THE SEC AND REGULATION OF EXCHANGE-TRADED FUNDS: A COMMENDABLE START AND A WELCOME INVITATION†

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Exchange-traded funds ("ETFs") are among the most important financial innovations of the modern era. And yet they still have no coherent regulatory system. This Article addresses the problem by assessing the SEC's recent effort in this area in light of the recommendations we provided in prior research. In March 2018, we offered the first academic work to show the need for, or to present, a comprehensive regulatory framework for all ETFs. On June 28, 2018, just prior to that article's scheduled publication, the SEC issued a proposal to change the way it regulates certain types of ETFs. On May 20, 2019, the SEC issued its "Precidian" exemptive order, allowing for the first time "non-transparent" actively managed ETFs—an order that we believe has surprising, hitherto unexplored implications for ETF regulation.

This new Article thus considers the SEC proposal and the

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Precidian order in the context of our earlier article's proposed regulatory framework, and also refines that framework. We provide additional rationales for the framework, relying in part on new empirical findings.

The SEC's proposal does not seek to provide a comprehensive regulatory framework for all ETFs. However, the proposal is a commendable start to addressing some of the problems in the current ad hoc approach to ETF regulation, especially as to the substantive side of ETF regulation. In proposing a more rules-based approach, the SEC helps deal with the central problem of current substantive ETF regulation—the reliance on individualized exemptive letters. However, this partial shift only applies to certain ETFs that are organized under the Investment Company Act of 1940 and also leaves in place an anomalous set of individualized exemptions for several specific Investment Company ETFs, including those offering leveraged and inverse exposures. More broadly, the proposal does not address problems of SEC discretion pertaining to the underlying process of financial innovation in ETFs. The proposed rule also neglects to address the frequent need for individualized exemptions with respect to stock exchange listing requirements.

With respect to the disclosure side of regulation, the SEC proposal again only covers Investment Company ETFs, but is even more incremental in nature. The SEC contemplates modest enhancements of disclosures related to "trading price frictions" of such ETFs. And, going the other direction, the SEC contemplates eliminating the primary source of information for retail investors on intraday values of ETF shares. We welcome the SEC's invitation for views on more fundamental disclosure reforms. We offer a refined version of the comprehensive disclosure approach advanced in our first article, and provide fresh rationales for such an approach, based in part on new empirical findings. This approach would apply to all ETFs, and would be cognizant of the distinctive characteristics of ETFs and the subtle complexities introduced by the underlying innovation process. Collectively, a disclosure regime consisting of a "dynamic" SEC-specified ETF nomenclature and required ETF self-identification (which nomenclature and self-identification we refer to as the "disclosure building block"), fuller quantitative disclosures of trading price frictions (such as those related to the arbitrage mechanism and bid-ask spreads), and periodic Management's Discussion and Analysis-style qualitative information centered on the *arbitrage mechanism (including, as appropriate, consideration of the impact of the liquidity of the assets in which the ETF is invested) would help individual and institutional investors alike.*

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INTRODUCTION

The exchange-traded fund ("ETF") offers individual and institutional investors alike a unique investment opportunity. Throughout the trading day, the ETF can be viewed as providing a nearly "frictionless," often low-cost portal to and from a bewildering universe of plain vanilla and arcane asset classes, passive and active investment strategies, and long, short, and leveraged exposures.[1] With on-going innovation, the universe of risk-return possibilities offered by this new vehicle for collective investment continues to expand.

If the derivative served as the locus of the modern process of financial innovation in the capital markets from the 1980s through the 2000s, the ETF now may have pride of place.[2] The first U.S.-listed ETF, the SPDR S&P 500 ETF ("SPY") launched in January 1993 with $6.5 million in assets. At its quarter century anniversary, SPY had $302 billion in assets and was the most traded security in the world.[3] At year-end 2018, U.S.-listed ETF assets stood at about $3.4 trillion, triple that of seven years earlier.[4] Trading in ETFs now usually accounts for about a quarter of the daily volume in U.S. stock markets.[5]

The unique investment opportunity offered by ETFs depends on the proper functioning of a unique market microstructure for its shares and, correspondingly, entails distinctive risks. The portal can be near-frictionless only if, among other things, the shares of the ETF always trade at a price fairly close to their true value or, loosely speaking, their net asset value

1. Henry T. C. Hu & John D. Morley, *A Regulatory Framework for Exchange-Traded Funds*, 91 S. CAL. L. REV. 839, 842–43 (2018), https://ssrn.com/abstract=3137918 [hereinafter Hu & Morley, *ETF-I*] (introducing the concept of the ETF as a frictionless financial portal).

2. *See, e.g.*, Henry T. C. Hu, *Misunderstood Derivatives: The Causes of Informational Failure and the Promise of Regulatory Incrementalism*, 102 YALE L.J. 1457, 1458–64, 1470–513 (1993) [hereinafter Hu, *Misunderstood Derivatives*] (showing relationships among the emergence of the over-the-counter ("OTC") derivative around 1980, the emergence of the modern process of financial innovation, and associated weaknesses in financial institution and regulator decisionmaking); Henry T. C. Hu, *Swaps, the Modern Process of Financial Innovation and the Vulnerability of a Regulatory Paradigm*, 138 U. PA. L. REV. 333, 334–46, 363–70, 392–416 (1989) [hereinafter Hu, *Modern Process of Financial Innovation*] (distinguishing new financial products from the underlying process of financial innovation, focusing on swaps and other OTC derivatives, and showing "cubbyhole" and other regulatory complexities flowing from the innovation process). With the Dodd-Frank Act of 2010, the bulk of the OTC derivatives market was effectively forced from flexible, often highly innovative bilateral contracts to standardized contracts subject to centralized clearinghouse arrangements. *See* Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, sec. 723, § 2, 124 Stat. 1376, 1675–82 (2010).

3. *State Street Global Advisors Marks 25th Anniversary of the SPDR® S&P 500® ETF*, BUS. WIRE (Jan. 29, 2018, 9:45 AM), https://www.businesswire.com/news/home/20180129005650/en/State-Street-Global-Advisors-Marks-25th-Anniversary.

4. *See* INV. CO. INST., 2018 INVESTMENT COMPANY FACT BOOK 87 fig.4.2 (58th ed. 2018), https://www.ici.org/pdf/2018_factbook.pdf (depicting assets at year-end 2011); Ari I. Weinberg, *Where ETFs Are Headed in 2019*, WALL ST. J. (Jan. 6, 2019, 10:08 PM), https://www.wsj.com/articles/where-etfs-are-headed-in-2019-11546830480 (reporting assets at year-end 2018).

5. Rachel Evans & Carolina Wilson, *How ETFs Became the Market*, BLOOMBERG (Sept. 13, 2018), https://www.bloomberg.com/graphics/2018-growing-etf-market/?srnd=etfs.

("NAV").[6] To accomplish this, ETFs rely in significant part on a novel, model-driven device absent from the market microstructure of all other traded securities. Indeed, we believe that this device, which we refer to as the "arbitrage mechanism," is the defining characteristic of an ETF. This device has sometimes failed dramatically in times of market stress, even among the most plain-vanilla ETFs. Certain ETFs may present complex risks not only to their shareholders but to the asset markets that the ETFs invest in and, in extreme circumstances, perhaps even to overall financial stability.

Despite the importance of ETFs and the distinctive risks they pose, the United States does not have a dedicated system of ETF regulation or even a workable, comprehensive conception of what an ETF is. Instead, a motley group of statutes divide similar ETFs into a plethora of different regulatory cubbyholes originally intended for very different and much older vehicles such as mutual funds, commodity pools, and operating companies.

From a substantive standpoint, the key result is that the Securities and Exchange Commission ("SEC") generally follows a process of discretionary review, allowing it to assess the merits of each proposed ETF on an ad hoc, individualized basis. This process of review is opaque, unfocused, and cumbersome, and often has had the effect of allowing older ETF sponsors to operate under lighter regulation than newer sponsors. The introduction of innovative ETFs is not evaluated according to clear principles of general applicability.

From a disclosure standpoint, the key result is that there has been material neglect of the ETF's distinctive characteristics and the underlying process of innovation. Most importantly, rooted in a disclosure system largely designed for mutual funds—a product whose shares do not trade—the SEC's disclosure mandates for ETFs fail to comprehend the significance and complexities of what we called "trading price frictions," including frictions related to the arbitrage mechanism and bid-ask spread.[7] Even the occurrence of major breakdowns in the mechanism's workings are often not required to be publicly disclosed. ETFs also need not provide any periodic analyses of either the past performance of the mechanism or trends and uncertainties affecting the future outlook for the mechanism.

In March 2018, we offered the first academic work to show the need

6. In this Article, we will leave aside the complexities and ambiguities associated with NAV as a measure of true value. As to these matters, see, for example, Hu & Morley, *ETF-I*, *supra* note 1, at 856 n.40.

7. *Id.* at 845.

for, or to present, a comprehensive regulatory framework for all ETFs.[8] On June 28, 2018, just prior to the work's scheduled publication in the July 2018 issue of this law review, the SEC issued a proposal to change the way it regulates certain types of ETFs ("June 2018 SEC Proposal").[9] The June 2018 SEC Proposal referred to our March 2018 research, as did concurrent and prior statements by SEC Commissioners and the ETF industry.[10] The published version of our work ("*ETF-I*") included an abbreviated descriptive summary of the June 2018 SEC Proposal in an Appendix, but did not attempt to contrast that proposal with ours.[11] We promised a follow-up in this law review.

On May 20, 2019, the SEC granted the exemptive relief requested by Precidian Funds LLC ("Precidian") to allow the first "non-transparent" actively managed ETF ("May 2019 SEC Precidian Order").[12] The core characteristics of the ETF at issue, including its arbitrage mechanism, depart sharply from all prior ETFs. Though not touched on in either the SEC exemptive order or the notice foreshadowing the order and not discussed in any commentary we are aware of, we believe that this step has material implications for the current and prospective regulation of a wide range of ETFs and can serve to illustrate certain subtle disclosure and substantive complexities associated with the process of innovation.

This Article offers an analysis of certain essential aspects of the June

8. The first two drafts of *ETF-I* appeared on SSRN on March 13 and March 28, 2018, at http://ssrn.com/abstract=3137918.

9. Exchange-Traded Funds, Investment Company Act Release No. 33140, 83 Fed. Reg. 37,332 (proposed June 28, 2018) (to be codified at 17 C.F.R. pts. 239, 270, 274) [hereinafter June 2018 SEC Proposal].

10. *See, e.g.*, June 2018 SEC Proposal, *supra* note 9, at 37,361–62, 37,361 nn.291–94, 37,362 n.303, 37,378 & nn.407–09; Robert J. Jackson, Jr., Comm'r, U.S. Sec. & Exch. Comm'n, Statement of Commissioner Robert J. Jackson, Jr. on Proposed Rules Regarding Exchange Traded Funds (ETFs) (June 28, 2018), https://www.sec.gov/news/public-statement/statement-jackson-exchange-traded-funds-062818; Hester M. Peirce, Comm'r, U.S. Sec. & Exch. Comm'n, Remarks at the 2018 Mutual Funds and Investment Management Conference: Looking at Funds Through the Right Glasses (Mar. 19, 2018), https://www.sec.gov/news/speech/peirce-looking-funds-through-right-glasses; Henry T. C. Hu, *The $5tn ETF Market Balances Precariously on Outdated Rules*, FIN. TIMES (Apr. 23, 2018), https://www.ft.com/content/08cc83b8-38e0-11e8-b161-65936015ebc3 [hereinafter Hu, *FT Op-Ed*] (basing an op-ed on the second March draft of the article); *cf.* BlackRock, Inc., *BlackRock Supports Discussion About the Future of ETF Regulation*, ISHARES.COM (Apr. 2018), https://www.ishares.com/us/insights/blackrock-supports-discussion-about-future-of-etf-regulation [hereinafter BlackRock, *Web Statement*] (statement on the foregoing April 23 op-ed and related matters).

11. Hu & Morley, *ETF-I*, *supra* note 1, at app..

12. Precidian ETFs Trust, Investment Company Act Release No. 33477, 2019 WL 2176712 (May 20, 2019) [hereinafter, May 2019 SEC Precidian Order]. For the notice of application associated with this matter, see Precidian ETFs Trust, Notice of Application, Investment Company Act Release No. 33440, 2019 WL 1529571 (Apr. 8, 2019) [hereinafter, April 2019 SEC Precidian Notice].

2018 SEC Proposal and the May 2019 SEC Precidian Order in the context of *ETF-I*'s proposed regulatory framework, and also refines the framework. We offer additional rationales for the framework, relying in part on new empirical findings. In view of tight word constraints, we will assume that readers have at least a general familiarity with both our prior work and the June 2018 SEC Proposal and that we can largely avoid restating or summarizing either document.

The SEC proposal does not attempt to provide a comprehensive regulatory framework for all ETFs. However, we believe that, especially with respect to the substantive side, the SEC proposal makes a commendable start in addressing needed reforms. In proposing a move to a more rules-based approach, the SEC helps deal with the central problem of current substantive ETF regulation—the reliance on individualized exemptive letters. However, this partial shift to a more rules-based approach only applies to certain ETFs subject to the Investment Company Act of 1940 ("ICA") and not to any of the many ETFs not subject to the ICA or even to some ETFs that are subject to the ICA. The proposal also leaves in place an anomalous set of individualized exemptions for certain ETFs regulated as investment companies, such as those that offer leveraged and inverse exposures. More broadly, the proposal does not address existing problems with respect to the exercise of SEC discretion in evaluating innovative ETFs, and creates new problems relating to the process of financial innovation. The rule also neglects to address the frequent need for individualized exemptions with respect to listing requirements on stock exchanges. The SEC's proposal leaves a long way to go before we will have a single, rules-based ETF regulatory umbrella as to substantive matters.

