April 22, 2016

Office of the Under Secretary for Domestic Finance
Department of the Treasury
1500 Pennsylvania Avenue, NW
Washington, D.C. 20220

Re: U.S Department of Treasury Notice Seeking Public Comment on the evolution of the U.S. Treasury market. Docket ID: TREAS-DO-2015-0013.

Questions for public comment:

Part I: Further Study of the Evolution of the U.S. Treasury Market and the Implications for Market Structure and Liquidity

1.1 Have there been changes in the nature of *liquidity provision, or demand for liquidity*, in the U.S. Treasury market? If so, are these trends different in the futures, dealer-to-customer, or interdealer broker ("IDB") market, or in the "on-the-run" and "off-the-run" sectors, or across different types of Treasury securities (e.g. bills, nominal fixed rate coupon securities, nominal floating rate securities, and inflation-indexed securities)? Which factors have been responsible for any observed trends in liquidity provision and/or demand? In addressing those questions, please consider the dealer-to-customer market, trading on IDB platforms, and in the futures market, as applicable, and please provide or refer to data and/or analysis that support your conclusion. (There are 7 sub-questions that follow.)

Comment: The U.S. Treasury market is one of the largest, most liquid and most popular financial markets for investors in the world. Once dominated by banks, the adoption of electronic trading and emergence of non-bank market participants has transformed the way U.S. Treasuries are traded. Whether this has been beneficial remains a topic that attracts much debate.

Over the past decade, the U.S. Treasury market's structure, make-up of participants, trading behaviour and liquidity provision have evolved in ways not too dissimilar to other major financial markets and asset classes such as equities and spot foreign exchange (FX). In all instances, a common theme has been the emergence, and subsequent dominance, of high frequency trading (HFT) institutions, many of which pursue to profit from latency-led algorithms, which are algorithms designed to profit from speed superiority.

In the U.S. Treasury market, the emergence for HFTs was accelerated by the withdrawal of wholesale banks, which have been curtailed from trading and market-making activity due to a reduction in risk-taking, cost pressures and regulatory demands to hold greater capital. This made it more expensive for banks to trade. As banks reduced their role, HFTs emerged as the prime source for liquidity.

A good example of how HFTs have reshaped this market is demonstrated by 'on-the-run' and 'off-the-run' Treasury markets.

'On-the-run' Treasuries have emerged as the primary product of choice for HFTs due to their high levels of liquidity. Such is their concentration of trading that the 'off-the-run' market has begun to suffer – going from one of the most liquid bonds tradeable to becoming an illiquid product.

With a market now made up of human traders (such as portfolio managers) and latency-led algorithms operated by HFTs, market participants have begun operating at different cycles and speeds. For example, HFTs measure the length of a trade by milliseconds or microseconds, while human traders measure their trades by minutes, hours or even days.

This results in a two-speed market, with real investors moving at one speed but liquidity being provided at another speed. Under this structure, mini flash crashes begin to occur, and front-running and arbitrage opportunities may emerge as a means of gaining an advantage over other traders. In the case of the latter, it is those with the deepest pockets, fastest technology and access to high-octane market data that position them to benefit – often to the detriment of real investors and the wider market.

While these emerging trends have only gained prominence in the U.S. Treasury market in recent years, they have been long-standing issues in equities or spot FX. In all three markets, one of the primary frustrations is the emergence of an unequal playing field, a lack of transparency, a perceived and possibly real lack of fairness and an unhealthy emphasis on speed as the main factor of success, rather than intellect, strategy or genuine trading need.

In this pursuit of speed, disruptive trading behaviour and the use of low-latency market data has caused significant damage and created inefficiencies that are significantly damaging to the wider trading environment.

1.3 How does the way in which you transact in or provide liquidity to the U.S. Treasury market change during periods of stress?

Comment: To understand how liquidity provision has changed in the U.S. Treasury market during times of stress, it is important to first understand the extent to which the make-up of market participants has changed.

