The Individual Investor's Guide to Exchange-Traded Funds 2019

Our revamped guide to ETFs gives more direction on how to choose the right ETF for your situation by focusing on three types of investor personas.

BY AAII STAFF

For the first time since we started publishing our annual guide to exchange-traded funds (ETFs) 16 years ago, we are revising it in a significant way. The change is being made as part of an ongoing revamp of how we at AAII provide information about mutual funds and ETFs.

In putting together this year's guide, we took the approach of considering what information ETF investors need in order to make better decisions when determining which fund to own. We made the emphasis on "how to choose" an ETF to help you—and your fellow AAII members—be better able to identify what information to consider.

This led us to focus on three types of investors. The first is someone who is new to ETFs. We explain how ETFs differ from mutual funds, offer ideas on how to build a portfolio of ETFs based on your tolerance for risk and discuss how to buy them. The second is a long-term investor. We highlight the key metrics to focus on as well as provide data on many of the widely held stock, real estate and bond funds.

We also delve into no-commission ETFs and provide a framework for judging when paying a brokerage commission may be the cheaper option. Several brokers have expanded the number of no-commission ETF offerings they provide to clients over the past few years. While we don't think investors should limit themselves to funds on these lists, they should not be ignored either. For investors with small accounts or who are dollar cost averaging with smaller amounts (e.g., monthly contributions of a few hundred dollars to an individual retirement account or a Roth IRA), no-commission ETFs can work well. For the first time, we're providing a comparison of what each broker provides. Where possible, we've included notes on restrictions—such as minimum holding periods—for those of you intending to use these ETFs for shorter-term trading strategies.

The short-term investor is the third persona we're addressing in this year's guide. Those of you who prefer more active or tactical strategies will find a section devoted to your interests. We highlight some of the key characteristics of importance to those using trading strategies and discuss two sector rotation strategies.

Regardless of the type of ETF investor you are, it's important to know what index the exchange-traded fund is tracking (the same is true for passively managed mutual funds). You'll learn how to research an index on page 6. With the growth of ETFs has come a proliferation of indexes for them to track. While some indexes are very familiar, such as the S&P 500 index, others are not. Fortunately, in many cases, finding the index methodology that these ETFs are based on requires a simple online search. We show you where to look.

On AAII.com, we're continuing to provide our comprehensive listing of ETFs. Our online tools allow you to compare an ETF against its peers and to drill down to learn more about a specific ETF. Those of you who have used our guide in the past may notice a difference in some of the categories; we're now using Morningstar's fund categories. Morningstar provides our data and changing to their categorizations offers more standardization with ETF categories you may see elsewhere. (All AAII guides can be accessed by clicking on the "Investing" tab near the top of any page on AAII.com.)

AAII Staff who contributed to this guide include John Bajkowski, Jean Henrich, Annie Prada, Charles Rotblut, Jess Sherman and Anine Sus.

What's New With ETFs?

The price war we've seen over the past several years has continued. Earlier this year, Vanguard lowered the expense ratios on several of its ETFs. The Vanguard S&P 500 ETF (VOO) now has a razor-thin expense ratio of 0.03%.

As low as this expense ratio may seem, there are even lower-cost ETFs available. This past April, SoFi launched the Select 500 ETF (SFY) with a 0% expense ratio for at least the first year. The fund's expense ratio is technically 0.19% but the fee is currently being waived. It is not a traditional S&P 500 ETF. Rather, it weights the S&P 500's components by three growth factors.

Not to be outdone, Salt Financial waived the 0.29% expense ratio on its new Low truBeta US Market Fund (LSLT)

What Exactly Is the Index Followed by the ETF You're Interested In?

Most exchange-traded funds use passive strategies, meaning they are designed to mimic the performance of an index. Some ETFs hold all of the securities listed in an index, while others use sampling strategies to mimic the returns and volatility of the index. A sampling strategy involves holding some, but not all, of an index's components.

Passively managed ETFs will tell you what indexes they follow. This information is listed in the fund's prospectus, which can be found on the fund family's website (e.g., iShares.com, SPDRs.com, etc.). The information is also included in our expanded fund listings spreadsheet at AAII.com.

Merely knowing what index an ETF follows doesn't tell you what the index is designed to do. Even if the name looks familiar, you may not know how it differs from other similar-sounding indexes. For instance, the S&P 500 Growth index is composed of the approximately 300 companies with the highest sales and earnings growth among S&P 500 companies. Its components overlap with those of the S&P 500 Value index. The S&P 500 Pure Growth index differs by holding only the members of the S&P 500 with the highest growth rates. Its holdings are completely different than those of the S&P 500 Pure Value index.

Identifying what the index is and the methodology it follows (including how often it is rebalanced and/or reconstituted) requires going to the index provider's website. A simple way to find it is to type the index's name and the word "methodology" into an online search engine, such as Google. If you wanted to take a closer look at the FTSE Europe index, the index tracked by Vanguard FTSE Europe ETF (VGK), you would do an online search for "FTSE Europe index methodology." This would lead you to FTSE's website with information about the index.

Listed below are the websites for the major index providers. Many of them also provide fact sheets, which provide high-level overviews of their indexes.

Bloomberg and Bloomberg Barclays
www.bloomberg.com/professional/product/indices

CRSP
www.crsp.com/products/investment-products

FTSE Russell
https://www.ftserussell.com/index

Intercontinental Exchange (ICE)/ICE BofAML
https://www.theice.com/market-data/indices

Markit iBoxx
https://products.markit.com/indices/UCITS/Indices.aspx

MSCI
https://www.msci.com/index-solutions

Nasdaq
https://indexes.nasdaqomx.com (Click on "Indexes")

S&P Dow Jones Indices
https://us.spindices.com

and is contributing an additional 0.05% of average daily net assets on the first $100 million in net assets invested.

The 0% expense ratios are an attempt to gain attention by ETF newcomers SoFi and Salt Financial. It's no surprise that they would do so: The ETF universe is crowded, with BlackRock, State Street and Vanguard controlling the majority of assets.

We're also seeing an escalation in the price war on the broker side. Fidelity, Schwab and TD Ameritrade have all expanded their number of commission-free ETFs offered.

Beyond the price war, the U.S. Securities and Exchange Commission (SEC) green-lighted Precidian Investments' ActiveShares. These non-transparent actively managed ETFs will only disclose their holdings on a quarterly basis, instead of daily like traditional ETFs. It's worth noting that Precidian spent years trying to get the SEC to sign off on its idea. Furthermore, a previously existing type of non-transparent ETFs, Eaton Vance's NextShares, have failed to gather a large amount of investor dollars so far.

Overall, the ETF industry continues to grow. The Investment Company Institute tabulated total exchange-traded product assets, which include exchange-traded notes (ETNs), as being $3.7 trillion at the end of May 2019. This is a 4.9% increase over the same period a year ago.

New to ETFs or Investing

The first thing investors who lack familiarity with ETFs or otherwise are new to investing should understand is what they are.

Exchange-traded funds and mutual funds are pooled investments. They are professionally managed investment vehicles composed of assets purchased with investment dollars from groups of investors. Shareholders of both funds have a claim on underlying assets tied to the number of shares they own.

While ETFs and mutual funds share many similarities, there are also structural differences separating them. Mutual funds are bought and sold directly from the fund provider or through an intermediary, such as a broker. Dollars used to purchase mutual fund shares go into the fund's assets. Those in the industry refer to such dollars as "inflows." Proceeds from the sale of mutual fund shares are paid with dollars from the fund's

FIGURE 1

AAII's Asset Allocation Models www.aaii.com/asset-allocation

	Aggressive Investor	Moderate Investor	Conservative Investor
	90% Diversified Stock	**70%** Diversified Stock	**50%** Diversified Stock
Suggested Allocation Breakdowns			
Large-Cap Stocks	20%	20%	25%
Mid-Cap Stocks	20%	20%	10%
Small-Cap Stocks	20%	10%	10%
International Stocks	20%	15%	5%
Emerging Markets Stocks	10%	5%	0%
Intermediate Bonds	10%	30%	40%
Short-Term Bonds	0%	0%	10%
Characteristics			
Growth:	Substantial	Moderate	Low
Income:	Very Low	Low	Moderate
Risk:	Substantial Year-to-Year Volatility of Portfolio Value	Moderate Year-to-Year Volatility of Portfolio Value	Low Year-to-Year Volatility of Portfolio Value
Average Annual Growth in Value	10%	8%	6%
Bad Year	-35%	-25%	-16%

assets and are referred to as "outflows."

ETFs, on the other hand, are bought and sold on the open market. Dollars spent on purchases or received from sales do not flow in and out of the funds' assets, rather they go to the selling or come from the buying shareholders. Intermediaries, known as authorized participants (APs), transact with the fund provider to keep an ETF's share price close or even to the underlying value of its assets (known as the net asset value, or NAV). APs are large institutional investors that purchase and redeem creation units. Creation units are blocks of 25,000 to 200,000 shares. This system of creation units enables the inflows and outflows of an ETF's assets to mimic the demand for its shares.

Because ETFs are bought and sold on the open market just like a stock, their prices fluctuate throughout the trading day. Conversely, transactions in mutual funds are only completed at the end of the trading day. This difference leads to ETFs potentially trading above (at a premium) or below (at a discount) to their net asset value. Mutual funds, conversely, are bought and sold at their stated NAV.

The pooling of assets for both types of funds causes both capital gains, dividends, interest payments (e.g., from a bond) and other types of income to flow through to the shareholders. ETFs often reduce the recognition of capital gains by using "in-kind" transactions when making portfolio changes. These transactions involve giving APs actual investments from the portfolio instead of cash or shares of the ETF. (Mutual funds also have the ability to use in-kind transactions.) Shareholders of ETFs and mutual funds have no control over the timing or amount of changes in a fund's portfolios, much less the potential tax implications of those actions.

