# ETFS:
# A Second-Part-of-the-Chessboard Problem

NAVELLIER
*Calculated Investing*

By Ivan Martchev, Investment Specialist at Navellier & Associates, Inc.
*Co-authored by Louis Navellier, Chairman and CIO of Navellier & Associates, Inc.*

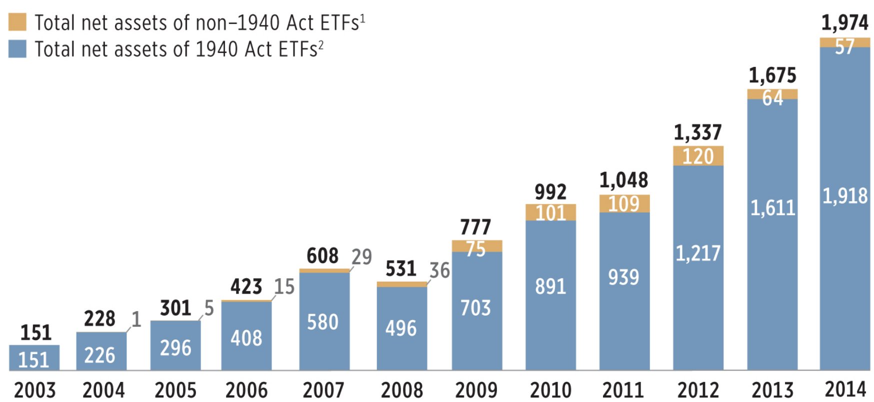
The story goes that a ruler of India was so pleased with one of his palace wise men, who had invented the game of chess, that he offered him a reward of his own choosing. The man, being a mathematician, told the ruler that he would like just one grain of rice on the first square of the chess board, double that number of grains of rice on the second square, and double that number of grains of rice on each of the next 62 squares. While the first half of the chessboard could manage the amount of rice requested, the second part of the chessboard should have contained more rice than available in the palace. Since a chessboard has 64 squares the number of grains is $2^{63}$ (9,223,372,036,854,775,808)--that's over nine quintillion.

We think ETFs have reached a second-half-of-the-chessboard threshold. The market open on August 24, 2015 seems to have been nothing more than a flash crash where high-speed computerized trading used in the market-making of ETFs, known as high-frequency trading (HFT), broke the market in the same way it did during the Flash Crash in 2010.

FIGURE 3.2

**Total Net Assets and Number of ETFs**

*Billions of dollars; year-end, 2003–2014*




**Number of ETFs**

| 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 119 | 152 | 204 | 359 | 629 | 728 | 797 | 923 | 1,134 | 1,194 | 1,294 | 1,411 |

[1] The funds in this category are not registered under the Investment Company Act of 1940 and invest primarily in commodities, currencies, and futures.

[2] The funds in this category are registered under the Investment Company Act of 1940.

Note: Data for ETFs that invest primarily in other ETFs are excluded from the totals. Components may not add to the total because of rounding.

Source: Investment Company Institute

We think ETFs are a great idea if they serve an investment objective to gain exposure to a specific index, sector, or asset class. If the only (convoluted) objective is to generate bid-ask spread trading arbitrage and lightning leverage opportunities for the qualified institutional market participants, then ETFs could cause more harm than good at times of increased market volatility. One sales pitch of the ETF industry is that they can deliver instant market liquidity to investors at a price that is close to the net asset value of the assets in the trust comprising the ETF. Instead, due to the size of the ETF industry, some ETFs proved to be highly illiquid, resembling more closed-end funds with double-digit percentage discounts to NAV showing up on August 24[1].

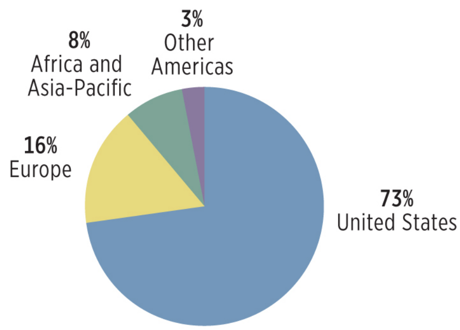
1 http://money.cnn.com/2015/08/24/investing/stocks-markets-selloff-circuit-breakers-1200-times/

Furthermore, the graph below demonstrates that this is a problem unique to the United States. Rapid growth of the industry has caused ETF assets to top an estimated $2 trillion as of the time of this writing. With 73% in global ETF assets at the end of 2014, the U.S. markets are uniquely prone to flash crashes with computerized HFT comprising about half of U.S. exchange volumes at any time[2]. It is this combination and the relentless pursuit of "riskless" profits in the form of HFT driven ETF arbitrage, as well as lightning leverage, that is increasing risk in the system causing major market dislocations.

