ETF Consultants.com, Inc.

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Mr. Brent J. Fields Secretary U.S. Securities and Exchange Commission 100 F Street, NE Washington, DC 20549-1090

Re: Request for Comment on Exchange-Traded Products. (Release No. 34-75165; File No. S7-11-15)

Dear Mr. Fields:

Thank you for the opportunity to comment on the above-referenced Release. In making this Request for Comment on Exchange-Traded Products (ETPs) (hereafter the RFC), the Commission is initiating a timely examination of the structure, operation and, most importantly, the trading of these products in response to the continuing growth in the number of ETPs and in their assets. The RFC is especially timely as the characteristics of new ETPs depart more and more from the relatively simple benchmark index ETFs that were introduced in 1993. The Commission's concern about ETP trading costs is appropriate, as evidenced most specifically by the SEC Staff analysis of the differences between the closing prices of numerous ETPs and the net asset values (NAVs) of those ETPs for that day.¹ The Staff analysis clearly demonstrates that trades at the close in these ETPs are usually far more costly to investors relative to the contemporary value of the ETPs than the posted bid/ask spreads on these ETPs suggest. I have a number of supplementary comments on the ETP trading cost issue, which needs a great deal more attention than it has had in the past.²

¹ See RFC, page 34.

² As background, I have been involved with ETPs for 20 years. I am the author of <u>The Exchange-Traded Funds Manual</u> (Second Edition, Wiley, 2010) and numerous articles on exchange-traded funds. Since 2003, I have been the principal and President of a consulting business now operating as ETF Consultants.com, Inc. I was previously Managing Director for ETF Product Development at Nuveen Investments and Senior Vice President for New Product Development at the American Stock Exchange. In 2005, Managed ETFs™ LLC (Managed ETFs), of which I am a principal, filed an application for exemptive relief to permit the offering of certain actively managed ETFs (File No. 812-13228 (May 29, 2005); no longer active). The intellectual property developed by Managed ETFs was subsequently sold to an affiliate of Eaton Vance Corp. (Eaton Vance) and forms much of the basis for Eaton Vance's ongoing efforts to introduce NextShares™ exchange-traded managed funds. The Commission granted the first exchange-traded managed fund exemptive relief to Eaton Vance on December 2, 2014 (Release No. 31361; File No. 812-14139). In the year to date, the Commission has granted similar relief to five other investment advisers and has issued notice of its intent to grant relief to an additional five investment advisers. The NASDAQ Stock Market LLC (NASDAQ) has been granted approval of a rule change to permit the listing and trading of exchange-traded managed funds (Release No. 34-73562; File No. SR-NASDAQ-2014-020 (November 7, 2014)). Although exchange-traded managed funds have been specifically excluded from the RFC, they are competitive with the ETPs addressed in the RFC. Because I have a retained economic interest in the underlying intellectual property, my views may be considered subject to a conflict of interest. The comments expressed herein are my own and do not necessarily represent the opinions of Eaton Vance, NASDAQ or any other party. My comments are made in the public interest and, to the best of my ability, are not influenced by any conflict.

In summary, the ETF product has worked extremely well for U.S. equity index-linked products. Difficulties arise as ETPs have evolved to include less liquid asset classes. For hard-to-arbitrage products, the true cost of trading – the difference between the transaction price and the underlying true Net Asset Value (NAV) is generally many times larger than the bid/ask spread. Organizing trading around the NAV, in which trades are executed with reference to the NAV and then settled after the NAV is determined, provides a better and more transparent method of trading. Such NAV-based trading which allows investors to control their transaction cost should be encouraged in parallel with the current "just-like-a-stock" method of trading ETPs.

Rather than organize my remarks around specific issues, I have organized my comments around the questions posed in the RFC.

1. Arbitrage mechanisms are designed to keep intraday trading prices of ETP Securities equal (or nearly equal) to the contemporaneous value of the underlying portfolio or reference assets. Do these mechanisms work better for some types or categories of ETPs? To what extent do arbitrage mechanisms help ensure efficient market pricing for ETPs throughout periods of market volatility, including times of market stress?

Typical ETP investors do not understand arbitrage pricing issues and they are not encouraged by the customer trading "literature" generated by product sponsors and others to concern themselves with arbitrage pricing. To the contrary, the primary focus of ETF sales and trading literature is almost invariably on the narrow bid/ask spread in ETF markets relative to the spreads in the markets where the fund's individual portfolio holdings are traded.³ I use a nearly 1,000 page general purpose desk dictionary that was published four years after ETFs were introduced. It does not include a definition for "arbitrage" or anything closer to it than "arbitrate."⁴ A newer general purpose dictionary might have it listed, but arbitrage is certainly not a familiar topic to most users of ETFs. This shows how far the concept of arbitrage is from the minds of the general population. As the Commission's issuance of this RFC suggests, and as I believe, improvements in the information and market structures available to users of ETPs are needed.

As described at length in Section II. A. of the RFC in connection with the Staff's Closing Price vs. NAV comparison, the appropriate focus of efforts to reduce ETP investor trading costs should be on the difference between trade prices and the value of the ETP shares at the time the trade price is determined. Comparing reported average ETP bid/ask spreads to the SEC Staff's

³ Most ETF investor literature ignores an arbitrage-based approach to ETF trading and incorrectly overemphasizes the bid/ask spread as a measure of ETF trading costs. For example, a publication from a major ETF issuer states, "The cost of trading any security is predominantly the difference between the bid (the price offered by market makers at which investors can sell) and the ask (the price offered by market makers at which investors can buy)." From Golub, Ben, Barbara Novick, Ananth Madhavan, Ira Shapiro, Kristen Walters and Maurizio Ferconi, EXCHANGE TRADED PRODUCTS: OVERVIEW, BENEFITS AND MYTHS, p. 8. <u>http://www.blackrock.com/corporate/en-dk/literature/whitepaper/viewpoint-etps-overview-benefits-myths-062013.pdf</u>. This insidious statement is not one of the myths that the authors addressed, though as my comments illustrate, I believe it is an unfortunate myth that is costly to ETF investors. As the Commission and the Staff recognize in their trading cost at the close analysis, the trading cost is the difference between the trade price and the contemporary share value (NAV). (For simplicity, I may refer to the contemporary or intraday value of an ETP loosely as its Fair Value or even its "nav" (lower case).

