

## The Blockchain Disruption: Harnessing the Potential of Financial Technology

Opening Remarks of Michael Bodson, DTCC President & CEO

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*Remarks As Prepared for Delivery*

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Good morning, I'm Mike Bodson, President & CEO of DTCC. Thank you for taking the time to join us for a discussion on the topic of blockchain and opportunities for harnessing the potential of financial technology.

By a show of hands, how many of you have ever used Uber instead of a taxi or car service? How about Airbnb in place of booking a hotel room? And how many of you have paid for something using the Venmo app? It looks like many of you.

These are well-known examples of how technology is capable of disrupting and transforming an industry in the blink of an eye. We're seeing a similar trend on the business-to-consumer side of financial services, where firms like Lending Tree and Kickstarter are altering the relationship between banks and their customers. Now we are seeing that same phenomenon move to the back office – the area where financial transactions are processed.

Distributed Ledger Technology (DLT) or, as it's more commonly referred to, blockchain, is fairly complex, but at its most basic level, it is a digitally signed, decentralized encrypted electronic ledger – essentially, a record of transactions, assets or anything else that doesn't rely on an authoritative record-keeper. Another way to think about distributed ledgers is as a software and communications protocol that allows a ledger to be updated and shared by multiple parties so it provides one version of the “truth” but which also is crypto-secure and, in many instances, has no central controlling organization over it.

The most widely known use of DLT is serving as the technology platform that underpins the digital currency, or crypto-currency, known as Bitcoin. Over the past two years, this technology has gained widespread attention in financial services because its unique capabilities and features may enable it to modernize the post-trade environment in areas like clearance, settlement and payments.

### Overview of the Markets

Let me take a moment to give you a brief overview of the financial markets because it will help explain why there is excitement over the technology. A recent joint white paper on blockchain, prepared by Morgan Stanley and Oliver Wyman, estimated that the cost or revenue, depending on where you stand in the process, of securities trading globally is \$750bb. If you break these numbers down, they look like this:

- The sell-side, which are the brokers/banks and dealers, have two basic functions – primary activity, such as investment banking process and research, which totals \$60 bn, and trading/execution, which is \$165bb. In total, the sell-side equals about \$225 bb.
- The buy-side, which are the asset managers, total \$430bb.
- The cost of trading venues and post-trade, such as processing, central counterparties, central securities depositories, custodians and data services – that is, activities related to the exchange of securities versus cash in order to consummate trades – total \$80bb. Businesses such as DTCC, which act as central counterparties and securities depositories, account for \$8bb, or 1%.

While the cost of trading has been declining for many years, it still represents a significant amount of money. For most financial firms, which continue to struggle to generate a healthy Return on Equity in a challenging economic environment, the opportunity to reduce these costs is very appealing.

## Shaping the Future

As you may know, DTCC has a unique position in the marketplace. We are a user-owned and governed market utility and serve as the premier post-trade market infrastructure for the global financial services industry, including acting as the central counterparty for the cash markets in the U.S.

What that means is, if you trade shares of Apple stock on the New York Stock Exchange, for example, we process and handle that transaction after the trade is executed. In 2015, DTCC processed securities transactions valued at more than \$1.5 quadrillion over the course of the year and, on average, we process 110 million transactions a day.

The early perception among some was that DTCC was squarely in the sights of the would-be disruptors – and it was true. However, over the past year we have established the firm as a leader in advancing the use of distributed ledgers. We accomplished this by examining the technology and testing use cases, working with leading DLT firms, publishing a white paper on the technology and hosting a successful Symposium a couple of months ago that brought together leaders from across the blockchain spectrum.

As an organization that develops and uses technology to enable markets to operate safely and efficiently, DTCC believes this type of activity is consistent with our mission to drive innovation in post-trade processing.

Given our unique vantage point, we can say with certainty that the fintech revolution—including blockchain—is here. Therefore, market participants and policymakers need to be prepared to take advantage of the positive impacts the technology can deliver while, at the same time, strengthening the structure of investor protections that have been built over the past 70 years.

This morning, I want to focus on three topics related to that point:

- ◇ One, the drivers that have sparked interest in blockchain among many financial firms,
- ◇ Two, use cases we are pursuing at DTCC that highlight the potential positive impact of distributed ledgers on the industry and investors, and
- ◇ Three, our views on key areas of focus for the industry and policymakers to ensure that new innovations are in the best interests of market participants and support regulatory oversight.

## The Drivers Behind Blockchain

Let me begin by talking about the drivers that have made distributed ledgers a topic of great interest among financial institutions, which are expected to spend between \$100-200 million on blockchain this year alone.

Today, the infrastructures underpinning the global markets are reliable, efficient and cost effective. However, because they were developed piecemeal over the course of the last four decades, they are overly complex and siloed. As a result, there is room for improvement to streamline processes, and this has turned attention toward blockchain.

Additionally, while the post-trade environment has traditionally operated behind the scenes, it has come into sharper focus recently because many financial firms are under intense cost pressures due to historically low interest rates and stilted revenue growth. These dynamics are forcing them to look for areas where they can generate savings to increase profitability.

Furthermore, heightened regulatory scrutiny has led to capital constraints and the need for the industry to further reduce risk as firms come into compliance with new mandates stemming from Basel III, Dodd-Frank, EMIR and other measures.

Distributed ledgers represent a potential solution to some of these challenges because they may be able to eliminate multiple transaction steps and reconciliations that increase risks and costs.

## The Potential Impact on Financial Services

Now let me turn from the dynamics that are driving interest in blockchain to my second point and talk about the potential positive impacts of this technology by highlighting one of the use cases we're evaluating right now at DTCC.