FIGURE 3.1

**The United States Has the Largest ETF Market**

*Percentage of total net assets, year-end 2014*




**Total worldwide ETF assets: $2.7 trillion**

Sources: Investment Company Institute and ETFGI

Source: Investment Company Institute and ETFGI

## Lessons from the Second Flash Crash

We consider the third quarter of 2015 to be a disaster for the ETF industry. First, on August 10, 2015, *MarketWatch* featured an article entitled, "*There is a 'dark side' to the ETF boom: study*," which referred us to a paper published on July 26, 2015 by members of the Arison School of Business in Israel, Stanford University's business school, and UCLA's business school[3]. This paper concluded that the popularity of ETFs has led to higher trading costs for some stocks, as well as less coverage of stocks by analysts to help investors make decisions. Furthermore, this paper also pointed out how the boom in ETFs has reduced the responsiveness of some stock prices to information about the companies behind them and made it harder for investors to diversify their holdings in a way that reduces their risk. It is not surprising that if $2 trillion chases the same ETF symbols, the correlation between the stocks in the basket is increasing, which can hurt the classic portfolio construction process.

We believe we have reached a point where the fundamental characteristics and outlook of the ETF constituents do not drive many ETFs; but ETF HFT and arbitrage drive the price of the ETF components. We contend there is something inherently wrong in such a backwards, twisted pricing process. Sometimes ETFs can hinder diversification. Wal-Mart announced on October 14, 2015, that it expects earnings per share to decline 6%-12% in fiscal 2017 due largely to higher labor costs[4]. This news sparked selling in Consumer Staples ETFs that subsequently hurt Costco and

2 http://dealbook.nytimes.com/2014/07/07/no-need-to-demonize-high-frequency-trading/?_r=0

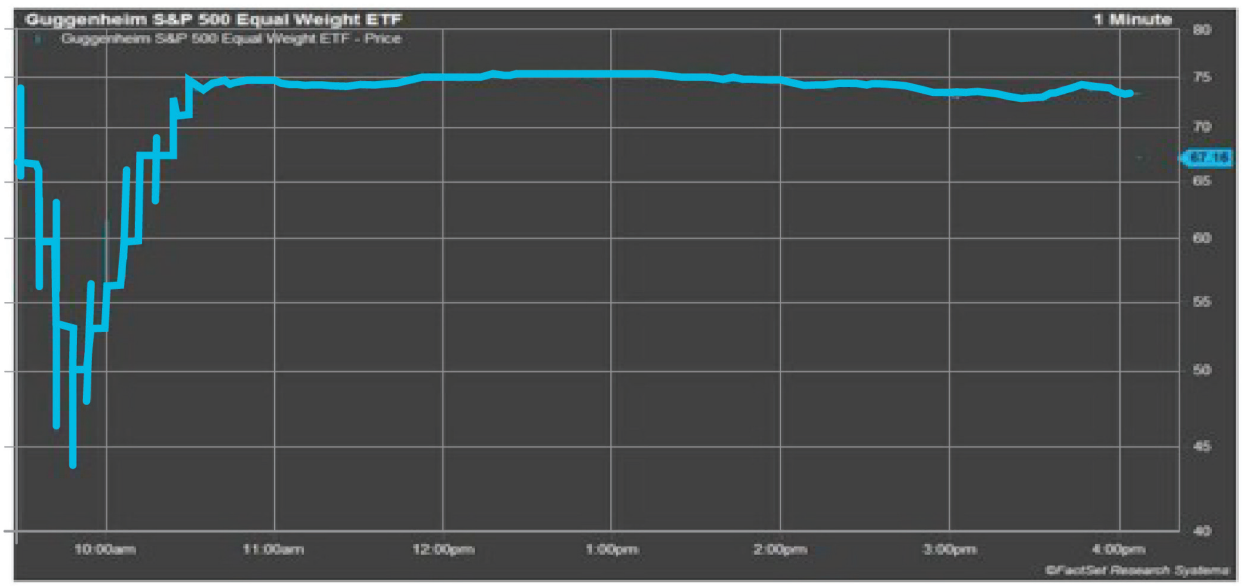
3 Israeli, Doron and Lee, Charles M.C. and Sridharan, Suhas A., Is There a Dark Side to Exchange Traded Funds (ETFs)? An Information Perspective (July 26, 2015). Stanford University Graduate School of Business Research Paper No. 15-42; Rock Center for Corporate Governance at Stanford University Working Paper No. 209. Available at SSRN: http://ssrn.com/abstract=2625975 or http://dx.doi.org/10.2139/ssrn.2625975

4 http://www.wsj.com/articles/wal-mart-lower-sales-earnings-outlook-1444835896

other major retailers that do not have Wal-Mart's unique problems. In other words, when a major component of an ETF has a problem, the selling pressure in that ETF effectively throws the "baby out with the bathwater."

