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## NOTE

# AN EMPIRICAL ANALYSIS OF SEC RULE 6C-11'S IMPACT ON THE USAGE OF HEARTBEAT TRADES BY EXCHANGE- TRADED FUNDS

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*In September 2019, the SEC promulgated Rule 6c-11 to standardize the operation of all exchange-traded funds. Importantly, this rule provided all ETFs with the ability to issue “custom baskets,” which are baskets of stocks that are not composed of a pro rata representation of a fund’s holdings. Such baskets are important because they give ETFs additional flexibility to lower their tax liability by using custom baskets to remove stocks that would incur the highest capital gains from their portfolios. This Note analyzes how expanded custom basket access impacts ETFs use of a certain type of tax-evading trade known as a “heartbeat” trade. It finds that there has been a substantial increase in such trades since the Rule went into effect and that the increase was much larger among funds who were only able to use custom baskets after Rule 6c-11.*

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## I. INTRODUCTION

In September 2021, Senate Finance Committee Chairman Ron Wyden submitted draft legislation that critics quickly pounced upon as “just bad policy,”<sup>1</sup> “flawed,”<sup>2</sup> and a measure

<sup>1</sup> Lizzy Gurdus, *Senate Bill that Would End ETF Tax Breaks is ‘Just Bad Policy,’ CEO Says*, CNBC (Sept. 29, 2021), <https://www.cnbc.com/2021/09/29/senate-bill-that-would-end-etf-tax-breaks-is-bad-policy-ceo-says.html> [https://perma.cc/AMA4-788F].

<sup>2</sup> Tom Lydon, *The ETF Tax Proposal Is Flawed*, ETF DATABASE (Oct. 25, 2021), <https://etfdb.com/etf-education-channel/the-etf-tax-proposal-is-flawed/> [https://perma.cc/C63Q-VGWX].

that “hurts main street.”<sup>3</sup> The specific catalyst for these negative reactions was the portion of the legislation that proposed to repeal a longstanding tax exemption that afforded a tax advantage for exchange traded funds (ETFs).<sup>4</sup> Under current law, ETFs can avoid recognizing a taxable gain on appreciated securities they hold by distributing the stocks to withdrawing shareholders in a transaction known as an “in-kind redemption” rather than paying the shareholders in the cash equivalent of their withdrawal.<sup>5</sup> If enough withdrawals happen in a year, an ETF can utilize this loophole to great effect, by systematically removing the most appreciated assets from its portfolio.<sup>6</sup> If there are not enough withdrawing investors to wash away appreciated assets, however, some ETFs can still claim the benefit of the current tax exemption through a specific type of trade known as a “heartbeat trade,” where an outside investor (often a bank or financial intermediary) provides the ETF with a large influx of capital and then withdraws it a few days later, accepting stocks the

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<sup>3</sup> Elaine Chen, *Proposed Repeal of ETF Tax Advantage Hurts Main Street: ICI CEO*, BLOOMBERG TAX (Sept. 21, 2021), <https://news.bloombergtax.com/daily-tax-report/proposed-repeal-of-etf-tax-advantage-hurts-main-street-ici-ceo> [https://perma.cc/Q9HW-C5JD].

<sup>4</sup> Senator Ron Wyden, *Wyden Pass-Through Reform Discussion Draft Section-by-Section Summary*, <https://www.finance.senate.gov/chairmans-news/wyden-unveils-proposal-to-close-loopholes-allowing-wealthy-investors-mega-corporations-to-use-partnerships-to-avoid-paying-tax> [https://perma.cc/BH75-S3Q6] (proposing the repeal of Section 852(b)(6) to align ETFs with “with the general requirement that gain be recognized upon distribution by a corporation of built-in gain property.”); Senate Finance Committee, *Draft Legislation Section 17*, <https://www.finance.senate.gov/imo/media/doc/Pass-through%20Changes%20Discussion%20Draft%20Legislative%20Text.pdf> [https://perma.cc/N3HZ-P8B4].

<sup>5</sup> 26 U.S.C. §852(b)(6).

<sup>6</sup> See *Draft Legislation from Senate Finance Committee Chairman Ron Wyden of Oregon Would End a System of Deferred Taxes on Capital Gains Linked to ETFs*, INVESTMENT NEWS (Sept. 16, 2021), <https://www.investmentnews.com/etfs-key-tax-advantage-211565> [https://perma.cc/3VMK-UHZH].

ETF needs to remove.<sup>7</sup> The round-trip transaction allows the ETF to shed additional appreciated stocks and avoid even more taxable gains.<sup>8</sup> In recent years, these trades have received a significant amount of coverage in the press<sup>9</sup> as Wall Street's "dirty little secret,"<sup>10</sup> and some in the ETF industry speculated that they were a catalyst for Senator Wyden's proposal for repealing the tax exemption.<sup>11</sup>

In 2019, the SEC promulgated Rule 6c-11, which has the potential to extend the current controversial tax benefits enjoyed by ETFs.<sup>12</sup> Prior to this Rule, ETFs had to receive individual exemptions from the Investment Company Act in order to operate.<sup>13</sup> The new rule will allow ETFs that meet the required conditions to operate without obtaining exemptive

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<sup>7</sup> See Elisabeth Kashner, *The Heartbeat of ETF Tax Efficiency*, FACTSET.COM (Dec. 18, 2017), <https://insight.factset.com/the-heartbeat-of-etf-tax-efficiency> [<https://perma.cc/RH88-8XSZ>]; see also *infra* Part II.C for additional details on heartbeat trades.

<sup>8</sup> See *id.*

<sup>9</sup> See *id.*; see also 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/> [<https://perma.cc/M2A4-GVYA>].

<sup>10</sup> See Zachary R. Mider et al., *The ETF Tax Dodge Is Wall Street's Dirty Little Secret*, BLOOMBERG BUSINESSWEEK (Mar. 29, 2019), <https://www.bloomberg.com/graphics/2019-etf-tax-dodge-lets-investors-save-big/?leadSource=uverify%20wall> [<https://perma.cc/VY83-C85B>].

<sup>11</sup> See *id.* ("This has gone too far, and it's going to be the straw that breaks the camel's back") (quoting Robert Gordon, a tax expert at Twenty-First securities); see also *ETF Prime: Dave Nadig Talks Bitcoin ETFs & ETF Taxation*, NASDAQ (Nov. 10 2021), <https://www.nasdaq.com/articles/etf-prime%3A-dave-nadig-talks-bitcoin-etfs-etf-taxation> (on file with Columbia Business Law Review) (interviewing Dave Nadig, former director of industry site, ETF.com and direct of research at ETF Trends, who wonders if "heartbeat trading" plays a role in why this whole situation has become a focus for lawmakers.)).

<sup>12</sup> 17 C.F.R. § 270.6c-11 ("Rule 6c-11"); Exchange-Traded Funds, Investment Company Act Release No. 33-10695, at 9 (Dec. 23, 2019) (to be codified at 17 C.F.R. pts. 210, 232, 239, 270, and 274), <https://www.sec.gov/rules/final/2019/33-10695.pdf> [<https://perma.cc/6JTA-KQ9J>].

<sup>13</sup> See *id.* at 5.

relief.<sup>14</sup> Importantly, the rule allows all ETFs to now use “custom baskets,” an option that was heretofore only available to certain funds.<sup>15</sup> With custom baskets, an ETF can give redeeming shareholders stocks that “do not reflect a pro rata representation of an ETF’s portfolio holdings.”<sup>16</sup> Without this ability, a fund can only disperse stocks that exactly replicate the index an ETF follows.<sup>17</sup> The broadened availability of custom baskets to all ETFs will increase their ability to take advantage of the current tax exemption because they will have greater flexibility to assemble baskets that are heavy in appreciated stocks, even if the basket is not representative of its underlying index.<sup>18</sup>

This Note first explains the history of ETFs and their tax-efficient structure as a result of a gain recognition exemption for in-kind redemptions. It then discusses their supercharging of that exemption through the use of heartbeat trades. Next, it analyzes the impact of the new custom basket availability on the tax efficiency of ETFs, separating ETFs into those funds that had custom basket ability before the SEC rule (the “control” group) and those that did not (the “treatment” group). The data reveals a discernible increase in heartbeat trades by treatment-group funds that had newly acquired the custom basket tool after Rule 6c-11’s promulgation, an increase that surpassed that of control-group funds who had previously been able to use custom baskets. Based on this increased usage in heartbeat trades as well as the fundamental difference between a heartbeat transaction and a typical in-kind redemption, this Note argues that heartbeat

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<sup>14</sup> *See id.* at 1.

<sup>15</sup> *See id.* at 80–82.

<sup>16</sup> *See id.* at 91.

<sup>17</sup> *See id.* at 82 (stating that previous exemptive orders “expressly require that an ETF’s basket generally correspond pro rata to its portfolio holdings”).

<sup>18</sup> Saqib Iqbal Ahmed, *SEC Adopts New Rules to Level Playing Field for ETF Provider*, REUTERS (Sept. 26, 2019), <https://www.reuters.com/article/us-usa-sec-etf/sec-adopts-new-rules-to-level-playing-field-for-etf-providers-idUSKBN1WB2JG> [<https://perma.cc/Y64A-3ZE8>].

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trades should have their current non-recognition of gain status revoked and should instead be classified as a taxable event.

My analysis proceeds as follows. Part II introduces ETFs and how their shares are created and redeemed, gives an overview of tax treatment and methods by which ETFs can utilize heartbeat trades to maximize tax efficiency, and details the 2019 SEC rule regarding ETFs. Part III describes the methodology used to define heartbeat trades, presents the data used to identify them, and provides the results of analyzing the data. Part IV then argues that while the broader tax exemption for in-kind redemptions should remain in place, heartbeat trades should be considered taxable events.

## II. THE MECHANICS AND TAXATION OF ETFS AND THE IMPACT OF SEC RULE 6C-11 ON ETFS.

Part II provides background on the rise and operations of ETFs and their treatment under the tax code. These pieces are necessary to understand what a heartbeat trade is, how it helps ETFs, and how the promulgation of Rule 6c-11 by the SEC can increase the use of such trades.

The Part begins with an overview of the rise of pooled investment vehicles and how certain funds shortcomings led to the rise of ETFs. It also explains the innovation of the ETF structure, which is the dual trading system. This system allows shares of ETFs to trade on exchanges like a typical stock but also the number of ETF shares can also grow or shrink through exchanges of baskets of securities with certain investors known as authorized participants (AP).

Next, Part II turns to the taxation treatment of ETFs. Under § 852(b)(6) of Subchapter M, an ETF does not have to recognize any gain on securities if it distributes them directly to the shareholder, as is the case when an ETF trades with an AP. This exemption has made ETFs very tax-efficient, and they rarely distribute capital gains to their shareholders.

The Part then describes a trade of ETFs that takes advantage of the exemption. Occasionally, an ETF may have to remove a large portion of appreciated stocks from its

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portfolio. In this case, its ordinary exchanges with APs may not be enough to remove appreciated stocks. Rather than selling the stocks and incurring the taxation on their gains, ETFs instead partner with a friendly investor, who provides them with capital to create new shares. A few days later, the same investor takes back its capital and redeems its shares, receiving the ETFs' appreciated shares in return and helping the fund avoid recognition of gains on those stocks. This is known in the industry as a heartbeat trade, and it has drawn criticism from observers as a "sham transaction" that may not be legal.

Finally, the Part describes SEC Rule 6c-11, which impacts how ETFs are regulated. Importantly, the Rule allows all ETFs to use custom baskets, which is a mechanism that allows them to exchange any basket of securities with APs rather than only exchanging ones that are a pro rata representation of their holdings. This has the potential to increase the frequency of heartbeat trades by making them operationally easier for some funds to execute as they can distribute only appreciated securities to APs rather than having to include other stocks as well.

#### A. The History and Mechanics of ETFs

##### 1. The Rise of Pooled Investment Funds and their Structural Issues

To understand the structure of an ETF, it is helpful to understand where they came from. Pooled investment vehicles grew in popularity in response to investors' desire to expand their investments.<sup>19</sup> A pooled investment vehicle is "an entity—often referred to as a fund—that an adviser creates to pool money from multiple investors. Each investor makes an investment in the fund by purchasing an interest in

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<sup>19</sup> Joanne M. Hill, Dave Nadig, And Matt Hougan, A COMPREHENSIVE GUIDE TO EXCHANGE-TRADED FUNDS (ETFs) 1, 11 (CFA Institute Research Foundation) (2015), <https://www.cfainstitute.org/-/media/documents/book/ef-publication/2015/ef-v2015-n3-1-pdf.pdf> [<https://perma.cc/V86D-XD4S>].

the fund entity, and the adviser uses that money to make investments on behalf of the fund.”<sup>20</sup> By pooling money, investors gain diversification in investments and economies of scale in trading and performance management.<sup>21</sup>

An open-end fund is a particular kind of pooled investment vehicle that offers redeemable securities to its investors.<sup>22</sup> This means that when an individual invests in the open-end fund, they will receive shares in the fund and when an investor wants to return their fund shares, the fund must give them their proportionate share of the fund’s current net assets or the cash value of that share.<sup>23</sup> The oldest and most popular open-end fund type is the mutual fund.<sup>24</sup> A mutual fund continuously sells shares of its fund to investors that are priced at the fund’s net-asset value (NAV) and continuously redeems its shares at the fund’s NAV.<sup>25</sup> The NAV of a mutual fund is based on the value of the underlying investments of the fund, minus any liabilities.<sup>26</sup> Importantly, a mutual fund only calculates its NAV once per day, using the closing market prices of the investments it holds.<sup>27</sup> Thus, investors will pay or receive the same NAV no matter what time they trade on any given day.<sup>28</sup> This limitation makes investing in a mutual fund different than investing directly in the securities the fund holds because a direct investor would be able to trade the

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<sup>20</sup> SEC, *The Jargon A to Z*, <https://www.sec.gov/jargon-z#PIV> [<https://perma.cc/LG4M-ZS9L>]; see also 17 C.F.R. § 275.206(4)-8(b).

<sup>21</sup> HILL ET. AL, *supra* note 19, at 11.

<sup>22</sup> Jeffrey M. Colon, *The Great ETF Tax Swindle: The Taxation of In-Kind Redemptions*, 122 PENN ST. L. REV. 1, 11 (2017) (citing 15 U.S.C. §80a-5(a)(1) (2012) (which defines redeemable securities)).