With respect to disclosure, the SEC proposal again only covers ETFs subject to the ICA, but is even more modest in nature. Importantly, however, the proposal extends a welcome invitation to consideration of more fundamental disclosure reforms. The SEC contemplated certain improved disclosures relating to trading price frictions, especially those relating to bid-ask spreads on ETF shares and the happenstance of certain extreme trading price deviations from NAV present at the close of the trading day.[13] Going in the other direction, the SEC also proposed eliminating longstanding requirements relating to the public dissemination of intraday values of ETF shares.

We go beyond considering these proposed steps, and devote most of our analysis of disclosure issues here to responding to the invitation for views

13. Hu & Morley, *ETF-I*, *supra* note 1, at 845 (coining the term "trading price frictions").

on more fundamental reforms. We provide additional support for the three core components of a comprehensive disclosure approach applicable to all ETFs that we advanced in *ETF-I* and refine in this Article. The core goal of the approach is to recognize in a more systematic and comprehensive way the distinctive characteristics of ETFs and the surprising complexities introduced by the underlying innovation process. The additional support draws on, among other things, new empirical findings about the impact of AP-specific factors and portfolio asset liquidity. We also consider the May 2019 SEC's Precidian Order and certain forthcoming SEC liquidity disclosure requirements applicable to both mutual funds and most ETFs.

First, the SEC should promulgate a disclosure "building block" consisting of two elements: (1) a comprehensive and, in a measured way, "dynamic" definition of "ETF" based on the distinctive functional characteristics of ETFs, as such characteristics are specified from time to time by the SEC; and (2) a requirement that all products encompassed under this nomenclature self-identify as an "ETF" in their names. *Second*, we propose enhanced quantitative disclosures relating to trading price frictions, such as through moving away from a myopic focus on deviations from NAV only at the close of market trading. Information on deviations that occur during the trading day is demonstrably valuable to investors. We also urge that the requirement for the public dissemination of intraday values be modified rather than eliminated as was proposed. *Third*, we suggest requiring every ETF sponsor to begin regularly offering its views on the past performance and trends and uncertainties relating to the future outlook for that ETF's arbitrage mechanism, including as a consequence, analysis of AP-specific, portfolio asset liquidity, and other factors affecting the mechanism's effectiveness. The ETF sponsor's views on this especially complex, important, and obscure trading price friction should be analogous in approach to the "Management's Discussion and Analysis" found in periodic reports filed by ordinary public companies.

I. THE ADMINISTRATIVE STRUCTURE OF THE RULE

The SEC's proposal, to be adopted as Investment Company Act Rule 6c-11, would create a standardized pathway for ETFs to gain exemption from the ICA. In so doing, the new rule would restructure the way that many ETFs are regulated. ETFs that invest in securities and are therefore regulated by the ICA, which we call "Investment Company ETFs," would be covered by the rule, with certain notable exceptions. ETFs that are not subject to the ICA would be untouched. Exchange listing standards, which play a key role in the regulation of all ETFs, would also be left untouched.

As presently structured, the regulation of Investment Company ETFs has serious flaws. Currently, most of the SEC's direct regulation of Investment Company ETFs grows out of the individual exemption letters the SEC has granted to permit the operation of ETFs by individual ETF sponsors. ETFs generally violate certain provisions of the ICA[14] and so they require exemptions to operate legally. The SEC has broad discretion to grant exemptions under § 6(c).[15] The SEC has often used this power in the past to grant exemptions in response to applications filed by new ETF sponsors. The SEC has granted these exemptions one at a time, with each order then covering all current and future funds established by the applying sponsor, so long as each of the funds complies with the conditions stated in the order.[16] The process for obtaining an exemption has always been ad hoc, and although the SEC has tried to standardize the conditions imposed by these orders, the conditions have changed significantly over time, and otherwise similar ETFs and ETF sponsors have often received different treatment.

The proposed rule would replace this ad hoc system with an administrative rule offering a categorical exemption for most of the Investment Company ETFs that meet the rule's conditions. With important exceptions, any Investment Company ETF not organized as a "unit investment trust" that complies with the terms of the rule may operate without a special exemptive order. The content of the new rule will consist mainly of conditions that have already become standard in the individual exemption orders.[17] The rule would thus terminate most of the individualized exemptive letters previously granted and replace them with the standardized conditions imposed and the standardized exemption granted by the rule.

As a formal matter, the SEC would operationalize the change by allowing ETFs to qualify more easily for the regulatory status that applies to

14. These include the redeemable security requirement, see *infra* note 20 and accompanying text, and share distribution requirements that may preclude trading on a stock exchange, and a seven-day redemption period that ETFs with overseas holdings may be unable to meet. 15 U.S.C. § 80a-22(e) (2018). Further, ICA § 17(a) imposes restrictions on transactions between a fund and large shareholders, which are essential to an ETF's arbitrage mechanism. *Id.* § 80a-17(a).

15. *See id.* § 80a-6(c) (giving the SEC authority to grant exemptions "necessary or appropriate in the public interest and consistent with the protection of investors and the purposes fairly intended by the policy and provisions of this subchapter").

16. *See* Exchange-Traded Funds, Investment Company Act Release No. 28193, 73 Fed. Reg. 14,618, 14,619 n.19 (Mar. 18, 2008) (citing Barclays Glob. Fund Advisors, Investment Company Act Release No. 24394, 65 Fed. Reg. 21,219 (Apr. 17, 2000) (notice) and Barclays Glob. Fund Advisors, Investment Company Act Release No. 24451, 72 SEC Docket 1082 (May 12, 2000) (order)).

17. Because the rule would mainly systematize the existing pattern of exemptive orders, the SEC anticipates that sponsors "generally would be able to rely on the proposed rule without substantially changing their current operations . . . ." June 2018 SEC Proposal, *supra* note 9, at 37,379.

conventional mutual funds. Within the framework of the ICA, open-end mutual funds are treated as "open-end management investment companies."[18] Among other things, an open-end management investment company is one that offers "redeemable securities."[19] ETFs have historically had trouble fitting their securities into the definition of "redeemable securities" in the ICA,[20] because an ETF only grants redemption rights to certain shareholders and even then only in certain size increments and under certain conditions. According to the SEC's proposed new rule, ETFs that fall within the scope and comply with the terms of the rule would generally be defined as issuing redeemable securities, and so would be classified as open-end investment companies without any further individual exemption.[21] In conjunction with that change, all existing exemptive relief for Investment Company ETFs within the scope of the rule would be revoked after a one-year period.[22]

In the release proposing the new rule, the SEC said it aspired to achieve several purposes, including "level[ing] the playing field" among competing sponsors of ETFs, minimizing "expense and delay," "moderniz[ing] the regulatory framework," and "facilitat[ing] greater competition and innovation."[23]

II. SUBSTANTIVE REGULATION

We divide our discussion of the proposed rule into two parts: substantive regulation (Part II) and disclosure regulation (Part III). Regarding the regulation of substantive matters in the rule, we find much to commend. The proposed rule goes a long way toward addressing a number of our central concerns about the substantive elements of the current regulatory process, which has led to outcomes that are unpredictable, unprincipled, and unfair. Perhaps the worst feature of the current process is its tendency to treat otherwise similar ETFs differently.[24] Among other things, the current process has allowed ETFs organized by older sponsors to administer redemptions and creations in a more flexible way than newer

18. 15 U.S.C. §§ 80a-4(3), 80a-5(a)(1). The term "open-end management investment company" does not appear in the statute, but it represents the overlapping of two categories that do appear in the statute: open-end investment companies and management investment companies.

19. *Id.* § 80a-5(a)(1).

20. *Id.* § 80a-2(a)(32) (defining "redeemable security").

21. June 2018 SEC Proposal, *supra* note 9, at 37,336.

22. *Id.* at 37,369.

23. *Id.* at 37,333.

24. Hu & Morley, *ETF-I*, *supra* note 1, at 878–86.

sponsors,[25] simply because the older sponsors happen to have obtained their exemptions before the SEC changed its policy regarding redemptions. The current process is also difficult to predict and understand, with the SEC's internal policies never being fully announced or explained and often shifting without notice over time.

The proposed rule indicates a willingness by the SEC to try to address many of these problems. On the substantive side, the writing of rules for past and future fund sponsors marks significant and admirable progress toward a clearer regulatory regime.

A. NON-INVESTMENT COMPANY ETFS

The proposal nevertheless leaves several key substantive challenges unaddressed. First, because the proposed rule operates merely to exempt certain ETFs from the requirements of the ICA, the rule fails to address the many ETFs that have never been subject to the ICA. Previously, we identified and discussed the existence of what we called "Commodity Pool" and "Operating Company" ETFs.[26] The differences between these ETFs and Investment Company ETFs come down to the nature of their investment assets. Investment Company ETFs—the kind of ETFs regulated by the ICA—invest primarily in *securities*, because securities ownership is the defining feature of an investment company under the ICA.[27] Commodity Pool ETFs, by contrast, invest primarily in commodity futures and are thus regulated in part by the Commodity Exchange Act ("CEA"), rather than the ICA.[28] Operating Company ETFs invest in neither securities nor commodity futures in sufficient amounts to trigger the ICA or the CEA, and are thus subject to no special securities regulation at all. Both Commodity Pool ETFs and Operating Company ETFs are regulated in large part by the same basic

25. Older sponsors were able to use so-called "custom baskets" to process redemptions and creations. Stacy L. Fuller et al., *At the End of the Rainbow: A Custom Basket?*, K&L GATES (Oct. 5, 2017), http://www.klgates.com/at-the-end-of-the-rainbow--a-custom-basket-10-05-2017; *see also* Charles Schwab and Co., Inc., Comment Letter on Exchange Traded Funds (Aug. 17, 2015), https://www.sec.gov/comments/s7-11-15/s71115-28.pdf.

26. Hu & Morley, *ETF-I*, *supra* note 1, at 866–69. The proposal also excludes a type of Investment Company ETF called a unit investment trust ("UIT"). The UIT is a category of investment company that permits an open-end structure, but requires a fund to invest only in a fixed list of securities. The UIT category has been used only by older funds, and is now relevant only as a legacy form of organization among these older funds. We do not take issue with the SEC's decision to reserve judgment on this type of investment vehicle. *See* Rochelle Antoniewicz & Jane Heinrichs, *Understanding Exchange-Traded Funds: How ETFs Work*, ICI RES. PERSP., Sept. 2014, at 1, 11.

27. A business generally qualifies as an investment company by holding at least 40 percent of its assets in securities. 15 U.S.C. § 80a-3(a)(1)(C) (2018).

28. 7 U.S.C. § 1 (2018).

securities laws that apply to ordinary public companies.

Because these types of ETFs are not regulated by the ICA, they are not touched by the proposed Rule 6c-11. Changing the ICA exemption process has no effect on the regulatory treatment of non-ICA ETFs, because these ETFs have never been subject to the ICA at all.

This does not mean Commodity Pool and Operating Company ETFs will be completely free from SEC regulation with respect to substantive matters, however. Because the SEC has required stock exchanges to treat every new non-Investment Company ETF listing as a change to the exchange's listing rules,[29] the SEC has the authority to approve or deny each new Commodity Pool and Operating Company ETF listing.[30] Thus, although Commodity Pool and Operating Company ETFs escape investment company regulation, they remain subject to extensive control by the SEC.[31]

The SEC's decision to exclude non-Investment Company ETFs from the proposed rule preserves many of the problems with the old regime for these types of ETFs. First, the SEC will retain nearly unlimited discretion to approve or reject non-Investment Company ETFs via the exchange rule change process, and with that authority will come opacity, delay, private and public expense, and inconsistency across time as the SEC changes its policies. These problems together formed one of our central criticisms of the existing ETF regulatory framework,[32] and the proposed rule makes no effort to address them for Commodity Pool or Operating Company ETFs.

Second, because non-Investment Company ETFs would be unaffected by the rule change, arbitrary differences in substantive requirements between Investment Company and non-Investment Company ETFs would remain. For example, an Investment Company ETF must hire and designate a Chief Compliance Officer, but a Commodity Pool and an Operating Company ETF need not.[33] This distinction seems arbitrary, but it would remain in place even

29. *See* KENNETH FANG & JANE HEINRICHS, INV. CO. INST., UNDERSTANDING THE REGULATION OF EXCHANGE-TRADED FUNDS UNDER THE SECURITIES EXCHANGE ACT OF 1934, at 7–10 (2017), https://www.ici.org/pdf/ppr_17_etf_listing_standards.pdf.

30. In this sense, under the rule, certain Investment Company ETFs will still be subject to some discretionary review by the SEC. If an ETF does not meet preexisting so-called "generic" listing standards, an exchange would still need to seek approval to list it. *See* Amendment to Rule Filing Requirements for Self-Regulatory Organizations Regarding New Derivative Securities Products, 63 Fed. Reg. 70,952, 70,958 (Dec. 22, 1998) (to be codified at 17 C.F.R. pts. 240, 249). And since listing on a national securities exchange is a condition of coverage under the proposed rule, the SEC can influence ETFs indirectly through exchange rules rather than ICA exemptions.

