



Introduction

Recent years have seen a push by asset managers to be innovative in designing new fund product structures, with a focus on harnessing key attributes of both traditional exchange-traded funds ("ETFs") and actively managed funds. The objective of these hybrid products is to combine the lower relative costs and potential tax advantages associated with ETFs with the ability to actively manage a portfolio without disclosing full underlying portfolio information (i.e. security names and weights on a daily basis). These structures are designed to keep all or a portion of the underlying portfolio hidden and to avoid potential front-running and duplication of proprietary strategies. In general, we refer to these structures as non-transparent ETFs, but they are also referred to as periodically disclosed, semitransparent, nearly transparent or opaque.

Multiple asset management firms have filed applications with the Securities Exchange Commission ("SEC") for exemptive relief that would allow them to actively manage funds under a non-transparent product structure. To date, just two of these non-transparent structures - Vanguard and NextShares™ - have gained SEC approval. It should be noted that NextShares[™] is not termed an ETF, as the SEC's approval was conditioned on the structure being specifically termed as an exchange-traded managed fund ("ETMF"). Vanguard, on the other hand, is an ETF, but relies on an "opaque" transparency of divulging holdings on a month-end basis with a 15-day lag. Vanguard ETFs are a "share class" of a Vanguard index mutual fund¹, hence the

idea behind the opaque disclosure of holdings and its investment strategies based on passive indices.

Vanguard ETFs® (Vanguard)

When Vanguard launched its first ETFs in 2001², there did not appear to be anything revolutionary about what it was doing. However, when the industry took a deeper dive into the Vanguard ETFs in 2015, what it found was a model that was not 100% transparent or non-transparent, but opaque. As noted above, Vanguard's model for ETFs does not divulge the holdings on a daily basis like traditional ETFs, but rather discloses them monthly with a 15-day lag. Why is this important? This strategy prevents front-running and free-riding of opportunistic traders.

Vanguard's model publishes a daily basket for creation and redemptions of shares that contains 80% of the holdings. The model has proven effective for market makers to arbitrage and hedge because the basket is based on a passive index of a mutual fund and the holdings are known to the public.

It's important to note that Vanguard ETFs are NOT non-transparent actively managed ETFs; these are passively managed funds. This is a patent protected concept developed by Vanguard with a current expiration date in 2022.

NextShares™ (Eaton Vance)

NextShares[™] funds are exchange-traded managed funds that offer differing

features than traditional mutual funds. NextShares[™] funds trade on an exchange and are bought/sold at the next end of day net asset value ("NAV"), plus or minus the best bid/offer. The key advantage of this pricing model according to Eaton Vance is that trading costs are explicitly known due to visibility in the open market of the bid/ offer quotation at plus/minus (+/-) the NAV. Below is a hypothetical example showing how this works using the NAV for that day as \$20.00. The best offer is \$.02 and the best bid is \$.01, with the final price being as follows:

	Buy Shares	Sell Shares
Trading Cost =	+\$0.02	-\$0.01
Final Price = NAV	\$20.02	\$19.99
+/- Trading Costs	per share	per share

For illustration purposes only.

Since NextShares[™] funds are not required to publicly disclose their full holdings on a daily basis, the portfolio managers are better able to maintain the confidentiality of their proprietary methodology. Eaton Vance has also indicated that NextShares™ funds are intended to be long-term investment vehicles and are not suitable for short-term trading.³ It should be noted that NextShares[™] are not ETFs. Although NextShares[™] are exchange-traded, trading prices of NextShares[™] are linked to the fund's next daily NAV, rather than determined in the market at the time of trade execution like ETFs. NextShares and ETFs have many similarities, but also important differences."4

The first NextShares™ product launched on February 25, 2016. Currently, there are eighteen (18) equity and fixed income NextShares™ ETMFs. They hold combined assets under management of approximately \$153.2 million as of September 28, 2018.⁵