<sup>23</sup> 15 U.S.C. §§ 80a-2(a)(32).

<sup>24</sup> Colon, *supra* note 22, at 11.

<sup>25</sup> *Id.*; 17 C.F.R. § 270-22c-1(a).

<sup>26</sup> Joshua Kennon, *Understanding the Net Asset Value of Your Favorite Funds*, THE BALANCE (Nov. 14, 2021) <https://www.thebalance.com/what-is-the-net-asset-value-or-nav-of-a-mutual-fund-357949>

[<https://perma.cc/GV3B-M45H>] (defining NAV as “net worth or book value—calculated as asset less any liabilities—of the mutual fund based upon the closing pieces of the underlying investment the fund owners”).

<sup>27</sup> See HILL ET. AL, *supra* note 19, at 13.

<sup>28</sup> See *id.*



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stock themselves continuously as prices change. It also makes a mutual fund a poor short-term investment vehicle because investors cannot move out of positions if prices change throughout the day as they must hold until closing.<sup>29</sup>

Another pooled investment vehicle structure, the “closed-end” fund, is not subject to the same intraday trading limitation as mutual funds.<sup>30</sup> Closed-end funds offer a set number of shares in an initial fund offering; those shares are bought and sold on an exchange, eliminating the need for investors to transact with the fund itself like in mutual funds.<sup>31</sup> This allows investors to exit their positions at any time of day at the price at that time, rather than at the closing price.<sup>32</sup> Unlike mutual funds, closed-end funds suffer from their price being set by the market rather than by the NAV of their underlying holdings.<sup>33</sup> In fact, the shares of closed-end funds often trade at a discount of their NAVs,<sup>34</sup> which means an investor selling a share would be receiving a price that is less than the fair market value of her portion of the fund’s portfolio.

## 2. Mechanics of ETFs

The deviation of closed-end funds from their underlying NAVs and the limitation of buying and selling a mutual fund only at its closing price spurred the creation of ETFs.<sup>35</sup> First introduced in the United States in 1993,<sup>36</sup> the ETF industry

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<sup>29</sup> See Colon, *supra* note 22, at 11 (“This time lag makes traditional mutual funds poor vehicles to implement rapid trades based on breaking news”).

<sup>30</sup> *Id.* at 12.

<sup>31</sup> *Id.*

<sup>32</sup> *Id.*

<sup>33</sup> See *id.* at 14.

<sup>34</sup> *Id.*

<sup>35</sup> *Id.*

<sup>36</sup> See HILL ET. AL, *supra* note 19, at 14 (discussing the launch of the SPDR ETF).

has now grown to manage over \$9 trillion in assets.<sup>37</sup> ETFs structure allows them to provide intraday trading while still maintaining parity between its share price and its NAV.<sup>38</sup>

An ETF is a “a basket of securities—such as stocks, bonds, currencies or commodities—that can be bought and sold in a single trade on an exchange.”<sup>39</sup> The basket of securities tracks an outside benchmark, such as a widely-followed index (e.g., the S&P 500).<sup>40</sup> The innovation of ETFs comes from their dual trading system: ownership claims on the ETF are themselves securities that trade on exchanges just like a typical stock, but in addition, the number of ETF shares can also grow or shrink through creations/redemptions in the primary market by specific investors.<sup>41</sup> These investors, known as authorized participants (APs), are typically large institutional investors who have an agreement with an ETF that allows them to create and redeem shares.<sup>42</sup> An ETF is only allowed to create and redeem shares with those specified APs.<sup>43</sup> If an AP wants to create new shares of an ETF, it does so by providing an ETF with a small amount of cash and a basket of securities known as the “creation basket” that has been specified by the ETF and is normally made up of the securities that are constituents of the index it follows.<sup>44</sup> In exchange, it will receive a set number of shares of the ETF.<sup>45</sup> Such transactions have a minimum number of shares that must be created, which is known as the creation unit and is typically around

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<sup>37</sup> Dan Mika, *2021 ETF Inflows Hit \$900B*, ETF.COM (Jan. 3, 2022), <https://www.etf.com/sections/monthly-etf-flows/etf-monthly-fund-flows-december-2021> [<https://perma.cc/Z62G-N8VZ>].

<sup>38</sup> Colon, *supra* note 22, at 14.

<sup>39</sup> State Street Global Advisors, *What Is an ETF?*, STATE STREET GLOBAL ADVISORS SPDR <https://www.ssga.com/us/en/intermediary/etfs/resources/education/what-is-an-etf>. [<https://perma.cc/J89J-5YYA>]

<sup>40</sup> See Laurent Deville, *Exchange Traded Funds: History, Trading, and Research*, HANDBOOK OF FINANCIAL ENGINEERING, 67, 67 (2008).

<sup>41</sup> *Id.* at 76.

<sup>42</sup> *Id.* at 77.

<sup>43</sup> *Id.*

<sup>44</sup> *Id.*

<sup>45</sup> *Id.* at 77–78.

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50,000 shares.<sup>46</sup> If an AP wants to redeem shares of an ETF, it does so by returning shares in creation units to the fund.<sup>47</sup> The AP will then receive an “in-kind” redemption from the fund and will be given a basket of securities, known as the “redemption basket”, that makes up the underlying index plus a cash amount.<sup>48</sup>

The AP creation and redemption process is important for keeping the price of an ETF in line with the NAV of its underlying portfolio of securities.<sup>49</sup> The price of an ETF share depends on the supply and demand for its shares on exchanges, while the NAV depends on the supply and demand for the various stocks that the fund holds.<sup>50</sup> Since an ETF is just a basket of these stocks, its stock price and the NAV of its holdings should (at least in theory) be the same. In practice, however, the tight and slack demand for the ETF's shares on a certain day can cause its stock price to wander from the NAV, and the AP mechanism plays a key course-correcting role when this deviation occurs.<sup>51</sup> If, for example, the ETF's shares were bid up above its NAV, APs could buy the basket of securities that an ETF tracks for less than the inflated ETF price and then present those to the ETF in exchange for new shares.<sup>52</sup> The APs could then sell the new shares at the inflated price.<sup>53</sup> Through this arbitrage dynamic, the price of the ETF declines due to the increased supply of shares from the new APs share creation, and the price of the underlying securities increases because of the APs new demand for them.<sup>54</sup> If, at the end of the process the ETF is still trading at a premium, the APs can simply repeat the above steps until

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<sup>46</sup> *Id.*

<sup>47</sup> *Id.*

<sup>48</sup> See HILL ET AL., *supra* note 19, at 24.

<sup>49</sup> *Id.* at 25.

<sup>50</sup> See Deville, *supra* note 40, at 12.

<sup>51</sup> See *id.*

<sup>52</sup> See HILL ET. AL, *supra* note 19, at 25–27.

<sup>53</sup> *Id.*

<sup>54</sup> *Id.*

the price of the ETF eventually converges with the NAV of its underlying stocks.<sup>55</sup>

Due to the arbitrage process, ETFs are constantly accepting securities from APs in creation transactions and distributing securities to APs in redemption transactions. Given the frequency and importance of these exchanges, it is important to understand their tax implications for the funds.

## B. The Taxation of ETFs and the Importance of §852(b)(6)

### 1. Taxation of Regulated Investment Companies (RICs)

For tax purposes, an ETF can be classified as one of five structures: regulated investment company (RIC), unit investment trusts (UIT), grantor trusts, limited partnerships, and exchange-traded notes.<sup>56</sup> This Note will focus only on ETFs organized as RICs because that is how most recent ETFs have been organized.<sup>57</sup>

RICs and their investors are taxed under Subchapter M.<sup>58</sup> Subchapter M enables the fund to generally avoid entity-level taxation by distributing its gains in dividends to shareholders, who are then taxed.<sup>59</sup> This is accomplished by allowing funds to deduct dividends distributed to shareholders from the fund's taxable income.<sup>60</sup> To qualify as a RIC, a fund must be a domestic corporation that is registered under the Investment Company Act of 1940 ("the 1940 Act") as a management company or unit investment trust.<sup>61</sup> A fund must also elect to be a RIC on its tax return and derive at least 90 percent of its gross income as passive income and meet certain

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<sup>55</sup> *Id.*

<sup>56</sup> See *The Definitive Guide to ETF Taxation*, ETF.COM (2015) at 3, [https://www.etf.com/docs/011615\\_ETFcom\\_TaxationGuide\\_2015Edition.pdf](https://www.etf.com/docs/011615_ETFcom_TaxationGuide_2015Edition.pdf) [<https://perma.cc/K35A-UFQ4>].

<sup>57</sup> See Colon, *supra* note 22, at 14.

<sup>58</sup> *Id.* at 16; 26 U.S.C. §§ 851–55 (2012).

<sup>59</sup> See Colon, *supra* note 22, at 16.

<sup>60</sup> 26 U.S.C. § 852(b)(2)(D)(2012).

<sup>61</sup> 26 U.S.C. §851(a)(1).

diversification requirements in its asset distribution.<sup>62</sup> To prevent a fund from accumulating income,<sup>63</sup> a RIC must also distribute at least ninety percent of its income as dividends to its shareholders.<sup>64</sup> If a fund meets the prior requirements, it can eliminate its taxable income if it distributes all its income to its shareholders.

## 2. § 852(b)(6) and its History

For ETFs, the most important component of Subchapter M is §852(b)(6), which allows RICs to not recognize a gain if they distribute appreciated securities to shareholders through in-kind distributions, if the distribution was at the shareholder's demand.<sup>65</sup>

The nonrecognition provision was created to buttress certain provisions of the 1940 Act. The 1940 Act requires an open-end fund redeem shareholders' shares on demand<sup>66</sup> and pay them within seven days.<sup>67</sup> In redemptions, funds are permitted to meet requests with in-kind distributions rather than cash under section 2(a)(32).<sup>68</sup> The allowance of in-kind redemptions is meant "to relieve open-end investment companies from having to make forced sales of their securities that might otherwise occur if redemptions were required

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<sup>62</sup> See Colon, *supra* note 22, at 17; see also 26 U.S.C. §§851(b)(1), 851(b)(2) (2012) (requiring passive income); §§851(3)(A), 851(3)(B) (2012) (creating diversification requirements).

<sup>63</sup> See Colon, *supra* note 22, at 17.

<sup>64</sup> 26 U.S.C. §852(a) (2012).

<sup>65</sup> 26 U.S.C. § 852(b)(6) ("Section 311(b) shall not apply to any distribution by a regulated investment company to which this part applies, if such distribution is in redemption of its stock upon the demand of the shareholder"); 26 U.S.C. § 311(b) ("In general If (A) a corporation distributes property . . . to a shareholder in a distribution to which subpart A applies, and (B) the fair market value of such property exceeds its adjusted basis. . . gain shall be recognized to the distributing corporation as if such property were sold to the distributed at its fair market value").

<sup>66</sup> See Steven Z. Hodaszy, *Tax-Efficient Structure or Tax Shelter? Curbing ETFs' Use of Section 852(b)(6) for Tax Avoidance*, 70 TAX LAW. 537, 569 (2017).

<sup>67</sup> See *id.*

<sup>68</sup> See *id.* at 570; 15 U.S.C. § 80a-2(a)(32).

always to be satisfied in cash.”<sup>69</sup> This option is especially useful in volatile market times.<sup>70</sup> If, in a time of market volatility, fund shareholders want to redeem their shares for cash en masse, mutual funds’ mass selling of shares to satisfy these requests in cash could further increase market volatility and also harm the funds if they were selling assets at depressed prices due to the volatility.<sup>71</sup>

Without §852(b)(6), this relief valve for mutual funds would be undermined.<sup>72</sup> If mutual funds were required to recognize gain on distributions, they would need to distribute the gains to their shareholders as cash to avoid entity level taxation.<sup>73</sup> To generate the cash, the funds would have to sell additional assets, which could also incur capital gains,<sup>74</sup> and “would result in a depletion of the RIC’s investment portfolio.”<sup>75</sup> These additional sales would contribute to the market distress Section 2(a)(32) aims to avoid.<sup>76</sup> By exempting funds from recognizing gain on in-kind redemptions, §852(a)(6) prevents this result.<sup>77</sup>

Although created with mutual funds in mind, mutual funds in practice rarely engage in in-kind redemptions.<sup>78</sup> This is because their investors prefer to be paid in cash, rather than

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<sup>69</sup> See *id.* at 575 (quoting Susan A. Johnston & James R. Brown, Jr., TAXATION OF REGULATED INVESTMENT COMPANIES AND THEIR SHAREHOLDERS ¶ 3.06[2][c] (WG&L 2009)).

<sup>70</sup> See Colon, *supra* note 22, at 39.

<sup>71</sup> See *id.* at 39 (citing Michael S. Piwowar, Comm’r, SEC, Remarks at the 2015 Mutual Fund and Investment Management Conference (Mar. 16, 2015) (“the ability of an investment company to make redemptions in this manner is important because the sale of sizable blocks of securities to effect redemptions in cash would have the tendency to depress the market price of those securities”)); see also *id.* at 5.

<sup>72</sup> See *id.* at 40.

<sup>73</sup> See *id.* at 40; see also Hodaszy, *supra* note 66, at 575.

<sup>74</sup> See Colon, *supra* note 22, at 5.

<sup>75</sup> See Hodaszy, *supra* note 66, at 575.

<sup>76</sup> See Colon, *supra* note 22, at 5; see also Hodaszy, *supra* note 66, at 575.

<sup>77</sup> See Hodaszy, *supra* note 66, at 575.

<sup>78</sup> See *id.* at 579.

in securities.<sup>79</sup> ETFs, on the other hand, always satisfy their redemptions in-kind due to their primary market structure, so §852(b)(6) is much more important to ETF operations.

### 3. ETFs' Use of Section 852(b)(6)

This exemption is important for ETFs because, as previously discussed, a key component of how an ETF operates is that APs redeem shares of the fund for the underlying basket of securities in an “in-kind” redemption.<sup>80</sup> ETFs are “incentivized to exchange securities from tax lots with the lowest cost basis and highest unrealized gains”<sup>81</sup> because this allows them to dispose of securities that would incur the highest capital gains taxation in an ordinary sale.<sup>82</sup> Since ETFs do not recognize a gain, they are not required to distribute any capital gains to their shareholders as would otherwise be required.<sup>83</sup> Thus, ETFs are incredibly tax-efficient vehicles and rarely distribute any capital gains at all.<sup>84</sup>

Importantly, APs are also not taxed on their acceptance of appreciated securities from an ETF, and they do not inherit the ETF's original basis<sup>85</sup> in the securities, which would cause

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<sup>79</sup> See *id.*

<sup>80</sup> See *supra* Part II.A.2.

