

2015 Roundtable on Treasury Markets and Debt Management

**Remarks by Ken Griffin
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Introduction

Thank you so much for the kind introduction.

This is an incredibly important moment for the Treasury markets. The conversation that has been taking place here today is timely, relevant and important to investors and to our country.

Our Treasury market is how we fund our deficit. It is one of the most important markets in the world, a place to go to put cash or make investments to meet long-term liabilities. The functioning of this market is critical to the well-being of our nation.

Let me begin with a brief background on Citadel. Citadel is one of the world's largest hedge funds – this is well known. We manage about \$25 billion, principally on behalf of sovereign wealth funds and large institutions.

What is not as well known is that we are one of the world's largest securities dealers in a separate business known as Citadel Securities. We are perhaps the single largest trader of equities in the world, a business that we started about 15 years ago. We routinely account for roughly 15 percent of the turnover here in the United States and in the major European markets.

The business that we built, based upon predictive analytics, technology, and risk management, we have now applied beyond equities to the fixed income and commodities markets.

In U.S. Treasuries, we are one of the three largest traders in the interdealer cash market. In the interest rates space, we are in the top 10 across the futures complex at CME. In addition, in the last 12 months, we have entered the U.S. interest rate swaps market. On Bloomberg's swap execution facility, which is the single largest trading destination for institutional clients to trade interest rate swaps in the United States, we enjoy the coveted position of being the number one liquidity provider by volume, only 12 months after entry.

Overview of the U.S. Treasury Market

The Treasury market really is two separate and distinct markets: the dealer world and the customer world.

In the customer world, the vast majority of trading is between end users, such as mutual funds and asset managers, and large banks. It is a business built on an internalization model. Many of the largest banks have made significant investments over the last decade around thoughtfully internalizing the flow of their customer franchise. That is, in some sense, the essence of what their business has become. They are extremely good at taking risk in, offsetting risks across their portfolio, and then liquidating the risk they do not wish to carry into the interdealer market.

The interdealer market is a radically different market. In on-the-run Treasuries, it is almost completely electronic, with roughly 97 percent traded on eSpeed and BrokerTec. The interdealer market is, interestingly enough, not dominated by the banks. It is dominated by what are referred to as principal trading firms (PTFs), firms such as Citadel that are extraordinarily good at making continuous two-way markets in securities across various market conditions.

So, to take a step back, customers interface with the banks, the banks internalize the orders to the best of their ability, and then take the orders that they do not wish to fill to the interdealer market, along with their necessary portfolio adjustments.

As a result, when you look at interdealer market activity, you are really looking at the most difficult-to-trade transactions in the marketplace. You are not looking at the same vanilla trades that define most of the activity by end customers.

It is therefore important to think very carefully about what the information that you observe in the interdealer market actually tells you. One thing that information tells you is that the interdealer market over the last several years has continued to be very robust at providing liquidity across market conditions. We have seen no material deterioration in bid/ask spreads or in market depth or in other measures of liquidity such as price impact, even though a greater and greater proportion of the trading in the interdealer market reflects trading against increasingly toxic flow.

Evolution of the U.S. Treasury Market

Now, focusing on the evolution of markets that we think will take place over the years to come, we believe end customers are increasingly going to look for additional sources of liquidity around the world. Customers have become increasingly thoughtful about managing transaction costs within their portfolios. They have placed the dealer community under great pressure to perform. They will look to the PTFs in the long run because the same firms that can trade the

toxic flow from the dealer community are well equipped to trade the less toxic flow from the end user community.

We therefore believe that, in the years to come, these two segmented markets will increasingly become one market, where end customers will interact more and more with today's wholesale liquidity providers. And we believe this will happen as a result of pure economic forces. As end users look to bring down their costs of doing business, they will migrate towards electronic trading and access to additional sources of liquidity. In addition, as we see a generational shift take place on trading desks across the world, we see a younger generation more comfortable using screens as the primary way to conduct business.

Liquidity Risk

One of the questions that has been posed is around liquidity risk in the Treasury markets. New York Fed economists Tobias Adrian, Michael Fleming, Daniel Stackman and Eric Vogt examined the question of whether liquidity risk has moved higher over the past two years in a piece published earlier this year entitled "*Has Liquidity Risk in the Treasury and Equity Markets Increased?*" Meanwhile, CFTC Chairman Massad, in a speech in October, highlighted that sudden spikes in illiquidity also occur in the futures market.

First, in the supposed "good old days" – and I started trading about 28 years ago – information took far longer to move across the market. It is hard to imagine that we used to live in a time when the daily paper was actually a really important source of timely information. Market participants today react to news, whether it's important economic releases or important speeches by policy leaders, with incredible speed.

A simple story highlights this. Back in 2013, on Bloomberg, there was a story about a fire on a plane at Heathrow, and we were suddenly losing significant sums of money as a market maker in Boeing stock, because someone else connected the dots. That plane on fire at Heathrow had a battery problem. It was a new Dreamliner. And people were selling Boeing stock. As a market maker, that was not a particularly good day for us.