However, before I do that, I want to stress a fundamental point – while we believe there will be many opportunities to improve the post-trade process by leveraging distributed ledgers, the technology is **not** going to replace the existing back office ecosystem. Rather, we expect that it will integrate into the current post-trade environment in certain areas where automation is limited or non-existent and where the technology provides a clear benefit over existing processes.

### Repo

Earlier this year, we began working with a firm called Digital Asset on a proof of concept to manage the clearing and settlement of U.S. Treasury, Agency, and Agency Mortgage-Backed repurchase – or repo – agreement transactions.

For those of you unfamiliar with the repo markets, they are very important to the functioning and operation of the financial markets. Indeed, problems in this market exacerbated the 2008 financial crisis. The market essentially is a short-term lending market, where firms borrow cash – usually overnight – and put up various securities as collateral for that loan. And the repo market is massive – \$5 trillion in notional outstanding.

We selected repo agreements because they fit the criteria I just mentioned – we see an opportunity to integrate distributed ledger technology into the current post-trade environment to streamline how these products are cleared and settled.

Today, DTCC acts as a credit intermediary to drive down risk in the repo markets, but under the current system there is significant intraday exposure, which equates to increased risk in the system. We believe that a distributed ledger can reduce the risk that exists throughout the day by eliminating the multiple steps and reconciliations that are currently required to clear and settle these transactions while also giving all parties to the transaction access to see the same information simultaneously.

When you consider the size of the repo market, which is about \$5 trillion, reducing intraday exposure would make the financial system safer and, therefore, better protect the investing public from unnecessary risk or potential systemic shocks.

We are at the earliest stages of this initiative, but we are excited by its potential to improve upon an existing process, drive greater efficiencies in the post-trade environment and reduce risk in the system.

## The Way Forward

While we won't know for some time whether distributed ledger technology can be applied broadly across the industry, what we are learning from the multiple use cases occurring across the industry today is that there is no turning back. New technology will disrupt the financial industry and, in particular, transform the market infrastructures that underpin the global system.

As a result, the industry and policymakers must be prepared for this innovation and take steps today to ensure that any changes to the post-trade process are in the best interests of market participants, support regulatory oversight and are consistent with long-standing goals of mitigating risk, enhancing efficiencies and driving down costs.

So let me turn to my third topic and share with you some thoughts on areas of focus for the industry and policymakers in the coming months.

### Standards & Governance

As interest in blockchain has grown, we have seen a frenzy of activity – mostly uncoordinated – of firms investing in research and development efforts. Today, virtually every major bank has created a blockchain lab or sandbox and is funding experiments across multiple asset classes.

While this level of activity may spark innovation and quicken development of use cases, the seemingly chaotic whirlwind of multiple and competing efforts has pitfalls. In fact, with so many firms working privately, the industry runs the risk of creating a new and disconnected maze of distributed ledger silos based on different standards and with significant reconciliation challenges – essentially the same issues we face with today's infrastructure.

This is why the industry must make it a priority to do the following two things:

- One, we need to promote industry-wide collaboration to take advantage of the opportunities offered by distributed ledgers.
- Two, we need to establish standards and a governance model that is in the best interests of post-trade processing and market participants. We believe the existing, regulated and trusted central authorities – companies like DTCC – should play a leading role in introducing the standards, governance and technology to support distributed ledger implementations.

### **Regulatory Issues**

As the industry pursues these and other initiatives, policymakers must also prepare for the emerging environment. In the months and years ahead, understanding how the technology fits into the regulatory framework will be critical to answering how the industry incorporates blockchain.

We do not expect that the regulatory framework, which has been created over the past 70 years, will change significantly or need to be replaced because of this technology. However, we anticipate that the framework will evolve because blockchain has the potential to give supervisors better oversight of the markets and a deeper understanding of risk.

We also believe that we have a responsibility to share our unique perspective and insights why this is the case, which is why we are here today having a discussion with policymakers like you. Thus far, the response among policymakers and regulators across the major jurisdictions has been encouraging. Almost all see the potential of the technology, although they are also identifying areas of concern that the industry will need to address before distributed ledgers can be rolled out more broadly.

We recently had the opportunity to help brief the IOSCO Board on the technology and its potential applications – just one example of meetings we've been holding with regulators to share our knowledge and expertise on the issue and to collect feedback from the policymaking community.

This level of engagement by industry participants will need to increase in the future so that we are all working collaboratively with key stakeholders and promoting a robust discussion on the technology. Because the primary goal of regulators and lawmakers is to ensure the stability and integrity of the marketplace, we look forward to continuing to engage with them as the industry progresses its understanding of distributed ledgers.

### **Conclusion**

In conclusion, we hope that today's discussion helps to advance our collective understanding of blockchain and its potential impact on financial services.

As I said earlier, we believe the technology holds enormous potential to modernize certain areas of the post-trade process. Its potential to lower both costs and risk in the financial services industry have been key drivers of the interest in the technology, and now we must do the work of proving its capabilities.

We expect that this will take time because, as of today, there is only one real-world application of the technology – Bitcoin – and the daily volumes in the crypto-currency are a far cry from the hundreds of millions of transactions that a company like DTCC processes every day.

We look forward to serving as a resource to you and your offices on distributed ledgers as you continue to learn about the technology. We encourage you to reach out to our team here in Washington, led by Mark Wetjen, to arrange a briefing. We are always happy to share information to advance understanding of financial technology and the global financial markets.

Thank you again for joining us today. It's always great to have an opportunity to talk to you and visit Washington.