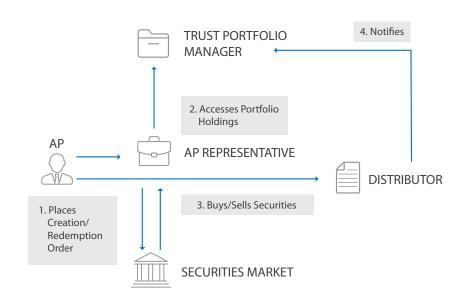
ActiveSharesSM (Precidian)

The ActiveShares^{5M} model filed by
Precidian Investments is a non-transparent
structure for actively-managed ETFs that
will not publicize holdings on a daily basis.
A unique aspect of the ActiveShares^{5M}
product structure, unlike traditional active
ETFs that provide an intraday indicative
value (last-point price between the bid/ask
every 15 seconds), is that ActiveShares^{5M}
will provide a verified intraday indicative
value ("VIIV") on one second intervals
throughout the trading day.⁶ This makes
the ActiveShares^{5M} model unlike any

current actively managed ETF. Another factor that makes ActiveShares different is the use of an AP Representative for the creation/redemption process.

Precidian has suggested that daily portfolio disclosure will be unnecessary because the value of the funds will be transparent. Precidian argues that the VIIV for ActiveSharesSM is more transparent than the current intraday indicative value ("IIV") used with traditional ETFs. The VIIV, according to Precidian, will be more reliable than the IIV in that it will be based on the mid-point between bid and ask of the underlying securities, rather than last point price of bid/ask, and will include all Fund Net Income in the NAV.7 (Traditional ETFs calculate the NAV by adding up the value of all assets in the fund, including assets and cash, subtracting any liabilities, and then dividing that value by the number of outstanding shares in the ETF). Precidian has also indicated that the VIIV will be calculated off of the actual fund holdings, hence a full replication.

Under their more recent filings, Precidian proposes a structure for all creations and redemptions of fund shares to flow through an AP Representative ("APR"), 8 which will be individually established for each Authorized Participant ("AP"). The representative of the APR will receive information regarding the fund's holdings each day, in order to gather the securities needed for creation units and will be able to dispose of securities received through redemptions. The AP will direct all creation/redemption security activity through its APR, without knowing the identity of the portfolio securities, as all orders submitted through the Distributor will be in-kind orders.



For illustration purposes only.

All securities will be U.S. exchange listed, with real-time market information feeding into the new formula. APs will be able to neutralize their risk by creating or redeeming a pro rata basket at any point during the day by instructing the representative of the APR to purchase or sell the basket of securities. It is important to note that the AP will retain control of how they direct the APR on execution of those trades.

Precidian hopes to gain approval by backing up the amended filings with two academic papers⁹ (by Cooper and Glosten) focused around whether the products can be reverse engineered. Two independent research papers submitted by Precidian with the amended filing argue that the APR structure functions much the same as a traditional ETF in all respects; however the APR model has an advantage of preserving the confidentiality of the underlying portfolio and the fund's alpha generation model. The research concluded that because it trades on an exchange, the price is known.

Cooper and Glosten also reasoned that the proposed ETF structure provides an appropriate balance between the competing goals of preventing reverse engineering, the ability to hedge and a strong enough short-term correlation to invite arbitrage trading should any systematic bias form in the ETF price. 10

Precidian filed an amendment to its exemptive application on May 29, 2018. Precidian has always stated that the VIIV will be calculated to the nearest penny.11 It is Precidian's belief "that it is highly unlikely that a VIIV calculated as described [by the DERA memorandum and incorporated in the filing] and provided at one second intervals would allow others to reverse engineer a Fund's investment strategy for purposes of front running or free riding, and have sought to confirm this belief mathematically. Applicants cannot, however, provide a guarantee that such reverse engineering will not occur."12

Precidian has three patents focused around its ActiveSharesSM model. The first patent is focused on an actively managed exchange traded fund using AP representatives for creation and redemption. The second patent is centered on NAV and IIV pricing for actively managed exchange traded funds. The third patent pertains to system, method, and program product for managing a collective investment vehicle, including a true-up operation. They currently are set to expire in October 2030, with several applications pending that would extend that date.