⁴ The 1992, 1996 and 1999 editions of *The Dictionary of Financial Risk Management* devote most of a page to definitions of "arbitrage" and its variations, but the *DFRM* is not used by typical ETF investors.

calculations of premiums and discounts using NAVs and market prices at the close indicates that trading at the close is dramatically more costly than the average bid/ask spread suggests. Furthermore, as will be illustrated in a forthcoming paper of which I am a co-author, the ETP arbitrage mechanism is not conspicuously effective for transactions at the close for many ETPs. If arbitrage does not work well at the close where we can measure the trading cost, we certainly can't count on the effectiveness of arbitrage during the regular trading session when there is no useful intraday NAV valuation information available to investors.

Classic ETF arbitrage appears to function effectively for hyper-active domestic equity index ETFs where trading by market professionals is heavy enough to keep spreads between ETF prices and current values narrow and quantities bid for and offered are thousands of shares deep most of the time. The "just-like-a-stock" ETF trading mechanism worked well for the first two ETFs (the S&P500 and S&P Mid-Cap SPDRs) and has worked progressively less well for the much larger universe of ETPs holding less "arbitragable" portfolio assets. The location of the bid and offer relative to what an arbitrage mechanism might indicate as fair value cannot even be described as "tenuous" for most ETFs. Furthermore and importantly, the arbitrage relationship is invisible from the perspective of most individual investors because they have no useful information on up-to-the-moment current share values. The "invisible hand" of active arbitrageurs does not help small investors in these ETFs very much, as a comparison of (a) the typical premium/discount to NAV with (b) the typical bid/ask spread illustrates. As an example, consider the iShares Emerging Market ETF (ticker symbol EEM). Its frequent appearance on The Wall Street Journal's Most Active Stock list indicates widespread investor interest. It had an average spread to its closing NAV of 0.48% in 2014, but it is credited with an average bid/ask spread of 0.03%.⁵ This is a very liquid ETF that usually trades tens of millions of shares per day and has over \$25 billion under management, so it should not be a particularly egregious example. It is not hard to find ETPs with much higher average differences between the closing price and the NAV.

The trading information available to investors is not adequate to help them protect themselves. The published IIV is stale when it is first published because it is based on last sale prices, not on contemporary bid/ask midpoints. In today's ETF markets, investors cannot count on trading at or relative to NAV or close to a current value based on bid/ask midpoints of the value of the underlying portfolio.

It is interesting to compare the Commission Staff's premium/discount calculations based on closing price and NAV in Section II. A. with the "average bid/ask spread" reported for each fund. If arbitrage forces were effective in *keeping the trading price centered around current "nav"*, the closing spread to NAV should average about one-half of the average bid/ask spread – or even less if we allow for the much more active than average trading at the market-on-close (MOC) price. In fact, the closing price to NAV spread is dramatically more than the typical bid/ask spread in nearly all cases, as discussed below and at greater length in the mentioned forthcoming paper.

⁵ By "spread to NAV" I mean the absolute value of the difference between the reported closing price for the day and the reported NAV for that day.

Comparative bid/ask spreads for all ETFs traded in the U.S. are posted on ETF.com: <u>http://www.etf.com/etfanalytics/etf-finder</u> but these spreads do not indicate anything about where the bid or offer falls relative to the current per share portfolio value.

Most ETF investors do not understand or realize that they can't place an order that will always – or even usually – deliver an ETF transaction price at a predictable distance from the fund's current value. It is not even possible to calculate the transaction cost incurred after the trade unless the investor somehow captures an accurate value of the ETF portfolio at the time of the trade.

ETF investors are told a lot about fund expense ratios and bid/ask spreads and a little about trading commissions in some cases, but it is almost impossible for them to even estimate their transaction cost as a professional investor would calculate it – relative to the current value per share of the underlying portfolio. Because the earliest ETFs were index funds based on the S&P 500 and S&P Mid-Cap indexes, arbitrage was aggressive in the markets for these ETFs, but it was also relatively uncomplicated. Even before these two ETFs were launched, there were standard portfolio ("program trading") baskets for these indexes, as there were soon afterwards for some other domestic equity index ETF portfolios. Users of actively-traded domestic equity index ETFs do not have to worry a great deal about arbitrage relationships between the index and the value of these ETFs because market professionals usually take care of the arbitrage for them. Trading volume in many of these early ETFs was high from the beginning and trading costs were constrained by arbitrage with other segments of the arbitrage complex for the underlying index. As a consequence of this activity, trading costs for this small number of ETFs were, and still are, quite modest. Unsurprisingly, these well-arbitraged ETFs are not among the ETFs with "trading problems."

If the Commission were to take steps to make the full range of domestic financial market data, including values, quotes, prices, and quantities of shares traded and quoted, available in real time without fees, the history of the Internet suggests that benevolent geeks will develop free services that will vastly improve the broken information system for even the least-frequently-traded domestic equity ETFs. Alternately, use by ETP traders of a new trading methodology called "NAV-based trading"⁶ (developed for exchange-traded managed funds) could improve trading efficiency versus conventional just-like-a-stock trading.

Another important step the Commission should consider is increasing its stress on the importance of including in ETF NAVs the value of the underlying holdings as of time of NAV determination, generally 4 PM Eastern Time. While most mutual funds use some form of third-party vendor fair value adjustments for international equities, not all ETFs do so, relying instead on last traded prices in the local securities markets. As Rob Haddad, the Director of Evaluated Services at Interactive Data, writes, "This timing mismatch introduces a layer of complexity for APs and other market participants, since the local closing prices of the underlying equities may not be indicative of the current value of the securities."⁷ Use of stale prices to calculate ETF

⁶ In NAV-based trading, bids and offers are expressed relative to the ETP's next-determined NAV (e.g., NAV+ \$0.01) and prices of executed trades are equal to the reference NAV plus or minus the executed trading spread (e.g., for a trade executed at NAV+ \$0.01, the trade price is \$20.01 if the reference NAV is \$20.00).

