



## Exchange Traded Funds (ETFs) Investing: Seven Insights Every Investor Needs to Know

### These Seven Insights Can Help You Avoid Costly Mistakes

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In the last decade, the breadth of ETF offerings has increased exponentially. ETF offerings now include hard to access asset classes such as Master Limited Partnerships, leveraged vehicles which provide double (or triple) the exposure to popular market indices and access to tightly defined industry subsectors. Choice is great; however it can also lead to confusion. It is crucial that investors fully understand the products in which they are investing and, importantly, how the product will react to various market outcomes. With that in mind, we offer these seven insights to help investors better understand ETFs.

#### ✚ **One. Focus on the Companies, not just the fund description:**

ETFs are a basket of individual companies. While a one or two paragraph marketing narrative can be useful, often the underlying companies in the ETF (and their weighting in the portfolio) are surprising to investors. For instance, the FXI is a popular ETF for exposure to China. Investors need to understand that the FXI is limited to the top 25 largest publicly traded companies in China as measured by market capitalization. The companies that fit those criteria are dominated by financial firms. 40% of the FXI is exposure to this sector. So if you are looking for exposure to large banks in China, FXI can be a great tool. But what if you want exposure to the growth of the middle class in China? In that case FXI will likely disappoint you. (For this exposure consider CHIQ or PGJ instead).

Focusing on what companies are in the ETF and how they are weighted can help you better understand your actual investment exposure. Similar sounding ETFs can have the same companies in their portfolio yet have dramatically different weightings. For example iShare's Biotech IBB ETF has a 10%

exposure to Amgen whereas Merrill's Biotech BBH ETF has a 40% exposure to Amgen. A big difference.

Many investors assume that ETFs automatically give them diversified exposure to their area of interest. Most ETFs do provide some level of diversification; however, this is not always the case. For example BHH, an internet focused ETF issued by Merrill Lynch states the following in its fund description: *"The investment seeks to diversify your investment in the B2B segment of the Internet industry"*. Sounds good, doesn't it? However, a look into BHH's holdings reveals that the fund is comprised of just two stocks. 88% of BHH is invested in Ariba Inc., the other 12% is invested in Internet Capital Group, Inc.

It is clear that focusing on the underlying companies is critical to understanding both the opportunity and the risks in an ETF investment.

#### ✚ **Two. ETNs are NOT ETFs:**

There is a critical difference between ETNs and ETFs. Unlike ETFs, ETN are not backed by an underlying basket of stocks. ETNs are simply a contract with the issuing firm to receive certain payouts depending on how the underlying index performs. As a contract, ETNs are considered an unsecured debt instrument. Should the ETN issuer be unable to pay per the terms of the contract, you become an unsecured creditor of the firm. We call this "Issuer Risk". Lehman Brothers issued several ETNs and their bankruptcy highlights the important distinction between an ETF and an ETN.

So why would an investor use an ETN? They can be useful in minimizing tracking error. Some indices are difficult to reproduce with a basket of stocks or bonds and an ETN can solve this problem.

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### ✚ **Three. Be Careful Using Limit Orders with ETFs.**

Unlike open ended mutual funds, ETFs do not reset to net asset value at the end of each trading day. What this means is that an ETF can trade at a premium or discount to the underlying basket of securities. The mechanism that keeps this spread from getting too great is the ability of investors to exchange 50,000 units or more of the ETF for the underlying basket of stocks and vice versa. If the ETF trades at too great a discount, arbitrageurs will purchase 50,000 units on the open market and trade them in with the issuing firm for the underlying stocks. If the stocks are then sold, the arbiter makes a risk free profit.

Most days, this mechanism works well in keeping the ETF reasonably close in value to its underlying securities. However, the process does take time to implement.

Quick changes in the market can cause disconnects in ETF pricing and can trigger limit orders. Think of the “Flash Crash” of 2010. Popular ETFs saw dramatic disconnects between the price of the ETF and the value of the underlying basket of stocks. The IWF, an iShares ETF which tracks the Russell 1000 index, saw a low of \$0.01 during the “Flash Crash” while Vanguard’s Total Market ETF, hit a low of \$0.15. These are both examples of large and liquid ETFs selling at a massive discount to the value of the underlying holdings.

### ✚ **Four: Be careful of concentrated holdings:**

Understanding the concentration of the top holdings of an ETF and the fund’s corresponding rebalancing mechanism for an ETF is important. Even popular funds such as Powershares QQQQ (the “Qs”) which tracks the NASDAQ 100, can hold major surprises. QQQQ is a market cap weighted fund and is

rebalanced quarterly. Apple Computer’s market cap is slightly greater than Microsofts (\$230B vs \$212B in mid-August, 2010). Microsoft represents 5.5% of the Qs. So what percent of the Qs is exposure to Apple stock? Most people would rightly assume around 6%. However, Apple represents 15.5% of the Qs market value.

