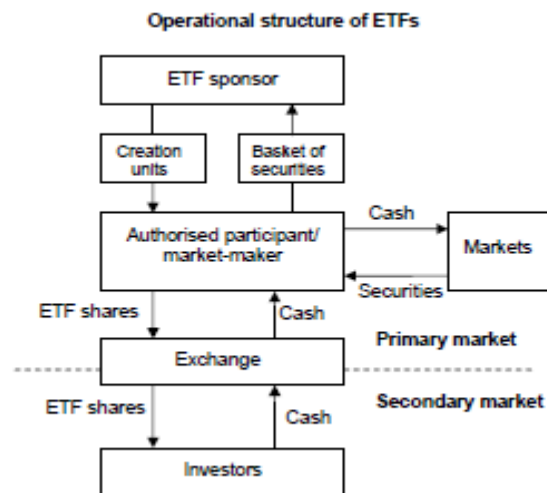


## Exchange Traded Funds ("ETFs")

Exchange Traded Funds ("ETF") have become a significant investment option for institutional and individual investors. **Vanderbilt Avenue Asset Management will occasionally invest in ETFs to gain exposure to a specific sector of the market or hedge an existing exposure.** ETFs were first created during the 1990s but were a small portion of the overall market as only 4 funds existed in 1995. They gradually gained a foothold leading to an explosion of growth beginning in 2005. By 2010, funds numbered over 3,000 with \$1.2 trillion of assets. Funds are now available for a wide range of markets including equity, fixed-income and commodities. Most ETFs today remain index funds that attempt to track the returns of a specific market or subsector.

The following chart shows the basic structure of an ETF.\*



\* Chart is from Bank for International Settlements BIS Working Papers No 343 published in April 2011

ETFs have characteristics of both Open-End Mutual Funds and Closed-End Funds. They are similar to Open-End Mutual Funds in that the size is theoretically unlimited and investment fees are relatively low. Characteristics of Closed-End Funds, ETFs are traded throughout the day and can be shorted. Since ETFs are traded throughout the day, not at the market close based on the Net Asset Value ("NAV") as with Open-End Mutual Fund, the market value of the ETF may vary from the NAV. Large ETFs that track liquid markets tend to maintain a close relationship between the NAV and market price.

There are three ways an ETF can achieve the return of the index it is suppose to track:

1. Plain Vanilla
  - a. Physical Replication
  - b. Security Lending may be undertaken by the Sponsor of the ETF
2. Synthetic
  - a. Derivative Replication
  - b. Generally used in less liquid or smaller markets

### 3. Total Return Swaps

- a. The Swap replicates the return of the index
- b. Collateral Assets required from the Counterparty may be sold if the Counterparty defaults on the Swap
- c. NAV of the collateral must be =>90% of the ETFs NAV

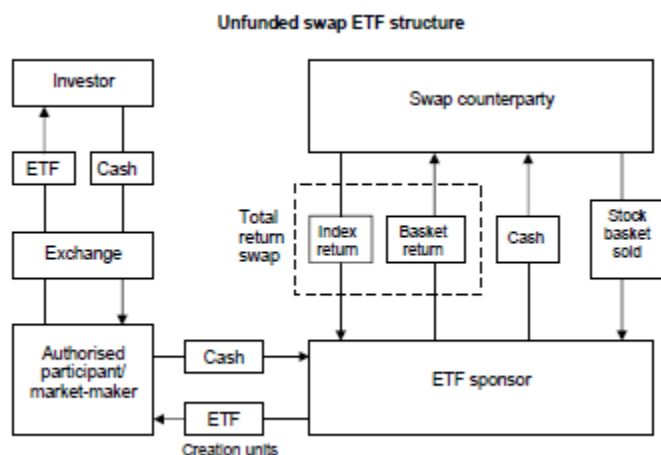
ETFs provide investors the ability to quickly gain a large exposure to a specific segment of the market through a single investment and a relatively low execution cost. For instance, the commission on the SPDR 500 ETF is \$0.01/share or less. Since ETFs can be shorted, they can be utilized to hedge existing positions in a portfolio with the same speed and cost of taking a long position. Either investment decision can be executed throughout the day.