Most mutual funds are actively managed. A portfolio manager or a team of portfolio managers determines which assets the fund will invest in. Most exchange-traded funds are passively managed. They base their portfolios on an underlying index. Some mutual funds are passively managed, and a relatively small number of ETFs are actively managed. The use of in-kind distributions and passive management generally leads to ETFs being more tax efficient.

Choosing an ETF

ETFs follow a variety of strategies. The largest ones track traditional stock and bond indexes, such as the S&P 500. The smallest ones can follow esoteric or very specific strategies, such as the Loncar China BioPharma ETF (CHNA). As its name implies, the fund invests in companies focused on China's growing drug industry.

While it can be tempting to seek an advantage by buying a fund targeting a very specific industry, academic research has shown that the biggest impact on portfolio returns comes from the allocation decisions made (i.e., the percentage of total portfolio dollars allocated to stocks, the percentage allocated to bonds, etc.). Adhering to a well-thought-out allocation strategy over the long term will have a more beneficial impact than trying to make tactical decisions based on what you think will happen in the future.

A starting point for those looking to build a portfolio of ETFs is AAII's Asset Allocation Model (www.aaii.com/asset-allocation), shown in Figure 1. This model provides sample allocations for three types of investors: aggressive, moderate and conservative. The allocations range from 90% stocks/10% bonds for aggressive investors to 70% stocks/30% bonds for moderate investors to 50% stocks/50% bonds for conservative investors.

Table 1 provides examples of ETFs that could be used to achieve these allocations. They mimic the mutual funds

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TABLE 1

ETFs Matching the AAII Asset Allocation Models, Useful for Investors New to ETFs

Index	Structure	Fund Name (Ticker)	NAV Total Return (%) YTD	2018	2017	2016	2015	2014	12-Mo NAV Ret (%)	12-Mo Market Ret (%)	NAV Total Ret (%) 3-Year Ann'l	5-Year Ann'l
		Large Blend Stock Category Average	**17.7**	**(5.1)**	**20.8**	**11.8**	**(0.3)**	**12.9**	**9.4**	**9.1**	**12.8**	**9.9**
I	OE	iShares Core S&P 500 ETF (IVV)	18.5	(4.4)	21.8	11.9	1.3	**13.6**	10.4	10.3	**14.1**	10.7
I	UIT	SPDR S&P 500 ETF (SPY)	18.4	(4.4)	21.7	11.8	1.3	13.5	10.3	10.2	14.1	10.6
I	OE	Vanguard S&P 500 ETF (VOO)	18.5	(4.4)	21.8	11.9	1.4	**13.6**	10.4	10.1	**14.2**	10.7
		Mid-Cap Blend Stock Category Average	**16.2**	**(10.0)**	**17.0**	**15.1**	**(4.2)**	**9.5**	**2.4**	**2.3**	**10.0**	**7.2**
I	OE	iShares Core S&P Mid-Cap ETF (IJH)	17.9	(11.1)	16.2	**20.6**	(2.2)	9.6	1.2	1.3	10.8	7.9
I	UIT	SPDR S&P MidCap 400 ETF (MDY)	17.8	(11.3)	15.9	**20.3**	(2.4)	9.4	1.2	1.2	10.6	7.7
I	OE	Vanguard S&P Mid-Cap 400 ETF (IVOO)	17.9	(11.2)	16.1	**20.6**	(2.3)	9.6	1.3	1.3	10.8	7.9
		Small Blend Stock Category Average	**14.4**	**(9.5)**	**12.5**	**24.6**	**(5.1)**	**5.4**	**(3.1)**	**(3.5)**	**11.0**	**6.9**
I	OE	Vanguard Small-Cap ETF (VB)	**19.5**	(9.3)	**16.2**	18.3	**(3.7)**	**7.5**	**2.3**	**2.3**	**12.4**	**7.7**
		Foreign Large Blend Stock Category Average	**13.4**	**(13.1)**	**25.5**	**2.7**	**(0.5)**	**(2.7)**	**1.1**	**0.9**	**8.9**	**3.5**
I	OE	iShares Core MSCI EAFE ETF (IEFA)	14.0	(14.2)	26.4	1.4	0.5	(4.8)	0.2	0.2	9.3	2.7
		Diversified Emerging Mkts Stock Category Average	**10.4**	**(14.2)**	**32.1**	**11.6**	**(15.9)**	**(3.1)**	**2.1**	**2.5**	**9.0**	**1.3**
I	OE	Vanguard FTSE Emerging Markets ETF (VWO)	**12.2**	(14.6)	31.4	11.8	(15.3)	**0.6**	3.3	3.6	9.3	2.3
		Short Government Bond Category Average	**2.2**	**1.5**	**0.7**	**0.8**	**0.4**	**1.0**	**3.6**	**3.6**	**1.3**	**1.2**
I	OE	Schwab Short-Term US Treasury ETF (SCHO)	**2.4**	**1.5**	0.4	0.8	0.4	0.5	**4.0**	**3.9**	1.2	1.1
I	OE	SPDR Portfolio Short Term Treasury ETF (SPTS)	**2.5**	1.1	0.6	**0.9**	**0.8**	**1.1**	**4.0**	3.9	0.9	**1.2**
I	OE	Vanguard Short-Term Treasury ETF (VGSH)	2.4	1.5	0.4	0.8	**0.5**	0.5	3.9	**3.9**	1.2	**1.1**
		Intermediate Government Bond Category Average	**4.5**	**1.0**	**1.7**	**1.2**	**1.3**	**4.8**	**6.7**	**6.8**	**1.5**	**2.3**
I	OE	Vanguard Intmdt-Term Trs ETF (VGIT)	5.0	**1.3**	1.6	1.1	**1.6**	4.2	**7.7**	**7.7**	1.3	**2.4**

Data is as of June 30, 2019. Bold return numbers are in the top 25% of all ETFs in the category. Bold expense ratios are in the lowest 25% of all ETFs in the category.
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tracked for our Asset Allocation Model. These ETFs are large in size for the category (as measured by assets under management, or AUM) and have low expense ratios (the fees charged for operating the fund). They also tend to follow well-known, traditional stock and bond indexes.

Buying an ETF

Buying an ETF is the same as buying a stock. The process and costs are the same (though several brokers waive commissions on certain ETFs). An investor simply needs to know the ticker symbol and the number of shares to be purchased. Limit orders, which specify the maximum price to be paid for a buy order or the minimum price accepted for a sell order, are suggested to protect against sudden, unexpected changes in the share price.

When placing an order to buy an ETF, it is important to look at the current bid/ask spread. The bid is the price that buyers are willing to pay. The ask is the price that sellers are demanding. Frequently traded ETFs tracking well-known indexes such as the S&P 500 usually trade at bid/ask spreads of one to two cents per share. Other ETFs may trade at wider bid/ask spreads. The larger the spread between the bid and the ask, the more expensive it will be to transact in the ETF and the lower your potential returns may be.

Long-Term Investors

Long-term investors should seek out ETFs they can hold for years without having to worry much about the fund's sustainability, performance or tax impacts. Allocation decisions matter greatly if the intent is to limit the number of transactions. Table 2 lists large broad-based index ETFs suitable for long-term investors.

When building a portfolio of ETFs (or mutual funds), we believe it is helpful to use a top-down approach. Determine what asset classes you want exposure to and then find the best funds targeting those asset classes. In contrast, a

Go to www.aaii.com/etf-guide for expanded, interactive data covering more than 2,300 ETFs.

NAV Total Ret (%) Bull Mkt	NAV Total Ret (%) Bear Mkt	Yield (%)	Tax-Cost Ratio (%)	Risk Index Cat (X)	Risk Index Total (X)	Total Assets ($ Mil)	Avg Daily Trading Volume (Thous)	Portfolio (%) Stock	Portfolio (%) Bond	Portfolio (%) Other	Portfolio (%) Cash	% of Port in Foreign Issues	Portfolio Turnover Ratio (%)	Number of Holdings	% of Port in Top 10 Holdings	Expense Ratio (%)
374.4	**(48.9)**	**1.6**	**0.6**	**1.00**	**0.87**	**6,288**	**651**	**97.9**	**0.9**	**0.0**	**1.2**	**1.8**	**123**	**425**	**27.4**	**0.37**
393.8	(50.8)	2.0	0.5	0.99	0.87	176,381	3,836	99.9	0.0	0.0	0.1	1.0	5	509	21.5	**0.04**
391.2	(50.8)	1.9	0.7	0.99	0.87	268,034	67,022	99.6	0.0	0.0	0.4	1.0	2	506	21.5	**0.09**
—	—	2.0	0.6	0.99	0.87	114,960	2,434	99.4	0.0	0.0	0.6	0.9	4	513	21.4	**0.03**
390.0	**(51.9)**	**1.5**	**0.5**	**1.00**	**0.99**	**3,369**	**136**	**99.0**	**0.7**	**0.0**	**0.3**	**2.1**	**131**	**489**	**13.2**	**0.38**
402.0	(49.2)	1.5	0.4	1.09	1.08	50,329	942	99.9	0.0	0.0	0.1	0.2	17	404	6.6	**0.07**
392.1	(49.5)	1.3	0.5	1.08	1.07	19,555	872	100.0	0.0	0.0	0.0	0.2	17	400	6.8	0.24
—	—	1.4	0.5	1.09	1.08	725	23	98.7	0.0	0.0	1.3	0.2	12	402	6.7	**0.15**
420.3	**(53.8)**	**1.5**	**0.5**	**1.00**	**1.20**	**3,268**	**581**	**96.7**	**0.9**	**0.0**	**2.3**	**1.1**	**49**	**834**	**9.7**	**0.31**
440.0	(53.1)	1.5	0.5	**0.93**	1.11	25,173	442	97.7	0.0	0.0	2.3	0.8	15	1,381	3.3	**0.05**
162.6	**(56.9)**	**2.6**	**1.0**	**1.00**	**0.77**	**4,848**	**837**	**99.1**	**0.0**	**0.2**	**0.7**	**97.2**	**36**	**913**	**16.3**	**0.38**
—	—	3.2	0.8	1.03	0.80	65,771	7,529	99.2	0.0	0.2	0.6	97.6	2	2,508	10.4	**0.07**
146.4	**(57.5)**	**2.9**	**1.0**	**1.00**	**0.95**	**2,369**	**1,238**	**98.7**	**0.0**	**0.1**	**1.1**	**98.5**	**48**	**505**	**25.7**	**0.52**
167.9	(62.6)	2.6	0.9	0.99	0.94	63,926	12,987	97.1	0.0	0.5	2.4	96.9	11	4,107	18.5	**0.12**
19.3	**8.2**	**2.2**	**0.6**	**1.00**	**0.06**	**3,735**	**955**	**0.0**	**99.1**	**0.0**	**0.9**	**2.0**	**78**	**89**	**47.8**	**0.14**
—	—	2.1	0.6	1.07	0.07	5,592	1,065	0.0	99.9	0.0	0.1	0.0	65	88	26.8	**0.06**
—	—	2.3	0.7	1.41	0.09	1,314	916	0.0	99.9	0.0	0.1	0.0	96	96	18.5	**0.06**
—	—	2.2	0.6	1.07	0.07	5,201	805	0.0	99.9	0.0	0.1	0.0	67	96	21.3	0.07
33.6	**12.4**	**2.6**	**0.9**	**1.00**	**0.19**	**5,180**	**961**	**0.0**	**97.1**	**0.1**	**2.9**	**0.0**	**189**	**508**	**27.1**	**0.13**
—	—	2.2	0.8	1.19	0.23	3,996	405	0.0	99.6	0.0	0.4	0.0	31	117	19.7	0.07

