maturity fund all mature in the same year. In the maturity year, the ETF will close and return all investment capital to shareholders, just like an individual bond would. An investor can get the diversification and liquidity benefits of a fund and the return of principal at a specific date. Let's examine some of the important characteristics of target-maturity bond ETFs.

Diversification

The biggest downside to owning individual bonds is exposure to credit risk. Because purchasing bonds usually requires at least $10,000 per bond, and ideally more than $100,000, it isn't practical or feasible to have a portfolio of more than a few bonds. To implement a 10-year bond ladder, an investor would need at least $100,000 and would still own only 10 bonds. An individual bond owner's greatest fear is the bankruptcy of one of his holdings. To compensate for this increased risk, many investors exhibit a quality bias with their holdings. Instead of looking at bonds rated A, they may consider only those rated AA and higher. This reduces overall returns because higher-quality bonds pay less interest. Target-maturity bond ETFs own a basket of between 30 and 100 individual bonds, so credit concerns are less of an issue. Investors can feel more comfortable owning slightly lower-quality bonds.

Portfolio Characteristics

Target-maturity bond ETFs allow for reasonably predictable future income and principal payments. This makes them a good solution for planning defined future expenses, such as college. The ETF may add new holdings over time, which will slightly change the income and final payment amount, but this difference should be minimal.

A person buying individual bonds is probably buying them with the intention of holding them to maturity. However, the perfectly constructed individual bond portfolio can be drastically altered by an unexpected need for liquidity. For example, say an investor owns a bond ladder with 10 bonds in $10,000 increments. Suddenly, he needs $15,000. To raise the funds, he would need to sell $20,000 in bonds because it is unlikely someone will buy less than $10,000 of any one bond. After the sale, he will have a portfolio with $80,000 in bonds and $5,000 in cash. The average maturity, income, and risk level have all changed in the portfolio. Creating a bond ladder with target-maturity ETFs makes liquidating positions easier than selling individual bonds. ETFs also give investors the ability to liquidate partial positions easily, which allows them to maintain the characteristics of a portfolio. However, investors should be mindful of trading costs when employing this strategy.

Costs

The iShares municipal-bond ETFs and the Guggenheim corporate-bond ETFs carry expense ratios of 0.30% and 0.24%, respectively. This is comparable to other fixed-income ETFs. Investors should note that it is common for bond ETFs to trade at premiums to net asset value. This is because NAVs are calculated off the "bid" price of the underlying bonds, whereas bonds are purchased at the "ask" price, which is higher. Because market makers need to buy the individual bonds to create shares, they will pass the costs of buying the bonds on

to the ETF shareholder through premiums to net asset value. These premiums are an extra expense to holding the ETF. If an ETF is sold before maturity, it might be possible to recapture some of that premium by selling the shares to someone else at a premium, but not always. We expect premiums to come down as these ETFs become more popular and as trading volumes increase.

One of the attractions of individual bonds is the perceived cost advantage. But to calculate total expenses, a potential investor must factor in the costs of trading individual bonds. Individual bond trading is very different from ETF trading because bonds do not trade on an exchange. They instead trade on the over-the-counter market. The OTC market is used for bonds because there are so many issues available and they trade so infrequently that exchange trading would be difficult. For example, there are currently more than 1 million municipal bonds in issuance today and most trade only a few times per month. Unlike the equity market where costs increase as trades get larger, in the bond market, costs decrease as trades get larger. Investors who buy individual bonds in less than $100,000 increments will be at a significant cost disadvantage to the institutional investor. For example, someone purchasing a municipal bond for $20,000 will pay about a 1% premium each time he makes a trade. If he were purchasing $1,000,000 of the same bond, his trading premium goes down to an average of 0.15%.

This size advantage gives the institutional trader who is buying bonds for ETFs a considerable advantage. Owning individual bonds allows the investor to avoid a management fee but unless he has a very large portfolio, he will pay high costs to buy and sell bonds. A bond maturing in five years that is held to maturity will have lower total costs then a target-maturity bond ETF maturing in five years. However, if an individual bond is sold before maturity, the extra costs to sell will make the ETF the cheaper solution.

Target-maturity bond ETFs also have a possible cost advantage over regular bond ETFs. For example, **Vanguard Intermediate-Term Corporate Bond** VCIT owns corporate bonds with a maturity between five and 10 years. When the maturity of a holding in the ETF falls below five years, it is sold and the proceeds are reinvested in another bond. This constant selling of bonds creates additional expenses, which reduce overall returns. The total cost of this selling is hard to calculate, but estimates range between 0.10% and 0.60% per year, depending on the liquidity of the underlying bonds. Target-maturity bond ETFs do not have this cost drag because they hold their bonds to maturity.

Target-maturity bond ETFs are the next evolution of fixed-income investing. Growth will be slow initially but the new structure has too many advantages to not catch on with investors. MI

Indexing's Hidden Costs

Samuel Lee, ETF Analyst

On Jan. 26, 2010, Standard & Poor's announced that **Berkshire Hathaway** BRK.B would be joining the S&P 500. A curious thing happened: Berkshire's stock rocketed to around $76 per share from $68 in a few short days, a nearly 12% rise. Did S&P's pronouncement increase Berkshire's intrinsic value by 12%? Warren Buffett would scoff.

What changed was that everyone now knew a chunk of the one-trillion-plus dollars indexed to the S&P 500 would move in lock step to buy Berkshire stock on Feb. 12. Naturally, hedge funds and traders rushed to buy the stock before the inclusion date. When the day rolled around, the index funds obeyed their mandates and bought more than $20 billion worth of Berkshire Hathaway stock at a 12% premium. It was a $2 billion payday on the index investor's dime.

Market events like Berkshire's inclusion happen regularly with indexes. To add insult to injury, the same mechanisms that drive up stocks before they're bought by index funds drive down stocks before the funds sell them. Index investors lose, market makers and hedge funds win. An index with enough assets following it will suffer from index turnover cost to some degree. Not much has been made of it because it doesn't show up in prospectuses printed nicely in bold. A pair of studies shed light on this hidden cost. Their conclusions? It's big, possibly dwarfing expense ratios.

Index Turnover Costs

In a 2010 study, New York University professor Antti Petajisto estimated that from 1990 to 2005 the annual turnover drag for the S&P 500 was at least 0.21% to 0.28% and for the Russell 2000 at least 0.38% to 0.77%. In a 2005 study, researchers Honghui Chen, Gregory Noronha, and Vijay Singal pegged the drag at around 0.03% to 0.12% for the S&P 500 and 1.30% to 1.84% for the Russell 2000. These figures imply that some index funds can handily beat their benchmarks by avoiding the price pressure surrounding index additions and deletions. It's one of those rare free lunches in investing. Indeed, some index funds have consistently beaten their benchmarks even after fees by employing such a strategy.

Before you dismiss the free lunch as too meager, consider this. An investor suffering a 0.30% annual drag on an investment with a 9% annualized return ends up giving up 8% of his final wealth after 30 years. The same investor losing 2 percentage points annually gives up an incredible 43% of final wealth. With such high stakes, a poorly designed or overfollowed index fund poses as much of a threat to an investor's portfolio as a bad, high-cost actively managed fund.

Avoiding the Worst of It

The market is rapidly changing, with new indexes covering new markets. Investors shouldn't assume that index creators are overly concerned about index turnover cost. In fact, providers would be fools to bring attention to it. They often charge asset-based fees, so they want as much money following their indexes as possible. It's up to investors to know when index turnover cost will erode returns. Here are some red flags:

1. Lots of assets tracking the index, not necessarily any particular index fund. If you have more than a trillion dollars marching in lock step, as the S&P 500 does, price impact is a fact of life.

2. High turnover. Price impact matters less if your index trades infrequently. Some poorly constructed small- and micro-cap indexes churn their holdings, resulting in horrendous losses.

3. Illiquid underlying holdings. The less liquid a holding, the bigger the price impact of a trade. Micro-caps and small emerging-markets stocks are among the

hardest-to-trade holdings. Most U.S. micro-cap index funds have suffered tremendous negative abnormal returns, up to 8 percentage points annually, despite minimal assets.

Don't go rushing off to dump your popular index funds yet. The tax consequences can eliminate all the future savings and more. The sweet spot is when an index fund is big enough to be cheap and liquid, but doesn't follow a too-popular index. In practice, it often means picking a category's second-most-popular index, preferably one with low turnover, or better yet, a total market index fund, which don't suffer from turnover drag.

Critics of indexing shouldn't feel smug about these results. If anything, they strengthen the case for passive investing. Managers more often than not fail to beat handicapped indexes like the S&P 500 and the Russell 2000. When you add back in the drag the indexes suffer, active managers look even worse.

Beyond the Expense Ratio

Passive funds win or lose market share based on a handful of basis points in their expense ratios, a sure sign that index investors pinch pennies. But the popularity of flawed indexes like the Russell 2000 suggests that investors fetishize the familiar, and wrongly conflate indexes for the underlying asset class. As with many things in investing, investors pay for comfort and familiarity, sometimes dearly.

Indexer? Valuation Still Matters

Samuel Lee, ETF Analyst

Indexing is based on a simple proposition: the markets are hard, if not impossible, to beat. The proposition has been tested many times, with supportive results. It is no surprise then that passive funds' market share has surged from 11% to 24% of all open-end and exchange-traded fund assets over the past decade. But indexing's well-deserved success has coincided with a disturbing abrogation of responsibilities by some investors and advisors. Many believe that they can't or shouldn't estimate expected returns of their investments. They've consigned valuation to the dustbin.

This is wrongheaded, motivated by a view of markets rejected decades ago. The early efficient-market theorists assumed that the market's expected returns, risk and correlations were constant through time. Almost no financial economist believes this today. The market's expected returns change. And there's heaps of evidence that the market's returns are somewhat predictable over long horizons.

Market Predictability

On an intuitive level, the market must be predictable to some extent. Otherwise, how could investors set prices for stocks versus bonds versus cash? We can also reasonably rule out certain scenarios, such as corporate earnings growing much faster than GDP indefinitely, which would result in corporate earnings eventually taking over the entire economy. That returns are bounded by mean-reverting attributes of the economy points to predictability. Indeed, the evidence is compelling. In the August 2011 issue of the Journal of Finance, University of Chicago professor John Cochrane wrote: "… predictability is pervasive across markets. For stocks, bonds, credit spreads, foreign exchange, sovereign debt, and houses, a yield or valuation ratio translates one-for-one to expected excess returns, and does not forecast the cash flow or price change we may have expected." In other words, measures such as dividend/price predict future returns, especially over long horizons. Cochrane is a prominent efficient-markets theorist.