The breathtaking speed at which news is assimilated into market prices is indicative of a well-functioning market. Our markets should incorporate all information as rapidly and as efficiently as possible.

Second, the discussion of liquidity risk also involves the topic of intraday price moves. Often when a major piece of economic news is released, such as nonfarm payroll, and there is a surprise to the upside, meaning we have more jobs in America, the bond market immediately sells off in response. Yet, by the end of the day, the bond market closes unchanged or perhaps even lower in yield. Why is this? How is it that these intraday moves can happen – and what does that tell us about the functioning of our markets?

I think it is very important to understand that large portfolio managers use days with news to reposition their portfolios. If a portfolio manager is trying to reshape a portfolio in amounts that can measure tens of billions or more, it needs a moment in the marketplace when there is significant news so that it can effect that portfolio transformation with the minimal amount of market impact.

And so you will see large portfolio managers consciously wait for news releases to begin portfolio transitions. We see this in the equity markets consistently, with earnings announcements for example, when stories question why the stock finished up if earnings were poor. The answer is that for a large mutual fund looking to acquire a position, that is their moment of entry. And so it is very important to take a step back and understand that markets reflect not just news, but also flows.

Role of PTFs

I would now like to turn briefly to the role of PTFs in the Treasury market. It is clear that nonbank liquidity providers have become more important in the interdealer market than ever before. In fact, there was a recent story that roughly 8 of the 10 largest players in the interdealer market are PTFs. Why are these firms so successful in the market? I believe it is because they have the culture, the ethos, and the vision to appreciate the importance that large data and predictive analytics play in our financial markets.

I learned computer programming when I was in high school. I employ a team of physicists, engineers, and individuals with backgrounds as diverse as meteorology and astrophysics. They are comfortable with large datasets and predictive analytics. It is know-how more akin to Silicon Valley than to Wall Street, but in this age of big data, it is the skill set that matters. We have the ability to assimilate vast amounts of information across different markets – foreign exchange, commodities, Treasuries – to help hone predictive analytics that assist us in traversing ever-increasingly competitive marketplaces.

I believe these skill sets will be found more and more in firms such as Citadel, firms that are actually well capitalized compared to what most people assume. We have roughly 40 percent of the capital base that Goldman Sachs had back in the early 1990s committed to our market making activities, and only to our market making activities.

Recommendations for the U.S. Treasury Market

Let me offer a couple of potential recommendations for the Treasury market.

First, and I cannot emphasize this enough, we must relentlessly drive to achieve nondiscriminatory access from a regulatory perspective. Do not underestimate the motivations of the current incumbent players to maintain a closed system; a system where firms that are new entrants cannot compete for customer business.

In the U.S. interest rate swap market, on the back of the Dodd Frank Act, we now have clearing for interest rate swaps. This permits firms such as Citadel to compete for end customers' business. Let us look briefly at what that new entry has looked like for the market, for market participants, and for end investors.

In late 2014, we transacted our first swap with an end customer and our market share was zero. Since the beginning of 2015, our innovative model has resulted in our market share growing dramatically. Today, on Bloomberg's swap execution facility, which is the largest institutional client trading venue for interest rate swaps in the United States, we enjoy the coveted position of being the number one liquidity provider by volume.

Over that period of time, we have seen bid/ask spreads compress by 50 percent in one of the single largest interest rate markets in the world. And I think it is 100 percent attributable to the regulatory success of mandated clearing and mandated open access and nondiscriminatory behavior.

And, just for context, where is the bid/ask spread for a 10 year interest rate swap today? Today it is between one tenth of a basis point and one quarter of a basis point. To put that in perspective, in the "good old days" in 1992, the average bid/ask spread for a 10 year interest rate swap was 3 basis points. Since then, the cost of trading has come down in interest rate swaps somewhere between a factor of 10 and a factor of 30.

Similarly, in equities, in the "good old days" when I used to trade from a phone in my college dorm room – we all remember how stocks were priced. A blue chip stock might have been quoted 60 to 60 $\frac{1}{4}$. Today, that quarter of a point spread is replaced by a penny on a stock that trades at multiples times the price. Electronic trading has revolutionized the end investor's ability to transact at far lower prices. This, of course, drives down the cost of capital and, in the case of the Treasury market, drives down the cost of issuance.

How important is nondiscriminatory access? Look at the credit default swap market and the banks' recent nearly \$2 billion settlement for allegations of anticompetitive behavior suggesting they went to great lengths to prevent entry by PTFs and others. Nondiscriminatory access is incredibly important to the functioning of our marketplace.

Second, another key topic is the regulation of Treasury trading venues. It is essential for our trading venues to have appropriate regulatory oversight. I believe there are a couple of elements that are important for the confidence of the market. The first is that the rules of the marketplace must be crystal clear and crystal clear to all. All access arrangements should be public, all fee arrangements should be public, and there should be a level and open playing field for all.

