DARK POOLS, HIGH-FREQUENCY TRADING, AND THE FINANCIAL TRANSACTION TAX: A SOLUTION OR COMPLICATION?

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ABSTRACT

The implementation of a financial transaction tax has been the subject of debate for many years. Countries all across the globe have enacted various types of this tax and have seen different results depending upon factors such as the rate and the types of financial instruments affected by it. With the recent explosion of high-frequency transactions, discussion of enacting a financial transaction tax has begun to grow in both Europe and the United States.

This Article will look at the possible effects of enacting a financial transaction tax on the U.S. marketplace. Before this type of tax is put into place, we must first analyze what the results of previous experiences were, what results could be expected from an implementation in the United States, and whether these results align with the basic goals of taxation.

The idea of a financial transaction tax has recently been paired with the idea of regulating Wall Street. However, while the tax may assist to an extent in regulating the marketplace, it should not be viewed in this regard, but instead mainly as a tool to raise revenue. There may be adverse effects of such a tax in the short-term, but the true impact on the market should be viewed in respect to the long-term outcomes. Additionally, while transparency and stability are important in the marketplace, an overregulation of high-frequency trading, and specifically of the dark-pool market in which the exchanges occur, could end up distorting the market and eliminating investment volume.

Overall, the implementation of a financial transaction tax may prove beneficial to the United States in raising revenue in the long-term but not as a regulatory device in the marketplace.

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I. INTRODUCTION

On May 17, 1792, an idea was formulated, and, as often happens in life, what started out as something small changed and developed into something far bigger and more sophisticated.1 Over two centuries later, that idea has grown into a giant, known today as the U.S. stock market.

It all began when 24 stockbrokers met outside of 68 Wall Street, New York, to sign the Buttonwood Agreement that started the New York Stock & Exchange Board (NYSE).2 At the time, only five securities were included for trading on the NYSE, which later would become the most important stock exchange market in the entire world.3 Back then, and for many years to follow, individuals controlled the trade for the most part; today, advancements in technology have transformed the stock market into a virtual world, in which individuals play a completely different role.4 Today,

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2. Id.
4. Tara Bhupathi, Recent Development, Technology’s Latest Market
most traders, especially those who are large and sophisticated, use powerful computers and specialized software to gain any available advantage, no matter how small, minor, or meaningless it may seem to outsiders, because in today’s financial market these small advantages can quickly aggregate into millions of dollars.\(^5\)

In the past decade, most likely due to the financial crisis of 2008, which caused some chaos in the markets, the idea to impose a tax on financial transactions has appeared in almost every tax policy debate.\(^6\) Most recently, U.S. Democratic Party presidential candidate and former Secretary of State, Hillary Clinton, suggested a tax on high-frequency trading.\(^7\) The proposed tax would attempt to target securities transactions with excessive levels of order cancellations, which, according to some economic and financial market experts, may destabilize the financial markets.\(^8\)

According to Clinton’s campaign, the growth of high-frequency trading has “unnecessarily burdened our markets and enabled unfair and abusive trading strategies.”\(^9\) Clinton also said that her suggested financial transaction tax plan would concentrate on more than just banks and would take into consideration all types of financial institutions that, according to her, cause disruption in the financial markets.\(^10\) It is safe to say that Clinton is hinting to the general public that she will fight every major financial player on Wall Street specifically, and in the United States in general.\(^11\) Included in Clinton’s plan is a tax on high-frequency trading, which is expected to consist of

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10. Id.

11. See id.
“changing stock market rules to increase transparency and minimize conflicts of interest.” According to Clinton, these changes, which most individuals believe must have a positive effect, will improve the financial market. After all, who does not want to increase transparency, minimize conflicts of interest and, of course, stabilize the market?

Clinton’s proposal is, in essence, what has been known for a long time now as a financial transaction tax (FTT). This type of tax has been adopted, in one form or another, by many countries, including the United States. Some implementations of the tax have been efficient, while others can only be described as failed tax legislation. The FTT is often referred to as the “Robin Hood Tax” due to its tendency to affect mostly wealthy individuals or large corporations who are often perceived as more powerful and aggressive than the average person. It creates a fee that is imposed on financial market traders, without differentiating between individual traders and corporate traders, on the purchase of financial instruments. This tax has been imposed in several different countries around the world and, to a certain extent, has a history in the United States. However, does the imposition of this not-so-new FTT actually guarantee the results of transparency, minimization of conflicts of interest, and stabilization of the

15. LEONARD E. BURMAN ET AL., FINANCIAL TRANSACTION TAXES IN THEORY AND PRACTICE 6–7 (discussion draft), http://www.brookings.edu/~/media/research/files/papers/2015/07/financial-tax-transactions/financial-transaction-taxes.pdf [hereinafter TPC DISCUSSION DRAFT] (summarizing the experiences of the United States and other countries with financial transaction taxes (FTTs)).
16. Id. at 8, 10. FTTs are also referred to in literature as securities transaction taxes (STTs). Id. at 5.
market like the public has been led to believe? This Article explores the history of FTTs all over the globe and how FTT implementation in the United States could potentially affect the economy—revealing a scenario that would most likely be vastly different than the one depicted by Clinton.

II. HIGH-FREQUENCY TRADING AND DARK POOLS

The original vision the founders of Wall Street had for their stock market was fairly simple, and indeed for a long time it remained that way. In order to preserve that intention, in 1934, the Securities and Exchange Act (Exchange Act) created the Securities and Exchanges Committee (SEC), mainly to foster what Congress believed to be fair trade and to continue to revise and update the financial market regulations and rules.20 Four decades later, in 1975, the Exchange Act was updated with the Amendments to the Exchange Act (1975 Amendments).21 These acts helped to keep stock trading in the United States relatively simple most of the time.22 The system followed a process: an investor decided to buy or sell and then gave the relevant order to his stock broker; the stock broker then gave an order in the stock exchange, where counter offers were made until the stock broker accepted the best offer; and finally, as in most free market transactions, if both the buyer and seller agreed upon the price, a trade occurred. These stock market financial transactions attempted to have simple, patterned characteristics: both sides had the same access to information (at least in theory), no side had a built-in advantage (especially over other bidders in the same stock exchange), and the result was a relatively simple, fair market value23 business transaction.24

However, this type of trading no longer exists in most stock exchanges around the world. In 2005, in an attempt to improve efficiency and accuracy

23. INTERNAL REVENUE SERV., What Is Fair Market Value (FMV)?, PUBLICATION 561 (2015), https://www.irs.gov/publications/p561/ar02.html#d0e139 (“Fair market value (FMV) is the price that property would sell for on the open market. It is the price that would be agreed on between a willing buyer and a willing seller, with neither being required to act, and both having reasonable knowledge of the relevant facts.”).
and to modernize the financial market, the SEC released the Regulation National Market System (Reg. NMS) and opened the NYSE to automated trading.25 The direct result of the Reg. NMS is that nowadays, trading is much more sophisticated and complex and often does not include much human intervention.26 In other words, what once was, will never be.

Financial market investing strategies such as program trading27 and front-running28 have plagued exchanges since the 1980s and were just the beginning of a new world of technological exchanges that changed the financial markets.29 These strategies, along with significant technological developments in the past few decades, created a new type of trading: high-frequency trading.30 High-frequency trading (HFT) is a broad term, often used by investors, economists, lawyers, accountants, and others.31 However, it is not defined in the federal regulations.32 Pursuant to the SEC, HFT involves “professional traders acting in proprietary capacity” who use “extraordinarily high-speed and sophisticated computer programs for generating, routing, and executing orders.”33 These individuals look to end the trading day “in as close to a flat position as possible.”34 In other words,

29. See id.; Solomon & Dicker, supra note 27.
32. Id.
34. STAFF, DIV. OF TRADING & MKTS., U.S. SEC. & EXCH. COMM’N, EQUITY MARKET STRUCTURE LITERATURE REVIEW PART II: HIGH FREQUENCY TRADING 4
brokers and dealers use state-of-the-art computer hardware and software that utilize extremely sophisticated mathematic algorithms to route different portions of an order to different venues in various sequences. While most people do not have access to any of these tools, the few who do are able to enjoy an undisputed advantage. These algorithms take into account so many factors that until they were developed, investors were hardly able to think of them, let alone take advantage of them. Some of these factors include but are not limited to: minimization of market impact, reduction of information leakage, immediacy, and cost of execution. Those utilizing HFT are looking to derive gains from “liquidity rebate[s].” In order to maintain order flows, the electronic exchange offers rebates to traders who increase trading volume. Technology allows for the purchase and sale of millions of shares within seconds, and thus, individuals participating in HFT come away with ample returns.