Adding return predictability to classical asset-pricing models, with changing risk, correlations and expected returns, has surprising implications. In many cases, the hallowed market portfolio, containing all assets in the market weightings, no longer guarantees the most return per unit of risk. There's no need to privilege total stock and bond market indexes, or static buy-and-hold strategies. The more realistic models suggest investors should time the market depending on how affected they are by recessions and their estimates of expected returns. An investor who can stomach a lot of volatility should increase his exposure to risky, high-expected-return assets during bad times. This sounds an awful lot like the dictum to "buy when there's blood in the streets." But everyone can't buy at the same time, nor should they. Investors with income or wealth sensitive to the business cycle should put less of their portfolio in value stocks, which are especially hurt by recessions, and possibly even hedge their exposure to their specific industries.

These new and improved models have their impracticalities. Until recently, sticking with a plain market-weighted index fund was perhaps the best course of action for the vast majority of investors. Trading was prohibitively expensive and it was difficult to cheaply tailor one's exposures to various risk factors. No longer, as decimalization, financial innovation and competition have slashed costs and expanded the menu of index-like investments. Investors should take advantage of these circumstances to tailor more efficient portfolios. However, demanding that advisors and individuals constantly update for every asset class estimates of expected returns, correlations and standard deviations is impractical. A compromise is to adjust portfolio allocations based on expected returns, perhaps the

most important of all three factors. As we'll see, estimating long-run (over a decade or more) expected returns isn't terribly hard.

Expected Returns

Most expected returns can be decomposed into three parts: the current cash flow yield, the cash flow's expected growth rate, and the expected change in valuation (for example, a contraction or expansion of the dividend/price multiple). However, of the three, change in valuation multiples is often the least predictable, most volatile, and the least important in the long run, so investors should focus on current yields and expected cash flow growth. Current yields are easy to find. The trick, then, is to find the most appropriate and predictive cash flow growth figure. Fortunately, long-run historical growth rates provide a decent guide. For most major stock markets, dividend growth has averaged 1% to 2% annualized over the past century. For bond indexes, expected cash flow growth is negative owing to defaults. For U.S. Treasuries and investment-grade bonds, the default rate has historically been zero or close to it, so current yield (or better yet, real option-adjusted yield) provides a good guide to expected returns. According to Antti Ilmanen, U.S. high-yield bonds have since 1920 lost about 4.3% of value annually to defaults (2.6% after a 40% recovery rate is included).

Adding a few bells and whistles seems to help forecasting power, but they're beyond the scope of this article. GMO, a respected asset manager, adds mean reversion in its models. An investor without the time, data or inclination to estimate expected returns probably would do well to follow the regular valuation estimates GMO publishes for free at its website (registration required, unfortunately).

This doesn't mean you're guaranteed to earn those returns, even over several decades. All an expected return estimate does is offer you a decent idea of the average of the many possible return streams you can reasonably expect from your investments.

Portfolio Implications

How could you integrate expected returns into a portfolio strategy? It could help determine your savings rate. Ask yourself whether you're satisfied with the reward you're expected to earn for deferring consumption. Would you save the same amount if you're only expected to be paid a 2% annualized versus 30% annualized on your portfolio? Probably not, yet many investors don't even take a stab at estimating expected returns.

The notion that valuations matter and predict returns is closely related to the idea of recession risk. If high expected returns came with no qualifications, then beating the market would be a cinch. Many efficient-market theorists think assets with high expected returns as riskier. This means that an exceptionally patient, risk-tolerant investor with a safe job could act as an insurer, buying distressed assets with high expected returns during recessions and liquidity crises. If he's unable or unwilling to monitor the markets for high expected return opportunities, he could maintain a static allocation to value strategies that buy high-yielding or low-price/book stocks. Or he could compromise between market-timing and buy-and-hold by overweighting beaten down assets during annual or biennial rebalances, a technique advocated by William Bernstein.

The opposite would hold true for an investor sensitive to the business cycle. Perhaps he owns a small business or works in finance. He could overweight high-quality growth stocks and in some cases could justifiably engage in "reverse market-timing," selling stocks when volatility picks up (usually accompanied by market declines), as an insurance scheme.

Integrating expected returns into portfolio strategy just scratches the surface of efficient portfolio construction. In an ideal world, investment bankers would hold few equities and lots of long-duration TIPS; landlords would short REITs; bankruptcy lawyers would sell volatility. All of this would be done with

an eye toward maximizing the risk-reward characteristics of investors' true portfolios, which include human capital, pensions, and so forth, in addition to stock and bond holdings. In the real world, individuals and advisors are sorely lacking in the tools, data and knowledge to properly implement such strategies. The very least we can do is assess whether our investments offer prospective rewards commensurate with the risks we bear. And that requires a valuation-based view of the world. IM

What to Watch for When Investing in International ETFs

Patricia Oey, ETF Analyst

The main argument for investing in international equities is for diversification through exposure to different countries and economies, slightly different sector weightings, and foreign currencies. Over the past few decades, investors who held a small portion (around 20%) of their equity portfolio in international equities experienced lower volatility relative to a U.S.-only equities portfolio.

Investors should be aware that there are a few issues specific to investing in international exchange-traded funds. The first is premium and discounts. While investors should be wary of ETFs that trade at significant premiums and discounts to net asset value, this often cannot be avoided with international ETFs. This is because many international markets are closed during U.S. market hours. So it is no surprise that international ETFs can trade at a premium or discount—the NAV of their underlying holdings is based on stale prices, but their market price reflects up-to-date news and market events. In fact, it is fair to say that international ETFs actually serve as a price discovery vehicle during the U.S. market hours. So instead of using premiums and discounts to evaluate an international ETF, we recommend investors focus on the bid-ask spread—typically, if the bid price and ask price are within a few pennies of each other, this shows that the ETF is liquid and that the market is showing agreement on the value of the ETF.

Fund providers can also differ in how they calculate the NAV of their international ETFs. At times, Vanguard and Van Eck use fair value pricing to calculate their NAVs (usually when markets are volatile), which means they adjust NAVs to reflect news and market events during the U.S. trading day. As a result, ETFs from these companies generally trade at lower premiums and discounts to NAVs, relative to ETFs from providers that do not use fair value pricing. For example, iShares MSCI EAFE EFA and Vanguard MSCI EAFE VEA track the same index. When examining these two ETFs, we see that EFA and VEA's premium and discounts to their NAVs can be different, but from day to day, the two funds' market price performance is generally very similar, thanks to the effects of price discovery.

Because international ETFs sometimes trade at a slight premium and sometimes at a slight discount, these differences tend to net each other out over the long term. However, there are some ETFs that trade at a persistent premium, such as those that provide exposure to hard-to-access or relatively underdeveloped markets. An example of this is **Market Vectors Vietnam** VNM.

Investors in international ETFs should also consider the effects of foreign exchange fluctuations. Strong appreciation of the euro in the middle of the last decade contributed to the performance of U.S.-listed European ETFs during that time period, and the same can be said for the rising Japanese yen and Japanese ETFs since the 2008 global financial crisis. On the flip side, investments in foreign assets are negatively impacted when the U.S. dollar strengthens against other currencies. We also note that emerging-markets currencies and commodity currencies (such as the Australian dollar) tend to be more volatile, especially during periods of high global market volatility. When investors suddenly become very risk-averse, emerging-markets ETFs suffer from both falling asset prices and falling currencies.

There are also dividend issues to note. It is more common for international companies to pay a dividend, but these companies are more likely to cut dividends during periods of weaker financial performance. As a result, dividends from international-equity ETFs can be more volatile, relative to dividends from U.S. funds. Investors should also consider the different tax rules on dividends from foreign companies. Some countries do

not have an income tax treaty with the United States, which means that dividends from these countries are not qualified and are subject to ordinary income tax rates. Investors can get around this by holding this fund in a tax-deferred account. However, this raises another tax issue. International ETFs pay dividends net of foreign-tax withholding. At the end of the year, fund companies provide tax documents, which includes information on foreign taxes paid, and investors can elect to take these paid taxes as a tax credit or as an itemized deduction, but only if the ETF is held in a taxable account.

Finally, we highlight that investors interested in international ETFs should always check the holdings, as some of these funds can have large weightings in certain sectors or companies, which could make the ETF more risky than expected. While broad developed- or emerging-markets ETFs are fairly diversified, and therefore are suitable as small core holdings, single-country or regional ETFs can have concentrated holdings, and we recommend these funds as tactical holdings. For example, **iShares MSCI Australia** EWA is a broad, cap-weighted ETF, but it has a 30% weighting in materials and energy companies. Global demand for commodity products, particularly from China, will be a more significant growth driver for these firms. As such, this fund is not only a play on Australia but is also an indirect play on commodity prices.

An Overview of Broad-Basket Commodity ETFs

Abraham Bailin, ETF Analyst

With a low correlation to a stock/bond portfolio, commodities can provide diversification and have historically served as a good hedge against inflation. Below, we discuss the various types of broad commodity indexes, the echange-traded funds that track them, and how they differ.

Most commodity funds invest in futures contracts. In many ways, using futures contracts is a more convenient way for institutions to take a position in these markets than taking direct physical possession. However, the futures curve—the prices of contracts with progressively later expiration dates—can take an upward (contango) or downward (backwardation) slope. Changes in the curve can cause futures and spot returns to decouple, exposing funds to what is known as basis risk. During times when longer-dated contracts are more expensive, a fund incurs a loss when it rolls out of expiring contracts into later-dated contracts to avoid physical delivery. When longer-dated contracts are cheaper, a fund benefits from the positive roll yield.

Commodities futures markets are extremely volatile. Those looking to capitalize on the benefits of the commodity asset class should look for ETFs that track a diversified basket of commodities futures, which should have less volatility relative to single-commodity funds.