⁷ <u>http://www.interactivedata.com/uploads/File/2011-Q2/prd/article_RHaddad-2011-06.pdf</u>

NAVs also increases the difficulty of measuring ETF trading costs. Ananth Madhavan, one of the authors of the Golub et al paper cited above stated in a paper on Fair Value Pricing as early as 2002 that without Fair Value Pricing, "Some speculators profit from stale pricing to the detriment (of) long-term shareholders."⁸ The quality of Fair Value Pricing varies greatly among the issuers of ETFs.

These suggestions and others described below could improve market quality and reduce investors' ETF trading costs to varying degrees. While market makers may earn less on each transaction in a more investor-friendly market, they may earn more in total than they earn now, because investors will trade more comfortably and more frequently in more efficient and more cost-transparent markets.

Generalizations can only go so far, but I believe that most market observers will agree that a more efficient market that is recognized to be fair will be less subject to panic during periods of market stress. However, we won't know for sure that a more efficient market will reduce the frequency of market "panics" unless we implement that more efficient market.

2. Do commenters believe that there are other mechanisms besides arbitrage mechanisms that do, or could, help ensure efficient market pricing of ETPs? Do other factors play a role in efficient market pricing of ETPs? If so, what are these mechanisms or factors, and how effective are they? Are these mechanisms or factors more effective for certain types or categories of ETPs? To what extent are these mechanisms or factors effective during periods of market volatility?

The just-like-a-stock trading mechanism works very well for a few ETPs, but it has never given investors access to useful trade cost management information. It does not work well beyond a very small number of domestic equity index ETFs and non-fund ETPs with very actively traded related futures contracts. To understand why this mechanism was chosen, it is important to keep in mind that the first ETPs were not introduced to deliver a replacement for mutual funds or other investment products. They were introduced to create products to trade on stock exchanges in Canada and the U.S. ETFs and other ETPs have proven to be extremely attractive to many investors, but the issues the Commission is addressing suggest the need for ETP features and trading processes that have more transparent costs to investors. I have been involved with ETPs since 1995, but I don't remember paeans to the efficiency of arbitrage pricing ever being associated with anything other than domestic equity ETFs or commodity ETPs.

There are a number of limitations and misleading features in the ETF information "package" offered to investors that should be eliminated or improved. (1) Eliminate use of the misleading closing bid/ask midpoint as a reference for calculating the daily premium/discount at the market close shown on ETF websites and in prospectuses. Use of this calculation systematically understates the cost of trading ETFs at the close. The daily Net Asset Value history should be available on the website. (2) The problematic IIV calculation probably has to be retained. To improve it, the Commission should require that it be based on a weighted bid/ask spread for

^{8 &}lt;u>http://www.itg.com/news_events/papers/fva_index.pdf</u>

each portfolio component at the moment of calculation and make comparison of the IIV to current ETP bids and offers easier. With advances in technology since 1993, requiring the use of a quote-based IIV at more frequent intervals could be mandatory for domestic funds. A proposal to calculate an IIV from quotes updated every second is made in a recent filing: http://www.sec.gov/Archives/edgar/data/1396289/000114420415048013/v417803 40appa.htm. More frequent calculations are not a novel proposal, but making the updates more frequent suggests that the IIV is more useful than it is. Variants of the 15 second interval have been discussed informally, but they have always been abandoned. Market makers can only manage their intraday market risk in "real time" at considerable cost. If the intraday price-to-value relationship is clearer, the intraday transaction cost will be more transparent. More visible costs of intraday trading may push more volume to MOC transactions. (3) Encourage and publish trading cost analyses like those prepared by the SEC staff and developed in the forthcoming paper referred to above to overcome the misconception that the bid/ask spread reflects any relationship to the cost of buying or selling ETP shares. (4) ETF.com and other organizations that disseminate ETP spread information (other than the current quote) should be required to attach a statement to the effect that the quote spread does not provide any useful information on an investor's trading cost.

Time will tell if the NAV-based trading mechanism to be introduced soon for exchange-traded managed funds can also solve some of the problems of less-actively traded ETPs. I personally believe that NAV-based trading can serve investors in a broad range of ETPs. Most ETPs do not have an effective arbitrage-pricing mechanism like U.S. equity benchmark index ETFs. Most ETPs could likely meet investors' needs better and at lower trading costs if the ETP issuer offered NAV-based trading side-by-side with conventional trading.

Participants in NAV-based trades will commit to an NAV-contingent price comfortably because the ultimate dollar price is contingent *on the same variables that will determine the NAV*. NAVbased trading will be much less disruptive than just-like-a-stock trading under most circumstances, because all parties will know they have equal exposure to the costs or benefits of any contingencies that remain to be resolved between the time of the trade and the calculation of the NAV. The trading cost for each party will be **fully determined** in the first step of the NAVbased trading process. Since 1993, exchange-trading has appropriately transferred the cost of entering and leaving an exchange-traded fund to the trading shareholder – in contrast to mutual funds where all fund shareholders share the cost of accommodating investor entries and exits at NAV. It is also appropriate to let the parties who are paying the transaction costs know how much it costs them to trade. Different from conventional just-like-a-stock ETP trading, NAVbased trading provides built-in control and transparency of trade execution costs to all investors.