31. *See* 15 U.S.C. § 78s(b).

32. *See* Hu & Morley, *ETF-I*, *supra* note 1, at 878–86.

33. 17 C.F.R. § 270.38a-1(a)(4) (2019) (requiring chief compliance officers for investment

under the SEC's new rule.

Third, continued fragmentation will provide opportunities for gamesmanship. Sponsors hoping to evade the SEC's new proposed rule can do so by structuring their funds to avoid having them regulated as investment companies, usually by investing in derivatives or other assets rather than securities. For example, an ETF that seeks to track an index could replace the fund's stock assets with futures on the relevant index.[34] We previously highlighted this possibility by recounting the story of ForceShares,[35] which won fleeting approval for a 400 percent leveraged ETF even amidst a moratorium on new exemptions for leveraged Investment Company ETFs[36] by structuring itself as a commodity pool. Rather than investing in securities, it invested in futures on an index. Though the SEC's Commissioners later intervened to block the fund's listing on a stock exchange,[37] the exemption system should not have facilitated such gamesmanship in the first place. By systematizing the approval process for only a subset of ETFs, the SEC's proposed new rules may actually exacerbate incentives to game the system without adding any restrictions on the practical ability of funds to do so.

To be clear, the seriousness of these problems is limited somewhat by the fact that the bulk of ETF assets are held in vehicles organized as investment companies.[38] However, because the scope of possible assets not deemed to be "securities" is so large and because the assets in these unconventional ETFs can be so risky and unusual, these non-securities-based ETFs account for some of the most interesting and difficult problems in ETF regulation.

A key example concerns the recent regulatory activity surrounding the many proposals for ETFs invested in bitcoins. The SEC has received many applications for bitcoin ETFs, but has not yet approved any of them, partly for fear of fraud or manipulation in the underlying assets.[39] A bitcoin ETF

companies but not other types of businesses).

34. While a futures contract on a single security is typically itself also a security, the same is generally not true for a futures contract on an index of securities. *See* 15 U.S.C. § 77b(a)(1).

35. *See* Hu & Morley, *ETF-I*, *supra* note 1, at 886–88.

36. *See* Press Release, U.S. Sec. & Exch. Comm'n, SEC Staff Evaluating the Use of Derivatives by Funds (Mar. 25, 2010), www.sec.gov/news/press/2010/2010-45.htm [hereinafter SEC Moratorium].

37. Jeff Cox, *Controversial ETFs that Would Have Delivered Four Times the Market Hit a Snag*, CNBC, https://www.cnbc.com/2017/05/18/controversial-etfs-that-would-have-delivered-four-times-the-market-hit-a-snag.html (last updated May 18, 2017, 11:35 AM).

38. *See* Antoniewicz & Heinrichs, *supra* note 26, at 10 fig.4.

39. Ana Alexandre, *US SEC Delays Decision on Bitwise Bitcoin ETF, Seeks Public Comment*, COINTELEGRAPH (May 14, 2019), https://cointelegraph.com/news/us-sec-delays-decision-on-bitwise-bitcoin-etf-seeks-public-comment; Nikhilesh De, *SEC Postpones Decision on Bitwise, VanEck Bitcoin ETF Proposals*, COINDESK, https://www.coindesk.com/sec-postpones-decision-on-bitwises-bitcoin-etf-prop

would not be an investment company and therefore would not be covered by the new proposed rule; ownership of securities is what defines an investment company, and the SEC staff takes the position that bitcoins are not securities.[40] The SEC thus retains discretion to evaluate the listing of any proposed bitcoin fund under stock exchange listing rules, which require the SEC's approval for the listing of each new non-Investment Company ETF.[41] By not addressing the peculiar needs of Commodity Pool and Operating Company ETFs, the SEC has avoided hard questions about ETFs invested in bitcoins and similarly unusual assets, leaving their resolution to opaque SEC discretion.

With respect to Investment Company ETFs, the proposal is problematic with respect to the process of financial innovation as well. We will turn to this matter on the substantive side in Section II.C and on the disclosure side in Section III.C.2.

B. INVESTMENT COMPANY ETFS EXCLUDED FROM THE PROPOSED RULE

Besides excluding Commodity Pool and Operating Company ETFs, the SEC's new proposal also excludes certain types of Investment Company ETFs. Specifically, in addition to excluding Investment Company ETFs that are organized as "unit investment trusts," the SEC chose not to cover leveraged and inverse ETFs or ETFs that are structured as share classes of conventional mutual funds.

A share class ETF can be created when a conventional mutual fund issues a new class of shares to be traded on an exchange and purchased and redeemed in a process resembling the creation and redemption process for an ETF. A share class ETF can offer advantages over a conventional stand-alone ETF. These include the ability to spread costs across a larger pool of assets and the ability to manage cash more efficiently against a larger and

osal (last updated Mar. 29, 8:18 PM); Rachel Evans & Lily Katz, *Bitcoin ETFs Aren't Coming Any Time Soon Thanks to the SEC*, BLOOMBERG, https://www.bloomberg.com/news/articles/2018-08-23/bitcoin-etfs-won-t-be-coming-any-time-soon-thanks-to-the-sec (last updated Aug. 23, 2018, 2:35 PM); Daniel Palmer, *A New Crypto ETF Has Just Been Filed with the SEC*, COINDESK, https://www.coindesk.com/a-new-crypto-etf-has-just-been-filed-with-the-u-s-sec (last updated May 10, 2019, 1:23 PM).

40. 15 U.S.C. § 80a-3(a)(1)(A) (2018) (defining an investment company to be an issuer that invests in securities); U.S. Sec. & Exch. Comm'n, Framework for "Investment Contract" Analysis of Digital Assets (Apr. 3, 2019), https://www.sec.gov/corpfin/framework-investment-contract-analysis-digital-assets (announcing a framework for regulating digital assets that would exclude bitcoins from the definition of a security).

41. Self-Regulatory Organizations, Notice of Filing of Amendment and Order Instituting Proceedings, Exchange Act Release No. 34-85854, 2019 WL 2117362 (May 14, 2019), https://www.sec.gov/rules/sro/nysearca/2019/34-85854.pdf.

therefore more predictable pool of redemptions. Currently, the only fund complex with an exemptive letter allowing it to create a share class ETF is Vanguard,[42] and Vanguard has actively marketed its share class structure as a unique advantage.[43]

By not covering share class ETFs, the new proposed rule will keep Vanguard's existing exemption in place and make it impossible for any future ETF sponsor to get a similar exemption. This is an obviously unfair regulatory subsidy for Vanguard.

Even as we believe Vanguard's share class ETF privilege to be a material problem, we acknowledge that there is no obvious or easy solution to it. The SEC would not accomplish much by allowing other sponsors to issue share class ETFs. Having been prohibited in the beginning from creating its ETFs as share classes of existing mutual funds, a sponsor such as BlackRock cannot now easily reorganize its stand-alone ETFs to make them into share class ETFs. Additionally, the SEC cannot easily force Vanguard to separate its share class ETFs into stand-alone entities, because doing so might generate tax liabilities for Vanguard's ETF investors. The best solution therefore might be for the SEC to work with the IRS to find a solution allowing Vanguard to convert its share class ETFs into stand-alone funds without a material tax penalty.

In addition to excluding share class ETFs, the SEC also excluded leveraged and inverse ETFs.[44] As with share class ETFs, the right to create new leveraged and inverse ETFs belongs only to a limited class of sponsors. In the mid- and late-2000s, the SEC granted exemptive letters allowing the operation of leveraged ETFs to just two fund advisers: ProShares and Direxion.[45] In the years since, the SEC has refused to grant further exemptions for such funds to other fund advisers.[46] ProShares and Direxion,

42. *See* June 2018 SEC Proposal, *supra* note 9, at 37,367 n.332 (citing only exemptions for Vanguard in reference to prior exemptive relief for share class ETFs).

43. THE VANGUARD GRP., INC., STAND-ALONE AND SHARE-CLASS ETFS, WHAT'S THE DIFFERENCE? (2013) (on file with the authors); Zachary R. Mider et al., *Vanguard Patented a Way to Avoid Taxes on Mutual Funds*, BLOOMBERG (May 1, 2019), https://www.bloomberg.com/graphics/2019-vanguard-mutual-fund-tax-dodge.

44. June 2018 SEC Proposal, *supra* note 9, 37,339–40, 37,339 n.71, 37,340 n.80 (citing and discussing the implications of Proposed Rule 6c-11(c)(4)).

45. For the SEC releases related to ProShares, see ProShares Tr., Investment Company Act Release No. 27666, 89 SEC Docket 2448 (Jan. 18, 2007) (order); ProShares Tr., Notice of Application Investment Company Act Release No. 27609, 89 SEC Docket 2036 (Dec. 12, 2006) (notice). For the SEC releases related to Direxion, see Rafferty Asset Mgmt., LLC, Investment Company Act Release No. 28434, 94 SEC Docket 1008 (Oct. 6, 2008) (order); Rafferty Asset Mgmt., LLC, Notice of Application, Investment Company Act Release No. 28379, 94 SEC Docket 316 (Sept. 12, 2008) (notice).

46. SEC Moratorium, *supra* note 36.

however, have been able to continue using their old exemptions to issue new leveraged and inverse ETFs under principles announced by the SEC in other exemptive letters that allow an adviser to create new funds under an existing order so long as the new funds comply with the terms of the existing order.[47]

As with the exclusion for share class ETFs, the exclusion for leveraged and inverse ETFs will allow the two existing sponsors to maintain their favored position. By exempting leveraged and inverse ETFs from the reach of the new rule, the new rule will keep these sponsors' exemption letters in place, along with the policy prohibiting new sponsors from obtaining exemption letters.

Remarkably, in comments to the SEC, ProShares and Direxion both opposed the exclusion of leveraged and inverse funds from the proposed rule. ProShares expressly observed that its duopoly with Direxion was "anticompetitive"[48] and argued that eliminating the duopoly "would open the market to new sponsors, facilitating greater competition, which ultimately would inure to the benefit of investors."[49] Direxion said that "[W]e believe that it would be appropriate for the ETF Rule to encompass leveraged ETFs . . . ."[50]

The decision by ProShares and Direxion to argue against their own apparent self-interest seems surprising at first glance. But one possible explanation may be that these advisers were trying to accept a small defeat to avoid a larger one. As the SEC and the Financial Industry and Regulatory Authority ("FINRA") have long warned investors, the returns on a leveraged or inverse ETF over extended periods under conditions of high volatility can be systematically lower than the returns on the targeted benchmark.[51] At least

47. *See* Exchange-Traded Funds, *supra* note 16, at 14,619 n.19.

48. ProShare Advisors LLC, Comment Letter on Proposed Exchange-Traded Funds Rule under the Investment Company Act of 1940, at 2 (Oct. 1, 2018), https://www.sec.gov/comments/s7-15-18/s71518-4488848-175924.pdf.

49. *Id.* at 3.

50. Rafferty Asset Management, LLC ("Direxion"), Comment Letter on Proposed Exchange-Traded Funds Rule under the Investment Company Act of 1940, at 3 (Oct. 1, 2018), https://www.sec.gov/comments/s7-15-18/s71518-4467064-175845.pdf. Direxion went on, however, to say:

> We understand . . . that the Commission may have a relatively narrow goal for the ETF Rule—namely, to codify an exemption for 'plain vanilla' ETFs. . . . Direxion generally agrees with the characterization of leveraged ETFs as 'complex' products. Therefore, we do not object to the carve out of leveraged ETFs from the ETF Rule in light of the Commission's goals with regard to the ETF Rule.

Id. (footnotes omitted).

51. U.S. Sec. & Exch. Comm'n, Leveraged and Inverse ETFs: Specialized Products with Extra Risks for Buy-and-Hold Investors (Aug. 1, 2009), https://www.sec.gov/investor/pubs/leveragedetfs-alert.htm; *see also* Jill E. Fisch, *Rethinking the Regulation of Securities Intermediaries*, 158 U. PA. L.

some retail investors may fail to grasp this fact, and ProShares and Direxion may fear that their exclusion from the SEC's new rule will become a prelude to a heavier rulemaking effort regarding leveraged and inverse ETFs in the future.

What is clear now is that the duopoly for leveraged and inverse ETFs is unfair and unsustainable. At some point, either in the final rule or in the future, the SEC needs to end it. The SEC could either permit all advisers to operate leveraged and inverse ETFs, as ProShares and Direxion now suggest, or it could prohibit any advisers from operating leveraged and inverse ETFs at all, as ProShares and Direxion now fear. The current and proposed half-way point makes no sense.

Instead, proposed leveraged and inverse funds—as with all other proposed ETFs (including those invested in bitcoins)—should be subject to certain general principles for the exercise of SEC discretion, the topic to which we next turn. Leveraged and inverse funds that already exist would need to be treated differently.

C. THE INNOVATION PROCESS AND GENERAL PRINCIPLES FOR THE EXERCISE OF SEC DISCRETION

Another concern with the proposed rule relates to certain complexities associated with the underlying innovation process. One aspect is the SEC's failure to retain modest but flexible discretion over new Investment Company ETFs that abide by the terms of the SEC's general ETF rule and stock exchange listing standards. In this situation, it is not obvious whether the SEC retains any discretion. If a new fund poses legitimate concerns, the letter of the rule may permit the fund to be introduced so long as the fund meets the rule's formal requirements.