The reason for this discrepancy can be found in the rebalancing rules for this popular ETF. The Q’s rebalancing rules state that when a company is initially added to the index, its allocation is based on the firm’s market capitalization relative to the

market value of the index.

However once in the ETF, the position is not trimmed unless it becomes

greater than 24% of the fund (or if the sum of all positions greater than 4.5% exceeds 40%). Because Apple has seen its share price increase dramatically over the past 10 years, its impact on the ETF has increased substantially. Investors need to understand this situation. If you like technology, and also like Apple, this may not be a problem. However if you do not like Apple, you’d likely want to avoid Powershare’s QQQQ. You might instead consider QQEW which is an equal weighted ETF containing all the NASDAQ 100 companies at roughly 1% each.

### ✚ **Five: ETFs can sometimes provide liquidity when you most need liquidity.**

ETFs can be a powerful tool when investing in an asset class where liquidity may become a concern. A current example of such an asset class is fixed income. As this report is being written many investors are seeking a “safe” place to park their money until there is greater clarity regarding the US and global economy.

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This increased demand for perceived safety has caused US treasuries and corporate bonds to rise in price and their corresponding interest rates to fall. Many pundits feel there is a bubble in bonds and that prices are likely to retreat in the near future.

The challenge for bond investors is that some corporate bonds can be fairly illiquid. After their initial offering, the bonds may not trade often. When they do trade, the bid/ask spread can be quite wide.

ETFs can be helpful in this situation. Here is why.

When an ETF is initially introduced, the issuer purchases the underlying securities (in this example, a statistical sampling of bonds designed to replicate the broader bond index). The issuer then sells units in the ETF to the investing public.

Once the ETF is trading on the open market, ETF shares can change hands between investors without the issuing firm needing to buy or sell the underlying holdings. Investor A owns shares of an ETF and sells them to investor B. No bonds need to be bought or sold as the number of outstanding shares of the ETF remains unchanged.

Of course if demand for shares dramatically exceeds supply the ETF issuer will issue additional shares and purchase the appropriate underlying securities and if supply exceeds demand the ETF issuer can sell securities to generate cash to meet the distribution requirement. The ETF issuer also has the option in certain circumstances to meet distribution requests by distributing securities from the fund directly to investors.

While owning an ETF does not immunize an investor against market losses the significantly greater trading volume and the management of the fund by an issuing firm typically offers investors far greater liquidity than what is available in individual bonds.

### ✚ **Six: Be careful using leveraged ETFs**

Many investors have never heard of leveraged ETFs and that is probably a good thing. So why are they

mentioned here? Because leveraged ETFs are rapidly gaining attention and popularity. If you have not heard of them you likely will soon. The promise of leveraged ETFs is that you can get double (or triple) your exposure to

an index. The attraction to such a strategy is that, in theory, you can get \$20,000 worth of exposure to an index while only investing \$10,000. The challenge is that leveraged ETFs do not work the way most investors think they do.

Here are two examples that illustrate the challenge with leveraged ETFs. In both cases, a triple leveraged ETF is used to highlight the issue.

Example one: Assume the underlying index goes up by 5% one day (from \$100 to \$105) and down by 4.76% the next day (from \$105 to \$100). Over the course of the two days, the index had no change in value. It started at \$100 and ended at \$100. However, the triple exposure ETF will be down 1.4% for the same period. To understand how this occurs please refer to the table on the following page.

The second example is admittedly extreme but it further illustrates the issue. In this case, assume the index again starts at \$100. The first day, the index goes down by 20% and closes at \$80. The next day the index goes up by 25% and closes at \$100. Again, the index has no change in value over the two

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trading days. Unfortunately the triple exposure ETF will be down 30% over the same period. The ETF losses in these two examples is called “leakage”.

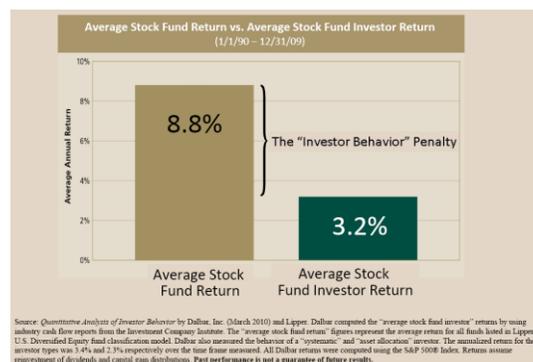
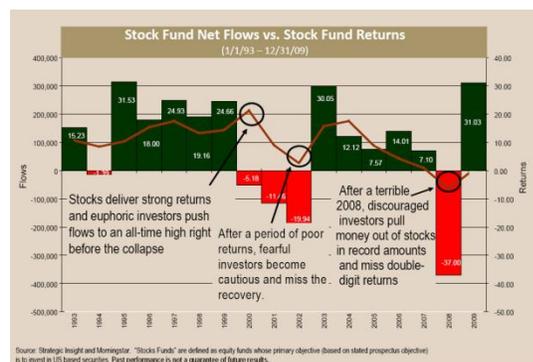
Leakage comes from the very structure and rules that leveraged ETFs follow. They increase their exposure when the index is high and then decrease exposure when the index is low. Leveraged ETFs have systematized a process that “buys high and sells low”; not very smart.

