

SCHULTZ COLLINS  
LAWSON CHAMBERS  
INVESTMENT COUNSEL

YOUR HOUSE IS ON FIRE –  
BUT DON'T WORRY, BECAUSE THE WORLD IS ENDING:

EXCHANGE TRADED FUNDS & THE FINANCIAL PRESS

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## SENSATIONAL HEADLINES

Our title illustrates how a publication can piece together a sensationalized headline from bits and pieces of empirical data. In this case, the headline reflects (1) the presence of a house fire in the form of a pilot light in a stove or furnace, and (2) scientific findings regarding the consequences of an expanding universe. It seems that life will cease in several billion years – hence, the headline. Some publications thrive on sensationalized presentations of news. Certain mainstream newspapers are noteworthy for their creative headlines; and, according to the supermarket tabloids, aliens have occupied the earth for at least several years – well, go ahead and prove that they are not here. Could it be that the motivation for extracting sensational headlines from mundane data is to induce a curious audience to buy the publication?

Intelligent readers can usually separate the wheat from the chaff by reference to the source of information. An article headline in, for example, the New England Journal of Medicine might imply a greater degree of credibility than one in the Star newspaper – sold only in select supermarkets. Here is an interesting question: how do the following headlines affect your assessment of the risk of an Exchange Traded Fund [ETF] investment?

- “Volatility Thy Name is E.T.F.” – The New York Times
- “The Emerging Risks of ETFs” – Canadian Investment Review
- “SEC’s New Target: Exchange-Traded Funds” – [www.onwallstreet.com](http://www.onwallstreet.com)
- “Regulators Turn to the Stability Risks Presented by the Explosive Growth of Exchange-Traded Funds” – Morrison & Foerster [law firm] News Bulletin
- “ETFs and the Flash Crash” – CBS News
- “The Perils of Exchange Traded Funds” – [www.advisorone.com](http://www.advisorone.com)
- “Too much of a good thing: The risks created by complicating a simple idea” – The Economist

A proliferation of headlines over the past eighteen months warns investors about the dangers of ETFs. Where does this come from? What does it mean? Should investors avoid ETFs?

The remainder of this article narrates a bit of detective work. It appears that there are several dimensions to the mystery of the sudden appearance of HIGH RISK ETF headlines across various media outlets. Our detective work is not exhaustive and we readily admit that our findings are more suggestive than definitive. However, we hope that you find the narrative interesting in itself; and that it helps you become a more critical reader of investment-oriented information.

## EUROPEAN BANKING SHENANIGANS

Our tale begins in Europe. A supranational agency, the Bank for International Settlements [BIS] located in Basel, began sounding alarms regarding ETFs several years ago. An overview of their concerns is the subject of the BIS Working Paper No. 343: “Market structures and systemic risks of exchange-traded funds” which reflects findings through the date of its publication in April 2011. Page one points out that “ETFs have moved away from being a plain vanilla cost- and tax-efficient alternative to mutual funds to being a much more complex and diverse array of

products and replication schemes.” Pages five through twelve lead the reader through a positively hair-raising series of observations regarding the risks of ETFs that are structured as both funded and unfunded swaps. The swap counterparties, in many cases, not only lack independence but may have interests that conflict significantly with those of ETF investors. Many swaps are ‘synthetic’ in that the ETF replicates its benchmark index using derivatives as opposed to direct ownership of underlying securities or physical assets – e.g., gold, silver, etc. [A word of warning to those wishing to check the source document – reading page after page of technical descriptions of synthetic swap structures is probably not good for your disposition and general sense of well being].

With apologies for further exposition on a complicated topic, we must point out that the BIS paper focuses primarily on the risks to financial markets in the event that many ETF investors head for the door at the same time: “Because ETF redemptions will require cash to be delivered against collateral assets that might be illiquid, market-making activities could be severely hampered.... The collapse of funding for individual financial intermediaries could then reinforce funding stresses for the financial system as a whole.” Observations that ETFs are backed by baskets of illiquid and lower-quality assets should certainly command investor attention – this seems like a disaster waiting to happen. What are the consequences if counterparties are unable to come up with the cash to pay off investors? The BIS observations naturally sparked widespread regulatory interest which, in turn, led to a series of articles in the global financial press regarding hidden dangers to ETF investors.