The obverse problem—that of the SEC having too much discretion—can also occur in the face of the innovation process. Thus, an innovative Investment Company ETF that does *not* meet the SEC's general rule or stock exchange listing standards would be left subject to the existing regime of individualized review, one that can be both time-consuming and unpredictable. The SEC proposal does not set out any general principles that it would follow in deciding whether to allow such innovative ETFs.

A vigorous innovation process is a hallmark of the ETF marketplace. The SEC has not given itself enough flexibility to respond to certain new products and has given itself too much flexibility as to others.

REV. 1961, 2024–26 (2010).

In our prior work, we suggested a systematic and principled regulatory approach that is robust to the underlying process of financial innovation. Close substantive scrutiny on the part of the SEC should not flow from an ETF falling into identified cubbyholes. Such cubbyholes can be gamed and, with continuing innovation, can become obsolete.[52]

Under our approach, the SEC would retain an option to impose some form of heightened substantive scrutiny in three circumstances: when there are justifiable doubts about the effectiveness of the arbitrage mechanism, when investor suitability standards and investor education would be insufficient to overcome the complexity or riskiness of a product (as when there are significant concerns over fraud and manipulation in the asset markets in which the product invests), or when the ETF may create significant negative externalities.[53] As *ETF-I* showed, under our approach, at least some leveraged and inverse ETFs may be subject to close scrutiny on the latter two grounds while bitcoin ETFs may be subject to review on all three grounds.[54] By cabining its discretion according to these principles, the SEC might gain some of the benefits of discretion even as it avoids some of the most extreme opacity and unpredictability of completely unbridled discretion.

D. Continued Reliance on Stock Exchanges

As discussed in Section II.A, the SEC's proposed rule leaves in place the tremendous authority of stock exchanges. Currently, when an SEC rule is silent or incomplete, stock exchange rules often fill the gap. The exchanges commonly play an important role, for example, in regulating matters such as the liquidity of an ETF's portfolio.[55]

Leaving these matters to the exchanges offers some benefits. Permitting the exchanges to regulate by listing standards (rather than having the SEC do it by rule) allows an ETF sponsor to maintain some choice over its level of regulation. An ETF can list on any of several different exchanges, and so

52. In this Article, we build on our earlier analysis of the substantive and disclosure cubbyhole issues in ETF regulation, most notably in the case for measured dynamism in ETF nomenclature set out *infra* Section III.C.3. As to *ETF-I*'s analysis of such issues, and analysis of cubbyhole issues in the context of the modern process of financial innovation generally, see Hu & Morley, *ETF-I*, *supra* note 1, at 864 n.82; Hu, *Modern Process of Financial Innovation*, *supra* note 2, at 335–39, 392–416.

53. *See* Hu & Morley, *ETF-I*, *supra* note 1, at 909–16.

54. *Id*. at 912–14.

55. *See, e.g.*, Fang & Heinrichs, *supra* note 29, at 7–8 (discussing liquidity requirements for generic listing standards, adherence to which avoids triggering an SEC review of a change in exchange listing rules). As to forthcoming SEC liquidity disclosure rules applicable to mutual funds and Investment Company ETFs, see, for example, *infra* note 133 and accompanying text.

a sponsor can choose among these exchanges by selecting the one that adopts the most attractive rule.

It is important to acknowledge, however, that the SEC exercises substantial control over exchange listing rules, so that an exchange can never stray too far from the SEC's wishes. Under the Securities Exchange Act of 1934, the SEC has the right to review changes in stock exchange listing rules, and with regards to ETFs, it appears that the SEC has often used this authority to effectively direct the content of the exchange listing rules.[56] The SEC's proposed rule 6c-11 should thus be viewed as just one piece of the SEC's larger rule-making project.

III. DISCLOSURE REGULATION

A. OVERVIEW: EXISTING DISCLOSURE REGIMES

As with the regulation of substantive matters, the regulation of disclosure in ETFs suffers from cubbyhole problems. For instance, current disclosure requirements for ETFs apply longstanding regulatory regimes intended for older financial products that are very different from ETFs. Investment Company ETFs are subject to an ICA regime designed for mutual funds. Commodity Pool and Operating Company ETFs are largely subject to the disclosure regime applicable to ordinary public companies under the Securities Act of 1933 and the Securities Exchange Act of 1934.

Investment Company ETFs are the only ETFs for which the SEC has attempted to develop any kind of ETF-specific disclosure requirements. But, being rooted in a mutual fund mindset, ICA requirements fail to properly recognize the nature and significance of the ETF's arbitrage mechanism, the more institutional and sophisticated character of ETF investors, or the unusually vigorous process of financial innovation in the ETF space.

Moreover, because shares of mutual funds do not trade, ETF disclosures pay little attention to the related matter of trading price frictions. Shares of ETFs do trade, and associated frictions when ETF investors buy or sell shares—such as from bid-ask spreads and from unfavorable deviations from NAV flowing from ineffective arbitrage mechanisms or other reasons—can have a significant impact on their returns.

For Investment Company ETFs, SEC disclosures focus on the changes in the NAV as a measure of past performance, on the burdens of loads and redemption fees on purchase and sale of shares, and on annual operating

56. *See* 15 U.S.C. § 78s(b) (2018).

expenses. These disclosures speak to the concerns of an investor in a mutual fund, because in a mutual fund, an investor always buys or sells shares directly with the fund at prices exactly equal to the NAV, and apart from annual operating expenses, it is the load and redemption fees that represent the largest drag on a mutual fund's investment performance.

ETF investors, however, do not buy or redeem at the NAV, and are not subject to any loads or redemption fees. Instead, ETF investors (with the exception of APs) must buy and sell shares in the secondary market and are subject to trading price frictions, such as those associated with ineffective arbitrage mechanisms and bid-ask spreads. For ETF investors, the biggest shareholder transaction costs are likely: (1) the possibility of paying a premium over NAV at purchase; (2) the possibility of selling at a discount to NAV at sale; and (3) the impact of bid-ask spreads on transactions in ETF shares.

The disclosure of such trading price frictions is quite limited, potentially causing investors to be lulled into dangerous complacency. This is especially troubling because when ETF arbitrage mechanisms fail, an unlucky investor's overall experience could sometimes even be driven largely by such trading price frictions, and not changes in the NAV. In times of market stress, even plain vanilla ETFs invested in highly liquid domestic securities are not immune from significant deviations. Consider the iShares Core S&P 500 ETF ("IVV"), the country's second largest ETF, advised by BlackRock, the world's largest asset manager. The fund is a straightforward one: it merely tracks the S&P 500. On August 24, 2015, the fund experienced a dramatic departure from NAV. Immediately after the 9:30 a.m. open that day, IVV's trading price fell to its daily low of 20% below its previous close, even though its NAV had dropped only about 5% during that same period.[57]

An investor who held shares in that ETF for one year and happened to be unlucky enough to sell his shares immediately after the open would have lost 21% of his investment, even though the S&P 500 had only dropped 6% over the course of the year. Yet, in adherence to SEC disclosure rules, the 2016 prospectus of IVV, issued after the August 24 debacle, disclosed the performance of its arbitrage mechanism as follows:

Premium/Discount Range	*Number of Days*	*Percentage of Total Days*
Between 0.5% and -0.5%	377	100.00%

IVV, in other words, disclosed that the fund's trading price was within

57. For a more detailed discussion of IVV's performance on August 24, 2015 and IVV disclosures covering that date, see Hu & Morley, *ETF-I*, *supra* note 1, at 859–61, 895–96, 898–99.

0.5% of the fund's NAV over the entire period covered by the table—even though at one point the fund's trading price dropped 15% more than the fund's NAV.

IVV did nothing wrong. The reason for this placid trading disclosure is that the SEC only requires disclosure of the gap between the trading price and the NAV at the *close* of trading. On August 24, the gap was large early in the day, but it dwindled to the 0.5% to -0.5% range by the close, hence the perfect 377 days out of 377 days record in the table. *Intraday* performance of the arbitrage mechanism is not relevant under the SEC's prescribed methodology. Only the performance at one instant in time—the close of trading—matters.

SEC disclosure requirements of a qualitative nature are also not responsive to such intraday issues—or even broader, more fundamental matters relating to the past performance of, or the outlook for, the arbitrage mechanism. For an Investment Company ETF, the key item of disclosure of a qualitative nature relating to performance is to be found in the "Management's Discussion of Fund Performance" ("MDFP") required in the annual report.[58] But as with the quantitative disclosures of past performance, the MDFP has a mutual fund mindset. The MDFP conceives of "performance" in terms of changes in the NAV, as adjusted for shareholder contractual transaction costs and annual operating expenses. There is no indication that "performance" is meant to include the performance of the arbitrage mechanism, and ETFs do not construe the MDFP as requiring such disclosures. Neither the IVV annual report nor the IVV prospectus filed after the events of August 24, 2015 mentioned the debacle at all.[59]

Moreover, unlike the corresponding disclosure item for ordinary public companies, the "Management's Discussion and Analysis" ("MD&A"),[60] the MDFP requires management discussion only of past performance and does not require management views as to trends or uncertainties relating to future prospects. Among other things, the MDFP emerged in the context of mutual

58. *See* Disclosure of Mutual Fund Performance and Portfolio Managers, Securities Act Release No. 6988, Investment Company Act Release No. 19382, 58 Fed. Reg. 19,050, 19,051–53 (proposed May 4, 1993) (to be codified at 17 C.F.R, pts. 239, 270, 274); *see also* Disclosure and Analysis of Mutual Fund Performance Information, Securities Act Release No. 6850, Investment Company Act Release No. 17294, 55 Fed. Reg. 1460, 1460–67 (proposed Jan. 16, 1990) (outlining previous revisions to fund performance disclosure requirements related to the annual report). For the MDFP section as it appears on the annual report, see U.S. SEC. & EXCH. COMM'N, FORM N-1A, at 60, item 27(b)(7) (2018), https://www.sec.gov/files/formn-1a.pdf.

59. We do not in any way suggest that disclosure was required under current securities rules.

60. 17 C.F.R. § 229.303 (2019). For further discussion on the MD&A disclosure item, see *infra* Section III.E.

fund investors, a group viewed by the SEC as not sophisticated enough to desire or appreciate such forward-looking disclosures. Thus, even if "performance" for the purposes of the MDFP were construed to include performance of the arbitrage mechanism, ETF investors would still be bereft of any perspective on the part of the ETF adviser on the critically important, but difficult to obtain, information relating to the prospects for an ETF's arbitrage mechanism.

ETF-I responded to these problems with a proposal for a comprehensive disclosure system consisting of three components that would be generally applicable to all ETFs. We continue to urge the adoption of such a system, with the refinements set out in this Article.

B. The SEC Disclosure Proposal: Overview

The SEC's proposal contemplates modest changes to the disclosure regime for Investment Company ETFs, and leaves untouched the regimes in place for other ETFs. Certain additional information would be required as to bid-ask spreads and certain large at-the-close price deviations from the NAV. On the other hand, the SEC proposed eliminating the longstanding requirement that intraday valuations of ETF shares be disseminated every fifteen seconds.

The SEC refrained from proposing disclosure changes of a more fundamental nature. Importantly, however, the SEC invited comments on a wide range of possible changes of this nature. We thus now turn to the SEC's proposal in the context of the more far-reaching reforms we had called for with respect to all ETFs, as refined in this Article:

First, we urge the SEC to promulgate a disclosure building block that consists of two elements: (1) a comprehensive and "dynamic" ETF definition rooted in the distinctive functional characteristics of exchange-traded funds (per criteria specified from time to time by the SEC) and (2) a requirement that all products encompassed by this nomenclature self-identify as an "ETF" in their names. Adherence to the nomenclature in disclosure documents and ETF marketing materials and websites, when combined with such self-identification, would result in the ETF moniker in and of itself providing valuable information to investors. (This would be especially so if, as under our comprehensive regulatory framework, all ETFs were subject to a single disclosure and substantive regulatory umbrella.) To allow for the process of financial innovation while maintaining a high degree of continuity in investor expectations, the SEC should update the definitional criteria from time to time, but in a measured and transparent way. We use the newly-approved Precidian ETFs to illustrate the competing considerations.

Second, we urge enhanced disclosures of a quantitative nature relating to trading price frictions, including intraday deviations from NAV and bid-ask spreads. In particular, requiring only disclosure of at-the-close deviations from NAV can lead to investor complacency. We also suggest modifying existing requirements for the dissemination of intraday values instead of eliminating them as the SEC proposes. Ironically, the SEC's rationale for approving the Precidian ETFs is more consistent with our position in this respect than the SEC's.

Third, we urge requiring regular disclosures of a qualitative nature on the arbitrage mechanism, in the style of the MD&A found in periodic reports filed by ordinary public companies. As a consequence, this MD&A-style approach would call for an ETF sponsor's views on the underlying factors affecting the past performance and trends and uncertainties relating to the outlook for the mechanism, such as AP, portfolio asset liquidity, and market maker issues. Beyond the reasons for this set out in *ETF-I* (which we largely leave aside in this Article), we show that there is increasing direct evidence as to the impact on the performance of the arbitrage mechanism flowing from the liquidity characteristics of the assets in which an ETF invests and from financial factors specific to individual APs

C. THE SEC AND *ETF-I'S* PROPOSED DISCLOSURE BUILDING BLOCK

1. *ETF-I's* Proposed Disclosure Building Block for All ETFs and the Regulatory Framework's Jurisdictional Reach

The first element in our proposed disclosure building block involves nomenclature. We believe the term "ETF" should cover any publicly traded pooled investment vehicle that relies on a creation and redemption-based arbitrage mechanism, as such mechanism is defined by criteria specified from time to time by the SEC.[61] Thus, our definition of an ETF would be independent of which assets the fund invests in, the nature of the long, short, leveraged, or other exposure that the fund offers, or the nature of the passive, active, or other strategy it deploys. The definition would also be dynamic in nature, to accommodate major innovations—a concept not addressed in *ETF-I*, and advanced in Section III.C.3 for the first time. However, to maintain a high degree of continuity in investor expectations and the informational value of the "ETF" moniker and self-identification, the SEC

61. Hu & Morley, *ETF-I*, *supra* note 1, at 842 n.6, 900–01.

should revisit the criteria on a regular basis in a measured, highly transparent way.

