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Best practices for ETF trading: Seven rules of the road

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- Exchange-traded funds (ETFs) effectively blend the investment characteristics of managed funds with the trading flexibility of individual shares.
- ETFs trade somewhat differently than either managed funds or individual shares, and investors may need to learn different tools and strategies when trading ETFs. This paper outlines ETF trading "best practices" that emphasize price control and patience in trading.
- Three of the key best practices for trading ETFs are:

  1 Avoid the use of "market" orders; instead, consider using "limit" orders;

  2 Avoid trading at either the market open or close (see box of key terms on page 3);

  3 For larger orders, consider phoning your brokerage firm or the ETF issuer for additional sources of liquidity to reduce market impact costs.

Exchange-traded funds have become an increasingly popular investment vehicle among investors over the past decade. Generally speaking, ETFs blend the investment characteristics of a managed fund with the trading flexibility of individual shares. These key attributes introduce differences in how ETFs trade relative to both managed funds and individual shares, as well as in the approach investors may wish to take in trading them. Trading strategies are more important for ETFs versus managed funds: the timing and type of trade can impact the price at which the ETF is bought or sold (which is not the case for managed fund investors). This paper highlights the trading differences of these investment vehicles. Understanding these differences helps to underscore why incorporating a set of ETF trading "best practices" that emphasize price control and patience in trading can help reduce both the implementation risks of ETFs and their transaction costs.

Trading ETFs versus managed funds or individual shares

ETFs are very similar to managed funds. Both vehicles can provide low-cost exposure to investment strategies, and both calculate a net asset value (NAV) based on the value of their underlying shares at Australian market close each trading day. However, due to the differences in the trading characteristics of ETFs versus managed funds (see **Figure 1**), investors should learn how to use different tools to trade ETFs proficiently.

Figure 2 illustrates that ETFs trade somewhat differently than managed funds and shares. Managed fund investors buy and sell fund units directly with the managed fund. In contrast, most ETF investors do not trade directly with the ETF. Rather, designated institutional investors known as *authorised participants* (APs) work with the ETF to create and redeem ETF units as needed. APs work as intermediaries between the ETF and investors to facilitate trading by increasing or decreasing the number of ETF units outstanding in the market, to meet investor demand and keep the ETF's market price close to the value of the underlying shares.

Although ETFs trade on a stock exchange, they do not always trade like shares. The price and liquidity of an individual stock are largely determined by supply and demand, because the number of a stock's shares outstanding in the market is generally fixed. However, an ETF's market price and liquidity are determined by the ETF's underlying securities as well as by factors of supply, demand, and costs in the market (Dickson, 2013).

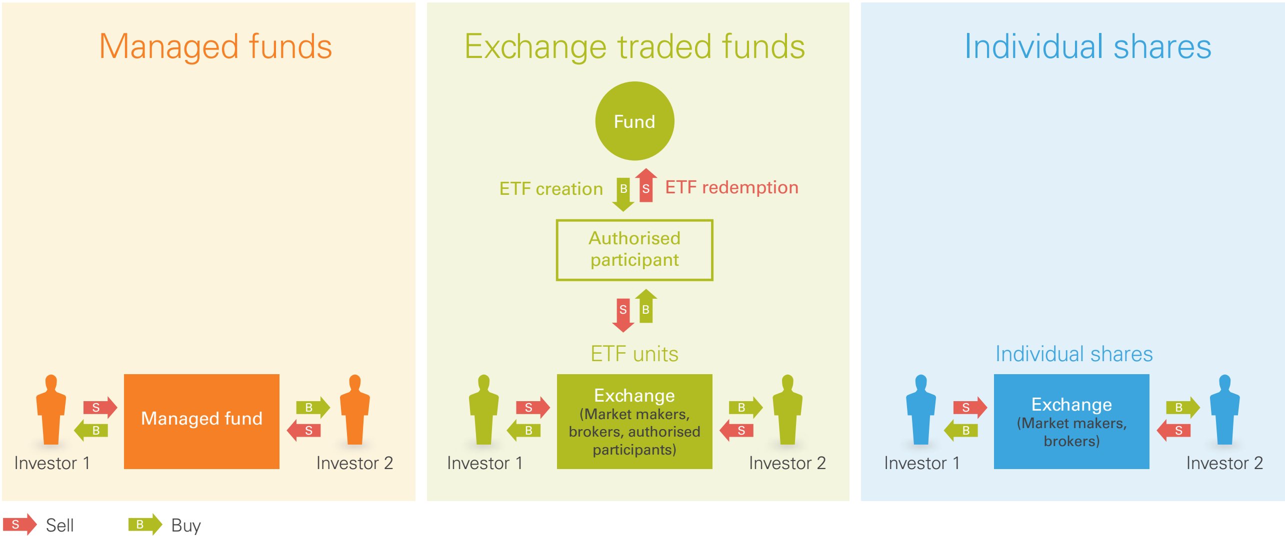
Figure 1. Managed funds and ETFs have different trading characteristics