One of the major results of today’s technology is the accessibility of information, especially for those who have the right tools. Players in the relevant market are no longer on the same level when it comes to having information. This often results in trading looking like the battle between David and Goliath when comparing the power that HFT-traders and non-HFT-traders possess. Those who have access to HFT tools have a significant built-in advantage in trading in the financial market that, more likely than

36. See SAL L. ARNUK & JOSEPH SALUZZI, TOXIC EQUITY TRADING ORDER FLOW ON WALL STREET: THE REAL FORCE BEHIND THE EXPLOSION IN VOLUME AND VOLATILITY 3 (2008), https://static1.squarespace.com/static/54490ebde4b0ad2be644290d/t/56e75b9dc6f081fd9db325e1455905693831/Toxic+Equity+Trading+Order+Flow+On+Wall+Street+FINAL.pdf; Lin, supra note 25, at 573–76.
37. See Lin, supra note 25, at 574–75.
38. See De Gryse et al., supra note 35, at 4, 6.
39. See ARNUK & SALUZZI, supra note 36, at 1–2.
40. See id. at 1.
42. See Lin, supra note 25, at 575–76.
not, translates into profits. Because this technology is not cheap and requires expertise, those who have access to it are mostly the big corporate investors. These investors utilize this technology to implement and use their own HFT methods to provide for the lowest latency, which is extremely controversial due to concerns of the creation of a two-tier market. Three of the most popular tools used include: flash orders, naked access, and co-location.

Flash orders are offered to specific members of a trading market. These members have expensive and sophisticated high-speed computer software that allows the investors to view orders to buy or sell a few milliseconds before the orders are released to the general public, even though they have not displayed a quote. The traders then process that information and utilize it to make a profit. Naked access allows traders to make exchanges using a broker-dealer’s market participant identifier (MPID). This investment tool allows traders to participate in trading without having to disclose their identity or pay costly membership fees to an exchange. The membership fees aspect of this investment tool is important and has benefits, but the undisclosed identity aspect is the biggest attraction to using this tool. This strategy allows the investor to bypass almost all risk controls and, as a result, was forbidden by the SEC in 2010 under Rule 15c3-5. However, the regulations did not impact HFT firms because these firms have direct access to the market. Lastly, co-location is the basic concept of establishing a location close to trading centers to maximize speed. Although this strategy

44. See id.
45. See Bhupathi, supra note 4, at 389–90.
46. Id. at 384; see also Gould, supra note 26, at 296.
47. Bhupathi, supra note 4, at 388; see also Gould, supra note 26, at 287–88.
48. Bhupathi, supra note 4, at 388; see also Gould, supra note 26, at 296.
50. Bhupathi, supra note 4, at 389–90.
51. Id. at 390.
52. See Yoon, supra note 49, at 940 (citation omitted).
only offers milliseconds of an advantage to the investors who use it, for traders with access to state-of-the-art computer hardware and software, it may generate significant advantages that will result in substantial profits.56

As mentioned before, securities law and the prescribed regulations do not define HFT.57 However, it is clear that it involves the application of the most recent technological advancements that can be used in the stock market, significant data accessibility, and major involvement of financially strong and sophisticated investors.58 Average investors unfortunately will not be able to enjoy the advantages this kind of trading may offer.59

According to a PricewaterhouseCoopers study, HFT often includes: use of high-speed internet connections to financial markets for generating, routing, and executing orders whether to buy or sell; “short time frames for establishing and liquidating positions”; “submission of numerous orders that are canceled shortly thereafter”; “ending the trading day in as close to a flat position as possible”; “use of ‘co-location’ services and individual data feeds offered by exchanges and others to minimize network and other types of latencies”; and sophisticated mathematic algorithms for decision-making for each transaction without any human direction.60

HFT uses a number of investment strategies, including but not limited to: arbitrage;61 market making (“plac[ing] bets on both sides of the trade by placing a limit order to sell slightly above the current market price or to buy slightly below the current market price” “to make money on the bid-ask spread”);62 structural strategies (“exploit[ing] structural vulnerabilities in the

56. See id.
57. SHORTER & MILLER, supra note 31, at 25.
58. See supra notes 22–25 and accompanying text.
59. See Bhupathi, supra note 4, at 388; see also Gould, supra note 26, at 296.
60. PRICEWATERHOUSECOOPERS LLP, AN OBJECTIVE LOOK AT HIGH-FREQUENCY TRADING AND DARK POOLS 2, 4 (2015) [hereinafter PWC], https://www.pwc.com/us/en/pwc-investor-resource-institute/publications/assets/pwc-high-frequency-trading-dark-pools.pdf (“A co-location service is an arrangement with trading centers (or third parties that host trading centers’ matching engines) to rent space to market participants so that these participants can physically locate their servers in close proximity to a trading center’s matching engine. This close proximity saves microseconds of latency.”).
61. Id. at 5.
62. Id. (“Passive market making primarily involves the submission of non-marketable resting orders that offer (or ‘make’) liquidity to the marketplace at specified prices and receive a liquidity rebate if they are executed. Incoming orders that execute against (or ‘take’) the liquidity of resting orders are charged an access fee.”).
market”);63 and directional strategies (“taking a significant, unhedged position based on an anticipation of an intra-day price movement of a particular direction”).64 Although the SEC has been criticized for not being able to keep up with technological advancements and for allowing high-frequency traders to operate in the financial markets with little oversight, it has recognized that HFT is an investment tool that is here to stay, and therefore, it needs to be regulated somehow to minimize abuse.65

The main concerns with HFT are that it will cause market instability and create a double-tiered market that would give a significant unfair advantage to those with the economic means and, as a result, technology necessary to use HFT.66 Due to the sophistication of the software used in this type of trading and the inherent problems related to a computer’s security and software, instances such as the “flash crash” in 2010 cause concern for market stability.67 This event was caused by the creation of one investor’s faulty algorithm while attempting to use HFT.68 It is hard not to agree with such a concern, mainly because even in this era, the fear of relying too


64. PwC, supra note 60, at 5 (“There may be . . . a wide variety of short-term strategies that anticipate such a movement in prices. Some ‘directional’ strategies may be as straightforward as concluding that a stock price temporarily has moved away from its ‘fundamental value’ and establishing a position in anticipation that the price will return to such value.”).


68. Id.
The SEC takes matters involving market instability seriously, and the release of Rule 15c3-5 attempted to prevent the dangers of pairing naked access and HFT by maintaining risk management controls.\textsuperscript{70} In addition, under the Dodd-Frank Act, the SEC must continually research and propose legislation to regulate HFT.\textsuperscript{71} In terms of the creation of a double tiered market, the SEC has looked to ban flash orders and proposed the “Elimination of Flash Order Exception from Rule 602 of Regulation NMS” in 2009.\textsuperscript{72} However, some may argue that the true danger is the effect of HFT, because investors would be unable to take advantage of flash orders without investment in high-speed super computers.\textsuperscript{73}

HFT does not take place on the traditional trading system, where almost anyone can elect to buy or sell shares, but on an alternative trading system that allows HFT companies to match the orders of multiple buyers and sellers.\textsuperscript{74} One type of alternative trading system is known as a “dark pool.”\textsuperscript{75} Dark pools do not provide quotes into the public quote stream and give users the ability, to a certain extent, to hide their investment, stay anonymous, and eliminate the fear that a competitor may attempt to outbid them or simply imitate their investment strategy.\textsuperscript{76}