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bottom-up approach seeks to build a portfolio from the best identifiable ETFs.

There are several parameters to consider when evaluating a ETF for a long-term position. Performance is an obvious one. The fund's five-year returns should be above or similar to its category averages or its direct peers. Peer comparisons would be warranted for ETFs following a narrow version of a broad strategy such as value or dividend growth. Year-by-year returns also warrant being examined for unusual swings. An ETF with a high five-year return but large variances in annual returns relative to its category may be less desirable than one with a slightly lower five-year return but more stable year-by-year returns relative to its category averages.

One useful measure is the risk index. The risk index indicates how volatile a fund is relative to its category and all ETFs. A risk index of 1.00 denotes average risk. Values above 1.00 indicate greater risk than average, while values below 1.00 indicate less risk than average. A higher risk index reveals greater volatility in a fund's recent (three-year) returns. It can suggest that the fund is more affected by certain market conditions and/or that you can expect greater fluctuations in the year-to-year returns. A fund with good long-term performance may not be suitable for a long-term investor who is unable to tolerate its higher level of volatility.

Assets under management, or simply AUM, matter because they give insights into whether a fund is likely to stay around or is at risk of being closed or merged into another fund at some point in the future. There is no single dollar amount at which a fund will be shut down, but ETFs with AUM under $100 million and particularly below $50 million should be viewed with caution. Medium- to large-size funds have AUM of $500 million or more. The largest ETFs have AUM in excess of $100 billion. [There is a significant gap in terms of AUM at the very top. The largest ETF, SPDR S&P 500 ETF (SPY), has $268 billion in assets versus $61 billion for the 10th largest ETF, iShares MSCI EAFE ETF (EFA).]

If the ETF will be held in a taxable account, consider the tax-cost ratio. The tax-cost ratio measures how much

(continued on page 14)

TABLE 2

Large Broad-Based Index ETFs, Useful for Long-Term Investors

Index	Structure	Fund Name (Ticker)	NAV Total Return (%) YTD	2018	2017	2016	2015	2014	12-Mo NAV Ret (%)	12-Mo Market Ret (%)	NAV Total Ret (%) 3-Year Ann'l	5-Year Ann'l
		Large Blend Stock Category Average	**17.7**	**(5.1)**	**20.8**	**11.8**	**(0.3)**	**12.9**	**9.4**	**9.1**	**12.8**	**9.9**
I	OE	iShares Core S&P 500 ETF (IVV)	18.5	(4.4)	21.8	11.9	1.3	13.6	10.4	10.3	14.1	10.7
I	OE	iShares Dow Jones US ETF (IYY)	18.6	(5.1)	21.2	12.0	0.5	12.7	9.5	9.3	13.9	10.1
I	OE	iShares Russell 1000 ETF (IWB)	18.8	(4.9)	21.5	11.9	0.8	13.1	9.9	9.7	14.0	10.3
I	OE	iShares Russell 3000 ETF (IWV)	18.6	(5.4)	20.9	12.6	0.3	12.4	8.8	8.7	13.8	10.0
I	OE	Invesco S&P 500 Equal Weight ETF (RSP)	19.0	(7.8)	18.5	14.3	(2.6)	14.0	8.0	7.9	12.1	8.8
I	UIT	SPDR S&P 500 ETF (SPY)	18.4	(4.4)	21.7	11.8	1.3	13.5	10.3	10.2	14.1	10.6
I	OE	Vanguard S&P 500 ETF (VOO)	18.5	(4.4)	21.8	11.9	1.4	13.6	10.4	10.1	14.2	10.7
I	OE	Vanguard Large-Cap ETF (VV)	18.6	(4.4)	22.0	11.6	1.1	13.4	10.3	10.3	14.3	10.6
I	OE	Vanguard Russell 1000 ETF (VONE)	18.8	(4.9)	21.5	11.8	0.8	13.1	10.0	9.9	14.0	10.3
I	OE	Vanguard Total Stock Market ETF (VTI)	18.7	(5.1)	21.2	12.7	0.4	12.6	9.0	9.0	14.0	10.2
		Large Growth Stock Category Average	**21.0**	**(3.1)**	**28.7**	**4.7**	**4.1**	**14.2**	**8.9**	**8.6**	**16.9**	**12.7**
I	UIT	Invesco QQQ Trust (QQQ)	21.7	(0.1)	32.7	7.0	9.5	19.1	10.0	9.7	21.3	15.9
		Mid-Cap Blend Stock Category Average	**16.2**	**(10.0)**	**17.0**	**15.1**	**(4.2)**	**9.5**	**2.4**	**2.3**	**10.0**	**7.2**
I	OE	iShares Core S&P Mid-Cap ETF (IJH)	17.9	(11.1)	16.2	20.6	(2.2)	9.6	1.2	1.3	10.8	7.9
I	OE	Invesco Russell 1000 Equal Weight ETF (EQAL)	17.6	(8.9)	17.2	16.1	(4.2)	—	4.3	4.2	10.4	—
I	OE	iShares Russell Mid-Cap ETF (IWR)	21.2	(9.1)	18.3	13.6	(2.6)	13.0	7.7	7.6	12.0	8.5
I	UIT	SPDR S&P MidCap 400 ETF (MDY)	17.8	(11.3)	15.9	20.3	(2.4)	9.4	1.2	1.2	10.6	7.7
I	OE	Vanguard Mid-Cap ETF (VO)	21.9	(9.2)	19.2	11.2	(1.3)	13.8	7.9	7.8	12.3	8.8
I	OE	Vanguard S&P Mid-Cap 400 ETF (IVOO)	17.9	(11.2)	16.1	20.6	(2.3)	9.6	1.3	1.3	10.8	7.9
		Small Blend Stock Category Average	**14.4**	**(9.5)**	**12.5**	**24.6**	**(5.1)**	**5.4**	**(3.1)**	**(3.5)**	**11.0**	**6.9**
I	OE	iShares Russell 2000 ETF (IWM)	16.9	(11.0)	14.7	21.4	(4.3)	4.9	(3.4)	(3.5)	12.3	7.1
I	OE	iShares Core S&P Small-Cap ETF (IJR)	13.7	(8.4)	13.2	26.5	(2.0)	5.7	(4.9)	(4.8)	12.0	8.4
I	OE	SPDR S&P 600 Small Cap ETF (SLY)	13.6	(8.5)	13.2	26.5	(2.5)	6.1	(4.9)	(5.0)	11.9	8.3
I	OE	Vanguard Small-Cap ETF (VB)	19.5	(9.3)	16.2	18.3	(3.7)	7.5	2.3	2.3	12.4	7.7
I	OE	Vanguard Russell 2000 ETF (VTWO)	17.0	(11.0)	14.7	21.3	(4.4)	4.9	(3.2)	(3.6)	12.3	7.1
I	OE	Vanguard S&P Small-Cap 600 ETF (VIOO)	13.6	(8.6)	13.3	26.4	(2.0)	5.6	(5.0)	(5.0)	11.9	8.3
		Real Estate Sector Category Average	**17.5**	**(4.3)**	**7.7**	**11.2**	**0.3**	**27.4**	**10.3**	**10.1**	**5.5**	**7.4**
I	OE	iShares Cohen & Steers REIT ETF (ICF)	19.3	(2.5)	5.0	4.6	6.0	34.1	16.0	15.9	4.7	8.8
I	OE	Schwab US REIT ETF (SCHH)	16.6	(4.2)	3.7	6.4	4.4	31.9	9.7	9.7	3.6	7.5
I	OE	SPDR Dow Jones REIT ETF (RWR)	16.5	(4.3)	3.5	6.4	4.2	31.7	9.6	9.4	3.5	7.3
I	OE	Vanguard Real Estate ETF (VNQ)	19.3	(5.9)	4.9	8.5	2.4	30.3	12.2	12.0	4.0	7.7
		Foreign Large Blend Stock Category Average	**13.4**	**(13.1)**	**25.5**	**2.7**	**(0.5)**	**(2.7)**	**1.1**	**0.9**	**8.9**	**3.5**
I	OE	iShares Core MSCI EAFE ETF (IEFA)	14.0	(14.2)	26.4	1.4	0.5	(4.8)	0.2	0.2	9.3	2.7
I	OE	iShares MSCI EAFE ETF (EFA)	14.1	(13.8)	24.9	1.0	(0.9)	(5.0)	1.0	1.3	9.0	2.2

