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## PLACING A BID: A COMPARISON OF THE TRADITIONAL MARKETPLACE (STOCKS) AND NON-TRADITIONAL MARKETS (NFTS)

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## **PLACING A BID: A COMPARISON OF THE TRADITIONAL MARKETPLACE (STOCKS) AND NON-TRADITIONAL MARKETS (NFTS)**

*Haley Nieh\**

*Non-fungible Tokens (NFTs) are exploding in the marketplace and are not losing momentum anytime soon. Artists, athletes, celebrities, and even brands and luxury houses are rolling out NFTs. With this excitement, a great deal of profit is being generated; the market cap of NFTs is expected to grow from \$3 billion in 2022 to \$13.6 billion in 2027 (a compound annual growth rate of 35 percent).<sup>1</sup>*

*Blockchain technologies are an empowering platform for democratization of financial instruments and transactions. Cryptocurrency has received some regulation from the United States Securities and Exchange Commission (SEC), but clarity and regulation of NFTs have yet to be developed. A key hurdle around deciding whether to regulate NFTs stems from categorization of NFTs as commodities or securities or neither. This paper is not meant to propose any substantive regulatory or legal policies; rather, to investigate the foundation of NFTs and the ecosystem it occupies in order to begin to think about whether to regulate them.*

*With that said, I attempt to introduce a framework of factors that I utilize to analyze whether NFTs are more like stocks, less like stocks, or not at all like stocks in terms of their ability to act as a security. The factors that are weighed are: valuation strategies or ecosystems (such as social media and trading bots), platform or transactional capacity (such as blockchain as a platform, brokerages and exchanges), and finally investment potential or the expectation of investment (such as risk and profitability). This is the first part of my*

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\* J.D. Candidate, Santa Clara University School of Law, 2023. The author would like to thank Professor Guan for her knowledge, patience, and feedback during the Capital Markets seminar. Additionally, she'd like to express her gratitude to all her friends and family for supporting her during this semester. Special shout out to her boyfriend, Luis-Johannes Schubert for late night snacks and encouragement throughout the process.

<sup>1</sup> *Non-Fungible Tokens Market by Offering End-user Region–Global Forecast to 2027*, MKTS. & MKTS. (May 2022).

*two-part analysis. Because I conclude NFT markets do not look like traditional markets in certain key respects, I look to analyze NFTs under the Howey Test under an investment contract catch-all instead.*

*In sum, NFTs can be a security under the Howey Test, I analyze the Bored Ape Yacht Club NFT as a case study of this. The promise of community and buying into a community with perks, clout and influence, as well as potential profit off the NFT itself satisfies the elements of the Howey Test.*

## CONTENTS

I.	INTRODUCTION.....	234
II.	WHAT IS A TRADITIONAL VERSUS NON-TRADITIONAL MARKET? .....	235
	<i>A. Capital Markets</i> .....	235
	<i>B. Blockchain and Non-Fungible Tokens (NFTs)</i> .....	237
	<i>C. Diminishing the Wealth Gap with Blockchain</i> .....	238
	<i>D. The (Continued) Need for Policies and Regulation of Traditional and Non-traditional Markets</i> .....	241
III.	PART ONE: THE THREE BUILDING BLOCKS.....	242
	<i>A. Valuation</i> .....	242
	1. Evaluating a Stock's Price.....	243
	2. Evaluating an NFT's Price .....	243
	3. The Case of GameStop (GME): Meme Stonks .....	244
	4. Bored Ape Yacht Club (BAYC), CryptoPunks, and Social Media . . . Oh my! .....	245
	<i>B. Trading Platforms</i> .....	252
	1. Distributed Ledger Technology (DLT) .....	252
	2. Blockchain Basics for NFTs (ERC-721 vs. ERC-1155) .	253
	3. OpenSea As a Brokerage or Exchange.....	254
	4. NFT Trading Bots and High Frequency Trading (HFT) .	255
	<i>C. Investment and Time Horizons</i> .....	256
	1. Investing to Make a Profit .....	258
	2. Risk Tolerance.....	260
IV.	PART TWO: AN INVESTMENT CONTRACT .....	263
	<i>A. The Howey Test (BAYC Case Study)</i> .....	263
V.	CONCLUSION .....	263
VI.	ADDENDUM.....	264

## I. INTRODUCTION

The traditional stock market has been and still is the bedrock of the American economy. Wall Street was seen as a beacon of wealth, a symbol of American prosperity and its power in commerce. Traders screaming and yelling orders on the trading floor was synonymous with productivity—the money-making machine could do no wrong. Until the economic downturn of 2008, The Recession debilitated the American public’s trust . . . and then came the government bailouts to the banks. Complete disillusionment ensued as the priorities became clearer: it was the big guys against the small guys. The David and Goliath story, but Goliath was always going to get help despite all the miscalculations and misrepresentation, side-stepping accountability to the American public.

The first use of blockchain was in 1991 when research scientists Stuart Haber and W. Scott Stornetta were working on a practical solution to keep backups of digital documents (essentially timestamping digital documents).<sup>2</sup> This evolved. Around the same time of the financial crash, year 2008, blockchain—as we know it today—was created by Satoshi Nakamoto to serve as a public distributed ledger for bitcoin cryptocurrency transactions.<sup>3</sup> The global cryptocurrency market capitalization is about \$1.28 trillion dollars.<sup>4</sup> Another application of blockchain are non-fungible tokens (NFTs), which are blockchain-based tokens that each represent a unique asset because of its one-of-a-kind digital certificate of ownership.<sup>5</sup> The market capitalization of NFTs on the Ethereum blockchain is about \$841 million dollars.<sup>6</sup> A NFT cannot be copied, substituted or subdivided as recorded in the blockchain ensuring authenticity.<sup>7</sup> This market that spawned from blockchain technology has created enormous wealth in non-banker hands for two reasons: first, they act as a digital wrapper around any asset; and second, they allow the exchange of those assets on decentralized networks.<sup>8</sup> More recently, non-traditional markets

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<sup>2</sup> Roshan Raj, *History of Blockchain*, INTELLIPAAT (Mar. 01, 2023).

<sup>3</sup> Kirsty Moreland, *What Is Bitcoin?*, LEDGER ACAD. (Apr. 18, 2023).

<sup>4</sup> *Today’s Cryptocurrency Prices by Market Cap*, COINMARKETCAP, <https://coinmarketcap.com/> (data as of Apr. 16, 2023).

<sup>5</sup> Mitchell Clark, *NFTs, explained*, VERGE (June 06, 2022).

<sup>6</sup> *Market capitalization of Art Blocks non-fungible token (NFT) projects worldwide from November 15, 2020 to September 30, 2022*, STATISTA (Oct. 05, 2022).

<sup>7</sup> *Non-fungible token*, WIKIPEDIA, [https://en.wikipedia.org/wiki/Non-fungible\\_token](https://en.wikipedia.org/wiki/Non-fungible_token) (last visited Nov. 08, 2022).

<sup>8</sup> Akshay Arora & Manish Ramrakhani, *Blockchain in wealth management*, WIPRO, <https://www.wipro.com/consulting/blockchain-in->

have dominated pop culture and economic dialogue and analysis as more individuals participate in cryptocurrency, decentralized autonomous organizations (DAOs), NFTs, and much more.<sup>9</sup>

My hope is that this article can lend more perspective around non-traditional marketplaces such as NFTs and how they are and are not as dissimilar to the traditional stock marketplaces that we know well by outlining my Part One: “The Three Building Blocks” framework. My intention is not to prescribe or suggest any securities policy or regulations; rather, to inform the reader of how the ever-changing uses of NFTs and the value it can hold can be reminiscent of a security, such as a stock by analyzing it under my Part Two: *Howey Test* section. From this idea, perhaps the industry and its scholars can be more proactive or creative even when pioneering ways to understand and then regulate these assets. One thing is for certain: blockchain technologies are here to stay, but to understand its irreplaceability, it is imperative to understand what it is in order to better regulate or amass its strengths toward our own economies.

## II. WHAT IS A TRADITIONAL VERSUS NON-TRADITIONAL MARKET?

### A. *Capital Markets*

Capital Markets (a traditional marketplace) are venues (in-person or digital spaces) where people or institutions with capital deploy money by lending or investing into equity or debt securities such as stocks and bonds.<sup>10</sup> Capital markets are composed of suppliers and users of funds.<sup>11</sup> Suppliers and users interact in primary and secondary markets.<sup>12</sup> Primary markets are where new equity stock and bond issues are sold to investors whereas secondary markets trade existing securities.<sup>13</sup> Initial public offerings (IPOs) are done in the primary capital market.<sup>14</sup> This is where a company publicly sells stocks for investors to purchase.<sup>15</sup> The primary market is subject to strict regulation and Companies must file statements with the Securities and Exchange Commission (SEC) and other relevant securities agencies to

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wealth-management/ (last visited Feb. 24, 2023).

<sup>9</sup> Nicolette Salmi, *13 Celebrities Who Have Joined the NFT Crypto Art Craze*, L’OFFICIEL (Nov. 27, 2022).

<sup>10</sup> Adam Hayes, *What Are Capital Markets, and How Do They Work?*, INVESTOPEDIA (Aug. 30, 2021).

