

Trading and the True Liquidity of an ETF

BMO EXCHANGE TRADED FUNDS

The ETF market in Canada has grown rapidly in the last few years. We have seen an increasing number of products in the marketplace. Most of this product growth has been in targeted exposures rather than broad beta ETFs, leading to a greater number of ETFs that have lower daily volumes.

As the following chart shows, the number of ETFs in Canada has risen from under 50 to close to 250 in only five years. On an asset basis, the number of smaller ETFs has grown even more dramatically – ETFs with under \$100 million in assets have increased from 27 to 173 over the same period. Looking at ETFs with even smaller assets, we see the number of ETFs with \$30 million or less has risen from 15 to 134.

We can draw similar conclusions by examining ETF trading volumes over recent years. Comparing the last trading day of 2009 to that of 2011, the number of ETFs that traded less than 10,000 shares rose from 106 to 191. These smaller, less frequently traded ETFs are certainly more common in Canada now than they were a few short years ago.

Given these emerging characteristics, investors more familiar with traditional stock trading are raising concerns about the 'investability' of smaller ETFs.

A Popular Misconception: If the size of the ETF is too small, or the volume of the ETF is too low relative to a trade size, then trade will move the ETF's market price.

Remember: ETFs have access to the liquidity of their underlying portfolios.

To address these concerns, it's important to note that the traded volume of an ETF has little effect on its liquidity. While the liquidity of an individual security is directly related to the traded volume of that security, the same correlation does not apply to ETFs.

While ETFs are listed on an exchange, and are accessed in the same manner as stocks, ETFs do not trade like stocks. ETFs are 'open ended' and have access to the liquidity of their underlying portfolio holdings.

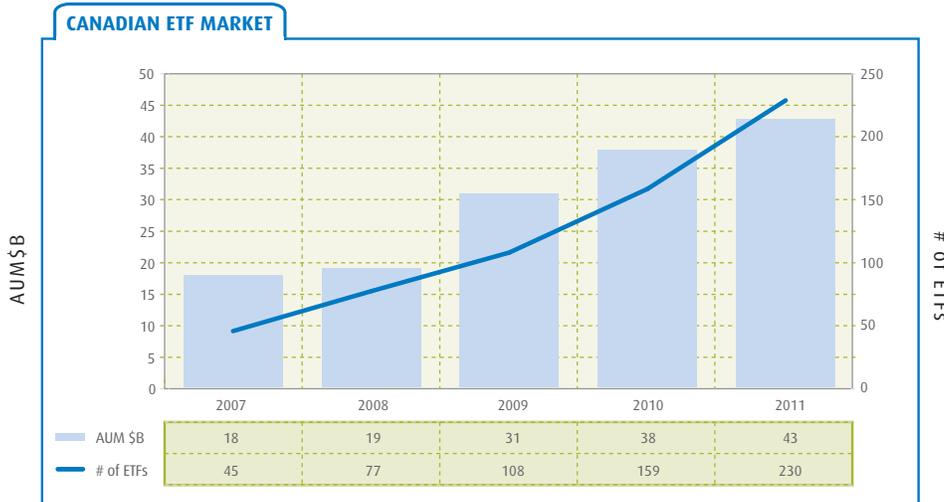
Traditional stock screening doesn't apply.

The liquidity of an ETF is best measured by the underlying securities which it holds. If the individual securities that compose the ETF have high volumes, and are therefore very liquid, then the ETF that holds them will have the same degree of liquidity. Similarly, if the underlying securities of the ETF have low volumes, or are

illiquid, the ETF will have a low degree of liquidity as well. BMO ETFs have been constructed to have liquid portfolios by establishing traded volume requirements for each security held within the portfolios.

Liquidity is best measured by the underlying portfolio

An ETF's underlying liquidity can be seen by observing the difference between the buying price and the selling price, or the "bid-ask spread." A tighter bid-ask



spread on an ETF generally indicates that the underlying securities also have tight bid-ask spread and are therefore more liquid. In this way, even an ETF with low traded volume is liquid if its bid-ask spread is tight. Again, if the securities that make up the ETF are liquid, so too is the ETF.

► How does ETF liquidity work?

There are three main parties involved with creating ETF liquidity;

Party	Role
ETF Provider	The firm that manufactures the ETF
Designated Broker	The market participants contracted to maintain bids and offers on the ETF, and can request new units of the ETF from the provider
Underwriters	Additional market participants that can request new units of the ETF from the provider

There are also three main levels of liquidity;

First level of liquidity – the Exchange

The interaction between buyers and sellers creates the first level of liquidity for an ETF. This natural liquidity is established when buyers and sellers match up on the exchange. Popular and established ETFs with high transaction volumes can develop even greater liquidity than their underlying holdings. Therefore, the liquidity of an ETF can exceed that of its underlying portfolio as it matures.

Second level of liquidity – designated broker activity

Designated brokers are responsible for posting bid and ask offers on the exchange. This enhances liquidity and allows a buyer or seller to transact with minimal trading costs.

For BMO ETFs, the designated broker continuously posts units on both the bid and ask side, at a price which reflects the spread of the underlying securities.

A Popular Misconception: The trade size will move through the quote book, or, the quoted depth on the ETF is smaller than the trade, so the trade will not be filled, or will be filled at a bad price.

Remember: Unlike a stock, ETF quotes are continuously refreshed and replenished.

The chart at the bottom of the page illustrates a large trade placed on BMO Aggregate Bond Index ETF (ZAG). Despite the large trade size, which at over \$80 million increased the fund's size by 50%, there was no impact on the trade's execution price.