<sup>81</sup> See Rabih Moussawi, Ke Shen & Raisa Velthuis, *The Role of Taxes in the Rise of ETFs*, (Aug. 31, 2022) (manuscript at 14), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3744519](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3744519) [<https://perma.cc/GCK6-6K8G>]; see also Colon, *supra* note 22, at 29.

<sup>82</sup> See Moussawi et al., *supra* note 81, at 6.

<sup>83</sup> See *supra* Part II.B.1.

<sup>84</sup> See Ben Johnson, *ETFs Again Proved Their Worth to Taxable Investors in 2020*, MORNINGSTAR (Dec. 15, 2020), <https://www.morningstar.com/articles/1014538/etfs-again-proved-their-worth-to-taxable-investors-in-2020> [<https://perma.cc/6U8J-XL3C>]; see also Moussawi et al., *supra* note 81, at 4–5 (finding that “ETFs distribute almost no capital gains at all (0.1%), in contrast to the average capital gains distribution yield of 3.44% (1.76%) for active (index) mutual funds”).

<sup>85</sup> Basis is “generally the amount of your capital investment in property for tax purposes.” In the case of stocks, it would be what the ETF had originally paid to acquire them. See *Topic No. 703 Basis of Assets*, IRS (last

APs to pay incur a higher tax if they later sold the stocks.<sup>86</sup> Instead, they take a basis equal to the fair market value of the various securities at the time of the redemption.<sup>87</sup> When combined with §852(b)(6), neither ETFs nor APs are taxed on the gains of the distributed securities.<sup>88</sup>

In theory, gains from appreciated securities do not disappear but are instead deferred.<sup>89</sup> The gains from the appreciated securities will be taxed when ETF shareholders sell their shares in the ETF,<sup>90</sup> because the ETF shares will have a higher price than when they were purchased at to reflect the gains experienced by the securities they held.<sup>91</sup> When a shareholder sells, they will thus be taxed on the realized gain, which is the excess of the new higher price of the ETF (amount realized<sup>92</sup>) over what was paid initially (basis).<sup>93</sup>

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visited Feb. 9, 2023), <https://www.irs.gov/taxtopics/tc703> [<https://perma.cc/RQS4-XTDF>].

<sup>86</sup> This would be because the AP would thus inherit the ETF's cost of acquiring the stock, which would make the gain from its later sale greater. Since a stock is a capital asset, the capital gains tax would apply. *See* 26 U.S.C. §1221(a)(1) (defining a stock as "capital asset"). *See also* 26 U.S.C. §1001(a) ("The gain from the sale or other disposition of property shall be the excess of the amount realized therefrom over the adjusted basis provided in section 1011 for determining gain").

<sup>87</sup> *See* Colon, *supra* note 22, at 27; *see also* Treas. Reg. §1.1012-1(d) ("For purposes of determining the basis of the individual elements of an investment unit . . . the cost of such investment unit shall be allocated to such individual elements on the basis of their respective fair market values"); 26 U.S.C. §1012(a) ("The basis of property shall be the cost of such property").

<sup>88</sup> *See* Colon, *supra* note 22, at 27.

<sup>89</sup> *See id.* at 27–28.

<sup>90</sup> *See id.* at 28 (demonstrating that redeemed appreciated securities still raise the value of an ETF share).

<sup>91</sup> *See id.* at 28–29.

<sup>92</sup> 26 U.S.C. § 1001(b) (defining "amount realized").

<sup>93</sup> *Id.* § 1012(a) ("The basis of property shall be the cost of such property").



### C. The “Heartbeat Trade”

In recent years, there has been significant coverage of trades undertaken by some ETFs that allow them to maximize the exemption in §852(b)(6).<sup>94</sup> Sometimes, an ETF's daily trading activities do not exhibit sufficient volume for a fund to wash out its gains by distributing appreciated securities.<sup>95</sup> In response to such a scenario, however, a common workaround—known as a heartbeat trade—has emerged.<sup>96</sup> The fund receives a large influx of capital from an AP, usually a bank,<sup>97</sup> to create fund shares. Within a few days, the same fund receives a (pre-arranged) redemption order from the same market maker, resulting in a large in-kind distribution of the ETF's holdings.<sup>98</sup> This process is aimed specifically to transfer out appreciated securities in the in-kind redemption basket, washing out any capital gains for the ETF.<sup>99</sup> Additionally, the trade causes no hardship for the AP partner as it will take a fair-market value basis in the stocks given rather than inheriting the ETF's.<sup>100</sup> The term heartbeat trade was originally coined by Elisabeth Kashner, who noted the flows resembled an ECG monitor.<sup>101</sup>

Such trades are especially common for funds around times in which a stock is leaving the index the fund tracks.<sup>102</sup> The

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<sup>94</sup> See generally, e.g., Kashner, *supra* note 7; Mider et al., *supra* note 10; Moussawi et al., *supra* note 81; Lee A. Sheppard, *ETFs as Tax Dialysis Machines*, 130 TAX NOTES FED. 909, 911, 914 (Nov. 11, 2019).

<sup>95</sup> See Kashner, *supra* note 7.

<sup>96</sup> See *id.*

<sup>97</sup> See Mider et al., *supra* note 10 (“The biggest ETF managers, including BlackRock, State Street, and Vanguard Group, all use heartbeats, with help from banks such as Bank of America, Credit Suisse Group, and Goldman Sachs Group”).

<sup>98</sup> See *id.*

<sup>99</sup> See *id.*

<sup>100</sup> See *supra* Part II.B.3.

<sup>101</sup> *Id.* For an illustration of a “heartbeat trade,” see Figure 2 in Part III.A.1.

<sup>102</sup> See Kashner, *supra* note 7; see also Mider et al., *supra* note 10; see also Asjylyn Loder, *ETF ‘Heartbeats’ Show Influence of Indexes*, WALL STREET JOURNAL (June 5, 2019), <https://www.wsj.com/articles/etf->

significance of heartbeat trades at this juncture is unsurprising, because the fund needs to remove its entire holdings of the departing stock—a financial “juice cleanse”—that would be hard to achieve through the normal procedure of stock redemptions without having to recognize substantial tax gains on the stock.<sup>103</sup> Since 2000, Bloomberg identified 2,261 heartbeat trades worth \$330 billion.<sup>104</sup> In 2018 alone, it estimated that there were 548 heartbeat trades worth \$98 billion.<sup>105</sup> In the same year, Bloomberg reported that ETFs avoided a tax on more than \$211 billion in gains and estimated the avoided gain translated to “\$23 billion in deferred taxes.”<sup>106</sup>

Although many funds routinely use them, heartbeat trades are a source of debate and controversy. Those in the ETF industry consider them smart tax strategy<sup>107</sup>, but others argue the trades are “sham transactions”, only undertaken for the purpose of tax avoidance.<sup>108</sup> In the view of critics, heartbeat trades differ from typical in-kind redemptions because they are done between “a cooperative set of investment

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heartbeats-show-influence-of-indexes-11559736000  
[<https://perma.cc/3TGH-6H67>].

<sup>103</sup> See also Mider et al., *supra* note 10.

<sup>104</sup> *Id.*

<sup>105</sup> *Id.*

<sup>106</sup> *Id.*

<sup>107</sup> See *id.* (“To people in the industry, heartbeats are just smart tax strategy. ‘It’s removing a negative from the investment process,’ says Bruce Bond, a pioneering ETF executive”).

<sup>108</sup> See *id.* (“If the IRS were looking at it, they would say that’s a sham transaction,” says Peter Kraus, a former chief executive officer of mutual fund); see also *id.* (“Does the bank have some independent reason for this investment? . . . if not, Colon says, ‘the only reason you’re doing this is to facilitate the avoidance of tax.’”); see also Bernice Napach, *6 Big Changes That Could Transform the ETF Market*, THINKADVISOR (July 15, 2019), <https://www.thinkadvisor.com/2019/07/15/6-big-changes-that-could-transform-the-etf-market/> [<https://perma.cc/9TT5-32CY>] (quoting Robert Gordon, president of Twenty-First Securities, as saying heartbeat trades “smack of prearranged transactions,” that violate securities law).

professionals”<sup>109</sup> in “prearranged transactions.”<sup>110</sup> Routine redemptions, on the other hand, originate with shareholder demand and while a fund benefits from offloading its low-basis stocks, the main purpose of the redemption is satisfy the AP’s demand to redeem its fund shares.<sup>111</sup> Elisabeth Kashner, Director of ETF Research at Factset, put it best in saying: “[w]hile heartbeat trades seem to be on solid legal footing in the technical sense, it is fair to ask if they have strayed from the spirit of the law that governs them.”<sup>112</sup>

Although critics have pointed out how heartbeat trades differ from typical in-kind transactions and have questioned their legality, the IRS remains silent on the issue. It has only stated that it is aware of heartbeat trades and would not say if it considers them an abuse.<sup>113</sup>

#### D. SEC Rule 6c-11 and Its Impact

On September 26, 2019 the SEC promulgated Rule 6c-11 under the 1940 Act.<sup>114</sup> Before this rule change, ETFs had to obtain exemptive relief from certain requirements of the 1940

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<sup>109</sup> See Elisabeth Kashner, *Heartbeats and Taxes: Don't Let Tax Treatments Give You a Heart Attack*, FACTSET.COM (Apr. 11, 2019), <https://insight.factset.com/heartbeats-and-taxes-dont-let-tax-treatments-give-you-a-heart-attack> [<https://perma.cc/H6MR-6LH4>].

<sup>110</sup> See Napach, *supra* note 108 (quoting Robert Gordon, president of Twenty-First Securities, as saying heartbeat trades “smack of prearranged transactions,” that violate securities law).

<sup>111</sup> See Kashner, *supra* note 109 (“Routine creations/redemptions originate with shareholder activity. While portfolio managers take advantage of routine redemptions to offload low-basis stocks, a routine redemption’s main purpose is to satisfy investor demand for fund shares.”).

<sup>112</sup> See Kashner, *supra* note 109.

<sup>113</sup> See Mider et al., *supra* note 10 (“The Internal Revenue Service says it’s aware of heartbeats and wouldn’t say whether it considers them an abuse”).

<sup>114</sup> See 17 C.F.R. § 270.6c-11 (“Rule 6c-11”) [good] [correct]; Exchange-Traded Funds, Investment Company Act Release No. 33-10695, at 9 (Sept. 25, 2019) (to be codified at 17 C.F.R. pts. 210, 232, 239, 270, and 274), <https://www.sec.gov/rules/final/2019/33-10695.pdf> [<https://perma.cc/M8C4-JQHE>] [hereinafter “SEC Final Rule”].

Act from the SEC.<sup>115</sup> These exemptions usually included the ability to trade shares at prices other than the NAV and the ability to only redeem shares in creation units with APs rather than in individual shares.<sup>116</sup> Although all exemptive orders give ETFs those capabilities, exemptive orders are not identical and can differ in important respects.<sup>117</sup> Exemptive orders that have been obtained more recently “typically hav[e] tighter restrictions on key ETF operations, such as the creation and redemption basket process.”<sup>118</sup>

Rule 6c-11 was adopted to standardize the operation amongst all ETFs and to establish “a clear and consistent framework for the vast majority of ETFs” that would allow “ETFs to come to market more quickly without the time or expense of applying for individual exemptive relief.”<sup>119</sup> The rule allows eligible ETFs to operate without first obtaining an exemptive order if they meet the uniform requirements laid out in the rule.<sup>120</sup> The requirements include meeting the SEC’s definition of fund type that is eligible for the rule, disclosing certain information on the fund’s website, complying with additional recordkeeping, and providing additional information in Form N-1A and in annual prospectuses.<sup>121</sup> There was a one-year transition period for compliance with Rule 6c-11.<sup>122</sup> On December 22, 2020, prior exemptive orders

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<sup>115</sup> See HILL ET AL., *supra* note 19, at 34.

<sup>116</sup> *Id.* at 36.

<sup>117</sup> ROPES AND GRAY, *2019 Final ETF Rulemaking – Summary and Analysis*, 1, 7 (Oct. 15, 2019), <https://www.ropesgray.com/en/newsroom/alerts/2019/10/2019-Final-ETF-Rulemaking-Summary-and-Analysis> [<https://perma.cc/GT5R-XDVG>].

<sup>118</sup> *Id.*

<sup>119</sup> Press Release, SEC, *SEC Adopts New Rule to Modernize Regulation of Exchange-Traded Funds* (Sept. 26, 2019), <https://www.sec.gov/news/press-release/2019-190> [<https://perma.cc/JC9C-28XG>].

<sup>120</sup> WILLKIE FARR & GALLAGHER LLP, *SEC Adopts Rule Modernizing ETF Regulation*, 1 (Oct. 29, 2019), [https://www.willkie.com/-/media/files/publications/2019/10/sec\\_adopts\\_rule\\_modernizing\\_etf\\_regulation.pdf](https://www.willkie.com/-/media/files/publications/2019/10/sec_adopts_rule_modernizing_etf_regulation.pdf) [<https://perma.cc/YPW4-S2VH>].

<sup>121</sup> See SEC Final Rule, *supra* note 114.

<sup>122</sup> See *id.* at 150.

were rescinded and funds began to operate under the exemptive relief provided by Rule 6c-11.<sup>123</sup>

For the purpose of this Note, the most significant change brought about by Rule 6c-11 was the newfound blanket ability of all ETFs to use custom baskets as part of their creation and redemption process.<sup>124</sup> Custom baskets are “baskets that do not reflect: (i) a pro rata representation of the ETF’s portfolio holdings; (ii) a representative sampling of the ETF’s portfolio holdings; or (iii) changes due to a rebalancing or reconstitution of the ETF’s securities market index.”<sup>125</sup> Under Rule 6c-11, all ETFs are allowed to accept and redeem custom baskets.<sup>126</sup> To ensure an AP could exert power over an ETF and force them to transact in a basket that is for the benefit of the AP, funds are required to adopt written policies and procedures “set[ting] forth detailed parameters for the construction and acceptance of custom baskets that are in the best interests of the [ETF] and its shareholders.”<sup>127</sup>

The ability for all funds to use this tool is a significant change because before, only certain, older funds could use custom baskets. Before 2006, exemptive orders “did not expressly limit ETFs’ baskets to a pro rata representation of the ETF’s portfolio holdings,”<sup>128</sup> meaning funds granted orders during that time have always been able to use custom baskets. However, since approximately 2006, exemptive orders placed tighter restrictions on basket composition and generally required ETF baskets to correspond pro rata to their portfolio holdings, except under limited circumstances.<sup>129</sup>

These differing restrictions led to an uneven playing field amongst ETFs.<sup>130</sup> Funds that lacked basket flexibility

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<sup>123</sup> See *id.* at 17, 150.