Broad-basket commodity exposure coupled with frequent rebalancing can work to smooth returns. Take, for instance, the Rogers International Commodity Index (the underlying index of **ELEMENTS Rogers International Commodity ETN** RJI). The effect of rebalancing becomes apparent when contrasting the Rogers Index with the S&P Goldman Sachs Commodity Index (the underlying index of **iShares S&P GSCI Commodity-Indexed Trust** GSG). Both the Rogers Index and the GS Index are well diversified, holding futures of 37 and 24 different commodities, respectively. The GS Index rebalances annually, so if a constituent's price rises sharply, that constituent can become an outsized driver of the index's returns until the basket is reset. The Rogers Index minimizes this issue by rebalancing monthly. There is also the Continuous Commodity Index, which goes a step further by rebalancing every day. The CCI is an equally weighted index of 17 commodities and is well diversified across the various commodity sectors. It holds six consecutive months of futures contracts of each of its constituents, beginning with the front month, which helps mitigate the impact of contango. **GreenHaven Continuous Commodity Index** GCC tracks the CCI.

Funds that track an index that employs weight caps can also help ensure diversification. **IPath DJ-UBS Commodity Index TR ETN** DJP is the second-largest broad-basket commodity offering with more than $2.4 billion in net assets. One of the features of DJP is that its index, the DJ-UBS Commodity Index, caps the weighting of each commodity sector at 33% upon rebalancing. In this way, the exchange-traded note places a second check on single-commodity exposure, while maintaining broad diversification across subsectors.

Finally, we highlight some funds that apply a "dynamic" approach to help mitigate the effects of contango. **PowerShares DB Commodity Index Tracking** DBC stands as the largest broad-based commodity ETF on the market. The fund provides diversified exposure to a basket of 14 commodities using Deutsche Bank's Optimum Yield strategy. The long-only strategy looks to minimize the losses associated with contango markets and to maximize gains when markets are in backwardation by selecting futures contracts as far out as 13 months. DBC tracks the Deutsche Bank Liquid Commodity Index, which includes energy, industrial metals, precious metals, and agricultural

contracts. Each weighting is rebalanced annually in November to target levels of 55.0%, 12.5%, 10.0%, and 22.5%, respectively.

Though it isn't one of the largest players in the space, our pick for broad commodity exposure is **United States Commodity Index** USCI. Much like DBC, this offering employs quantitative screens to identify which contracts it will hold. More specifically, it targets a group of commodities with low inventories and a group of commodities exhibiting price momentum. The fund uses backwardation as a proxy for inventory levels. In this way, not only do these positions stand to gain from a positive roll yield, they also benefit from a supply/demand environment that should support rising prices.

Both DBC and USCI represent the "next generation" of commodity indexes. In contrast to traditional indexes, which maintain static weightings to a static basket of commodities, these funds address some of the challenges associated with building out a reliable commodity exposure. They look to maximize roll yield and place investors in a position to tap the diversification and inflationary hedging benefits of commodities over the long haul.

ETFs That Hedge and Diversify

Timothy Strauts,
ETF Analyst

After lackluster equity returns in the past 10 years, many investors are frustrated with traditional asset allocation. Increased market volatility has made investors more risk-conscious and, as a result, they are increasingly looking for investment products that can enhance their portfolio and preserve capital, regardless of the market environment. Alternative investments seek to fill this void in investor's portfolios by offering strategies with low correlations to stocks and bonds.

The alternative category has been steadily growing in popularity for the past decade, and demand has increased dramatically since the 2008 financial crisis. The alternative mutual fund category has doubled in size since 2007 and totals more than $98 billion as of June 2011.

While alternative mutual fund growth has been very strong, ETF options have been limited. Real estate and commodities funds have been the primary alternative investments available in the ETF structure. This is changing, as new types of ETFs that emulate strategies typically found in expensive hedge funds for wealthy investors have launched. These strategies give investors more options and may help them improve the risk-adjusted performance of their portfolios. We'll review four ETFs that seek to diversify returns and hedge downside risk.

Credit Suisse Merger Arbitrage Liquid Index ETN CSMA
Merger arbitrage is a strategy that seeks to capture the spread that often exists between the proposed offering price and the market price of a merger target's public stock. Merger arbitrage profits are the reward for acting as an insurer for the target's stockholders, who may wish to lock in their gains. The strategy can offer consistent returns but is prone to sharp losses during market panics because investors are concerned that proposed mergers may not go through because of stock market instability. CSMA is structured as an ETN and follows a rules-based quantitative strategy that attempts to gain exposure to a broad set of announced merger deals. By participating in all mergers that meet certain market-cap, liquidity, and other requirements, this ETN reduces the risk that any one merger falling through will have a large negative effect on the portfolio. The strategy is an attractive diversifier, as it had a low 0.37 correlation to the S&P 500 from 1998 to 2011. The fund's back-tested return from 2001 to 2011 was 6% annualized, with a 5% standard deviation.

CSMA does not use leverage like many hedge funds do and charges an expense ratio of 0.55%, which makes it the cheapest fund available employing this strategy. Investors looking to allocate to merger arbitrage should take the funds from their fixed-income allocations. Merger arbitrage has similar risk and return characteristics to bonds but has only a 0.21 correlation to the Barclays Aggregate Bond Index, making it a good diversifier.

WisdomTree Managed Futures Strategy Fund WDTI
Managed-futures strategies take advantage of price trends across different futures contracts, using systematic, rules-based trading programs. The strategy will typically buy a futures contract if its price is in a positive trend and will short when its price is in a negative trend. Managed-futures strategies have the potential to produce positive returns in any market environment because of their ability to go long and short. The strategy will struggle during market turning points and when markets move sideways because it needs a consistent trend up or down for its indicators to correctly go long or short. WDTI tracks the S&P Diversified Trends Indicator Index, which is a long/short futures strategy that invests in 24 liquid commodity and financial futures contracts. From 1985 to 2011, using mostly back-tested data, the DTI index has had

very strong annualized returns of 9.7% and a low standard deviation of 6.7%. If you look only at returns since the index was created in 2004, performance was not as good, with an annualized return of 5.6%. These lower returns can be attributed to the fact that the factors that performed best in the past often are not the same factors that outperform in the future. Also, managed-futures strategies have become quite popular in the past five years, and large asset flows into strategies making similar trades have likely reduced overall returns of the group as a whole. This does not mean managed futures couldn't fit into a portfolio today, but investors will need more modest return expectations.

WDTI carries a fee of 0.95%, does not use leverage, and is registered under the Investment Company Act of 1940, which means the fund will issue 1099 tax forms and not the more complicated K-1s of some other funds with similar strategies. When allocating to managed futures, we suggest taking the funds from the equity or commodity portion of your portfolio.

Cambria Global Tactical ETF GTAA

Most absolute return funds employ various long/short strategies to get consistent, low volatility returns. One downside to always shorting the market in some capacity is that it can limit returns during strong bull markets. GTAA takes a different approach in its goal of absolute returns by going long an asset or holding cash. The strategy will never short and is sometimes called a long/flat strategy. The fund follows a rules-based, multiasset, trend-following strategy and may invest in U.S. stocks, international stocks, bonds, commodities, real estate, and foreign currencies, all via ETFs. The broad multiasset diversification will help smooth out returns of any one asset class performing poorly.

The trend-following component of GTAA seeks to invest in funds that are appreciating and avoid funds that are declining. It does this by using a fund's simple moving average as an indicator. For example, the 200-day SMA is a fund's average price during the past 200 trading days. An asset is in a positive trend when its market price is higher than its SMA. A basic trend following strategy is to own an asset when it is above its 200-day SMA, and to hold cash when it is below. Research shows that such a strategy avoids large losses in market crashes but can limit returns during market turning points. GTAA does not disclose which SMAs it follows, but it is likely that it is using multiple SMAs to allow it to scale into and out of positions. It is possible that GTAA could move its entire portfolio to cash in a market crash if all investments were trading below their SMAs.

Because GTAA owns such a diverse portfolio, it could be used as a core holding for someone who does not want to monitor and rebalance multiple funds and is looking for a strategy that can protect capital in bear markets.

PowerShares DB G10 Currency Harvest DBV

This fund employs a quantitative strategy to build a long-short portfolio of foreign currencies. This fund provides exposure to a version of the "carry trade," one of the oldest trading strategies in finance, in which an investor borrows money in a currency with low interest rates and invests it in a currency with higher interest rates. This strategy takes advantage of the historic pattern of higher-yielding currencies tending to maintain their exchange rates against lower-yielding currencies or even slightly appreciate, allowing traders to pocket the difference in the currency yields (also known as the "carry"). The strategy is easily leveraged given its low volatility and reliance on futures contracts, allowing higher returns than the mere 2% to 4% annual short-term interest-rate spreads between developed economies.

PowerShares DB G10 Currency Harvest utilizes two times leverage, as it shorts the three lowest-yielding G10 currencies for the total notional value of its assets, and goes long in the three highest-yielding currencies

for the notional amount of its assets. Additional yield comes from investing the collateral cash in T-bills futures contracts. The long-run historical return of this strategy is around 5%–7% per year, after fees.

Investors should be aware that the carry trade has an unusual returns distribution compared with more traditional asset classes like stocks and bonds and other asset classes such as commodities. The carry trade is highly dependent on global liquidity and macroeconomic stability, as they allow for the high yields and steady exchange rates that make this strategy profitable. However, when liquidity suddenly dries up in a global economic crisis, this can cause a flight to safety by global investors. This flood of capital from the higher-yielding currencies in previously high-flying economies to the more stable but low-yielding dollar and yen will cause sudden large losses for the carry trade.

Because this ETF will lose value at the same time that stocks head south in a global recession, it is not the holy grail of diversification. Still, it provides a great source of steady returns in the large majority of years when we are not suffering through a major economic crisis, and that alone can add considerable value as a long-term holding with occasional rebalancing.

Warning: Leveraged and Inverse ETFs Kill Portfolios

Paul Justice, CFA, Director of North American ETF Research

If you've ever purchased an exchange-traded fund labeled UltraShort, 3x, or Inverse 2x, please read this article. It will take only a few minutes of your time, and it just might save your retirement.

I recently returned from a conference that was widely attended by ETF industry insiders and financial advisors, and I was shocked to learn how many people have a misconception as to how these funds work. And this sampling was not of novice day traders—these are professionals and financial advisors.