There are typically three types of dark pools: broker-dealer owned, agency broker or exchange-owned, and electronic market maker.\textsuperscript{77} Broker-dealer dark pools were created by large broker-dealers for the use of their own clients.\textsuperscript{78} For example, Credit Suisse Group AG (Credit Suisse) operates a dark pool named CrossFinder,\textsuperscript{79} as does Goldman Sachs with

\begin{itemize}
\item\textsuperscript{69} See id.
\item\textsuperscript{70} Risk Management Controls for Brokers or Dealers with Market Access, 75 Fed. Reg. 4,007, 4,008 (proposed Jan. 26, 2010) (to be codified at 17 C.F.R. pt. 240).
\item\textsuperscript{71} Gould, supra note 26, at 276.
\item\textsuperscript{72} Elimination of Flash Order Exception from Rule 602 of Regulation NMS, 74 Fed. Reg. 48,632, 48,635 (proposed Sept. 23, 2009) (to be codified at 17 C.F.R. pt. 242).
\item\textsuperscript{73} See Bhupathi, supra note 4, at 396–97.
\item\textsuperscript{74} Shorter & Miller, supra note 31, at 8.
\item\textsuperscript{75} Id.
\item\textsuperscript{76} Id.; see also Edward M. Eng et al., Finding Best Execution in the Dark: Market Fragmentation and the Rise of Dark Pools, 12 J. INT’L BUS. & L. 39, 43 (2013).
\item\textsuperscript{77} Shorter & Miller, supra note 31, at 8–9.
\item\textsuperscript{78} Id. at 8.
\item\textsuperscript{79} Id. at 9; U.S. SEC. & EXCH. COMM’N, INITIAL OPERATION REPORT, AMENDMENT TO INITIAL OPERATION REPORT AND CESSATION OF OPERATIONS REPORT FOR ALTERNATIVE TRADING SYSTEMS, Form ATS 1 (May 17, 2016) [hereinafter CROSSFINDER], https://www.credit-suisse.com/media/sites/aes/doc/form-
Sigma X,80 and Morgan Stanley with MS Pool.81 Each of these dark pools operates differently than the others, but they share the critical and necessary components that make a dark pool so appealing to traders.82 Agency broker and exchange-owned dark pools act merely as agents, and the trades conducted through this type of dark pool are based upon securities prices that are derived from the exchanges.83 Examples of agency broker dark pools are Liquidnet Holdings, Inc. (Liquidnet) and ITG Posit (ITG), and examples of exchanged-owned dark pools are offered by BATS Global Markets, Inc. (BATS) and the NYSE.84 Electronic market maker dark pools are affiliated with independent securities operators like Global Electronic Trading Company LLC (Getco) and Knight Capital Group (KCG) and operate as principals for their own accounts.85

Dark pools can also be distinguished by the prevalence of stock that is crossed and whether crossing is scheduled at a certain time per day or is continuous.86 Newer pools, like Liquidnet, tend to be more continuous while established pools, such as ITG, offer scheduled crossings.87 In order to maintain anonymity, some dark pools are only open to traders looking to buy, while others give the option both to buy and sell.88 By limiting access, there is less risk for exposure, and the less exposure there is, the more appealing the dark pool becomes.89 It should be clear that, on its face, this type of trading is not what the Wall Street founders had in mind when they started their stock market.90 For a long time, it was not something the SEC,
or any other federal organization, thought would happen with the stock market.91

Pursuant to regulation, alternative trading systems, including dark pools, “are required to register either as exchanges with the SEC or as broker-dealers with [the] Financial Industry Regulatory Authority (FINRA).”92 These rules are meant to increase the information available to the public and allow for more transparency regarding dark pools.93 However, as explained before, one of the main goals in using a dark pool is to provide traders with anonymity; therefore, it is hard to expect much in regard to transparency.94 To put it in simple terms, the more transparency the dark pool provides, the less dark it is. Thus, why would a trader use the dark pool when there is no darkness to be offered?

In the current financial market, high-frequency traders are using dark pools regulated as broker-dealers as an alternate trading system to exchanges that operate with limited transparency.95 The advantage of dark pools is that price orders entered into the dark pool are not displayed to anyone else participating in the market and can only be matched anonymously without revealing the identity of the traders or almost any information about them.96 Once trades are completed, they are immediately reported and provide the public post-trade transparency;97 however, for most players in the financial market, this is too little, too late. Dark pools are available only to institutional investors and other sophisticated investors that “seek to execute large trades with as little market movement as possible,


93. Hintz, supra note 91, at 344.

94. See Degryse et al., supra note 35, at 6.


96. See PWC, supra note 60, at 6.

97. Id.
thereby reducing trading costs” and, of course, increasing profit.98 Dark pools have been seen as the solution to the difficulty in trading significant blocks of stock in the electronic age without having to worry too much about the impact on the market.99 Often, the biggest concern about dark pools is the lack of liquidity when traders do not participate in the trade.100 As compared to the traditional financial marketplace, dark pools suffer from a higher percentage of transactions that are not followed through, meaning having buy orders without a selling one, or the other way around.101

III. PREVIOUS FTT PROPOSALS

Discussions attempting to impose taxes on financial transactions have a long history, not only in the United States, but also in Europe.102 In the United Kingdom, the “stamp duty was enacted in 1694 and remains in effect today.”103 In September 2011, the European Commission, together with official representatives from France and Germany, announced it strongly supported the creation of an FTT that was not only domestic and limited but also global, saying that “implementing a financial transaction tax at European [EU] level would be a decisive contribution to building global consensus and would not affect Europe’s ability to compete.”104 At that time, the European Commission was considering setting a rate of 0.1 percent for shares and bonds traded on secondary markets and 0.01 percent for all derivatives listed or traded on over-the-counter markets.105 At this point, it should be noted that although the idea itself—to create a global FTT—may be groundbreaking, the tax rate alone is not apt to shock the financial markets, and as a result, the global FTT is plausible.106 Like Germany and

98. Id.
99. See Zaza, supra note 95, at 345.
100. See Gould, supra note 26, at 287.
102. TPC DISCUSSION DRAFT, supra note 15, at 2.
103. Id.
106. See Fiona Shaikh et al., EU Proposes 0.1 Percent Financial Transaction Tax, REUTERS (Sept. 28, 2011), http://uk.reuters.com/article/uk-britain-eu-tax-
France, the European Commission argued that the European FTT should be broad in scope and apply to as many financial market transactions as possible.\textsuperscript{107} The major difference between their views was the concern of currency transactions: Germany and France wished for these to be included in the system, whereas the European Commission had some doubts about these types of transactions and wished to limit the FTT on them at that time.\textsuperscript{108} In February 2012, nine EU countries urged the Danish EU council presidency to put more effort in introducing an FTT to the EU.\textsuperscript{109} In May 2012, the EU decided to move ahead with the enactment of its FTT.\textsuperscript{110} On February 14, 2013, the European Commission presented its new proposal to establish an FTT, “which it says should raise €31 billion a year for the 11 eurozone countries that plan to apply it.”\textsuperscript{111} By that time, France had already introduced its own version of an FTT in 2012,\textsuperscript{112} and Italy did the same by the end of that year.\textsuperscript{113} At the moment, nearly a dozen European countries have agreed to enact an FTT, coordinate it with one another, and put it into

\begin{itemize}
\item \textsuperscript{108} See Barkin & Shaikh, supra note 105; Shaikh et al., supra note 106.
\item \textsuperscript{109} France and Germany Pressure Denmark on Finance Tax, CPHPOST ONLINE (Feb. 9, 2012), http://cphpost.dk/news14/eu/france-and-germany-pressure-denmark-on-finance-tax.html (Germany, France, Italy, Spain, Belgium, Austria, Portugal, Finland, and Greece).
\end{itemize}
effect as soon as possible during 2016.114

In the United States, the FTT has been a subject of debate for nearly a century.115 Economist John Maynard Keynes suggested during the Great Depression that the United States should enact its own version of an FTT in order to use it as a toll that would increase transaction costs on short-term stock market trading and thus, minimize speculation in the financial markets.116 This idea is still relevant and often argued today.117

The United States, on the federal level, has discussed and enacted various FTTs dating back to the early 1900s.118 Between 1914 and 1965, the United States imposed a stock transactions tax, often referred to as a documentary stamp tax.119 The 1914 FTT imposed a tax rate of 0.02 percent on the par value of a stock.120 Between 1932 and 1958, the FTT rate increased slightly and varied from 0.04 to 0.06 percent.121 In 1959, the FTT rate was reduced to 0.04 percent; however, the tax then applied to the market value of a stock.122 In 1965, Congress repealed the FTT as part of the Excise Tax Reduction Act of 1965, a legislative attempt “to remove unnecessary impediments to economic growth” while the country’s fiscal future seemed


117. See, e.g., TPC DISCUSSION DRAFT, supra note 15, at 2.


120. Fact Sheet: Transaction Tax History: Proposed Transaction Tax is Far Greater Than Any in U.S. History, INV. CO. INST. (2015) (footnotes omitted), https://www.ici.org/ftt/background/ci.10_stt_history.print, (“Par value is a legal concept that bears no relation to market value. Typically, a stock’s par value is significantly lower than its market value; this has been the case since at least the mid-1950s.”).