Below is a simple spreadsheet that illustrates how leakage occurs. It is not important that you follow the math. What is important to your investment success is that you know that leveraged ETFs will likely behave differently and be far less beneficial than one might presume on first glance. Most retail investors should simply avoid them. About the only place leveraged ETF’s make any sense at all is to short them. For example If you want double the long-term exposure to the SP500, short the double negative ETF. Shorting a negative ETF gives you long exposure to the index. The advantage to this strategy is that “leakage” now works in your favor. Unfortunately very few custodians will allow retail investors to short a leveraged ETF making this a very difficult strategy to implement.

	Leverage ETF	Total	Index Daily Return	Gain/Loss on EXPOSURE	Ending NAV	Index Ending Value	Leveraged ETF Cumulative Return	Index Cumulative Return	Leveraged ETF Cumulative Return
	Starting NAV	Exposure (NAV*3)							
<b>Example 1:</b>									
Day 1	\$100.00	\$300.00	5.00%	\$15.00	\$115.00	105%	115%	5%	15.0%
Day 2	\$115.00	\$345.00	-4.76%	-\$16.43	\$98.57	100%	98.6%	0%	-1.4%
<b>Example 2:</b>									
Day 1	\$100.00	\$300.00	-20.00%	-\$60.00	\$40.00	80%	40.0%	20%	-60.0%
Day 2	\$40.00	\$120.00	25.00%	\$30.00	\$70.00	100%	70.0%	0%	-30.0%

## ✚ Seven: Develop a consistent investment policy that you can stick to in good times and bad.

Investors have a terrible track record of changing their asset allocation at precisely the wrong time. They tend to decrease their exposure to stocks when prices are low and increase it when prices are high. The chart below illustrates this point. The redline represents money flows into stocks and the bar chart represents the average annual returns for stock funds.





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The chart on the right shows the impact of the behavior outlined in the left hand chart. We've all heard that investors tend to increase and decrease their exposure to stocks at the wrong time. What most people have not seen is the impact of this behavior on their personal investment returns.

According to Dalbar, Inc., an independent think tank that studies investor behavior, the impact is quite dramatic. Over a 20-year period from 1990 to 2009, the average stock mutual fund delivered 8.8% per year net of fees. However, the investors in this pool of exactly the same mutual funds earned only 3.2% per year net of fees. How can this be?

Reasonable people might speculate that the difference is due to fees; however, the results shown are net of fees for both the Average Stock Fund Returns and Average Stock Fund Investor Returns. According to Dalbar, the reason for the difference is simple. Investors are buying into the funds when the prices are high and selling when the prices are low. The impact is as dramatic as it is devastating.

Investors can benefit from this study by developing a personal investing policy they can stick with when the market goes up and when the market goes down. The one thing every investing pundit can agree on is that the market will continue to be volatile going forward. It is crucial that you have an investment strategy that is based on who you truly are as an individual. Two families can have similar financial situations and yet have vastly different investment policies. The reason is that they each are unique and their strategies should reflect this difference. Done well, investors will feel a bit of fear when the market falls and a tad of greed when the market rises. However, they should be able to stay the course and not let the market fluctuations dictate when they increase or decrease exposure to stocks.

Does this mean investors should simply "buy and hold"? Absolutely not. The world changes and one's investments should be adjusted to reflect these inevitable changes. However, changes should be driven by a forward view of the specific investments. Investment policy changes should not be driven by one's emotional reactions.

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In summary, ETFs can be a powerful tool and are a welcome evolution from mutual funds. They offer investors increased transparency and reduced costs. However, investors are well served to research each ETF beyond the marketing summary that describes the fund. The exposure, performance and risks of ETFs can vary dramatically from what many investors might assume if they rely solely on the fund description. It is important to understand not just the current holdings of the ETF but also the mechanism that dictates how the ETFs exposure can change over time and the rules that dictate when and how the fund will make those changes. The details are critical to ensuring that your portfolio of ETFs will indeed give you access to your areas of interest, will behave as you expect in various market conditions, and will stay within the risk constraints that you are willing to accept.

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