

Vanguard[®]

How ETFs work

Your clients may have questions about exchange-traded funds (ETFs), such as how they differ from mutual funds, how they're traded and even how they're created.

Use this brochure to gain expertise about ETFs that you can communicate to your clients.

Contact a sales executive through vanguard.com.hk to learn even more.

A fund that trades like a stock

ETFs work like mutual funds except that they're listed, bought and sold on a regulated stock exchange, typically through a broker or brokerage platform.

ETFs offer the opportunity to invest in a portfolio of securities that provide the same diversification benefits of mutual funds with the liquidity and trading flexibility of stocks.

They measure themselves against a benchmark. In doing so, they typically aim to achieve the market return of securities that comprise an index.

And ETFs, on average, cost less than mutual funds.

A tale of two markets

ETFs have a dual existence in the marketplace. They live in both what is known as the *primary market*, where certain institutional investors create and redeem them, and in the *secondary market*, where individual investors buy and sell them.

Most ETF investors will likely trade only in the secondary market, but it is important to understand what occurs in both the primary and secondary markets. The primary market can play a critical role in providing investors the best possible price for an ETF trade, especially for large orders.

Let's look a little more closely at the primary and secondary markets and their participants.

The primary market

Before they can be traded on a stock exchange, ETFs are created through the interactions of participants in the primary market. **Figure 1**, below, illustrates the process.

Primary market participants include:

- ETF sponsors (fund managers such as Vanguard)
- Participating dealers (PDs), which are institutions authorised to create and redeem ETFs
- Market makers, which provide liquidity and may also function as PDs

Participating dealers and ETF creation

A PD applies to the ETF sponsor for a creation unit, typically 50,000 ETF shares or more. In essence, the PDs are creating ETF shares through a direct purchase from the ETF sponsor. PDs can create shares by giving the ETF sponsor a physical

“basket” of securities (called an in-kind transfer), cash that equals the value of the creation unit or a combination of the two.

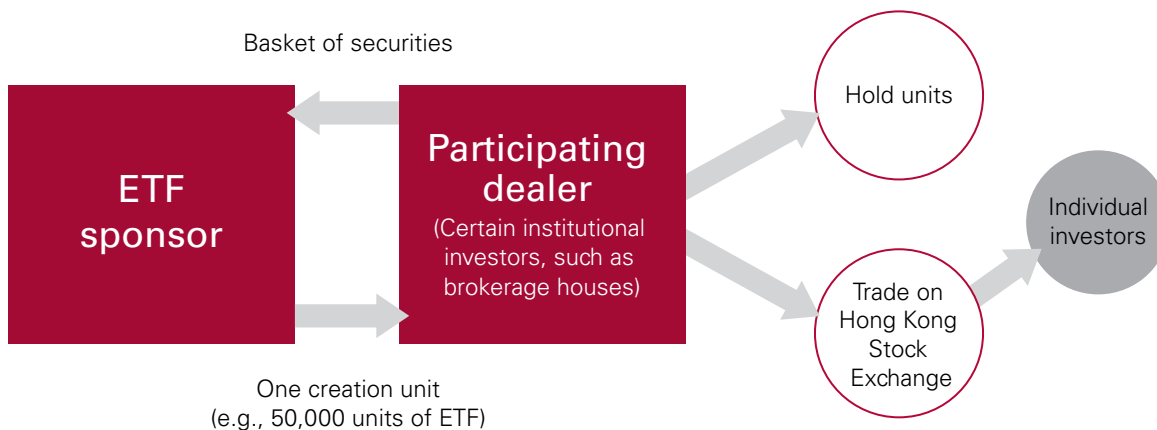
Information about the securities basket is published each day and reflects the value of cash or securities that the PD will need to provide to the ETF sponsor in exchange for ETF shares. Individual securities’ weight in the basket reflects their weight in the index that the ETF seeks to track.

Upon settlement, the PD has an inventory of ETF securities that can be sold in the secondary market.

The redemption process works in reverse. The PD applies to the ETF sponsor to redeem whole creation units and in return receives a basket of securities, a cash equivalent or a combination of the two.

By creating and redeeming shares directly with the ETF sponsor in large blocks, PDs provide liquidity to investors looking to execute large ETF trades.

Figure 1: The creation and redemption process



ETF redemption works in reverse, with the participating dealer providing ETF units to the ETF sponsor in return for underlying securities.