121. Id.

122. Id.
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In the 1980s and 1990s, Congress considered imposing a new FTT, during both the Bush and Clinton administrations. However, none of the proposals were enacted into law, and most remained preliminary suggestions as are often made by politicians. Today, a minimal securities transfer tax is how the SEC funds itself.

FTTs are not a new phenomenon. With over 40 countries, including the United States, having current or prior experiences in enacting FTTs, it is not an exaggeration to say that it does not represent anything new or creative. Since the recent financial crisis, there have been a number of FTT proposals. Proposals made in the 110th Congress and the 111th Congress were much less detailed than later proposals and suggested higher tax rates. For instance, the first FTT proposal, H.R. 7125, which was initially introduced in the 110th Congress during the financial crisis, suggested a 0.25 percent tax rate on transactions involving securities regulated by the SEC and the Commodity Future Trading Commission (CFTC). The 111th Congress proposals suggested a very similar FTT with a 0.25 percent tax rate over somewhat different transactions. These included H.R. 1068, H.R. 123.

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124. Id.
125. Id.
126. See “SEC Fee”—Section 31 Transaction Fees, U.S. SEC. & EXCHANGE COMM’N, http://www.sec.gov/answers/sec31.htm (last updated Sept. 25, 2013) (“Under Section 31 of the Securities Exchange Act of 1934, self-regulatory organizations (SROs)—such as the Financial Industry Regulatory Authority (FINRA) and all of the national securities exchanges—must pay transaction fees to the SEC based on the volume of securities that are sold on their markets.”).
128. See id.
The 112th Congress included H.R. 3313, H.R. 3638, H.R. 5727, S. 1787, and S. 2252 while H.R. 1579 from the 113th Congress included an FTT proposal that was nearly identical to the suggestion later made in the 114th Congress. H.R. 880, S. 277, and S. 410 also in the 113th Congress, proposed a 0.03 percent tax rate on transactions involving stocks, bonds, and other similar financial instruments. These proposals offered to provide an offsetting tax credit for contributions to qualified tax-favored accounts.

The 114th Congress’s S. 1371, S. 1373, and H.R. 1464 attempted to levy a tax rate that “varies depending on the underlying security.” Specifically, the bills would subject transactions involving stocks and interests in partnerships and trusts to a 0.5 percent tax rate, “transactions involving bonds and other forms of debt” to a 0.1 percent tax rate, and “derivative transactions” to a 0.005 percent tax rate. These “proposals would also provide an offsetting tax credit for taxpayers with a modified
IV. ARGUMENTS FOR AND AGAINST THE IMPLEMENTATION OF AN FTT

Although there are many forms and ways to structure and draft the FTT, there are three main arguments for its imposition. First, the FTT is believed by many, including the previously mentioned economist, John Maynard Keynes, to decrease the financial market’s volatility by reducing speculations. Second, the enactment of an FTT would generate a significant amount of revenue due to the high volume of business in the financial markets, and generating revenue is a critical reason for the enactment of new tax legislation. Third, though by no means third in its importance, the FTT would serve as a tool to pay for recent, and possibly future, government bailouts. The general public views the recent Wall Street bailouts as the source of the recent financial crisis and the blow to the economy that impacted almost everyone.

On the other hand, opponents of FTTs believe that financial markets have the ability to allocate resources efficiently without the regulatory intervention of policy makers. In contradiction to the first argument in favor of FTTs, it is often contended that FTTs increase transaction costs, and as a result, increase financial market volatility due to the reduction in liquidity.

One can argue for or against the above three justifications, but at the end of the day, the reality is that the FTT is a legitimate tax that is widely accepted. Thus, the main focus of discussion on the FTT should be on its structure and mechanism. The FTT needs to be sophisticated enough to generate significant revenue to the government, while not disrupting the

151. Id.
152. Id. at 1.
153. Id.
154. Id.
157. Id. at 177.
158. See MARK P. KEIGHTLY, FINANCIAL TRANSACTIONS TAXES: IN BRIEF 2 (2015) (citing BEITLER, supra note 127) (“[A]t least 40 countries currently or previously have had FTTs.”).
financial market or deterring investors from participating in the trade.

**A. Effect on Financial Market Volatility**

A common argument for the FTT is that application of a new tax will reduce trading volume of stock and other financial instruments in the markets, which in turn may decrease volatility in the financial markets.\(^\text{159}\) This argument relies on the assumption that investors would be deterred by higher transactions costs, thus linking cost to volatility.\(^\text{160}\) On its face, this argument seems like a logical one. If stockholders know they will pay something every time stock is disposed of, it seems fair to argue that they will think twice before doing so, simply because some transactions will become unprofitable because of the FTT.\(^\text{161}\) However, opponents to FTTs point to the majority of experimental studies on the effect of FTT regulations on the financial market volatility that have concluded the FTT either has no effect or that volatility actually increases.\(^\text{162}\) Although, one FTT has been shown to reduce short-term speculation and price volatility.\(^\text{163}\)

In order to understand better how the financial market operates, it should be noted that generally there are two types of traders in the financial markets: value investors (sometimes referred to as sophisticated or information investors) and noise investors, or high-frequency traders.\(^\text{164}\)


\(^{160}\) Atkins & Dyl, *supra* note 159, at 710.

\(^{161}\) See id. ("A basic tenet of microeconomics is that the demand for a particular good or service will be inversely related to the cost . . . .").

\(^{162}\) MARK P. KEIGHTLEY, CONG. RESEARCH SERV., R42078, FINANCIAL TRANSACTIONS TAXES: IN BRIEF 3 (2015).


\(^{164}\) See J. Bradford De Long et al., *Noise Trader Risk in Financial Markets*, 98 J. POL. ECON. 703, 707 (1990); Lawrence Harris, *The Dangers of Regulatory Overreaction to the October 1987 Crash*, 74 CORNELL L. REV. 927, 930–31 (1989); *see also* Fischer
Value investors feed off misguided noise investors and capitalize on their trades by buying when noise traders “depress prices” and selling when they “push prices up.” By buying stock when the market price is below what they believe is the fundamental value of the stock and later selling the stock when the market price is above that value, value investors have a positive effect on the financial markets by reducing stock price volatility and essentially pushing the stock price to its true value, whatever that may be. These investors are often less exposed to risk and have long-term investments in the marketplace.

On the other hand, noise investors, as explained by former American Finance Association President, Fischer Black, are individuals who look to make profit not through factual evidence, but from the “noise” in the market. These traders are often speculators who invest on the basis of the past stock results, price movements, and speculations and seek to extract short-term gains. They do not seek to make real investments or hold the stock for the long-run to improve the company or anything of that matter. However, noise investors are arguably necessary for the market in order for it to maintain its liquidity. Without trades derived from noise, there is no reason for trading individual company stock. Instead, value investors, who remain reliant upon insider and market information, would instead choose to invest in “money market accounts, money market mutual funds, or loans backed by real estate or other assets.” Without uncertainty in the market, there is no difference in information, and value investors would have nothing to gain. Without the liquidity offered by noise investors, it would be impossible even to price the stock.