The second element of our disclosure building block is that every investment vehicle captured by the nomenclature would be required to include the moniker "ETF" in its name.[62] Precise and widespread use of the ETF label would serve to inform retail investors as to the functional characteristics of the particular product they are considering and to educate them about this entire class of products. Investors would come to better differentiate the particular product and the entire class of products from mutual funds, which do not involve an arbitrage mechanism.

Moreover, the use of such a moniker would help curb the mistaken belief on the part of some retail investors that exchange-traded notes ("ETNs") are little different economically from ETFs. Among other things, ETNs are debt instruments and thus entail credit risk exposure to the issuers of the ETNs. ETF shares, in contrast, offer stakes in pooled investments and only entail credit risk exposures to the issuers of the debt instruments in the ETF's portfolio.

The ETF label could potentially serve to inform and educate retail investors as to certain legal characteristics of their potential investment. We suggested that, as with the regulation of substantive matters, disclosure regulation should apply to all investment vehicles that carry the distinct functional characteristics of ETFs, irrespective of how they may currently be classified as a legal matter. If a single disclosure and substantive regulatory umbrella extends to all ETFs as we suggest, the ETF label would provide reassurance of a baseline set of protections investors could expect to have.

Here, we should mention another subtlety not discussed in *ETF-I*, one related to the jurisdictional reach of our proposed regulatory framework for ETFs. The framework may need to use a somewhat broader definition of "ETF" than that used for the purposes of the ETF moniker. Doing this would reduce the ability of ETF sponsors to avoid the ETF regulatory framework through the simple expedient of modifying their products just enough so that the products would not meet the criteria for the moniker. Such gaming needs to be precluded.

62. We leave aside the associated nomenclature issues having to do with how ETFs should be broken down into various categories and subcategories.

2. The SEC's Proposal and *ETF-I's* Proposed Disclosure Building Block for All ETFs: The Road Ahead

The SEC's proposal refrained from requiring self-identification. And it did not set out a comprehensive, functional characteristics-based definition of "ETF." The proposal only considers as ETFs those that are registered investment companies and excludes what we referred to as Commodity Pool ETFs and Ordinary Company ETFs.[63] Nor did the SEC seek to harmonize disclosures across Investment Company, Commodity Pool, and Operating Company ETFs, much less adopt a single regulatory framework for disclosure. However, the SEC welcomed consideration of the possibility of ETF self-identification, posing the following question for comment: "To further prevent investors from confusing ETFs with mutual funds, should the rule require an ETF to include the identifier 'ETF' in its name?"[64]

There appears to be support for adoption of precise nomenclature and self-identification. Within a week of an op-ed appearing in *The Financial Times* based on a March 2018 draft of *ETF-I*,[65] BlackRock issued a public statement stating that "[w]e . . . agree that any ETF Rule should include a standardized nomenclature that defines 'ETF'."[66] On October, 29, 2018, the SEC's Fixed Income Market Structure Advisory Committee ("FIMSAC")[67]—a committee consisting of senior representatives of, among others, Bank of America Merrill Lynch, BlackRock, FINRA, and PIMCO—issued a comment letter based on "numerous presentations and internal discussions . . . ."[68] FIMSAC stated, "If an [exchange-traded product] provider was required to meet specific criteria to use the term ETF, we believe requiring 'ETF' in its name would clearly identify it as such, and be the basis for establishing broad investor expectations."[69]

The case for self-identification is relatively straightforward. The matter of what should qualify as an ETF may be less so. We defer the additional complexities introduced by the presence of innovation to Section III.C.3.

63. June 2018 SEC Proposal, *supra* note 9, at 37,333 n.10.

64. *Id.* at 37,366.

65. Hu, *FT Op-Ed*, *supra* note 10.

66. BlackRock, *Web Statement*, *supra* note 10.

67. FIMSAC's composition is set out at *Spotlight on Fixed Income Market Structure Advisory Committee (FIMSAC)*, U.S. SEC. & EXCH. COMM'N, https://www.sec.gov/spotlight/fixed-income-advisory-committee (last updated Aug. 13, 2019).

68. Fixed Income Market Structure Advisory Committee, Comment Letter on Proposed Exchange-Traded Funds Rule under the Investment Company Act of 1940, at 1 (Oct. 29, 2018), https://www.sec.gov/spotlight/fixed-income-advisory-committee/fimsac-etp-naming-convention-ecommendation.pdf [hereinafter, *FIMSAC Letter*].

69. *Id.* at 5.

Our definition of an ETF centers on the structure of the investment vehicle, not its assets, the exposure it offers, or its investment strategy. Thus, Investment Company, Commodity Pool, and Operating Company ETFs would all be covered, as would products offering leveraged and inverse exposures and products that are actively and passively managed.

FIMSAC would draw the definition of an ETF to include only Investment Company ETFs, and exclude those with leverage or inverse features.[70] FIMSAC's rationale for limiting the ETF definition to Investment Company ETFs is based in large part on the fact that the existing and proposed regulatory umbrella for such funds does not cover other ETFs. Presumably, if there is the broader regulatory umbrella that we have suggested, there is a possibility that FIMSAC's views may change.

We recognize that leveraged and inverse products involve certain idiosyncratic risks. But the educational efforts and suitability requirements contemplated by *ETF-I* can help address such matters.[71] BlackRock agrees with FIMSAC as to the exclusion of leveraged and inverse ETFs[72] while, not surprisingly, Direxion and ProShares disagree.[73] Under BlackRock's, FIMSAC's, and our nomenclature, exchange-traded notes would not be considered ETFs.

The SEC's proposal fails to explain its decision not to harmonize the disclosures across Investment Company, Commodity Pool, and Operating Company ETFs. This failure extends even to requiring only Investment Company ETFs to include information of a purely pedagogical nature that applies with equal force to Commodity Pool and Operating Company ETFs. That is, motivated by concerns that investors may overlook trading costs associated with ETFs, the SEC proposed that Form N-1A, the registration statement form for Investment Company ETFs, include a highly readable section, formatted as a series of questions and answers, intended to promote investor understanding of such trading costs.[74] Entitled, "Exchange-Traded Fund Trading Information and Related Costs," the proposed section's first

70. *Id.* at 3.

71. Hu & Morley, *ETF-I*, *supra* note 1, at 911–12.

72. BlackRock, Comment Letter on Proposed Exchange-Traded Funds Rule under the Investment Company Act of 1940, at 25–26 (Sept. 26, 2018), https://www.sec.gov/comments/s7-15-18/s71518-4428129-175691.pdf.

73. ProShare Advisors LLC, Comment Letter on Proposed Exchange-Traded Funds Rule under the Investment Company Act of 1940, at 9 (Oct. 1, 2018), https://www.sec.gov/comments/s7-15-18/s71518-4488848-175924.pdf. Rafferty Asset Mgmt., LLC, Comment Letter on Regulation Best Interest under the Securities Exchange Act of 1934, at 7 (Aug. 7, 2018), http://www.sec.gov/comments/s7-07-18/s70718-4186168-172727.pdf.

74. June 2018 SEC Proposal, *supra* note 9, at 37,371–72.

three questions are:

> What information do I need to know about how the Exchange-Traded Fund ("ETF") trades?
>
> What costs are associated with trading shares of an ETF?
>
> What is the bid-ask spread?[75]

These, and the other questions in the proposed section, as well as the plain English answers the SEC formulated, apply with equal force to all ETFs, not just Investment Company ETFs. All ETFs, irrespective of the assets they invest in, rely on an arbitrage mechanism to deliver on their core investment premise of a near-frictionless portal. The returns achieved by investors in all ETFs are always affected by trading price frictions associated with both the arbitrage mechanism (in the form of premiums and discounts to NAV) and bid-ask spreads when they buy or sell their shares.

Indeed, for the SEC's own analytical purposes, the SEC recognizes the inherent functional commonalities of all ETFs. In the June 2018 SEC Proposal, the analytical discussion sections on ETF market participants and ETF trading, arbitrage, and liquidity not only look at the functional characteristics of Investment Company ETFs but also look at, for example, Commodity Pool ETFs, and ETFs invested in "alternatives" (presumably a category that includes at least some Ordinary Company ETFs).[76]

In short, the policy argument for harmonization of disclosure requirements to the fullest extent possible is straightforward. The commonality in functional characteristics weigh heavily in favor of commonality in disclosure requirements.

3. The Process of Financial Innovation, The Disclosure Building Block, and the Need for Measured Dynamism in the "ETF" Nomenclature

A vigorous process of innovation has been a hallmark of the ETF industry and, for the reasons outlined in *ETF-I*, our regulatory framework should facilitate even greater dynamism. Under our approach, enhanced SEC scrutiny of proposed products would only occur when there are justifiable doubts about the effectiveness of the arbitrage mechanism, when investor suitability standards and investor education would be insufficient to overcome the complexity or riskiness of a product (as when there is significant fraud or manipulation in the asset markets in which the ETF

75. *Id.* at 37,372 fig.1.

76. *Id.* at 37,383 tbl.3, 37,385 tbl.5.

invests), or when the ETF may create significant negative externalities.[77]

As a general matter, the disclosure building block should not stand in the way of the introduction of proposed products that do not raise such concerns. That would be putting the cart before the horse. However, the disclosure building block must be carefully designed to accomplish this while simultaneously retaining the integrity of the building block as a reliable vehicle for instantly conveying information to investors.

Assume, for instance, that a product is proposed that does not raise any such concerns and is demonstrably likely to behave in ways similar to existing ETFs with analogous goals, strategies, and assets. However, the proposed product has innovative functional characteristics that the sponsor deems desirable from the standpoint of shareholders, but those characteristics are so innovative that the product fails the SEC criteria for the "ETF" moniker. In such circumstances, precluding these products from using the "ETF" label may not make sense. To accommodate innovation, it is thus essential that the SEC be prepared to modify the criteria for the "ETF" label from time to time.

However, modifying the criteria carries costs, especially if the changes occur frequently, are not widely known, or are significant in nature. First, the ETF moniker would no longer have as much informational content to investors. An ETF moniker on such an innovative product, by itself, would no longer convey to many investors that product's key functional characteristics. The moniker would no longer be a short-hand representation attesting to the presence of the basic functional characteristics common to all ETFs that the investor may have owned or otherwise been familiar with. Only truly diligent investors, after reading disclosure documents and other materials that are specific to the innovative product, would be aware of that new product's actual characteristics.

Second, the investors in the innovative product who rely on the ETF label and do not read that specific product's descriptive materials would, in effect, be inadvertent participants in an experimental study. At least in the pharmaceutical industry, participants in clinical trials must give knowing consent ahead of time. In the world of modern financial innovation, there have been repeated instances involving misunderstandings of the true risk and return characteristics of new financial products.[78] And in the specific

77. *See* Hu & Morley, *ETF-I*, *supra* note 1, at 909–16.

78. As to errors in modern financial innovation generally, and the reasons for such errors, see, for example, Hu & Morley, *ETF-I*, *supra* note 1, at 847 n.12, 930 n.280; Hu, *Misunderstood Derivatives*, *supra* note 2, at 1476–94.

context of ETFs, the surprising deviations from NAV that occurred with respect to IVV and certain other ETFs on August 24, 2015 caused ETF sponsors to realize that the effectiveness of their arbitrage mechanisms depended on more assumptions than they had thought.[79]

This tension between an excessively rigid "ETF" moniker and the process of innovation is a fresh example of the "cubbyhole" problem, one that was not set out in our earlier work. This tension in the ETF context resonates of similar regulatory challenges that go back to the beginning of the modern process of financial innovation.[80] In trying to balance the need to accommodate the process of innovation with the need to maintain the informational potency of the ETF moniker, we suggest the need for measured dynamism in the moniker.

We make the case for measured dynamism in looking at an innovative product anticipated by its sponsor to behave like ETFs but whose key functional characteristics—specifically, those of its arbitrage mechanism—differ in fundamental ways from all existing ETFs. We turn to the products at issue in the May 2019 SEC Precidian Order.

To keep the focus on the relationship between the disclosure roadblock and the process of innovation, we leave aside substantive matters relating to the approval of the Precidian product. Under our proposed framework, a product would face heightened SEC scrutiny (and the prospect of not being approved) if, for instance, there are sufficient concerns over the efficacy of its arbitrage mechanism. SEC Commissioner Robert Jackson expressed concerns as to whether the efficacy of Precidian's arbitrage mechanism was sufficiently established. Little public information is available in respect of such matters. For the purposes of the below disclosure discussion, we do not need to take a position on that mechanism's efficacy or try to analyze the

79. On October 2015, Barbara Novick, BlackRock's Vice Chairman, and five other senior executives wrote:

> For many years, including most recently in our August 15 letter to the SEC, we only included two categories—valuation clarity and access—that are necessary for an effective arbitrage mechanism. However, in light of the events of August 24, we felt it was important to acknowledge that certainty of execution, which was lacking for certain periods on that day, is also essential.