Last year, Risk Magazine revealed that eight of the top 10 firms ranked by volume during May and June 2015 on BrokerTec – the largest international public trading venues for U.S. Treasuries, accounting for up to 70% of global trading activity – were non-banks. These non-bank HFT firms were responsible for 85% of the volume executed by the top 10 firms. Of this, three Chicago-based HFTs – Jump Trading, Citadel Securities and Teza Technologies – accounted for 51% of this volume.[1]

In contrast, only two wholesale market-making banks were named amongst the top 10 and generated a combined volume of 14% - approximately half of the volume traded by the most active non-bank HFT.[1]

With non-bank HFTs accounting for the majority of market depth in the U.S. Treasury market, it was perhaps no surprise that HFTs generated more than 50 percent of the total trading volume in both cash and futures markets for U.S. Treasuries on 15 October 2014, which saw the biggest one-day crash in U.S. Treasuries in modern history.[2]

As the official U.S. Treasury report stated, that proportion is not unusual. But what is remarkable is their level of activity on the day. According to a Bloomberg News report[2], as trading began to heat up on 15 October 2014, algorithms utilised by HFTs essentially fed on each other, causing the amount of "self-trading" undertaken between different arms of the same HFT firms to increase.

This represents a vivid example of how liquidity provision has changed during times of stress in the U.S. Treasury market. Market-making activity by HFTs provides a positive effect when markets are stable as it tightens up the price. But when markets undergo a period of stress and volatility, extreme moves are exaggerated by the fact that electronic algorithms flood the market with orders at the same time, creating a vicious cycle of further sharp movements in a matter of seconds. This is often referred to as a 'flash crash'. In previous times of market stress, banks may have stepped in to provide liquidity and lessen price volatility using deeper pockets than HFTs possess.

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[1] Risk Magazine - Client list reveals HFT dominance on BrokerTec – 23 September 2015
[2] Bloomberg News – Here's What We Learned From the Official Report on the 'Flash Crash' in U.S. Treasuries – 13 July 2015

1.5 What changes to the U.S. Treasury market structure, whether through public or private sector initiatives, might be advisable given the recent and expected future evolution? What role should the public sector play in driving or facilitating these changes?

Comment: As mentioned above, the issues occurring in the U.S. Treasury market have also occurred in equities and spot FX, where HFT institutions have emerged to become the dominant market participants. However, equities and spot FX markets have benefitted from private sector solutions designed to reintroduce fairness, transparency, equality and good trading behaviour, and could act as a model for addressing the issues in the U.S. Treasury market.

In the U.S. equities market, trading venues such as IEX and Luninex Trading have developed solutions to improve transparency and trading. But perhaps the best example of the market working together to develop an industry-wide solution is in the spot foreign exchange market.

In 2013, a group of the largest FX trading institutions in the world – which includes many banks active in the U.S. Treasury market – developed a wholesale electronic spot FX trading platform called ParFX. These institutions had become frustrated with the deteriorating trading environment on public spot FX trading venues and wanted to reintroduce a fair, equal and transparent trading environment for the wholesale FX market.

The platform's founder banks came together to address the rapid rise of disruptive trading behaviour and the lack of equality in the spot FX market. They created a market of genuine interest where all participants could trade on a level playing field in a transparent manner.

To deliver this vision, the platform developed a set of criteria and ethos which they felt were critical to creating a healthy market:

- Technological advantage should not automatically mean economic advantage
- IT costs associated with trading should be minimised
- Trade transparency is imperative
- Firmness of liquidity will always be promoted
- All participants should have a genuine interest to trade
- Trading between counterparties will be as neutral as possible
- The principle of 'level playing field' will be applied throughout
- The market needs a regulatory future-proofed, clean trading environment with suitable transparency

These principles helped to create a trading environment where participants can trade with each other in a fair, effective and transparent environment, where all firms – regardless of size, technological sophistication, financial clout or volumes traded – are treated equally and play by the same rules.

Perhaps what is most eye-catching is the platform's matching technology, which applies a meaningful randomised pause to all order submissions, amendments and cancellations. This was introduced by to create a genuinely level playing field for all participants.