However, too much noise can create an issue. Noise investors may

165. De Long et al., *supra* note 164.
167. Harris, *supra* note 164, at 931.
170. *See id.*
171. *Id.* at 529.
172. *Id.* at 530.
173. *Id.* at 531.
174. *See id.*
175. *Id.*
often have a negative effect on the financial markets by driving market prices away from its fundamental values and creating excessive price volatility.\textsuperscript{176} Many scholars have argued that since noise investors trade rapidly and based on what seems like little to no factual information, they would in turn receive lower yields on their investments as opposed to value investors.\textsuperscript{177} This trend would weed out noise investors through what is known as “economic selection.”\textsuperscript{178} However, as the saying often goes, the higher the risk, the higher the reward.\textsuperscript{179} Studies have shown that noise investors with riskier portfolios tend to earn more on average than value investors, thus keeping the noise investors active in the market.\textsuperscript{180}

Noise investors often trade frequently since their strategy is to follow and analyze recent changes in price behavior.\textsuperscript{181} Therefore, the imposition of an FTT would increase costs for noise investors but simultaneously will have a \textit{de minimis} effect on value investors.\textsuperscript{182} As a result, an FTT could reduce the frequency of short-term speculative trading and thus, reduce excess short-term price volatility.\textsuperscript{183}

B. Raising Revenue—A Review of FTTs Throughout the World

FTTs are traditionally small taxes levied on transactions that involve various types of financial instruments such as stocks, futures, and other types of derivatives.\textsuperscript{184} Current FTT rates vary from 0.0001 to 2 percent and, as mentioned previously, are implemented in about 40 countries around the

\begin{itemize}
  \item 176. \textit{See} Harris, \textit{supra} note 164, at 931.
  \item 177. \textit{See}, \textit{e.g.}, Groshen & Parchomovsky, \textit{supra} note 166, at 729.
  \item 178. De Long et al., \textit{supra} note 164, at 713.
  \item 180. De Long et al., \textit{supra} note 164, at 713.
  \item 181. \textit{See} Harris, \textit{supra} note 164, at 932.
  \item 182. TPC DISCUSSION DRAFT, \textit{supra} note 15, at 23.
\end{itemize}
A relatively recent study that compared a large number of countries’ FTT revenue found the following:

- The United Kingdom imposed an FTT rate of 0.5 percent on shares,186 and the revenue that was generated by it between 2001 and 2008 was, on average, 0.8 percent of the total tax revenue, and £3.2 billion.187

- Ireland imposed an FTT rate of 1.0 percent on stocks,188 and the revenue that was generated by it between 2001 and 2008 was, on average, 0.96 percent of the total tax revenue, and €0.37 billion.189

- Taiwan imposed a more complex, multi-tiered FTT that applied a rate of 0.3 percent on shares, 0.1 percent on bonds, between 0.0000125 and 0.06 percent on futures depending on the circumstances, and between 0.1 and 0.6 percent on options.190

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185. B EITLER, supra note 127. The countries where FTT rates have been implemented are: “Argentina, Australia, Austria, Belgium, Brazil, Chile, China, Colombia, Denmark, Ecuador, Finland, France, Germany, Greece, Guatemala, Hong Kong, India, Indonesia, Ireland, Italy, Japan, Malaysia, Morocco, Netherlands, New Zealand, Pakistan, Panama, Peru, Philippines, Portugal, Russia, Singapore, South Africa, South Korea, Sweden, Switzerland, Taiwan, [United Kingdom], [United States], Venezuela, and Zimbabwe . . . .” Id. at 6.

186. Id. at 16. (“In 1986 the [U.K.] government introduced the stamp duty reserve tax (SDRT) at the same rate as the stamp duty [(0.5 percent)]. This was designed to cover the beneficial ownership of stocks without notification to the [U.K. Stock] Registrar. Since today the majority of share transactions take place in this way through the stock exchange, the SDRT has become an important source of revenue.”).

187. See Zsolt Darvas & Jakob von Weizsäcker, Financial-Transaction Tax: Small Is Beautiful, BRUEGEL POL’Y CONTRIBUTION, Feb. 2010, at 6, tbl.1, http://bruegel.org/wp-content/uploads/imported/publications/pc_tobintax_080210.pdf (showing percent of total tax revenue and total revenue generated by the tax each year to be: 2001, 0.9 percent (£2.9 billion); 2002, 0.8 percent (£2.6 billion); 2003, 0.7 percent (£2.6 billion); 2004, 0.7 percent (£2.7 billion); 2005, 0.9 percent (£3.5 billion); 2006, 0.9 percent (£3.8 billion); 2007, 0.9 percent (£4.2 billion); 2008, 0.7 percent (£3.2 billion)).

188. B EITLER, supra note 127, at 22.

189. See Darvas & von Weizsäcker, supra note 188 (showing percent of total tax revenue and total revenue generated by the tax each year to be: 2001, 1.2 percent (€0.35 billion); 2002, 1.0 percent (€0.30 billion); 2003, 0.8 percent (€0.26 billion); 2004, 0.7 percent (€0.26 billion); 2005, 0.8 percent (€0.32 billion); 2006, 0.9 percent (€0.41 billion); 2007, 1.3 percent (€0.61 billion); 2008, 1.0 percent (€0.42 billion)).

190. SONY KAPOOR, FOUND. FOR EUR. PROGRESSIVE STUD., FINANCIAL TRANSACTION TAXES: NECESSARY, FEASIBLE AND DESIRABLE 9 (2010).
revenue that was generated by it between 2001 and 2008 was, on average, 6 percent of the total tax revenue, and $2.69 billion.\textsuperscript{191}

The fact that the revenue seems to be low, at least by percentage, should not discourage policy makers from adopting an FTT for several reasons. First, an FTT raises stable and substantial amounts of revenue without compromising the vitality of the financial markets.\textsuperscript{192} Second, the implementation of an FTT is relatively low cost and, at the same time, easy to enforce.\textsuperscript{193} Third, by adapting an FTT to the market to which it will apply, it can result in a steady inflow of revenues. For example, the U.K. stamp duty applies to transactions in the London Stock Exchange, the world’s second largest stock exchange.\textsuperscript{194}

However, it can be argued that in large, more complicated financial markets that are more important on a national and international economic level, an FTT that is structured and drafted more simply, is less complicated to implement, collect, and enforce, and is more suitable than a multi-tier and more sophisticated FTT, such as the one implemented in Taiwan.

\textbf{C. The FTT as a Tool to Control the Markets and Its Players}

Since the financial crisis of 2008, financial markets have remained in the spotlight and criticism has continued to grow, without any sign of slowing down.\textsuperscript{195} Thus, there is an ongoing pressure on the relevant authority to step in and “do something.”\textsuperscript{196} It is likely only a matter of time until the request to “do something” will turn into actual steps to regulate financial markets since many argue that the financial market had a critical role in, and even

\begin{flushleft}
\textsuperscript{191} See Darvas & von Weizsäcker, \textit{supra} note 188 (showing percent of total tax revenue and total revenue generated by the tax each year to be: 2001, 5.2 percent ($1.9 billion); 2002, 6.5 percent ($2.3 billion); 2003, 5.9 percent ($2.2 billion); 2004, 6.7 percent ($2.8 billion); 2005, 4.8 percent ($2.3 billion); 2006, 5.9 percent ($2.9 billion); 2007, 7.8 percent ($4.1 billion); 2008, 5.5 percent ($3.0 billion)).
\textsuperscript{192} See Pollin, \textit{supra} note 18, at 98.
\textsuperscript{193} KAPOOR, \textit{supra} note 190, at 20.
\end{flushleft}
As mentioned earlier, Hillary Clinton has given a recent proposal for an FTT on high-frequency traders, i.e., noise investors. A public report issued by Reuters stated, “Clinton will call on the [SEC] to pursue changes that ensure equity markets favor investors over high-frequency traders and those that use so-called ‘dark pools,’ which are private networks that allow institutions to trade with one another outside traditional stock exchanges.” Accordingly, the proposal wishes to apply the FTT to a broad spectrum of transactions. By including as many financial institutions as possible, it is aimed at regulating the market by hopefully deterring excessive risk-taking, which could lead to future financial crises.

Similar to Clinton’s proposal, there were talks of former presidential candidate Bernie Sanders imposing an FTT as well. Sanders approached the tax as a plan for raising revenue as opposed to regulating the market. Although some may have viewed his one-basis-point objective as a bit high and possibly unable to result in the expected $50 billion in revenue he was advocating, it could still have offered economic benefits.