Barbara Novick et al., *US Equity Market Structure: Lessons From August 24*, BLACKROCK 15 n.19 (Oct. 2015), https://www.blackrock.com/corporate/literature/whitepaper/viewpoint-us-equity-market-structure-october-2015.pdf.

80. *See* Hu, *Modern Process of Financial Innovation*, *supra* note 2, at 335–39, 392–416 (showing parallel issues with respect to the 1988 Basel capital adequacy accord, the pioneering international regulatory effort to respond to OTC derivatives); *supra* note 52 (citing *ETF-I* Sections relating to the cubbyhole issue in the ETF context, and sources on the cubbyhole issue in the context of modern financial innovation generally).

process the SEC used in evaluating it.[81]

The core investment premise of ETFs is that they offer a near-frictionless financial portal. The success of this premise depends on, among other things, the consistency with which the price of an ETF's shares trades at or close to their net asset values. As *ETF-I* discussed, this in turn flows in significant part from APs being able to: (1) identify divergences between the trading price and the NAVs; and (2) enter into creation and redemption transactions with the ETF in attempts to profit from such divergences, which have the effect of equilibrating the shares' trading prices and NAVs.[82]

No other financial product has such a creation/redemption arbitrage mechanism. This is one reason why the presence of such an arbitrage mechanism is an essential element of our ETF definition.

The basic animating theory of the arbitrage mechanisms of all ETFs had always been that the first task, that of identifying divergences, would be accomplished through transparency of ETF portfolios. Every AP, knowing each of the portfolio assets, would be able to calculate the value of each such asset and thus the value of the overall ETF portfolio, and use such calculations to identify arbitrage opportunities. Consistent with this, SEC exemptive orders for ETFs had always required ETFs to provide a certain degree of daily transparency, in some cases full portfolio transparency and in other cases transparency of ETF baskets.[83] Indeed, as a matter of industry practice, all ETFs subject to the June 2018 SEC Proposal currently provide full portfolio transparency.[84]

Precidian wanted to avoid the portfolio transparency essential to existing arbitrage mechanisms. Specifically, Precidian wanted to introduce actively managed funds that would not disclose their portfolio holdings on a daily basis, something that the SEC had required of all prior actively managed funds.[85] Precidian believed that such transparency would make actively managed ETFs subject to "front running" and "free riding" by other investors or managers, and thus harm the interests of the ETFs and their

81. Indeed, Commissioner Jackson voted against issuing the Precidian notice. *See, e.g.*, Rachel Evans & Annie Massa, *An ETF That Hides Its Secret Sauce Is Poised for Regulator's Nod*, BLOOMBERG (Apr. 8, 2019, 1:11 PM), https://www.bloomberg.com/news/articles/2019-04-08/an-etf-that-hides-its-secret-sauce-is-poised-for-regulator-s-nod. *ETF-I* outlined how an interdisciplinary approach should address such matters as the likely effectiveness of a proposed ETF's arbitrage mechanism. Hu & Morley, *ETF-I*, *supra* note 1, at 915–16.

82. *See* Hu & Morley, *ETF-I*, *supra* note 1, at 851–56.

83. June 2018 SEC proposal, *supra* note 9, at 37,351.

84. *Id*.

85. April 2019 SEC Precidian Notice, *supra* note 12, at *2.

shareholders.[86]

The animating theory of arbitrage mechanism of Precidian's "ActiveShares ETFs" was fundamentally different. There would be no portfolio transparency and APs would no longer be able to rely on such information to identify the presence of divergences between trading price and NAVs. Instead, the task of identification is, in effect, outsourced to the ETF itself. The ETF would make second-by-second valuations of its portfolios. APs would be forced to rely on the ETF's own valuations in determining whether to enter into any creation/redemption decisions.

Each ActiveShares ETF would disseminate a "verified intraday indicative value" ("VIIV") reflecting the value its portfolio holdings.[87] This would be calculated every second during the trading day, and a variety of measures would be taken to ensure its accuracy. Among other things, each ActiveShares ETF would use both a primary and a secondary calculation engine, and would retain a pricing verification agent to continuously compare the two data streams from the calculation agents on a real-time basis.[88] Moreover, each ActiveShares ETF would only invest in certain liquid securities that trade on a U.S. stock exchange contemporaneously with the ETF's shares.[89] Precidian believed that APs would be willing to rely on the second-by-second availability of accurate calculations of the portfolio's value (together with prospectus and quarterly portfolio disclosure) to identify divergences between trading price and NAV and, where appropriate, enter into creation/redemption transactions.[90]

The arbitrage mechanism of ActiveShares ETFs not only departs from the arbitrage mechanisms of all other ETFs as to transparency, but also as to AP creation and redemption transactions. With other ETFs, APs can take advantage of arbitrage opportunities by entering into creation/redemption transactions with the ETF itself. In contrast, to protect the identity and weightings of their portfolio holdings, ActiveShares ETFs would enter into creation/redemption transactions only through an unaffiliated broker-dealer acting on an agency basis.[91] That broker would know, but keep confidential, the identity and weightings of the basket securities it exchanges for the shares.

86. *Id.* at *5.
87. *Id.* at *6.
88. *Id.* at *6 n.23.
89. *Id.* at *6 & n.24.
90. *Id.* at *7.
91. *Id.* at *6.

The SEC's Precidian decision creates a potential misunderstanding. For the first time, the "ETF" moniker would not constitute a short-hand representation to investors about the presence of a transparency-driven arbitrage mechanism—in other words, the only kind of arbitrage mechanism that the investor will have had any experience with.

To a certain extent, such potential investor confusion could be addressed through disclosure. Indeed, the SEC conditioned its approval on Precidian's prospectus and other disclosure documents, marketing materials, and website to make clear, for instance, how the ActiveShares ETFs' bid-ask spreads and premiums/discounts may be larger by reasons of the non-transparent arbitrage mechanism.[92] However, it is difficult to ascertain how many investors will be diligent enough to read the prospectus or the other materials (or to otherwise be aware of such differences) prior to purchase. There is no requirement that a prospectus be delivered to an ETF investor prior to purchase.

All early investors in ActiveShares ETFs would be serving as experimental subjects exposed to potentially higher bid-ask spreads and premiums/discounts. Consistent with this, the SEC conditioned its approval on required monitoring of these financial clinical trials. First, ActiveShares ETFs and their advisor must take remedial actions as necessary if the ActiveShares do not function as anticipated. Second, these ETFs must provide certain information to the SEC on a periodic basis to facilitate ongoing monitoring. We do not know if the benefits of non-transparency will outweigh untoward effects, if any, of the novel arbitrage mechanism. We do know that ensuring that investors are aware of their participation in an experiment is desirable.

The foregoing general and Precidian analysis suggest that the process of innovation has implications for our disclosure building block proposal.[93] First, as a matter of nomenclature, precision is necessary in the criteria the SEC establishes for the functional characteristics of an ETF. This is especially so with respect to the arbitrage mechanism. For instance, if daily portfolio transparency is not deemed necessary and an ETF's own calculations of value can serve as a substitute, what criteria should be established to ensure that the calculations have the accuracy and integrity

92. *Id.* at *7; Precidian ETFs Trust et al., Seventh Amended and Restated Application for an Order under section 6(c) of the Investment Company Act of 1940 (File No. 812-14405), at 20–21 (Apr. 4, 2019), https://www.sec.gov/Archives/edgar/data/1396289/000114420419018151/tv518160_40-appa.htm.

93. We defer to Section III.E the implications of innovative ETFs for our proposal for MD&A-style disclosures relating to the arbitrage mechanism and related matters.

that APs deem necessary?

Second, the definition of ETF needs to be dynamic, but in order to accommodate the process of innovation while maintaining the informational value of the ETF moniker, the SEC should be very measured in the rate at which it modifies the criteria. Moreover, information as to any modifications that do occur should be widely disseminated to current and potential ETF investors.

D. THE SEC'S AND *ETF-I'S* PROPOSED ENHANCEMENTS OF QUANTITATIVE DISCLOSURES RELATING TO TRADING PRICE FRICTIONS

In summary overview, *ETF-I* proposed that all ETFs should be required to provide certain quantitative information of a historical nature about trading price frictions, not only those arising from deviations from NAV but also those arising from bid-ask spreads. Moreover, in terms of deviations from NAV, we suggested that the SEC move beyond only focusing on at-the-close deviations to also considering intraday deviations.

We also suggested that if extreme deviations from NAV occur at any point during a trading day—whether intraday or at the close—additional disclosures be required. This would consist of a next-day Form 8-K-type filing and associated disclosure on the fund's website.

The SEC proposed new quantitative disclosures relating to bid-ask spreads for Investment Company ETFs. However, what the SEC contemplates as to the arbitrage mechanism is a mixed picture, with one proposal that enhances disclosure and another that limits disclosure. Intraday deviations from NAV would remain neglected.

As for bid-ask spreads, an Investment Company ETF would disclose the median bid-ask spread for the ETF's most recent fiscal year both on its website and in its prospectus.[94] In addition, the ETF would provide an interactive calculator on its website allowing investors to get cost information tailored to the size of investments and number of trades.[95]

As for arbitrage mechanisms, first, the SEC would begin requiring disclosures as to extreme *at-the-close* deviations from NAV. Any Investment Company ETF whose deviation as of the market close was greater than 2 percent for more than seven consecutive trading days would be required to post that information on its website, along with a discussion of the factors that the ETF reasonably believed to have contributed materially to the

94. June 2018 SEC Proposal, *supra* note 9, at 37,361.
95. *Id.* at 37,375.

deviation.[96] The proposal also contemplates changes in the presentation of historical premium/discount information.[97]

Second, the SEC would eliminate existing requirements that provide the primary source of information for retail investors that they would need to calculate intraday deviations. SEC exemptive orders have required ETFs to widely disseminate its "intraday indicative value" ("IIV"), which is an intraday estimate of the NAV, generally at least every fifteen seconds.[98] At least in theory, by comparing the ETF's IIV to the trading price, a retail investor can determine if the shares are trading at a premium or discount.[99]

The SEC's proposal to require more disclosure as to extreme deviations from NAV and improve the presentation of historical premium/discount information are steps in the right direction. However, neither the extreme deviation nor the historical deviation disclosures need reflect any intraday deviations, even if extreme and objectively verifiable, a theme we will return to shortly.[100]

The proposed requirement of web posting of certain quantitative information on at-the-close extreme deviations from NAV raises two additional concerns. First, the vast majority of investors will not promptly notice the posting. Under our proposed disclosure system, the ETF would need to couple a web posting with a Form 8-K-style SEC filing by the close of trading the next business day. Normal 8-Ks alert investors in ordinary public companies to the occurrence of certain extraordinary events. A Form 8-K-style filing would serve the same function for ETFs. Second, the web posting occurs too late. The SEC's proposed trigger of a 2 percent deviation over seven consecutive trading days necessarily means that public notice of the initial 2 percent deviation would be delayed for more than a week. Our proposed trigger involves a more extreme move (as a tentative matter, we raised the possibility of 5 percent) occurring at any time during a single trading day. Under our approach, public notice occurs the next trading day, thus providing far earlier notice of possible arbitrage mechanism-related problems.

We also have some issues with the more qualitative aspects of the SEC's new extreme-deviation posting requirement. In contrast to the SEC's

96. *Id.* at 37,362.

97. *Id.*

98. *Id.* at 37,350. The effect of this SEC change would be limited, at least initially, because exchange listing standards currently require a fund to disseminate its IIV, and the SEC proposal does not change these standards. *Id.*

99. *Id.*

100. *Id.* at 37,362–63.

proposal for the mandatory disclosure of managerial views on the causal factors of extreme deviations, we contemplated merely encouraging the provision of a very brief, highly preliminary, assessment. An immediate assessment for extreme deviations may not always be possible or practical. The periodic MD&A-style assessment we proposed (summarized in Section III.E) would be a far better vehicle for nuanced, carefully considered managerial views. Moreover, only analysis of the reasons for the past performance of the mechanism would be required under the SEC's approach. Unlike our MD&A-style assessment, no analysis need be proffered as to the trends, risks, or uncertainties associated with the future performance of the mechanism. Finally, our proposed approach recognizes that what appear to be extreme deviations from NAV may not be what they seem. Thus, the ETF sponsor would be able to explain why such deviations relate more to weaknesses or misunderstandings relating to such matters as the NAV computations and the NAV concept.

Our proposal contemplates additional historical information relating to trading price frictions. We contemplated the provision of certain information for periods of ten years (or the life of the fund, if shorter), consistent with what is required of past performance information with respect to changes in NAV. Moreover, there should be information on the most extreme performance outliers on a historical basis. Just as mutual funds must currently disclose the fund's highest and lowest return (in NAV terms) for a quarter during the past ten years (or the life of fund, if shorter), an ETF should be required to disclose the highest premium and lowest discount to NAV experienced over the same period.