<sup>124</sup> See *id.* at 80.

<sup>125</sup> See *id.* at 91–92.

<sup>126</sup> See 17 C.F.R. § 270.6c-11(c)(3)(i).

<sup>127</sup> 17 C.F.R. § 270.6c-11(c)(3)(i); SEC Final Rule, *supra* note 114, at 80.

<sup>128</sup> SEC Final Rule, *supra* note 114, at 81.

<sup>129</sup> See *id.* at 82.

<sup>130</sup> See *id.* at 83 (noting that “[a]s a result, these differing conditions and requirements for basket composition in our exemptive orders may have

typically needed to include more securities in basket transactions, making it more costly to assemble and liquidate baskets.<sup>131</sup> This could affect the arbitrage mechanism and lead to wider spreads between the NAV and ETF price.<sup>132</sup> As a result, newer ETFs were at a competitive disadvantage to older funds.<sup>133</sup> By removing the basket restriction, the rule corrected the disadvantage to promote competition amongst funds.<sup>134</sup>

New access to custom baskets also has the potential to further the tax efficiency of ETFs as they will have even more freedom to pass appreciated stocks to APs in in-kind redemptions.<sup>135</sup> A fund can now pass on only appreciated stocks to an AP and omit stocks without gain, even if they are part of the index the ETF tracks because the fund is no longer limited to baskets that are a pro rata representation of its portfolio.<sup>136</sup> In particular, the extension of custom-basket use to all ETFs has the potential to increase heartbeat trades.<sup>137</sup> This is because “[h]eartbeat trades are operationally easier to implement for certain ETFs that qualify for the custom basket exemption, as the redemption basket would consist only of the appreciated securities leaving the fund rather than the previously required pro rata representation basket, thus

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created a disadvantage for newer ETFs that are subject to our later, more stringent restrictions on baskets”).

<sup>131</sup> See *id.* at 83.

<sup>132</sup> See *id.*

<sup>133</sup> See *id.*

<sup>134</sup> See *id.* at 197.

<sup>135</sup> See Saqib Iqbal Ahmed, *SEC Adopts New Rules to Level Playing Field for ETF Provider*, REUTERS (Sept. 26, 2019), <https://www.reuters.com/article/us-usa-sec-etf/sec-adopts-new-rules-to-level-playing-field-for-etf-providers-idUSKBN1WB2JG> [<https://perma.cc/RD6J-XGNM>].

<sup>136</sup> See *id.*

<sup>137</sup> See *id.* (quoting Elizabeth Kashner) (“The custom basket provision, now extended to virtually all players, will increase access to the ‘heartbeat’ trade, allowing newer entrants to re-balance portfolios without passing along capital gains.”).

reducing the size and costs of the overall heartbeat trades.”<sup>138</sup> Most heartbeat trades occur when an ETF needs to remove a stock due to a change in the index it tracks.<sup>139</sup> For example, in September 2018, many technology stocks, including Facebook and Alphabet were moved from the technology sector into a new S&P sector, communication Services.<sup>140</sup> Therefore, ETFs tracking indices based on the Technology sector needed to remove the stocks from their portfolio since they were no longer a part of the index.<sup>141</sup> One such fund was State Street’s Technology Spider Select Sector SPDR(XLK). As an older fund, State Street has “grandfathered” status, giving it access to custom baskets. When Facebook and Alphabet were changing sectors, XLK took advantage of this feature to execute a heartbeat trade, where an investor provided the fund with \$3.3 billion of new stocks two days before the index change, only to pull \$3 billion back out two days later.<sup>142</sup> Instead of taking back the shares it provided the fund just days before, the investor left with the fund’s oldest shares of Facebook and Alphabet, which were embedded with significant taxable gains.<sup>143</sup> With the passage of 6c-11, newer funds will now be able to replicate this XLK trade with heartbeat trades of their own.<sup>144</sup> These trades are likely to further increase the tax-efficiency of the ETF sector but are also likely to fuel the growing debate about the legality of such trades.

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<sup>138</sup> Moussawi et al., *supra* note 81, at 15.; *see also* Mider et al., *supra* note 10 (“A few ETFs can’t fully benefit from heartbeats, because the Securities and Exchange Commission restricts their ability to pick and choose which stocks to hand over to redeeming investors.”).

<sup>139</sup> *See* Mider et al., *supra* note 10.

<sup>140</sup> *See* Noel Randewich, *Facebook, Alphabet Shifted in Sector Classification System*, REUTERS (Jan. 11, 2018), <https://www.reuters.com/article/us-s-p-sectors/facebook-alphabet-shifted-in-sector-classification-system-idUSKBN1F037G> [<https://perma.cc/7QWF-V4TK>].

<sup>141</sup> *See* Mider et al., *supra* note 10.

<sup>142</sup> *Id.*

<sup>143</sup> *Id.*

<sup>144</sup> *See* Ahmed, *supra* note 135.

### III. AN EMPIRICAL ESTIMATION OF GROWTH IN HEARTBEAT TRADES SINCE RULE 6C-11

The purpose of estimating the impact of Rule 6c-11's impact is because if as predicted, the Rule has led heartbeat usage to increase, then it is likely to increase the controversy surrounding the use of such trades. As mentioned earlier, the IRS has yet to comment on heartbeat trade legality, beyond stating that it is aware heartbeat trades exist. However, if the SEC's rule has increased the use in a substantial way, it may no longer be tenable for the IRS to remain silent as heartbeat trade growth continues.

Part III analyzes the impact of Rule 6c-11 on the use of heartbeat trades by ETFs. This Part first describes the methodology used to identify when a fund undertook a heartbeat trade. After establishing the methodology used, the Part explains how ETFs were sorted into funds that have always had custom basket access and those who gained the tool after the promulgation of Rule 6c-11. Next, it lays out the time periods that will be compared to assess Rule 6c-11's impact. Due to a year-long transition period that makes it difficult to tell when funds actually gained access to custom baskets, the use of heartbeat trades in 2019 (the year before 6c-11 went into effect) will be compared to 2021 (the first full year in which all funds must be in compliance with 6c-11). The Part then discusses the data sources used and presents the results of the analysis. Finally, the Part presents a simple DiD model that evaluates the differences in the "treatment" group's use of heartbeat trades. Both sets of results show that heartbeat trades overall have grown since the passage of Rule 6c-11. In particular, the growth in their usage has been much greater for funds that recently gained access to custom baskets compared to those funds that have always had access. Such results show that the implementation of Rule 6c-11 and the blanket extension of custom basket ability has contributed to an increase in heartbeat trades.



## A. Methodology

### 1. Heartbeat Trade Definition

To identify heartbeat trades, I follow the methodology used by Moussawi, Shen and Velthuis in their forthcoming paper on ETF heartbeat trades and tax efficiency.<sup>145</sup> This method uses fund flow, a measure of the net assets that flow in or out of an ETF each day through the creation and redemption process.<sup>146</sup> Flow data can be used to identify heartbeat trades since a heartbeat trade is characterized by a large inflow of capital followed by a large matching outflow in the following days.<sup>147</sup>

In applying this method, I calculate the flow of a fund on a given day,  $t$ , as:

$$flow = (shares\ outstanding_t - shares\ outstanding_{t-1})^{148}$$

Using this variable, I identified large inflows as positive flows into a fund “that have a magnitude of at least 1% relative to shares outstanding.”<sup>149</sup> I then excluded flows that equal 25,000 or 50,000 shares, the size of a typical creation unit, because these flows, according to Moussawi et al, likely belong to “infrequently traded ETFs and are liquidity driven.”<sup>150</sup> I also accounted for funds’ stock splits and excluded

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<sup>145</sup> Moussawi et al., *supra* note 81, at 17. I chose this method because it builds upon the method used by Mider et al. in *The ETF Tax Dodge Is Wall Street's 'Dirty Little Secret'*, the first source to lay out a mechanical way to identify heartbeat trades. The method used by Moussawi et al. has to benefit of listing all criteria used to screen for heartbeats, while Mider et al. list some but also allude to “other criteria” that was not disclosed.

<sup>146</sup> See Margaret Giles, *What Are Fund Flows and Why Do They Matter?*, MORNINGSTAR (Dec. 17, 2020), <https://www.morningstar.com/articles/1014854/what-are-fund-flows-and-why-do-they-matter> [<https://perma.cc/88CP-D3U7>].

<sup>147</sup> See Moussawi et al., *supra* note 81, at 17.

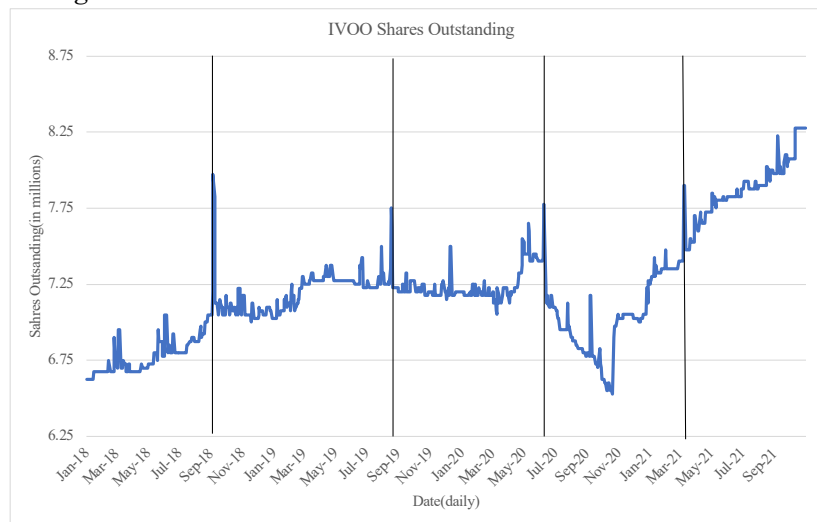
<sup>148</sup> See Dave Nadig, *Understanding ETF Daily Data*, ETF.COM (July 6, 2010), <https://www.etf.com/sections/blog/7766-understanding-etf-daily-data.html> [<https://perma.cc/YAS4-35RY>] (noting that “Changes in shares outstanding create a picture of asset flows from day to day”).

<sup>149</sup> Moussawi et al., *supra* note 81, at 17.

<sup>150</sup> *Id.*

the large flows resulting from stock splits.<sup>151</sup> I determined if an inflow is a heartbeat trade by comparing the inflow to the flows of the surrounding days. To be considered a heartbeat trade, the percentage change in flow on the day in question must be at least three times as large as the largest of: (1) the maximum absolute percentage flow in the fifteen days prior; (2) the maximum percentage inflow during the fifteen days after; and (3) the maximum absolute percentage flow in days eight through fifteen following the inflow.<sup>152</sup> Additionally, the cumulative outflow in the seven days following the flow must reverse at least seventy-five percent of the flow.<sup>153</sup> Figure A provides an illustration of the detection method.<sup>154</sup> Figure 2, below, provides an illustration of Vanguard S&P Mid-Cap 400 Index Fund ETF (IVOO) fund and its heartbeat trades detected using this method.

Figure 2: IVOO Heartbeat Trades



<sup>151</sup> To do so, I used Center for Research in Security Prices (CRSP) daily stock data, which has a variable “Cumulative Factor to Adjust Shares” (cfacshr), which is equal to 1 on days where there is not a stock split. The data was retrieved from Wharton Research Data Service (WRDS).

<sup>152</sup> See Moussawi et al., *supra* note 81, at 45.

<sup>153</sup> *Id.*

<sup>154</sup> See *infra* Figure A.

## 2. Identification of ETFs with New Access to Custom Baskets

To analyze the effect of the newly accessible custom basket mechanism on heartbeat trade frequency, ETFs need to be divided into those that had the ability to use custom baskets before Rule 6c-11 (the control group) and those that gained it after the rule went into effect (the treatment group). An ETF would have had the ability to use custom baskets if the firm that issued the ETF was given an exemption prior to 2006.<sup>155</sup> Therefore, this paper identifies the issuing firm for every ETF.<sup>156</sup> For each firm, this paper also identifies the date the first respective ETF was created in order to determine when the firm was first granted an Exemptive Order.<sup>157</sup>

In its Final Rule, the SEC cites its 2006 Exemptive Order for WisdomTree Investments as an example that occurred around the time it began to place restrictions on custom basket procedures.<sup>158</sup> Therefore, any firm with an ETF that came to market before WisdomTree would have access to custom baskets as this was a time when no restrictions were in place.<sup>159</sup> Using this cutoff, this paper found that there are 17 ETF firms created before this date and that those firms manage 1,367 ETFs.<sup>160</sup> One hundred and sixty ETF firms

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<sup>155</sup> See Ahmed, *supra* note 136 (“The use of custom baskets, commonly allowed in the early days of ETFs, but not in recent years, has allowed *older ETF firms* like BlackRock and State Street to adjust their portfolio’s holdings efficiently[.]”) (emphasis added).

<sup>156</sup> Done so using Bloomberg’s management company field, “FUND\_MANAGEMENT\_CO”.

<sup>157</sup> For each management company, fund with the earliest inception date identified (in Bloomberg as “FUND\_INCEPT\_DT”).

<sup>158</sup> SEC Final Rule, *supra* note 115, at 81 number 277, citing WisdomTree Investments, Inc., et al., Investment Company Act Release Nos. 27324 (May 18, 2006) [71 FR 29995 (May 24, 2006)] (notice) and 27391 (June 12, 2006) (order) and related application as the last exemptive orders with custom baskets.

<sup>159</sup> *Id.* at 81–82.