The second problem now haunting the ETF industry, in our opinion, is the deep discounts that characterized ETFs on August 24, 2015. On October 2, 2015, *The Wall Street Journal* featured an article entitled, "*Traders Seek Ways to Benefit From ETFs' Woes*," which discussed how dozens of ETFs traded at "sharp discounts" on the morning of August 24th. The article features the intriguing subtitle of, "*In some cases, gains come at expense of individual investors*." It also features a picture of Steven A. Cohen of Point72 Asset Management, formerly SAC Capital Advisors, who no longer runs clients' money after paying a record $1.8 billion fine for insider trading charges accompanied by the customary lack of admittance of any wrongdoing[5].

Specifically, ETFs with billions of dollars in assets such as the **Guggenheim S&P 500 Equal Weight ETF** (RSP), the **iShares Select Dividend ETF** (DVY), and the **Vanguard Healthcare ETF** (VHT), all gapped down over 30%, while the underlying stocks did not fall anywhere near that much[6]. It is very clear to us that several investors were "picked off" by the specialists that make markets in ETFs.




Source: FactSet

In defense of the specialists that trade ETFs, BlackRock's Viewpoint October 7, 2015 white paper entitled, "U.S. Equity Market Structure: Lessons From August 24," points out "nearly 1300" Limit Up-Limit Down (LULD) trading halts pursuant to NYSE Rule 48 made pricing stocks very difficult, because trading is suspended when any stock falls more than 5% and the LULD circuit breakers hit. Ironically, these LULD circuit breakers were conceived as a potential solution to the Flash Crash in 2010. Still, August 24th was the biggest Flash Crash that investors have witnessed to date, and from our point-of-view, the ETF industry was the primary casualty. We believe this is because investor confidence was shattered when ETFs with billions of dollars in assets plunged as much as 30% at the market open on August 24th.

During the week of August 24, 2015, BNY Mellon and SunGuard had ETF pricing problems, further complicating matters. SunGuard said its pricing system was not hacked and that its pricing glitch was caused by "an unforeseen complication resulting from an operating system change" it performed[7]. According to BNY Mellon spokesman Kevin Heine in an August 27, 2015 interview[8], this pricing breakdown affected 20 mutual fund

5 http://money.cnn.com/2014/04/10/investing/cohen-sac-capital-point72/

6 http://www.forbes.com/sites/greatspeculations/2015/08/28/what-the-etf-happened-on-august-24/

7 https://www.bnymellon.com/us/en/_locale-assets/pdf/newsroom/sungard-bny-mellon-investone-external-statement.pdf

8 http://www.reuters.com/article/2015/08/27/us-bnymellon-funds-prices-idUSKCN0QW1T320150827

companies and 26 ETF providers. While the mutual fund industry can issue corrected trade confirmations, the ETF industry is instead dependent on ETF specialists and some independent market makers, so there is no easy way to effectively correct that ETF pricing errors since most ETFs are traded through specialists on the NYSE.

The solution to the ETF industry's pricing woes is simple, in our opinion. Just like stocks are subject to LULD trading halts pursuant to NYSE Rule 48, ETFs traded on the NYSE should be subject to the same rule to avert any and all pricing problems if and when another Flash Crash occurs. Furthermore, we think the SEC should require the ETF industry to beef up its disclosure of the historical discounts and premiums that investors have paid to buy ETFs.

Morningstar features an Intraday Indicative Value for every ETF it monitors, which can be a very useful service. However, Morningstar's Monthly Premium/Discount statistics for every ETF it monitors only show an "Average Discount" and it would be very helpful for Morningstar to show a "Full Range," so that the deep discounts or steep premiums that investors sometimes suffer when buying or selling ETFs are fully disclosed.

The SEC is a big proponent of proper and thorough disclosure. Now that ETFs with billions of dollars in assets and industry leading tickers have traded at up to 30% intraday NAV discounts (on August 24th), we think the time has come to beef up the disclosures on ETF pricing. Furthermore, for those investors that think ETFs are charging no management fees and saving them money, they need to understand that ETFs can trade at substantial premiums or discounts to the underlying securities in the ETF. Yes, ETF expense ratios may be one third of managed funds on average, but if you add the big discounts and premiums that can occur, the advantage can disappear. Finally, it would not hurt to also inform investors that ETFs are historically more expensive to trade than individual stocks, according to the previously mentioned research performed by the Arison School of Business in Israel, Stanford University's business school, and UCLA's business school[9].