My intent is not to scare you away from pursuing an actionable investment idea. If you're hell-bent on using leverage for any period of time longer than a day, you'd be better off using a margin account in almost any real-world scenario. This is not an opinion—it's a highly likely statistical probability. And interestingly enough, each successive time you bet against the odds, probabilities tend to become mathematical facts. It is my fiduciary duty to inform you as to why these products do not work exactly like their names imply, and I urge everyone in the ETF industry to embark on a similar public awareness campaign.

Today, there are more than 1,300 ETFs on the market. Some are excellent products that have greatly enhanced the investor experience. Others are betting mechanisms that can scorch your portfolio in just a few days. When we put together an ETF research report, and we currently cover about 400 ETFs that represent more than 94% of the market's total assets, our intent is to let you know how to use these products properly. We start with a suitability assessment, or our view as to which type of investor should use each specific product and how. For virtually every leveraged and inverse fund, I can tell you that they are appropriate for less than 1% of the investing community. Considering that these funds have attracted more than $30 billion (or 3% of total assets in ETFs), it's pretty obvious that too many people are using these incorrectly.

Check Out These Returns (or Lack Thereof)

Pointing out that leveraged ETFs are working as they were intended would hardly be shocking news if the returns these funds were producing were not so, well, shocking.

Let's look at three funds that track the S&P 500 Index: **iShares S&P 500 Index** IVV, **ProShares Ultra S&P500** SSO, and **ProShares UltraShort S&P500** SDS.

In the five years through October 2011, the plain-vanilla IVV returned a cumulative 1.1%, while SSO, which aims to deliver twice the daily return of the index, lost 38.0%, and SDS, which aims to deliver twice in the inverse of the index, fell 57.0%. Did you follow me there? While the fund that held the underlying stocks posted a gain, the 2x leveraged fund, SSO, lost money. And the funds worked exactly like they were supposed to. These funds are for short-term traders and are absolutely not for the long-term, buy-and-hold investor.

Here is another example. If you were prescient enough to predict the collapse of real estate in 2008, you could have earned a savory 40% return by shorting **iShares Dow Jones US Real Estate** IYR. So logic would hold that owning **ProShares UltraShort Real Estate** SRS would have produced a positive 80% return, right? Absolutely wrong. I say absolutely because, in absolute terms, you would have lost even more money using the double-short fund, which is supposed to go up when the index goes down. The disappointing truth: The funds worked like they were supposed to. Before you declare my last statement as blasphemous, the fund did indeed perform as the prospectus declared it would. It is the investor that held the leveraged or inverse fund for more than a single day that erred in practice.

Buying the double-short fund would have produced the most negative of investing emotions: right thesis, wrong execution.

Why Joe Camel on the Label Trumps Warnings of Death

We laud ETFs for their transparency, tax efficiency, low costs, and liquidity. But just because these funds are transparent does not mean that a potential investor does not need to look under the hood before purchasing. There's more to the structure than the name implies.

It's pretty easy to understand why some investors would be attracted to funds that promise double returns. For example, let's look at an investor that is considering a purchase of the NASDAQ 100, to which investors can easily gain exposure by buying **PowerShares QQQ** QQQ. Here's the typical (misguided) thought process:

1. I'm convinced that QQQ will go up 10% a year, so I'd like to own it;
2. But there is a fund, **ProShares Ultra QQQ** QLD that promises 2X the Nasdaq's return;
3. And 20% is more than 10%;
4. So I'll just buy the leveraged fund QLD and be twice as happy.

Seems like a reasonable conclusion, right? After all, the fund's literature clearly promises twice the daily return of the index. But the key word is daily. Daily is not monthly, and it's definitely not annually.

In every leveraged ETF report that we write, we warn investors that the math behind daily compounding will not work because of compounding arithmetic and constant leverage, but I get the feeling that the message is not getting across.

The Effects of Compounding on Daily Returns

I think that we can we all agree that Albert Einstein was pretty smart. Legend has it that the theoretical physics' MVP of all time famously stated that "the most powerful force in the universe is compound interest." Many people have been persuaded to start investing after seeing this very simple example of the magic of compounding. Let's say you put $100 in a savings account that pays 10% per year. After one year, you'd have made $10 in interest ($100 multiplied by 0.10), so your balance stands at $110 (your original investment of $100 plus $10 interest). If you leave the entire sum in the account, at the end of year two you would have $121. With the same 10% interest rate, you made $11 ($110 multiplied by 0.10) in year two versus $10 made in year one. As the adage goes: "Your money is working for you." Continue this same math for seven years, and your account would nearly double, ending at $195. If you divide the $95 you made over seven years, your average return would be 13.55%. Clearly, the average return on your initial investment exceeded the interest rate of 10% that occurred every year, or the rate that compounded.

But there is one interesting characteristic in this example that does not apply to the stock market: The returns were positive in every single period. Stocks tend to wax and wane from day to day, going from positive returns one day to negative the next. It's true that stocks, on average, have produced higher returns than fixed-income over long periods of time, but we've already demonstrated that average returns and compounded returns are very different animals. The point I am trying to make is that coming up with an actionable investment thesis (i.e. stocks look cheap) is difficult enough. Trying to also predict the exact time-frame over which your idea will become reality is even more difficult. Finally, actually detailing the return path—knowing how volatile the daily price swings will be and in which direction—is nearly impossible. If you intend to hold leveraged or inverse funds beyond their compounding periods, you'd have to be right on all

these factors to get double the index's return. In other words, when employing leverage and compounding returns, predicting your return is only part of the challenge. You also have to correctly predict the path the investment is going to take.

Notice that Einstein declared that compound interest is very powerful, but powerful forces can work both for and against you. Interestingly enough, anytime you compound a negative return, its impact is always more pronounced than a positive compounding of the same magnitude. I'll demonstrate with a two-day example.

Let's say you make an investment in three separate ETFs, putting $100 in each fund. One is a simple index fund. Then you have two leveraged funds that compound daily; one is double-long and the other is double-short, which aims to return twice the inverse of the index. We are ignoring the effect of fees in this example. After one day, the index returns 10%. The index fund would then be $110. The double-long would add 20% and end at $120, and the double-inverse would lose 20% and end at $80.

On day two, let's say the index loses 10%. That means that the arithmetic average return [(10% – 10%)/2] would be zero. However, the index fund would end at $99 because 10% of $110 is $11, and $110 minus $11 is $99. So while the arithmetic average return was zero, the compound or geometric return average return was negative 1%. That 1% loss is due to the effects of compounding. The fund that promises double the return of the index but compounds daily would end at $96. Remember, this fund started the day at $120. Its return for day two is negative 20% (double the index's loss), and leaves it with a $24 loss for the day. So, $120 minus $24 is $96. The double-short fund would also end at $96 because 20% of $80 is $16, and $80 plus $16 is $96. Leverage not only magnifies the returns; it also magnifies the return-sapping effects of volatility.

If you were to repeat 10 consecutive days of a 10% up day, followed by 10% down day, both of the leveraged funds would end up at $81.54, which is a sizable difference from the $95.10 the index would end at. Repeat this process for only six months, and your "investment" in either of these leveraged funds would stand at only $2.54. Yes, that's a 97.46% loss. Talk about tracking error.

That's why compounding of daily returns is the dead horse that apparently needs a little more beating. Not only can very bad things happen when you hold these ETFs longer than their indicated compounding period (typically one day for stock-based ETFs, sometimes monthly for commodities), you are almost mathematically guaranteed to get a return that is not double that of the index. In fact, the longer you hold one of these funds, the probability that you will get nothing close to double the returns increases. Not only will the magnitude of your returns bounce around, you might not even get returns that are in the same direction as the changes in the index.

So What Is an Appropriate Use of These Funds?

Here's an example of who could potentially use these funds. Let's say that you're a diversified large-cap mutual fund manager that is facing redemptions. You're going to have to liquidate several holdings, but you don't want to lose your exposure to the market. You could purchase a slug of these leveraged funds in the morning, sell three times that amount of your other holdings to raise cash, and then sell the leveraged fund at the market's close. You would have maintained your market exposure for the day without having to rush at the market's close to dump some holdings.

Another use for these funds is for short-term speculation. If you're inclined to bet—not invest, I said bet—as to what a sector or index is going to do over the course of a day or two, go ahead and use these funds. Good luck. I've never met an investor who can consistently execute this strategy (though I've met

plenty who claim they can). The only sure thing in the market is volatility, and, as I have pointed out, volatility does more damage to leveraged funds. Rather than speculate on a leveraged fund, investors would be better off adjusting their asset allocation.

Perhaps investors have been lulled into complacency. After all, most ETFs are extremely transparent, have rock-bottom fees, are extremely liquid, and track their respective indexes in virtual unison. The traditional unleveraged products have worked so well at tracking indexes that perhaps prospectus reading seems like an unnecessary burden. I hope this is not how some investors have evolved, but the asset flows are leading me to believe otherwise.

How to Analyze a Strategy ETF

Samuel Lee, ETF Analyst

The exchange-traded funds rolling out these days aren't the quintessential index funds of yesteryear, but often semiactive strategies themselves. Many of them are seductive—who doesn't want more yield or lower volatility? Exchange-traded fund providers are responding to market demand, the investing theme du jour. You might have felt the lure of a newfangled ETF, and may have pumped money in it yourself. Or you may have held off buying newer strategy ETFs, and for good reason. They're a bit trickier to understand, charge a lot more, have limited histories, and often have that whiff of faddishness. Experienced hand or not, you'd probably feel more comfortable with a framework for understanding newer funds. Here's how we analyze them.

Accidental Manager?

Before we delve further, note that picking a strategy is very much like being an active manager. Indeed, many hedge-fund managers earn their keep by simply assessing and rotating among strategies. The market is hard to beat (isn't that why we like ETFs?), so expect assessing strategies to be hard work.

Fundamentals

The first question to be answered on any ETF is how does it make money? If you're buying a strategy in the hopes of earning market-beating returns, you better have a very good reason to justify your belief. The ETF providers sure don't. If they did, they wouldn't sell their market-beating ideas to the public for cheap. They'd quit the ETF industry, open up hedge funds, leverage their ideas to the hilt, and mint money. So what if the ETF came out with shiny brochures and eye-popping back-tested returns? The very existence of a supposedly market-beating strategy in an ETF should make you wary: The strategy is often 1) repackaged risk; 2) not very well supported with theory or data; or 3) overcrowded.

Risk Story?