Shielded AlphaSM ETF (Blue Tractor Group)

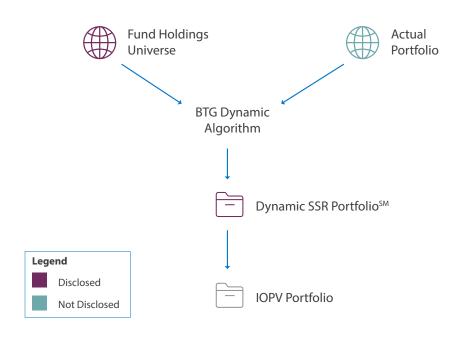
Blue Tractor Group ("BTG") filed the sixth amendment to its exemptive application with the SEC on May 23, 2018 in its quest to become the next approved hybrid structure ETF to gain SEC approval. BTG does not consider its proposed structure to fall into the non-transparent category, rather nearly-transparent, because the daily published basket will disclose 100% of the stock names in the actual portfolio and it will have a minimum 90% overlap in asset value with the actual portfolio. What makes BTG's Shielded AlphaSM ETF of interest to the industry? BTG

has developed proprietary algorithms to facilitate actively managed ETFs in shielding the alpha generation strategy for fund managers.13

According to the application, a Shielded AlphaSM ETF "facilitates active fund management within an ETF wrapper, but, unlike current transparent actively managed ETFs, does not require portfolio disclosure on a daily basis (however, the daily basket will publish ALL of the holdings in the actual portfolio, but not their correct weightings in the portfolio) for efficient pricing, hedging and arbitrage."14 How then can hedging and arbitrage take place if you are a market maker? This model will make use of a Dynamic Stock Specific Risk Portfolio ("Dynamic SSR PortfolioSM"). BTG's proprietary algorithm will produce a Dynamic SSR PortfolioSM with a randomly generated overlap of between 90% and 100% of the actual portfolio asset value with 100% of the actual holding names, but with different weights. It is important to note that if the portfolio manager buys or sells a particular holding, it will be captured and reflected in the Dynamic SSR Portfolio and included in the creation basket for the next day's basket. BTG's Shielded AlphaSM model proposes to be less "opaque" at 90-100% visibility than Vanguard's ETF model at 80% visibility, discussed earlier. A key difference is that Vanguard's model is based on a publicly known passive index methodology and the Shielded AlphaSM ETF Model will be based on a proprietary non-transparent investment strategy.

There are two specific goals of this algorithm. The first is to minimize the tracking error between the actual portfolio and the Dynamic SSR PortfolioSM. The second is to obfuscate the manager's alpha generation strategy by providing the market with a basket that presents 'phantom weightings,' thereby shielding

a fund's actual trading activity from predatory traders, who will not know if the day-to-day changes in the basket's weightings are actual portfolio changes or artifacts of the algorithm.15



For illustration purposes only. Indicative Optimized Portfolio Value (IOPV)

According to the application, BTG "believes that the Dynamic SSR PortfolioSM will allow market makers to assess the intraday value and risk of the Funds' portfolios and to create effective hedging vehicles to allow for efficient arbitrage of the Funds' shares."16 BTG believes that, as with existing fully transparent active ETFs, arbitrageurs and market makers then will be able to assess whether the market price of the shares was higher or lower

than the approximate contemporaneous value of the portfolio securities, and to make appropriate arbitrage and hedging decisions, as discussed in greater detail below. As a result, BTG believes that investors will be able to purchase and sell shares in the secondary market at prices that do not vary materially from their NAV. This Dynamic SSR PortfolioSM will serve the functions of:

- The in-kind creation basket for that day;
- 2. The basis for the calculation by the market maker for the Intraday Indicative Value ("IIV"); and
- Hedging tool for market makers.¹⁷

The algorithm that produces the Dynamic SSR PortfolioSM daily, BTG argues, will protect investors from the potential of front running. This indicates that there is ample opportunity for arbitrage, giving market makers the opportunity to take advantage of any slight premium or discount of individual shares, just like regular ETFs. BTG also argues that market makers will be able to maintain a market because the Dynamic SSR PortfolioSM will provide more transparency than currently available with respect to some indexbased ETFs, in particular the Vanguard ETFs, which as noted above are opaque/ nearly transparent at 80% visibility.