Fortunately, help may be on the way. In a public statement released by the SEC on October 15, 2015, SEC Commissioner Luis Aguilar said it may be time to "reexamine the entire ETF ecosystem;" specifically how market structure rules are applied to the products following the wild price swings several ETFs experienced on August 24th. Aguilar added, "Why ETFs proved so fragile that morning raises many questions." It appears that the SEC will be digging into ETF pricing problems and reforms may be forthcoming.

We suspect that any ETF policy reforms will be presented in 2016 at the earliest as SEC proposals are typically subject to industry and public comments. In the meantime, ETF pricing will likely remain the "Wild West" of Wall Street, since the premiums and discounts relative to the underlying securities in ETFs remain abnormally high in the wake of the market volatility during the third quarter of 2015.

9 Israeli, Doron and Lee, Charles M.C. and Sridharan, Suhas A., Is There a Dark Side to Exchange Traded Funds (ETFs)? An Information Perspective (July 26, 2015). Stanford University Graduate School of Business Research Paper No. 15-42; Rock Center for Corporate Governance at Stanford University Working Paper No. 209. Available at SSRN: http://ssrn.com/abstract=2625975 or http://dx.doi.org/10.2139/ssrn.2625975

**Important Disclosures**

The preceding commentary is the opinion of Ivan Martchev, Investment Specialist with Navellier & Associates, Inc. and Louis Navellier, Chairman and CIO of Navellier & Associates, Inc.
This is not a recommendation to buy or sell the securities mentioned in this article. Investors should consult their financial advisor prior to making any decision to buy or sell the above mentioned securities.

Ivan Martchev and Louis Navellier do not currently hold positions in any of the stock tickers mentioned in this article.

Navellier & Associates, Inc. does not currently hold a position in COST, RSP, DVY, or VHT for client portfolios.

Navellier & Associates, Inc. does currently hold a position in WMT for some client portfolios.

Although information in these reports has been obtained from and is based upon sources that Navellier believes to be reliable, Navellier does not guarantee its accuracy and it may be incomplete or condensed. All opinions and estimates constitute Navellier's judgment as of the date the report was created and are subject to change without notice. These reports are for informational purposes only and are not intended as an offer or solicitation for the purchase or sale of a security. Any decision to purchase securities mentioned in these reports must take into account existing public information on such securities or any registered prospectus.

Past performance is no indication of future results. Investment in securities involves significant risk and has the potential for partial or complete loss of funds invested. It should not be assumed that any securities recommendations made by Navellier. in the future will be profitable or equal the performance of securities made in this report.

None of the stock information, data, and company information presented herein constitutes a recommendation by Navellier or a solicitation of any offer to buy or sell any securities. Any specific securities identified and described do not represent all of the securities purchased, sold, or recommended for advisory clients. The reader should not assume that investments in the securities identified and discussed were or will be profitable.

Information presented is general information that does not take into account your individual circumstances, financial situation, or needs, nor does it present a personalized recommendation to you. Individual stocks presented may not be suitable for you. Investment in securities involves significant risk and has the potential for partial or complete loss of funds invested. Investment in fixed income securities has the potential for the investment return and principal value of an investment to fluctuate so that an investor's holdings, when redeemed, may be worth less than their original cost.

One cannot invest directly in an index. Results presented include the reinvestment of all dividends and other earnings.

**FEDERAL TAX ADVICE DISCLAIMER**: As required by U.S. Treasury Regulations, you are informed that, to the extent this presentation includes any federal tax advice, the presentation is not intended or written by Navellier to be used, and cannot be used, for the purpose of avoiding federal tax penalties. Navellier does not advise on any income tax requirements or issues. Use of any information presented by Navellier is for general information only and does not represent tax advice either express or implied. You are encouraged to seek professional tax advice for income tax questions and assistance.

Navellier claims compliance with Global Investment Performance Standards (GIPS). To receive a complete list and descriptions of Navellier's composites and/or a presentation that adheres to the GIPS standards, please contact Navellier or click here. It should not be assumed that any securities recommendations made by Navellier & Associates, Inc. in the future will be profitable or equal the performance of securities made in this report. Request a list of recommendations made by Navellier & Associates, Inc. for the preceding twelve months by calling 775-785-2300.

**NCD-15-1007**