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NAV Total Ret (%) Bull Mkt	NAV Total Ret (%) Bear Mkt	Yield (%)	Tax-Cost Ratio (%)	Risk Index Cat (X)	Risk Index Total (X)	Total Assets ($ Mil)	Avg Daily Trading Volume (Thous)	Portfolio (%) Stock	Portfolio (%) Bond	Portfolio (%) Other	Portfolio (%) Cash	% of Port in Foreign Issues	Portfolio Turnover Ratio (%)	Number of Holdings	% of Port in Top 10 Holdings	Expense Ratio (%)
374.4	**(48.9)**	**1.6**	**0.6**	**1.00**	**0.87**	**6,288**	**651**	**97.9**	**0.9**	**0.0**	**1.2**	**1.8**	**123**	**425**	**27.4**	**0.37**
393.8	(50.8)	2.0	0.5	0.99	0.87	176,381	3,836	99.9	0.0	0.0	0.1	1.0	5	509	21.5	**0.04**
390.2	(50.8)	1.8	0.5	1.01	0.88	1,199	28	99.8	0.0	0.0	0.2	1.1	4	1,228	18.8	0.20
395.3	**(51.0)**	2.3	0.5	1.00	0.88	20,506	747	99.9	0.0	0.0	0.1	0.9	6	1,008	19.3	**0.15**
390.5	(51.1)	2.2	0.5	1.02	0.89	9,448	210	99.8	0.0	0.0	0.2	1.0	5	2,932	18.2	0.20
462.2	**(54.3)**	1.8	0.4	1.06	0.93	16,143	639	100.0	0.0	0.0	(0.0)	1.6	—	507	2.4	0.20
391.2	(50.8)	1.9	0.7	0.99	0.87	268,034	67,022	99.6	0.0	0.0	0.4	1.0	2	506	21.5	**0.09**
—	—	2.0	0.6	0.99	0.87	114,960	2,434	99.4	0.0	0.0	0.6	0.9	4	513	21.4	**0.03**
396.5	**(50.4)**	2.0	0.6	0.99	0.87	14,478	196	99.4	0.0	0.0	0.6	1.0	4	614	20.5	**0.04**
—	—	1.8	0.5	1.00	0.88	1,173	63	99.7	0.0	0.0	0.3	1.0	9	985	19.3	**0.12**
401.7	**(50.8)**	1.8	0.6	1.02	0.89	116,336	2,564	99.0	0.0	0.0	1.0	0.9	3	3,601	17.6	**0.03**
485.3	**(49.5)**	**0.9**	**0.3**	**1.00**	**1.03**	**4,335**	**757**	**99.3**	**0.0**	**0.0**	**0.7**	**1.9**	**57**	**175**	**34.0**	**0.41**
652.9	**(49.7)**	0.8	0.3	1.05	1.07	74,329	34,437	99.7	0.0	0.0	0.3	2.5	—	104	54.1	0.20
390.0	**(51.9)**	**1.5**	**0.5**	**1.00**	**0.99**	**3,369**	**136**	**99.0**	**0.7**	**0.0**	**0.3**	**2.1**	**131**	**489**	**13.2**	**0.38**
402.0	(49.2)	1.5	0.4	1.09	1.08	50,329	942	99.9	0.0	0.0	0.1	0.2	17	404	6.6	**0.07**
—	—	1.5	0.4	0.96	0.95	612	30	100.0	0.0	0.0	(0.0)	1.3	—	964	2.9	0.20
431.8	(53.6)	2.0	0.5	0.96	0.95	20,661	1,908	99.9	0.0	0.0	0.1	1.0	11	809	4.5	0.20
392.1	(49.5)	1.3	0.5	1.08	1.07	19,555	872	100.0	0.0	0.0	0.0	0.2	17	400	6.8	0.24
430.9	(53.5)	1.5	0.5	0.95	0.95	26,156	322	99.1	0.0	0.0	0.9	1.7	16	375	7.2	**0.04**
—	—	1.4	0.5	1.09	1.08	725	23	98.7	0.0	0.0	1.3	0.2	12	402	6.7	**0.15**
420.3	**(53.8)**	**1.5**	**0.5**	**1.00**	**1.20**	**3,268**	**581**	**96.7**	**0.9**	**0.0**	**2.3**	**1.1**	**49**	**834**	**9.7**	**0.31**
364.2	(51.9)	1.6	0.5	1.02	1.22	42,258	19,166	99.7	0.0	0.0	0.3	0.8	22	1,987	3.4	0.19
426.8	(51.3)	1.4	0.4	1.06	1.27	44,741	2,804	99.8	0.0	0.0	0.2	1.4	14	606	5.2	**0.07**
471.0	**(53.4)**	1.4	0.9	1.06	1.27	1,296	51	99.9	0.0	0.0	0.1	1.4	14	603	5.3	**0.15**
440.0	(53.1)	1.5	0.5	**0.93**	1.11	25,173	442	97.7	0.0	0.0	2.3	0.8	15	1,381	3.3	**0.05**
—	—	1.2	0.4	1.02	1.22	1,528	111	97.3	0.0	0.0	2.7	0.8	19	2,020	3.2	**0.15**
—	—	1.2	0.4	1.06	1.27	388	48	98.1	0.0	0.0	1.9	1.4	13	605	5.2	**0.15**
427.4	**(63.2)**	**4.1**	**1.8**	**1.00**	**0.94**	**2,120**	**693**	**99.4**	**0.0**	**0.0**	**0.6**	**2.8**	**20**	**84**	**46.4**	**0.38**
486.1	**(68.6)**	2.6	1.3	0.96	0.90	2,260	103	99.6	0.0	0.0	0.4	0.0	12	34	61.0	0.34
—	—	2.9	1.2	0.99	0.93	5,456	533	99.8	0.0	0.0	0.2	0.0	7	98	44.6	**0.07**
454.3	(66.5)	3.7	1.5	0.99	0.93	2,543	214	99.7	0.0	0.0	0.3	0.0	6	96	45.8	0.25
467.9	**(64.4)**	4.0	1.6	1.00	0.94	33,830	5,309	99.1	0.0	0.0	1.0	0.0	24	192	42.2	**0.12**
162.6	**(56.9)**	**2.6**	**1.0**	**1.00**	**0.77**	**4,848**	**837**	**99.1**	**0.0**	**0.2**	**0.7**	**97.2**	**36**	**913**	**16.3**	**0.38**
—	—	3.2	0.8	1.03	0.80	65,771	7,529	99.2	0.0	0.2	0.6	97.6	2	2,508	10.4	**0.07**
157.4	(56.5)	3.1	0.8	1.02	0.79	61,106	25,714	99.2	0.0	0.1	0.7	97.6	4	956	12.1	0.31

(continued on next page)

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TABLE 2

Large Broad-Based Index ETFs, Useful for Long-Term Investors (continued)

Index	Structure	Fund Name (Ticker)	NAV Total Return (%)						12-Mo NAV Ret (%)	12-Mo Market Ret (%)	NAV Total Ret (%)	
			YTD	2018	2017	2016	2015	2014			3-Year Ann'l	5-Year Ann'l
I	OE	Vanguard FTSE All-Wld ex-US ETF (VEU)	13.4	(14.0)	27.3	4.8	(4.7)	(4.0)	1.4	1.4	9.2	2.4
I	OE	Vanguard FTSE Developed Markets ETF (VEA)	13.8	(14.5)	26.4	2.5	(0.2)	(5.7)	0.1	0.1	8.9	2.5
I	OE	Vanguard Total International Stock ETF (VXUS)	13.3	(14.4)	27.5	4.7	(4.3)	(4.2)	0.6	0.5	9.0	2.3
		Diversified Emerging Mkts Stock Category Average	**10.4**	**(14.2)**	**32.1**	**11.6**	**(15.9)**	**(3.1)**	**2.1**	**2.5**	**9.0**	**1.3**
I	OE	iShares Core MSCI Emerging Markets ETF (IEMG)	10.0	(14.7)	36.8	10.0	(13.9)	(2.0)	0.6	0.7	10.1	2.3
I	OE	iShares MSCI Emerging Markets ETF (EEM)	10.2	(15.0)	36.4	10.5	(15.4)	(2.8)	0.7	1.2	10.0	1.9
I	OE	Vanguard FTSE Emerging Markets ETF (VWO)	12.2	(14.6)	31.4	11.8	(15.3)	0.6	3.3	3.6	9.3	2.3
		Short Government Bond Category Average	**2.2**	**1.5**	**0.7**	**0.8**	**0.4**	**1.0**	**3.6**	**3.6**	**1.3**	**1.2**
I	OE	iShares 1-3 Year Treasury Bond ETF (SHY)	2.4	1.5	0.3	0.7	0.4	0.5	3.8	3.8	1.2	1.1
I	OE	Schwab Short-Term US Treasury ETF (SCHO)	2.4	1.5	0.4	0.8	0.4	0.5	4.0	3.9	1.2	1.1
I	OE	Vanguard Short-Term Treasury ETF (VGSH)	2.4	1.5	0.4	0.8	0.5	0.5	3.9	3.9	1.2	1.1
		Short-Term Bond Category Average	**3.4**	**1.2**	**1.9**	**2.9**	**1.4**	**2.5**	**4.7**	**4.7**	**2.1**	**2.1**
I	OE	iShares Short-Term Corporate Bond ETF (IGSB)	4.7	1.3	1.4	1.8	0.7	0.7	6.1	6.2	2.4	2.0
I	OE	Vanguard Short-Term Bond ETF (BSV)	3.5	1.3	1.2	1.4	0.9	1.3	5.3	5.3	1.6	1.7
I	OE	Vanguard Short-Term Corporate Bond ETF (VCSH)	4.7	0.9	2.4	2.6	1.2	2.0	6.2	6.3	2.5	2.4
		Intermediate Government Bond Category Average	**4.5**	**1.0**	**1.7**	**1.2**	**1.3**	**4.8**	**6.7**	**6.8**	**1.5**	**2.3**
I	OE	iShares 3-7 Year Treasury Bond ETF (IEI)	4.6	1.4	1.2	1.2	1.7	3.1	7.1	7.1	1.3	2.2
I	OE	iShares US Treasury Bond ETF (GOVT)	5.1	0.7	2.2	0.9	0.8	5.0	7.1	7.1	1.2	2.4
I	OE	Vanguard Intmdt-Term Trs ETF (VGIT)	5.0	1.3	1.6	1.1	1.6	4.2	7.7	7.7	1.3	2.4
		Intermediate Core Bond Category Average	**6.1**	**(0.5)**	**3.6**	**2.8**	**0.6**	**5.4**	**8.0**	**7.9**	**2.1**	**2.9**
I	OE	iShares Core US Aggregate Bond ETF (AGG)	6.1	(0.0)	3.5	2.6	0.5	6.0	7.8	7.7	2.3	2.9
I	OE	Vanguard Interm-Term Bond ETF (BIV)	7.7	(0.1)	3.8	2.9	1.2	7.0	10.0	10.0	2.4	3.4
I	OE	Vanguard Total Bond Market ETF (BND)	6.1	(0.0)	3.6	2.6	0.4	6.0	7.9	8.0	2.2	2.9
		Long Government Bond Category Average	**10.6**	**(1.6)**	**8.1**	**1.2**	**(1.3)**	**26.3**	**12.1**	**12.0**	**1.2**	**5.5**
I	OE	iShares 20+ Year Treasury Bond ETF (TLT)	11.0	(2.1)	8.9	1.4	(1.6)	27.4	12.1	12.1	1.1	5.8
I	OE	iShares 7-10 Year Treasury Bond ETF (IEF)	6.9	0.8	2.5	1.0	1.5	8.9	10.0	10.0	1.2	3.2
		Long-Term Bond Category Average	**14.2**	**(5.8)**	**11.2**	**8.7**	**(3.2)**	**16.9**	**14.2**	**14.3**	**4.6**	**5.7**
I	OE	Vanguard Long-Term Bond ETF (BLV)	13.0	(4.5)	10.9	6.5	(3.4)	19.9	13.7	13.8	3.6	5.7
I	OE	Vanguard Long-Term Corporate Bd ETF (VCLT)	15.2	(6.9)	12.4	10.6	(4.6)	16.7	15.2	15.6	5.3	5.8
		Corporate Bond Category Average	**8.8**	**(2.1)**	**5.7**	**5.5**	**(0.4)**	**6.3**	**9.6**	**9.7**	**3.8**	**3.6**
I	OE	iShares iBoxx $ Invmt Grade Corp Bd ETF (LQD)	11.9	(3.8)	7.2	6.0	(1.1)	8.6	12.5	12.6	4.0	4.3
I	OE	Vanguard Interm-Term Corp Bd ETF (VCIT)	10.0	(1.8)	5.5	5.3	0.9	7.5	11.4	11.6	3.7	4.2
		High Yield Bond Category Average	**9.0**	**(1.9)**	**6.8**	**13.4**	**(4.7)**	**(0.6)**	**6.7**	**6.9**	**6.4**	**3.0**
I	OE	iShares iBoxx $ High Yield Corp Bd ETF (HYG)	9.9	(1.9)	6.1	13.9	(5.5)	2.0	7.6	8.1	6.7	3.6