BTG noted in a recent press release that there has been open dialogue with the SEC. According to founder Terence Norman, "It has allowed us to refine our structure to meet the needs of fund managers, investors, authorized participants and market makers, custodians, distributors and exchanges. As importantly, from day one our structure has been designed to embrace the fundamental principles under the federal securities law of promoting fair markets and investor protection."18

A patent has been filed and is currently pending.

Periodically-Disclosed Active ETFs (NYSE/Natixis)

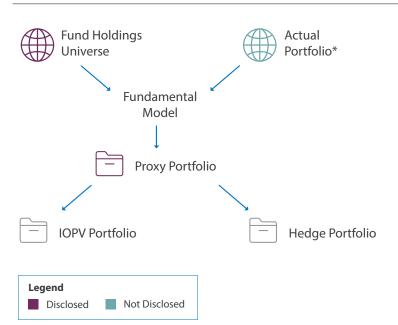
On January 22, 2018, Natixis Investment Managers ("Natixis") filed its exemptive relief application (and amended application on June 15, 2018) in conjunction with the New York Stock Exchange ("NYSE"). The two institutions are presenting an actively managed ETF model currently called Periodically-Disclosed Active ETFs ("NYSE PDA"). Like the NextShares[™], ActiveSharesSM and Shielded AlphaSM ETF models, this NYSE PDA, along with the key element of the NYSE Proxy Portfolio Methodology, will be available for licensing to unaffiliated fund sponsors.19

This solution to the prevalent trading, pricing, and hedging problems does not disclose the portfolio holdings on a daily basis, similar to the aforementioned models. The Proxy Portfolio will, according to the application: "(1) allow for effective hedging by market makers that will have the effect of keeping share bid/ ask spreads within a narrow range that will foster liquid share markets, and (2) support arbitrage activities by Authorized Participants and other arbitrageurs that will have the effect of keeping Fund share trading prices reasonably aligned with Fund NAV per share."20 NYSE, working with the portfolio manager, generates a proxy portfolio with a different composition and weighting than the fund's actual holdings by utilizing holdings in a lag. This "lag" masks the new buys and sells of the actual portfolio.

The proxy portfolio will be used for intraday pricing and hedging, and will be separate from the portfolio used for creation baskets. The creation basket "construction process is not based on the Proxy Portfolio or a proportional

slice thereof; moreover, a creation basket construction process is partially based on its Actual Portfolio but not on a proportional slice thereof. Creation baskets may have up to a 90% overlap in the names (but not the weightings) of the constituent securities of the Actual Portfolio, although such overlap is expected to be less."21 According to the amendment, the actual percentage of the overlap will not be known to the market. "While the creation basket may have some overlap (up to 90%) in the names of the constituent securities of the actual portfolio, the actual portfolio's weightings and the precise degree of creation basket overlap with the names of the securities in the actual portfolio will not be disclosed."22

It remains to be seen whether or not this proxy portfolio with a lag can effectively allow for efficient up-to-date intraday pricing and/or arbitrage.



* Data can be lagged to mask buy/sells and changes in weighting For illustration purposes only. Indicative Optimized Portfolio Value (IOPV) The NYSE PDA model has three (3) important features:

- The proxy portfolio will always contain more components than the actual portfolio;
- 2. The proxy portfolio is constructed with a 5-15 trading day lag on purchase and sales occurring in the actual portfolio, which would be disclosed; and
- 3. The aggregate value of the proxy portfolio on any given trading day will equal the aggregate net asset value of the last calculated NAV of the actual portfolio when such proxy portfolio is constructed."23

Like traditional ETFs, there will be daily disclosures:

- The proxy portfolio holdings (including the identity and quantity of investments in the proxy portfolio) will be publicly available on the Fund's website before the commencement of trading in shares on each business day.
- The historical tracking error between the fund's last published NAV per share and the value, on a per share basis, of the fund's proxy portfolio calculated as of the close of trading on the prior business day, will be publicly available on the fund's website before the commencement of trading in shares each business day. Historical tracking error will be calculated from fund inception and, as applicable, for the previous 10-year, 5-year, 3-year and 1-year periods ending the prior calendar year end. Tracking error will also be calculated on a year-to-date