3. What characteristics of an ETP facilitate or hinder the alignment of secondary market share prices with the value of the underlying portfolio or reference assets? What characteristics of an ETP's underlying or reference assets facilitate or hinder the alignment of secondary market share prices with the value of the underlying portfolio or reference assets? Does liquidity in the market for an ETP's underlying or reference assets affect arbitrage, and if so, how and to what extent? Does the availability of current and historical pricing information, as well as trading history, for the underlying or reference assets affect arbitrage, and if so, how and to what extent? To what extent does the availability of correlated hedges for the ETP's underlying or reference assets affect arbitrage, and if so, how and to what extent? To what extent does the availability of correlated hedges for the ETP's underlying or reference assets affect arbitrage and ETP's use of a sampling

methodology (investing in a subset of the components of an index) to track an index affect arbitrage and pricing efficiency? Does the use of over-the-counter instruments by an ETP affect the opportunity for market makers or other participants to engage in arbitrage, and if so, how and to what extent? Do non-synchronous market hours between an ETP and its underlying assets (e.g., international equities) affect the pricing of an ETP and the opportunity for arbitrage, and if so, how? Does the use of cash-only creation or redemption baskets and variable cash fees affect efficient market pricing, and if so, how?

The short answer to most of these compound questions is that full incorporation of arbitrage value information in intraday prices will never be feasible for most ETPs. At substantial risk of over-simplification, fixing the conventional ETP trading mechanism by improving the information available (directly or indirectly through a broker or other service provider) to the typical ETF investor is very complex mechanically and probably economically untenable⁹. In current ETP trading, the parties to each trade are committing to a dollar price when they and other market participants have not yet made all the transactions they need to make to lock in all the costs to settle the dollar value of the ETP trade. With NAV-based trading, one or more subsequent transactions will usually be made, perhaps at the same time and/or in a similar manner as the NAV and closing price are determined. NAV-based trading does not have to solve every ETP trading problem cited in the RFC to make an important contribution to eliminating the need to close all the information gaps before the end of regular session trading.

4. How closely do investors or other market participants expect the intraday trading price of ETP Securities to be aligned with the contemporaneous value of their underlying portfolio or reference assets? Do these expectations differ depending on the type of ETP, the nature of the underlying assets, or market conditions? What methods, if any, do investors use to determine whether the intraday trading price of ETP Securities closely tracks the value of their underlying portfolio or reference assets?

These three questions both (1) summarize the difficulty of defining and meeting "reasonable" expectations for execution of any trade that locks in a significant gap in an arbitrage link before all the contingencies are determined and (2) substitute "meeting investor expectations" for the appropriate objective of "fair treatment of investors." Most investors cannot evaluate the fairness of all the contingent prices and relationships that are determined in a complex market. If investors do try to monitor all contingencies in these markets, they will usually enter MOC orders in the principal market – until they despair of the limitations and hard-to-measure costs inherent in the market-on-close stratagem.

As to the alignment of trading price and value, I hope the Commission will give full weight to the valuable Staff analyses of the differences between closing prices and NAVs summarized in Section II. A. When examined on a fund-by-fund basis, the spreads between the closing prices and NAVs, on average, are far greater than posted bid/ask spreads. This is an extremely important issue that will be dealt with in more detail in the forthcoming paper mentioned

⁹ Exchanges depend on revenue from the sale of market information for their viability. The typical investor can't afford, let alone interpret, this data. This revenue model can be sustained if (a) free data is available to all investors immediately on some critical trading cost items and (b) ETP issuers and pundits are called-out when they make misleading statements on trading costs, as noted at various points in these comments.

previously. In brief, the average closing price to NAV spread is much wider than investors are led to expect and the **range** of differences between closing price and NAV suggests that many MOC executions probably remind some investors of another meaning for the word, "execution."

Here are some of the figures from the forthcoming paper:







ETP Closing Price - NAV Absolute Percentage Value Ticker symbol=IWM



ETP Closing Price - NAV Absolute Percentage Value Ticker symbol=SPY



Using the first figure for the iShares Emerging Markets ETF (ticker symbol EEM) as an example, it illustrates the closing price minus NAV difference as a "+" for each trading day in 2014. The lower (red) dashed line shows the average posted quote from the ETF.com website for this fund. Very few of the + signs are below the red line and most of the + signs are above the blue line, which is the weighted average of bid/ask spread portfolio component quotes from the *Golub et al* paper cited previously.¹⁰ These average quotes for portfolio stocks directly. They offer the equivalent of the ETF.com spread as the cost of trading EEM shares. The scattering of plus signs demonstrates that, not only is the average cost of trading at the close greater than the nominal spread suggests; the cost is often extremely high.

Extraordinarily high trading costs also characterize the next two ETFs, which hold developed market non-U.S. equity portfolios. Again the bid/ask spread is narrow, but the typical transaction price is far from NAV.

The last two figures show that ETFs with both small (Russell 2000) and large-cap (S&P 500) U.S. stocks can trade at narrow spreads to the current value of the portfolio.

¹⁰ <u>http://www.blackrock.com/corporate/en-dk/literature/whitepaper/viewpoint-etps-overview-benefits-myths-062013.pdf</u>

As the figures indicate, the only reliable trading cost data we have for ETFs holding foreign portfolios are for MOC trades executed at the market close. I suspect most investors entering MOC orders to buy or sell EEM expect to trade close to the fund's NAV. To the best of my knowledge there is no free or low-priced information that will tell typical investors "whether the intraday trading price of (these) ETP Securities closely tracks the value of their underlying portfolios or reference assets."

5. Do market participants conduct analyses of how well intraday prices of ETP Securities track the value of their underlying portfolio or reference assets? If so, how much weight do market participants place on such analyses?

I can offer no comprehensive answer, but a useful analysis of how well intraday prices of ETPs track their value is beyond the capabilities of most ETP market participants. I have never seen a useful purported analysis of past trading costs for a *typical* ETP (i.e., something *other than* a major benchmark domestic equity index ETF like the S&P 500 SPDR) or a service offered to facilitate low-cost trading in said typical ETP. I have not searched exhaustively for such an analysis or service, but I doubt that either exists. Any weight given to such analysis would be too much.

6. Under what circumstances might the prices of ETP Securities not track (on an intraday, temporary end-of-day, or permanent basis) the value of their underlying portfolio or reference assets? Are there circumstances in which the price of an ETP's Securities, though different from its NAV, might be a more accurate measure of the value of the ETP's underlying assets? What are the implications for investors (both individual and institutional) and other market participants if intraday prices for ETP Securities do not closely track the value of their underlying portfolio or reference assets, either on an intraday, temporary end-of-day or permanent basis?

