

ETF Education

The Total Cost of ETF Ownership

An Important – but Complex – Calculation

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An investor should aim for a full understanding of an ETF product's features and its explicit, implicit and opportunity costs, and how they may affect the total portfolio over the planned investment horizon.

Investors' use of ETFs has significantly evolved since the product first launched in the early 1990s. Yet, despite that growing popularity, many investors – regardless of their level of sophistication – do not have a thorough understanding of the total cost of ownership of ETFs. The constant evolution of competing product strategies across the last few years has only added complexity to the issue.

We've prepared this paper to help advisors and investors better examine all of the costs that impact the ETF investing experience. Our objective is to assist investors by explaining the differences between explicit, implicit and opportunity costs; highlighting how these costs interact with one another in practice; and demonstrating ways to evaluate different costs when selecting an ETF product.

THE EVOLUTION OF ETF USE

Early ETF adopters were institutional investors who saw the benefits of tax efficiency and intraday trading. Initially, ETFs were used to address short-term needs, such as asset transition management or “parking” a large but temporary amount of cash (cash equitization). Consequently, ETFs often only served as trading vehicles with the potential to provide investors with liquidity and low costs during periods of active trading.

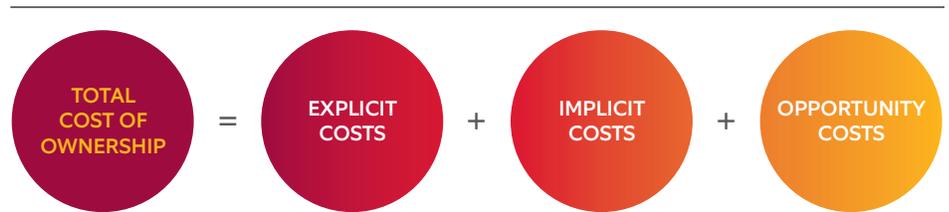
As passive management gained in popularity, however, strategic investors who wanted tax efficiency and flexible trading attributes in their long-term investments began to adopt a variety of broad, market-weighted ETFs as core portfolio holdings. While the costs of holding and trading ETFs still mattered, these strategic investors also began to focus on other perceived costs that could potentially create performance drag over time — costs such as asset turnover, capital gains and how closely the fund tracked to its underlying index.

More recently, the emergence of alternatively weighted indices has given strategic investors greater choice and precision to tailor portfolio implementation to their specific investment views or goals. That development, too, brings with it additional costs to consider.

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TYPES OF EXPENSES

The many different cost considerations when purchasing an ETF can be segmented into three basic categories: explicit costs, implicit costs and opportunity costs. It is important to understand that these costs are not independent of one another; sometimes lowering an explicit cost can increase implicit costs or even reduce the effectiveness of the investment strategy.



EXPLICIT COSTS

Explicit costs are frequently highlighted in comparative articles and typically garner media attention because they are easy to find and discuss. Examples of explicit costs are expense ratio, commission and spread.

EXPLICIT COST	DEFINITION
Expense ratio	A measure of what it costs an investment company to operate a fund
Management fee	A charge paid to managers of a fund for their services
Custody costs	The cost of an external party (usually a bank) to hold property in your name
Acquired Fund Fees and Expenses (AFFE)	The pass-through costs of any underlying security that has an expense ratio
Trading expenditure	A cost paid by all investors
Commission	The cost of executing a trade

Expense Ratio

Expense ratio is actually an umbrella term for the various charges assessed in administrating and managing the fund. While the ratio is often a major focus, the components that drive expense ratios get less attention. The cost of retaining management professionals and support staff is self-explanatory, but other components are less so.

One such factor is the expense to *custody* the underlying securities. This fee is negotiated between the fund sponsor and the fund custodian. In general, the greater an ETF's number of holdings, the higher the custody fee. So a fund that holds 100 U.S. stocks should be cheaper to custody than a fund containing 3,000 stocks. Also, it is generally more expensive to custody foreign securities. So, an equity ETF focused on emerging markets that invests in American Depositary Receipts will typically be cheaper to custody than an emerging markets equity fund that owns foreign ordinary shares.

Other charges, referred to as *Acquired Fund Fees and Expenses* or AFFE, are the pass-through costs of any underlying security that has an expense ratio.