Fortunately, page four of the report clarifies that this is primarily a European problem: “Almost all of the ETFs that are benchmarked against fixed income or equity indices in the United States are plain vanilla structures that involve physical replication of the underlying index.” Furthermore, “regulatory rules that stipulated how ETF assets are managed encourage the adoption of plain vanilla structures in the United States. One is the requirement that investment companies registered under the Investment Company Act of 1940, which include ETFs, hold at least 80% of their assets in securities matching the fund’s name....the U.S. Securities and Exchange Commission [reviews] the use of derivatives by ETFs and mutual funds to assess risk associated with the use of derivatives to achieve their investment objectives.” Unless you’re buying ETFs on European stock exchanges, there is not much news here. SCLC’s recommendation: next time you’re in England buy a Big Ben replica clock rather than an ETF listed on the London Stock Exchange.

## THE U.S FLASH CRASH

The dust would probably have settled on the whole HIGH RISK headline industry had not the Flash Crash occurred on May 6, 2010: “In the late afternoon of May 6, major U.S. equity market indexes began to decline sharply. The Dow Jones Industrial Average (DJIA) dipped 998.5 points, the sharpest intraday point drop in history, follow by an astounding 600 point recovery within 20 minutes.” [“Exchange-Traded Funds, Market Structure and the Flash Crash,” Ananth Madhavan, October 10, 2011]. Observers quickly noted that ETFs were disproportionately represented among the securities that suffered price drops in excess of 60%. Eventually, the SEC “cancelled” trades for securities suffering large decreases in their market value. ETFs (technically, ETFs, and a variety of similarly structure products called ETNs and Unit Investment Trusts) accounted for approximately 70% of all cancelled transactions. A variety of headlines implied that ETFs were dangerously volatile; and, in certain cases, were the cause of the Flash Crash. To this day, it is not difficult to find commentators in the popular financial press suggesting that ETFs are merely the playthings of large Hedge Funds who use them for complex transactions that no one understands. Therefore, ETFs are akin to the complicated mortgage-backed credit default swap instruments that crashed the financial system in 2008. How one gets from here to there is not specified – as a

financial press editor, however, it may be fun to interweave a discussion of European synthetic swap structures and the U.S. credit default swap debacle in articles about ETFs sold in the U.S. There is some anecdotal evidence suggesting that the elements of the investment advice / newsletter / on-line-trading-advice industry seek to expand their subscription numbers by promoting an “it’s-complicated-and-dangerous-so-you-really-need-our-advice” viewpoint. Lots of good headline material and marketing hype to be had.

The BIS was sounding the alarm concerning European-traded ETFs at the same time that ETF values were unexpectedly slammed in the U.S. for a 20 minute period. Are U.S. ETFs as safe as their sponsors suggest? It is apparent, after slogging through a variety of post mortems on the Flash Crash, that opinion regarding its fundamental cause(s) varies significantly. Some argue that high-frequency trading is the culprit, others that a modest sell order in S&P 500 futures contracts triggered feedback loops in algorithmic trading programs because the trade was entered (by mistake?) on a volume participation basis rather than on both a volume and price limit basis – the more volume, the more selling pressure irrespective of price change. Other arguments point to market orders known as ISOs [Intermarket Sweep Orders] that sucked up liquidity from low-volume venues during the time period when the New York Stock Exchange placed itself on a trading pause status. Madhavan, cited above, believes that market micro structure played a key role in the Flash Crash – liquidity for security transactions was fragmented over a variety of both public and opaque (“dark pool”) markets rather than concentrated in a few deep and liquid trading venues. When the New York Stock Exchange unilaterally hit the “pause” button, other smaller ETF trading venues continued normal operations. Prices were set at trading venues ill equipped to handle supply/demand imbalances. This resulted in a quandary for ETF market makers who, for a short time, stepped back from the market until pricing uncertainties were resolved.

One thing is clear – almost no one now blames ETFs for the Flash Crash. The current thinking is coalescing around the viewpoint that ETFs were the victims rather than the cause. Indeed, following intensive studies by the SEC and individual trading exchanges, there is now an extensive set of new rules and procedures in place to head off future market failures. In the interest of full disclosure, however, not all market experts agree that the new systems are entirely up to the task. Interestingly, in the U.S., it is the major ETF providers who are currently leading the charge for changes in trading rules as well as in better disclosure of ETF liquidity provisions and investment strategies. Often, however, these facts are buried in paragraph six of an article with a headline like: “SEC looks into ETF meltdown.”

The climate was now hospitable for a proliferation of ETF alarms. The alarms generally fall into two groupings: (1) warnings that are indisputably valid – there are certain ETFs sold in the U.S. that are poorly understood by retail investors and which may perform quite differently from investor expectations; and (2) warnings that are controversial and, in some cases, may reflect a misunderstanding about the way ETFs or trading venues really work. The valid warnings tend to make the controversial ETF theories more credible under the “if there is a problem with one part of the ETF industry, there may be a problem in other parts” theory. This is the stuff from which creative headlines are born. We briefly discuss each type of consumer alert.