<sup>11</sup> *Id.*

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

<sup>13</sup> *Id.*

<sup>14</sup> *Id.*

<sup>15</sup> *Id.*

obtain approval prior to going public.<sup>16</sup> After going public, companies must still maintain strict reporting and accounting with the SEC.<sup>17</sup>



Figure 1: The NYSE floor during Party City IPO in 2015 (top).<sup>18</sup>  
The NYSE floor in 1941, the day after Pearl Harbor (bottom).<sup>19</sup>

Whereas the secondary market is where securities are traded between investors rather than from company to investor.<sup>20</sup> The New

<sup>16</sup> Hayes, *supra* note 10.

<sup>17</sup> *What does it mean to be a public company?*, U.S. SEC. & EXCH. COMM'N, <https://www.sec.gov/education/capitalraising/building-blocks/what-does-it-mean-be-a-public-company> (last visited Apr. 23, 2023).

<sup>18</sup> *Party City Celebrates IPO on the New York Stock Exchange*, BUSINESSWIRE (Apr. 16, 2015).

<sup>19</sup> *New York Stock Exchange Floor*, GETTY IMAGES (Dec. 08, 1941).

<sup>20</sup> Hayes, *supra* note 10.

York Stock Exchange (NYSE) and the Nasdaq are examples of secondary markets (see Figure 1).<sup>21</sup> The secondary market has two venues, the auction and the dealer markets.<sup>22</sup> The auction market is where buyers and sellers gather in one location and yell out orders and bids on the open floor.<sup>23</sup> This is called an open outcry system,<sup>24</sup> which the NYSE trading floor on Wall Street was well-known for. On the other hand, in dealer markets, people and investors trade through electronic networks such as E-Trade, TD Ameritrade, Charles-Schwab, Robinhood, and Fidelity.<sup>25</sup>

Capital Markets are classified as a traditional market because it is a venue in which investors (buyers and sellers) have the means to trade financial instruments and securities in a highly regulated system.<sup>26</sup> The SEC is the main governing body of these activities and there are robust policies and legal consequences to encourage efficiency, accuracy in the market, and dissemination of information.<sup>27</sup>

#### B. *Blockchain and Non-Fungible Tokens (NFTs)*

Non-traditional markets encompass NFTs that exist on the Ethereum (ETH) blockchain, specifically ERC-721 and ERC-1155 to be discussed later. NFTs are unique irreplicable tokens (identified by a one-of-a-kind digital key) that exist on the ETH blockchain and are linked to an owner of the asset.<sup>28</sup> Put simply, the concept of NFTs is like how one can own a copy of a Monet painting, but only one person owns the original work.<sup>29</sup> NFTs can exist in a variety of forms including, but not limited to art, real estate, music, and videos.<sup>30</sup> This is important for my perspective on how *some* NFTs are utilized like securities even though others may resemble commodities. It is crucial to look at edge cases in which NFTs may act more like commodities versus securities and why. My prospectus fleshes out how despite being unique and identifiable (unlike Bitcoin as a cryptocurrency which can

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<sup>21</sup> *Id.*

<sup>22</sup> *Id.*

<sup>23</sup> Evan Tarver, *Auction Market: Definition, How It Works in Trading, and Examples*, INVESTOPEDIA (Apr. 25, 2021).

<sup>24</sup> *Id.*

<sup>25</sup> Chris B. Murphy, *Over-the-Counter (OTC): Trading and Security Types Defined*, INVESTOPEDIA (Aug. 10, 2022).

<sup>26</sup> Hayes, *supra* note 10.

<sup>27</sup> Aly J. Yale, *What is the Securities and Exchange Commission?*, BUS. INSIDER (Sept. 16, 2022).

<sup>28</sup> Clark, *supra* note 5.

<sup>29</sup> *Id.*

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

be exchanged like-for-like, for example), NFTs can still be non-fungible and act like a security.

### C. *Diminishing the Wealth Gap with Blockchain*

Despite the U.S. economy doing well on several fronts prior to the COVID-19 pandemic, a general trend is true.<sup>31</sup> Since 1980, incomes have increased faster for the most affluent families—those in the top five percent—than for families in the lower tiers marking the inception of a steady rise in income inequality.<sup>32</sup> Furthermore, in 1990, even sharper growth in income at the top was evident: the mean income of the top five percent of families grew at an annual average rate of 4.1 percent compared with one percent or barely more for other families.<sup>33</sup> Even later in American history, where families in the lower, middle, and upper-incomes were all prosperous, the percentage in gains were outdistanced by upper-income families.<sup>34</sup> Wealth inequality is not an isolated America-only issue. Many people in developing nations send money back and forth to support their families. These money remittances account for 20% to 38.5% of the gross domestic product of countries like El Salvador, Haiti, and Tonga.<sup>35</sup> Intermediaries take a huge cut from transfers done within traditional banking systems.<sup>36</sup> SWIFT bank transfers are costly with charges of three to five percent or a fixed fee of \$25 to \$45 whereas on blockchains, transfer charges are significantly less or negligible.<sup>37</sup> The emergence of blockchain technology, specifically in the form of cryptocurrency, has made the younger generation more aware of fiscal health, financial planning, fiscal policies and the inner workings of our financial system generally.<sup>38</sup> Cryptocurrency has created income opportunities and enabled individuals to invest who did not have access to sophisticated and traditional financial systems.<sup>39</sup> Crypto has leveled the playing field. The key appeal of crypto is accessibility and efficiency,<sup>40</sup> which is

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<sup>31</sup> *U.S. Economic Outlook – 2019 in review and early 2020 developments*, ECON. COMM. FOR LAT. AM. & CARIBBEAN (Apr. 06, 2020).

<sup>32</sup> Juliana Menasce Horowitz, Ruth Igielnik & Rakesh Kochhar, *Trends in income and wealth inequality*, PEW RSCH. CTR. (Jan. 09, 2020).

<sup>33</sup> *Id.*

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

<sup>35</sup> Anthony Clarke, *How cryptocurrency could help tackle global income inequality*, COINTELEGRAPH (Aug. 31, 2022).

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

<sup>37</sup> *Id.*

<sup>38</sup> Sam Klemens, *Crypto vs. wealth inequality*, EXODUS WALLET (Feb. 01, 2022).

<sup>39</sup> *Id.*

<sup>40</sup> Global Financial Stability Report, *COVID-19, Crypto, and Climate*:

diminishing wealth inequality around the world by fostering more mature and independent ways to move money without a centralized banking system.<sup>41</sup> However, there are still some criticisms to blockchain technology optimism: the National Bureau of Economic Research found that “individual holdings are still highly concentrated: the top 1000 investors control about 3 million BTC and the top 10,000 investors own around 5 million bitcoins.”<sup>42</sup> This wealth concentration indicates that increases in crypto prices disproportionately benefit a small minority of immensely rich investors.<sup>43</sup> Perhaps non-traditional markets are not much different from the traditional markets rooted in fiat currency.

The Occupy Wall Street movement began on September 17, 2011, when hundreds showed in Zuccotti Park in lower Manhattan.<sup>44</sup> The objective was to protest income and wealth inequality and corruption.<sup>45</sup> Wall Street was made up of the one percenters, the ultra-rich and wealthy, while the rest of America were the 99 percent.<sup>46</sup> Today, as of 2022, the top ten percent of Americans hold 70 percent of the wealth in the United States.<sup>47</sup> The notion that the wealth of our markets is tied up in the hands of the few is still one of America’s largest challenges. Different kinds of crypto assets can arguably shake things up in this regard.<sup>48</sup> NFTs have many desired properties: verifiability, transparent execution, and availability, to name a few.<sup>49</sup> An NFT with its token metadata and its ownership can be publicly verified, which is great for a private, yet decentralized application.<sup>50</sup> Also, the activities of NFTs (minting, selling, and purchasing) are all publicly accessible.<sup>51</sup> Anyone can participate. Finally, the NFT system

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*Navigating Challenging Transitions*, INT’L MONETARY FUND (Oct. 2021).

<sup>41</sup> Clarke, *supra* note 35.

<sup>42</sup> Klemens, *supra* note 38.

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

<sup>44</sup> *Occupy Wall Street begins*, HISTORY (Sept. 17, 2011).

<sup>45</sup> *Id.*

<sup>46</sup> *Occupy Wall Street*, WIKIPEDIA,

[https://en.wikipedia.org/wiki/Occupy\\_Wall\\_Street](https://en.wikipedia.org/wiki/Occupy_Wall_Street) (last updated Feb. 12, 2023).

<sup>47</sup> Clarke, *supra* note 35.

<sup>48</sup> *See infra*, FIG. 2.

<sup>49</sup> Qin Wang, Rujia Li, Qi Wang & Shiping Chen, *Non-Fungible Token (NFT): Overview, Evaluation, Opportunities and Challenges*, ARXIV: 2105.07447 (last revised Oct. 25, 2021) (manuscript at 8).

<sup>50</sup> Scott Sugino et al., *NFT: A Token of Corporate Affection?*, O’MELVENY & MYERS (Jan. 25, 2023).

<sup>51</sup> *Id.*

never has downtime.<sup>52</sup> All tokens and issued NFTs are always available to sell and buy, subject to an offer being accepted.<sup>53</sup>



Figure 2: NFTs can be equivalent to or exchanged with fiat currency.<sup>54</sup>

<sup>52</sup> See Adeel Qayum, *How to Sell an NFT: Guide for 2023*, OBERLO (Dec. 11, 2022).