It is important to note that for most ETFs (those older than a year); the expense ratio is a historical snapshot covering the 12 months preceding the prospectus date. Certain charges may vary from year to year and may not be indicative of the cost for future time periods.

Trading Expenditures. In addition to the expense ratio, trading expenditures are a cost paid by all investors. Trading costs can be broken down into the commission paid on shares traded and the quoted spread between the selling price (bid) and the buying price (ask).

Commission. The commission is the amount paid to the clearing firm that executes the trade on an investor's behalf. Commissions will depend on the brokerage firm used and will typically vary among different providers. Similar to the airline industry, the competitive marketplace in brokerage fees has constrained commissions into narrow bands based on service models. Some firms may offer incentives such as "free" trades or "commission-free" ETFs. Often these commission-free trades have limitations with regards to trading frequency or holding period and are the result of certain business arrangements between the ETF sponsor and the broker. Also, such arrangements may result in higher implicit costs (e.g. platform or distribution fees), as discussed later.

Whether or not these inducements matter has a lot to do with an investor's planned holding period. For strategic long-term investors with a multi-year investment horizon, for instance, the benefit of "free" ETF trades can turn out to be de minimis compared to other ETF expenses.

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Spread. Since all ETFs are quoted on an exchange throughout the day, each has a bid-ask spread. Spreads vary between products because each underlying security owned by the fund also has its own bid-ask spread. The key thing to remember is that the trading liquidity and spread of an ETF will ultimately reflect the trading liquidity and spread of the securities it holds. So if the spread on the underlying securities is wide, it would make sense that the spread on the ETF would also be wide.

Spreads can be viewed in two ways: cents per share or as basis points. A basis point is a common unit of measure and is used to denote the percentage change in a financial instrument where one basis point is equal to 1/100th of 1%, or 0.01% (0.0001). The cents-per-share metric, however, may not provide an accurate picture of the cost. For example, an ETF trading at a \$10/share price with a spread of \$0.01 may look competitive on a dollar-amount basis versus another ETF with a \$70/share price and a spread of \$0.05, but when evaluating the spread in percentage terms, the perspective is quite different. The \$10 ETF is trading at a spread of 10 basis points (0.10%) while the \$70 ETF is trading at a spread of 7 basis points (0.07%.) In terms of actual cost per \$1 invested, the spread on the \$70 ETF is cheaper.

To put explicit costs into context, let’s look at a comparison. The table below examines the FlexShares Quality Dividend ETF (QDF) versus the equal weighted average of ETF.com’s U.S. High Dividend ETF category consisting of 14 funds. Funds designated within the prospectus offering statement as “High Dividend Yield” must have a portfolio construction methodology that aims to create a relatively high and stable income stream. These funds differ from “Size” and “Style” funds that select or weight by dividends in that “High Dividend Yield” funds need not be representative of a particular size or style basket, or of the total market. QDF is not categorized by ETF.com within this category. The expense ratios of funds in the category vary greatly. QDF’s expense ratio comes in at slightly below the peer average and the spread associated with buying and selling QDF is also below the group’s average. By combining the spread and expense ratio costs, it can be determined that owning QDF over a one-year holding period will be three bps less expensive than the average dividend ETF. Assuming constant spreads and expense ratios over a longer time frame, QDF will continue to be the same or slightly less expensive than the category average over a three year or longer holding period.

COST	CATEGORY AVERAGE	QDF
Gross Expense Ratio	39 bps	37 bps
Spread	5 bps	4 bps

*All data is as of 12/31/2017 from Morningstar Direct® and ArcaVision.com® and assumes spreads and expense ratios as those experienced by the QDF fund during the full life of the fund minus the first 6 weeks since most return streams start at the end of a quarter.

IMPLICIT COSTS

Unlike explicit costs that can be researched easily across many data sources, implicit costs can be harder to quantify. While implicit costs may require more effort to unearth, they are just as important as their explicit counterparts.

IMPLICIT COST	DEFINITION
Capital gains	Taxes generated by a fund's buying and selling of securities
Turnover	A measure of how frequently assets within a fund are bought and sold by the managers
Tracking	There are two types of tracking: <ul style="list-style-type: none">– How well does the fund track its stated index and– How well does the fund track a standard market benchmark
Distribution fees/ Platform fees	Fees paid by a company to distribute a fund

Turnover is considered by some investors to be an implicit cost. Many think the lower the turnover, the more tax efficient the fund, but this is not always the case.