## WEIRD SCIENCE: INVERSE LEVERAGED ETFS

The first group of warnings focuses on ETF instruments known as ‘leveraged’ or “inverse leveraged’ ETFs. Exchange traded funds [ETFs] are pooled investment vehicles that share characteristics of both an open-ended mutual fund and a share of stock. Unlike open-ended mutual funds which are purchased and redeemed directly from the sponsoring fund at the end-of-the-day Net Asset Value [NAV], ETFs trade between counterparties (buyers and

sellers) throughout the trading session at a premium or discount to their NAV. A liquid market with sufficient sales volume and adequate counterparty participation is required to keep the ETF's market value close to its NAV. Investors often compare ETFs to an index mutual fund. While both have assets replicating the asset weights in the comparative benchmark, ETFs trade continuously throughout the market session like a single stock. Thus, the price-per-share paid or received by the investor fluctuates throughout the day.

Leveraged ETFs are pooled investment vehicles designed to provide two to three times the exposure to the daily returns of the underlying index which they track. If the leverage factor is positive, then the fund's objective is to earn a return equal to the positive return of the underlying index multiplied by the factor's value. These ETFs are usually designated as leveraged "bull" ETFs. If the leverage factor is negative, then the fund's objective is to earn a return equal to the negative of the underlying index's return multiplied by the factor's value. These ETFs are usually designated as leveraged "bear" ETFs.

For example, a bull fund with a leverage factor of two [2xbull] seeks to pay the investor a return of 10% (less fees and expenses) on a day in which its comparative underlying index earned 5%. If, however, the underlying index lost 5%, the 2xbull fund would decline in value by 10% plus fees and expenses. Conversely, a bear fund with a leverage factor of three [3xbear] seeks to pay the investor a return of 15% on a day in which its comparative underlying index earned a negative 5% but would decline in value by 15% plus fees and expenses on a day in which the underlying index earned a positive 5%. Bear ETFs provide the inverse of the return of the underlying index. As such, they constitute a method of betting against a market.

Leveraged Inverse ETFs differ from index funds in another important dimension. While a capitalization-weighted index fund owns positions in the assets in the underlying index (or, owns a representative sampling of the assets), an inverse ETF employs derivative financial instruments to achieve its payout objectives. The use of derivatives introduces significant risks, which are compounded by the leverage factor employed by the fund. Let's suppose that, on day one, an investor purchases a 2x bull S&P 500 ETF portfolio for \$100,000. On day 30, the S&P 500 has earned a +10% return. Thus, the investor expects his portfolio to be worth  $2 \times +10\% = +20\%$  or \$120,000 less fees and expenses. However, the fact that the ETF adjusts its holdings to keep the 2x leverage factor constant for each day's trading session means that the investor's return over the entire period depends on the sequence of daily returns – not just the period's beginning and end points. If a sufficient portion of that sequence of returns is negative, the investor might actually have an ETF portfolio with a value less than \$100,000 at the end of the period despite the fact that the S&P was up by 10%!

Beginning in 2009, regulatory authorities promulgated an extensive series of investor warnings. For example, the U.S. Securities and Exchange Commission and the Financial Industry Regulatory Authority jointly promulgated a regulatory notice in June 2009 stating that "...inverse and leveraged ETFs typically are not suitable for retail investors who plan to hold them for more than one trading session, particularly in volatile markets." The report cites the example of an ETF seeking to deliver three times the daily return of the Russell 1000 Financial Services Index. Over the period from December 1, 2008 to April 30, 2009 [five months] the Russell 1000 Financial Services Index gained around 8 percent. The 3X positive leverage ETF, however fell 53 percent. Furthermore, "the related ETF seeking to deliver three times the inverse of the index's daily return declined by 90 percent over the same period." Heads you lose, tails you lose.

In 2010, the North American Securities Administrators Association included leveraged ETFs on their "Top Investor Traps" list: "While ETFs resemble mutual funds in many respects, some, such as leveraged and inverse ETFs, may contain hidden traps and complexities, and may consist of highly leveraged bundles of exotic financial instruments, including options and other derivatives. Given their potential for volatility, leveraged ETFs may not be suitable for

most retail investors. These types of ETFs are primarily designed for short-term trading (such as day-trading), and not for buy-and-hold strategies. Also be aware that some ETFs are thinly traded and may not always be liquid.” SCLC’s recommendation: unless you have legitimate reasons to hedge identifiable portfolio risks, avoid leveraged and inverse leveraged ETFs.