See prior answer. The principle is similar to the prior discussion under most circumstances. The specifics will vary depending on what forces are determining prices. As suggested by the fund MOC pricing in the figures, domestic equity indexes arbitrage better in ETPs than other asset classes, largely because their underlying portfolios trade contemporaneously with ETPs traded in U.S. markets.

These are very complex questions and any useful and comprehensive response would be even more complex and extend beyond my personal knowledge. I do not want to imply that these markets are dysfunctional, but they are not simple. It is certainly true that the market in an ETP may be *at times* a better measure of the portfolio or reference value than the latest published portfolio or proxy reference value or other related quote. Index ETFs, index futures, index options, index swaps and other related instruments form an "index arbitrage complex." Some of the markets under discussion are loosely linked by arbitrage in a similar way. If market participants value a price discovery mechanism not specifically offered, they will attempt to find a way to obtain and use it. This approach may help some investors at some times, but it is not a solution to widespread disconnects between ETP transaction prices and current portfolio values. Most of the widely discussed price discovery failures are linked to differences in active trading hours, but the problems are due largely to the absence of investor access to pricing information that <u>is</u> available to others

7. To what extent do arbitrage mechanisms affect trading in an ETP's underlying or reference assets? Does the answer vary depending on whether the underlying or reference assets are equities, fixed-income securities, commodities, derivatives, or another type of asset? If so, how?

Arbitrage will nearly always have at least a small effect on related markets. I can't generalize usefully on the size of the effect on various assets and liabilities.

8. To what extent do ETNs offer opportunities for arbitrage? How do market participants engage in arbitrage for ETNs? How is arbitrage affected by ETN issuers' ability to suspend and restart issuances of notes at their discretion? How are arbitrage opportunities affected when an issuer suspends the issuance of its ETNs? Are certain ETNs easier or more difficult to arbitrage due to the nature of the ETN's reference asset or index, and, if so, which ones?

I am intrigued by the future potential for the ETN segment of ETPs, but I expect them to take a back-seat to other ETPs until (1) a number of global conflict, regulatory, and credit issues are resolved and (2) interest rates rise. (Higher interest rates make any implied interest earned or saved by the ETP issuer more valuable.) Resolution of these issues should also help stabilize the size of ETN offerings. Arbitrage pricing of ETNs is affected by issuer credit issues that don't affect an ETF, but the valuations are usually as good as the typical ETF valuation. I have not examined the effect of suspending and restarting ETN issuance on market prices.

I don't pretend to have a universal solution that is fair to all parties to provide a creation/redemption experience for ETNs similar to an ETF. ETN issuers are usually borrowing money as well as offering investors a derivative investment opportunity. As long as the issuing documents specify the issuer's policy for increasing and repurchasing outstanding notes, investors are being treated fairly.

Some, perhaps most, ETNs are harder to arbitrage than domestic equity ETFs. If we are comparing all ETNs to all ETFs, the difference is not great.

The fact that the Commission has raised the topic of on-and-off issuance of ETNs and, by implication, the topic of the credit of the issuer, will likely stimulate cooperation among financial analysts with, say, complementary commodity and credit evaluation skills to assess the value of the risk "components" of an ETN. This kind of analysis complicates and may be more important than traditional arbitrage for some ETPs. Replacing tiresome discussions of two basis point differences in fund total expense ratios (TERs) with meaningful analyses of: (1) an ETN's underlying instrument value and (2) its issuer's credit worthiness – would be welcomed by many ETP users. See also my response to question 14.

9. As noted above, the IIV for an ETP is generally designed to provide investors information during the trading day on the value of the ETP's portfolio (or, in the case of an ETN, on the value of a reference asset or index). The IIV may be subject to various calculation methodologies. How does the calculation of IIV vary, if at all, among ETPs? Does the calculation methodology depend on the class or type of ETP, and if so, how? Does the calculation methodology depend on the nature of the underlying portfolio or reference assets, and if so, how? Are certain IIV calculation methodologies more or less useful for investors, market makers, or other market participants?

It is rare for a published IIV calculation to be based on anything other than the last sale price for component instruments or reference assets on principal markets. Because most "last sales" become stale very quickly unless they are a market closing price and because methodologies for IIV calculations vary across issuers and products, market professionals usually make their own estimates of the value of the ETP or its portfolio. If they believe the exercise is worthwhile, market professionals might use a size-weighted midpoint of the bid/ask spread as a starting point. If an astute retail investor uses the published IIV at all, it is (and should be) **only** to make an estimate of the number of shares to buy or sell to invest or raise a desired amount of cash. See also my comments on possible improvements in IIV calculations in response to question 2 above.

10. To what extent do market participants make use of the IIV for an ETP based on less-liquid securities? If underlying assets trade infrequently or are priced only at the end of the trading day for purposes of NAV calculation, does an IIV that is disseminated every 15 seconds (as is currently the case) contain useful pricing information? Would a different dissemination frequency be more appropriate, and if so, what would that be?

No one makes much use of the IIVs posted today if they are wise. (See the response to #2 and #9.) Dissemination frequency has not been much of an issue; but that may be changing. Less frequent dissemination would clarify the usually limited value of the calculation. Generally, the only consistently useful intraday data available for ETPs are **current bid and offer prices and sizes**. Even access to timely quote price and size data is not enough to put the individual investor on a level playing field with professional investors if the ETP holds anything other than large- or mid-cap domestic equities (or highly-liquid commodities).

11. Do investors or other market participants use intraday or closing indicative values for ETNs? If so, for what purpose? How does the intraday or closing indicative value differ from the market value of an ETN or its redemption amount?