- (daily), quarter-to-date (daily), and prior business day basis.
- For each fund's most recent fiscal year, the median bid/ask spread for a Share based on the national best bid and offer at the time of calculation of NAV.24

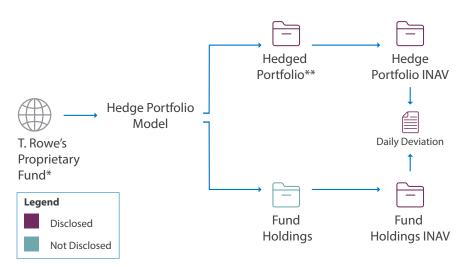
Similar to mutual funds, there will be annual, semi-annual and quarterly disclosures contained in the fund's SEC filings, as well as on the fund's website.

NYSE has three patents on file focused around actively managed funds. The first and second patents are centered around systems and methods for trading actively managed funds. The third patent is focused on modeling portfolios for actively managed exchange traded funds.

Hedged Portfolios (T. Rowe Price)

On September 23, 2013, T. Rowe Price Associates, Inc. and T. Rowe Price Equity Series, Inc. ("T. Rowe") submitted an initial filing for their version of a non-transparent ETF. Amended versions have been filed, with the most recent version filed on June 18, 2018. It is unclear whether T. Rowe will offer this model as a licensed wrapper or if it will be strictly proprietary.

As with the other models, the filing seeks exemption from the daily portfolio disclosure requirement associated with current ETFs. Instead, T. Rowe Price requests to disclose portfolio holdings quarterly, in-line with other registered investment companies (i.e. mutual funds). The filing also indicates that all funds will disseminate an indicative net asset value ("INAV") every 15 seconds during the primary trading session of that fund's shares. This INAV will be based on the actual fund holdings.



- * Holdings are on a Quarterly Lag
- ** Based on the holdings from Quarterly lag For illustration purposes only.

The crux of the filing is T. Rowe's argument that its proposed model allows for effective arbitrage and hedging by market makers, which is vital to keeping the funds' secondary market trading prices closely in line with their respective underlying NAV. To accomplish this without daily disclosure of holdings, T. Rowe proposes the daily disclosure of a "Hedge Portfolio," whose value is expected to closely track the underlying NAV of the fund and "each fund will consistently invest such that at least 80% of its total assets at the time of purchase (including borrowings for investment purposes) will overlap with the portfolio weightings of its identified Hedge Portfolio."25 T. Rowe's application claims that armed with this daily hedge portfolio, market makers will be able to identify discrepancies in the value of those securities compared to the INAV, thus creating arbitrage and hedging opportunities. T. Rowe argues that "applicants believe that the arbitrage and pricing mechanisms of the proposed funds will be at least as effective, if not more effective, than are the arbitrage and pricing mechanisms of many ETFs in the market today," because T. Rowe "expects the tracking error between a fund and its Hedge Portfolio to be sufficiently small, and its constituent securities to be sufficiently liquid, to allow market makers effectively to use the Hedge Portfolio for its intended purpose of hedging or arbitraging transactions in fund shares, making it a high-quality hedging vehicle."26

How does T. Rowe come to this conclusion? According to the application, T. Rowe expects "that arbitrageurs will calculate their own real-time value of the Hedge Portfolio using pricing sources that in their experience value the Hedge Portfolio's constituent securities at levels that reflect their ability to transact in those securities."²⁷ T. Rowe also expects that market makers will analyze the correlation between the INAV and the changes in the Hedge Portfolio value, the relation between the holdings, as well as the historical analysis and valuation data. T. Rowe also expects "that arbitrageurs will be able to use the value of the Hedge Portfolio as the primary high-quality pricing signal, which will be comparable to the pricing signals they use for existing ETFs, and which will enable arbitrageurs to engage in transactions that will keep the intraday premiums/discounts and spreads of shares low."28

In addition to the INAV and Hedge Portfolio, T. Rowe will also disclose what it terms the "Daily Deviation," which measures daily discrepancies between the performance of each fund's NAV and its respective hedge portfolio. Furthermore, they plan to disclose "certain quantitative summaries of the daily deviation data -Tracking Error and Empirical Percentiles".29 T. Rowe states that disclosure of this type of data will further assist market makers in their efforts to effectively hedge and arbitrage these products.