Kill switches at trading venues are of critical importance. There is no doubt operational risk exists in a world of electronic trading. I would love to tell you that we will live in an age where

there will never be a bug in a piece of software. It will not happen in my lifetime. Software is a bit different than buildings. This building has all kinds of inconsequential construction flaws, but it still stands.

In software, on the other hand, a misplaced semicolon or a variable with one letter off can crash a program or cause aberrant behavior. There is no tolerance for close – it has to be exact. Thus, trading venues need to have the ability, upon receipt of an aberrant order, to cancel the order at arrival in order to prevent that order from entering into the marketplace. For example, such a capability would have promptly halted the erroneous trading by Knight Capital that took place several years ago in the equity markets.

Even with these improvements, we will still see markets make violent moves, as violent moves are not due to market structure as much as they are due to human psychology. Can we describe the exact event that caused the flash rally in the Treasury market on October 15, 2014? No, we have our hypotheses, our theories. It had been a rough couple of days, people were short Treasuries coming into the day, and there were concerns the ECB was going to potentially ease. Then markets started accelerating to the upside, and all of us, including myself, wondered what news don't we know?

It takes humans a bit of time to get some confidence that there is nothing that they do not know before they step in and take the other side of a move in the marketplace. But compare and contrast this, again, to the “good old days.” My career started in September of 1987. What happened in the days before the great stock market crash of 1987? I remember the two news stories that, 28 years later, stick in my mind: one about Nancy Reagan’s cancer diagnosis and another about a skirmish in the Persian Gulf involving a U.S. warship. And the equity market in the United States crashed by 20-some percent. There will always be an element of human psychology in our markets. It is simply what it is.

Now, let me comment on the narrative that some firms supposedly nobly stand in the way of these market moves and commit their capital for the benefit of the end customer. You have all heard this speech many times from large banks and other dealers. However, you cannot name a securities firm of note that actually went broke in the crash of 1987 buying stocks from customers when the market was down 10 percent. I cannot find that firm and you cannot either, because no firm does that.

When prices are moving, market makers back away. The more information they have, the greater the confidence they have in returning to the market. Therefore, my third recommendation relates to post-trade transparency. Post-trade transparency is critical to healthy, functioning markets.

I view my ability to be a market maker in the United States as a privilege. It is a privilege to be able to trade in the most liquid market in the world, a well-regulated market, a market that defines the epitome of capital formation. It is one of the backbones of American prosperity.

One of the key public goods we create at Citadel is billions of quotations a day and millions of trades a day that are reported to everybody. Those quotations and those trades create confidence in the minds of retail and institutional investors, once again reducing the cost of capital and increasing liquidity. I will be so bold as to say it is shameful that we do not have such transparency in the single most important market from a public policy perspective in America – the U.S. Treasury market.

Every Treasury trade should be quickly and immediately reported to a central reporting facility, just as we do in the equities market. This will increase investor confidence. This will help to diminish the number of days that we refer to as flash events or crashes or corrections. Nothing like information readies people for those difficult moments in our financial markets. And, again, I stand here as the single largest market maker in the U.S. equity market arguing passionately for transparency. We have immediate reporting to the tape in the equities market. Our time from the execution of a trade to the reporting of that trade to the tape is measured in thousandths of a second, and that is the appropriate amount of time delay. Not 15 minutes, not two days. Fractions of a second.

Finally, without belaboring the point, there have been a number of speakers today who have talked about the importance of cleared repo. I could not agree more. We need a repo market that provides credit intermediation among market participants and that helps to reduce the amount of activity that has historically taken place within our banking system that is actually better conducted through a clearing house. It is important to reduce the bid/ask frictions in the cost of financing Treasuries. Financial markets do not trade to the average, they trade to the marginal. If the marginal buyer is an arbitrageur, and that arbitrageur does not have access to repo facilities in order to borrow and finance bonds, we will impose on U.S. taxpayers a needlessly higher cost of raising funds.

So I applaud the dialogue around cleared repo. I believe that the supplementary leverage ratio (SLR) is well intended and I would not walk away from SLR. I would embrace a more thoughtful alternative, which is to create a repo system that encourages arbitrage activity, reduces market inefficiency, and again, serves the interest of all American taxpayers.

With that, I would just like to conclude by noting that the U.S. enjoys the most efficient markets in the world. Citadel trades around the globe across a wide array of products. America's markets are not perfect by any stretch of the imagination, but they are the best. Venues for the trading of interest rate products in the United States – eSpeed, BrokerTec, CME – really are at the forefront of best practices, but this does not mean we cannot do better.

The discussion on how to improve market structure and resiliency is incredibly important. Every market maker who has a long-term view towards their business and towards our economy will support you in reform efforts 110 percent. And of all the reforms that I have mentioned, I feel most passionately about the need to end market segmentation. Bringing our two Treasury markets together, in my opinion, will significantly enhance transparency and fairness and will serve the interests of the U.S. taxpayer and investors around the world.

We look forward to providing regulators information in connection with the forthcoming RFI. And we hope it serves as a catalyst for reform and improvement.

Thank you so much, Antonio, for giving me the opportunity to speak today.