The ability to short ETFs creates two potential problems. The first was highlighted by Harold Bradley and Robert E. Litan of the Ewing Marion Kauffman Foundation. Their report, "Choking the Recovery" published November 8, 2010, states ETFs are "ideal potential triggers for market wide free falls of the kind experience on May 6 during the Flash Crash." During that event, 70% of the cancelled trades were ETFs. This is all the more startling because ETFs were only 11% of all U.S. securities. The second issue involves the cost of borrowing an individual equity, since cost increases as the level of shares borrowed rises. For "hard to borrow" common stocks, the cost to borrow shares will rise rapidly as the demand to short the security increases. In contrast, when one "shorts" an ETF, the underlying securities in the ETF are not borrowed, only the shares of the ETF. Since borrowers of ETFs can "create to cover", the cost to borrow and the probability of a "short squeeze" being created is significantly reduced for an ETF. For instance, on June 30, 2010 six ETFs had short interest of more than 100%. The potential for a market disruption exists whenever the short interest is above 100%. A simple example illustrates the issue. Two investors hold 50% of an ETF, one lends his position to an investor who sells to a fourth individual. After the transaction, there are 3 investors each with a 50% interest. Each investor has "fractional interest" in the ETF. If two of the investors sell their position and no new investors purchase those shares, the underlying securities in the ETF would be sold. What is the value of the ETF since it would no longer exist in this scenario? Dr. Andrew Bogan, Managing Member of Bogan Associates, LLC and Morningstar believe "the money is all there, it's just in hidden plumbing in the financial system". How this issue is ultimately resolved will only become clear when/if the event occurs.

Plain Vanilla ETFs may engage in security lending. Security lending creates two specific risks to an investor in an ETF. Firstly, the borrower fails to deliver the security. The ETF would then have to use the collateral (generally 102% of market value of the security being lent) to purchase the security in the market. The ETF would lose money if both the market value of the lent security rose in excess of the collateral and concurrently the borrower entered into bankruptcy. Secondly, cash is provided as collateral and invested in a portfolio of other securities. Once the lent security is returned, the lender will need to liquidate the securities and return the cash to the borrower. A mismatch in maturity coupled with a rise in interest rates, an increase in market spreads or deterioration in credit quality of the issuer could lead to a loss in the security lending program. The ETF is exposed, in theory, to the full market value of the securities on loan. The risk inherent in security lending can be controlled by the ETF Sponsor as it has been historically by traditional mutual funds. In addition, ETFs are limited by law to having no more than one-third of its total assets in securities on loan.

Synthetic ETFs and Total Return Swap ETFs are exposed to counterparty risk. An ETF may hold futures, derivatives or total return swaps in place of the actual security or commodities that the fund is tracking. These derivatives expose the ETF to counterparty risk, which is the inability of the other side of the trade

to fulfill its commitments under the agreement. There are often a chain of financial parties as the initial counterparty creates other derivatives to offset part or all of the risk created by the initial contract. A failure along the chain by any of the counterparties may result in cascading defaults, impairing the ability to deliver the promised return to their shareholders. These agreements will generally provide for collateral being provided to the ETF. As gains or losses on the derivatives are created, the amount of collateral will be increased/decreased to provide support to the derivative being paid off at the appropriate value. This collateral may not, however, have returns correlated to the ETFs investment strategy and/or be “illiquid” (difficult to ascertain a market price and sell in a declining market). Counterparty risk can and should be managed by the ETF Sponsor through due diligence of counterparties, exposure limits, and collateral requirements. However, it cannot be fully removed. A chart of one such swap structure is shown below.\*



\*Chart is from Bank for International Settlements BIS Working Papers No 343 published in April 2011.

Certain ETFs performance will suffer from “tracking errors”. The use of future contracts introduces tracking errors between the expected return and the actual return earned by the ETF. The tracking error cannot be predicted at the time of the investment. Tracking errors are observed in ETFs that magnify the returns of a particular index. For instance, an ETF that attempts to provide double the inverse return of the S&P 500. The unexpected return pattern is due to it being “path dependent”, not solely dependent on the beginning and ending value of the index. To achieve the expected return of a short ETF, one should simply short the long ETF of the index.

ETFs have become an increasingly important investment vehicle. They now comprise a significant portion of the daily trading volume of many markets. Investments in large ETFs that track a broad segment of the market (i.e. S&P 500) can provide an attractive option. The exposure can be quickly adjusted at a low transaction cost. An ETF investor, however, should not assume that an ETF can reduce the illiquidity of the underlying market which the ETF is tracking. Put simply, an investment in an ETF versus the underlying securities will not increase the liquidity or reduce the volatility of that market.

ETFs have made a significant contribution to an investor’s ability to react to market events and quickly achieve a broad diversification for their portfolio. Investors should be cognizant of additional risk created by the structure and manage that risk to fully benefit from their investment in ETFs.