Unless the ETN issuer has a significant credit problem, for most purposes a **truly** current closing indicative value should be as useful as an NAV for trading or pricing. If the reference price is determined by the closing price in a commodity auction market, it should be more useful than the data provided by most ETFs with debt or foreign equity portfolios. Depending on the terms of the ETN, an indicative or redemption value may be helpful, but the market value is likely to be the most useful value measure an investor will see. Fair Value Pricing is best when it is done conscientiously.

12. How much disclosure about the contents of an ETP's underlying portfolio is necessary for arbitrage to function efficiently to keep the market price of an ETP aligned with the contemporaneous value of its underlying or reference portfolio? Please explain.

Conventional intraday market pricing arbitrage will function better as the amount and quality of published portfolio information increases. As the quality and quantity of information is *reduced*, professional investors have a growing information edge over the typical investor because the professionals can afford to buy and process additional information. Only NAV-based trading offers a reasonably level relevant information playing field because it eliminates or reduces the value of many kinds of special information. My conversations with investors lead me to believe they are beginning to understand the high cost of ETP information disparities. Adoption of NAV-

based trading will do more to level the playing field than any improvement in disclosure that I can imagine.

13. In the absence of daily portfolio disclosure for an ETP, could other mechanisms enable market makers or other market participants to make efficient markets in that ETP? If so, what are those mechanisms and how would they function? What, if any, information disclosure, characteristics of the ETP, or other circumstances would be necessary for those mechanisms to function?

With the arguable exception of the most popular domestic equity index and some non-fund ETPs, ETP issuers and investors will probably be best served by the availability of NAV-based trading side-by-side with just-like-a-stock trading. The portfolio disclosure issue should be decided on the basis of a combination of (a) any effect of asset size changes on performance and (b) frequency of publication of the reference asset value or portfolio composition. If the costs of Creation and Redemption of ETP shares are (appropriately) borne by entering and leaving investors, there should ultimately be no objection to disclosing the full portfolio composition *whenever no changes in composition are ongoing* or, simply using the current mutual fund practice of reporting composition with a specified lag rather than daily disclosure.

14. Under what circumstances would an ETP suspend creations? Under what circumstances could an ETP (other than a 1940-Act registered ETF) suspend redemptions? What effect does this or could this have on arbitrage mechanisms or the market value of these products? How might suspension of creations or redemptions affect the ETP's continued compliance with the conditions of its exemptive and no-action relief under the Exchange Act? How would an ETP issuer be likely to respond to the suspension of creation or redemption activity by one or more of its Authorized Participants?

This is a topic worthy of separate attention in a forum that facilitates two-or-more-way commentary and opportunities to describe unique ways to meet appropriate Issuer, Commission and Investor concerns. The following partial response is not intended as a comprehensive discussion of all the issues this question raises.

Beginning with a definitional point: some non-fund ETPs and even some ETFs are not issued with full open-end intent. If the number of shares or units outstanding are expected to vary, the open-end ETF model would still probably be a reasonable starting point. Assuming a reasonable basket size requirement, Redemption should not be materially more difficult for a non-fund ETP than it is for ETFs. With appropriate Commission permission, it should be possible for the issuer to temporarily or permanently cap the size of any ETP (including ETFs) without locking investors in or penalizing investors and/or issuers. For tax and economic reasons, redeemed ETF shares will ordinarily be available for re-issue. On the investor's side, it should be possible to redeem any non-fund ETP (perhaps at a specified discount to NAV or its equivalent) if the shares sell at a persistent discount. If a product is viable, it should not be difficult to replace a departing AP.

15. How do arbitrage mechanisms work in the case of ETPs with less-liquid underlying or reference assets? Are arbitrage mechanisms for ETPs with less-liquid underlying or reference assets effective and efficient in aligning share prices with the value of the underlying portfolio or reference assets?

Arbitrage mechanisms are usually less transparent and less effective in non-fund ETPs. Consequently, this question requires a response on at least two levels. On the first level, parties involved in the development of ETPs that are created and redeemed in-kind should have relatively clear concerns and approaches to "less-liquid" underlying assets. An investor's exposure to limited liquidity if the issuer cannot or will not close out the underlying position(s) should be fully disclosed in the issuance documents and/or in other ways. If the existence and/or trading of the ETP improves liquidity in the underlying, the issuer will profit a little from inventory and, probably more, from successful development of the ETP.

On a different level, the purchaser of an ETN would be presumed to knowingly accept indirect adverse exposure to the value of a "less-liquid" underlying asset and a secondary valuation effect from the issuer of the note's perceived creditworthiness. Creation and redemption processes that are as solid and transparent as those for **some** ETFs should be possible. Pioneers should remember that they might take arrows in their backs and, consequently, they should be prepared to accept the costs of failure – not to pass the costs of product failure on to investors who will have already absorbed most of the decline in the value of the underlying asset. See also the response to question 16.

16. To what extent do arbitrage mechanisms help ensure efficient market pricing throughout rising and falling markets, including times of market stress, for ETPs with underlying or reference assets that are less-liquid? Do periods of market stress affect arbitrage mechanisms for such ETPs, and if so, how? Could there be a point at which the amount of ETP Securities outstanding relative to the amount of underlying or reference assets outstanding results in an imbalance that inhibits the redemption process during periods of market stress?

See the response to question 15. One concern implicit in this follow-up question is that ordinary prudence might be absent from an issuers' product development and/or ETP issuance policies. The risks associated with this issue should be clarified in the necessary regulatory documents. There are too few disclosure statements that recognize clearly that all markets are not equal in size and importance and that market size has implications for liquidity. For example, the market for parsley is a lot smaller and will probably always be less liquid than the market for wheat.

The original ETF structure called for the two-way exchange of the underlying common stocks in an established index for fund shares. The current ETP universe is broader, but probably not a great deal riskier than the initial ETFs seemed to some observers in 1993. There is no reason the risks of investing in a new ETP should be unmanageable – as long as redemption-in-kind (or for a little cash in extremely adverse circumstances) is feasible. Presumably there may be diverse assets (including derivatives with limited liquidity) associated with some ETPs. If the product is specialized, the issuer may be stuck with a lot of unsalable, low-valued parsley, but the redeeming investor will have already absorbed most of the financial loss from product price decline. I doubt most products of this nature could attract enough investor interest to leave much of a wake in their failure.