In many cases, strategy ETFs repackage well-known risk factors associated with higher returns, such as size, value, and momentum. One of the most popular alternate-weighting ETFs, **Rydex S&P 500 Equal Weight** RSP, equal-weights the S&P 500 and rebalances quarterly. It has handily beaten the S&P 500 since its 2003 inception. However, once you credit back its huge systematic mid-cap overweighting and modest value tilt, it's actually generated zero outperformance over that period. You could've paid less for a mid-cap ETF and gotten the same performance. Historical simulations of equal-weighting covering multidecade spans and international stocks have shown zero value added after controlling for size and value exposure.

Where's the Data?

I had to dig through an academic study, not put out by Rydex or Standard & Poor's, to find good historical back-tests of the equal-weight strategy. Investors are often wholly dependent on the inadequate materials put out by providers, a state of affairs that exists because many are content to draw erroneous conclusions from just a few years of returns. Properly analyzing a strategy requires properly analyzing data. And a few years of returns isn't going to cut it. Not even a decade, most likely. If good strategies could be found by just looking at a short history of past returns, we'd all be rich. The markets have a huge component of randomness. Coming to a well-reasoned, sound conclusion on a strategy often requires testing it on many decades of history and not just the U.S. in order to rule out chance.

For example, dividend strategies have been tested on many markets, to good effect. London Business School professors Elroy Dimson, Paul Marsh, and Mike Staunton have found above-average risk-adjusted returns for high-yield stocks with 110 years of U.K.

stock market data, 84 years of U.S. data, and at least 19 more markets with at least 25 years of data. Dividend stocks have beaten the benchmarks in almost every market studied, and their returns aren't just from a few anomalous periods, but persist throughout the decades. WisdomTree's ETFs, such as **WisdomTree LargeCap Dividend** DLN, are built on exploiting this phenomenon. To be fair, dividend strategies are often just repackaged value tilts, though they may be much purer.

Of course, even if a strategy passes that test, it's no slam dunk. Butter production in Bangladesh was one of the best predictors of S&P 500 returns from 1983 to 1993. If you had found this relation in 1993 and, ignoring common sense, used it to time the S&P 500, you would've lost your shirt. Historical data is noisy and if you throw enough strategies at it, some will stick because of pure chance. You need a good theory on why a strategy makes money.

Where's the Theory?

What separates voodoo from science is a theory that makes disprovable predictions. Simple cause-and-effect stories don't cut it. The theory should have been vetted and approved by multiple independent and credible researchers. The theory should make predictions that later research confirms. The rare individual may be smart enough to analyze data and come up with sound, market-beating theories on the fly, but he's probably running his own hedge fund or curing cancer. You might think such rigor is too harsh for vetting an ETF. But if no hard thinking were required to pick a good strategy, we'd all be fabulously wealthy.

A good theory has several features. It's simple and intuitive. It has mounds of supportive data. It makes predictions that you can apply and reasonably expect to be true. The classic theory most investors know about is the value premium, the tendency for stocks cheap by fundamental measures such as earnings, dividends, or book value to outperform stocks expensive by such measures. It's been found in almost every stock market studied, and over long periods. There are two competing strains of thought, both with ardent supporters. The efficient-markets folks think that value stocks earn higher returns because they're distressed, so any capital they raise needs juiced returns to lure investors. It's intuitive, right? Unfortunately, value stocks aren't as volatile as growth stocks. The efficient-markets types add that there are hidden risks to value stocks that don't show up by looking at returns and volatility. More plausibly, behavioral theorists and many practitioners attribute value's outperformance to investor biases. We have the depressing tendency to crowd into whatever's shot the moon recently. Numerous experiments have supported this view. Regardless of your allegiance, value investing isn't lacking in theoretical or empirical backing.

Overcrowding

A problem with exploiting a rigorously tested strategy is that many others have the same idea. Strategies can get overcrowded. There's no really good public data on when a strategy gets overcrowded, so you'll have to make reasoned guesses on whether a strategy is or isn't in vogue. One metric to assess is that if the opportunity size for your strategy is limited (like microcap momentum or value strategies), big, marketwide mispricings are much harder to arbitrage away. Another is whether every investor under the sun, especially institutional investors, is enthusiastic about it. Think commodity futures circa 2007 or managed futures now.

An Ode to Skepticism

Analyzing the market and strategies is necessarily an exercise in playing the odds. No strategy will work all the time, and no way of picking strategies will be foolproof. A skeptical, scientific mindset will tilt the odds in your favor. When that rare good idea comes along, you'll have the conviction to stick with it during the inevitable bad spells. You'll need every advantage you can get, because you're now a portfolio manager. MI

Proactive Tax-Planning Basics With ETFs

Timothy Strauts,
ETF Analyst

In the world of investment-product marketing, aftertax return is hardly ever mentioned. Taxes are unpleasant. They vary from person to person, and because they reduce returns, it looks better to quote before-tax figures. Because the goal of every investor is to increase his or her total net assets (a direct result of aftertax returns), tax planning should be an integral part of the investment process. Tax-planning strategies should be tailored to each person's distinctive situation, and consulting with a qualified tax professional can be helpful. At the end of the day, it is not what you earn, but what you keep.

Tax-planning novices need to start with the basics. The first step in any tax-planning strategy is to check last year's tax return and determine if there are any tax-loss carryforwards, which can be found on Schedule D. Tax-loss carryforwards are realized losses that were not used to offset capital gains. These losses are available to offset gains in future years and up to $3,000 of income per year. While losses are rarely viewed in a positive light, they can be a useful tool for tax planning.

Having losses from prior years can affect your investment strategy. For example, let's say you bought **Consumer Discretionary Select Sector SPDR** XLY on May 14, 2009. Nine months later you are up about 14%. The investment was made as a play on the recovering U.S. economy, and it has worked out well.

In March 2010, you start to become concerned that higher oil prices will reduce consumers' discretionary income. Conventional wisdom would say to hold XLY for another two months to take advantage of long-term capital gains rates. But if you have tax-loss carryforwards, there is no reason to wait another two months to sell. Because your gain in XLY can be offset by losses from previous years, it doesn't matter if the gain is short term or long term. In this situation, the best decision may be to take the short-term gain.

It is always helpful to have a pool of losses to offset future gains, and tax-loss harvesting is the best way to build up these losses. The process starts with reviewing current holdings and looking for unrealized losses. Holdings that are currently trading at a loss are then sold. If the position was meant as a long-term holding, it can be bought back after 30 days. If it's bought back before 30 days, the loss will not be allowed and will be added to your cost basis in the new purchase.

This 30-day wash-sale rule can make it hard to keep your portfolio invested according to your asset-allocation plan. Fortunately, there are ways to maintain your investment exposure and book losses for the future. For example, let's assume you bought **iPath MSCI India ETN** INP on Nov. 5, 2010, as part of a long-term investment plan. Unfortunately, you had bad timing, and as of Nov. 1, 2011, you're down about 23% on your initial investment. This ETN is a good candidate to harvest losses, but to maintain exposure to Indian stocks, you will need to find an alternative. **IShares S&P India Nifty 50** INDY, which has over a 95% correlation to INP, is a good substitute. You would then sell INP to book the loss and immediately purchase INDY to maintain your India exposure. After 30 days, you could sell INDY and switch back to INP or just keep INDY in your portfolio. This way you have maintained long-term focus but have also taken advantage of short-term opportunities.

You can also use ETFs for stock tax-loss harvesting strategies. For example, say you bought **Microsoft** MSFT on April 22, 2010. Microsoft stock has not done well, but you believe in the long-term fundamentals. As of Nov. 1, 2011, you are currently down about 17% and would like to book the tax loss. Once you sell, you cannot buy Microsoft back for 30 days, but you could

buy an ETF with similar exposure to the technology sector. **Vanguard Information Technology ETF** VGT, which has an 8% weighting in Microsoft, would make a good substitute. Microsoft and VGT have had an 85% historical correlation. If Microsoft does well, it is likely that the technology sector is also doing well. After the 30 days are up, you could sell VGT and buy Microsoft back.

Tax planning often takes place at the end of the year. But by planning throughout the year, you give yourself more flexibility with your investments. A good example of a year when more tax-loss harvesting opportunities were available early in the year relative to later in the year was 2009. By March 9, 2009, **iShares S&P 500 Index** IVV was down 24% for the year, creating a great tax-harvesting opportunity. Losses booked at these extremely low levels would have been very useful in the months ahead when the markets rebounded dramatically. Investors who don't employ a proactive tax strategy throughout the year invariably have limited options at year-end.

Tax-loss harvesting is a helpful tool to increase aftertax returns, but it is of no value if you have no taxable capital gains. Also, making frequent trades will increase your costs, which, if done too much, will negate any tax benefit derived. Investors should focus on developing a sound investment plan first and then look at ways to increase aftertax returns through tax-harvesting strategies.

Popular ETF Questions Answered

Abraham Bailin,
ETF Analyst

As Morningstar ETF analysts, we are always receiving questions from readers, subscribers, and conference attendees. While the questions span a broad range of topics—from ETF basics to tax considerations to macro portfolio-level allocation decisions--we've noticed several recurring themes, which we have summarized below.

Can you explain the ETF market price versus net asset value, and why there aren't the disparities you see in closed-end funds?

An ETF's net asset value, or NAV, is calculated by dividing a fund's total net assets by its number of shares outstanding. This is calculated at the close of trading at 4 p.m. Eastern Time.

While the NAV is determined by the prices of an ETF's underlying holdings, the market price of an ETF is set by the supply and demand for the ETF shares. During times when demand for an ETF exceeds supply, the price of the ETF could trade at a premium to NAV; and when supply exceeds demand, the ETF could trade at a discount to NAV. However, ETFs generally do not trade at persistent large premiums or discounts because market makers, called authorized participants, can create and redeem shares with the fund company to arbitrage the premium or discount. Closed-end funds do not have this creation and redemption mechanism (the number of shares of a closed-end fund is fixed), and that is why CEFs can trade at significant premiums or discounts to NAV over an extended period of time.

What are the tax advantages of the ETF structure?

ETF share creations and redemptions are done "in-kind." That means the fund provider exchanges ETF shares for a basket of its underlying constituents, instead of cash. The fund is thus able to avoid realizing and then passing taxable capital gains to the investors.