The filing discusses how currently approved actively managed ETFs are susceptible to front-running, as the daily portfolio disclosure requirement allows investors a "free-ride" on the portfolio manager's security selections.30 It goes on to point out that this is especially true of actively managed equity ETFs, which is why the majority of actively managed

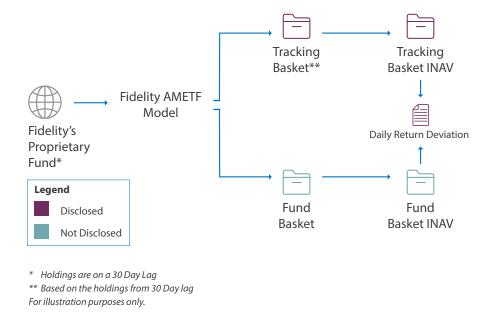
ETFs in today's marketplace are fixed income ETFs³¹. Also, while discussing the importance of an accurate, reliable disseminated INAV to market makers' ability to properly hedge and arbitrage, the filing points out that many products in today's marketplace in-fact have potentially inaccurately priced INAV's. This is due to basket securities that may be difficult to accurately price, including non-U.S. securities, low volume U.S. securities, derivative securities, etc.

Actively Managed Exchange Traded Fund (Fidelity)

Fidelity Investments ("Fidelity") filed its own exemptive application for a nontransparent, exchange-traded actively managed structure on September 26, 2014, with their third amended application filed on August 8, 2018.

Fidelity has looked at several avenues for a non-transparent product, including a closed-end management company functioning as an interval fund, but operating as an exchange traded active fund. Although the filing does not "brand" or have a defined term for the product structure it is presenting, Fidelity refers to the product as an actively managed exchange traded fund ("AMETF").32

Fidelity has proposed a tracking basket "that will be comprised of the fund's recently disclosed portfolio holdings and representative ETFs. The tracking basket will be constructed utilizing a mathematical optimization process to minimize deviations in return of the tracking basket relative to the fund. The tracking basket will also constitute the names and quantities of instruments for both purchases and redemptions of shares."33 The application does not go into detail on how this "mathematical" optimization will be constructed.



Fidelity suggests in the application that the "arbitrage process would operate similarly to the arbitrage process in place today for existing ETFs that use in-kind baskets for creations and redemptions that do not reflect the ETF's complete holdings, but nonetheless produce performance that is highly correlated to the performance of the ETF's actual portfolio."34 In fact, Fidelity states that the "absence of daily disclosure of full portfolio holdings, given a tracking basket of the quality described, arbitrageurs will have sufficient information and a reliable hedging vehicle that they understand and can use to effectuate low-risk arbitrage trades in shares."35

It is important to note that unlike the T. Rowe model, Fidelity will not be posting the actual AMETF's INAV on a daily basis. Instead, it aims to provide four daily disclosures - some of which we discussed

above. These four are as follows: (1) Fund's actual holdings lagged by 30 days; (2) the Tracking Basket's holdings; (3) the Tracking Basket's INAV; and (4) Daily Return Deviations.³⁶ The Daily Return Deviations, specifically state what the actual significant deviations are from the Tracking Basket's INAV and what the undisclosed fund's INAV is. The statistics that will be prevalent in the Daily Return Deviations are to be used to provide arbitrageurs with an even more reliable hedging tool.