While the full effect of an FTT can be argued one way or another, especially when it comes to its impact on market volatility and stock turnover, a comprehensive study on Asian markets found that an increase in an FTT’s rate reduces the stock price and, as a result, at least to a certain extent deters noise investors. However, it “has no significant effect on market volatility [or] market turnover.” Conversely, one may argue that
the Asian stock market and economies are not an accurate comparison to those of the United States.207 Similar studies done in Sweden and the United Kingdom found that introduction of, or increasing the rate of, an FTT did not reduce market volatility, although stock prices and market turnover did decline.208 Therefore, the introduction of an FTT is not expected to hurt Wall Street or to make significant changes on financial transactions in the market.209 An FTT on Wall Street should have a minimal effect on trading and can generate steady and solid tax revenue, like it does on many other stock markets in the world.210

It is unrealistic to expect the FTT to interfere with the high-risk investors of the market.211 No one should expect a de minimis tax rate to be the gatekeeper when it comes to sophisticated traders and investors, especially when the stakes are as high as they are.212 There remain questions, however, about the effects of an FTT on less transparent markets, such as the private dark pools, that are significantly less regulated and not open to the general public.

V. Regulation of Dark Pools Through an FTT

Usually financial markets operate on a model in which potential traders display shares to buy or sell along with the asking price or the bidding price.213 However, as previously discussed, dark pools are private stock markets that are characterized by limited or zero pre-trade transparency and

209. See id. (noting several benefits of FTTs including: less market volatility, increased focus on long-term, and less financial engineering).
211. See FAQs Financial Transaction Taxes, supra note 208.
212. See id.
anonymity.214 As a result, the traders’ orders are not publicly displayed, even in the case of trades worth considerable amounts.215 However, the term “dark pool” does not refer to one single model of a financial market. There are different forms of dark pools, such as those that operate as non-displayed limit order books, those that execute orders at the exchange midpoint, and those that quickly accept or reject incoming orders.216 Moreover, pursuant to the International Organization of Securities Commissions (IOSCO), dark pool markets are consistently growing in Europe, Canada, and Asia.217 In the United States, there are more than 40 dark pools with a market share already at 12 percent,218 with an expanding trading volume of 40 percent annually.219 Interestingly, around 90 percent of the large investment management companies have already disclosed that they use Crossing Networks (CNs), a primary type of dark pool.220 Since 2008, the market share of dark pools in the United States has nearly doubled, while most traditional financial market exchange platforms have experienced declines on average trading volumes.221

Nonetheless, it is often ignored that dark pools are used by institutional traders to avoid having their investment orders revealed so they can reduce imitation and quote matching by other dealers, especially speculator dealers that will more often than not result in higher trading costs.222 Hence, investing through the use of dark pools may very likely reduce noise investors, the same investors that policymakers try to deter by introducing FTTs.223 Accordingly, it is hardly a surprise that there is an ongoing and increasing demand for trading venues that make it possible for institutions

214. Eng et al., supra note 76.
216. Id. at 7–8.
219. Id. at 3.
223. See id.
to keep their investment orders less transparent.224

VI. THE GOALS OF TAX: SHOULD AN FTT BE USED TO REGULATE THE DARK POOL MARKETS?

Taxes are imposed for many reasons. The most obvious reason is to raise revenue for necessary state functions.225 However, this is not the only reason. Although scholars have listed a plethora of reasons behind the implementation of tax, it often boils down to two other specific goals: having the state impose taxes for redistribution of the wealth and steering private sector activities in the direction that the government sees as most fit.226 Thus, when determining whether or not an FTT should be imposed on dark pools, these three goals need to be analyzed.

A. The Ability to Raise Revenues

Based on the history of the FTT, it is safe to assume that a steady stream of revenue will be generated, whether or not the FTT will introduce a simple, one-tier tax level (e.g., U.K. stamp duty tax),227 or a more sophisticated, multi-tier tax (e.g., the FTT in Taiwan).228 One developed country, Italy, has experience implementing an FTT on dark pools.229 The Italian FTT, first introduced in March of 2013, covers equity transactions and high-frequency trading.230 “[T]he tax on equities levies 0.10 [percent] per exchange transaction and 0.20 [percent] on over-the-counter trades.”231 According to a study done by Credit Suisse, as a result of the Italian FTT,

230. Id.
value traded in Italy fell by 34.2 percent in the first 12 months after the Italian FTT came into effect.\footnote{Id.}

However, revenue-wise, according to a study done by the German Institute for Economic Research, even after this reduction of turnover, and with government bonds not taxed under the FTT, Italy’s generated revenue by the FTT is between €2 and €5 billion.\footnote{DOROTHEA SCHÄFER, DIW BERLIN, POLITIKBERATUNG KOMPAKT 96—FISCAL AND ECONOMIC IMPACTS OF A LIMITED FINANCIAL TRANSACTION TAX 27 (2015), https://www.diw.de/documents/publikationen/73/diw_01.c.502746.de/diwkompa kt_2015-096.pdf.} Based on the Italian experience, it is clear that an FTT applying to dark pools and high-frequency traders meets the first goal of taxation.

B. The Redistribution of Wealth

The second goal of taxation, redistribution of wealth, is sometimes less clear, especially in the context of the FTT.\footnote{See Avi-Yonah, supra note 225.} Generally, a primary goal of an income tax, especially in progressive tax systems, is the redistribution of wealth from the rich to everyone else.\footnote{See id.} In our context, although the FTT is a flat tax rate, it can still fulfill a similar role as it will likely affect wealthier individuals more since they are more active in the financial market.\footnote{See TPC DISCUSSION DRAFT, supra note 15, at 5.} The wealthy are more capable of carrying the burden of paying additional taxes, especially since an FTT imposes a very low tax rate.\footnote{See id.} Moreover, an FTT that applies to high-frequency trading and dark pools will affect the wealthier and more sophisticated players in the financial market.\footnote{See Dean Baker, Bernie Sanders Takes It to Wall Street with Financial Transactions Tax, HUFFPOST BUS., http://www.huffingtonpost.com/dean-baker/bernie-sanders-takes-it-t_b_7438808.html (last updated May 25, 2015).} Therefore, although the FTT is not a progressive tax, it is still clear that although it does not impose a significant tax rate, it can still generate enough revenue and, if used properly, meet the second goal of taxation.

In the recent financial crisis, the U.S. government had to intervene and save many financial institutions that are viewed, not completely erroneously, to be responsible for the crisis.\footnote{See, e.g., Monica Williams, Greed, Bailouts, and the Causes of the Financial}
extremely expensive and were funded, unfortunately, by the general public, which in most cases, had zero responsibility for the financial crisis.\textsuperscript{240} In the future, an FTT could be used to pay for such bailout programs. Although this does not fall exactly into the definition of redistribution of wealth, in this specific and limited context, it can serve as a legitimate tool of taxation. This is simply because the impact of a financial crisis on this scale had nearly universal effects, whether or not individuals had active participation or a role in the financial market.\textsuperscript{241} The FTT is a tax that is directly imposed on the players and investors in the market and therefore seems to have more justification.\textsuperscript{242}

C. Government Regulation

The third goal of taxation, the regulatory role, seems on its face to be the easiest one in our context. However, research done during past years shows that, unfortunately, the result is much less clear than what may be expected.\textsuperscript{243} The issue is whether an FTT can attain the goal of Clinton's FTT proposal: targeting securities transactions (which, as mentioned previously, some economic and financial experts believe may destabilize financial markets).\textsuperscript{244}

Based on the Italian experience with taxing high-frequency trading and dark pools, it is reasonable to expect that if an FTT is adopted in the United States and is imposed on the same transactions and markets as the Italian FTT, there will be a significant reduction in the volume of trade in those transactions and markets.\textsuperscript{245} However, this is not necessarily a negative effect.\textsuperscript{246} It is reasonable to assume that any reduction in the volume of trade is because some traders and investors are simply pure noise investors and


\textsuperscript{243} See id. at 3 (noting empirical studies have found reductions in volatility depends on how well-developed the market is).

\textsuperscript{244} See supra Part I.

\textsuperscript{245} See \textit{FTT Drags Down Italian Stock Trading Values}, supra note 231.