However, there are instances, like portfolio rebalancing or index reconstitution, that the ETF must sell its underlying securities for cash on the open market. These sales can generate capital gains, which are then passed to shareholders. Fortunately, there is a mechanism that helps minimize such taxable gains. During the ETF share redemption process, the fund company passes low cost-basis shares to the AP. Retaining higher cost-basis shares helps fund providers reduce the likelihood of a taxable capital gains distribution.

How often do indexes rebalance or reconstitute, and do ETFs have the ability to add or subtract from their index at will?

Each index has a unique set of protocols, but generally speaking, most index families rebalance monthly, quarterly, or annually.

Most ETFs seek to track their respective benchmarks by holding all index constituents. In some cases, however, full replication of an index may be difficult. Broad corporate bond indexes, for instance, contain thousands of underlying holdings, many of which are highly illiquid, and such illiquidity can create serious drag for a vehicle using a full replication strategy. Instead of holding all index constituents, some ETFs employ a partial replication strategy, whereby the fund holds a representative sample of index constituents which is expected to provide similar performance to the overall benchmark.

Is it a good idea to use ETFs in IRAs or 401(k)s?

When you buy and sell an ETF, you incur a brokerage fee. So if you make contributions on a biweekly basis, those brokerage fees can pose significant drag on returns in the long run. That said, a number of brokerage platforms offer commission-free trades for certain families of ETFs, so you should check your plan.

Can you discuss the roll yield problem with commodity ETFs? Is this a problem across the board for all commodity-focused ETFs?

With ETFs, there are three ways to gain commodities exposure: equity-based funds, futures-based funds, and funds that back their shares with physical holdings of their target commodity. Roll yield will affect only futures-based funds.

When the price of a longer-dated futures contract is above the spot price of the commodity, investors will incur a negative roll yield when they replace expiring contracts with later-dated contracts. A futures market is in a state of contango when the futures curve is upward sloping. The opposite holds true if the longer-dated futures price is lower than the current price—this results in a positive roll yield, and the market is described as being in a state of backwardation. Because of positive and negative roll yield, the price performance of futures-based funds can be quite different from the spot price performance of the underlying commodity.

Funds such as **United States Oil** USO and **United States Natural Gas** UNG roll into front-month futures on a predetermined basis and stand to be most influenced by negative roll yield. A number of funds, however, employ dynamic methodologies that seek to reduce the effects of contango. Examples include the PowerShares DB lineup—such as **PowerShares DB Commodity Index Tracking** DBC and **PowerShares DB Oil** DBO—and **United States Commodity Index** USCI.

Is there a tax advantage to commodity ETNs versus other types of commodity funds?

Most exchange-traded products that use futures are structured as limited partnerships. Partnerships do not pay entity-level taxes, so shareholders are required to pay federal income taxes on their share of the fund's taxable income. Taxes must be paid on the gains and losses resulting from the buying and selling of futures contracts. These funds also have to mark to market its existing holdings. Annual gains in these offerings are passed on to investors and are taxed 60% at long-term capital gains rates and 40% at prevailing short-term rates. Investors receive a Schedule K-1 form which provides information about their taxes owed.

Commodity ETNs, however, enjoy a tax treatment similar to that of individual stocks—investors are liable for capital gains when the ETN is sold. At that time, the investor calculates his capital gains based on the difference between the ETN's sale price and the ETN's purchase price and pays a long-term or short-term capital gains rate based on his holding period. However, ETNs are debt instruments issued by banks, so investors in ETNs are exposed to the credit risk of the backing bank.

Can you keep commodity ETFs in a retirement account?

You can certainly hold commodity exchange-traded products in retirement accounts. The 60/40 taxation of LPs has led many investors to consider holding commodity funds in tax-deferred accounts such as IRAs. Because an IRA is not subject to capital gains taxes until withdrawal, the 60/40 rule won't apply. The IRA account structure allows investors to defer taxes on interest income until withdrawal as well.

Why shouldn't I use stop-loss orders with ETFs?

Using stop-loss orders can be dangerous during periods of high volatility. During the May 2010 flash crash, the market spiked down in a very short period of time. While prices snapped back as quickly as they had dropped, investors who had outstanding stop-loss orders would've locked in large losses while the market was falling.

Using stop-limit, while better than a stop-loss, still has drawbacks. In situations such as the flash crash, a sell stop-limit order would not have executed while the market was falling but would have executed as the market recovered. As with stop-loss orders, investors using stop-limit orders would've locked in the loss they set their stop at. Unless you are actively watching the markets while they are open, we would suggest using limit orders. Limit orders are also highly recommended for ETFs with thinner trading volumes.

Reading the Stars

Paul Justice, CFA, Director of North American ETF Research

The Morningstar Rating for funds—also known as the star rating—is ubiquitous in the fund world. In early 2006, we rolled out star ratings for exchange-traded funds as well. In addition, the Morningstar Rating for stocks has also become popular among stock investors. Both ETF star ratings and stock star ratings come into play when evaluating ETFs and in my newsletter, *Morningstar ETFInvestor*.

This overview will help you understand the differences between these two measures.

Stock Star Ratings

Let's start with the stock star rating, because it will play a more prominent role in my analysis than the ETF star rating. I find the stock star ratings useful because they are forward-looking, unlike the fund and ETF star ratings, which are based strictly on past history. Stock star ratings indicate whether a stock, in the equity analyst's educated opinion, is cheap, expensive, or fairly priced.

To rate a stock, an analyst estimates what he thinks it is worth (its "fair value"), using a detailed, long-term cash flow forecast for the company. The fair value estimate is also informed by the analyst's assessment of the potential risks to the business and the firm's competitive position, which we refer to as an "economic moat." A stock's star rating depends on whether its current market price is above or below the fair value estimate. Those stocks trading at large discounts to their fair values receive the highest ratings (4 or 5 stars). Stocks trading at large premiums to their fair values receive lower ratings (1 or 2 stars). A 3-star rating means the current stock price is fairly close to the analyst's fair value estimate.

The stock star rating is a helpful tool for identifying undervalued ETFs. Funds with a high percentage of assets invested in 4- and 5-star stocks or with high average stock star ratings are worthy of further research. That said, stock star ratings can go only so far in helping identify attractive ETFs. Morningstar currently has nearly 100 equity analysts covering almost 1,600 stocks. That's substantial, but it's still not enough to delve deeply into small-cap land or foreign stocks. Accordingly, I'll harness the stock star rating to help evaluate ETFs only when a fund has the bulk of its market capitalization under coverage by Morningstar stock analysts.

Furthermore, just because an ETF holds a high percentage of 4- and 5-star stocks doesn't mean it is an automatic buy. Its expense ratio could be too high, for example, to merit my recommendation. The stock star ratings are only a starting point for further analysis.

ETF Star Ratings

Unlike stock star ratings, which rely on the equity analysts' judgment, ratings for both mutual funds and ETFs are purely quantitative. That fact surprises many readers who mistakenly assume that Morningstar fund analysts assign star ratings to funds and ETFs based on our opinions of the funds we cover. Instead, star ratings are computed mathematically by comparing how a fund's long-term risk-adjusted returns stack up alongside offerings with similar strategies.

The methodologies for ETF and conventional mutual fund star ratings are almost identical. We compute ETF ratings based on net-asset-value returns rather than market-price returns to make the two rating systems comparable. Net-asset-value returns also work better for ETFs that trade infrequently because their market prices may be stale and not truly reflective of the fund's real value.

Our star rating methodology includes adjustments for sales charges. For ETFs, that means we consider the impact of brokerage commissions. Trading commissions vary by investor, but it's impossible to avoid them. So we estimate the average retail commission paid to trade ETFs. Specifically, we assume that the typical investor pays $20 to purchase $10,000 in ETF shares. In practice, we treat ETF commissions like front- and back-end loads of 0.2%.

We also adjust returns for risk when calculating the star rating for mutual funds and ETFs. We penalize funds more for downside volatility than upside gains, under the logical assumption that investors hate losses but don't mind unexpected gains.

After adjusting for brokerage commissions and risk, we compare an ETF's three-, five-, and 10-year performance against that of its category peers, including mutual funds. We include mutual funds in the group because there isn't yet a critical mass of ETFs to render meaningful comparisons within categories. Plus, many investors will be choosing between a traditional fund and an ETF, and this method makes comparing the two easier.

A fund's star rating depends on how its risk-adjusted returns stack up against the competition. Star ratings are assigned based on the bell curve: The best 10% earn 5 stars, the next 22.5% get 4 stars, the next 35% get 3 stars, the next 22.5% get 2 stars, and the worst 10% get 1 star.

Because ETF star ratings can be handy screening tools, we present them in the data tables of *Morningstar ETFInvestor*. However, I won't rely on them to select my favorite funds. My goal is to identify ETFs that I think will perform well going forward. But because ETF star ratings are based on historical returns, they have only limited use in fulfilling that mission. As every fund prospectus says in some form or fashion, past performance does not necessarily indicate how a fund will perform in the future. That's particularly relevant when it comes to concentrated and narrowly focused ETFs. Such a fund may have benefited from market trends that will eventually dissipate.

Rather than relying on historical measures, such as the ETF star ratings, I'll focus my efforts on uncovering funds that are undervalued and unloved because that's where I think tomorrow's winners are likely to be hiding.

ETFInvestor: What's Inside

Paul Justice, CFA, Director of North American ETF Research

Each monthly issue of *Morningstar ETFInvestor* begins with a feature article that details my latest thinking about opportunities in the exchange-traded fund universe. Its content remains consistently focused on my main goal of helping you become a smarter and more successful ETF investor.

In addition to the cover article, each issue includes the following:

Analyst Favorites
The ETFs on this list represent the ETF team's best ideas for long-term portfolio builders. It's important to note that the selection of these funds has nothing to do with our opinion of their valuation levels at any given moment. Rather, we base our selection on an ETF's appeal as a long-term portfolio holding. For example, we think **Vanguard MSCI Emerging Markets** VWO is the best way to add long-term emerging-markets exposure to a portfolio, regardless of whether its current valuation traits are attractive. Factors considered in selecting the Analyst Favorites include expenses, index construction, tax efficiency, performance, and diversification. Because we select these funds on more-enduring features, this list won't change much from month to month.

ETFInvestor Portfolios
Our ETF research team manages two ETFs portfolios, the Hands-Free and the Hands-On portfolios. These portfolios include some of our favorite ETFs.