In the most recent amendment, Fidelity is proposing that the advisor "will publicly disclose certain information about the Fund. Specifically, the Adviser will disclose the Fund's portfolio holdings, including the name, identifier, market value and weight of each security and instrument in the portfolio, on its website on a monthly basis with a 30 day lag." 37 It is also important to point out that in the most recent filing, Fidelity states that the funds will not rely on an IIV as a Primary Pricing Signal, although it would be disseminated by an exchange or third party. According to the application, Fidelity points out that the SEC has "observed that in practice, arbitrageurs do not rely on a IIV and instead, use portfolio holdings information to construct a hedge portfolio that closely aligns with a an ETF's NAV. Fidelity anticipates that arbitrageurs will be able to calculate and construct hedge portfolios using securities in the tracking basket."38 Fidelity's AMETF will offer "creation and redemptions only on a business day."39

As of the most recent filing, Fidelity makes no indication as to whether this structure will be open to licensing or used solely for proprietary purposes.

Recap

There are some similarities and differences between these non-transparent products. The obvious differences are in intraday pricing and what is disclosed daily to the AP; both of these features are what the SEC takes issue with the most, as noted above. The charts below identify the key similarities and differences between the various product structures.

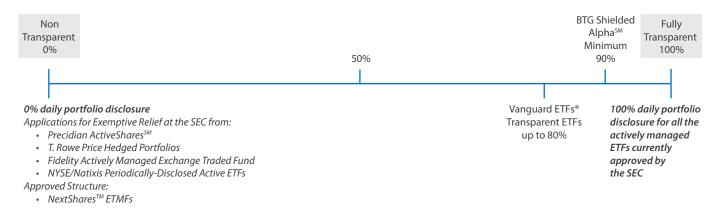
Purchasing and Redeeming	NextShares™#	ActiveShares ^{SM#}	Shielded Alpha sM ETF#	NYSE PDA#	T. Rowe Hedged Portfolio	Fidelity AMETF
Intraday trading allowed		✓	✓	\checkmark	✓	\checkmark
Intraday Pricing disseminated by the asset manager or third party		✓			✓	
Intraday Pricing calculation by the market maker *			✓	✓	-	√
Holdings used for Create/Redeem	Proxy no pro rata	Pro Rata Share on Actual Holdings	Actual Portfolio Holdings	Proxy no pro rata	Proxy no pro rata	Proxy no pro rata
Portfolio Holding Disclosure						
Disclosure Frequency	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Monthly

^{*} This is not a requirement of the trust/advisor and it is believed that market participants and arbitrageurs will use the components securities and weightings provided to calculate intraday values.

The following diagram shows the percentage of transparency the product structures offer compared to current ETFs offered in the market today.

Daily Disclosure Comparison

Degree of Daily Portfolio Disclosure



For illustration purposes only.

Conclusion

Over the past few years, these institutions have offered increasingly divergent approaches to satisfy the SEC's concerns related to "non-transparent" ETFs, including varying terminology to describe differing levels of transparency. Perhaps, the products shouldn't be lumped into one category or another, but simply referred to by their names: NextSharesTM, ActiveSharesSM, Shielded AlphaSM ETF, NYSE PDA, T. Rowe Hedged Portfolio and Fidelity AMETF.

Although the competing parties cannot seem to come to a consensus, it is important to note the potential risk factors. Does publishing an Intraday Indicative Value calculated on actual fund holdings truly present an actionable opportunity for reverse engineering of portfolio strategies? On the other hand, will not publishing an IIV on actual fund holdings lead to inflated spreads from traders making markets in those funds? Further, does the use of a proxy portfolio for creation/redemption baskets present a material market risk for APs and other market making participants? These are all points of heated contention, which may not be definitively resolved until they're tested in a real-world situation. Ironically, these questions are not new. In fact, the SEC sought additional comments on similar issues relating to actively managed exchange-traded funds in their Concept Release on May 1, 2004.

Inflows into ETFs have outpaced mutual funds in recent years.⁴⁰ The consistent question many fund managers are asking is "How do we revitalize a business that

has not had a revolution in over 25 years?"These new product structures are designed to offer an alternative active strategy vehicle, while generating alpha within an ETF and protecting proprietary methodologies. "When" seems to be the operative word in this battle of hybrid structures, rather than "if", as stalwarts of the industry are actively taking positions. The SEC has not clarified whether it will favor one preferred methodology, will approve multiple strategies that aim to achieve the same goal, or maintain the status quo.