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NAV Total Ret (%)			Tax-Cost	Risk Index		Total	Avg Daily	Portfolio (%)				% of	Portfolio		% of	Expense
Bull Mkt	Bear Mkt	Yield (%)	Ratio (%)	Cat (X)	Total (X)	Assets ($ Mil)	Trading Volume (Thous)	Stock	Bond	Other	Cash	Port in Foreign Issues	Turnover Ratio (%)	Number of Holdings	Port in Top 10 Holdings	Ratio (%)
169.5	(58.3)	2.9	0.9	1.05	0.81	23,969	2,048	97.4	0.0	2.5	0.1	96.3	6	2,847	10.5	0.09
167.9	(57.0)	2.8	0.9	1.04	0.81	72,536	7,882	96.3	0.0	0.1	3.6	95.0	3	3,934	9.1	0.05
—	—	2.9	1.0	1.05	0.81	13,264	1,349	95.9	0.0	0.4	3.8	94.8	3	6,368	8.0	0.09
146.4	(57.5)	2.9	1.0	1.00	0.95	2,369	1,238	98.7	0.0	0.1	1.1	98.5	48	505	25.7	0.52
—	—	2.6	0.8	1.01	0.97	59,192	16,242	99.2	0.0	0.0	0.8	99.0	6	2,374	20.8	0.14
145.4	(59.5)	2.1	0.6	1.03	0.98	32,247	64,617	99.3	0.0	0.0	0.7	99.0	16	1,054	23.3	0.67
167.9	(62.6)	2.6	0.9	0.99	0.94	63,926	12,987	97.1	0.0	0.5	2.4	96.9	11	4,107	18.5	0.12
19.3	8.2	2.2	0.6	1.00	0.06	3,735	955	0.0	99.1	0.0	0.9	2.0	78	89	47.8	0.14
11.4	8.2	2.1	0.6	1.05	0.07	17,674	5,095	0.0	99.5	0.0	0.5	0.0	62	81	44.9	0.15
—	—	2.1	0.6	1.07	0.07	5,592	1,065	0.0	99.9	0.0	0.1	0.0	65	88	26.8	0.06
—	—	2.2	0.6	1.07	0.07	5,201	805	0.0	99.9	0.0	0.1	0.0	67	96	21.3	0.07
29.8	4.7	2.6	0.9	1.00	0.08	2,692	306	0.0	92.9	1.4	5.7	13.7	75	743	29.7	0.26
33.6	1.9	2.9	0.9	1.13	0.09	12,435	1,858	0.0	95.9	3.0	1.1	23.6	80	2,469	2.7	0.06
25.9	7.5	2.2	0.8	1.27	0.10	22,445	1,468	0.0	98.2	0.6	1.2	11.4	48	2,443	13.8	0.07
—	—	2.8	1.0	1.34	0.11	24,057	1,778	0.0	97.4	2.3	0.3	15.9	56	2,258	2.4	0.07
33.6	12.4	2.6	0.9	1.00	0.19	5,180	961	0.0	97.1	0.1	2.9	0.0	189	508	27.1	0.13
31.5	14.7	2.1	0.7	1.02	0.19	7,785	730	0.0	99.2	0.0	0.8	0.0	41	79	54.2	0.15
—	—	2.0	0.7	1.28	0.24	11,733	5,544	0.0	100.0	0.0	0.0	0.0	27	127	30.0	0.15
—	—	2.2	0.8	1.19	0.23	3,996	405	0.0	99.6	0.0	0.4	0.0	31	117	19.7	0.07
51.1	6.4	2.8	1.1	1.00	0.22	7,793	562	0.0	97.4	0.6	2.0	7.0	70	2,920	26.4	0.14
49.0	6.3	2.7	1.1	0.98	0.22	64,059	3,935	0.0	97.0	0.5	2.5	6.7	146	7,404	8.1	0.05
70.6	5.0	2.8	1.2	1.21	0.27	12,367	566	0.0	97.9	1.1	1.0	8.5	53	1,820	20.1	0.07
50.1	6.2	2.8	1.1	1.00	0.22	41,531	2,844	0.0	97.9	0.5	1.7	7.4	54	17,358	4.0	0.04
72.8	17.0	2.4	1.0	1.00	0.68	4,176	1,907	0.0	97.9	0.0	2.1	0.0	27	36	55.1	0.19
78.9	19.8	2.4	1.1	1.05	0.72	14,555	9,607	0.0	99.9	0.0	0.1	0.0	17	37	56.8	0.15
49.1	16.9	2.3	0.8	0.50	0.34	16,829	5,078	0.0	99.8	0.0	0.2	0.0	63	18	99.5	0.15
117.2	2.3	3.9	1.7	1.00	0.49	1,333	196	0.0	98.7	0.1	1.2	10.2	36	1,329	10.4	0.11
117.2	2.3	3.5	1.6	1.12	0.55	3,449	405	0.0	99.4	0.0	0.6	9.0	38	2,205	14.2	0.07
—	—	4.0	1.8	1.03	0.50	4,057	382	0.0	99.6	0.1	0.3	10.5	48	1,976	3.8	0.07
81.1	(2.9)	3.3	1.3	1.00	0.26	2,720	714	0.0	97.9	1.5	0.6	11.8	36	1,025	13.2	0.19
99.0	(4.3)	3.4	1.4	1.29	0.34	36,802	14,354	0.0	97.0	2.7	0.3	11.9	10	2,023	2.7	0.15
—	—	3.4	1.4	1.02	0.27	24,042	2,478	0.0	95.7	2.9	1.4	10.1	65	1,789	3.9	0.07
151.3	(24.1)	5.5	2.2	1.00	0.29	1,015	839	0.1	96.9	0.3	2.7	16.1	29	390	13.5	0.41
150.1	(24.1)	5.3	2.1	1.10	0.32	17,747	24,623	0.0	98.9	0.5	0.6	14.1	14	993	4.2	0.49

(continued on next page)

TABLE 2

Large Broad-Based Index ETFs, Useful for Long-Term Investors (continued)

Index	Structure	Fund Name (Ticker)	NAV Total Return (%) YTD	2018	2017	2016	2015	2014	12-Mo NAV Ret (%)	12-Mo Market Ret (%)	NAV Total Ret (%) 3-Year Ann'l	5-Year Ann'l
I	OE	SPDR Blmbg Barclays High Yield Bd ETF (JNK)	10.6	(3.2)	6.5	**14.8**	(7.2)	1.2	7.8	**8.4**	6.8	3.1
		Muni National Long Bond Category Average	**7.5**	**(0.8)**	**7.1**	**0.6**	**4.6**	**13.6**	**8.2**	**8.2**	**2.4**	**4.6**
I	OE	Invesco National AMT-Free Muni Bd ETF (PZA)	5.9	0.2	6.6	**1.3**	4.0	14.2	6.9	7.3	**2.7**	4.6
I	OE	SPDR Nuveen Blmbg Barclays Muni Bd ETF (TFI)	5.3	**0.4**	5.6	(0.2)	3.3	9.2	6.8	6.9	2.0	3.5
		Muni National Short Bond Category Average	**1.8**	**1.4**	**1.2**	**(0.1)**	**0.7**	**0.7**	**2.8**	**2.8**	**1.2**	**1.1**
I	OE	iShares Short-Term National Muni Bd ETF (SUB)	2.1	**1.6**	0.9	(0.0)	0.6	0.6	3.0	3.0	1.2	1.0
I	OE	SPDR Nuveen Blmbg Barclays ST MunBd ETF (SHM)	**2.4**	1.4	1.3	(0.4)	**1.1**	**0.9**	**3.3**	**3.3**	1.1	1.2