In proposing the elimination of the requirement to disseminate IIVs every fifteen seconds, the SEC was concerned about the practical utility of IIVs. The SEC was especially concerned about the accuracy of IIVs with respect to foreign securities and less liquid debt instruments.[101] The SEC emphasized how, instead of using IIVs, market makers typically calculate their own intraday values with proprietary algorithms and that they generally use the IIV, if at all, as a secondary or tertiary check on the value their algorithms generate.[102] Moreover, fifteen seconds is likely too long for the purposes of market participants conducting arbitrage trading. And the daily disclosure of an ETF's portfolio holdings would allow market participants to calculate an estimated intraday value using their own methodologies. Finally, IIVs currently can be calculated in different, potentially inconsistent

101. *Id.* at 37,351.
102. *Id.* at 37,350.

ways.[103]

In proposing the elimination of IIV dissemination, the SEC focused largely on the needs of market makers and other investment professionals. It is certainly true that such professionals have proprietary algorithms and other sources of information. But retail investors do not have proprietary algorithms. Dissemination at fifteen-second intervals may not do for market professionals seeking to take advantage of fleeting arbitrage and other opportunities, but retail investors are not in that space. And unlike market professionals, few retail investors would find it possible or cost-effective to instantaneously or continually monitor the value of every holding in an ETF's portfolio.

Currently, the IIV provides typical retail investors the only view they have of intraday values. Indeed, the SEC's Office of Investor Education and Advocacy currently distributes a guide to ETFs for retail investors that discusses IIVs and how they could find IIVs for ETFs they are interested in.[104]

Instead of abandoning the IIV dissemination requirement altogether, efforts should be directed *first* towards improving and standardizing the methodologies for the calculation of intraday values and *second* towards warning investors of circumstances in which the IIV is less likely to be reliable. ICE Data Services, a financial data provider, claimed that technology was already available to allay the SEC's concerns over less liquid assets that trade in U.S. markets.[105] As for the SEC's concerns over ETFs with foreign assets, "significant progress" has been made.[106] State Street Global Advisors, although arguing against mandatory IIV dissemination, was confident that "industry-led solutions will be available" if there is sufficient market demand[107]

The SEC's May 2019 Precidian Order suggests that the SEC itself believes that improving IIVs is possible and the cost of doing so may not necessarily be prohibitive, at least in certain circumstances. In approving the

103. *Id.* at 37,351.

104. OFFICE OF INV'R EDUC. & ADVOCACY, U.S. SEC. & EXCH. COMM'N, INVESTOR BULLETIN: EXCHANGE-TRADED FUNDS (ETFS) (2012), https://www.sec.gov/investor/alerts/etfs.pdf.

105. ICE Data Services, International Exchange, Inc., Comment Letter on Proposed Exchange-Traded Funds Rule Under the Investment Company Act of 1940, at 2 (Oct. 1, 2018), https://www.sec.gov/comments/s7-15-18/s71518-4463567-175821.pdf.

106. *Id.*

107. State Street Global Advisors, Comment Letter on Proposed Exchange-Traded Funds Rule under the Investment Company Act of 1940, at 7 (Oct. 1, 2018), https://www.sec.gov/comments/s7-15-18/s71518-4466054-175827.pdf.

ActiveShares ETFs, the SEC implicitly believed that the second-by-second verified version of the IIV that Precidian used was sufficiently accurate that even APs were likely to be willing to rely on them to make their creation/redemption decisions. The ActiveShares ETFs would only invest in liquid, domestic securities, so some of the problems afflicting the IIVs would not be present. Experience with the ActiveShares ETFs should provide helpful information to the SEC in how to improve methodologies associated with IIVs generally.

Finally, professionals are in fact determining accurate intraday values, and their insights could contribute to better IIVs as well. Market makers must constantly assess such intraday values in order to fulfill their responsibilities to make two-way markets and APs have incentives to do so in order to identify arbitrage opportunities. And such professionals have the proprietary algorithms and other sources of information to ascertain intraday values. The Investment Company Institute's comment letter states that market makers typically calculate their own intraday value "with proprietary algorithms that use the ETF daily basket and/or portfolio disclosure and available pricing information about the ETF's basket or portfolio assets."[108] The comment letter of Invesco, a major ETF sponsor, stated that "most APs utilize proprietary technology to calculate an IIV in real time (and often at far more frequent intervals than currently required pursuant to ETF exemptive orders)."[109]

The provision of more refined IIVs can be coupled with warnings and educational efforts to alert investors as to their limitations. Removing the sole source of intraday information for retail investors would be a Procrustean solution.

The SEC did not propose requiring information on intraday deviations from NAV. In our earlier work, we emphasized that the failure to require disclosures of intraday deviations could provide investors a misleading impression of the risks and returns of ETFs. As discussed earlier, immediately after the 9:30 a.m. open on August 24, 2015, the IVV fund traded at a 15% discount to the NAV, yet IVV was able to properly report a perfect 100.00 percent score using the SEC-mandated at-the-close-of-trading metric for the past performance of ETF arbitrage mechanisms. We proposed

108. Investment Company Institute, Comment Letter on Proposed Exchange-Traded Funds Rule under the Investment Company Act of 1940, at 13 (Sept. 21, 2018), https://www.sec.gov/comments/s7-15-18/s71518-4403410-175592.pdf.

109. Invesco Ltd., Comment Letter on Proposed Exchange-Traded Funds Rule under the Investment Company Act of 1940, at 13 (Sept. 26, 2018), https://www.sec.gov/comments/s7-15-18/s71518-4434256-175698.pdf.

that ETFs not only provide the existing historical information reflecting size categories of at-the-close deviations, but also provide such information on the frequency with which various size categories of intraday deviations occurred.

The SEC recognized our concern about the impact of omitting intraday information.[110] But it stated that "developing an accurate and cost-effective methodology to calculate intraday deviations for all types of ETFs is challenging."[111]

We previously showed that an ETF should be able to gather the necessary information on such intraday deviations for disclosure purposes without undue cost. Accurate, *real-time*, information on intraday values can be expensive to obtain. But as Precidian seems to believe, at least with ETFs invested solely in liquid, domestic securities, this may not necessarily be so.

Moreover, as detailed in *ETF-I*, our proposal with respect to the quantitative disclosures of extreme intraday deviations does not depend on either the availability or the cost of real-time information. This is because such disclosures only call for *retrospective* compilations of intraday deviations. No real-time information is needed at all. The historical information needed by an ETF sponsor to comply with our proposal would be completely stale from a trading standpoint and should thus be relatively inexpensive. The SEC proposal itself suggested that intraday information that is a mere fifteen seconds old is useless for arbitraging purposes.[112] Even with respect to the prompt Form 8-K-style filings we suggest be required as to extreme deviations, the ETF sponsor would only need information that is at least twenty-four hours old.

E. THE SEC AND *ETF-I'S* PROPOSED QUALITATIVE DISCLOSURES RELATING TO THE ARBITRAGE MECHANISM

1. *ETF-I's* Proposal

We believe that ETFs should be required to provide periodic qualitative MD&A-style disclosure relating to the arbitrage mechanism. First, for Investment Company ETFs, performance for the purposes of the managerial discussion set out in the MDFP should be construed not only to include changes in NAV, but also deviations from NAV and, possibly as a secondary

110. June 2018 SEC Proposal, *supra* note 9, 37,361 (citing Hu & Morley, *ETF-I*, *supra* note 1, at 920).

111. *Id.* at 37,361.

112. *Id.* at 37,350–51.

matter only, bid-ask spreads. For Commodity Pool and Operating Company ETFs, a review of such trading price frictions should be specifically required as part of the MD&A disclosure mandated in the annual Form 10-K.

Second, such managerial discussions should substantially or exclusively focus on the arbitrage mechanism, reflecting the ETF sponsor's expert views not only on the past performance of the arbitrage mechanism but also on trends and uncertainties associated with the mechanism. The basic model for such discussions of past performance and such forward-looking trends and uncertainties information should be the MD&A requirements in the periodic disclosures of ordinary public companies.[113] As a consequence of this MD&A-style approach, in the context of its analysis of the arbitrage mechanism, the ETF sponsor would, as appropriate, address AP-specific issues, portfolio asset liquidity, market maker, and other factors relating to the mechanism's effectiveness.

2. The SEC's Proposal, *ETF-I*'s Proposal, and the Road Ahead

The SEC's proposal did not require the regular qualitative disclosures of the sort contemplated by *ETF-I*. However, the SEC appears to be open to the idea.[114] After citing *ETF-I* for its call for a disclosure regime that "responds to the significance of the arbitrage mechanism, model-related complexities and evolving understandings," the SEC asked if a registration statement form specifically for ETFs should be created.[115] The SEC then proceeded to ask:

> Should the form require more disclosure on the effectiveness of the arbitrage mechanism? Should the disclosures require qualitative disclosures that relate specifically to ETFs, including the performance of the ETF's arbitrage mechanism? Should this disclosure be required as part of an annual report?
>
> . . . Should we require ETFs to file periodic reports, such as on Form 8-K? Under what circumstances should we require periodic reports? For

113. For the details of the MD&A-style disclosure we contemplate for ETFs and the reasons for such disclosure, see Hu & Morley, *ETF-I*, *supra* note 1, at 924–34. As to the role of MD&A disclosures in ordinary public companies, see, for example, Henry T. C. Hu, *Disclosure Universes and Modes of Information: Banks, Innovation, and Divergent Regulatory Quests*, 31 YALE J. REG. 565, 593–95 (2014).

114. June 2018 SEC Proposal, *supra* note 9, at 37,364, 37,378 (citing Hu & Morley, *ETF-I*, *supra* note 1, on the possibility of, for example, "disclosures [requiring] qualitative disclosures that relate specifically to ETFs, including the performance of the ETF's arbitrage mechanism" and on the possibility of requiring ETFs to assess the efficiency of their arbitrage mechanism and provide narrative disclosure regarding intraday deviations between the trading price and the NAV).

115. *Id.* at 37,378 n.407 (quoting parenthetically Hu & Morley, *ETF-I*, *supra* note 1). While we suggest fundamental reforms to ETF disclosures, we do not take a position as to whether a registration statement form specifically designed for ETFs is necessary.

> example, should we require ETFs to file periodic reports after a market event that adversely affects the arbitrage mechanism during the trading day?[116]

The only affirmative step the SEC took by way of requiring any significant qualitative disclosure is episodic in nature and, for the vast bulk of ETFs, highly unlikely to ever be required. In Section II.D.2, we set out our main concerns with the managerial narratives the SEC contemplates when an ETF's premium or discount exceeds 2 percent at market close for seven consecutive days.

With one notable exception, none of the comment letters except our own appear to have analyzed the merits of requiring such ongoing qualitative disclosures. The exception is a comment letter from Jane Street Capital, an electronic market maker in more than 2,100 exchange traded products, and one of the largest market makers in U.S. ETFs.[117] Jane Street stated:

> ETFs should be required to promptly and fairly disseminate certain information materially impactful on the arbitrage mechanism.
>
> . . . Jane Street believes that fair disclosure of material non-public information is an issue of relevance to ETFs. . . . The key types of information which may be material to an ETF *per se* are (i) information about whether the arbitrage mechanism is functioning and (ii) certain information about portfolio holdings.[118]

Jane Street referred to two examples showing how the ETF may have information about the arbitrage mechanism that is critical to investors, but which is not publicly available and not currently required to be provided.

We believe even more strongly than before in the value of an ongoing MD&A-style requirement relating to the arbitrage mechanism including, as a consequence, analysis of factors relating to the mechanism's effectiveness. In this Article, we offer reasons and evidence justifying such a requirement beyond those already set out in *ETF-I*.

In considering matters relating to the arbitrage mechanism, some background is necessary. Any AP's decision whether to engage in such creation/redemption transactions is completely voluntary; there is never any legal obligation to do so. (Whether regulators should impose any legal duty on APs in this respect is a complex question that is beyond the scope of this

116. *Id.* at 37,378 (footnote omitted).

117. Jane Street Capital, LLC, Comment Letter on Proposed Exchange-Traded Funds Rule under the Investment Company Act of 1940, at 1 (Oct. 1, 2018), https://www.sec.gov/comments/s7-15-18/s71518-4467045-175801.pdf [hereinafter Jane Street Letter].

118. *Id.* at 2.

Article.) The AP must believe it has sufficient incentives in view of the risks and returns associated with trying to take advantage of such gaps, but also be in a financial position to do so. Some APs also act as registered market makers, who assume a two-sided obligation to buy and sell ETF shares on a particular exchange. The effectiveness of the arbitrage mechanism in narrowing deviations from NAV depends on such purely voluntary decisions of APs, as well as the activities of market makers and others in the secondary market.

ETF-I focused on three different ways in which an ETF's sponsor is uniquely situated to provide informed views on the past performance and trends and uncertainties relating to that ETF's trading price frictions. First, the sponsor is usually responsible for designing the full particulars of the arbitrage mechanism used for its ETF, meaning that it likely has the best information about that mechanism. This may be especially so when, as with the ActiveShares ETFs, when Precidian designed a new, fundamentally different arbitrage mechanism. Second, sponsors often become directly involved in seeking changes in trading rules and business practices that may directly affect the future performance of the arbitrage mechanism. Third, the sponsor often has access to facts that are not generally available to others, such as details concerning the APs that the ETF has contracted with.

In this Article, we will largely focus on this third way in which an ETF sponsor is uniquely situated, and break this down to four categories of information.