17. To what extent, if any, does trading activity in ETP Securities affect price discovery, price correlation, liquidity, or volatility in the ETP's underlying or reference assets? What role, if any, do ETP Securities that are based on less-liquid underlying securities have in providing additional price discovery for the underlying securities?

Ordinarily, the purchase or sale by an ETP issuer of a financial instrument or commodity that is an underlying or reference asset for the ETP will have at least as much market impact as an anonymous trade. However, there should be no doubt that a commodity-based ETN will usually broaden the market and improve price discovery for the underlying – for the simple reason that the ETP offers greater flexibility in terms of new ways to own and trade the underlying. I can't begin to quantify this generically. I am skeptical that non-fund ETPs always offer major opportunities to improve price discovery in every illiquid market. Generic product-specific liquidity cannot be created for every sleepy commodity.

18. Should the listing exchange for an ETP have an obligation to monitor the effectiveness of that ETP's arbitrage mechanism? If yes, what should be the nature of that obligation?

If an exchange solicits listings by undertaking such an obligation, they should meet that obligation. However, I doubt that most exchanges are equipped to meet this obligation on every product that meets the specification in the exchange's 19b-4 filing. Furthermore, exchanges have a potential conflict of interest in that their members might earn greater trading profits if the arbitrage mechanism is less effective.

- 19. 34. No Comments.
- 35. Do individual investors tend to buy and hold ETP Securities? Does the answer depend on the type of ETP (e.g., investment objective, structure, or type of underlying asset)? Do investments by individual investors tend to be solicited or unsolicited? Please explain and provide data where available. If solicited, are solicitations limited to certain categories of investors (e.g., retail investors or high-net-worth individuals) and certain types of ETPs? If so, which categories of investors receive solicitations and how are the parameters of the category determined—e.g., net worth, income, investment experience, options trading eligibility? In addition, which types of ETPs are recommended and what are the parameters being used to determine whether those ETPs should be recommended? Are individual investors purchasing ETPs on the basis of recommendations by brokers?

My limited experience is that non-fund ETPs are somewhat more likely to be purchased by a non-financial business (corporation) than by a typical individual investor. In any event, there does not appear to be a significantly greater suitability or solicitation issue with non-fund ETPs than with ETFs – in part because investor interest in many such ETPs is narrow. Furthermore, most brokerage managers take their responsibilities seriously if a salesperson makes inappropriate efforts to sell an ETP.

36. How effective are the suitability requirements applicable to brokerage accounts in addressing broker-dealer sales practices for ETPs in light of the breadth of available ETP options and the growing complexity of ETP investment strategies?

The suitability rules seem adequate and, in my experience, seem to be respected by brokerage managements.

37. No comment.

38. Do investors have access to sufficient information to understand ETPs, how ETP Securities trade, the costs associated with trading ETP Securities, and how their prices and valuations are determined, particularly as ETPs encompass increasingly complex benchmarks, asset classes, and investment strategies? What is the source of information (e.g., exchanges, broker-dealers, market intermediaries, prospectuses, SEC releases, or investor alerts) available to investors? Are there ways to better enable investors to access information about the listing and trading of ETP Securities? If yes, what are they?

I believe ETP trading costs will be a major and ongoing issue for the SEC in the years ahead. The trading information issues for other types of ETPs are similar in most respects to the ETF trading information issues discussed above. Accurate valuation information to support trading is often not available on a timely basis. Investors in ETPs do not have valuation information that is remotely equivalent to the valuation information market makers have. The relative uniqueness of many non-fund ETPs makes product specific information more important – and sometimes harder to obtain — than similar information for ETFs. Side-by-side availability of NAV-based trading would reduce the trading disadvantage faced by retail investors.

39. What roles, if any, should the exchanges have in communicating information about ETP Securities to their members, their members' customers, and the general public? Should the answer depend on whether the exchange is the listing exchange or an exchange that trades the ETP pursuant to unlisted trading privileges?

With better valuation information and improved trading methods, ETPs should continue to grow in both absolute and relative importance. With continuing constructive attention from the Commission, many types of ETPs can deliver a more useful experience to investors than any other new financial instrument brought to market since the introduction of the ETF. **Products and market structures that treat investors fairly will prosper**. Unlike options, where a sophisticated individual investor might have an analytical valuation advantage over a professional trader who sees bids, offers and order flow, the market maker or proprietary trader often has access to ETP price and value data that the individual investor can't obtain at a reasonable cost. An exchange that trades ETPs in a just-like-a-stock market (whether it is a listing exchange or not) is usually not equipped or incented to support traditional underlying value-linked investor trading beyond calculating an end-of-day settlement value in some cases.

- 40. 45. No Comments.
- 46. Do broker-dealers use the term "ETF" to describe all types of ETPs (as opposed to only those products registered under the 1940 Act)? If so, is this confusing to investors?

I am sure it comes as no surprise that the term "ETF" has been used on occasions and in contexts that the Commission would not approve. Conversations with the offender are certainly appropriate in such cases, but I don't believe this is a major source of investor confusion.

47. What use do investors or other market participants make of publicly available information such as the index value, IIV, NAV, or portfolio holdings of an ETP? Does the answer depend on the type of market participant? If so, why do certain market participants use certain information? If market participants do not use certain information, why not? Do the answers depend on the type of underlying asset?

With the probable exceptions of the portfolio holdings in an index ETP and the official NAV, these data items are unusably "stale" when most market participants get them. The IIV may help determine how many shares to buy or sell to invest or raise a specified amount of money. Investors look at these data items largely because they are published. Significant usage of anything other than holdings and NAV is inversely related to investor sophistication. I have not observed significant differences in linkage between usage of these items and asset type.