Data is as of June 30, 2019. Bold return numbers are in the top 25% of all ETFs in the category. Bold expense ratios are in the lowest 25% of all ETFs in the category.
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(continued from page 9)
an ETF's annualized return is reduced by the taxes paid on distributions, assuming the maximum marginal tax rate. The lower the ratio, the more tax-efficient the ETF. While most ETFs are tax efficient, not all are. For instance, the SPDR NYSE Technology ETF (XNTK) has a three-year tax-cost ratio of 2.5%. Investors who held the fund in a taxable account saw their annualized returns reduced by 2.5 percentage points because of taxes. The tax-cost ratio is not applicable if the ETF is held in a tax-preferred account such as a traditional IRA or a Roth IRA, but it does signal potentially higher levels of turnover.

Speaking of costs, the expense ratio matters regardless of the type of account the fund is held in. The expense ratio is the sum of administrative fees and adviser management fees divided by the average net asset value of the ETF. It is charged each and every year you own the fund. ETF shareholders do not get billed for the expense ratio, rather it is taken out of a fund's assets, diminishing the return that shareholders ultimately realize.

Expense ratios are shown in a percentage format. A 0.10% fee will cost you $1 for every $1,000 invested in a fund. A 0.50% fee will cost you $5 for every $1,000 invested. The more invested and/or the higher the expense ratio, the more you will pay every year. For example, a $5,000 investment in an ETF with a 0.50% expense ratio will incur an annual cost of $25 per year. This cost is in addition to any brokerage commissions and trading costs.

You can calculate the annual cost you will incur by simply multiplying the expense ratio by the amount you have invested or plan to invest. The result of the calculation can help you determine whether or not it makes sense to pay the brokerage commission for an ETF instead of relying solely on what is on the no-commission ETF menu. Let's say an ETF on the no-commission list has an expense ratio of 0.10% but a similar ETF not on the list has a 0.05% expense ratio. Let's also assume you want to allocate $10,000 to it.

During your first year, you will lose $10 to expense ratios on the commission-free fund ($10,000 × 0.10% = $10). By opting for the lower-cost fund, you will lose $5 to the expense ratio ($10,000 × 0.05% = $5) and an additional $4.95 (or $6.95) in brokerage commissions. During the second year, assuming the ETFs' share prices are unchanged, you will again spend $10 on expense ratios for the commission-free fund but just $5 in expenses on the commission fund. Your total costs will now be higher on the no-commission ETF ($10 + $10 = $20) than for the commission ETF ($5 + $5 + $4.95 = $14.95).

The savings will continue to grow each and every year you own the ETF with the lower expense ratio, even after accounting for the brokerage commission. After five years, you will have saved $20 after accounting for what you spent on the purchase of the ETF excluded from the commission-free menu.

The simple analysis assumes the NAV of both ETFs is unchanged. In the real world, the returns between the two funds will differ depending on whether they follow the same index and their relative expense ratios. As the size of your investment in an ETF grows, so does the amount you pay in expenses ratios on an absolute-dollar basis.

Short-Term Investors

Brokerage commissions are more of a consideration for those intending to hold ETFs for shorter-term periods, such as less than a year. For investors who fall into this category, other considerations can also be significant.

One of those considerations is trading volume. The ability to buy and sell quickly and without impacting the

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NAV Total Ret (%) Bull Mkt	NAV Total Ret (%) Bear Mkt	Yield (%)	Tax-Cost Ratio (%)	Risk Index Cat (X)	Risk Index Total (X)	Total Assets ($ Mil)	Avg Daily Trading Volume (Thous)	Portfolio (%) Stock	Portfolio (%) Bond	Portfolio (%) Other	Portfolio (%) Cash	% of Port in Foreign Issues	Portfolio Turnover Ratio (%)	Number of Holdings	% of Port in Top 10 Holdings	Expense Ratio (%)
174.4	—	5.6	2.3	1.17	0.34	9,468	8,124	0.0	99.5	0.3	0.2	14.9	38	878	4.7	0.40
69.4	**(1.2)**	**2.8**	**0.0**	**1.00**	**0.35**	**876**	**83**	**0.0**	**99.9**	**(0.5)**	**0.6**	**0.5**	**20**	**927**	**18.6**	**0.40**
78.8	(6.9)	3.0	0.0	**0.76**	0.27	1,902	199	0.0	98.6	0.0	1.4	1.3	—	404	13.0	0.28
56.5	4.6	2.2	0.0	0.80	0.28	2,926	256	0.0	99.8	0.0	0.3	0.0	20	3,208	4.3	0.23
15.5	**8.4**	**1.5**	**0.0**	**1.00**	**0.08**	**736**	**48**	**0.0**	**93.0**	**0.0**	**7.0**	**0.0**	**67**	**435**	**19.7**	**0.26**
15.2	—	1.5	0.0	1.04	0.08	2,332	107	0.0	96.8	0.0	3.2	0.0	24	1,065	5.0	**0.07**
18.3	8.4	1.3	0.0	1.61	0.13	3,614	235	0.0	99.5	0.0	0.5	0.0	27	1,090	7.8	0.20

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fund's price increases is important. Those following strategies with higher levels of turnover may find it beneficial to gravitate toward ETFs with higher trading volumes. Such funds are more likely to also have narrower bid/ask spreads, which reduce transaction costs. (The bid is the maximum price buyers are willing to pay and the ask is the minimum price sellers are willing to accept.)

The market return differential also matters. The market return differential is the difference between the return realized by the investor and the change in an ETF's net asset value (NAV). In theory, both should be the same. In reality they can differ, with an investor's return being higher or lower than the change in the value of the underlying net assets. The greater the difference, the more likely it may be for an ETF to trade at a premium or discount to its NAV. Any reversion in the fund's price back to its NAV will impact the return you realize from the trade. Therefore, it can be advantageous to put more focus on funds with a smaller market return differential.

The no-commission ETFs can be a starting point for those seeking to reduce the cost of more frequent trading. Restrictions on which ETFs are included limit the number of funds to choose from. Active traders should make sure they understand the length of the minimum holding periods, if they exist. The box on page 18 provides an overview of the various no-commission ETF offerings by brokerage firms.

There is evidence showing that rotational strategies can work for sector-oriented ETFs. Sam Stovall, the chief equity strategist at CFRA Research, has found that a six-month rotational strategy beats the S&P 500. His strategy calls for allocating to the health care and consumer staples sectors between May and October. For the months of November through April, the strategy calls for shifting to consumer discretionary, industrials, materials and technology. In both cases, the portfolio is allocated equally to each sector fund.

Doug Ramsey at Leuthold Group tracks what he calls the Bridesmaid Strategy. A fund representing the second-best-performing S&P 500 sector is bought and held for a full year. It is then replaced with the new bridesmaid: the fund now ranking second in terms of trailing 12-month performance. The strategy can also be used with semiannual, quarterly and even monthly rebalancing.

Keep in mind that neither strategy beats the market every single year. Plus, all tactical strategies require the discipline to stick with them. Even when they seem easy to follow, the actual volatility of returns experienced and the buy and sell decisions they call for making can be hard to deal with in real-world situations. With these caveats given, Table 3 lists the largest and most-widely held sector funds.

Key ETF Terms and Statistics

Most of the information shown in Tables 1, 2 and 3 is provided by Morningstar Inc. or is calculated from the data the company provided. Any data source has the potential for error, however. Before investing in any exchange-traded fund or exchange-traded note, you should read the prospectus, annual report and quarterly reports.

When a dash appears in an ETF listing, it indicates that the number was not available or does not apply in that particular instance. We did not compile bull and bear ratings for ETFs not operating during the entire bull or bear market period.

Figures given for the category averages are calculated based on the entire universe of ETFs, not just those included here in the print version of this guide.

The following provides an explanation of some of the

(continued on page 18)

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In the same Page Display menu, make sure "Show Cover in Two Page View" is checked.