The Hands-Free Portfolio is a low-maintenance, strategic portfolio with a long-term investment horizon. The portfolio is strategic in nature as it is broadly diversified and is composed of low-cost, building-block ETFs that are ideally suited to forming the core part of a portfolio. It offers exposure to a wide range of domestic and foreign equities as well as fixed-income securities. This portfolio will make modest changes to rebalance, but in general, turnover will be low. While it requires some tolerance of risk, the Hands-Free is more of a market portfolio than is the more actively managed Hands-On Portfolio.

Unlike the Hands-Free, the Hands-On Portfolio doesn't try to replicate a complete asset-allocation plan, but rather makes intermediate-term, tactical trades to capitalize on Morningstar's investment research. It is built from the bottom up by looking for ETFs with the most compelling valuation characteristics. We rely primarily on Morningstar's equity research to shine a light on ETFs that hold large chunks of undervalued stocks. The Hands-On Portfolio normally sports notable sector and style biases. It will see more turnover than will the Hands-Free Portfolio and thus is best suited for those who have the time to monitor their investments and are willing to depart from a passive, market portfolio.

We have strict standards for selecting the ETFs included in the model portfolios. Each idea is carefully vetted by our entire team and subject to rigorous discussions. Individual investment needs vary, but every investor can benefit from thinking in terms of a systematic research process. Some of the criteria we use are discussed below.

Expenses
Most ETFs are index funds and, therefore, have lower operating expenses relative to an actively managed mutual fund. Expenses take on heightened importance in the Hands-Free Portfolio—low-cost ETFs give the portfolio the cost advantage it needs to achieve its goal of outperforming the market over time.

Index Methodology
It's important to understand the methodology of an ETF's underlying index because it can influence its

valuation traits and behavior in certain market conditions.

Rydex S&P Equal Weight RSP holds all the components of the S&P 500, but each holding is equal-weighted. As a result, this ETF tilts toward the smaller names in its universe and tilts toward the value side of the Morningstar Style Box, as compared with market-cap-weighted S&P 500 ETFs. Accordingly, RSP is likely to perform well when investors prefer smaller, value-oriented names, as has been the case over the past few years. But by the same token, the fund could suffer when large-growth stocks return to favor.

ETF Provider

In selecting an ETF, we'll consider the experience and practices of the ETF provider. Obviously, iShares, State Street, and Vanguard have years of experience with indexing and vast resources that play to their advantage, whereas smaller shops may be strapped for human and quantitative support. All other things being equal, we'll opt for the provider with the resources to adequately support and maintain their offerings.

Valuation

We'll tap into Morningstar's equity research to identify undervalued ETFs. For instance, I'll be particularly attracted to the ETFs that hold the most 4- and 5-star stocks and that have the highest average stock star ratings. (See "The ETF Numbers That Matter—and Why" for more on how we plan to use stock star ratings.) Another favorite measure of mine is the price/fair value ratio, which indicates whether an ETF's holdings, on average, are trading above or below Morningstar's fair value estimates. When the price/fair value ratio dips below 1.0, it indicates that an ETF's portfolio is undervalued.

Our Sell Discipline

We'll remove an ETF from the model portfolios for four main reasons:

1. Its holdings have appreciated, and its valuation is no longer attractive.
2. The fundamentals of the underlying holdings have deteriorated.
3. We've identified an ETF that we think is more attractive.
4. We're convinced that we've made a mistake.

While mistakes are never fun, especially when they involve losing money, they offer us an opportunity to learn. So with every mistake, we'll conduct a post-mortem review to better understand what went wrong with our thinking. Hopefully, that will help us avoid making the same mistake twice.

ETF Market Data, Market Barometer, and Economic Snapshot

This section provides information about changes to the market shares of ETF providers, as well as lists of the ETFs that are attracting and losing the most assets. The section also includes some commentary about fund flows from a sector and individual ETF level. The Market Barometer data give investors a sense of how size and style categories performed during the month, while the Economic Snapshot provides updated economic data, along with trailing 10-year historical economic numbers.

ETF News

The ETF News section highlights comings and goings of noteworthy ETFs, including new launches and fund liquidations. The section gives investors a look at the current investment ideas ETF providers are capitalizing on through new products.

Spotlight Funds

This section provides detailed analyses of two ETFs that have caught the eyes of our team. These may be

funds that we find particularly compelling. Or, we may feature an idea that we feel should be avoided at all costs. We also may present our take on a new ETF that is untested but intriguing.

ETF Sector Focus
The ETF Sector Focus is a longer "think piece" that goes into more detail about a specific investing theme that an investor could capitalize on by using ETFs. The article may highlight a very out-of-favor sector or it could focus on an area of the ETF marketplace where there has been growing investor interest.

The ETFInvestor 350 Watchlist
The 350 ETFs included in the data pages represent roughly 90% of the total assets in the ETF market. So we've covered most of the waterfront.

In selecting the 350 ETFs to include, we considered asset size, trading volume, and coverage rates (the percentage of an ETF's assets covered by our equity research).

We wanted to include the most popular ETFs on the market, so we screened for asset size and trading volume. That ensures that the most-held ETFs are included in the data pages.

As we've discussed, we use valuation analysis to ferret out attractive ETFs, but our ability to make valuation calls depends on how much of an ETF's portfolio we cover. Consequently, we favored those ETFs with sizable coverage rates because our valuation data holds more meaning for those funds. But funds with low coverage rates still made the cut if they were popular with investors. Most of these ETFs are international funds.

The ETFs we omitted were the smallest and least liquid and generally those that traffic in niche markets where our equity coverage is limited.

Remember that the *ETFInvestor* 350 Watchlist is not set in stone. As the ETF market evolves, the funds we choose to include in the data pages undoubtedly will change as well.

A description of the data points included in these tables can be found in the next article "The ETF Numbers that Matter—And Why."

ETFInvestor Strategies
This back-page article provides an analysis and review of one of six strategy portfolios—Global-Momentum, Yield-Seeking, Real-Return, U.S.-Sector-Momentum, Country-Value, and Style-Momentum. More details about these strategies can be found in the article "Morningstar ETFInvestor Strategies."

The ETF Numbers That Matter—and Why

Paul Justice, CFA, Director of North American ETF Research

Given the proliferation of new ETFs and their related data, it's tough to know what numbers matter most when evaluating ETFs. In *Morningstar ETFInvestor*, we winnow down the data to the most important numbers--the ones that can help you more effectively sort through the ever-expanding ETF universe.

This article walks you through the key data points we examine and use when evaluating ETFs.

(Note that in *ETFInvestor*, the performance data reflect month-end returns, while the portfolio, valuation, and fundamental data are based on the most recent portfolio available. In addition, we require at least three years of performance history to compute many data points, including the Morningstar Rating, tax-cost ratio, and correlation score.)

Historical Performance

Star Rating

The Morningstar Rating for ETFs is almost identical to the Morningstar Rating for mutual funds, and both are computed for funds with at least three years of performance history. For details, see "Choosing ETFs the Morningstar ETFInvestor Way."

NAV Return Percentage

Because an ETF has both a market price and a net asset value, both measures can be used to compute return. We've chosen to use NAV returns because that's the return measure we use to assign ratings to ETFs. By using NAV returns, we can make comparisons with conventional mutual funds. Plus, market-price returns can pose problems for ETFs that trade infrequently because the last market price could be outdated. NAVs, by contrast, are reported daily.

Tax-Cost Ratio

A fund's tax-cost ratio expresses, in percentage terms, the returns lost to taxes, just as an expense ratio shows the percentage of returns eaten away by fees. For example, a three-year tax-cost ratio of 0.30% indicates that taxes have reduced returns by 0.30 percentage points per year, on average. The calculation assumes shareholders pay the maximum federal rate on capital gains and ordinary income. Investors are often drawn to ETFs because of their inherent tax efficiencies, so the tax-cost ratio is an important measure to consider.

Yield

The dividends and interest earned on an ETF's holdings are distributed to investors after paying the fund's expenses. This income stream is known as the fund's yield.

Nuts and Bolts

Average Daily Volume

This represents the average number of shares traded each day. It gives a general idea of the popularity of a fund, but to date, much of the daily trading activity for the most popular ETFs can be traced to institutions rather than individuals.

Expense Ratio

The annual expense ratio comes from an ETF's annual report. It shows the percentage of assets that are consumed by a fund's operating, administrative, and management fees. The expense ratio does not include brokerage commissions. To keep total costs low, investors should try to minimize trading expenses.

Estimated Holding Costs

Estimated holding costs is a proprietary Morningstar calculation of how well an ETF manager is performing relative to the benchmark index after all expenses, disclosed and undisclosed. Investors can use this annualized figure to assess how efficiently a manager is running the ETF portfolio. While the management fee is

likely to be the largest component of costs, other factors, such as share lending revenue or transactions cost, can also influence the estimated holding cost. A lower estimated holding cost shows that a manager is doing a better job of producing ancillary income while finding the lowest-cost ways to replicate the benchmark index.

Fundamentals

Earnings Growth Percentage

This figure shows the weighted average of the growth in earnings for each stock in an ETF's portfolio. Although it's important to know how rapidly (or slowly) a firm has grown in the past, it can't be assumed that it will continue to grow at the same rate in the future. Consequently, it's important to consider growth rates within the context of industry and economic conditions.

Sales-Growth Percentage

At the stock level, this shows the rate of increase in a firm's sales per share. An ETF's sales-growth rate is computed by taking the weighted-average sales-growth rates for each holding in the fund. This is an important growth measure, as sales growth drives earnings growth. But it's important to remember that growth can come from a variety of sources, such as price increases, increased unit sales, or acquisitions.

Cash Flow Growth Percentage

This represents the weighted average of the cash flow growth of the stocks in an ETF's portfolio. For an individual equity, cash flow growth reflects the rate of increase in a company's cash flow per share. Cash flow reveals how much cash a business actually generates, and it's an important measure of a firm's financial health. It's computed by adding noncash items, such as depreciation, to net income.

Return on Equity

This measure offers insight into the effectiveness of a firm's management. It can also be a sign of a superior business model. On the other hand, firms can goose their returns on equity by taking on additional debt, so it's important to couple this measure with an analysis of the company's balance-sheet health. An ROE for an individual company is calculated by dividing net income by shareholders' equity. An ETF's ROE is the weighted average of the ROEs of its individual holdings.

