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# **Blockchain in the Derivatives Market: Not to Be Dismissed**

Bill Dwyer, Managing Director, Corporate and Business Development, Numerix



\$2 billion. In just four years, that is how much venture capital firms have invested into blockchain startups. During this period, blockchain, or more accurately distributed ledger technology (DLT), has become a rapidly trending topic among investors and institutions. DLT advocates, and there are many who have popped up, say the technology can reinvent, revolutionize and redefine businesses and even whole economies. The hype can be irritating but, in my view, the fundamental transformative potential of the technology for the financial services industry is nevertheless enormous.

I recently participated in a “distributed ledger in capital markets” panel discussion at a Waters Technology Innovation Summit held in New York City, where we discussed the potential benefits, limitations and challenges of implementing blockchain technology in the capital markets. Given our expertise in OTC derivatives markets here at Numerix, I focused on this area in my own comments, but the panel as a whole covered a wider range of topics. The panel discussion was fun, animated, and a little bit contentious, which is as it should be: there is still a lot we do not know about the changes to come.

Coming out of the conference, I remain firmly convinced it is important that we pay attention to this phenomenon, understand how it can be a solution to some issues facing the derivatives business, and the barriers to adoption it faces.

## DEFINING BLOCKCHAIN

Blockchain is the distributed ledger technology underlying bitcoin and other cryptocurrency transactions. It is, in effect, a distributed database shared between participants that makes clever use of cryptography to enforce trusted transactions between parties in an efficient, verifiable and permanent way.

Though some remain skeptical about the technology, there is a great deal of enthusiasm for incorporating blockchain into a number of major fields, and one of them is the derivatives market.

## THE BENEFITS

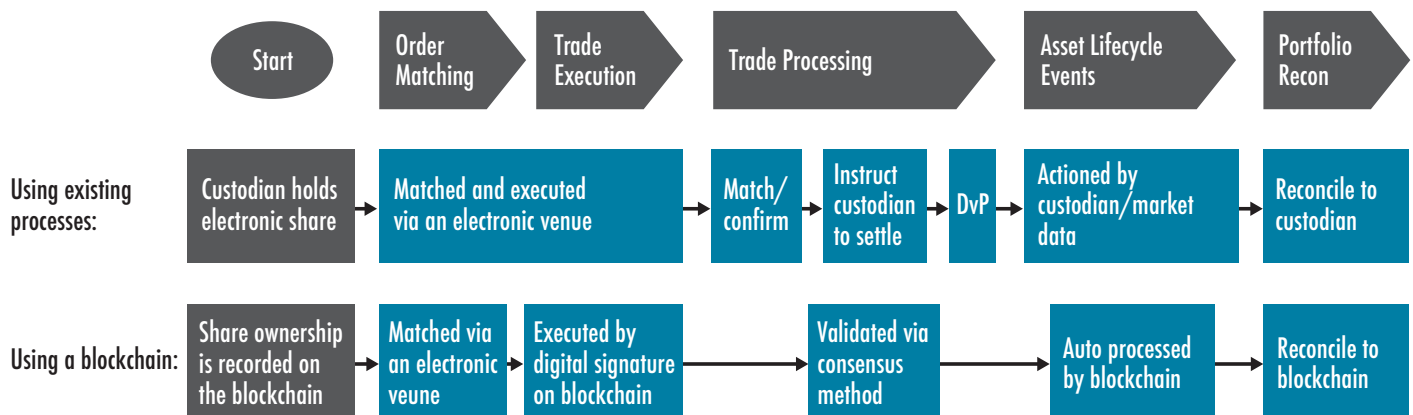
There is broad belief that distributed ledger technology, if implemented at scale, will change the way capital markets and Wall Street conduct business. The magic of distributed ledger technology lies in its potential to eliminate multiple layers of 3rd party “middlemen” from the value chain and replace them with a single shared ledger trusted by all parties. Transaction processing in many areas of financial markets is notoriously complex, inefficient, and involves a plethora of actors. DLT utopians envision a world where these processes are replaced by a bunch of shared ledgers, eliminating cost of middlemen, reconciliation, and vastly reducing transaction processing errors.