## LEGITIMATE WARNINGS?

The second group of ETF warnings is controversial. Are these warnings based on credible research and solid insights, or are they merely tilting at windmills? We suspect that many popular press headlines were composed by writers and editors who did little or no homework on these subjects. The consumer alerts are based on several observations of empirical data including: (a) ETFs are often sold short at a frequency and magnitude far greater than individual stocks; and, (b) ETFs often dominate the failure-to-settle list for securities traded on public exchanges. Our detective work indicates that the source of many HIGH RISK headlines lies in two publications: A white paper by Bogan Associates – a Boston-based money management firm [“Can an ETF Collapse?”], and a report by the Ewing Marion Kauffman Foundation, a foundation located in Kansas City devoted to “entrepreneurship.” The Kauffman report [“Choking the Recovery: Why New Growth Companies Aren’t Going Public and Unrecognized Risks of Future Market Disruptions”] was reissued with corrections and clarifications after the initial report was faulted for making several factual errors. It is our understanding that the Bogan report is currently being shopped around the academic journal circuit but has not yet been officially accepted for publication.

The authors of the Bogan report cannot be accused of pulling their punches. Here, for example, are excerpts from an interview with Andrew Bogan dated April 11, 2011:

Bogan: “People have been short-selling ETFs up to shocking levels, like 100% short, sometimes over 1,000% short. That’s in a world where stocks like Apple are 1% short, or IBM is 1.4% short, or General Electric is 0.5% short. You really don’t see traditional stocks with short positions anything like this, so clearly something is fundamentally different. The difference is that ETF short-sellers – including hedge funds, dealers and arbitrageurs – are confident they can always create the shares they need to cover [their short positions], so they see less risk of being squeezed.”

Interviewer: “But in a traditional short-selling situation, you typically have to borrow the shares before you can short them.”

Bogan: “Yes, and that’s true here too. But if you look at the Securities Settlement Failure data, ETFs are very oddly overrepresented, so it does look like there is some short-selling that happens before the shares are borrowed ... The problem is that there is no limit to the amount of short-selling you can theoretically do while still having borrowed the shares . It simply requires the same share to have been borrowed, short-sold, borrowed from the new owner and short-sold again down a daisy chain.” ... “One concern is that the huge short interest building up essentially leaves the ETF as a fractionally reserved stock ownership system . If you have a fund, for example, that is 500% net short, then for every one holder of an actual share there are five other investors who own IOUs for the shares ... For the ETF itself, it means that the fund holds only 15% of the underlying securities implied by the gross number of fund shares that investors think they own. The other 85% isn’t totally missing, it just isn’t held by the fund ... If for some reason a significant portion, say, half or 80% or so, of the total fund ownership wanted to redeem and get the underlying stocks from the ETF through the

authorized participant layer, you would fundamentally have a crisis in a fractional-reserve system. The ETF could not deliver the underlying stocks to all the would-be redeemers.”

## CREDIBLE REBUTTALS?

OMG! This sounds like the preface to Armageddon . Are these claims credible ? Many, but not all, commentators discount this as mere rhetoric . Yes, ETFs trade differently and have different liquidity characteristics than individual stocks or mutual funds. It is not surprising that there is extremely low short interest in Apple, IBM and General Electric because these stocks have performed quite well in 2011 and the demand to borrow shares for short selling is very low. This is the way markets work – assets expected to decrease in value attract the interest of short sellers; assets expected to increase in value have no interest to short sellers. But the ETF short sellers are a different breed entirely – they are the shadowy hedge fund guys, dealers and arbitrageurs who almost brought down the financial system in 2008. Paradoxically, however, these guys don’t seem too worried – “they can always create the shares they need to cover, so they see less risk of being squeezed.” Perhaps they are not worried because they sell short for hedging purposes – not to make speculative bets on the direction of a market. This activity doesn’t squeeze the market – or, as the Kauffman report suggests, squeeze money away from emerging companies newly listed on market exchanges – because the ETF transactions often have little or no impact on the underlying market of individual stocks. Chuck Jaffe of MarketWatch.com reports:

“People tend to think that ETF trading involves the moving of the underlying securities too, but that’s false in the vast majority of cases. Instead, amid the rapid trades, buyers and sellers are matched up; in more than 80% of the trades in the most popular ETFs, shares move from one investor to another and there is no need to buy or sell any underlying securities. Thus, while an S&P 500 ETF is racking up the big trading volumes, ExxonMobil and other index components don’t necessarily see increased trading volume . . . the fact that ETF trades happen independently from the underlying securities has made most observers conclude that trading in these securities is not to blame for events like the Flash Crash.”