Valuation

Price/Earnings

The price/earnings, or P/E, ratio is perhaps the most widely quoted price multiple. At the stock level, it is computed by dividing a stock's current market price by its trailing 12-month earnings per share. We aggregate that at the ETF level by computing an average of the P/E ratios for all the fund's holdings.

Despite its popularity, P/E ratios have limitations. Earnings are more prone to manipulation than cash flow, and a P/E ratio can be influenced by a firm's capital structure, risk profile, and growth rates, not to mention temporary or cyclical factors. Still, P/E ratios can be useful for comparative purposes, but they are best used in conjunction with other fundamental factors.

Price/Cash Flow

This ratio is the weighted average of the price/cash flow ratios of the stocks in an ETF's portfolio. Price/cash flow ratios represent the amount investors are paying for each dollar of cash that is generated from a company's operations. This is one of the more meaningful valuation measures because cash flow is harder to manipulate through accounting trickery than is net income.

Price/Book Value

The price/book value ratio compares a stock's market value with its book value as it appears on a company's balance sheet. The price/book ratio can tell investors approximately how much they're paying for a company's assets, based on historical, rather than current, valuations. Bear in mind, though, that historical valuations generally do not reflect a company's current

market value. An ETF's price/book value ratio is computed by calculating a weighted average of the price/book value ratios of an ETF's holdings.

Price/Fair Value
This ratio draws upon the research of our equity analysts who estimate fair values for almost 1,600 stocks. Using the fair value estimates for the stocks in an ETF's portfolio, we can compute an aggregate cap-weighted fair value of the ETF. To compute this ratio, we divide an ETF's market price by its aggregate fair value estimate. A ratio above 1.0 means an ETF is overvalued because its market price exceeds our fair value estimate. On the flip side, if the price/fair value ratio is below 1.0, the ETF is cheap.

Coverage Rate %
This is the percentage of portfolio assets of an ETF that Morningstar equity analysts cover. If a stock has a moat rating, we consider it covered, even if it lacks a fair value estimate (as is often the case with stocks that our analysts have placed "under review"). We also include cash in our calculation of a fund's coverage rate.

Portfolio Style
Investment Style Box
The Morningstar Style Box is a visual tool that provides a snapshot of the types of securities held in an ETF's portfolio. A fund's position in the style box depends on the style and size characteristics of its holdings. We use a variety of valuation and growth factors to assign a style score (either growth, blend, or value) at the individual security level. These attributes are aggregated to determine a fund's overarching style characteristics.

We don't use hard cutoffs to classify stocks as small, medium, or large. Instead, we employ a flexible system that won't be adversely affected by overall movements in the market. Large-cap stocks account for the top 70% of the capitalization of the Morningstar stock universe. Mid-caps make up the next 20%, and small caps represent the balance.

Average Market Cap
This figure indicates the size of an equity ETF's typical holding. Technically, it isn't an average but rather a geometric mean method that we use because it prevents a single holding from skewing the figure.

Percentage of Assets in Top 10
This data point can provide a good indication of a portfolio's degree of concentration. A fund that has a high percentage of assets dedicated to its top 10 holdings takes on more stock-specific risk. That's not necessarily a bad thing, though, if the top names in a portfolio look particularly attractive. In that case, it may make sense to seek concentration rather than avoid it.

Turnover Percentage
This ratio is a measure of a fund's trading activity. It's obtained from the ETF's annual report and computed by dividing the lesser of purchases or sales by average monthly net assets. In broad terms, it represents the percentage of a fund's holdings that has changed over the past year.

Regional Exposure
For international funds, this data point provides a broad breakdown of an investment's geographical exposure. Investors can use this information as a reference point for understanding a fund's returns and risk and for asset-allocation decisions.

Historical Risk
Worst 3-Month Return Percentage
This figure can serve as a good gut check. Investors who would not feel comfortable sticking with a fund that lost this much over a three-month stretch should look for a tamer alternative.

Three-year Standard Deviation
Investors use the standard deviation of historical performance to try to predict the range of returns that is most likely for a given investment. When an ETF has a high standard deviation, the predicted range of performance is wide, implying greater volatility.

Three-year Sharpe Ratio
This datapoint shows how widely a portfolio's returns have varied over the last three years. Investors can use the standard deviation of historical performance to try to predict the range of returns that is most likely for a given investment. When a portfolio has a high standard deviation, the predicted range of performance is wide, implying greater volatility.

Fixed Income
SEC Yield %
This is based on a 30-day period ended on the last day of the previous month. It is computed by dividing the net investment income per share earned during the period by the maximum offering price per share on the last day of the period. The figure listed lags by one month. When a dash appears, the yield available is more than 30 days old. This information is taken from fund surveys.

Average Credit Quality
Average credit quality gives a snapshot of the portfolio's overall credit quality. A bond's average quality is a reflection of the amount of risk a manager is willing to incur and of management style in general. This calculation is an average of each bond's credit rating, adjusted for its relative weighting in the portfolio. Average credit quality is used to determine the vertical axis of Morningstar's bond style boxes.

Average Effective Duration
This is a measure of a portfolio's interest-rate sensitivity—the longer a fund's duration, the more sensitive the portfolio is to shifts in interest rates. Duration is determined by a formula that includes coupon rates and bond maturities. Small coupons and long maturities tend to increase duration, while shorter maturities and higher coupons shorten duration. The relationship between portfolios with different durations is straightforward: A portfolio with a duration of 10 years is twice as volatile as a portfolio with a five-year duration.

Commodities and Alternatives
Legal Structure
Some alternatives funds are structured as partnerships, grantor trusts, or unit investment trusts, which are not subject to the same tax rules as open-end investment companies.

Morningstar ETFInvestor Strategies

Samuel Lee, ETF Analyst

Not everyone is served by our Hands-On and Hands-Free portfolios. So we developed six strategies based on academic research. The strategies range from technical to fundamental, all-in-one portfolios to satellite offerings.

In designing them, we followed several principles. They must be transparent. They must be rules-based. And they must have strong economic reasoning behind them, backed by data. These principles led us to two opposing but complementary themes: value and momentum.

We know value works. In almost every market, portfolios of stocks cheap by fundamental measures such as price/book, price/earnings, and yield have beaten portfolios of expensive stocks on those measures. On a macro level, stock markets tend to do very well in the years after their dividend yields are high and poorly in the years after their yields are low.

If we accept that value opportunities are created by Mr. Market's excessive pessimism, then we must consider the possibility that money can be made on Mr. Market's excessive optimism. In fact, like value, momentum strategies—buying what's recently gone up and selling what's gone down—have been profitable in almost every market studied, including U.S. stocks, currencies, international stocks, bonds, REITs, and commodities.

The idea that value and momentum are the opposite sides of the same coin has been solidified in recent research by Cliff Asness and his colleagues at hedge fund AQR Capital Management. In "Value and Momentum Everywhere," they found that value did well when momentum faltered and vice versa. The combination of the two resulted in resilient portfolios that did well in up or down markets. While we may lean toward either value or momentum in each portfolio, we use elements of both to better profit from Mr. Market's wild mood swings. In that spirit, we implement risk controls in most of our strategies.

Risk Control

The moving average is a simple yet powerful risk-control tool. We make liberal use of it. By buying an asset when its current price is above its moving average—usually calculated with anywhere between 50 and 200 days of prices—and selling when it's below, we minimize our exposure to adverse fat-tail returns.

Eugene Fama and Kenneth French called market-timing with moving averages "an ancient tale with no empirical support." The judgment is far too harsh. In virtually every equity, currency, and commodity index we tested, moving-average-based timing schemes reduced drawdowns without sacrificing return (in many cases improving it). The improved risk-adjusted returns can't be explained by the increased average exposure to cash or to a few anomalous periods. Aside from ubiquitous efficacy, we also think there's a good economic reason it works.

Moving averages work because markets display performance persistence, or momentum. Behavioralist models of financial markets say that investor biases create cycles of underreaction and overreaction in prices, producing patterns of short-term momentum and long-term performance reversal. Other formulations of momentum-based timing schemes also improve risk-adjusted returns and trigger at approximately the same time as moving-average signals. However, the moving average is attractive because it does an excellent job controlling downside risk with such a simple implementation.

Our Strategies

Most of our strategies rely on drawdown control provided by moving averages, but their exact implementations may differ. We also attempt to keep turnover down by implementing buffer zones, slower-moving signals, and monthly or quarterly (as opposed to daily or weekly) updates. We've found that measuring more frequently doesn't improve returns, but it does add significantly to turnover. And, of course, we implement our strategies with the cheapest, best-constructed, and most-liquid ETFs.

The Global-Momentum strategy trades only a handful of broad asset classes: U.S. stocks, developed-markets stocks, emerging-markets stocks, and commodities. It screens ETFs by their moving averages and picks the funds with the highest recent returns. Because the strategy deals with only a few funds, turnover has been surprisingly low for a momentum strategy, while maintaining excellent risk-adjusted performance.

The Yield-Seeking strategy owns a diverse mix of income-producing ETFs. The portfolio will have a target allocation of 50% fixed income and 50% equities, but the allocation can change depending on our model's momentum and value signals. As an income-focused fund, it should ideally be held in a tax-advantage account.

The Real-Return strategy attempts to provide investors positive inflation-adjusted returns in many different market scenarios. It's a more thematic offering than our other strategies but can serve as a standalone portfolio as it is widely diversified in international and domestic equities, bonds, and commodities.

The Value-Strategy exploits the well-documented tendency for country stock markets with the lowest aggregate price/book ratios to outperform countries with the highest ratios. However, the strategy's drawdowns can be especially severe, so we use quarterly updates (as opposed to the more common yearly reconstitutions used in academic studies) and moving-average filters to reduce exposure to volatile market regimes.

The U.S.-Sector-Momentum strategy invests in large-cap sector and small-cap style ETFs based on momentum. Of course, it applies a moving-average filter.

The Style-Momentum strategy applies the U.S.-Sector-Momentum strategy's methodology to domestic and international style indexes.

Because our strategies update monthly, investors don't have to worry about missing a notification when changes occur. Performance, holdings, and historical trades can be found in the monthly performance pdf at the *ETFInvestor* website: etf.morningstar.com.

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