Capital Gains. One benefit of the ETF product structure is its tax efficiency versus other investment vehicles, but the level of that efficiency can vary widely among ETFs. Here's why: Through the creation- redemption process an ETF can look to remove low-cost basis shares using the in-kind redemption mechanism – exchanging ETF shares for a basket of securities rather than cash, thereby avoiding selling securities to raise cash to meet redemptions and simultaneously preventing capital gains distributions.

Because certain types of securities only transact in cash, however, not every ETF can take advantage of the in-kind feature. The loss of the tax efficiency of in-kind redemptions is an implicit cost. The number of securities held by an ETF also can have a big impact on its tax consequences. Assuming all else is equal, a fund that has more securities will likely have a better chance of mitigating any capital gains, but at the same time it could potentially raise explicit costs (custody costs and the expense ratio).

Turnover. Turnover is considered by some investors to be an implicit cost. Many think the lower the turnover, the more tax efficient the fund, but this is not always the case. A fund could have low turnover and pay a capital gain distribution, or it could have high turnover and not pay a capital gain. For instance, if a fund uses futures contracts or holds bonds, which have regular maturity dates, it can often be counted on to issue capital gains distributions regardless of the level of trading. Another concern with high turnover is that trading costs may be a detriment to performance. Turnover costs may weigh on the Net Asset Value (NAV) of the fund and could impact how well the fund tracks its underlying index. The net asset value is a fund's per-share value and is calculated by dividing the total value of all the securities in the portfolio, less any liabilities, by the number of shares outstanding. By examining a fund's NAV performance an investor can see how effectively the portfolio manager uses turnover to achieve the fund's investment strategy.

One implicit cost of ETF ownership is the result of the fund provider paying distribution fees to the platform (such as a brokerage house) through which the investor purchases the fund.

Tracking Error. Another implicit cost of owning ETFs is tracking error. Basically, tracking error is the difference between a fund's NAV total return and the total return of the underlying index; however, there are actually two variations on this basic definition that investors should be aware of.

The first is how closely the fund tracks its stated index. This performance factor is a reflection of how well the portfolio manager runs the fund as well as the number and tradability of the securities contained in the stated index. Consequently, most portfolio managers attempt to live by the maxim: the closer, the better.

For example, certain asset classes, such as corporate bonds or small cap emerging equities, track their indices less closely because the securities themselves are not very liquid. In such cases, a sampling approach of owning a representative portion of the index universe may increase the ETF's tracking deviation – but it will simultaneously lower such explicit costs as custody fees and spreads. Examining the underlying securities in an ETF will help shape an investor's opinion about how closely the fund should track its stated benchmark.

Another perspective on tracking error is how closely the fund aligns with a traditional benchmark. Is the goal to track to a representative benchmark or to outperform that benchmark? This is an important consideration. Calculations such as Active Share, which measures the percentage of holdings in a fund that deviate from its benchmark, can evaluate this aspect of tracking error and help predict fund performance.

Distribution Fees. According to the Investment Company Institute, the vast majority of all fund purchases are made through financial intermediaries, such as brokers or financial advisors. These professionals are compensated for their advice and services. Consequently, one implicit cost of ETF ownership is the result of the fund provider paying distribution fees to the platform (such as a brokerage house) through which the investor purchases the fund. In fact, distribution fees are a common way to offset those “commission free” trades discussed earlier. These platform fees are often overlooked and can obscure actual costs to the investor, making it very difficult to get a clear picture of the total cost of ownership.

As an example, for the 2017 calendar year, the table on the next page compares the implicit costs of the FlexShares QDF fund to an equal-weighted average of ETF.com's High Dividend Yield category which contains 14 funds. Interestingly, QDF had more than double the turnover of this peer category but did not pay a capital gain distribution in 2017. In fact, only two funds in the category had a capital gain distribution that year. QDF's tracking error, measured versus its underlying index, was also lower than the peer category average. This shows that even though QDF experienced above-average turnover it did not prevent the fund from being highly tax efficient while closely tracking its underlying index.