48. Do investors understand what an ETP's IIV represents and what it does not? For example, do they understand that the IIV is not a "real-time" update of the NAV and that it is not the price at which they can purchase ETP Securities? Do investors understand how the IIV calculation method can differ from the method used to calculate NAV? Do investors understand that IIV may be a lagging indicator of actual portfolio values during periods of rapid price movements? Please describe the basis for any views expressed regarding the understanding of investors.

I have discussed these data items with many investors over the past twenty years. I am heartened to say that many of these investors seemed to understand that most of these calculations were of severely limited value before talking to me. A high level of understanding is not universal. There are more slips in usage than there should be, but most published ETF and ETP commentary avoids egregiously misleading usage.

49. Do investors' expectations of the nature of the liquidity, the bid-ask spreads, and the market prices of an ETP holding less-liquid underlying securities differ from their expectations of the characteristics of those underlying securities? If so, in what ways do investors expect ETPs based on less-liquid securities to trade differently than the underlying securities themselves?

Most ETP investors have consumed too many glasses of the "a-tight-bid/ask-spread-is-allimportant" Kool-Aid. (This issue will be addressed in the forthcoming paper discussed above.) These investors do not understand that the bid/ask spread is not necessarily even remotely close to the current NAV. If they focus on the spread and not on NAV, they will find that they have access to a lot of very high-cost liquidity. Sometimes it takes a while to explain to them that if they ask the wrong question they may find the answer they are looking for – and ultimately regret the result. The misleading use of the bid/ask spread as an indicator of trading costs is by far the greatest investor information and investor protection issue for most ETPs.

My interpretation of the questions in Section II. E. is that they are both a request for observations on how the existing ETP products and markets have worked and for suggestions where and how new products should fit. I believe most observers would agree with me that the industry and investor experience with ETPs has been generally acceptable – and in some cases very favorable.

50. The Commission notes that, over the years, there have been ETPs that have closed after being listed and traded for some period of time. What are the consequences to investors of the closure and liquidation or termination of an ETP?

To the best of my knowledge, with the exception of one or two cases where a failed issuer has left investors with some inappropriate costs, ETP closures have not created significant problems or costs for investors.

51. How are the types and complexity of the investment strategies and investment objectives of ETPs, and the nature of the market for ETPs, likely to develop in the future? How might these changes affect the listing and trading of ETP Securities? How might these changes affect any underlying securities held by an ETP—for example with respect to liquidity, volatility, and capital formation?

There is no reason to doubt that it will be possible to build on the ETP experience since 1993 to develop variations and extensions of existing ETPs into a large number of successful new products. I view exchange-traded managed funds as a particularly promising new type of ETP with potentially enormous investor appeal as an exchange-traded alternative to traditional actively managed mutual funds. I see the most likely paths as an extension of the ETF structure primarily into exchange-traded managed funds. I would expect non-fund products to branch into a broader range of ETP securitizations that do not fit the '40 Act fund model. There is certainly room for significant departures from these models; but, like the present product constellation, significant innovations will have to jump through appropriate regulatory hoops. The most likely feature of existing ETPs that is likely to continue to be found in most new products will be the use of derivative pricing; i.e., the price of the new product will be a function of a market-determined value of an underlying instrument or portfolio. The superiority of NAV-based trading from most investor perspectives will make it a major competitor to just-like-a-stock ETP trading by the end of the decade.

As to trends in increasing liquidity, reducing volatility and improving the efficiency of capital formation, the development of financial instruments and markets has shown general improvement along these lines over time. The evidence that the ability to customize one's portfolio of assets and/or liabilities increases welfare and reduces stress is solid, but not yet overwhelming. It would be naïve to expect uninterrupted improvement month-by-month or even year-by-year, but I am comfortable that securities markets and product structures are generally moving in the right directions.

52. As noted above, the total market capitalization of ETPs has grown significantly, nearly doubling since the end of 2009. What do commenters believe are the main reasons for this growth? Do commenters expect significant growth in the number, variety, and market capitalization of ETPs to continue? If such growth continues, how might that affect the exchanges' listing and trading of ETP Securities? How might this growth affect investors, broker-dealers, or other market participants?

The fact that the S&P 500 has more than doubled since the end of 2009 probably is the most significant single factor in the recent growth of ETP assets. Just as the equity markets will fluctuate, the growth in the variety and success of ETPs will not follow a straight line. The most important determinant of future growth and increasing product diversity is the ability of the industry to deliver high-quality products to advisors and their clients. As noted above, the need for investor protection from many implementations of the just-like-a-stock trading mechanism is the greatest opportunity to improve the delivery of ETPs.

53. The Commission provides market structure research, interactive data visualization tools, and advanced market metrics on its Market Structure Data and Analysis website, <u>http://www.sec.gov/marketstructure/index.html</u>. Users of the website and its data can, among other things, compare quoting and trading characteristics of ETPs to those of other equity securities. Have commenters drawn any observations or conclusions from this data about the listing and trading of ETPs? What effects, if any, does market structure have on the quoting and trading of ETPs? What effects, if any, does the quoting and trading of ETPs have on the general characteristics of current equity market structure? Do any specific aspects of current equity market structure facilitate or hinder the fair and efficient quoting and trading of ETPs? What types of additional information or data would commenters like to see regarding the quoting and trading characteristics of ETPs?

I had not seen or heard of the referenced website until this question brought it to my attention. I have downloaded a number of its papers and data descriptions to my reading list file and plan to study them carefully as soon as practicable. This excellent material should be actively promoted with and by some of the better financial reporters and industry websites. There is scope for expanding the explanatory material, but this is clearly top-quality information that investors will find useful. The Commission should make a concerted effort to tell investors and their advisors more about its availability.

I am aware of the Commission's formation of the Equity Market Structure Advisory Committee and I expect its work to help improve investors' experience in trading ETPs and other equity securities. The playing fields for market professionals and retail investors will never be level, but investor access to market information needs continuing improvement.

In closing, I wish to thank the Commissioners and Staff of the SEC for consideration of the views and information presented in this letter.

Sincerely,

Gary L. Gastineau President ETF Consultants.com, Inc.