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

<sup>54</sup> *The regulatory considerations of NFTs in the United States*, COINTELEGRAPH, <https://cointelegraph.com/cryptocurrency-regulation-for-beginners/the-regulatory-considerations-of-nfts-in-the-united-states> (last visited Dec. 03, 2022).

D. *The (Continued) Need for Policies and Regulation of Traditional and Non-traditional Markets*

Securities regulation is a crucial part of the American economy, not to mention the role it plays in the larger world economy too. The development of American federal securities law was catalyzed by the stock market crash of 1929.<sup>55</sup> The Great Depression was a consequence of the major stock market crash and economic ruin.<sup>56</sup> In part, the market crashed because there was a lack of information dissemination and a lack of accountability from brokers and company executives when touting non-substantive projections for the company.<sup>57</sup> Thus, under President Franklin Roosevelt, Congress enacted both the Securities Act of 1933 and the Securities Exchange Act of 1934, requiring disclosures of a variety of information from companies to inform investors whether to buy or sell based on the most accurate pricing of securities in the market.<sup>58</sup>

The Exchange Act established the Securities and Exchange Commission (SEC), which was created as a federal agency with the authority to oversee and regulate the securities industry.<sup>59</sup> The definition of a security means “any note, stock, . . . participation in any profit sharing, . . . [or] investment contract.”<sup>60</sup> Before federal securities laws, most states also had their own regulations, known as blue sky laws.<sup>61</sup> Regardless of whether the regulation stemmed from state or federal law, the objective of the securities laws and legal framework is to maximize wealth in the market and minimize fraud especially with intangible assets that are volatile in price.<sup>62</sup> About \$18.9 billion dollars are being exchanged on the NYSE every day.<sup>63</sup> The principle underlying the encouragement of investment in the global markets is that the nominal value (trading value of capital instrument) represents

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<sup>55</sup> *Securities law history*, LEGAL INFO. INST., [https://www.law.cornell.edu/wex/securities\\_law\\_history](https://www.law.cornell.edu/wex/securities_law_history) (last visited Apr. 16, 2023).

<sup>56</sup> *Id.*

<sup>57</sup> *Id.*

<sup>58</sup> *Id.*

<sup>59</sup> Will Kenton, *What Is the Securities Exchange Act of 1934? Reach and History*, INVESTOPEDIA (Feb. 24, 2023).

<sup>60</sup> 15 U.S.C. § 77(a)(1) (2012).

<sup>61</sup> *Securities law history*, *supra* note 55.

<sup>62</sup> *Objectives and Principles of Securities Regulation*, INT’L ORG. SEC. COMM’N 1, 6 (May 2003), <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD154.pdf>.

<sup>63</sup> *Trading & Data*, N.Y. STOCK EXCH., <https://www.nyse.com/trading-data> (last visited Apr. 16, 2023).

the value and accurate information of the company and its stock is reflected being bought and sold in the stock market.<sup>64</sup> Whereas, the dynamic value is the actual fundamental value—*what is the financial instrument really worth?*<sup>65</sup> This is the calculation done by every investor: matching a stock’s nominal value with the dynamic value.<sup>66</sup>

Because the world is constantly changing, the disconnect between both values can be pronounced.<sup>67</sup> Information asymmetry between buyers and sellers creates issues for efficient participation in the market.<sup>68</sup> Minimizing the disconnect is mitigated by requiring disclosure of accurate information about businesses, lowering the risk of investing in the capital markets, and therefore, enticing more investors to enter the market and engage in entrepreneurial activity more successfully.<sup>69</sup>

Regarding blockchain technologies, there is already a great deal of movement in the regulation of crypto and stablecoins too (albeit still arguably inadequate).<sup>70</sup> The SEC has also been prodded for regulation or clarity around NFTs.<sup>71</sup>

### III. PART ONE: THE THREE BUILDING BLOCKS

#### A. *Valuation*

How are stocks valued? What determines how much a share of Apple can be bought or sold at? And how are NFTs fetching crazy amounts of money? In 2021, Beeple’s *Everydays: the First 5000 Days*, was the first pure NFT artwork to be offered by a major auction house,<sup>72</sup> sold at Christie’s for an adjusted price of \$72.6 million

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<sup>64</sup> Securities Regulation, *Introduction to Securities Law*, SANTA CLARA U., at 1:00:20 (Aug. 15, 2022), <https://santaclarauniversity.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=a2fb462d-1eab-466f-b7fb-aeef20165e6ae>.

<sup>65</sup> *Id.*

<sup>66</sup> *Id.*

<sup>67</sup> *Id.*

<sup>68</sup> *Id.*

<sup>69</sup> *Id.*

<sup>70</sup> Howell Jackson, Timothy G. Massad & Dan Awrey, *How we can regulate stablecoins now without congressional action*, BROOKINGS INST. (Aug. 16, 2022).

<sup>71</sup> Vincent R. Molinari, *Re: Rulemaking Regarding Non-Fungible Tokens*, U.S. SEC. & EXCH. COMM’N (Apr. 12, 2021), <https://www.sec.gov/rules/petitions/2021/petn4-771.pdf>.

<sup>72</sup> Lucas Matney, *Beeple’s \$69 million NFT sale marks a potentially transformative moment for the art world*, TECH CRUNCH (Mar. 11, 2021).

dollars.<sup>73</sup> An NFT of a video clip of LeBron James was sold for more than \$200,000 on NBA Top Shot.<sup>74</sup>

### 1. Evaluating a Stock's Price

There are four basic elements to determine stock value, and there is also a simple formula utilized to determine the present value of a stock. First, the four basic elements that investors consider in determining a stock's value are: (1) price-to-book (P/B) ratio, (2) price-to-earnings (P/E) ratio, (3) price-to-earnings growth (PEG) ratio, and (4) dividend yield.<sup>75</sup> Put simply, P/B ratios give an investor an idea of the value of the company if it closed-up shop today.<sup>76</sup> Next, P/E ratios help to decide if a stock's value can stay up despite current volatility with the company's earnings backing up the price.<sup>77</sup> This ratio is used to predict which stocks will undergo progressively larger earnings.<sup>78</sup> Quick caveat: this formula is utilized among companies placed in similar industries and markets. Combining these methods of growth gives a potential investor the best idea of how a company is doing and how its stock might fare in the future.<sup>79</sup> Additionally, the PEG ratio is like the P/E ratio except that it incorporates historical growth rates of a company's earnings and also tells investors how company A's stock may compare against company B's stock.<sup>80</sup>

### 2. Evaluating an NFT's Price

Unlike evaluating stock prices, there is no rule book or conventional investment tool to assess an NFT's value.<sup>81</sup> However, rarity is a good indication of value.<sup>82</sup> Additionally, utility is also a consideration for valuing an NFT as some NFTs can be used for tokenizing assets from real estate, precious metals, to even securities.<sup>83</sup> And, there are case studies that show the similarity between the evaluation of a company's stock as well as NFTs, particularly on social

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<sup>73</sup> Clark, *supra* note 5.

<sup>74</sup> Molinari, *supra* note 71.

<sup>75</sup> Andrew Beattie, *The 4 Basic Elements of Stock Value*, INVESTOPEDIA (Feb. 16, 2022).

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

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

<sup>78</sup> *Id.*

<sup>79</sup> *Id.*

<sup>80</sup> *Id.*

<sup>81</sup> Dilip Kumar Patairyra, *How do you assess the value of an NFT?*, COINTELEGRAPH (Mar. 12, 2022).

<sup>82</sup> *Id.*

<sup>83</sup> *Id.*

media platforms as discussed below.<sup>84</sup>

### 3. The Case of GameStop (GME): Meme Storks

One of the pandemic's most memorable pop culture events was GameStop. Fueled by companies in financial stress in combination with unfounded enthusiasm on social media sites and large numbers of inexperienced retail investors,<sup>85</sup> single click investing apps made it easier for the public to communicate instantaneously and rally around a common goal.<sup>86</sup> In January 2021, a short squeeze of the stock of the American video game retailer caused financial havoc for certain hedge funds and large losses for short sellers. Initially, 140 percent of GameStop's shares in the hands of public investors had been sold short, and a rush to buy (and some fear of missing out, "FOMO") caused price increases beyond what anyone imagined. This short squeeze was initiated by the Internet forum, Reddit, on the subreddit "*r/wallstreetbets*." Here, this meme stock, which is what the phenomenon is known as, occurs when a company, despite strong name-brand recognition, is struggling due to outdated business prospects or adverse market conditions.<sup>87</sup> A hedge fund or other institutional investor bets against the stocks, short selling shares in order to profit.<sup>88</sup> However, the snowball effect of a retail investor hyping up the company online causes a gradual but significant buy of stock (all fueled by social media engagement), causing the stock price to increase exorbitantly due to basic economics.<sup>89</sup> At the end of January 2021, GME stock price skyrocketed as much as 1,700 percent.<sup>90</sup> Here, short sellers, such as the hedge fund Melvin Capital, are forced to buy stock at the inflated price to avoid gigantic losses, which causes the share price to rise even more (a "short squeeze").<sup>91</sup>

In sum, the subreddit gradually fueled retail investors to "outsmart" hedge funds, such as Melvin Capital, White Square Capital,

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<sup>84</sup> See Temitope Olatunji, *How to Determine the Value of an NFT Before Investing*, MAKE USE OF (Sept. 02, 2023).