<sup>160</sup> Based on the number of ETFs as of November 2021 present in Bloomberg data. Data on file with author.

came to market after the 2006 cutoff and manage the other 1,256 ETFs.<sup>161</sup>

### 3. Time Period of Interest

Rule 6c-11 went into effect December 23, 2019, meaning that any ETF that met its requirements would be able to use custom baskets on or after that date.<sup>162</sup> However, the SEC created a transition period, so compliance with the Rule was not mandatory until December 22, 2020.<sup>163</sup> After that, previous exemptive relief orders were revoked, and qualifying ETFs had to operate under Rule 6c-11. This gave them access to the custom basket tool.<sup>164</sup>

Although some ETFs could (and likely did) come into compliance with the Rule during the period between the effective date and the compliance date, it is not possible to determine exactly when exactly a fund came into compliance and thus gained the ability to use custom baskets. This is because coming into compliance requires actions such as creating procedures around custom baskets, disclosing additional information on fund websites, and updating records, which are either changed internally at the fund and thus not publicly disclosed, or are disclosed imprecisely through methods such as website updates where it is not possible to pinpoint the day the change was made.<sup>165</sup> The rule does require funds to amend SEC Form N-1A, Form N-8B-2,

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<sup>161</sup> Based on the number of ETFs as of November 2021 present in Bloomberg data. Data on file with author.

<sup>162</sup> SEC Final Rule, *supra* note 115, at 1, 16; see Davalla et al., *ETF Complexes Should Prepare Now to Comply with New Rule 6c-11 to be in a Position to Unlock Its Key Regulatory Advantages by Year-End*, THOMPSON HINES (Oct. 3, 2019), <https://www.thomsonhine.com/insights/etf-complexes-should-prepare-now-to-comply-with-new-rule-6c-11-to-be-in-a-position-to-unlock-its-key-regulatory-advantages-by-year-end-ftn6/> [<https://perma.cc/5RUJ-474B>]

<sup>163</sup> SEC Final Rule, *supra* note 115, at 150.

<sup>164</sup> WILLKIE FARR & GALLAGHER LLP, *supra* note 121, at 1–2.

<sup>165</sup> Davalla et al., *supra* note 162 (explaining the conditions ETFs must meet to comply with the rule).

and Form N-CEN<sup>166</sup> However, the change to Form N-1A and N-8B-2 cannot be used to pinpoint a certain date of compliance because the disclosures it requires were already used by some firms prior to the rule, so the presence of such information does not establish Rule 6c-11 reliance by a fund.<sup>167</sup> Form N-CEN is only filed annually, so although it shows whether a fund relied on Rule 6c-11 in a given year,<sup>168</sup> it does not provide the exact date.<sup>169</sup>

Due to the inability to observe precisely which treatment-group ETFs are using custom baskets in 2020, this Note excludes 2020 in analyzing the growth of heartbeat trades. Instead, it will compare the use of trades in 2019 to those that took place in 2021.

## B. Data

For the identification of heartbeat trades, I use Bloomberg data from 2018 to December 31, 2021. From Bloomberg, I was able to identify ETFs that were active during this period and obtained their tickers.<sup>170</sup> To calculate flows, I obtained daily data on the number of shares outstanding of ETFs from Bloomberg.<sup>171</sup> From Center for Research in Security Prices Daily Stock files, I obtained information illustrating when funds experienced stock splits.<sup>172</sup> I also used Bloomberg to

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<sup>166</sup> SEC Final Rule, *supra* note 115, at 150.

<sup>167</sup> PGIM ETF Tr., Registration Statement (Form N-1A) (Feb. 28, 2018), accessed at <https://www.sec.gov/Archives/edgar/data/0001727074/000006759018000333/pgimetfn1aa.htm> [<https://perma.cc/V7E3-KL9U>]

<sup>168</sup> U.S. Sec. & Exch. Comm'n, Form N-CEN, at Item C.7.k, *available* at <https://www.sec.gov/files/formn-cen.pdf> (last visited Feb. 15, 2022).

<sup>169</sup> *Id.* at 1.

<sup>170</sup> Data on file with author.

<sup>171</sup> Daily data would not capture any intraday heartbeat trades; however, this should not pose any issues as the industry standard for heartbeat trades is to hold the funds for 48 hours so as to not be challenged as a sham transaction. *See* Moussawi et al., *supra* note 81, at n.21; data on file with author.

<sup>172</sup> CRSP Daily Stock File, WHARTON RESEARCH DATA SERVICES (WRDS), <https://wrds-www.wharton.upenn.edu/pages/get-data/center->

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identify the firm issuer of each ETF in order to determine which funds were affected by Rule 6c-11.<sup>173</sup>

### C. Results of Heartbeat Identification

Using the method defined above, I first found the number of heartbeat trades per month for the ETF universe as a whole, which consists of 2,769 funds. The results show the usage of the trade has generally been increasing over the sample.<sup>174</sup> During this time period, there was also significant growth in the number of ETFs in operation, rising from 1,682 in January 2018 to 2,765 in November 2021.<sup>175</sup> This overall industry growth would contribute to the heartbeat trade growth. To control for this, I limited the data to only include funds that were present in the whole sample. The resulting sample size was 1,666 funds and total heartbeats performed by this group is shown in Figure 2. As with the larger sample, use of heartbeat trades has increased over time, though the growth is less than the total sample given its limited size. Of the funds in this group, 41.54% of them exhibited at least one heartbeat trade in 2021, representing an increase from the 31.03% that used them in 2018.<sup>176</sup> Of the funds that use them, they on average executed 2.23 such trades 2021.<sup>177</sup>

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research-security-prices-crsp/quarterly-update/stock-security-files/daily-stock-file/.

<sup>173</sup> Data on file with author.

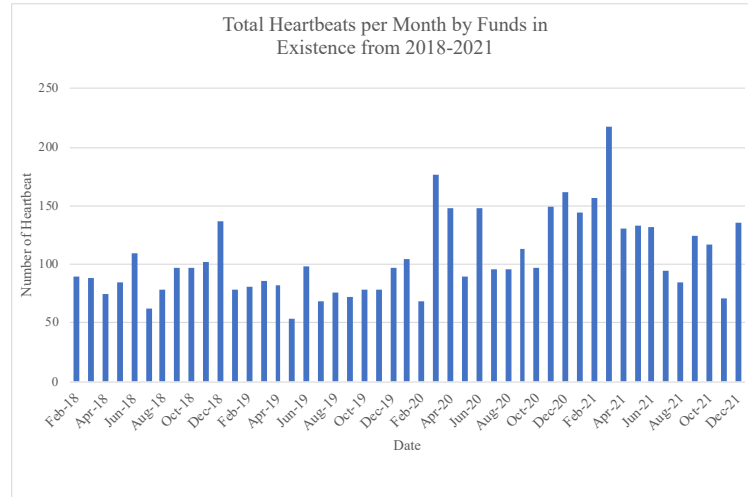
<sup>174</sup> See *infra* Figure B.

<sup>175</sup> See *infra* Figure C.

<sup>176</sup> See *infra* Table A.

<sup>177</sup> *Id.*

Figure 2: Total Heartbeats per Month by Funds Existing from 2018-2021.



I further split this sample into a control group consisting of funds that always had custom basket access (Pre-2006), and a treatment group consisting of those with newly gained access to the tool (Post-2006), which can be seen in Figures 3 and 4. Both groups show the same general increase over time. However, the Post-2006 funds have a noticeable level jump beginning in 2020.

Figure 3: Total Heartbeat Trades Per Month by Pre-2006 Funds

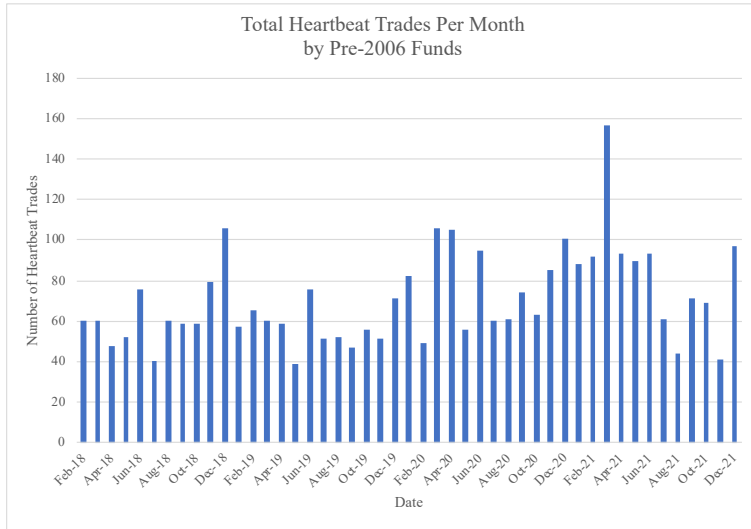


Figure 4: Total Heartbeat Trades Per Month by Post-2006 Funds

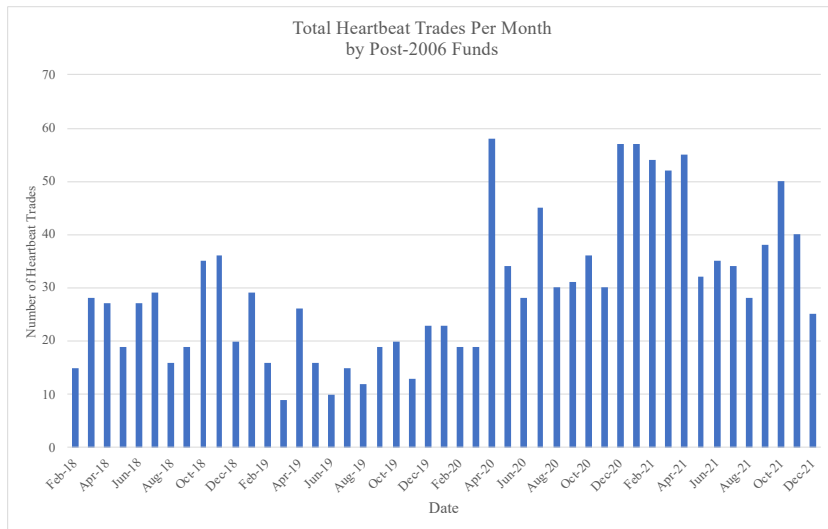




Table 1 shows the year-over-year growth between 2019 and 2021.<sup>178</sup> In all months, except March, the growth in heartbeat trades in Post-2006 funds is more than in Pre-2006 Funds, with a maximum difference of over 400%. This demonstrates a pronounced increase in the usage of heartbeat trades following the implementation of Rule 6c-11 and that the increase of use was larger for funds that were not able to use custom baskets before the adoption of the rule. The year-over-year growth rates are also notably larger than the those seen for the same funds between 2018 and 2019.<sup>179</sup>

Table 1: Year over Year Growth 2019:2021 Comparison

Month	Post-2006: Year over Year Growth, 2019:2021	Pre-2006: Year over Year Growth, 2019:2021	% Difference
January	237.50%	54.39%	183.11%
February	477.78%	41.54%	436.24%
March	111.54%	161.67%	-50.13%
April	100.00%	57.63%	42.37%
May	250.00%	130.77%	119.23%
June	126.67%	22.37%	104.30%
July	133.33%	19.61%	113.73%
August	100.00%	-15.38%	115.38%
September	150.00%	51.06%	98.94%
October	207.69%	23.21%	184.48%
November	8.70%	-19.61%	28.30%
December	65.22%	36.62%	28.60%

#### D. Model Estimation of Impact

In addition to comparing the growth over the sample, I also estimate the impact of Rule 6c-11 on the “treatment” group with a differences-in-differences (DiD) approach. This method is commonly used in studies of regulatory interventions

<sup>178</sup> This time period is used to account for the uncertainty of custom basket access in 2020. *See supra* Part III.A.3.

<sup>179</sup> *See infra* Table C; *see also infra* Table B for comparison of 2019:2020 growth rates.

because it can be used to compare certain groups that have been exposed to some casual variable of interest and other groups who have not.<sup>180</sup> In this case, the group exposed would be the Post-2006 funds with recent access to custom baskets, and the group unexposed would be the Pre-2006 who have always had the tool.

To implement the DiD model, I used an ordinary least squares linear regression model, which is a commonly used for predictive analysis.<sup>181</sup> Linear regressions are used to explain the relationship between one dependent variable and one or more independent variables.<sup>182</sup> The overall goal is to estimate if a set of predictor variables predicts an outcome (the dependent variable) and if so, what is the strength of the relationship (as indicated by the magnitude of the coefficient estimated for each variable, often depicted as  $\beta$ ).<sup>183</sup> Because the potential to use a heartbeat trade may be influenced by both the date<sup>184</sup> and the particular firm, I include “fixed effects” controls for both the fund and the date in the regression.<sup>185</sup>

The regression is represented by the following equation, where  $i$  is a particular fund and  $t$  is the date:

$$\begin{aligned} \text{Heartbeat}_{i,t} = & \beta_0 + \beta_1 \text{Fund}_i + \beta_2 \text{Time}_t \\ & + \beta_3 (\text{After}_t \times \text{Treated}_i) + \varepsilon_{i,t} \end{aligned}$$

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<sup>180</sup> See Joshua D. Angrist and Alan B. Krueger, *Empirical Strategies in Labor Economics*, HANDBOOK OF LABOR ECONOMICS 1277, 1296 (1999).

<sup>181</sup> *What is Linear Regression?*, STATISTICS SOLUTIONS, <https://www.statisticssolutions.com/free-resources/directory-of-statistical-analyses/what-is-linear-regression/> [<https://perma.cc/CML7-HGFZ>] (last visited Feb. 18, 2022).

<sup>182</sup> See *id.*

<sup>183</sup> See *id.*

<sup>184</sup> Indices typically rebalance at set times of year, which would lead to certain dates having a stronger chance of heartbeat trades.

<sup>185</sup> See Oscar Torres-Reyna, *Panel Data Analysis Fixed and Random Effects Using Stata*, PRINCETON UNIVERSITY 9 (Dec. 2007), <https://www.princeton.edu/~otorres/Panel101.pdf> [<https://perma.cc/YM9B-RUF8>] (“When using FE we assume that something within the individual may impact or bias the predictor or outcome variables and we need to control for this.”).