Tax efficiency, tracking error and turnover do not occur independently of one another. An ETF portfolio manager's skill and level of proactivity are key to balancing the effect of these implicit costs on a fund's performance. The manager has the ability to take gains and losses in the portfolio when the fund tracking index rebalances. If there are gains on underlying securities, the manager might elect to hold off on selling certain positions, thus impacting turnover, tracking error and tax efficiency measures.

How the investment strategy is implemented – full replication or representative sampling of the stated index – will affect the portfolio manager's ability to behave proactively. For example, gains or losses generated using full replication strategies are typically more a function of environmental circumstances than portfolio manager behaviors. All the more reason why it is worthwhile to understand these structures and investigate the impact of the implicit costs of ETFs.

COST	CATEGORY AVERAGE	CATEGORY RANGE	QDF
Capital gains	\$0.24	\$0.00 – \$2.33	\$0.00
Turnover	43%	9% – 80%	89%
Tracking Error	5.3 bps	2.3 bps – 12.2 bps	3.9 bps

*All data is as of 12/31/2017 from Morningstar Direct® and ArcaVision.com®. The category and the ETFs contained in that category are determined by ETF.com. Note that only two funds paid a gain.

OPPORTUNITY COSTS

As the ETF product landscape continues to evolve, interest in alternative index weighting methodologies has grown rapidly, particularly in the last several years. Use of these so-called “nontraditionally weighted” indices offers another perspective on costs: the opportunity cost – and the choice of one product over another dictates opportunity cost.

Questions advisors and investors may want to consider in light of their financial goals include, how should investors evaluate differences in design and product innovation among competing large cap value funds? How much exposure to value does each strategy provide? Is that exposure consistently monitored through time? Does the strategy expose the investor to unintended biases, such as overweight positions in sectors, securities or countries that add idiosyncratic risk to one's portfolio?

CONCLUSION

It is vitally important to know the total cost of ownership of any investment because the total cost ultimately affects the return you receive. This is true of every type of investment. In today's complex and ever-changing financial markets environment, this maxim has never been truer. As interest in ETFs has continued to grow, so has the speed of innovation in investment strategies and product design. Advisors and investors alike must make sure their education keeps pace with this market evolution.

While an ETF may look the same as its brethren on the surface, a deeper examination can reveal how very different it actually is. Decisions about which products to use or not use could have lasting impacts on the performance of an investment portfolio and ultimately impact the ability of the investment portfolio to meet an investor's financial objectives. To successfully accomplish that requires a full understanding of a product's features and its explicit, implicit and opportunity costs, and how they may affect the total portfolio over the planned investment horizon.

FIND OUT MORE

The FlexShares approach to index-based investing is, first and foremost, investor-centric and goal oriented. We pride ourselves on our commitment to developing products that are designed to meet real-world objectives for both institutional and individual investors. If you would like to discuss the attributes of any of the ETFs discussed in this report in greater depth or find out more about the index methodology behind them please don't hesitate to call us at 1-855-FlexETF (1-855-353-9383) or visit [www. FlexShares.com](http://www.FlexShares.com).

IMPORTANT RISK DISCLOSURE

Before investing, carefully consider the FlexShares investment objectives, risks, charges and expenses. This and other information is in the prospectus and a summary prospectus, copies of which may be obtained by visiting www.flexshares.com. Read the prospectus carefully before you invest.

Foreside Fund Services, LLC, distributor.

An investment in FlexShares is subject to numerous risks, including possible loss of principal. Fund returns may not match the return of the respective indexes. A full description of risks is in the prospectus.

FlexShares Quality Dividend Index Fund (QDF) is passively managed and uses a representative sampling strategy to track its underlying index. Use of a representative sampling strategy creates tracking risk where the Fund's performance could vary substantially from the performance of the underlying index along with the risk of high portfolio turnover. Additionally, the Fund is at increased dividend risk, as the issuers of the underlying stock might not declare a dividend, or the dividend rate may not remain at current levels. The Fund is also at increased risk of industry concentration, where it may be more than 25% invested in the assets of a single industry. Finally, the Fund may also be subject to increased volatility risk, where volatility may not equal the target of the underlying index.

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