<sup>85</sup> *What Is a Meme Stock and How Does a Stock Become One?*, TITAN (Oct. 19, 2022).

<sup>86</sup> *Controversy Over GameStop Market Saga Explained*, VOA NEWS (Jan. 30, 2021).

<sup>87</sup> *What Is a Meme Stock and How Does a Stock Become One?*, *supra* note 85.

<sup>88</sup> *Id.*

<sup>89</sup> *Id.*

<sup>90</sup> *Controversy Over GameStop Market Saga Explained*, *supra* note 86.

<sup>91</sup> *What Is a Meme Stock and How Does a Stock Become One?*, *supra* note 85.

Light Street Capital, Point72 Asset Management, Citron Capital and a few others.<sup>92</sup> Here, market behavior dictated the price of the GameStop stock, which was largely inflated by people's emotions, rather than the information available in the market (such as the company's earnings).<sup>93</sup> GameStop is not the only meme stock event; others include Bed Bath & Beyond, AMC Entertainment Holdings, BlackBerry, and Nokia.<sup>94</sup> It is unlikely that meme stocks will just disappear. These events have illuminated where the financial industry and capital markets system require more regulation on large institutional players. As long as short-selling is allowed and banks get to treat the market like their own personal casinos, there will be instances of huge price and market volatility.<sup>95</sup>

4. Bored Ape Yacht Club (BAYC),  
CryptoPunks, and Social Media . . . Oh my!

Similarly, NFTs go through crazes much like stocks. The two famous NFT collections to date are the Bored Ape Yacht Club (BAYC) and CryptoPunks. Launched in 2021 by crypto startup Yuga Labs,<sup>96</sup> BAYC is a collection of precisely 10,000 unique apes with different characteristics that are minted atop the Ethereum blockchain as ERC-271 tokens.<sup>97</sup> Obtaining an ape gives the owner access to an exclusive membership to the "bathroom," which is a virtual hangout spot.<sup>98</sup> There are also exclusive member-only events in the real world that are hosted for BAYC owners.<sup>99</sup> Initially, these apes sold for hundreds (equivalent to about 0.08 ether or ETH) and now fetch up to millions if apes have a rarer combination of features and traits.<sup>100</sup> As of early 2022, the cheapest apes are worth a quarter of a million.<sup>101</sup>

Bored Ape #8817 sold for 2320.36 ETH or approximately \$3.4

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<sup>92</sup> Toby Mathis, *How Much did Hedge Funds Lose on GameStop?*, INFINITY INV. (Sept. 27, 2021).

<sup>93</sup> See Mark Gongloff, *GameStop Has Us in a Glass Case of Emotion*, BLOOMBERG (Jan. 27, 2021).

<sup>94</sup> *What Is a Meme Stock and How Does a Stock Become One?*, *supra* note 85.

<sup>95</sup> Sam Vaknin, *Short Selling and Volatility*, MENDOZA COLL. BUS. (June 26, 2007).

<sup>96</sup> Cryptopedia Staff, *What Is Bored Ape Yacht Club?* CRYPTOPEDIA (June 28, 2022).

<sup>97</sup> George Georgiev, *The Bored Ape Yacht Club (BAYC) NFT Collection: Everything You Need to Know*, CRYPTOPOTATO (Mar. 06, 2022).

<sup>98</sup> *Id.*

<sup>99</sup> *What Is Bored Ape Yacht Club?*, *supra* note 96.

<sup>100</sup> *Id.*

<sup>101</sup> *Id.*

USD despite being the 17<sup>th</sup> most rare ape.<sup>102</sup> This ape has gold fur and is wearing a comical spinner hat with a blue and white party horn hanging from its mouth (see Figure 3).

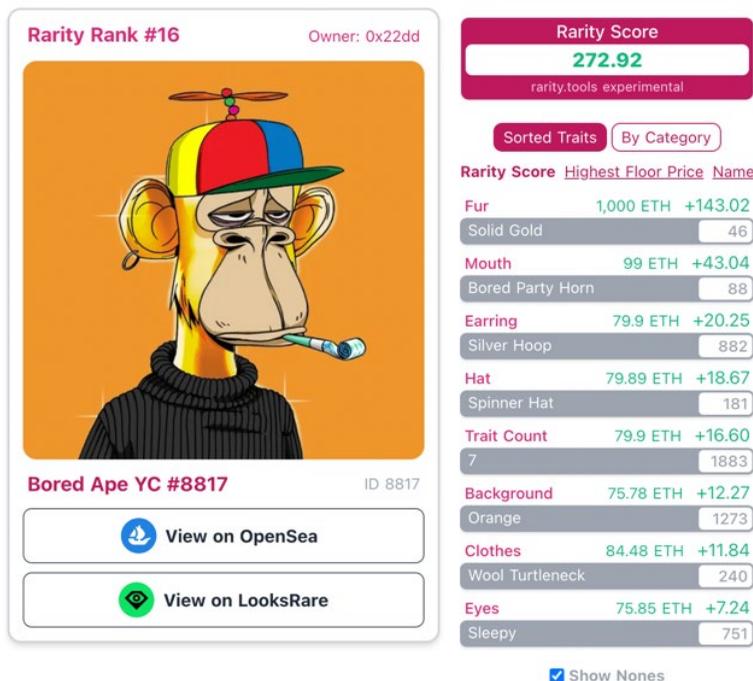


Figure 3: Bored Ape #8817.<sup>103</sup>

The fascinating aspect here is that NFTs are a sort of “flex,” and the purchase behind an NFT (unlike stocks) is emotional. There are valuation and pricing tools such as Rarity Tools,<sup>104</sup> but the decision to buy is for bragging rights or because someone thinks the NFT will be worth more in the future. Furthermore, that segues into commercial and intellectual property rights behind NFTs. After the purchase of an NFT, the owner sometimes gets full commercial rights and the ability to monetize the token.<sup>105</sup> These rights are usually grouped by NFT project. For example, BAYC provides unlimited commercial rights to

<sup>102</sup> Andy Dilks, *The 10 Most Expensive Bored Ape Yacht Club NFTs*, WEALTHY GORILLA (Dec. 01, 2022).

<sup>103</sup> *Bored Ape Yacht Club Ranked by Rarity*, RARITY TOOLS, <https://rarity.tools/boredapeyachtclub/view/8817> (last visited Apr. 23, 2023).

<sup>104</sup> *Rarity Rank #16*, RARITY TOOLS, <https://rarity.tools/boredapeyachtclub/view/8817> (last visited Nov. 01, 2022).

<sup>105</sup> See Kirsty Moreland, *NFT Commercial Rights Explained*, LEDGER ACAD. (May 05, 2022).

purchasers.<sup>106</sup> Thus, “[w]hen you purchase an NFT, you own the underlying Bored Ape, the Art, completely.”<sup>107</sup> Where Cryptokitties and CryptoPunks fall under the NFT License, CrypToadz is open source under the Creative Commons License.<sup>108</sup> Intellectual Property is not the focus of this paper, but it is an obvious issue that cuts against the argument that NFTs are similar to stocks. Undoubtedly, stocks are not protected by intellectual property laws, but there are commercialization aspects to them instead fueled by social media, which is what will be discussed next.

Like the volatility of GameStop stock prices during the *r/wallstreetbets* saga, NFTs undergo irregular sales periods and high levels of volatility in price.<sup>109</sup> For example, a tweet by Jack Dorsey was sold as an NFT for \$22.9 million in March of 2021.<sup>110</sup> Just barely a year later, the NFT could not command bids above \$280.<sup>111</sup> Many mathematical models attempt to predict the future values of NFTs or help brokerages establish auction floors at which to start bids.<sup>112</sup> Sellers may be uncertain of the value of their items, evinced by setting sub-optimal and wide price ranges in auctions.<sup>113</sup> Like the GameStop saga, NFT valuation is more of a social phenomenon involving marketing schemes and the recognition and popularity of the NFT.<sup>114</sup> Despite challenges in assigning mathematical models that can be applied to all NFTs to determine their value, models accounting for selling mechanisms and characteristics of the NFT market have been developed and integrated to help identify mispricing biases and

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<sup>106</sup> Daniel Anthony, *Commercializing NFTs – generating value from digital assets and intellectual property rights*, JD SUPRA (Mar. 02, 2022).

<sup>107</sup> Ingram Yuzek Gainen Carroll & Bertolotti, LLP, *What exactly do you get when you buy an NFT? The Case of the Apes*, JD SUPRA (Jan. 11, 2022).

<sup>108</sup> Anthony, *supra* note 106.

<sup>109</sup> *How Social Media Influences the Value of NFTs*, VANGUARD X, <https://vanguard-x.com/blockchain/social-media-influences-value-of-nfts/> (last visited Nov. 08, 2022).

<sup>110</sup> Nicholas Rossolillo, *How to Invest, Buy & Sell NFTs from Digital Assets*, MOTLEY FOOL (Sept. 20, 2022).

<sup>111</sup> *Id.*

<sup>112</sup> See generally Shrey Jain, Camille Bruckmann & Chase McDougall, *NFT Appraisal Prediction: Utilizing Search Trends, Public Market Data, Linear Regression and Recurrent Neural Networks*, ARXIV: 2204.12932 (Apr. 18, 2022).