The pause length is determined to be meaningful enough to nullify disruptive traders whose strategy relies solely on speed and latency to succeed, but meaningless to real investors that have a genuine trading need, who seek firm, executable liquidity and who compete on strategy rather than latency.

In addition, ParFX's transparent pricing strategy ensures brokerage is the same for all participants. Everyone pays a monthly connection fee, which includes same data for everyone at no extra cost, delivered at the same frequency in parallel. Additional data packages are not available to gain an advantage.

Due to the technology and features in place, the spot FX market now benefits from a benign environment that promotes genuine market interest, and disruptive trading behaviour is prevented before it can occur.

By delivering this platform, the spot FX market has sent a clear signal that disruptive trading behaviour is not tolerated.

As is the case with spot FX, the U.S. Treasury market is dominated by a small number of public trading venues. According to Risk Magazine, BrokerTec represents 65–70% of interdealer market volumes, with eSpeed accounting for 30% of the market and Dealerweb making up the remainder.[3]

A market-led solution to introduce greater competition and reduce the reliance on existing venues – which are not doing enough to protect the market from disruptive elements – would be a positive development for the U.S. Treasury market.

1.6 What are the benefits and risks from the increased speed with which secondary market transactions take place? Do these benefits and risks differ across individual products (e.g. on-the-run versus off-the run securities)? How have market participants and trading venues responded to, or facilitated, improvements in speed, and how, if at all, should policy makers respond?

Comment reserved.

1.8 What share of trading (in the case of dealers, your own trading) is internalized? To what extent does it vary depending on security type (e.g., on-the-run, off-the-run)? How has this changed over time and how do you expect it to develop? What implications for the Treasury market, if any, do you see as a result of these developments?

Comment: In recent years, internalization – where trades are matched internally within a bank rather than through an external broker – has increased considerably. This follows a dramatic rise in disruptive trading patterns, which has had a drastic impact on the quality and efficiency of execution.

It is important to distinguish between beneficial internalization and detrimental internalization. In a truly efficient market, banks would have the choice to internalize or trade into the public market.

At times, it will be beneficial to internalize flows; it enables banks to internally match (uncorrelated) flows originating from clients, branches, internal prop desks, and market-making hedge positions. Beneficial internalization can lead to consistent liquidity available to clients, lower brokerage costs, reduced reliance on external liquidity pools even in volatile conditions.

It is primarily detrimental internalization that leads the banks to warehouse risk. For many participants, the environment in the public market has become so toxic that it has become difficult to trade. This is due to the prominence of disruptive trading strategies, emphasis on latency, use of algorithms trading at speeds that cannot be matched by real investors, signal risk and other factors that make efficient execution difficult.

As a result, banks are forced to hold onto more risk, which is detrimental to a bank and traders' risk management, as well as for their clients' investment portfolios. This leads to a vicious circle of further internalization, which is not out of choice and reduces liquidity – degrading the efficiency of the market further.

Part II: Continued Monitoring of Trading and Risk Management Practices Across the U.S. Treasury Market and a Review of the Current Regulatory Requirements Applicable to the Government Securities Market and Its Participants

2.1 Are the risk management controls currently in place at U.S. Treasury cash and futures trading venues, as well as firms transacting in those venues, properly calibrated to support the health of the U.S. Treasury market? Why or why not? Please list the types of controls that are employed, as well as planned

[3] Risk Magazine - Client list reveals HFT dominance on BrokerTec – 23 September 2015

changes or improvements. In addressing these questions, please consider the dealer-to-customer market, trading on IDB platforms, and the futures market, as applicable. In addition, please consider the following questions:

a. What policies and risk management practices at U.S. Treasury cash and futures trading venues, as well as at firms transacting in those venues, could be improved or developed to mitigate potential risks associated with increased automation, speed, and order complexity? Please consider the risks posed by trading, risk transfer, and clearing and settlement.