Methodology

The bulk of our incremental research was conducted through credible sources and SEC filings and, we have conscientiously attempted to attribute quotes and verbiage to the original sources throughout the report. We also relied on conversations, discussions and edits from the following:

Stuart Thomas, Precidian Investments Dan McCabe, Precidian Investments Terence W. Norman, Blue Tractor Group LLC Simon Goulet, Blue Tractor Group LLC Thomas Champion from Intercontinental

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Sources

- Vanguard. Frequently Asked Questions, Vanguard.com from https://investor. vanguard.com/etf/faqs
- Vanguard Remarkable History, 2. *Vanguard.com from https://about.* vanguard.com/who-we-are/a-remarkable-history/
- 3. NextShares, NextShares: Unleash the Active Page 1, Nextshares.com, from https://www.nextshares.com/ns-resources.php
- 4. NextShares, Comparing NextShares to ETFs, Section 3, Nextshares.com, from https://www.nextshares.com/common-Questions.php#questionSection3
- 5. NextShares, September 28, 2018, Nextshares.com, from https://www.nextshares.com/funds.php?listType=overview
- Precidian Funds, EDGAR Filing May 30, 2018, Page 4, SEC.gov, from https://www.sec.gov/Archives/ edgar6289/000114420418031427/ tv495172_40appa.htm
- 7. Ibid, Page 27
- 8. Ibid, Page 6
- Ibid, page 61 9.
- 10. Ibid, Page 84
- 11. Precidian Funds, EDGAR Filing May 30, 2018, Page 22
- 12. Ibid, Page 24
- 13. Blue Tractor Group, EDGAR Filing May 23, 2018 Page 5, SEC.gov, from https:// www.sec.gov/Archives/ edga000168028918000098/201805 23bluetractor 40appa.htm

- 14. Blue Tractor Group, "Blue Tractor Group files a Fourth Amended Application with SEC", January 17, 2018, Globenewswire, from http://www.globenewswire.com/news-release/2018/01/17/1296050/0/en/Blue-Tractor-Group-Files-a-Fourth-Amended-Application-with-the-United-States-Securities-and-Exchange-Commission-for-its-Shielded-Alpha-Exchange-Traded-Fund-Structure-Permitting-Act.html
- 15. Blue Tractor Group, EDGAR Filing May 23, 2018 Page 9, SEC.gov, from https://www.sec.gov/Archives/edgar/data/166 8791/000168028918000098/20180523 bluetractor40appa.htm
- 16. Ibid, Page 5
- 17. Ibid, Page 9
- 18. "Blue Tractor Group files a Fourth Amended Application with SEC"
- Natixis ETF Trust II, EDGAR Filing
 June 15, 2018 Page 5, SEC.gov from
 https://www.sec.gov/Archives/edgar/
 data/1018331/000119312518194023/
 d594977d40appa.htm
- 20. Ibid, Page 9
- 21. Ibid
- 22. Ibid, Page 10
- 23. Ibid, Page 8
- 24. Ibid, Page 9
- 25. T. Rowe Price, Edgar Filing June 18, 2018, Page 7, SEC.gov, from https://www.sec.gov/Archives/edgar/data/80255/000119312518195397/d206953d40appa.htm
- 26. Ibid, Page 2
- 27. Ibid, Page 6
- 28. Ibid, Page 2
- 29. Ibid, Page 10
- 30. Ibid. Page 14
- 31. Murphy, Cinthia, Biggest Active ETFS by Asset Class, March 19, 2018, ETF.com from https://www.etf.com/sections/features-and-news/biggest-active-etfs-asset-class?nopaging=1
- 32. Fidelity Beach Street Trust Edgar Filing, August 8, 20, Page 11, SEC.gov from https://www.sec.gov/Archives/edgar/ data/35336/000003531518000198/ main.htm
- 33. Ibid, Page 5
- 34. Ibid, Page 12
- 35. Ibid, page 13

- 36. Ibid, Page 3
- 37. Ibid
- 38 Ibid, Page 33
- 39. Ibid, Page 17
- 40. 2018 Investment Company Fact Book, Page 61 & 95 from http://www.icifactbook.org/ch3/18_fb_ch3

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