For OTC derivatives, the potential to record smart contracts, essentially self-executing bits of code which represent a trade, onto a distributed ledger has been flagged as a way to gain huge efficiencies in post trade processing. OTC trade processing is complex, very manual and inefficient, and the trades are long lived. A number of high profile initiatives

are underway in the OTC derivatives markets, most notably the DTCC-led effort around credit derivatives processing, and the ISDA Common Domain Model.

The benefits of greater efficiency and the streamlining of processes could create massive cost savings for financial institutions. [Goldman Sachs](#) estimates that implementing blockchains in markets for cash securities can result in \$11 billion to \$12 billion in annual savings to the banking industry, with additional savings if they were applied to derivatives markets.

### Changing the Trade Lifecycle: Existing vs. Blockchain Trade Lifecycle Processes



*Ernst & Young, in collaboration with Innovate Finance, published a [report](#) on blockchain, distributed ledger technology and the key issues that the capital markets must navigate in the regulatory landscape. The report includes this diagram, which demonstrates the current trade cycle for an equity transaction and where blockchain could sit within such a trade lifecycle.*

## BARRIERS TO ADOPTION

Despite its potential benefits, DLT faces barriers to implementation. Many technologists cite issues such as scalability and a lack of standards as major barriers; however, I do not share their skepticism. While scalability is a problem for the original “bitcoin blockchain” DLT platform, I am very confident that newer iterations of DLT will be entirely suitable to use in institutional capital markets.

Another oft cited barrier is the lack of a legal regime governing transactions recorded on a distributed ledger. It is undeniably true that there are significant legal questions around jurisdiction, enforceability, and implementation. It is my belief, however, that the legal issues can and will be resolved given the “size of the prize.” As in all things legal, it will take time, involve sometimes painful discussion, and require compromise.

In my view, the most significant barrier to DLT adoption in capital markets is a lack of alignment of interest among market participants. The market is full of participants—the buy-side, the sell-side, Tier 1 dealers, middle markets and regional dealers, SEFs, exchanges, technologists and regulators. Not all participants will benefit equally from DLT, and some may lose business because of it, or other participants may see insufficient gain

in investing in the technology, while some might see it as an outright threat (clearing houses and custodian banks are clearly an example). DLT is a shared technology that requires that participants all “buy in” to the change. Even if the industry as a whole has much to gain, resistance from some market participants could delay or even scuttle implementation. Leadership from regulators and market infrastructures (CSDs, exchanges) will be needed to drive change and persuade the reluctant.

## THE TABLE IS SET

Distributed ledger technology is still very much evolving and its large-scale implementation in the capital markets will take several years. Our panel was asked to opine on the question “How long will it take before we see major product DLT implementations in all major areas of the capital markets?” and our general consensus was “5 to 10 years.” As in past technology cycles, the hype has started to settle down and people are rolling up their sleeves and getting started along the long path to wider real-world implementation.

That’s why I am watching the evolution of blockchain with even greater interest. And while the technology is not yet delivering its full plate of potential benefits to the capital markets, one thing is sure: The table has already been set.

### ABOUT THE AUTHOR

**Bill Dwyer, Managing Director, Corporate and Business Development, Numerix LLC**



Bill Dwyer is a Managing Director in the Corporate and Business Development department at Numerix. He has over 20 years of experience in the financial services technology sector and has helped some of the world’s largest sell-side and buy-side institutions overcome their most complex business and regulatory challenges. Currently based in New York, Bill’s past experience has included stints with SunGard and Reuters in Paris, and Teknekron Software Systems (now Tibco)

in Luxembourg and Washington, D.C.

**Numerix LLC**

**Corporate Headquarters**

**New York**

99 Park Avenue

5th Floor

New York, NY 10016

Tel: +1 212 302 2220

[www.numerix.com](http://www.numerix.com)

