my observations

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Blockchain – the Next Big Thing?

CFTC Commissioner Chris Giancarlo has been using his public appearances lately to caution federal regulators to take a "first, do no harm" approach toward distributed ledger (DLT) or blockchain technology. Being the son and grandson of doctors (his mom was a nurse), his bioethics reference seems particularly apt as he counsels his fellow regulators. This new technology may indeed be the next big thing in secure, if not bullet-proof, process technology.

Commissioner Giancarlo has consistently advocated for the agency to proactively support the primacy of the US markets through innovation, be it policy or technology. Moving from systems-of-record at the firm level to an authoritative system-of-record at the market level is a very powerful concept. Giancarlo noted recently that, "Distributed ledgers have the potential to reduce some of the dependence on a trusted third party, mitigate centralized systemic risk, defend against fraudulent activity and improve data quality and governance."

How would a future with DLT co-exist with current regulations? Energy market participants are not expected to be first movers in adopting the many proof-of-concept trials under way. But once the greater marketplace tips toward DLT in some form, the energy sector can expect to be wrestling with adoption and related compliance issues. Specific to the CFTC, there are a number of regulatory and compliance issues that can be simplified through DLT.

One broad concern that Giancarlo has repeatedly cited is the general lack of transparency that regulators have in derivatives markets. DLT, with its shared ledgers that provide a complete record of transactions, can solve this concern through specially-permissioned regulator access. As transactions are executed on the shared ledger, they become part of the ledger itself, thus simplifying firms' recordkeeping processes. Giving regulators special access to the ledger also simplifies the reporting process. While not every participant on the ledger should be able to view every data input from every other party, regulators should have special access to view transactions across derivatives markets, and several of the trials currently being conducted incorporate such a feature. This is significantly more efficient than having parties report transactions to swap data repositories using data fields that may or may not match what is being reported to other data repositories. Monitoring position limits also becomes easier once regulators and market participants have a broader view of the market.

DLT and "smart contracts" also have the potential to revolutionize the portfolio reconciliation and compression process. A shared ledger could eliminate the need for portfolio reconciliation completely – once counterparties confirm the transaction on the ledger, it becomes part of the industry-wide recordkeeping system that is the same for all participants. And smart contract functionality could be built into the ledger to automatically locate and compress opposing transactions.

The concept of smart contracts is ideally suited to the derivatives market, since most derivatives trades are already built around ISDA templates. Last month, Barclays debuted a smart contract using R3's Corda technology, so we are already seeing results from innovation in this area. In this prototype for an interest rate swap, the smart contract connects to a rates provider to determine the monthly payments the paying party is required to make. Further iterations of this concept could be used to calculate and net out variation margin payments. If the payment calculations come from a trusted source such as a shared ledger, this results in cost savings (as the parties are no longer required to duplicate the calculations) and reduced potential for disputes. In the future, smart contracts could even connect directly to a party's bank account and automatically transfer margin payments.

Of course, none of this means that trading platforms and clearing agencies will disappear – instead, these entities will be on the forefront of implementing DLT and smart contracts. DLT has the potential to make near-instantaneous, straight-through-processing a reality, but trading platforms will still bring buyers and sellers together in places where there is the most liquidity, and clearing agencies will still stand behind their members' trades. Clearinghouses and trading platforms are ideally positioned to work to ensure that the many DLT prototypes are interoperable in order to foster a truly globalized marketplace.

In order for the concepts behind DLT to become marketplace reality, regulators and market participants will need to collaborate to ensure that current regulations do not stymie innovation in this area. The "do no harm" approach is only the starting point. As DLT moves into the mainstream, regulators will need to consider whether their rules should be amended to reflect updated technology. DLT can only be revolutionary if industry participants are allowed to use its full potential.

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