The first category involves information stemming from the ETF's own decisions. Both examples offered by Jane Street fall in this category. First, an ETF will sometimes halt the creation of new shares, but may not notify the exchange on which it trades of the halt. Jane Street has found that in its experience, even the most sophisticated market participants sometimes learn of a creation halt only when trying to create additional units or through other communications. Second, an ETF will sometimes set transaction fees so high for the issuance of creation units as to effectively suspend the issuance of creation units. Again, though, the ETF may not inform the market that creations have been effectively halted.

A second category of pertinent information that an ETF sponsor may have special access to relates to the circumstances that could cause an AP to behave differently from what the underlying theory for the arbitrage mechanism and what investors typically assume. An AP can behave in these ways for myriad reasons.

One reason is that APs may undertake a variety of other activities, well beyond serving as APs. Because APs are under no legal obligation to create or redeem shares, an AP has the full right and discretion to refrain from entering into such a transaction even if doing so would make economic sense when considered on a stand-alone basis. That is, an AP's non-AP activities may incentivize the AP to take actions contrary to the AP's normal creation/redemption incentives. The interest of the firm as a whole matters.

In a recent working paper, Kevin Pan and Yao Zeng offered both a model and empirical evidence suggesting how this occurs with respect to APs for corporate bond ETFs.[119] APs in corporate bond ETFs are overwhelmingly large banks who are bond dealers. When these banks face large bond flow shocks in connection with their bond trading activities, they may withdraw from ETF arbitrage for balance sheet reasons.[120] Indeed, under certain circumstances, a bank's creation and redemption activities are used simply as a device for managing its inventory of illiquid bonds, instead of being guided by premiums and discounts from NAV.

Sometimes, the financial circumstances of a specific AP may preclude the AP continuing to act as an AP. Examples of this of have occurred with respect to Knight Trading and Citigroup.[121]

The arbitrage mechanism may also not function as hypothesized or as well when an ETF has only one AP that is genuinely willing to enter into creation/redemption transactions. A 2015 Investment Company Institute study found that the median number of APs among ETFs with assets of less than $27 million was thirty-three. But the study also found that the median number of active APs—in other words, APs that had "conducted at least one creation or redemption in that particular ETF's shares in the previous six months"—was just one.[122]

When there is effectively only one AP actively monitoring deviations from true value and ready and willing to take advantage of discrepancies, there is a greater potential for the ETF's share price to depart from NAV. When an ETF has a single AP, that AP may, for instance, benefit from excessive deviations from NAV if that AP effectively refuses to process

119. Kevin Pan & Yao Zeng, ETF Arbitrage under Liquidity Mismatch (Mar. 30, 2019) (unpublished manuscript) (available at http://www.ssrn.com/abstract=2895478).

120. *Id.* (manuscript at 2).

121. *See* Investment Company Institute, Comment Letter on Proposed Exchange-Traded Products Rule under the Investment Company Act of 1940, at 16–17 (Aug. 17, 2015), https://www.sec.gov/comments/s7-11-15/s71115-22.pdf.

122. ROCHELLE ANTONIEWICZ & JANE HEINRICHS, INV. CO. INST., THE ROLE AND ACTIVITIES OF AUTHORIZED PARTICIPANTS OF EXCHANGE-TRADED FUNDS 3–5, 4 n.5 (2015), https://www.ici.org/pdf/ppr_15_aps_etfs.pdf.

creation or redemption orders from other liquidity providers at reasonable prices.[123] Some press reports claim that on December 26 and 27, 2006, the share price of Claymore MacroShares Oil Up Fund may have deviated sharply from its NAV because its sole AP was absent those days.[124]

APs also vary in the methodologies they use to determine whether to enter into a creation or redemption transaction. Presumably, the premiums or discounts an ETF experiences will be affected by the differing creation and redemption decisions dictated by differences in strategies.

An ETF would be better positioned than most sophisticated institutional investors of the strategies followed by its APs and to be aware of possible circumstances that may cause its APs to depart from what the arbitrage mechanism and investors generally assume. An ETF knows and would be able to learn far more about an AP than the public, because a company can only become an AP if the ETF allows it to do so and permits it to sign an agreement. Moreover, an ETF constantly engages in creation and redemption transactions with its APs, and so can glean information from the transactions and related negotiations (such as through the customization of baskets).

An ETF sponsor also knows far more than other market participants about the identity of current and prospective APs at any given moment in time, as well as AP-specific financial circumstances that may affect an AP's ability or willingness to engage in the contemplated creation and redemption transactions. *ETF-I* discussed some of the inadequacies of the public information on APs available from Form N-CEN, and how only Investment Company ETFs are subject to the requirements flowing from that form.[125] The information on APs only provides dated information about institutions that had served as APs over the previous year. Form N-CEN is filed with the SEC once a fiscal year, within 75 days of the close of the year.

In the case of highly innovative ETFs, such as Precidian's non-transparent actively managed ETFs, the sponsor is likely to be especially well-informed with respect to current and prospective APs. In developing its

123. Jane Street Letter, *supra* note 117, at 6–7.

124. *See* Ian Salisbury, *Behind All the ETF Trading*, WALL ST. J., https://www.wsj.com/articles/SB118909026683619350 (last updated Sept. 10, 2007, 12:01 AM); John Spence, *Crude Realities*, MARKETWATCH (Apr. 23, 2007, 9:23 AM), https://www.marketwatch.com/story/correct-uproar-over-pricing-and-performance-hits-new-oil-etfs; *The Truth About Macros*, ETF.COM (May 1, 2007), https://www.etf.com/publications/journalofindexes/joi-articles/2620.html.

125. Hu & Morley, ETF-I, *supra* note 1, at 931. The only information required as to individual APs is the AP's identity, the dollar values of shares it purchased and redeemed from the ETF during the year, and whether it was required to post collateral in connection with its transactions with the ETF during the year. U.S. Sec. & Exch. Comm'n, Form N-CEN, Annual Report for Registered Investment Companies 30–31, Item E.2. (2018), https://www.sec.gov/files/formn-cen.pdf.

unique arbitrage mechanism, Precidian no doubt had to determine whether, for instance, enough APs would be willing to rely on external valuations of the assets in the ETF's portfolio.

A third category relates to the specialized knowledge that an ETF's sponsor has with respect to the market makers in the ETF and, perhaps as well, some of the institutional investors in the ETF and the investment advisors who guide retail investors. Market makers serve to provide liquidity to the ETF market and contribute to ETF share prices being close to the NAV.[126] Certain market makers are designated as "lead market makers" ("LMMs") by exchanges. In return for certain economic incentives provided by an exchange, LMMs must not only meet general market maker responsibilities, but also meet performance standards specified by the exchange.[127]

The absence of an LMM can materially affect the bid-ask spread. The bid-ask spread of an Eventshares tax reform ETF reportedly declined from 116 basis points to six basis points shortly after RBC Capital Markets was engaged to act as an LMM.[128] Sometimes, firms decide to curb their LMM business, as happened recently with Goldman Sachs.[129]

An ETF has unique knowledge about its market makers. In most cases, ETFs develop a strong relationship with their market makers and, at least in the case of ETFs listed on the New York Stock Exchange, an ETF will work with the exchange to find a new liquidity provider in the event an LMM no longer wants to be assigned to that particular ETF.[130]

The nature of the shareholders in an ETF (for example, as between institutional investors and retail investors) and their trading patterns (for example, whether and when they use market orders or limit orders) could also play a material role in determining the deviations from NAV.

An ETF sponsor, like other issuers of securities, may develop

126. RBC GLOB. ASSET MGMT., WHAT IS THE ROLE OF THE MARKET MAKER FOR ETFS? 1 (2017), http://funds.rbcgam.com/pdf/etf-learning-centre/what-is-the-role-of-the-market-maker-for-etfs.pdf.

127. *Compare* NYSE ARCA, LEAD MARKET MAKING 1 (2018), https://www.nyse.com/publicdocs/nyse/markets/liquidity-programs/arca_lmm_fact_sheet.pdf, *with Cboe Lead Market Maker Program*, CBOE, https://markets.cboe.com/us/equities/listings/trade_on_bats/lmm (last visited Sept. 10, 2019).

128. *See* Rachel Evans, *Goldman Exit Shows Shortage of ETF Traders Who Make Market Tick*, BLOOMBERG (May 23, 2018, 9:53 AM), https://www.bloomberg.com/news/articles/2018-05-23/goldman-exit-shows-shortage-of-etf-traders-who-make-market-tick (noting the significant decline in LMMs)

129. *Goldman Sachs Retreats from ETF Lead Market Making*, CNBC, https://www.cnbc.com/2017/07/25/goldman-sachs-retreats-from-etf-lead-market-making.html (last updated July 25, 2017, 7:35 AM).

130. Evans, *supra* note 128.

relationships with large institutional investors with large stakes. Moreover, because of the impact on the trading activity of the advice that investment advisors provide retail investors, an ETF sponsor has incentives to become aware of those advisors who have placed their investors in the ETF. Publicly available information on the identity of an ETF's institutional holders and pertinent investment advisors is scant, much less their trading patterns.

The fifth and final category relates to portfolio asset liquidity, an issue that can affect the premiums/discounts, bid-ask spreads, and other matters relating to trading price frictions. Pan & Zeng's 2019 working paper quantified the impact of the liquidity of the underlying assets on AP willingness to engage in ETF arbitrage—and hence the premiums/discounts. With corporate bond ETFs, an increase in 1% in an ETF's premium or discount generates an increase in AP arbitrage by 50 basis points. But a mere one standard deviation increase in bond market illiquidity generated a 10%-40% decline in AP arbitrage sensitivity.[131] Such findings were consistent with prior research that provided more general evidence as to how the effectiveness of the arbitrage mechanism would be hindered by the illiquidity of the assets an ETF is invested in.[132]

As a consequence of our MD&A-style approach to the arbitrage mechanism, the ETF sponsor will need to discuss, as appropriate, the impact of portfolio asset liquidity on the past performance of the mechanism as well on the trends, risks, and uncertainties relating to the mechanism's future performance. Currently, the SEC has no requirements for any analytical discussion of such liquidity-related matters with respect to either mutual funds or any ETFs.

However, beginning with annual and semi-annual reports issued after December 1, 2019 (for some mutual funds and Investment Company ETFs) or June 1, 2020 (for other mutual funds and Investment Company ETFs), the SEC is requiring disclosures about the operation of the effectiveness of their liquidity risk management programs and liquidity events that materially affected performance.[133]

Such forthcoming information could be helpful to investors, especially if such requirements are interpreted expansively, but the information is not directed at the larger issue of the effectiveness of the arbitrage mechanism. Moreover, the focus, as with the MDFP, appears to be primarily retrospective in nature and there is at least no explicit direction to comprehend risks,

131. Pan & Zeng, *supra* note 119, (manuscript at 4).

132. Hu & Morley, *ETF-I*, *supra* note 1, at 856–57.

133. Investment Company Liquidity Disclosure, 83 Fed. Reg. 31,859, 31,861 (July 10, 2018).

trends, and uncertainties. Moreover, the impending liquidity disclosure requirements are only applicable to mutual funds and Investment Company ETFs, and not Commodity Pool or Operating Company ETFs.

The ETF sponsor can be expected to have more insights on portfolio asset liquidity and its impact on the effectiveness of the arbitrage mechanism than individual investors and even some institutional investors. In creating a new ETF and developing the arbitrage mechanism, the sponsor would have considered the liquidity of portfolio assets. After the ETF starts trading, the sponsor has access to more extensive trading information about the ETF (such as intraday deviations) than even the vast majority of institutional investors. This special access to ETF-level price information, when combined with the ETF sponsor's familiarity with the liquidity of portfolio assets, gives ETFs valuable insights that should be shared with investors.

CONCLUSION

In our prior work on ETFs, we argued that there was perhaps no area of capital markets regulation more urgently in need of reform than ETFs. We were thus delighted to see that in June 2018 the SEC proposed its new ETF rule. We consider the SEC's June 2018 proposal and an important May 2019 SEC exemptive order against the backdrop of the regulatory framework that we proposed in March 2018, as refined in this Article.

With respect to the substantive side of ETF regulation, the new rule would help address a number of our concerns, including, most importantly, the current reliance on individual exemptive orders to police the ETF industry. However, additional substantive reforms are needed. The SEC's proposal does not cover a great many ETFs, including leveraged and inverse ETFs and ETFs regulated as commodity pools and ordinary companies. The proposal does not attempt to address problems in the exercise of SEC discretion associated with the underlying ETF innovation process. The proposal also leaves many of the most important elements of ETF regulation to stock exchanges, without clear thought or justification.

With respect to the disclosure side, far more needs to be done. The SEC proposed relatively modest enhancements to existing disclosures for ETFs regulated as investment companies as well as eliminating one longstanding source of public information. ETF trading price frictions, including those associated with the arbitrage mechanism, deserve substantially more attention. The SEC leaves untouched the current disclosure regimes for non-Investment Company ETFs.

The SEC has invited comments for more fundamental reforms in disclosure. We welcome this invitation. In our earlier work, we proposed a comprehensive disclosure approach cognizant of the distinctive characteristics of ETFs and the complexities introduced by the underlying process of innovation. Here, we have refined the approach and provided additional justifications, relying in part on new empirical findings. Together, the disclosure building block involving a dynamic ETF nomenclature and ETF self-identification, the fuller quantitative disclosures of trading price frictions, and the MD&A-style qualitative discussion of the arbitrage mechanism proposed would be helpful to individual and institutional investors alike.

The SEC proposal is a material step forward. It is a commendable start to addressing some of the most important contemporary issues in America's capital markets.