Trading characteristics	Managed fund	ETF
When is the trade executed?	Regardless of when the trade is placed, directly with the managed fund at 2 p.m., Sydney/ Melbourne time (with completed application form received by the managed fund).	During market hours on an exchange, either immediately (market order) or when a stipulated trade price is met (limit order).
Price of a trade	NAV	Current market price
When does the trade settle?	Next business day	Three business days
Trading units	Dollars	Units

Sources: Vanguard. Some investors may be able to execute trades outside of normal market hours.

Notes on risk: Past performance is not a guarantee of future results. All investments in managed funds are subject to risk. Investments in bond funds are subject to interest rate, credit, and inflation risk. Prices of mid- and small-cap stocks often fluctuate more than those of large-company stocks. There are additional risks when investing outside the United States, including the possibility that returns will be hurt by a decline in the value of foreign currencies or by unfavorable developments in a particular country or region. Stocks of companies in emerging markets are generally more risky than stocks of companies in developed countries. Vanguard ETF Units are not redeemable with the issuing fund other than in Creation Unit aggregations. Instead, investors must buy or sell Vanguard ETF Units in the secondary market with the assistance of a stockbroker. In doing so, the investor may incur brokerage commissions and may pay more than net asset value when buying and receive less than net asset value when selling.

Figure 2. ETFs trade somewhat differently than managed funds and individual shares



Notes: The ETF creation and redemption process is the means by which authorised participants (APs) bring new ETF units into and out of the market, helping to maintain a balance between supply and demand. Authorised participants can also act as market makers but not all market makers are APs.

Source: Vanguard.

The language of ETF trading: Some key terms

Bid-ask spread. The difference between the price a buyer is willing to pay (bid) for a security and the seller's offering (ask) price. Because secondary-market (see definition below) transactions occur at market prices, you may pay more than NAV when you buy ETF units, and receive less than NAV when you sell those units.

ETF premium/discount. The difference between the ETF's last traded price and its NAV.

Limit order. An order to buy a security at no more (or to sell it at no less) than a specific price. This gives the investor some control over the price at which the trade is executed, but may prevent the order from being completed in full. In such a case, an additional order with a modified price may be necessary to trade the total desired number of units. However, the higher the limit price for a buy (and the lower the limit price for a sell), the greater the probability that the entire order will be filled. With limit orders, investors must weigh the likelihood that their trade will be fully completed versus transaction costs.

At market order. An order to buy or sell a unit immediately at the best available current price. Priority is execution, not price.

Marketable limit order. A limit order whose limit price is set either at or above the best "offer/ask" when buying or at or below the best bid when selling. This essentially accomplishes the same goal as a market order, but with some price protection. Marketable limit order is not an explicit market recognised instruction, rather, it is a term that we introduce to help investors as they try to find the appropriate balance between price control and likelihood of trade execution.

Secondary market. A market where investors purchase securities or assets from other investors, rather than from the issuing companies themselves.

Market Maker. The Market maker's job is to balance supply and demand for ETF units, by seeking to provide continuous liquidity to the market. Market makers have two key roles: 1) provide liquidity to the market by acting as the buyer and seller of ETF units throughout the trading day, and 2) creating and redeeming ETF units to ensure there are enough ETF units on issue to meet the supply and demand in the market. Market makers tend to be a part of a large financial institution or bank.

ETF trading best practices

By incorporating a set of ETF trading best practices, an investor may improve his or her trading process through more purposeful execution at a fair market price in relation to the value of the ETF's underlying securities. In many situations, executing ETF trades in a price-controlled and patient manner can reduce transaction costs. Adhering to these basic principles can help ensure that an investor's execution price is as close to real-time value as possible when making ETF trades (Vanguard, 2014).