In the above equation, heartbeat is a variable that is 1 if fund  $i$  executed a heartbeat on day  $t$ .  $\beta_1$  controls for fund fixed effects and  $\beta_2$  controls for time fixed effects.  $After_t$  is a variable that is equal to 1 if the date is after the effective date of Rule 6c-11, and  $Treated_i$  is equal to 1 if the fund  $i$  was impacted by 6c-11 and is thus a member of the “Post-2006” funds. The key variable in the regression estimation is  $\beta_3$ . This interaction term will measure if and how much funds that were affected by Rule 6c-11 differ in their usage of heartbeat trades after the rule implementation from the rest of the sample. The results from the regression are presented below:

Table 2: Baseline Model Result

Results from Regression			
Observations	1,691,566		
Number of groups	1,579		
Variable	Coefficient	P-value	Standard Error
After x Treat	0.0009574	0.002**	0.0003123
Intercept term	0.0000955	0***	0.0000955

In the model, the coefficient,  $\beta_3$ , is both positive and statistically significant, with a p-value of 0.0002, which means it is highly unlikely the coefficient is equal to zero.<sup>186</sup> The result of 0.0009574 means that when a fund is a part of the Post-2006 groups and the date is after December 22, 2020, the average mean value of heartbeats is 0.00009574 higher than funds that do not meet the criteria.<sup>187</sup> This provides further evidence that the implementation of Rule

<sup>186</sup> *Data Science: Regression Table: P-Value*, [https://www.w3schools.com/datascience/ds\\_linear\\_regression\\_pvalue.asp](https://www.w3schools.com/datascience/ds_linear_regression_pvalue.asp) [<https://perma.cc/6PXT-CRP7>] (last visited Feb. 18, 2022).

<sup>187</sup> As a robustness check, I also ran the model and clustered the errors based on funds that are issues by the same firm to account for potential trends in heartbeat usage among these “fund families.” The results did not significantly change with this addition, which can be seen in Table D in the appendix.

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6c-11 increased usage of heartbeat trades among those funds who were in the Post-2006 group.

#### IV. IMPLICATIONS FOR POLICYMAKERS

Part IV addresses how policymakers should respond to both the broader §852(b)(6) exemption and to heartbeat trades specifically. This Part argues that §852(b)(6) should not be repealed as advocated by Senator Wyden. §852(b)(6) is a crucial mechanism needed to keep ETFs' prices in line with their NAVs. Without it, the arbitrage mechanism would become more costly because funds would have to sell-off additional securities to pay for any recognized gain, hurting the returns of ETFs. Additionally, the ETF industry has grown extensively, so a repeal that would damage the industry is unlikely to gain traction. Although it is true that the exemption is letting ETFs and their shareholders dodge taxes, rather than merely defer them in some cases, it is still not enough to justify a repeal of such a crucial element of ETFs' functioning.

Next, this Part advocates for heartbeat trades to be considered a taxable event. Heartbeats, unlike ordinary in-kind redemptions, are not driven by the arbitrage mechanism to keep prices and NAV in line. Instead, they are pre-planned transactions done at the fund's behest and are only structured as in-kind redemptions to avoid taxes. Additionally, after 6c-11, their usage is growing. Based on this, the section argues either the IRS or Congress should act to exclude heartbeat trades from §852(b)(6). The IRS could accomplish this through the substance over form doctrine, which allows the IRS to ignore a transaction's form and examine its actual substance, with the goal of preventing mischaracterization of transactions to receive more favorable tax treatment. Alternatively, Congress could also stop heartbeats by altering the language of §852(b)(6) with phrasing that accounts for the fact that heartbeats are driven by fund-orchestrated redemption demand, not organic AP demand.

### A. The § 852(b)(6) Exemption For In-kind Redemptions Should Not Be Repealed

As mentioned in the Introduction, there has recently been renewed interest in §852(b)(6) and the non-recognition of gain of in-kind redemptions.<sup>188</sup> Although Senator Wyden's proposal is unlikely to pass<sup>189</sup>, it sparked debates about the impact of such a repeal would have and the benefits accrued and costs incurred due to the current tax exemption.

Those who support the current exemption of in-kind redemptions have noted how essential the creation and redemption process is for ETFs to keep the market price of an ETF in line with the underlying value of the shares it holds.<sup>190</sup> The SEC has noted the importance of the tie between market price and the NAV as it "ensures ETF investors are treated equitably when buying and selling fund shares."<sup>191</sup> If §852(b)(6) were repealed, these necessary, continuous trades would incur a much greater economic cost on the fund. This is because, as RICs, ETFs are required to distribute their gains to shareholders each year to avoid entity-level taxation.<sup>192</sup> If they generated gains from an in-kind redemption transaction, an ETF would likely need to sell additional securities to generate the cash needed to

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<sup>188</sup> See *supra* Part I.

<sup>189</sup> See Steven Z. Hodaszy, *Exchange-Traded Funds Use Section 852(b)(6) for Tax Avoidance, Not Just Tax Deferral: So Why Is This Loophole Still Open?*, 75 TAX LAW. 489, 495 fn. 9 (2022)(noting that the House of Representatives did not include the Wyden proposal in its version of Build Back Better bill it passed).

<sup>190</sup> See SEC Final Rule, *supra* note 114, at 12 ("The combination of the creation and redemption process with secondary market trading keep the market price of ETF shares at or close to the NAV per share of the ETF"); see also K&L GATES, *Unintended Tax Consequences of Wyden's Proposal to Change Tax Treatment for Mutual Funds and ETFs*, <https://www.klgates.com/Unintended-Consequences-of-Wyden's-Proposal-to-Change-Tax-Treatment-for-Mutual-Funds-and-ETFs-9-17-2021> [<https://perma.cc/7MY5-44TF>] (Sept. 17, 2021) (highlighting the importance of the arbitrage mechanism).

<sup>191</sup> See SEC Final Rule, *supra* note 114, at 14.

<sup>192</sup> See *supra* Part II.B.1.

distribute to shareholders as capital gains.<sup>193</sup> Those security sales themselves could also trigger capital gains, leading to more capital distribution requirements, which could then trigger additional security sales.<sup>194</sup> Such a loop has the potential to deplete a fund's investment portfolio to the point where it is no longer a viable investment vehicle.<sup>195</sup> Thus, the removal of the in-kind exemption would fundamentally alter a key mechanism that ETFs need to operate.

Advocates of the current exemption also point to the growth of ETFs as an investment vehicle in recent years.<sup>196</sup> Experts have noted that, along with low fees, the tax efficiency of ETFs is an essential reason for their popularity.<sup>197</sup> The existence of §852(b)(6) is critical to that

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<sup>193</sup> See MORGAN LEWIS, *Tax Proposal May Affect Exchange-Traded Funds*, <https://www.morganlewis.com/pubs/2021/09/tax-proposals-may-affect-exchange-traded-funds> [<https://perma.cc/JA3B-A8N3>] (Sept. 22, 2021).

<sup>194</sup> See MORGAN LEWIS, *supra* note 193; see also Hodaszy, *supra* note 189, at 517.

<sup>195</sup> See Hodaszy, *supra* note 189, 517 (“The depletion of the ETF’s investment portfolio . . . ultimately render the fund impracticable as a pooled investment vehicle”).

<sup>196</sup> See Michael Mackenzie and Chris Flood, *ETF Industry Heavyweights Push Back on Proposed US Tax Change*, FINANCIAL TIMES (Sept. 17, 2021), <https://www.ft.com/content/d9e8ca9d-3416-47bf-b389-4b6fed16199a> [<https://perma.cc/H64A-G8LN>] (noting that ETF global market has grown to \$9.7 trillion); see also F. Norrestad, *ETF – Statistics & Facts*, STATISTA (Feb. 7, 2022), <https://www.statista.com/topics/2365/exchange-traded-funds/#dossierKeyfigures> [<https://perma.cc/486L-D55K>] (reporting U.S. ETF assets under management as \$5.45 trillion).

<sup>197</sup> Nir Kaissar, *The Era of Mutual Funds Is Dying. Long Live ETFs*, BLOOMBERG (Oct. 11, 2021), <https://www.bloomberg.com/opinion/articles/2021-10-11/personal-finance-era-of-expensive-mutual-funds-is-dying-long-live-etfs> (on file with Columbia Business Law Review) (“ETFs differ in two ways that give them a demonstrable edge. One is cost. . . ETFs are also more tax efficient”); see also Mike Patton, *Tax Advantage: Mutual Funds Vs. ETFs? And The Winner Is...*, FORBES (Jan. 31, 2020), <https://www.forbes.com/sites/mikepatton/2020/01/31/tax-advantage-mutual-funds-vs-etfs-and-the-winner-is/?sh=47ac3bd11e94>

tax efficiency.<sup>198</sup> Because of this appeal, an estimated 12 million households invested in ETFs in 2020.<sup>199</sup> The repeal of §852(b)(6) would result in additional costs on those investors by forcing funds to distribute taxable capital gains to the investors<sup>200</sup>, diminishing the returns on their investment.<sup>201</sup> Although Senator Wyden highlighted his plan would only affect the “taxable accounts of the wealthiest investors,”<sup>202</sup> the median household income of an ETF owner is only \$125,000.<sup>203</sup> This income, advocates note, hardly makes the average ETF owner among the “wealthiest investors”.<sup>204</sup> Additionally, the repeal of §852(b)(6) may not actually result in more taxes being paid by the ultra-wealthy because they

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[<https://perma.cc/86ME-H5QA>] (“ETFs have a distinct tax advantage over mutual funds”).

<sup>198</sup> David Isenberg, *ETF Tax Breaks Biden Pledge: Fund Trade Group*, FINANCIAL ADVISOR IQ (Sept. 22, 2021), [https://financialadvisoriq.com/c/3332364/423184/breaks\\_biden\\_pledge\\_fund\\_trade\\_group](https://financialadvisoriq.com/c/3332364/423184/breaks_biden_pledge_fund_trade_group) [<https://perma.cc/WA8L-NP4A>] (“Allowing in-kind redemptions of ETF shares is critical to ETFs’ tax efficiency”) (quoting Ben Johnson, Morningstar’s global director of ETF Research).

<sup>199</sup> INV. CO. INST., 2021 INVESTMENT COMPANY FACT BOOK: A REVIEW OF TRENDS AND ACTIVITIES IN THE INVESTMENT COMPANY INDUSTRY 1, 113 (2021), [https://www.ici.org/system/files/2021-05/2021\\_factbook.pdf](https://www.ici.org/system/files/2021-05/2021_factbook.pdf) [<https://perma.cc/NPL9-2T9T>].

<sup>200</sup> See *supra* Part II.2.B.

<sup>201</sup> See Mackenzie and Flood, *supra* note 196 (“We would be concerned about policies that would raise costs and reduce returns for long-term investors and retirement savers”) (quoting BlackRock).

<sup>202</sup> Kate Dore, *Democratic Plan Would Close Tax Break on Exchange-Traded Funds*, CNBC (Sept. 16, 2021) <https://www.cnbc.com/2021/09/16/democratic-plan-would-close-tax-break-on-exchange-traded-funds.html> [[perma.cc/U6VF-MCV7](https://perma.cc/U6VF-MCV7)] (“We’re only talking about the taxable accounts of the wealthiest investors,” said Wyden in a statement”).

<sup>203</sup> INV. CO. INST, *supra* note 199, at 114.

<sup>204</sup> See Isenberg, *supra* note 198 (noting that Biden promised not to raise taxes on those who made less than \$400,000); see also *ETF Taxation in the Crosshairs*, NASDAQ (Sept. 13, 2021) <https://www.nasdaq.com/articles/etf-taxation-in-the-crosshairs-2021-09-13> [<https://perma.cc/W7U5-4RJH>] (“It would hurt mom and pop investors”).

could simply switch from ETFs to direct indexing<sup>205</sup>, which is a new strategy where well-off investors buy the stocks in an index directly and “harvest” losses to obtain tax-efficient results, which can potentially be better than those offered by ETFs.<sup>206</sup> Thus, the investors who would likely end up paying more taxes upon repeal would be those unable to afford switching to direct indexing of stocks.<sup>207</sup>

However, repeal proponents have argued that there are already protections in place for some groups of ETF investors that would shelter them from the tax burden should the rule be revoked, which should lessen the concern in repealing §852(b)(6). Jeffrey Colon, a professor at Fordham University, points out that married couples filing jointly do not pay capital gains if their income is less than \$80,000.<sup>208</sup> Additionally, ETFs held in tax-exempt accounts, such as a 401(k) or IRA, would still remain exempt from capital gains.<sup>209</sup> Thus, repeal of the exemption would not negatively impact the least wealthy of ETF investors.

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<sup>205</sup> See *ETF Taxation in the Crosshairs*, *supra* note 204 (“Wealthy investors would just accelerate their movement into direct indexing platforms”); see also Mackenzie and Flood, *supra* note 188 (“Another outcome is that some investors would increasingly adopt tax-managed accounts, such as ‘direct indexing.’”).

<sup>206</sup> See Karen Wallace, *What is Direct Indexing?*, MORNINGSTAR (Aug. 5, 2021), <https://www.morningstar.com/articles/1052221/what-is-direct-indexing> [perma.cc/2RJ4-LKSL]; See also Adam Grealish, *Move Over ETFs: Direct Indexing Is an Investment Strategy Worth Paying Attention*, Kiplinger (Jun. 25, 2022), <https://www.kiplinger.com/investing/604846/move-over-etfs-direct-indexing-is-an-investment-strategy-worth-paying-attention-to>.

<sup>207</sup> See *id.* (“One barrier to doing this, traditionally, is that you can’t buy every stock in the index if you don’t have a lot of money to invest”).

<sup>208</sup> See Isenberg, *supra* note 198.

<sup>209</sup> See *id.*; see also Steven Z. Hodaszy, *Exchange-Traded Funds Use Section 852(b)(6) for Tax Avoidance, Not Just Tax Deferral: So Why Is This Loophole Still Open?*, 75 TAX LAW. 489, 565 (2022); See also Dawn Lim & Richard Rubin, *Democratic Tax Proposal Takes Aim at ETFs*, WALL ST. J. (Sept. 15, 2021), <https://www.wsj.com/articles/democrats-tax-proposal-takes-aim-at-etfs-11631717324> [perma.cc/3RR7-QADH] (“A spokeswoman for Sen. Wyden said that the proposed rule would affect those that invest in



Another argument in favor of §852(b)(6) is that it only allows for tax deferral, not tax evasion.<sup>210</sup> Because the gains that are a part of the in-kind redemptions should be incorporated into the ETF's NAV and thus its market price, when a shareholder sells an ETF share, they will be selling it as a higher price due to the price gains the fund experienced while they held it.<sup>211</sup> When a shareholder sells, they are taxed on the rise in the price of the stock while the ETF was held.<sup>212</sup> If an ETF had significant capital gains distributed in in-kind redemptions over time, the realized gain will be higher than it would have been otherwise and the shareholder will owe more tax because of it.<sup>213</sup> Thus, a tax is ultimately paid. ETF industry advocates also note that the treatment of ETFs is in line with the broader use of the tax code to incentivize long-term investing and that its elimination “runs counter to that spirit”.<sup>214</sup>

However, it is not always the case that the tax is only deferred—there are some situations in which non-taxation of gains at the time of in-kind redemption results in tax avoidance rather than mere deferral.<sup>215</sup> If an ETF loses value over the time a shareholder holds a fund, the shareholder will not pay the taxes that were deferred from an in-kind transaction because the share price will no longer reflect the

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ETFs through taxable brokerages, while those in tax-sheltered accounts such as individual retirement accounts wouldn't be affected”).