The secondary market

Perhaps the most obvious way ETFs differ from mutual funds is how they're bought and sold. Once PDs create ETF shares they sell them to individual investors in the secondary market – the stock exchange. These individual investors may then sell their shares to other investors. **Figure 2**, below, illustrates what occurs in the secondary market.

Individual investors and their financial advisers must trade ETFs through a brokerage firm. Shares can be bought and sold at the current market price whenever the stock exchange is open. Share prices typically reflect the approximate value of the ETF's underlying shares at any given point in the day.

These market trades, however, don't affect the ETF itself; no cash flows into or out of the ETF that would require it to purchase or sell securities or pay brokerage commissions. As a result, the ETF can hold down its operating costs.

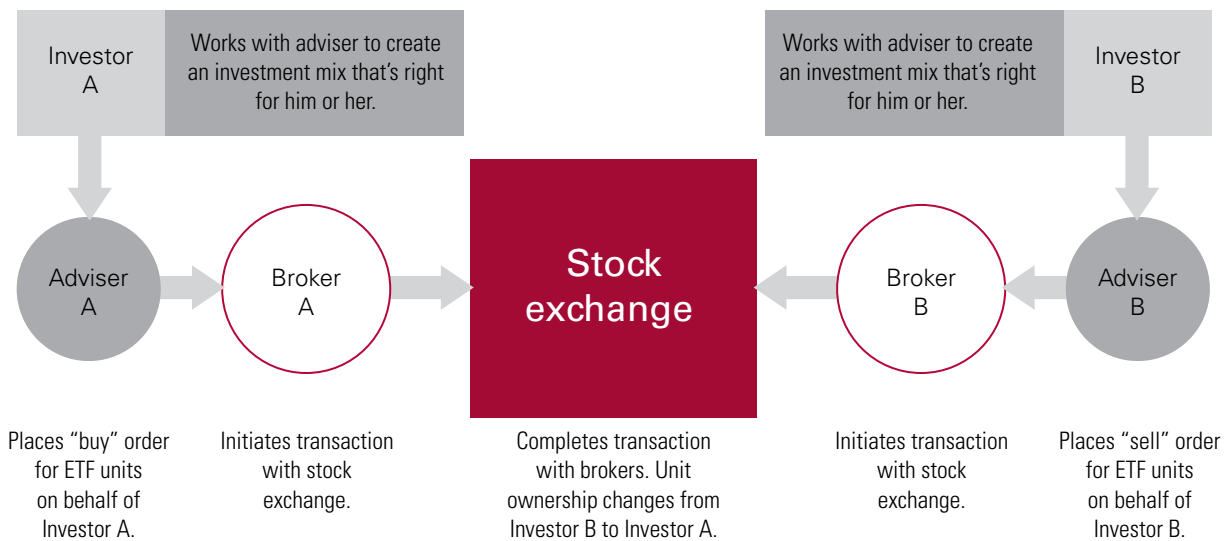
Of course, individual shareholders are subject to any brokerage commissions associated with their own trades.

ETF pricing

The secondary-market price of ETF shares may be more or less than the net asset value (NAV) of the underlying securities. Several factors influence an ETF's price in the secondary market, including the share-price movement of the underlying securities, currency exchange-rate movements (for international investments) and investors' demand for the ETF.

The ETF sponsor calculates and publishes the ETF's NAV daily. The published NAV is based on the underlying securities' closing market prices minus the ETF's fees and expenses. An ETF's NAV can in fact be determined at any time of the day.

Figure 2: Trading ETFs in the secondary markets



Market makers and bid-offer spreads

Market makers provide liquidity by facilitating trades in the secondary market. Through adjusting for continuous market movements in the ETF's underlying securities, market makers set intra-day bid and offer prices for the ETF. The difference between the bid and offer price is known as the *bid-offer spread*.

A bid price is the price at which secondary-market participants are willing to purchase shares. An offer price is the price at which secondary-market participants are willing to sell shares.

While any market participant may meet the best bid or best offer at a given time, a market maker ensures that there is always a bid and offer quote at which to trade.

Trading options

Because ETFs trade like stocks anytime during regular exchange hours, you can execute trading strategies to help your clients achieve their investment objectives.