1. In general, use "marketable" limit orders instead of market orders.

Limit orders offer advantages over market orders in terms of price control and protection, while providing some flexibility. A 'marketable' limit order is not a conventional or defined instruction in Australia, but it is a form of a limit order (or a trading approach) that may offer a higher likelihood of execution.

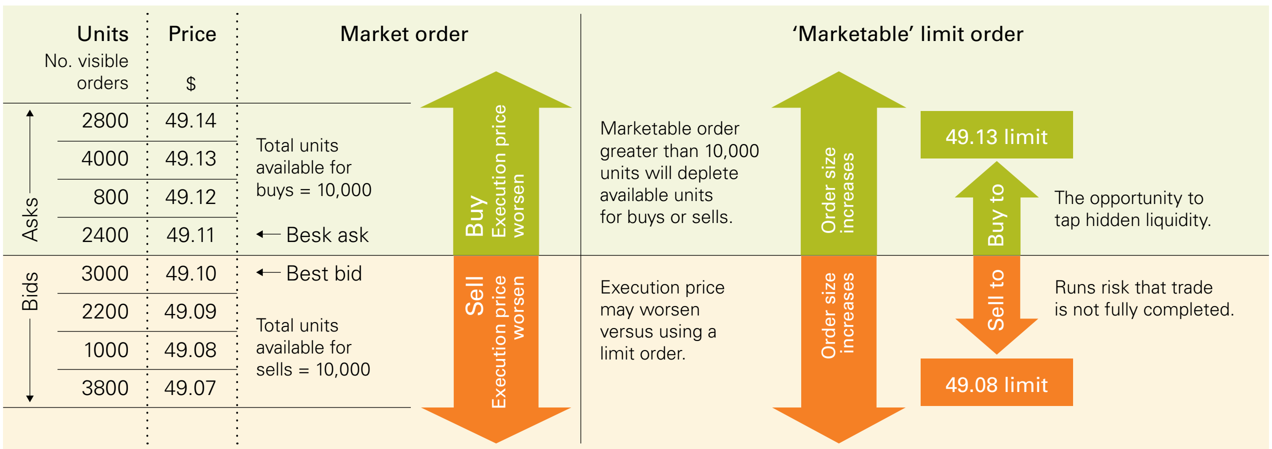
For example, a limit order with a purchase price set equal to or below the best ask (or a sale price set equal to or above the best bid) has less chance of completion than a marketable limit order with a purchase price set slightly above the best ask (or a sale price set slightly below the best bid). Although a market order may be effective when dealing with highly liquid ETFs, there is always a risk of poor execution. As **Figure 3** shows, beyond the best bid and ask price quotes is the remaining book of standing limit orders to sell to buyers at higher asks and to buy from sellers at lower bids. A market order runs the risk of sweeping indiscriminately through this book of liquidity, potentially leading to higher trading costs. A 'marketable' limit order, however, sets a boundary around the price at which an investor is willing to transact. The higher the limit price for a buy (and the lower the limit price for a sell), the greater the probability that the trade will be executed. The trade-off of garnering a greater likelihood of a fully completed trade, though, can be higher transaction costs.

In general, investors can set whatever price limit they wish in order to buy or sell their position. For 'marketable' limit orders (see "The language of ETF trading: some key terms"), a starting point might be to add a small amount (e.g. a cent or two) to the best ask price (for a buy) or subtract a small amount from the best bid price (for a sale).

2. Your firm's institutional trading desk can help tackle a large trade.

When trading ETFs in larger share amounts (e.g., 10,000 units or more), your firm's institutional trading desk can help obtain best execution by accessing additional trading strategies and liquidity options unavailable to typical investors. For example, your firm's institutional trading desk may be able to find and access unseen liquidity in the market and/or implement the trade in smaller digestible increments.

Figure 3. Hypothetical ETF trading scenarios: Market orders versus "marketable" limit orders.