<sup>113</sup> *Id.* at 1.

<sup>114</sup> Nicholas Kitonyi, *Researchers Find Intriguing Correlations Between Twitter Activity and NFT Prices on OpenSea*, NFTGATORS (June 02, 2022).

selection biases (see Figure 4).<sup>115</sup>

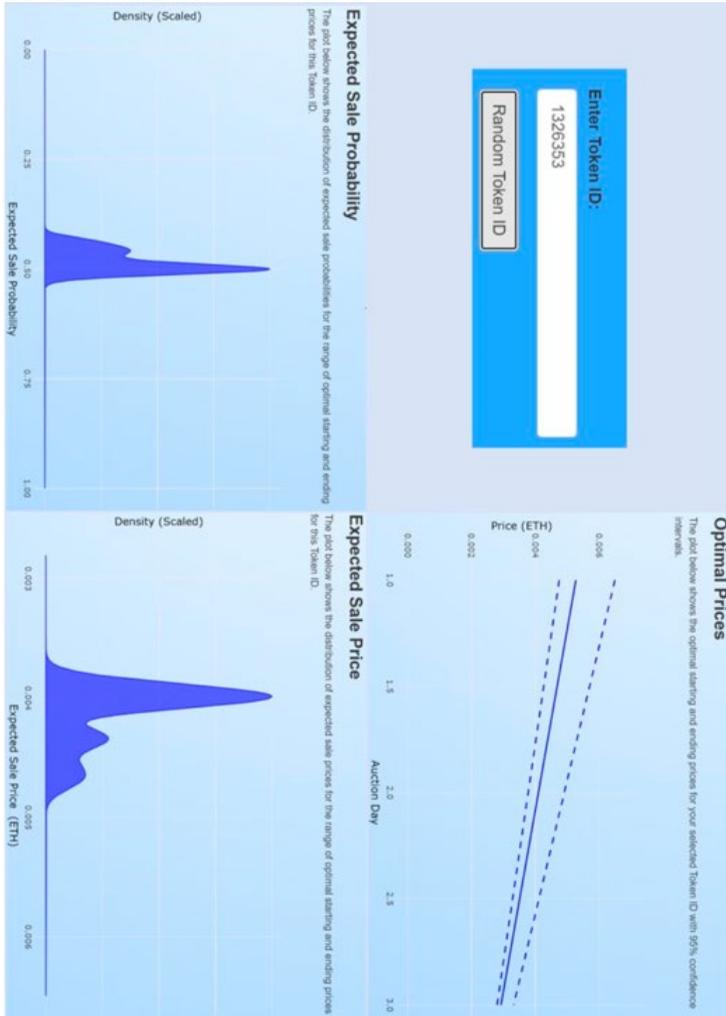


Figure 4: Screenshot from Decision Support Interface for NFT Pricing.<sup>116</sup>

As observed from the GameStop fiasco, social media platforms act as an intermediary between buyers and sellers in both traditional and

<sup>115</sup> Pavel Kireyev & Ruiqi Lin, *Infinite but Rare: Valuation and Pricing in Marketplaces for Blockchain-Based Nonfungible Tokens* 33–34 (INSEAD Working Paper No. 2021/60/MKT, 2021).

<sup>116</sup> *Id.* at 34, FIG.4.

non-traditional markets.<sup>117</sup> Just like Elon Musk tweets whatever is on his mind (such as wanting to take Tesla private if stocks hit a certain price)<sup>118</sup>—which has gotten him in some hot water from the SEC<sup>119</sup>—social media platforms inform the masses in ways that consequently affect the market. NFT artists commonly use social media (particularly Twitter) to announce NFT drops. In addition, social media threads and discussions may indicate valuation on NFTs that have sustained their popularity after a release—popularity and virality drive prices.<sup>120</sup> To emphasize this point, social media activity on platforms like Twitter account for more than 70 percent of the traffic on OpenSea, the world’s first and largest digital NFT marketplace (see Figure 5).<sup>121</sup>

Drawing from these various ideas, there is a theory that the value of an NFT derives from the recognition of the creator and the overall marketing around the NFT itself.<sup>122</sup> Another potential argument against why NFTs and traditional stocks are similar is that the volatility and unpredictable movement in NFT prices is due to sporadic sales or auctions, which are very different from company stocks as they are traded at regular intervals.<sup>123</sup> The findings of the volatility of NFTs suggest that using average price to determine value may be the best option<sup>124</sup> in addition to following social media marketing channels and understanding the clout the creator of the NFT possesses (see Figure 6).

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<sup>117</sup> *NFT 101: The role of social media in the sale of NFTs*, SOCIAL SAMOSA (Sept. 07, 2021).

<sup>118</sup> See Elon Musk (@elonmusk), TWITTER (Aug. 07, 2018, 9:48 AM), <https://twitter.com/elonmusk/status/1026872652290379776?lang=en> (“Am considering taking Tesla private at \$420. Funding secured.”).

<sup>119</sup> Press Release, *Elon Musk Charged With Securities Fraud for Misleading Tweets*, U.S. SEC. & EXCH. COMM’N (Sept. 27, 2018).

<sup>120</sup> *Id.*

<sup>121</sup> Kitonyi, *supra* note 114.

<sup>122</sup> *Id.*

<sup>123</sup> *Id.*

<sup>124</sup> Arnav Kapoor et al., *TweetBoost: Influence of Social Media on NFT Valuation*, ACM DIGIT. LIBR. (Aug. 16, 2022).



**Largest Sales**

<p>1</p>  <p>#3100 4.2KΞ (\$7.58M) Mar 11, 2021</p>	<p>2</p>  <p>#7804 4.2KΞ (\$7.57M) Mar 11, 2021</p>	<p>3</p>  <p>#5217 2.25KΞ (\$5.45M) Jul 30, 2021</p>	<p>4</p>  <p>#2140 1.6KΞ (\$3.76M) Jul 30, 2021</p>	<p>5</p>  <p>#7252 1.6KΞ (\$5.33M) Aug 24, 2021</p>	<p>6</p>  <p>#2338 1.5KΞ (\$4.32M) Aug 06, 2021</p>
<p>7</p>  <p>#7252 1KΞ (\$2.53M) Aug 04, 2021</p>	<p>8</p>  <p>#8888 888.80Ξ (\$2.87M) Aug 28, 2021</p>	<p>9</p>  <p>#3831 850Ξ (\$2.08M) Jul 30, 2021</p>	<p>10</p>  <p>#6649 810Ξ (\$1.98M) Jul 31, 2021</p>	<p>11</p>  <p>#6965 800Ξ (\$1.54M) Feb 19, 2021</p>	<p>12</p>  <p>#2140 750Ξ (\$1.18M) Mar 02, 2021</p>

Figure 5: NFTs for auction on Open Sea. Bored Apes (top),<sup>125</sup> Cryptokitties (middle),<sup>126</sup> and Largest CryptoPunk Sales (bottom).<sup>127</sup>

<sup>125</sup> Bored Ape Yacht Club, OPENSEA, <https://opensea.io/collection/boredapeyachtclub> (last visited Apr. 23, 2023).

<sup>126</sup> CryptoKitties Catalog, CRYPTOKITTIES, <https://www.cryptokitties.co/catalogue> (last visited Apr. 23, 2023).

<sup>127</sup> Langston Thomas, *The 20 Most Expensive NFT Sales of All Time*, NFT Now (Feb. 21, 2023).

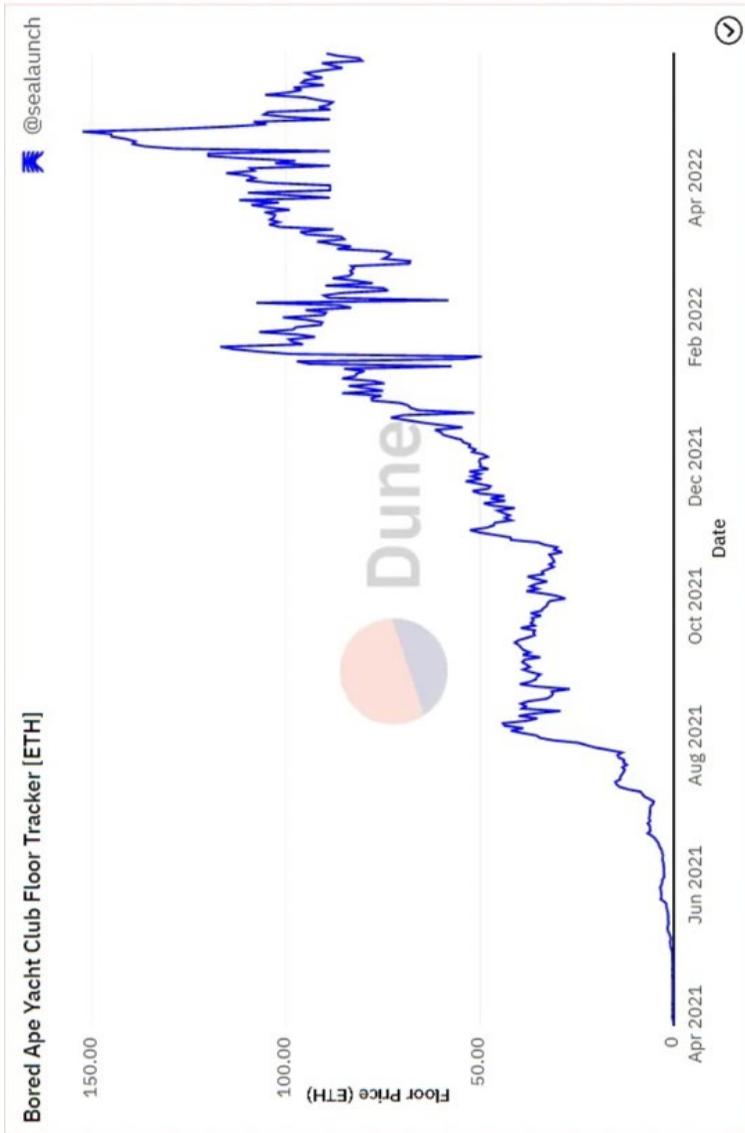


Figure 6: Bored Ape Yacht Club NFT collection floor price.<sup>128</sup>

<sup>128</sup> Jess Kar, *Bored Ape Yacht Club's Floor Price Has Reached A 6-Month Low*, NFT GATORS (Aug. 22, 2022).