<sup>210</sup> See Dave Nadig, *ETFs' Tax Fairness Advantage*, ETF.COM (Mar. 29, 2019), <https://www.etf.com/sections/blog/etfs-tax-fairness-advantage?nopaging=1> [perma.cc/P6XX-9A2J] (“ETF investors are paying taxes and doing so completely fairly”).

<sup>211</sup> See *supra* Part II.B.3.

<sup>212</sup> See *supra* Part II.B.3.

<sup>213</sup> See *id.*

<sup>214</sup> Aaron Neurwith, *ETF Prime: Dave Nadig Talks Bitcoin ETFs & ETF Taxes*, ETFPRIME (Nov. 10, 2021), <https://etfdb.com/etf-prime/etf-prime-dave-nadig-talks-bitcoin-etfs-etf-taxes/> [https://perma.cc/598S-98KD].

<sup>215</sup> See Hodaszy, *supra* note 189, at 538–48.

value of that transaction.<sup>216</sup> There are also other features in the tax code that would mean shareholders could avoid paying taxes on their gain. For example, if an ETF shareholder died and left their shares to an heir, the heir would get a stepped-up basis that was equal to the fair market value of the ETF at the time of the original holder's death.<sup>217</sup> Thus, if they ever sold their inherited ETF shares, taxation on their realized gain would be smaller than if the original holder had sold it since the basis would be higher.<sup>218</sup> Although this is a broader issue with the tax system and not unique to ETFs, it still shows the flaw in advocates' argument that capital gains from in-kind redemptions are always deferred and not avoided. Additionally, even if the full value of capital gains was recognized when a shareholder sold their shares, the deferral argument still does not account for the time-value of money advantage investors in ETFs receive over other investment vehicles.<sup>219</sup> Since ETFs do not have to recognize the gain and thus distribute it to their shareholders, ETF investors are able to avoid paying taxes on that money until they sell, unlike investors in funds like mutual funds, who distribute capital gains much more frequently.<sup>220</sup> In other words, they are getting a "no-interest loan from the US Government"<sup>221</sup> that other investors are not as a result of the in-kind redemption exemption.

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<sup>216</sup> See *id.* manuscript at 42–44 (providing an example in where an ETF value drops and the taxes paid are thus lower than would be to a comparable mutual fund investment).

<sup>217</sup> See *id.* manuscript at 38 ("Because death is not a realization event, the decedent will not be taxed on any gain on her ETF shares. . . the beneficiary will never be taxed on any such gain, either") (footnotes omitted).

<sup>218</sup> See *id.*

<sup>219</sup> See Kashner, *supra* note 109 ("Tax deferral is advantageous to investors because a dollar tomorrow is generally worth less than a dollar today.").

<sup>220</sup> See *id.*

<sup>221</sup> 'Heartbeat Trades' & ETFs: *The Elusive World of Tax Optimization*, THE INVESTMENT BLUEPRINT (Nov. 6, 2019),

A final argument of critics of §852(b)(6) focuses not on the functions of §852(b)(6) but on its original purpose. In their view, §852(b)(6) was created to aid funds in times of unfavorable, rather than typical, market conditions.<sup>222</sup> Thus, it is reasonable to assume drafters would have “expected in-kind redemptions to be the exception, rather than the general rule.”<sup>223</sup> Such a view would make sense as mutual funds dominated when the section was passed, and they usually redeemed in cash, not in-kind.<sup>224</sup> In fact, ETFs did not even exist at the time of passage, so their constant use of in-kind redemptions could not have been contemplated.<sup>225</sup> Thus, in critics views, ETFs reliance on §852(b)(6) is beyond the scope of the section’s original purpose.

Although critics have highlighted both the problems with §852(b)(6), the proposal of repealing § 852(b)(6) is flawed and ultimately untenable. First, Congress, although not anticipating ETFs usage of the section, did consider the passage of the exemption crucial for mutual funds in times of market crisis.<sup>226</sup> More importantly, the SEC considers in-kind redemptions a necessary tool for ETFs to function.<sup>227</sup> The elimination of § 852(b)(6) would clearly conflict with both of these government positions. Moreover, those who advocate for full repeal seem to disregard the potential dire consequences of repeal for the ETF industry.<sup>228</sup> Such an approach ignores the sheer size of the ETF industry, which

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<https://theinvestmentblueprint.com/2019/11/06/heartbeat-trades-etfs-the-elusive-world-of-tax-optimisation/> [perma.cc/8LSB-BUUD].

<sup>222</sup> See *supra* Part II.B.2; see also Hodaszy, *supra* note 67, at 592.

<sup>223</sup> Hodaszy, *supra* note 67.

<sup>224</sup> See *id.*

<sup>225</sup> See *id.*

<sup>226</sup> See *supra* Part II.B.2.

<sup>227</sup> See *supra* note 192 and accompanying text; see also Hodaszy, *supra* note 189, at 569.

<sup>228</sup> See Hodaszy, *supra* note 189, at 570; see also Colon, *supra* note 22 (“If ETFs are only viable because of the tax subsidy of § 852(b)(6), they should not survive”).

has over \$9 trillion assets worldwide,<sup>229</sup> and its popularity among investors, with over 9 percent of U.S. households investing in ETFs.<sup>230</sup> Given this, policymakers cannot afford to repeal the measure with no concern for its impact on the industry.<sup>231</sup> Even Steven Hodaszy, a tax professor who has been critical of the exemption, has noted that “[n]o approach to reforming the tax treatment of ETF investment gains can be premised on a notion that the extinction of ETFs is an acceptable outcome.”<sup>232</sup> This has caused some opponents of §852(b)(6) to instead advocate for a more nuanced reform in which ETFs reduce the basis of the remaining portfolio holdings to account for any unrecognized gain.<sup>233</sup> Although such a proposal may also struggle to gain traction with policymakers, it does bolster the argument that outright repeal is not the way forward and that there are other options to consider with greater potential for support from policymakers.

#### B. Heartbeat Trades Should Not Be Exempted for Recognition Under §852(b)(6)

While §852(b)(6) should not be repealed, heartbeat trades should be treated as a taxable event by either the IRS or by Congress. Heartbeat trades differ from day-to-day creation and redemption activity because they are not driven by APs seeking to redeem shares to engage in the arbitrage mechanism used to keep ETF prices aligned with their NAVs.<sup>234</sup> Instead, heartbeat trades are used to facilitate portfolio rebalances without triggering taxes.<sup>235</sup> Unlike

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<sup>229</sup> See *supra* note 196.

<sup>230</sup> INV. CO. INST, *supra* note 199, at 113.

<sup>231</sup> See Hodaszy, *supra* note 189, at 570.

<sup>232</sup> *Id.*

<sup>233</sup> See *id.* manuscript at 74–76.

<sup>234</sup> See Kashner, *supra* note 109 (Heartbeat trades’ purpose is not to meet public demand for ETF shares, but to facilitate a frictionless, tax-deferring portfolio rebalance.”)

<sup>235</sup> See *id.*; see also Kashner, *supra* note 7 (“This short-term access to capital allows ETF portfolio managers to essentially manufacture

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ordinary creation and redemption transactions where an ETF is simply meeting a demand by an AP, a heartbeat trade is a pre-arranged cooperative endeavor between ETF managers and investment banks.<sup>236</sup>

Jeffrey Colon has suggested the IRS look to whether the “bank ha[s] some independent reason for this investment.”<sup>237</sup> If they do not, the only reason for the investment is for avoidance of tax.<sup>238</sup> In interviewing banks, market makers, and fund managers, Mider et al. were anonymously told by market participants that banks were doing heartbeat trades to win goodwill from their clients rather than pursuing for their own profits.<sup>239</sup> Elizabeth Kashner notes that heartbeat trades service three goals: minimize tracking error, avoid block trades, and wash out capital gains from stock with low basis.<sup>240</sup> While the first two goals can be achieved with other tools, only a heartbeat trade can achieve the tax management benefits that come from non-recognition of gains, which implies the trade is mainly done for tax avoidance purposes.<sup>241</sup>

As shown in Part III, there has been a significant uptick in heartbeat trades among those funds which gained access to custom baskets through the SEC rule with this uptick in trade usage being greater than for those funds that were able to use custom baskets beforehand.<sup>242</sup> In 2021 after Rule 6c-11, there were 1,542 trades with a value of \$174 billion.

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redemptions that wash out capital gains that would otherwise be realized in a rebalance”).

<sup>236</sup> See Kashner, *supra* note 109 (“[Heartbeats] are a cooperative set of investment professionals, namely ETF asset managers and investment banks.”; see also Mider et al, *supra* note 10 (“fund managers simply call up a banker or market maker and ask them to pour a certain amount into the fund”).

<sup>237</sup> See Mider et al, *supra* note 10. (“If not, Colon says, ‘the only reason you’re doing this is to facilitate the avoidance of tax.’”).

<sup>238</sup> See *id.*

<sup>239</sup> See *id.*

<sup>240</sup> See Kashner, *supra* note 109.

<sup>241</sup> *Id.*

<sup>242</sup> See *supra* Part III.C.

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Of those trades, 443 with a value of \$269 million were completed by funds with new custom basket access. In the last year, the 10 largest post-2006 funds have avoided tax on \$11,168,478,227 on gains from in-kind redemptions, up from \$1,780,576,862 in 2019.<sup>243</sup> Although it is not possible to tell how much of this avoidance is from heartbeat trades,<sup>244</sup> they certainly contributed. These results help show the monetary value of heartbeat trades and the importance of making them taxable events.

Given the artificial nature of the demand, tax avoidance being the main motivating factor behind the trade and the increasing usage, heartbeat trades should not be exempted from recognition under §852(b)(6). One way to do so would be through the IRS, which could step in without any action from Congress. The IRS already has a tool to address heartbeats: the longstanding “substance over form” doctrine.<sup>245</sup> This doctrine allows the IRS to ignore a transaction’s form and examine its actual substance, with the goal of preventing mischaracterization of transactions to receive more favorable tax treatment.<sup>246</sup> The doctrine provides that if the form of the transaction exists only to alter the parties’ tax liabilities, the form will be disregarded and the substance of the transaction will dictate the tax consequences of the parties involved.<sup>247</sup> With heartbeats, the IRS could use this doctrine to disregard the trades “form” as an in-kind creation transaction followed by an in-kind redemption transaction for the actual substance of the trade, which is a taxable exchange of a portfolio securities for other securities of equal

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<sup>243</sup> See Table D in appendix.

<sup>244</sup> See Mider et al., *supra* note 10.

<sup>245</sup> See *Gregory v. Helvering*, 293 U.S. 465 (1935) (supporting the proposition that, as a general rule, the incident of taxation depends on the substance rather than form of the transaction).

<sup>246</sup> See Paldini Law, *What is the Substance Over Form Doctrine?*, PALDINI LAW (Oct. 20, 2019) <https://paladinilaw.com/substance-over-form/> [<https://perma.cc/4BFV-ZPXF>].

<sup>247</sup> See Hodaszy, *supra* note 189, at 594.

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market value, incurring a gain which an ETF wishes to remove.<sup>248</sup>

An often-used variation of substance-over-form is the “step-transaction” doctrine, which mandates that formally distinct transactions should be treated as one integrated transaction for tax purposes if, when taking the first step, the parties’ purpose was to achieve the outcome resulting from the last step.<sup>249</sup> The IRS often applies the doctrine specifically to artificial divisions of transactions that try to characterize taxable events, like a sale of property, as non-recognition events, where taxes would not be owed.<sup>250</sup> There are three primary tests used to determine if the step-transaction doctrine applies: (1) the “binding commitment test,” which considers if there is an agreement to take subsequent steps when the first step is undertaken, (2) the “end result test,” which considers if the transactions were parts of a prearranged single plan in which parties intended from the outset to reach a particular end result, and (3) the “interdependence test,” which considers whether the transactions are so interdependent that the first step would be fruitless without the later steps.<sup>251</sup>

The IRS could apply any formulation to a heartbeat trade, and the trade would meet the criteria. In this analysis, the APs’ delivery of shares to ETFs would be the first-step transaction, and the subsequent redemption of shares for appreciated securities would constitute the second-step transaction. ETFs and their counterparty clearly have an agreement before the trade that the AP will create shares in the fund to the fund, hold those shares for a set time period, and then redeem the shares.<sup>252</sup> In fact, the industry even has

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<sup>248</sup> See *id.* at 596.

<sup>249</sup> See *id.* at 594.

<sup>250</sup> See *id.*; see also 26 U.S.C. §1001(c) (“Except as otherwise provided in this subtitle, the entire amount of the gain or loss, determined under this section, on the sale or exchange of property shall be recognized”).

<sup>251</sup> See Hodaszy, *supra* note 189, at 595.

<sup>252</sup> See Mider et al., *supra* note 10 (stating that funds call up bankers, ask for a certain amount and insist on keeping it for more than a day).

set a standard amount of time of 48 hours to avoid scrutiny by the IRS.<sup>253</sup> The end result of a heartbeat trade is that an AP exchanges a set of securities with the fund (step one) for a different set of securities (step two), typically the stock leaving the index.<sup>254</sup> Finally, the first step would be fruitless without the redemption step; in fact, the first step would likely not occur if the AP was not later allowed to redeem its capital as the intent is not to invest in the ETF long-term but to temporarily loan capital.<sup>255</sup> Thus, the two steps are interdependent, and the creation of shares and subsequent redemption of shares should be treated as one transaction, namely an exchange of one set of securities for another, which is a taxable event.<sup>256</sup>

Clearly, the IRS has the tools at its disposal to make heartbeat trades a recognition event, but it still has chosen not to act.<sup>257</sup> Perhaps, it is reluctant to interfere in any manner that would impede ETF operations, especially in light of the SEC's endorsement of in-kind redemptions, most recently in the passage of Rule 6c-11.<sup>258</sup> Although continued inaction would be a violation of the IRS's duty to apply the tax law, the IRS is thankfully not the only solution to making heartbeat trades a taxable transaction.