Notes: The figure depicts hypothetical trading scenarios for an investor seeking to buy ETF units using either a *market order* versus a *"marketable" limit order*. Under a **market order**, a 10,000 unit purchase would sweep through the entire 10,000 units on screen, executing at a weighted-average price of $49.1272. If the investor desires more than 10,000 units, any remaining units would likely transact at prices higher than $49.14. A "marketable" limit order, however, allows the investor to exercise control on the maximum price they prefer to pay. **A "marketable" limit order** set at $49.13 would thus likely buy 7,200 units up to the capped purchase price at $49.13, for a weighted-average price of $49.1222. There is some risk, however, that the "marketable" limit order would not be completely filled, as 2,800 units are left open on the screen of the original 10,000-unit order. For this remaining amount, the investor can now choose among various trading strategies, including waiting for the market maker to replenish their ask (offer), leveraging a block trading desk with access to unseen liquidity or consulting the ETF provider's capital markets team to expedite this supply/demand process facilitated by the market makers.

Source: Vanguard.

3. Beware of the open and close.

The Australian Stock Exchange (ASX) opening and closing prices are determined by a calculation contingent upon overnight market moves and recent global news, so investors need to be cautious when trading prior to 10:15am and after 3:45pm (Sydney/Melbourne time). An investor should consider allowing some time to pass before trading in the morning since not all of an ETF's underlying shares may have a listed trade immediately, or some of the ETF's underlying shares may not open due to material news. The market maker then cannot price the ETF as precisely, potentially leading to wider bid/ask spreads. As the underlying market's close nears, an ETF may experience wider spreads and more volatility as market participants begin to limit their risk, leading to fewer firms "making markets" (i.e. supporting the ability to buy or sell a particular share at the quoted bid and ask price) in an ETF. Investors should avoid waiting until the last minutes to wrap up buy or sell orders in the afternoon, since fewer firms may be making markets in the ETF as the markets approach market close.

4. Pay attention during volatile periods.

Wide swings in the market can cause the prices of an ETF's underlying shares to move sharply, resulting in wider bid-ask spreads for the ETF or larger premiums and discounts to fair value. In such situations, using market orders may prove risky (because no price control is set), whereas using limit orders can be beneficial, as outlined above.

Additionally, the ASX Company Announcements Platform provides announcements about ETFs and can help investors keep abreast of material issues. Any news that may affect the price of an ETF, such as distributions and fund closures will be found here.

5. Tune out the volume.

ETFs with substantial trading volume and narrow bid-ask spreads may appear to offer superior liquidity. However, an ETF's average daily volume (ADV) is not the only gauge of its liquidity. An ETF's bid-ask spread may provide a better indication of liquidity because it incorporates the liquidity of an ETF's underlying shares and the associated costs for authorised participants (APs) to engage in the creation/redemption process.

However, an ETF with higher ADV may provide some cost benefits. A highly (i.e., frequently) traded ETF can often trade at spreads that are within the weighted bid-ask spread of its underlying basket of shares, and may allow an investor to execute trades closer to the value of the underlying shares.

6. For trading international ETFs, it's a matter of time.

In general, it is better to trade international ETFs at times that coincide with the trading hours of the underlying shares' local markets. Prices of international ETFs traded in Australia tend to be closer to the value of the underlying shares and typically trade with narrower bid-ask spreads when their respective markets are open and overlap with Australian trading hours.

When foreign markets are closed, information continues to flow that may affect the prices of an international ETF's underlying shares, even though the security prices themselves do not yet reflect this information. For an international ETF whose local markets are closed while Australian markets are open, this may mean that new information is incorporated into the ETF's market price, leading to seemingly greater premiums and discounts relative to its stated NAV (Rowley, 2013). Thus, while Australian ETFs trade from 10:00am to 4:00pm Sydney/Melbourne time, the underlying shares in international ETFs may trade at different times. Asian markets open late in the Australian morning; Europe and western hemisphere markets are not open during Australian trading hours. The ETF's market price may better reflect the true value of its underlying shares, whose last available set of prices have not yet had the chance to adjust to the latest news and events.

7. When in doubt, call for help.

Keep in mind that assistance is available when trading ETFs. ETF investors may encounter issues or questions that are not covered by the trading best practices outlined here. They may also unknowingly face higher frictional costs when trading larger ETF unit amounts, and it is important for investors to focus on controlling these costs[1]. Rather than go it alone, investors should consider reaching out to their brokerage platform or to the ETF provider for assistance.

1 Two examples of higher frictional costs related to trading larger ETF unit amounts include: 1) the possibility of being able to secure a superior price directly from a market maker than is published on screen and, 2) the increase in 'risk' price associated with significant transaction amounts (since there is more risk on the authorised participant to hedge the underlying in a timely manner to manufacture the create).

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