## B. *Trading Platforms*

### 1. Distributed Ledger Technology (DLT)

There are similarities between NFT and stock market trading platforms. First, I will discuss NFT blockchain basics. DLT is a digital distributed database that records transactions that are authenticated and verified across multiple systems.<sup>129</sup> Blockchain is a type of distributed ledger technology that records transactions with cryptographic signatures.<sup>130</sup> NFTs use blockchain and are compatible with the Ethereum blockchain.<sup>131</sup> Despite its large energy consumption, the Ethereum blockchain was the first smart-contract-enabled network<sup>132</sup> and has transaction history and token metadata that is publicly verifiable, meaning it is simple to prove ownership history and nearly impossible to manipulate data to “steal” ownership.<sup>133</sup>

Likewise, the capital markets industry is constantly looking to improve its liquidity, efficacy, and accuracy. Thus, DLT is being researched and developed, moving rapidly towards implementation in a wide range of capital markets functions.<sup>134</sup> DLT could facilitate trading due to its highly secure network and its application as a single asset register for an asset manager or broker-dealer in order to eliminate internal matching and clearing of open credit items, enhancing efficiency by giving clients or regulators access to real-time data.<sup>135</sup> In sum, DLT platforms can transform operational efficiency, generating liquidity by reducing operational and capital costs. In addition, DLT platforms have the potential to release huge amounts of capital by reducing settlement periods as well as enabling trading

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<sup>129</sup> Sue Troy, *Distributed Ledger Technology (DLT)*, TECHTARGET (June 2021).

<sup>130</sup> *Non-Fungible Tokens (NFTs): Frequently Asked Questions*, BRABNERS (Dec. 14, 2022).

<sup>131</sup> *Non-Fungible Tokens (NFT)*, ETHEREUM, <https://ethereum.org/en/nft/#:~:text=NFTs%20give%20the%20ability%20to,digital%20or%20non%2Ddigital%20assets> (last visited Apr. 20, 2023).

<sup>132</sup> Grace Faint et al., *Why is Ethereum so popular for NFT projects?*, CNBC (June 03, 2022).

<sup>133</sup> *What is an NFT?*, ETHEREUM, <https://ethereum.org/en/nft/#:~:text=A%20way%20to%20represent%20anything,contracts%20on%20the%20Ethereum%20blockchain> (last visited Mar. 23, 2023).

<sup>134</sup> Stephen Bayly, *Distributed Ledger Technology in the Capital Markets*, HSBC (Mar. 12, 2019).

<sup>135</sup> *Id.*

venues via tokenization.<sup>136</sup> DLT implementation for traditional capital market processes will not happen overnight, but transformative uses have been identified and are slowly being implemented in the industry. Moreover, there is a place for DLT in traditional and non-traditional markets to make them more cybersafe and efficient.

## 2. Blockchain Basics for NFTs (ERC-721 vs. ERC-1155)

This is where the platforms greatly differ. Traditional banking systems utilize traditional database mainframes, a centralized form of computing, to facilitate transactions. However, blockchain is much different. ERC-721 is a token that is unique and can be distinguished from another token (“tokenId”) is an input to generate special identifications.<sup>137</sup> In contrast, ERC-1155 is a multi-token standard meaning that it extends the presentation of both fungible and non-fungible tokens.<sup>138</sup> It is an interface that can represent any number of tokens. The functionality of “tokenId” can independently represent different configurable token types (batch transfers), whereas ERC-721 “tokenId” can only deploy the group of NFTs in a single contract with the same configurations<sup>139</sup> (see Figure 7). Because Ethereum is built on a “proof of work” system, it is incredibly energy hungry, every transaction on the blockchain incurs a fee, also known as “gas.”<sup>140</sup> Therefore, ERC-1155 aids in decongesting the Ethereum blockchain network and lowers gas costs via the batch token transfers, which can include semi-fungible or non-fungible tokens).

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<sup>136</sup> *Id.*

<sup>137</sup> Qin Wang & Ruija Li, *Standards Surrounding NFTs*, THE TOKENIZER (Dec. 01, 2021).

<sup>138</sup> moreReese, *What is ERC-1155? Ethereum’s Flexible Token Standard*, DECRYPT (June 01, 2022).

<sup>139</sup> Wang et al., *supra* note 137, at 7.

<sup>140</sup> Justine Calma, *The climate controversy swirling around NFTs*, VERGE (Mar. 15, 2021).

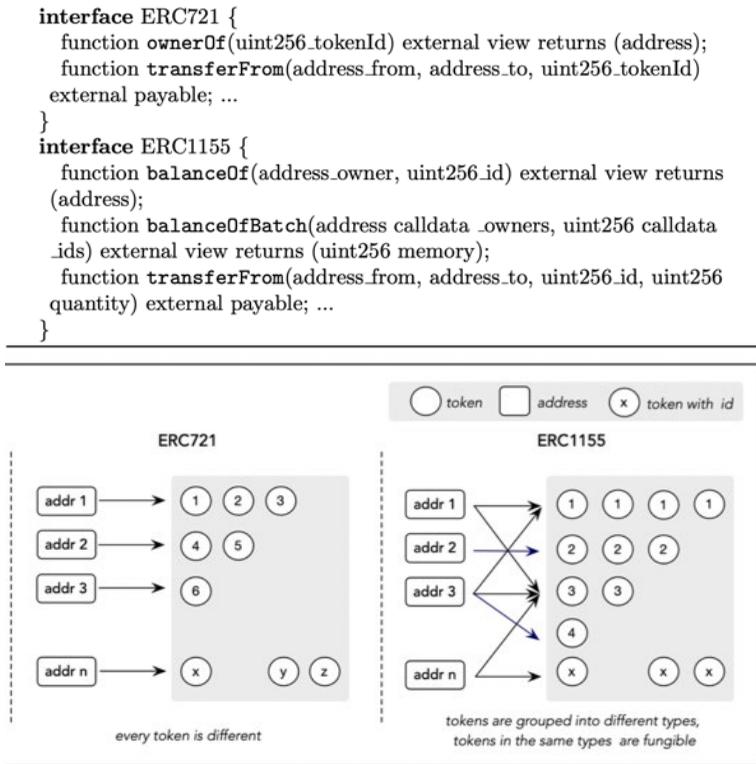


Figure 7: NFT Standard Interfaces, comparing ERC-721 and ERC-1155.<sup>141</sup>

### 3. OpenSea As a Brokerage or Exchange

Where NFTs and stocks meet again are the similarities in the broker-dealer ecosystem. OpenSea pegs themselves as the world's first and largest digital NFT marketplace. Here, buyers and sellers converge to search and explore NFTs. Anyone can place a bid on a piece they like, and it is up to the seller as to whether to accept the offer. This is similar to the traditional market's actors that act as both brokerages and exchanges, such as Fidelity, Ameritrade, Charles Schwab, and Merrill Lynch.

Likewise, OpenSea acts like a broker and an exchange. It also satisfies the Exchange Act Section 3(a)(1) definition: "any organization, association, or group of persons, whether incorporated or unincorporated, which constitutes, maintains, or provides a marketplace or facilities for bringing together purchasers and sellers of

<sup>141</sup> Wang et al., *supra* note 137, at 7–8, FIG. 2.

securities. . . .”<sup>142</sup> OpenSea also likely fulfills the definition of whether a trading system meets the definition of an exchange since under Rule 3b-16(a), OpenSea (1) brings together the orders for securities of multiple buyers and sellers; and (2) uses established, non-discretionary methods under which such orders interact with each other, and (3) the buyers and sellers entering such orders agree to terms of the trade.

As such, OpenSea is one of the most popular trading places for NFTs and acts like a broker, partly due to its easy integration with the crypto wallet, Meta Mask. OpenSea gives people access to the marketplace of NFTs as evidenced by people from all over the world visiting the site to peruse NFTs. The user-friendly and clear interface helps to execute orders and when those deals are finalized, buyers and sellers have agreed to the terms of the blockchain transaction.