Here are some ways that ETFs can offer greater flexibility than mutual funds:

A **market order** is an order to buy or sell a security immediately at the market price. Execution, not price, is the priority, so the price at which your trade is made can be unpredictable.

A **stop order** is an order that triggers a market order to buy or sell an ETF once it reaches a certain share price, known as the stop price. Be aware that stop orders may be triggered by temporary market movements or may be executed at prices higher or lower than the stop price because of market orders placed ahead of them.

A **limit order** is an order to buy or sell an ETF at a specified price or better. Limit orders may not be executed immediately; they may be executed only partially or not at all depending on the availability of buyers or sellers at the price you have specified. You may want to consider using stop and limit orders to help protect your clients from making trades at a lower or higher price than they desire.

Buying on margin allows your client to borrow a percentage of an ETF's value from the broker in order to purchase the ETF. If the value of the ETF drops substantially, your client may have to deposit more cash in the account or sell some of the ETF.

Short-selling is an investment technique that involves essentially borrowing a security and then selling it with the intent to buy it back at a lower price. Short-sellers hope to make money when a security's price falls. If an ETF you have sold short for a client rises in value, however, your client can lose money – and there's no limit to how much he or she can lose.

In some cases you can short-sell ETF shares to hedge the risk of your client's other investments.

ETFs' characteristics and advantages

- Low costs
- Diversification within a market segment
- Trading flexibility
- Relative predictability of tracking a market
- Liquidity
- Transparency

Costs

As with any investment, operating costs vary among ETFs. Generally, ETFs cost less to operate than both index and actively managed mutual funds. Because ETF investors trade through brokerage firms, the ETFs don't incur the administrative costs that mutual funds incur for correspondence, customer service and account recordkeeping. That can allow ETFs to keep total expense ratios low. And money not paid to meet expenses can be left to work for investors over the long term.

Keep in mind, however, that ETFs do incur transaction costs. Your clients likely will pay brokerage commissions whenever you buy or sell ETF shares for their portfolios.

Bid-offer spreads, which market makers collect in facilitating your trade, also contribute to ETF costs. Like other investment costs, these expenses are paid by the individual investor and can affect returns.

A note of caution

When market volatility increases, trading securities can become challenging. To help your clients make the best trade they can when buying or selling ETFs, you may want to consider the following:

Be aware at the open and close. At the open, not all underlying securities in an ETF may have begun trading. In such situations, the market maker can't price the ETF with certainty, potentially causing wider bid-offer spreads. At the close, fewer firms may be making markets in the ETF, and fewer shares may be listed for purchase and sale than at other times of the day.

Consider using a block desk. When you place large orders, a block desk can break your trade into smaller increments over time to manage the effects of a large trade. Or it can create or redeem shares directly with the ETF sponsor so as not to affect prices in the secondary market. Your block desk can also review potential liquidity beyond what appears in quotes on a trading screen.

Remember the basics. Pay attention to earnings announcements and other news from companies that are large constituents of an ETF's benchmark and to news such as the release of economic indicators. ETFs can trade at larger premiums or discounts during market swings, which such news can prompt.

Excess return and tracking error

Excess return and tracking error can help you evaluate ETFs. But to use the measures effectively, you need to understand what they represent and how much weight to give them in your evaluations.

Excess return shows how an ETF's performance compares with that of its benchmark over a given period. Tracking error indicates the consistency of the ETF's excess return in the same time.

When selecting an ETF for your clients' portfolios, it's important to keep excess return and tracking error in context. If total return is your primary criterion, then excess return will likely be more important than tracking error in your evaluations. If performance consistency is more important, then tracking error may be more relevant to you.

Liquidity and average daily volume

ETFs uniquely provide two sources of liquidity: the primary and secondary markets.

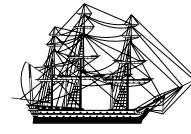
The primary market offers liquidity through its ability to create or redeem ETFs to meet investor demand. The secondary market offers the immediate liquidity of issued and tradeable securities.

An investor who wanted to buy a large block of ETFs that exceeded the liquidity in the secondary market could contact a block desk, which would arrange for the creation of the required shares with a PD to sell directly to the investor.

For this reason, liquidity in the ETF's underlying shares is a more important liquidity measure than average daily volume in the ETF itself on the secondary market.

A few final words

As you consider ETFs for your clients' portfolios, you can count on Vanguard's indexing expertise and our record of putting clients first.



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