Congress could also remove heartbeat trades from §852(b)(6) exemption with minor alterations to the existing §852(b)(6) language, which exempts "any distribution by a [RIC]. . .if such distribution is in redemption of its stock upon the demand of the shareholder"<sup>259</sup> from gain recognition. Currently, heartbeat trades fall within that language as the

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<sup>253</sup> See Mider et al., *supra* note 10 (noting "The industry standard is 48 hours," after there was alarm amongst ETF lawyers when banks were completing heartbeats in less than a day).

<sup>254</sup> See Hodaszy, *supra* note 189, at 596.

<sup>255</sup> See *id.*; see also Mider et al., *supra* note 10 (noting that banks want to tie up their capital as little as possible).

<sup>256</sup> See Hodaszy, *supra* note 189, at 596–97.

<sup>257</sup> See *supra* note 113.

<sup>258</sup> See *supra* note 192; see also Hodaszy, *supra* note 189, at 595.

<sup>259</sup> 26 U.S.C. § 852(b)(6).



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AP is legitimately demanding the return of its capital in the form of the shares the ETF is looking to remove from the fund.<sup>260</sup> However, as previously stated, what distinguishes heartbeat trades is that they do not arise organically from the increases and decreases of AP demand; they are instead pre-planned by the fund managers who reach out to the APs to engage in the trade.<sup>261</sup> Therefore, Congress could add language to §852(b)(6) that captures this fundamental difference and would thus exclude heartbeat trades and make them subject to the normal rule of gain recognition.

An example alteration would be to add the phrase “and if such demand is not encouraged by the investment company itself” as another requirement for the distribution to be exempted. This phrasing would account for the fact that in a heartbeat trade, fund managers solicit an AP, rather than the reverse.<sup>262</sup> An alternative option would be to instead add “and if such demand is driven by the shareholder’s legitimate market interests” as a requirement. This phrasing would filter out heartbeat trades if, as many industry insiders say, banks only pursue heartbeat trades to build goodwill with ETF clients and not because they are profitable,<sup>263</sup> as this could be considered an illegitimate interest. However, looking at the shareholder’s interest behind their demand may create openings for those involved in heartbeat trades to argue their interests are in fact legitimate. For example, an AP could argue they were interested in acquiring a particular stock that was leaving an index and that is why they engaged in the trade. In such a case, the altered test could be met, even if a heartbeat trade occurred. Thus, focusing on fund’s involvement in creating the demand will be a more straightforward solution that should capture more of the intended trades. Although the exact phrasing is up to

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<sup>260</sup> See *supra* Part II.C.

<sup>261</sup> See *supra* note 234-236 and accompanying text.

<sup>262</sup> See *supra* note 236.

<sup>263</sup> See Mider et al., *supra* note 10 (reporting insiders saying trades are done for goodwill and “aren’t profitable enough for the banks to pursue for their own sake”).

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Congress, these examples show that there is a viable way to ensure heartbeat trades do not fall under the §852(b)(6) exemption.

Whether through action of the IRS or through action by Congress, heartbeat trades should be treated as taxable exchanges. While either solution would likely be met with some resistance from the ETF industry, this reclassification does not raise the same concerns as an outright repeal of §852(b)(6). The treatment of heartbeat trades as a taxable exchange would not impact the operation of the arbitrage mechanism that keeps ETF prices in line with their NAVs because those redemptions would remain untaxed. Thus, ETFs would not be forced to recognize gain each time they engaged in in-kind redemptions, and any further securities selloffs or portfolio depletion would be avoided.<sup>264</sup> By keeping most in-kind redemptions as non-recognition events, there is not the same risk of significantly damaging or even ending the ETF industry. Thus, the concerns of those who objected to Wyden's proposal of wholesale repeal of the exemption should be alleviated in the context of treating heartbeat trades as taxable transactions.

Despite alleviating the main concerns associated with §852(b)(6), it could still be argued that making heartbeat trades a taxable exchange will damage the tax-efficiency of ETFs, which has been a key component of their growth.<sup>265</sup> It is clear that heartbeat trades are a part of ETFs overall tax efficiency and have been referred to as “just smart tax strategy” by those who use them.<sup>266</sup> However, it is important to note that it is not currently possible to tell exactly how important these trades are to the overall tax efficiency of ETFs. The only measure of the value of the in-kind exception overall is in the disclosure of net gains from in-kind redemptions in funds' annual reports, and the line item does not show what portion of that amount is from routine

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<sup>264</sup> See *supra* note 192–195 and accompanying text.

<sup>265</sup> See *supra* note 198 and accompanying text.

<sup>266</sup> See Mider et al., *supra* note 10. (“To people in the industry, heartbeats are just smart tax strategy”).

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creation and redemption process and what is from heartbeat trades.<sup>267</sup> Furthermore, even if heartbeat trades were a crucial element of ETF's tax efficiency, the tax efficiency of ETFs is not a broader goal of the tax code. As explained in Part II, ETFs did not even exist when §852(b)(6) was passed, so it cannot be argued all behaviors that make the funds more tax-efficient must remain protected under that section. Additionally, the loss of some tax-efficiency would still be unlikely to threaten the current rise of ETFs because such a giant gap exists between the taxes incurred with an ETF and a mutual fund of similar size.<sup>268</sup> With most funds distributing no capital gains tax,<sup>269</sup> the industry would be able to absorb some increase in those distributions resulting from making heartbeat trades a taxable event and still maintain its edge.

Thus, given it does not raise the same concerns as the total repeal of §852(b)(6), heartbeat trades should no longer be ignored and should instead be treated as a taxable event, either through action by the IRS or by Congress. Such a step would stop a transaction that has taken the in-kind redemption exemption too far and has clearly strayed from the spirit of the law.

## V. CONCLUSION

There has been an explosion in growth in ETFs over the last decade. A reason for the growth has been the tax efficiency of ETFs compared to other investment vehicles. This tax efficiency has been driven by §852(b)(6), which allows ETFs to not recognize a gain on securities distributed in an in-kind redemption. Some funds have chosen to maximize the use of this exemption through heartbeat trades, which allow them to rebalance their portfolios without having to recognize gains on their appreciated stocks. This Note makes the first attempt to analyze the

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<sup>267</sup> *See id.*

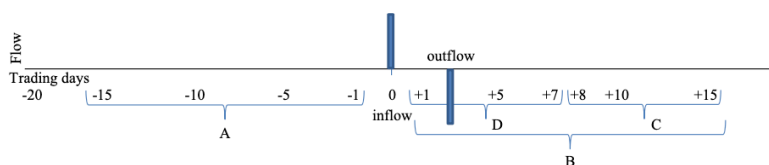
<sup>268</sup> *See Johnson, supra* note 84.

<sup>269</sup> *See id.*

impact of the SEC Rule 6c-11, which allows all ETFs to use custom baskets, on the usage of heartbeat trades. It finds that there has been a substantial increase in such trades since the Rule went into effect and that the increase was much larger among funds who were only able to use custom baskets after Rule 6c-11. While this increase does not justify the total repeal of §852(b)(6), it does add urgency to the need to address heartbeat trades. Heartbeat trades are executed for the main purpose of tax avoidance and should no longer be exempt from gain recognition under §852(b)(6) and should be classified as a taxable event by the IRS or Congress.

## VI. APPENDIX

Figure A: Moussawi et. al – Example of a heartbeat



Heartbeat conditions:

1. Inflow on day 0 is at least 1% of AUM
2. The inflow is not exactly equal to 25,000 or 50,000 shares (typical size of one creation basket).
3. Inflow on day 0 is at least 3x as large as the largest of:
  - a. The maximum absolute percentage flow during days -15 to -1 (window A)
  - b. The maximum percentage inflow during days 1 to 15 (window B)
  - c. The maximum absolute percentage flow during days 8 to 15 (window C)
4. The cumulative flow during days 1 to 7 (window D) reverses at least 75% of the magnitude of the inflow.

Rabih Moussawi, Ke Shen & Raisa Velthuis, *ETF Heartbeat Trades, Tax Efficiencies, and Clienteles: The Role of Taxes in the Flow Migration from Active Mutual Funds to ETFs*, (December 8, 2020) (manuscript at 46), available at

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3744519](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3744519)

Figure B: Total Heartbeat Trades Per Month for Entire Sample

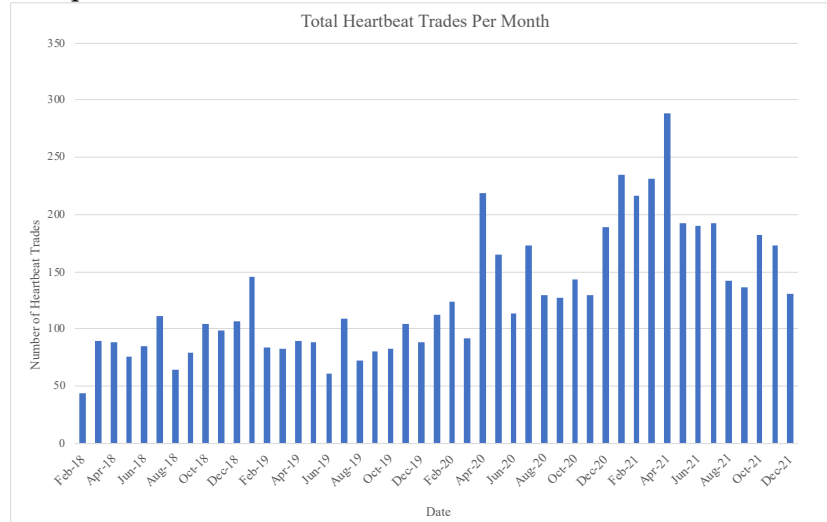


Figure C: Growth in ETFs, 2018-2021

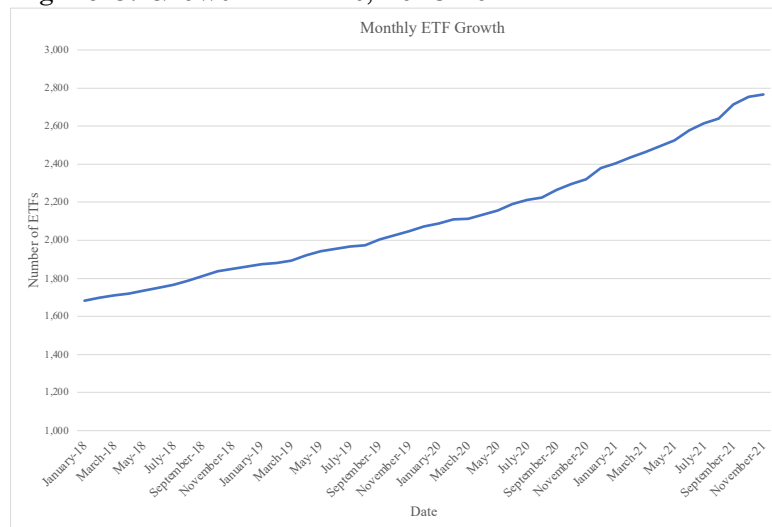


Table A: Yearly Percentage of Funds Using Heartbeat Trades and Avg. Heartbeat per Fund

Year	Heartbeat Funds	Funds Without Heartbeat	% of Funds Using	Avg. Heartbeat/Fund
2018	517	1,149	31.03%	2.062
2019	484	1,182	29.05%	1.963
2020	609	1,057	36.55%	2.378
2021	692	974	41.54%	2.228

Table B: Year over Year Growth 2019:2020 Comparison

Month	Post-2006: Year over Year Growth, 2019:2020	Pre-2006: Year over Year Growth, 2019:2020	% Difference
February	111.11%	-24.62%	135.73%
March	123.08%	76.67%	46.41%
April	112.50%	77.97%	34.53%
May	180.00%	43.59%	136.41%
June	200.00%	25.00%	175.00%
July	150.00%	17.65%	132.35%
August	63.16%	17.31%	45.85%
September	80.00%	57.45%	22.55%
October	130.77%	12.50%	118.27%
November	147.83%	66.67%	81.16%
December	147.83%	42.25%	105.57%

Table C: Year over Year Growth 2018:2019 Comparison

Month	Post-2006: Year over Year Growth, 2018:2019	Pre-2006: Year over Year Growth, 2018:2019	% Difference
February	-67.86%	8.33%	-76.19%
March	-3.70%	0.00%	-3.70%
April	-15.79%	22.92%	-38.71%
May	-62.96%	-25.00%	-37.96%
June	-48.28%	0.00%	-48.28%
July	-25.00%	27.50%	-52.50%
August	0.00%	-13.33%	13.33%
September	-42.86%	-20.34%	-22.52%
October	-63.89%	-5.08%	-58.80%
November	15.00%	-35.44%	50.44%
December	-20.69%	-33.02%	12.33%

Table D: Model Results with Errors Clustered by “Fund Family”

Results from Regression			
Observations	1,691,566		
Number of groups	1,579		
Variable	Coefficient	P-value	Standard Error
After x Treat	0.0009574	0.041	0.0004687
Intercept term	0.0027716	0	0.0002118

Table E: 10 Largest “Post-2006” Funds’ Net Realized Gains on In-Kind Redemptions

Fund	Net realized gains on in-kind redemptions	
	2021	2019
SCHD	\$ 2,093,559,688	\$ 403,313,183
ARKK	\$3,925,969,260	\$ 48,987,678
SCHP	\$163,733,542	\$12,404,585
SCHA	\$ 835,469,800	\$ 372,269,517
SCHG	\$1,330,542,454	\$ 265,088,982
SCHV	\$197,091,914	\$ 459,996,193
SCHO	\$ 59,856,837	\$ 26,141,162
ARKG	\$ 1,042,069,978	\$ 12,291,848

ARKW	\$ 1,105,668,554	\$ 41,930,678
FNDA	\$ 414,516,200	\$ 138,153,036
<b>Total</b>	\$ 11,168,478,227	\$ 1,780,576,862