#### 4. NFT Trading Bots and High Frequency Trading (HFT)

High Frequency Trading (HFT) emerged with the improvement of new electronic communications networks to help execute trades in NYSE-listed securities at prices no longer bound by prices set by specialists on the NYSE trading floor.<sup>143</sup> As a result, certain trading firms, who engaged in HFT, could take advantage of information about trades faster due to the virtual speeds of these networks and physical proximity to exchanges than the other investors participating in the market.<sup>144</sup>

NFT trading bots act similarly in the ecosystem of buying, selling, and trading NFTs. There is a spoofing bot, sniper bot, scalper bot, and spinner bot.<sup>145</sup> Spoofing bots create illusions in the NFT market by distracting buyers from realizing the actual value of an NFT. This is usually demonstrated by a lot of bids on an NFT auction at a lower price than the asking price, whereas a sniper bot waits for the absolute last minute to place a bid so that a buyer can obtain a desired NFT at the lowest price possible. A scalper bot helps to purchase desired NFTs in bulk until it is sold out. From here, as the name suggests, the buyer can then resell all of the NFTs in the secondary market at a much higher price to profit. Finally, a spinner bot holds NFTs in shopping carts without checking them out to create the illusion that the NFTs no longer exist on the market. Once the other buyer is on

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<sup>142</sup> 15 U.S.C. § 78c(a)(1) (2023).

<sup>143</sup> Stephen Diamond, *Insider Trading: A Clash Between Law and Economics*, OXFORD RSCH. ENCYC. ECON. & FIN. (Jan. 2020).

<sup>144</sup> *Id.*

<sup>145</sup> Paulina Ritter, *Best NFT Bots in 2022 + How Does NFT Bot Work?*, CLOUDZY (July 29, 2022).

the secondary market, the bot continues with the initial transaction, while potential buyers contemplate purchasing that same NFT at a higher price.

In sum, spoofing occurs in the traditional markets as much as they do in the non-traditional markets as well.

### C. *Investment and Time Horizons*

Despite NFTs being non-fungible, meaning that each NFT is created differently, while stocks are all the same (*i.e.* one unit of GME is equivalent to another unit of GME), both present tremendous investment opportunities. Stocks and NFTs are both based on a contract between the buyer and seller. A common question is why NFTs are not commodities. It is an important point to bring up because *some* NFTs may actually be more like commodities (like a bar of gold, or steel, oil, and wheat), whereas some may be more like investment contracts. This is because the creators of BAYC, Yuga Labs, get a cut (or a royalty) each and every time a Bored Ape is resold. However, Larva Labs, the creators of CryptoPunks did not do that (see Figure 8).<sup>146</sup> If the NFT resembles a commodity, oversight responsibility would fall on the shoulders of the Commodity Futures Trading Commission (CFTC), not the SEC.<sup>147</sup> Derivatives of futures contracts are also subject to the Commodity Exchange Act (CEA).<sup>148</sup> A commodity

includes all goods and articles, services, rights, and interests which are the subject of a contract for future delivery or provision. Generally, the key terms of a futures contract include an agreement (1) to purchase or sell a commodity for delivery in the future, (2) at a price that is determined at the time of the agreement, (3) with fulfillment effected by physical delivery, (4) which is liquidated before the delivery date and, (5) which must be traded or exchanged by persons and firms registered with the CFTC.<sup>149</sup>

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<sup>146</sup> Langston Thomas, *A Guide to CryptoPunks NFTs: Pricing, How to Buy, and More*, NFT NOW (May 26, 2022).

<sup>147</sup> Shannon Cogbill et al., *NFTs as Commodities: Proposed Senate Bill Signals Regulatory Guidelines*, JD SUPRA (June 14, 2022).

<sup>148</sup> *Id.*

<sup>149</sup> *CFTC Glossary – A guide to the Language of the Futures Industry*, COMMODITY FUTURES TRADING COMM'N (Dec. 03, 2022).

Here, the question of what “physical delivery” means in respect to an NFT may have implications to determining if in fact the NFT would be regulated under CFTC with a futures contract economic reality rather than a forward contract.<sup>150</sup> My paper will not inquire further into this, however.

Regarding fungibility, stocks and NFTs can be seen as very similar since stocks are available for purchase for as low as \$20 (AT&T stock—(T)) to thousands of dollars (Berkshire Hathaway—BRK at \$475,969); NFTs are the same. BAYC can fetch millions for some of the rarer apes, while some NFTs are in the tens of dollars (see Figure 9, Loopy Donuts).

The screenshot shows the OpenSea interface for the Bored Ape Yacht Club. At the top, there is a search bar and the OpenSea logo. Below that, the page title is "About Bored Ape Yacht Club". The main content area contains a description of the club, which is a collection of 10,000 unique Bored Ape NFTs on the Ethereum blockchain. Below the description are social media icons for a globe, Discord, Twitter, Facebook, and a menu icon. Underneath is a "Details" section with a table of technical information.

Contract Address	0xbc4c...f13d
Token ID	8817
Token Standard	ERC-721
Blockchain	Ethereum
Metadata	Frozen
Creator Earnings	2.5%

Figure 8: Creator Earnings For Each Bored Ape Sold.<sup>151</sup>

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

<sup>151</sup> See, e.g., *Bored Ape Yacht Club, Details, Creator Earnings*, OPENSEA, <https://opensea.io/assets/ethereum/0xbc4ca0eda7647a8ab7c2061c2e118a18a936f13d/6398> (last visited Apr. 23, 2023).



Figure 9: Loopy Donuts.<sup>152</sup>

### 1. Investing to Make a Profit

Stocks and other securities are defined in Section 2(a)(1) of the Securities Act of 1933 and Section 3(a)(10) of the Securities Exchange Act of 1934.<sup>153</sup> Traditional markets allow for securities like stocks to be bought or sold. Even investment contracts are securities if they satisfy the *Howey Test*. The Howey test is a key indicator of whether

<sup>152</sup> *Loopy Donuts*, OPENSEA, <https://opensea.io/collection/loopy-donuts> (last visited Apr. 23, 2023).

<sup>153</sup> *Framework for “Investment Contract” Analysis of Digital Assets*, U.S. SEC. & EXCH. COMM’N (Mar. 08, 2023).

NFTs fall under SEC scrutiny.<sup>154</sup> The *Howey Test* requires four prongs: (1) an investment of money, (2) in a common enterprise, (3) with a reasonable expectation of profits, (4) derived solely from the efforts of others.<sup>155</sup>

The SEC has publicized the main issue of analyzing NFTs or other digital assets under the *Howey Test*, which concerns the third and fourth elements, “with a reasonable expectation of profits, derived solely from the efforts of another”:

[t]he main issue in analyzing a digital asset under the *Howey* test is whether a purchaser has a reasonable expectation of profits (or other financial returns) derived from the efforts of others. A purchaser may expect to realize a return through participating in distributions or through other methods of realizing appreciation on the asset, such as selling at a gain in a secondary market.<sup>156</sup>

In sum, if an NFT relates to an existing asset, marketed as a collectible, it should not be deemed as a security; but if an NFT promises a return on investment from the efforts of others, the NFT could very well be deemed as a security.<sup>157</sup> However, price appreciation solely from external market forces such as inflation or the economy would not be considered “profit” under the *Howey* test.<sup>158</sup> In sum, if an NFT is promoted as an investment, accompanied by a promoter that encourages that the NFT will increase in value as a result of the actions of the issuer or the promoter, the NFT is likely to be considered an investment contract and thus a security under SEC regulations.

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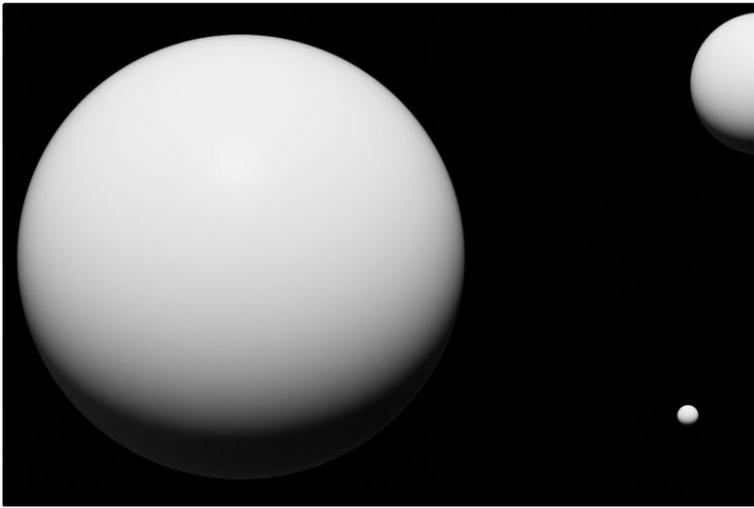
<sup>154</sup> *The regulatory considerations of NFTs in the United States*, *supra* note 54.

<sup>155</sup> *SEC v. W.J. Howey Co.*, 328 U.S. 293 (1946).

<sup>156</sup> Molinari, *supra* note 71 (requesting the Commission to provide regulatory clarity with respect to the regulation of a new form of digital assets—non-fungible tokens).