In institutional hedging transactions, finding the securities to unwind the short sale hedge is pretty easy – they are owned by the very institution that created the short-sale hedge in the first place!

Bogan’s claim that ETFs are overrepresented in the failure-to-settle list suggests that it would be difficult if not impossible to count on having borrowed shares returned to lending investors on a timely basis should the market experience a mass redemption run. It is somewhat surprising that Bogan is still making this claim because the failure to settle list reflects the retail investor requirement, set by the Deposit Trust Corporation, to settle security transactions within three days. Institutional trades, on the other hand, must settle in a six-day window of time. Although there is no definitive data on the settlement question, it now appears that the overrepresentation of ETFs on the Securities Settlement Failure list is an artifact of a mismatch between retail and institutional trade settlement windows rather than any systemic problem with ETF liquidity.

The key point of both the Bogan and Kauffman reports lies in their short-sale assertions. The “fractional reserve” argument suggests that a “daisy chain” of IOUs may result in a stampede of investors presenting redemption claims to the ETF sponsor such that the first in line would receive their money back while the last in line would hold shares of an ETF devoid of any assets. However, as many ETF sponsors take pains to point out, it is the short sellers who take the risk – not the fund. When an entity sells borrowed shares in the marketplace, it relinquishes its legal title to the shares to the new buyer. No matter how many times a borrow/sell short series of transactions

occur, there is only one legally valid claim against the ETF sponsor. When the lender of ETF shares asks the borrower to return the shares, the borrower (who sold them short to another investor) must either find a new source to lend additional shares or must go into the marketplace to purchase the shares that must be returned. The borrower cannot go to the investor to whom he sold the shares and demand that the investor sell them back. The ETF is never put in a position where it must redeem more shares than it originally issued.

Well, if the ETF is off the hook, what about the lenders who can demand return of the shares at a time of their choosing? Will securities lending practices result in a string of bankruptcies if counterparties do not honor their borrowing agreement obligations? The answer is yes – if the lending practices are imprudent there is a risk of counterparty default. This is why major ETF sponsors utilize the services of an independent lending agent. The agent will negotiate the fees charged to the borrower, will demand sufficient collateral for the loaned shares, will monitor the value of the collateral as well as the financial condition of the borrower, and, in many cases, often arranges for indemnity agreement from third parties. As ETFs push into more specialized markets [the Van Eck fund group is launching an ETF tracking Mongolian equities], it may become more difficult for borrowers to obtain the shares in the open marketplace without creating price distortions. Interestingly, most of the sensationalized headlines about securities lending are followed by articles discussing regulatory concerns over which parties are entitled to share the fee income, and not over hidden systemic dangers. Most economists and regulators recognize that lending and short-selling are necessary for an efficient market. Our recommendation: focus on ETFs that replicate the performance of broad capital markets rather than sector ETFs or individual country ETFs.

## CONCLUSION

To recap, our detective work indicates that a confluence of events [European financial market practices and the Flash Crash] generated significant interest on the consequences of “liquidity events” – performance in highly stressed market conditions. Contemporaneously, two studies appeared on the scene each of which suggests that ETFs are a serious threat to market stability because they are likely to collapse under adverse market conditions. Separately, U.S. regulatory agencies warned investors about the dangers of owning leveraged and inverse leveraged ETFs. There was now sufficient fuel to ignite a firestorm of headlines concerning ETF investment risk. On September 22, 2010, Herb Greenberg, senior stocks correspondent at CNBC, stated, “many critics are concerned that ETFs have grown well beyond their original intention and have become a monster that will wreak havoc.” In retrospect, however, it seems as if the “many critics” have not expanded much beyond the original two: Bogan and Kauffman. What did expand, however, was the number of sensationalized headlines in the popular financial press. No wonder – this makes for a good story.

ETFs are significantly different than either open-end mutual funds or individual securities. ETFs have survived redemption runs while maintaining extremely tight tracking to their benchmark index. However, for approximately 20 minutes in May of 2010, some U.S. equity ETFs decoupled from the performance of the underlying index during the Flash Crash. As a result, a host of market and regulatory reforms followed. Until the next market crisis, the jury is out regarding the efficacy of these changes. In general, however, as reported in the CFA Institute Magazine [“Emerging Threat Funds?” September/October 2011, pp. 30 – 33], “today, ETF is a high-quality brand name, and the proliferation of new products under the old acronym risks are damaging that brand.” Investors should be aware of the differences between ETFs and open-end mutual funds, on the one hand, and between different kinds of ETFs, on the other, and should recognize the potential for differential performance under various market conditions.

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