Comment: The settlement of U.S. Treasuries is somewhat outdated and is in need of modernization. Trades are currently settled at the end of each day on a netted basis, unlike interest rates swaps, for example, which are cleared on a live basis via CCPs.

Any move towards a live or intraday settlement basis, or a model where trades are settled through a central settlement utility, such as CLS in the spot FX market, would be a welcome and positive step.

b. To what extent should venue-level risk management practices be uniform across Treasury cash and futures trading venues? For example, should there be trading halts in the Treasury cash market and should they be coordinated between Treasury cash and futures markets, and if so, how? Should Treasury cash, futures, options, and/or swaps venues coordinate intraday risk monitoring, and if so, at what frequency? If there were trading halts, how should they be implemented for bilateral trading activity in the Treasury cash market? What would be the primary challenges in implementing such trading halts, particularly given that trading in the U.S. Treasury cash market is over-the-counter, global in nature, and conducted on a 24-hour basis?
Comment reserved.

c. To what extent should U.S. Treasury cash market platforms be responsible for monitoring, identifying, and/or reporting suspicious trading activity?

Comment: Individual platforms and trading venues should be encouraged to take monitor, identify and/or report suspicious trading activity. Where possible, preventative measures should be put in place to deter disruptive behaviour from occurring at all, rather than relying on retaliatory measures after a 'crime' has occurred.

2.5 What are the benefits and risks associated with the current structure for clearing and settling Treasury securities transactions in the dealer-to-customer market and on IDB platforms, as applicable.
(Subquestions ask about intraday margin and mandatory clearing.)

Comment: The settlement of U.S. Treasuries is somewhat outdated and is in need of modernisation. Trades are currently settled at the end of each day on a netted basis, unlike interest rates swaps, for example, which are cleared on a live basis via CCPs.

Any move towards a live or intraday settlement basis, or a model where trades are settled through a central settlement utility, such as CLS in the spot FX market, would be a welcome and positive step.

2.6 Many of the standards applicable to U.S. securities, commodities, and derivatives markets are not applicable to the U.S. Treasury cash market. Which differences, if any, should be addressed and how should standards be aligned? How will these affect the cost of accessing or participating in these markets, as well as of transacting in these markets? Would there be any implications to U.S. federal government borrowing costs? In addressing these questions, please consider the dealer-to-customer market, trading on IDB platforms, and the futures market, as applicable. In addition, please consider the following:

Comment: As it stands, the Securities and Exchange Commission (SEC) is responsible for the rules and regulations relating to U.S. Treasuries, as opposed to the U.S. Commodity Futures Trading Commission, (CFTC) which oversees the U.S. commodity and swap markets. The CFTC has introduced a Swap Execution Facility (SEF) regime for the trading of swaps.

The SEC has previously announced its intention to launch a SEF-like model for trading U.S. Treasuries, which may introduce standards which are closer to the U.S. securities, commodities, and derivatives markets.

We await further details of this initiative before commenting further.

2.7 Should self-trading be expressly prohibited in the cash Treasuries market? Does self-trading provide any benefits to the markets? Are there risk management tools, either at trading firms or at trading platforms, which can effectively reduce levels of self-trading and improve trading efficiencies?

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Part III: An Assessment of the Data Available to the Official Sector on U.S. Treasury Cash Securities Markets

3.3 What criteria should be used to determine who should report to the official sector? Should both counterparties (buyer and seller) be required to report a trade or is one-sided reporting preferable? Should reporting requirements depend on the platform or execution method? Should only a subset of participants, such as brokers, dealers, futures commission merchants (FCMs) and commercial bank dealers be required to report transactions? Should other parties to a transaction, such as banks and PTFs, be required to report? Should trades executed on automated trading venues be reported by those venues and not the individual brokers, dealers, FCMs, bank dealers, etc. transacting on such venues?

Comment: One-sided reporting should be sufficient for the U.S. Treasury market.

3.5. h. Should transactions executed on an ATS and/or in response to an electronic RFQ be identified as such? Should the specific ATS and/or RFQ platform be identified as part of the transaction report? Are there unique characteristics of such transactions that should be identified? Should the order type giving rise to a particular execution be captured? Are there any other unique methods of transacting in the Treasury market that should be identified?