<sup>157</sup> *Id.*

<sup>158</sup> *Id.*



Digital artist Pak's work, *The Merge*, fetched US\$91.8 million on Nifty Gateway.  
Courtesy of Nifty Gateway

Figure 10: Pak's, "*The Merge*."<sup>159</sup>

## 2. Risk Tolerance

Retail investors have varying degrees of risk tolerance when participating in the market. There is no safe stock! Mitigation of risk in the market is done differently depending on the investor (*i.e.* diversifying a portfolio with ETFs in the case of stocks or diversifying NFTs by purchasing profile pictures, “PFP” avatars, collectibles like art pieces, or digital sports cards). Similarly, NFT buyers and sellers also make decisions on purchases and sales based on information available in the market. From personal experience, I observed the momentum behind NFTs for a while, particularly following well-known NFT artists such as Beeple and Pak. When Pak announced a new piece to drop via social media, I decided I was going to purchase what I found would be fiscally feasible for me at the second-tier pricing (I was not eligible for Pak’s member pricing and earlier release). I bought my two mass: m(2) #100611 (see Figure 11) at \$800. *The Merge* by Pak was sold for \$91.8 million with 28,983 collectors buying up 312,686 total units of mass, the NFT.<sup>160</sup> And I was one of them! I was excited to participate in history-in-the-making, so to speak. To confirm my optimism and risk tolerance around these investments, particularly given that I was not enormously stretched in my financial capacity when making these purchases, eight months ago, the two

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<sup>159</sup> Fang Block, *PAK’s NFT Artwork ‘The Merge’ Sells for \$91.8 Million*, PENTA (Dec. 07, 2021).

<sup>160</sup> *Id.*

NFTs I purchased on Nifty Gateway would have made me some returns, around 50 percent. Since then, both have since depreciated in value roughly 67.5 percent.<sup>161</sup>

In sum, NFTs and stocks present an investor with similar considerations prior to purchase; however, in a typical scenario, it seems that stocks have less volatility than NFTs since stock price is rooted in the efficient market hypothesis, meaning all information of the company is reflected in the stock price and adjusts very quickly to new information. Whereas NFTs can be extremely volatile depending on the social media presence of the artist or just solidifying subjectivity of the consuming public's opinion about a piece.

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<sup>161</sup> Last access was November 10, 2022.

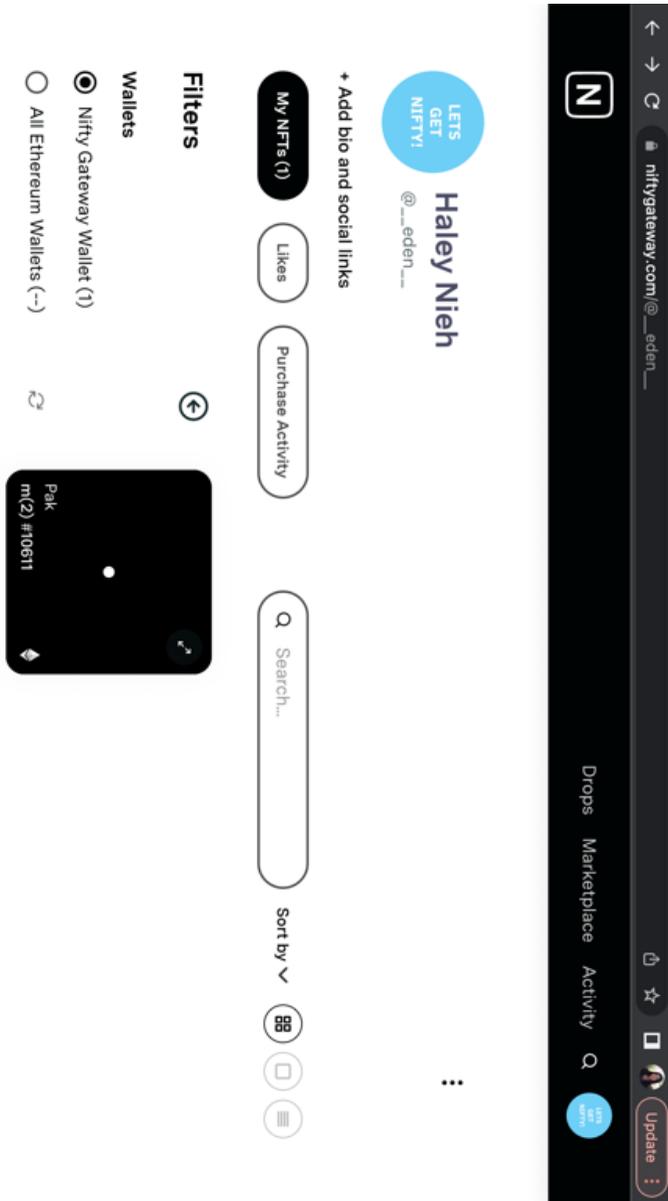


Figure 11: Halley Nieh's (sparse) NFT Collection.<sup>162</sup>

<sup>162</sup> Halley Nieh (@\_\_eden\_\_), NIFTY GATEWAY (on file with author).

#### IV. PART TWO: AN INVESTMENT CONTRACT

##### A. *The Howey Test (BAYC Case Study)*

Based on the Part One analysis and framework, it is apparent that the challenge with regulating NFTs is that they can act like commodities, collectibles, and in some instances, securities. Here, I will analyze why the Bored Ape Yacht Club NFT may constitute a security under the “investment contract” catch-all of the ’33 Exchange Act, Section 2(a)(1).

An investor quite clearly contributes some *capital* (whether it be fiat or crypto) into a *common enterprise*. A key question is what are the intentions of the NFT creator in terms of the smart contract? The common enterprise here is the BAYC Club. The purchase of an ape grants ownership in community and to exclusive events (virtually and in the real world). Arguably, there is a promise of community when one purchases an ape.

Next, in the petition to the SEC, referenced above in the “Investment Horizon” section of the Part One framework, the SEC’s challenge in categorizing NFTs as a security revolved around prongs three and four of the *Howey Test*: “the *reasonable expectation of profits* from the *efforts of others*.” Can an NFT guarantee a robust rate of return by the actions of a community? The answer might be *yes*, at least in the BAYC case. Investors can purchase ApeCoin (APE) on its own or are given an allotment with the purchase of an ape.<sup>163</sup> ApeCoin is the native cryptocurrency for the ecosystem and serves as the governance token “impacting the direction of the ecosystem’s growth, how funds are allocated, and how rules are enforced, what partnership to pursue and which projects to undertake.”<sup>164</sup> This exclusivity into a member-only ecosystem may be the primary factor as to what drives valuation of each ape and why the pricing of apes has not fluctuated much. Finally, due to the well-established DAO, it is reasonable for ape-buyers to expect intrinsic value in the ownership of an ape due to the community built around it. This cannot be said for NFTs such as Cryptopunks or Cryptokitties, or even the NBA Top-Shot Moments (mentioned above), which do not satisfy the *Howey Test* and are unlikely to be securities.

#### V. CONCLUSION

Non-Fungible Tokens (NFTs) are an emerging technology that has seen a recent hyper explosion into mainstream pop culture, media,

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<sup>163</sup> *What is ApeCoin (APE) and How Do I Use It?*, BITPAY (Aug. 02, 2022).

<sup>164</sup> *Id.*

and financial investing, but they are not quite yet well-regulated like enumerated securities or even cryptocurrency. In this paper, I explore where NFT markets do and do not look like traditional markets in certain respects, as well as delving into certain characteristics of NFTs that are similar or dissimilar to securities under the *Howey Test* in my two-part analysis. In the first part of my analysis, I chose the three characteristics to compare traditional stocks (as an enumerated security) against NFTs because I thought they were bedrocks to what I understand stocks to be and why investors participate in the market to engage with the instrument. First, I analyze valuation of stocks versus NFTs, particularly looking at capital markets and securities principles, but later inject current technologies that play a large role in valuing these entities as well, such as social media. Then I evaluate the platforms or ecosystems in which stocks and NFTs inhabit or are accessible because there are a lot of similarities, but also dissimilarities here that may be too great to overlook. And finally, investment horizons and risk are a key consideration to whether investors are encouraged to participate in certain stocks and NFTs.

Further, it becomes clear that the circumstances in which most NFTs are dissimilar to traditional stocks. Thus, I delve into my part two analysis of NFTs under the *Howey Test*, particularly the Bored Ape Yacht Club (“BAYC”) as a case study. I outline the four elements that are required by the test: (1) an investment (of capital), (2) into a common enterprise, (3) with the reasonable expectation of profit, (4) solely from the efforts of others. Finally, I conclude that NFTs that are like BAYC are indeed likely a security and may be a starting point for government or policy makers to contemplate regulation in this field. My argument is centered around “the promise of community”—the purchase of a BAYC NFT does not just buy a license or a digital piece of art with a unique blockchain identifier, but it buys into an exclusive community, which then drives revenue and valuation if one were to decide to sell their ape in the future. I hope this prospectus delivers an insightful perspective as to the complex and nuanced characteristics of NFTs and how they compare to other securities we know so well, such as stocks, bonds, and cryptocurrency.

## VI. ADDENDUM

The author recognizes that the landscape of government policy and practicable law is rapidly changing regarding regulation of blockchain technologies including cryptocurrency, stablecoins, and NFTs. This paper is meant to elucidate further where NFTs and traditional securities may converge in similarity under the catch-all “investment contract” aspect of the *Howey Test*, which may allude to

certain NFTs and their necessary regulation. However, the paper is not proposing any specific government policy to achieve regulation.