TABLE 3

Large Stock Sector ETFs, Useful for Short-Term Investors

Index	Structure	Fund Name (Ticker)	NAV Total Return (%) YTD	2018	2017	2016	2015	2014	12-Mo NAV Ret (%)	12-Mo Market Ret (%)	NAV Total Ret (%) 3-Year Ann'l	5-Year Ann'l
		Communications Sector Category Average	**15.9**	**(10.0)**	**(1.3)**	**19.8**	**0.9**	**3.0**	**5.6**	**5.3**	**2.1**	**3.9**
I	OE	Communication Services Sel Sect SPDR ETF (XLC)	**19.8**	—	—	—	—	—	0.6	0.2	—	—
I	OE	iShares US Telecommunications ETF (IYZ)	13.1	(8.5)	(11.6)	22.1	0.5	0.5	8.8	8.7	(1.4)	1.8
I	OE	Vanguard Communication Services ETF (VOX)	17.2	(16.5)	(5.6)	22.6	**2.7**	4.0	3.1	3.1	(1.5)	2.9
		Consumer Cyclical Sector Category Average	**17.4**	**(8.3)**	**22.1**	**4.3**	**0.5**	**5.8**	**1.4**	**1.0**	**11.4**	**7.0**
I	OE	Consumer Discret Sel Sect SPDR ETF (XLY)	**21.3**	**1.7**	22.8	5.9	**9.9**	9.5	**10.7**	**10.6**	**16.8**	**13.9**
I	OE	iShares US Consumer Services ETF (IYC)	20.9	**1.8**	19.9	5.5	**6.2**	**14.0**	**13.3**	**13.3**	**16.0**	**13.1**
I	OE	Vanguard Consumer Discretionary ETF (VCR)	19.8	(2.3)	**22.8**	**6.6**	**6.4**	9.4	**7.0**	**7.0**	**15.3**	**12.0**
		Consumer Defensive Sector Category Average	**12.5**	**(10.5)**	**14.0**	**7.0**	**7.7**	**13.0**	**5.0**	**4.8**	**3.7**	**7.2**
I	OE	Consumer Staples Select Sector SPDR ETF (XLP)	**15.9**	**(8.0)**	12.9	5.0	6.8	15.9	**16.2**	**16.0**	**4.6**	8.3
I	OE	Vanguard Consumer Staples ETF (VDC)	14.8	**(7.7)**	11.8	**6.3**	6.0	15.8	**13.7**	**13.6**	4.5	8.0
		Equity Energy Sector Category Average	**10.3**	**(26.9)**	**(5.4)**	**26.5**	**(29.6)**	**(20.3)**	**(24.7)**	**(24.8)**	**(5.6)**	**(15.5)**
I	OE	Energy Select Sector SPDR ETF (XLE)	**13.0**	**(18.1)**	(1.0)	28.0	**(21.5)**	**(8.6)**	**(13.3)**	**(13.3)**	**0.7**	**(5.9)**
I	OE	iShares US Energy ETF (IYE)	12.2	**(19.2)**	(1.9)	25.6	**(22.2)**	**(9.6)**	**(15.5)**	**(15.6)**	(0.9)	**(7.1)**
I	OE	Vanguard Energy ETF (VDE)	12.0	(19.9)	(2.4)	29.0	(23.2)	**(9.9)**	(16.5)	(16.7)	(0.9)	**(7.3)**
		Financial Sector Category Average	**17.6**	**(13.1)**	**14.7**	**22.0**	**(0.1)**	**6.7**	**3.0**	**2.7**	**13.7**	**8.2**
I	OE	Financial Select Sector SPDR ETF (XLF)	17.1	(13.1)	**22.0**	22.5	(1.6)	**15.0**	6.2	6.0	**16.3**	**10.4**
I	OE	iShares US Financials ETF (IYF)	19.2	**(9.3)**	19.5	16.8	(0.3)	**14.1**	**9.2**	**9.2**	15.5	**10.5**
I	OE	Vanguard Financials ETF (VFH)	17.6	(13.5)	20.1	24.7	(0.5)	**14.0**	4.8	4.6	15.6	**10.4**
		Health Sector Category Average	**13.5**	**(2.2)**	**27.0**	**(10.5)**	**8.3**	**27.0**	**2.7**	**2.5**	**11.9**	**9.0**
I	OE	iShares US Healthcare ETF (IYH)	8.6	**5.9**	22.3	**(2.8)**	6.1	25.2	**11.8**	**11.7**	11.2	10.4
I	OE	Vanguard Health Care ETF (VHT)	9.7	**5.6**	23.3	(3.3)	7.2	25.4	**11.4**	**11.5**	11.8	11.0
		Industrials Sector Category Average	**21.4**	**(14.3)**	**22.3**	**20.8**	**(5.9)**	**7.0**	**6.1**	**6.0**	**13.5**	**8.0**
I	OE	Industrial Select Sector SPDR ETF (XLI)	21.3	(13.1)	23.8	19.9	(4.3)	10.4	10.3	10.4	13.6	**9.6**
I	OE	Vanguard Industrials ETF (VIS)	22.1	(13.9)	21.5	20.4	(3.6)	8.5	9.3	9.3	13.1	9.1
		Natural Resources Sector Category Average	**12.0**	**(17.3)**	**22.7**	**29.0**	**(21.2)**	**(6.3)**	**(6.2)**	**(6.2)**	**8.4**	**(0.3)**
I	OE	Materials Select Sector SPDR ETF (XLB)	**17.1**	(14.8)	24.0	16.6	**(8.6)**	**7.3**	**3.1**	**2.9**	10.3	**5.5**
I	OE	Vanguard Materials ETF (VAW)	**16.8**	(17.4)	23.7	21.4	(10.1)	**5.9**	(0.5)	(0.6)	9.8	**5.0**
		Real Estate Sector Category Average	**17.5**	**(4.3)**	**7.7**	**11.2**	**0.3**	**27.4**	**10.3**	**10.1**	**5.5**	**7.4**
I	OE	iShares US Real Estate ETF (IYR)	18.9	(4.3)	**9.4**	7.0	1.6	26.6	12.5	11.7	5.9	**8.1**
I	OE	Real Estate Select Sector SPDR (XLRE)	**20.3**	**(2.3)**	**10.7**	3.2	—	—	**16.7**	**16.5**	**6.8**	—
I	OE	Vanguard Real Estate ETF (VNQ)	**19.3**	(5.9)	4.9	8.5	2.4	30.3	12.2	12.0	4.0	7.7
		Technology Sector Category Average	**22.7**	**(2.5)**	**35.9**	**15.5**	**4.6**	**15.0**	**7.7**	**7.5**	**23.6**	**16.3**
I	OE	Technology Select Sector SPDR ETF (XLK)	**27.0**	(1.6)	34.3	14.8	5.6	17.8	**14.2**	**14.0**	23.5	17.2
I	OE	Vanguard Information Technology ETF (VGT)	**27.2**	2.5	37.1	13.7	5.0	18.0	**17.8**	**17.8**	**26.9**	18.4
		Utilities Sector Category Average	**13.7**	**3.2**	**12.0**	**16.1**	**(3.6)**	**23.6**	**16.1**	**16.3**	**7.9**	**9.1**
I	OE	iShares US Utilities ETF (IDU)	14.2	3.9	12.0	16.5	(5.0)	**27.4**	17.7	17.6	7.8	9.7
I	OE	Utilities Select Sector SPDR ETF (XLU)	**14.6**	4.0	11.9	16.1	(4.9)	**28.7**	18.8	18.6	7.9	9.8
I	OE	Vanguard Utilities ETF (VPU)	14.4	4.4	12.5	17.5	(4.8)	26.9	18.2	18.2	**8.5**	**10.1**

Data is as of June 30, 2019. Bold return numbers are in the top 25% of all ETFs in the category. Bold expense ratios are in the lowest 25% of all ETFs in the category.
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NAV Total Ret (%)			Tax-Cost	Risk Index		Total	Avg Daily	Portfolio (%)				% of	Portfolio	Number	% of	Expense
Bull Mkt	Bear Mkt	Yield (%)	Ratio (%)	Cat (X)	Total (X)	Assets ($ Mil)	Trading Volume (Thous)	Stock	Bond	Other	Cash	Port in Foreign Issues	Turnover Ratio (%)	of Holdings	Port in Top 10 Holdings	Ratio (%)
158.5	(47.9)	1.4	0.9	1.00	1.00	889	541	99.7	0.0	0.0	0.3	6.4	39	68	56.2	0.28
—	—	0.8	—	—	—	5,630	4,446	100.0	0.0	0.0	0.0	0.0	7	28	73.0	0.13
160.9	(51.3)	1.8	0.8	1.05	1.05	428	523	100.0	0.0	0.0	0.1	3.5	35	44	76.8	0.43
191.8	(47.5)	1.0	0.8	0.97	0.97	2,050	169	98.9	0.0	0.0	1.1	1.4	84	116	66.0	0.10
460.9	(53.3)	1.2	0.4	1.00	1.15	790	509	99.7	0.0	0.0	0.3	19.3	60	101	45.0	0.46
692.0	(50.9)	1.3	0.5	0.92	1.06	13,777	4,071	100.0	0.0	0.0	0.0	0.7	23	64	64.3	0.13
572.8	(45.7)	0.7	0.2	0.88	1.01	915	28	99.9	0.0	0.0	0.1	0.6	10	170	50.3	0.43
662.1	(53.9)	1.1	0.4	0.93	1.07	5,013	59	98.9	0.0	0.0	1.1	1.8	28	305	51.5	0.10
295.6	(32.5)	2.0	0.6	1.00	0.84	1,244	933	99.2	0.0	0.0	0.8	12.8	46	66	54.8	0.41
278.5	(25.8)	2.8	1.0	1.00	0.84	11,942	14,430	99.9	0.0	0.0	0.1	0.0	12	34	70.4	0.13
288.9	(27.9)	2.5	0.8	0.97	0.82	5,013	114	99.7	0.0	0.0	0.3	0.5	8	94	64.4	0.10
40.7	(52.9)	1.8	0.6	1.00	1.86	798	1,847	99.7	0.0	0.0	0.3	10.9	36	58	50.2	0.49
98.0	(45.4)	3.4	1.1	0.77	1.43	12,343	14,592	99.9	0.0	0.0	0.1	0.9	8	30	74.1	0.13
75.3	(43.9)	2.9	0.7	0.79	1.46	718	386	99.9	0.0	0.0	0.2	0.9	6	68	69.0	0.43
84.7	(46.6)	3.2	0.8	0.81	1.50	3,504	239	99.3	0.0	0.0	0.7	1.0	5	140	66.4	0.10
388.1	(68.2)	3.1	1.0	1.00	1.20	1,375	1,713	98.6	1.2	0.1	0.1	9.3	22	113	41.2	0.97
440.0	(76.3)	2.0	0.6	1.01	1.21	24,300	45,985	99.8	0.0	0.0	0.2	2.1	3	68	54.9	0.13
414.9	(72.0)	1.7	0.5	0.81	0.97	1,727	146	99.7	0.0	0.0	0.3	1.4	6	285	40.3	0.43
415.3	(71.4)	2.2	0.6	1.00	1.20	7,435	477	99.9	0.0	0.0	0.1	2.1	3	427	42.3	0.10
439.6	(33.9)	0.9	0.3	1.00	1.42	1,557	482	99.8	0.0	0.0	0.2	7.8	47	95	42.2	0.46
391.4	(34.0)	1.8	0.4	0.69	0.99	2,168	53	99.9	0.0	0.0	0.1	0.3	7	132	47.2	0.43
417.0	(34.7)	2.0	0.4	0.71	1.01	9,249	193	99.6	0.0	0.0	0.4	0.3	6	398	44.1	0.10
409.7	(54.4)	1.2	0.4	1.00	1.23	932	426	99.9	0.0	0.0	0.1	15.3	41	91	40.7	0.48
462.3	(56.6)	2.0	0.7	0.96	1.18	10,470	10,425	99.9	0.0	0.0	0.1	0.0	6	70	45.1	0.13
457.8	(58.2)	1.7	0.5	0.97	1.19	3,592	90	99.2	0.0	0.0	0.8	0.9	4	359	34.8	0.10
231.2	(57.6)	2.3	0.7	1.00	1.25	595	455	99.5	0.0	0.2	0.2	42.6	24	81	50.7	0.50
281.9	(54.2)	2.0	0.7	0.82	1.02	4,285	9,398	99.9	0.0	0.0	0.1	18.7	17	29	64.7	0.13
307.6	(56.0)	1.9	0.5	0.89	1.11	2,000	122	99.7	0.0	0.0	0.3	12.8	5	119	54.0	0.10
427.4	(63.2)	4.1	1.8	1.00	0.94	2,120	693	99.4	0.0	0.0	0.6	2.8	20	84	46.4	0.38
431.1	(65.0)	2.9	1.5	0.93	0.88	4,711	7,282	99.5	0.0	0.0	0.5	0.0	11	118	37.6	0.43
—	—	3.3	1.5	0.93	0.88	3,244	4,275	99.9	0.0	0.0	0.1	0.0	7	33	58.6	0.13
467.9	(64.4)	4.0	1.6	1.00	0.94	33,830	5,309	99.1	0.0	0.0	1.0	0.0	24	192	42.2	0.12
625.0	(52.2)	0.7	0.4	1.00	1.28	1,287	376	99.5	0.0	0.0	0.5	23.0	40	77	42.6	0.54
556.2	(49.4)	1.3	0.5	0.85	1.09	21,236	12,579	99.9	0.0	0.0	0.1	0.2	19	69	65.1	0.13
644.4	(50.6)	1.2	0.3	0.89	1.14	20,411	540	99.6	0.0	0.0	0.4	0.6	7	337	54.6	0.10
241.0	(38.7)	2.6	1.0	1.00	0.77	1,366	1,418	99.3	0.0	0.2	0.5	9.1	17	43	49.9	0.41
259.7	(39.7)	2.7	0.7	0.99	0.76	883	116	99.8	0.0	0.0	0.2	0.0	5	50	54.9	0.43
248.9	(37.8)	3.1	1.2	1.01	0.77	10,083	17,463	99.9	0.0	0.0	0.1	0.0	5	29	61.6	0.13
267.3	(38.0)	2.9	0.9	0.98	0.75	3,795	253	100.0	0.0	0.0	0.0	0.0	4	70	53.1	0.10