Comment: Transaction reporting by platforms would be advantageous and beneficial for the U.S. Treasury market. This is increasingly becoming a reality for other financial markets and asset classes, and U.S. Treasuries should follow suit.

For example, in the interest rate swap market, all SEF platforms currently report transactions in real time to the DTCC, while industry utility CLS reports settlement activity on a monthly basis in the foreign exchange market.

3.6 For those securities subject to official sector reporting requirements:

a. Should quotes and/or orders be reported? If so, should special consideration be made for certain types of quotes and/or orders (e.g., electronically submitted orders versus voice orders versus RFQ)? Are there any special considerations when defining an order and/or quote? How will these special considerations affect the ability of the official sector to analyze activity in the Treasury cash markets?

b. Should transactions, quotes, and/or orders be reported on a real time basis? If not, what should be the reporting standard? How should orders that are executed over multiple days be handled? Are there other special considerations when defining the time of an order?

c. Are there additional elements that are important for regulators to understand beyond the categories of quote/order originator, price, size and time of the order (e.g., inventory or position data)? Should the type of an order or any special order instructions be collected? Should all order changes be reported? Is the answer different for electronically submitted versus voice submitted orders?

d. Should the submitter of a quote and/or order be identified uniquely or categorized by counterparty type? If the latter, what counterparty types should be identified? Are there generally accepted definitions for these categories of counterparties?

Comment reserved.

3.8 Do commercial bank dealers and broker-dealers have technology infrastructures and order/execution handling in place to report trades on a continuous basis?

Comment: We believe the technology infrastructure is in place to report trades on a continuous basis. Real-time reporting is necessary for all SEF platforms in the U.S., and the majority of leading bank and non-bank participants in the U.S. Treasury market are active trading participants on numerous SEF platforms. We believe real-time reporting technology utilised by SEF platforms can be modified at relative ease to ensure it is applicable to the U.S. Treasury market.

Part IV: An Assessment of the Data Available to the Public on U.S. Treasury Cash Securities Markets

4.1 Is the publicly available information for U.S. Treasury market trading activity sufficiently transparent to foster an efficient, healthy, and liquid market? What changes to public reporting would be most advisable, if any, including the use of data standards and identifiers?

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4.2 What additional information should be made available to the public in order to better assess liquidity conditions in the U.S. Treasury market, and at what frequency? For instance, should there be readily available transaction cost data that accounts for price movements that occur from the initiation of a trade request on RFQ platforms?

Comment reserved:

4.3 If additional public transparency is necessary at the transaction level, what is the most appropriate level of transparency for publicly available data on trading in the secondary market? Should additional public transparency be phased in over time in any way? Should all quotes and/or orders in the inter-dealer market be made public, or just "top of book"? What characteristics should be reported (e.g., participant type, aggressor side, volume, price)? Should the release of any or all of the data be in real time or delayed? Should the available data differ depending on the age of the security, size of the transaction or other characteristics of a particular security or transaction?

Comment reserved.

4.4 Is there an existing public reporting model that would be appropriate, in whole or in part, for the U.S. Treasury market (e.g., swap data repositories for swaps, or FINRA's Trade Reporting and Compliance Engine (TRACE) for corporate bonds and agency mortgage-backed securities), or would the Treasury market benefit from a new model?

Comment: FINRA's Trade Reporting and Compliance Engine (TRACE) offers a good model for U.S. Treasuries.

4.5 What additional information should be available to the public about the operation of trading platforms or trade execution algorithms on trading platforms (for inter-dealer as well as dealer-to-customer platforms)? For example:

a. Should information about order types, agreed upon fee arrangements, user agreements, and/or brokerage agreements be disclosed?
b. Should the degree to which subscribers to the platform may limit their interaction with or exposure to other subscribers be disclosed?

c. Should the degree and extent to which the sponsor of a platform trades on the platform be disclosed?

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