\textsuperscript{246} See TPC DISCUSSION DRAFT, supra note 15, at 25.
the FTT was able to weed them out. This result is a positive effect on the financial markets by reducing stock price volatility and essentially pushing stock prices to their true value.

Once the initial market reaction to the FTT is over, we should analyze the institutional traders for whom dark pools were initially aimed. These traders need to avoid having their investment strategy and orders imitated by other dealers, especially noise traders who often cause higher trading costs and distort the market and the stock prices. In other words, in the long-run, the FTT will create a more stabilized financial market, one in which there are fewer noise investors and speculative traders.

However, it must be reiterated that the FTT is not a gatekeeper and cannot serve as a main tool against risk-taking investors who may destabilize the financial markets. Also, it does not significantly minimize the likelihood of another financial crisis. Therefore, although the FTT can be used as a tool to steer the private sector to some extent, the chances of the FTT succeeding in what Clinton hopes to achieve with it are significantly smaller.

Also, if there is one lesson to take from the 2008 financial crisis, it is that policy, in general, should be adopted on a broad perspective. Its impact on the economy and the applicable market should be analyzed on a long-term framework, and real results should not be expected in the near future. In other words, the assessment of a new policy and its efficiency and economic effect must be viable beyond the short-term effects, whether those are positive or negative.

For instance, the market patterns of high-frequency trading are well entrenched; hence, changing this market without any regulatory guidance,
whether tax related or not, will be difficult at best.\textsuperscript{257} However, an FTT may “discourage short-term speculative and technical trading” and therefore, promote stability and long-term investors.\textsuperscript{258} In order to measure the true success or failure and impact of the FTT, one must look beyond the first market reaction to it.\textsuperscript{259} For instance, although Europe promoted its FTT for high-frequency and dark pool trading, the European markets did not crash because of it, nor did any financial institution.\textsuperscript{260} Therefore, the fear that the FTT will create a miniature storm in the markets is incorrect.

At the same time, assuming that the FTT will fix the markets is also incorrect and unrealistic.\textsuperscript{261} An FTT will be much more effective if it is just a part of an overall reform promoting greater alignment between the financial markets and the true economic activity.\textsuperscript{262} Such a reform needs to be focused on legal, economic, and tax issues.\textsuperscript{263} In developing such a reform, it is important to remember that high-frequency trading is very different from dark pool markets.\textsuperscript{264} Despite the wish of public and regulatory authorities to restore trust and confidence in the markets and encourage investors to trade in the public stock markets, dark pool regulation should be kept at a minimum level, especially for taxation. Dark pools serve a valuable purpose by allowing investors to protect themselves from speculative and other types of investors the market does not usually want.\textsuperscript{265} Thus, an excessive regulation—especially a taxation—may distort the market by eliminating at least some of the investment volume.\textsuperscript{266}

If the FTT on dark pools is too excessive, and if the expectations for it are that it will do more than just generate a steady and meaningful sum of revenue, then policymakers should think twice about adopting it. An excessively aggressive or too sophisticated FTT with multi-tier tax rates or

\begin{itemize}
\item \textsuperscript{257} See id. at 746–47.
\item \textsuperscript{258} Id. at 748
\item \textsuperscript{259} See id.
\item \textsuperscript{260} See Hemmelgarn et al., supra note 114, at 23.
\item \textsuperscript{261} See Buckley & North, supra note 6, at 787.
\item \textsuperscript{262} Id. at 794–95.
\item \textsuperscript{263} Id. at 748.
\item \textsuperscript{264} See PwC, supra note 60, at 3, 6.
\item \textsuperscript{266} See Batista, supra note 265.
\end{itemize}
similar characteristics may create more problems for the markets and the investors than anything else.267 In order for the FTT to achieve the only goal it can and should aim to achieve—generating revenue—the FTT needs to be easy to comply with, straightforward, and simple.268 Though taxes in general could help regulate the market, taxes alone are not the most efficient and accurate way to do so.269

VII. FTT IMPLEMENTATION RESULTS

As the stock market has evolved into a virtual world characterized by high-tech computer software, often only those with the means to access that software can utilize the market.270 Concern has grown rapidly over the idea of the creation of a two-tier market.271 The issue of whether or not steps should be taken to regulate this market has been at the forefront of political debate for the past decade.272 The recent proposition of using an FTT for regulation has sparked the public’s interest, especially when some have been led to believe that the implementation of this tax will help regulate Wall Street and create an even playing field for exchange transactions.273 However, what many do not realize is that in certain instances, dark pools can be beneficial to the economy and overregulation of this financial market could deter investment.274 The public must also understand that the FTT is not designed for regulation of markets like dark pools.275 While the FTT would probably cause a reduction in trading, it would also most likely not affect long-term investors and large financial institutions invested in the

269. See TPC DISCUSSION DRAFT, supra note 15, at 21.
270. See Eng et al., supra note 76, at 42.
271. See id. at 46.
272. See id.
274. Eng et al., supra note 76, at 48.
stock market.276 Instead, it would reduce the trading of noise investors, which could have a positive impact on the market but would not regulate Wall Street.277

Though the FTT may be questionable according to some, it is highly accepted worldwide.278 Over 40 countries currently use or have previously enacted an FTT, including the United States.279 Specifically, in Europe nearly a dozen countries have agreed to implement a tax of this kind by 2016.280 The FTT is questionable because some argue that it may result in negative results on the financial market, while others argue the exact opposite, or argue only on other benefits or potential positive results of this tax.281

Those that argue against the tax believe it increases transaction costs, which in turn would cause financial market volatility and reduce liquidity.282 However, most studies show that FTTS cause little to no change in volatility.283 Although some studies have shown an increase in volatility,284 there are others that show an FTT would help with volatility, specifically in the short-term, because, as mentioned before, it would increase costs to noise investors but would not interfere with value investors who push stock prices to their true value.285 Other studies done in Asia, Sweden, and the United Kingdom also reported no significant effect on volatility and that stock prices declined.286 This decline in stock price is another way to deter noise investors.287

If one is looking for answers based on what happened in other countries, Sweden is a good place to start the search, mostly because the results there were hardly ideal. Sweden attempted to enact an FTT in 1984

276. See TPC DISCUSSION DRAFT, supra note 15, at 24.
277. See id. at 23.
278. See id. at 3.
279. BEITLER, supra note 127.
280. TPC DISCUSSION DRAFT, supra note 15, at 2.
281. Id. at 2–3.
282. Id. at 3.
284. Id.
285. See id. at 4; supra notes 165–81 and accompanying text.
286. See supra notes 209–12 and accompanying text.
and was unfortunately forced to repeal it in 1991.\footnote{TPC {DISCUSSION DRAFT}, supra note 15, at 8.} Throughout that time frame, the scope of the tax often focused on different transactions.\footnote{See id.} From 1984 through 1989, most of the transactions focused on were stocks and stock-based derivatives.\footnote{Id.} Transactions on the sale and purchase of stock were at 0.5 percent.\footnote{Id.} In 1986, due to widespread avoidance, the revenue raised was much less than what Sweden had anticipated.\footnote{Habermeir & Kirilenko, supra note 156, at 170.} Sweden attempted to correct this by doubling the tax rates and was still only able to increase revenue by 22 percent.\footnote{See id.}

From 1989 through 1991, the Swedish FTT focused on fixed-income securities and derivatives based on those, including government bonds and bills.\footnote{John Y. Campbell & Kenneth A. Froot, International Experiences with Securities Transaction Taxes, in THE INTERNATIONALIZATION OF EQUITY MARKETS 281 (Jeffrey A. Frankel ed., 1994).} It was evident that this tax on fixed-income securities affected the trading volume much more than the tax on stocks.\footnote{Id. at 287.} For example, options trading practically vanished, bonds trading decreased by 85 percent, and futures trading on bonds and bills dropped by nearly 98 percent.\footnote{See id. at 288.} Investors began to turn to non-taxable instruments such as “debentures, variable-rate notes, forward-rate agreements, and swaps.”\footnote{DAVID LJUNG, SWEDISH SOC. DEMOCRATS IN THE EUROPEAN PARLIAMENT, THE RELEVANCE OF THE SWEDISH CASE IN THE CURRENT FTT DEBATE, \url{http://www.google.com/url?sa=t&rct=j&q=&esrc=s&frm=1&source=web&cd=1&ved=0ahUKEwjaavez4q5_MAhWKFx4KHzxBAQFgMMAA&url=http%3A%2F%2Fwww.abb1.lu%2Fdownload%2F14767%2Fthe-relevance-of-the-swedish-case-in-the-current-ftt-debate.pdf}&usg=AFQjCNvRTMh1s2tN9cyLMtZdhTswCfwQ (last visited June 5, 2016).} After the tax was abolished, the trading volume in the taxable securities gradually increased.\footnote{Habermeier & Kirilenko, supra note 156, at 170.}