Third level of liquidity – unit creations based on underlying securities

Because ETFs are open-end structures, the underwriter, a market participant who interacts with the ETF provider, can correct supply imbalances by creating or redeeming units. This is essential as the underwriter can offset an increase in demand by creating more units. On the other hand, when the demand for the units decreases, the underwriter redeems units to tighten supply.

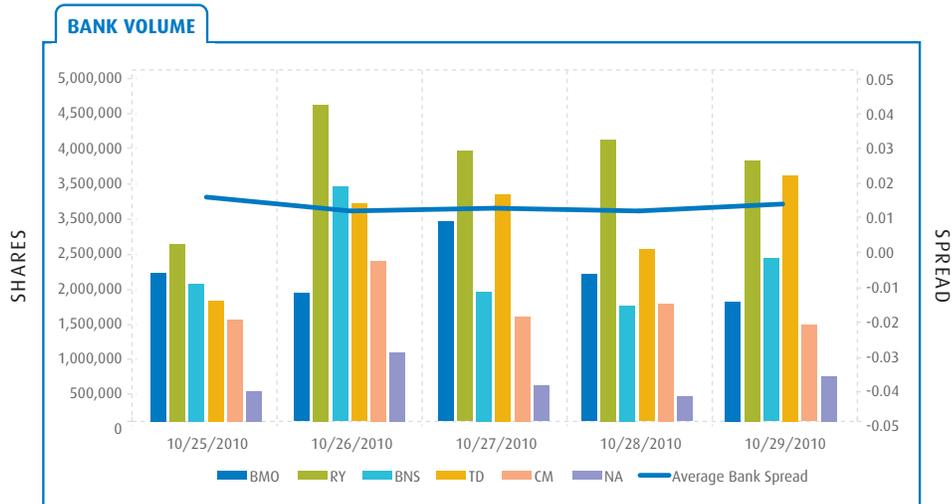
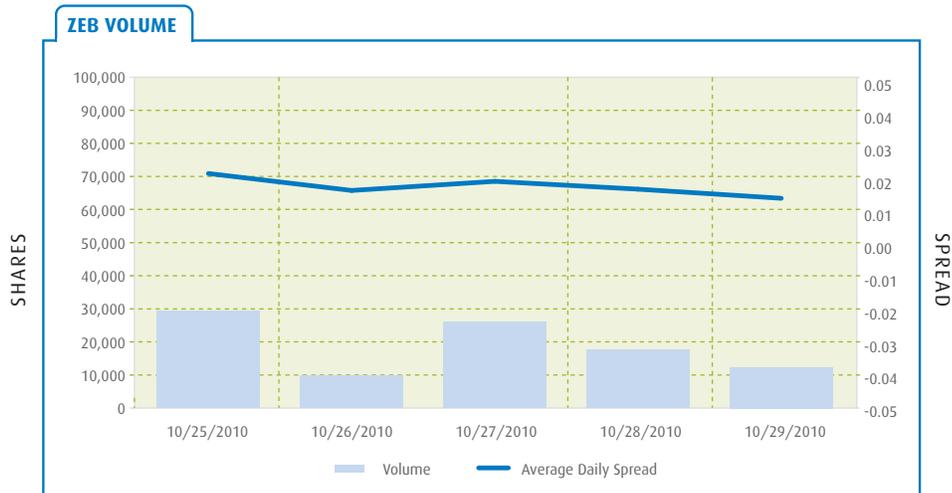


When a large buy order occurs, the underwriter will buy the basket of securities and initiate a creation order with the ETF provider. The cost would be the fair value of the units based on the prices of the underlying securities, the underwriter's costs of building the basket, and the investor's single trade commission rate with their broker. The underwriter's costs are based on how much each security trade impacts its traded volume. With very liquid underlying securities, this cost is minimal. The cost increases as the liquidity of the underlying securities decreases. Typically, for a large capitalization Canadian equity, these costs would be less than one cent. For harder to access underlying portfolios, this cost can typically range up to 3 to 4 cents.

By comparison, if the investor instead purchased each underlying security within the ETF, they would be faced with the trading costs incurred with each transaction.

The graphs below show the total volume traded in BMO S&P/TSX Equal Weight Banks Index ETF (ZEB) and its underlying holdings (the six major banks) over a one week period in 2010. The volume in ZEB averaged around 20,000 shares per day. In contrast, the major banks regularly traded millions of shares individually a day, which is where ZEB's true liquidity resides. Despite the low volume on ZEB, the bid-ask spread remained very tight, near one cent for the week, which mirrored the underlying banks.

As we have seen, the true liquidity of an ETF is best measured by the liquidity of its underlying securities and allows for significant trade orders without having an impact on the price of the ETF itself.



▶ Trading Notes

Avoid trading on the open & close of the market

As the market price of an ETF is a reflection of the underlying portfolio's value, avoid trading in the first 15 minutes of the day. This allows enough time for the underlying portfolio to start trading. Similarly, avoid trading into the close, as underlying portfolio movement can be volatile at the end of the day.

Always use Limit Orders

As with trading equity securities, many order types are available for use. The entry or exit trading price will impact the trade's overall profitability. As the underlying market levels continue to move while a trade is being placed, a limit order can ensure a desired price on the trade. It's important to note that if the market moves away from a limit, an investor may consider revisiting an aggressive limit price or set a slightly wider initial price.

Trade when the underlying market is open

The underwriter will be able to keep a tighter spread when the underlying portfolio is trading, as the ETF's price can be precisely calculated. When the underlying market is closed, the underwriter will have to model the price, and will therefore set a slightly wider spread to reflect their increased risk on the trade. Where possible, for international ETFs, trade when the underlying market is open.

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