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Commission-Free ETFs

Most discount brokers offer certain ETFs on a commission-free basis. These exchange-traded funds can be bought and sold without incurring any fees from the brokerage firm. They are not fully transaction-fee-free, as you will still incur differences in the bid/ask spread and potential price movement caused by your transaction. These costs are unavoidable.

The exact funds and the number of ETFs offered on a commission-free basis differ by firm. Some firms include their own funds in these lists—such as Fidelity, Schwab and Vanguard. Minimum holding periods also differ, ranging from zero days to 60 days. Most firms only waive the commissions on online trades, though Vanguard allows its clients to buy and sell Vanguard ETFs on a commission-free basis through telephone trades as well.

A comparison of the commission-free offerings and terms are provided in the table below. We could not find a list of commission-free ETFs for Merrill Edge.

Keep in mind that a commission-free ETF may be neither the cheapest nor the best option. Longer-term investors may be able to save more by paying the brokerage commission of a fund with a lower expense ratio. All investors may find ETFs excluded from the no-commission list that follow a better index, have better historical return and/or incur less volatility. As always, do your research before buying any fund.

Comparison of Broker No-Commission ETF Offerings

Brokerage Firm	Approximate Number of Commission-Free ETFs	Minimum Holding Period	ETF Providers	Notes
Charles Schwab	500	None	Invesco, SPDR, iShares, Charles Schwab Investment Management, PIMCO and more	
E*Trade	250	30 Days	Invesco, iShares, PIMCO, Vanguard and more	$19.99 fee charged if held for less than 30 days
Fidelity	500	None	Fidelity, Invesco, iShares, PIMCO and more	
Interactive Brokers	90	None	Aberdeen, Cambria, Global X and more	
TD Amertitrade	550	30 Days	Invesco, iShares, PIMCO, State Street (SPDR) and more	$13.90 fee charged if held for less than 30 days
Vanguard	1,800	None	Most ETF providers, including Fidelity, Invesco, iShares, PIMCO, Schwab, State Street (SPDR) and Vanguard	

Source: Brokerage firm websites. Data as of July 17, 2019. Check with brokerage firm for current list.

(continued from page 15)

key terms and statistics. Descriptions of all terms are provided in the online version of this guide.

Index Fund: The letter "I" before a fund's name indicates that the fund is designed to mimic the performance of an index, such as the S&P 500; the amounts invested in each security are proportional to its representation in the index that the fund tracks. The online version of this guide names the indexes tracked by these funds.

Structure: The letters "OE" indicate that the ETF is an open-ended investment company. "OE" includes exchange-traded funds, exchange-traded managed funds (ETMFs) and mirror open-ended funds as they report NAV returns.

The letters "UIT" stand for unit investment trust. A unit investment trust is a registered investment company that buys and holds a generally fixed portfolio of stocks, bonds or other securities. "Units" in the trust are sold to investors (unitholders) who receive a share of principal and dividends (or interest). A UIT has a stated date for termination that varies according to the investments held in its portfolio.

Total Return (%): Returns are based upon changes to a fund's net asset value (NAV) or, where designated, share price (market return), assuming the reinvestment of all income and capital gains distributions (on the actual reinvestment date used by the fund) during the period. The return calculation is net of expenses. The year-to-date, 12-month, three-year and five-year returns are calculated through June 30, 2019. The three- and five-year returns are presented on an annualized basis. Bull market returns are for March 1, 2009 through June 30, 2019. Bear market returns are for November 1, 2007, through February 28,

2009. Returns that are in the top 25% of all ETFs within the investment category are shown in boldface.

Yield (%): The total annual income distributed by the ETF divided by the period-ending net asset value. Calculated on a per-share basis, this ratio is similar to a dividend yield and would be higher for income-oriented funds and lower for growth-oriented funds. The figure only reflects income, not total return.

Tax-Cost Ratio (%): Measures how much an ETF's annualized return is reduced by the taxes paid on distributions, assuming the maximum marginal tax rate. A tax-cost ratio of 0.0% indicates that the fund did not make any taxable distributions. If a fund had a 2.0% tax-cost ratio, it means that on average each year, investors lost 2.0% of their assets to taxes. The lower the ratio, the more tax-efficient the ETF. The ratio is calculated using the last three years of data.

Risk Index—Category and Total: The category risk index is the standard deviation of an ETF's return divided by the standard deviation of return for the average ETF in the category. The total risk index is the standard deviation of an ETF's return divided by the average standard deviation of return for all funds. Standard deviation is a measure of return volatility and is computed using monthly returns for the last three years. A risk index of 1.00 denotes average risk. Values above 1.00 indicate greater risk than average, while values below 1.00 indicate less risk than average. Risk numbers that are in the lowest 25% of all funds within the investment category are shown in boldface.

Total Assets ($ Mil): Presented as millions of dollars, this is the amount of total assets an exchange-traded fund has under management (AUM). This is the total value of the fund's portfolio. Size can be affected by the age of the fund, the index it follows and the number of competitive funds.

Average Daily Trading Volume (Thousands): Average daily volume of shares traded for the last three-month period through June 30, 2019.

Portfolio (%)—Stocks: The percentage of assets held in common stocks, both domestic and foreign. **Bonds:** The percentage of assets held in debt securities that are not convertible into common stock. **Other:** The percentage of assets held in futures, options, preferred stock, trusts or other alternative securities. **Cash:** The percentage of assets held in cash or cash equivalents.

Percent of Portfolio in Foreign Issues: The percentage of the ETF's assets that are invested in foreign stocks and foreign bonds.

Portfolio Turnover Ratio (%): A measure of the trading activity of the ETF, which is computed by dividing the lesser of purchases or sales for the year by the monthly average value of the securities owned by the fund during the year. Securities with maturities of less than one year are excluded from the calculation. The result is expressed as a percentage, with 100% implying a complete turnover within one year.

Number of Holdings: The total number of individual securities held by the ETF. These can include stocks, bonds, currencies, futures contracts and option contracts. This figure is meant to be a measure of portfolio risk: The lower the number, the more concentrated the fund is in a few issues. Some ETFs may hold fewer shares than the index's name would suggest if the ETF's manager believes they can mimic the returns of the index without holding all of the securities in it.

Percent of Portfolio in Top 10 Holdings: Investments, expressed as a percentage of the total portfolio assets, in the ETF's top 10 portfolio holdings. The higher the percentage, the more concentrated the fund is in a few companies or issues, and the more the fund is susceptible to market fluctuations in those few holdings. Used in combination with the number of holdings, this figure can indicate how concentrated an ETF is.

Expense Ratio (%): The sum of administrative fees and adviser management fees divided by the average net asset value of the ETF, stated as a percentage. Brokerage costs incurred by the fund are not included in the expense ratio, neither are the commissions you may pay to buy and sell shares. Expense ratios that are in the lowest 25% of all funds within the investment category are shown in boldface. ■

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