Another reason for the crash in the Swedish market was that Sweden had attempted to impose the FTTs on strictly Swedish brokerages; the only taxes imposed on trades involving foreign principals were those that
involved a registered Swedish security. This fact alone had disastrous results. The trading volume declined significantly with investors using base erosion and trading on foreign exchanges to avoid taxation. A study by Steven Umlauf revealed that of the 11 most actively traded classes of stock transferred 60 percent of their trading volume to London, which in total was more than 30 percent of the overall trading volume in the country in 1986 and increased up to 50 percent in 1990. An interesting aspect of this is that the United Kingdom already has an FTT in place.

The failure of the Swedish FTT can provide valuable information to other countries looking to implement such a tax. Multiple studies have concluded that there is no effect on market volatility; however, trade volume can be impacted. Today, the increased use of high-frequency trading and dark pools has made the market much more complex. The recently implemented FTTs in France and Italy are being used as benchmarks for planning the expected FTT in the EU.

France, contrary to Sweden, applies its 2012 FTT to both stock exchanges inside and outside of the country. France also imposed separate rates on different transactions: 0.20 percent on stock purchases of publicly traded companies worth over €1 billion, 0.01 percent on high-frequency trading, and “0.01 percent of the nominal value on some sovereign credit default swaps.” Although not as traumatic as Sweden, the tax has still been

299. LJUNG, supra note 297.
300. Id.
302. Buckley & North, supra note 6, at 746.
305. See PWC, BASIC MATERIALS, supra note 268, at 3.
306. See id. at 312.
thought to decrease trade volume significantly. However, studies have shown that there is no significant effect on market volatility or liquidity. As mentioned before, whether or not the decrease in volume is significant depends on the type of investors that are decreasing their trade, whether noise or value. Multiple studies were conducted before the implementation of the French FTT and showed that because both types of traders are normally affected, there is equilibrium. There is not enough evidence to support whether or not there has been a more significant decrease in noise traders than value traders, and thus, it seems to remain balanced.

The FTT implementation in March 2013 in Italy included “a tax on transactions of shares, financial instruments and securities representing equity investment . . . as well as a tax on high-frequency trading.” Overall, the tax is approximately 0.2 percent of the investment transaction, however, on regulated markets the rate drops to 0.1 percent. Further, on order changes, as well as cancelled transactions happening within a time frame of less than 0.5 seconds, the rate imposed is 0.02 percent. In September 2013, an FTT was also introduced on “derivative markets and other transferable securities as well as high frequency trading on these instruments.” As mentioned previously, the Credit Suisse study stated that since the implementation of the FTT, the volume of trade has fallen over 34.2

308. TPC DISCUSSION DRAFT, supra note 15, at 10.
310. Capelle-Blancard & Havrylychyk, supra note 309, at 3.
311. Id. at 3–4; Bloomfield et al., supra note 287, at 2277; Song & Zhang, supra note 159, at 1119.
312. See Song & Zhang, supra note 159, at 1119.
314. Id.; TPC DISCUSSION DRAFT, supra note 15, at 7; Coelho, supra note 307, at 17.
315. Rühl & Stein, supra note 313.
316. Id.
percent. However, whether or not this decrease in volume is relative depends on the traders it is measured against. Italy, which unilaterally collects the tax in coordination with France, does not collect the tax until the end of the day. As a result, noise investors, which would benefit the market if decreased, are not taxed if their trading positions are flat at the conclusion of the day. Therefore, it is unlikely that this 34.2 percent would provide any positive impact to the market. Other studies have concluded, as mentioned with France, that the impact of taxation on noise trading is no more substantial than on value investors, and thus, the market will remain balanced. Some believe a major reason for such a negative market impact in Italy is that the Italian FTT affects more assets than the French FTT.

Although the impact on the market has not been as significant in France as in Italy, there is still concern that the revenue raised in both countries has been lackluster. Denis Beaudoin, chief executive at Finalits, said, “As a result of the FTT, we switched our trading on French equities to derivatives and stopped trading Italian stocks altogether.” Although there has not been as much revenue being generated as was anticipated, if enacted correctly, like in France and Taiwan, the FTT can still raise revenue without experiencing any drastic changes to the marketplace. However, as shown in Italy and Sweden, the types of assets affected by the tax and the geographic implications play a critical role in reducing negative market impact.

317. FTT Drags Down Italian Stock Trading Volumes, supra note 231.
318. See Schäfer, supra note 233, at 12.
320. See id.
321. See Coelho, supra note 307, at 32.
322. See id. at 5–6.
324. Id.
325. Id.
326. See Schäfer, supra note 233, at 10; Robin K. Chou & George H.K. Wang, Transaction Tax and Market Quality of the Taiwan Stock Index Futures, 26 J. FUTURES MARKETS 1195, 1214 (2006).
327. See Habermeier & Kirilenko, supra note 156, at 170; Schäfer, supra note 233, at 23–24.
VIII. THE EFFECT ON THE U.S. MARKET

When analyzing the FTT from a policy standpoint, it is clear that it is a legitimate tax and will definitely meet all three goals of taxation: the ability to raise revenue, redistribution of wealth, and government regulation.328 The FTT has a long history of efficiency in raising revenue.329 Applying the FTT on high-frequency trading and dark pools may result in some negative results, especially short-term; however, as seen in other countries, the FTT’s impact in the long-run is mostly positive and increases revenues without compromising the vitality of financial markets.330 The revenues raised from the tax could help pay for government bailout programs such as those implemented after the financial crisis as well.331 Additionally, wealthy individuals are normally the most active in the financial markets; therefore, an FTT would assist in the second goal of taxation: the redistribution of wealth.332 This is also why it is often referred to as the “Robin Hood Tax.”333 The third goal of taxation is government regulation.334 As seen in Italy, the enactment of an FTT decreased trade; however, this could be linked to other factors such as the weeding out of noise investors, the rate of the tax, and the extent of the financial instruments subject to the tax.335 Thus, by following the lead of France, the United States could enact the tax in such a way that institutional investors would most likely not be affected.336

Although the FTT would be adequate in raising revenue and deterring noise investors, it is critical to set the bar at the right height.337 The belief that the FTT will help control Wall Street and the investors and financial market players who were blamed (rightfully or wrongfully) for the 2008 financial crisis is unrealistic and will result in a complete failure of the FTT.338 The FTT should be seen for what it is: a tax on financial transactions that will result in steady stream of tax revenue that can, and should, be used for the

328. See supra Part VI.
329. See supra Part VI.A.
330. See supra Part VII.
332. See Avi-Yonah, supra note 225.
333. See Titcomb, supra note 17.
334. See supra Part VI.
335. See supra Part VI.A.
336. See supra Part VII.
337. See supra Part VII.
338. See supra Part IV.
reasons mentioned earlier in this Article—such as the funding of government bailouts, should the nation fall back into a recession.\textsuperscript{339} The FTT can assist—to a very limited extent—in regulating the markets, but only if it is a part of a much broader and in-depth reform of the financial markets.\textsuperscript{340} Overall, implementation of the tax in the United States should definitely be considered, but the public should be aware of the true potential and goals that the FTT may be able to attain.\textsuperscript{341} Although it will have no hand in regulating Wall Street, the tax can be used to accrue revenue and help create stability in the marketplace.\textsuperscript{342}

\textsuperscript{339} See supra Part IV.
\textsuperscript{340} See supra Part IV.
\textsuperscript{341} See supra Part IV.
\textsuperscript{342} See supra Part IV.