

# CSDS CAN BE WINNERS FROM DISTRIBUTED LEDGER TECHNOLOGY

**EquiChain is a paradox. Its vision of the transformation of the capital markets by distributed ledger technology is more complete than that of any of its rivals, yet the path it has chosen to the future is unarguably realistic. It will begin modestly, in the Cash Equity markets of the Middle East, but expects one day that markets everywhere will appreciate the reductions in costs and risks its platform will offer and inspire. CEO Nicholas Bone sees CSDs, as the entities into which securities are issued and through which they are exchanged, as primary beneficiaries of that transition and its aftermath - if they have the imagination to seize the opportunity.**

“We are looking to re-define the capital markets’ investment lifecycle,” says Nicholas Bone, founder and CEO of EquiChain, a distributed ledger technology-based equity capital market infrastructure. A challenge as bold as that is hard to achieve in developed markets. Which is why EquiChain is focusing initially on the emerging markets, which enjoy international standards of operation and regulation, but have less regulatory and infrastructural legacy to overcome.

“Emerging markets are well regulated, just not held back by decades of regulation that has yet to be adapted to post-crisis initiatives, or established institutions reluctant to embrace change,” explains Bone. “The exchange, the depository and the clearing house are often part of the same group. There is usually one regulator, rather than several. Above all, they do not have entrenched vested interests to overcome.”

As the name suggests, EquiChain aims in its initial phase at revolutionising the Cash Equity markets. This partly reflects the under-developed state of the debt markets in emerging economies, but also the comparatively finite levels of activity in debt instruments over their lifecycle from issuance to redemption. Equities, which are subject to a constant stream of corporate actions by issuers, offer a more interesting field in which to work, and to refine a robust, distributed ledger-based capital markets platform.

In fact, Bone predicts that EquiChain is more likely to expand into the most complicated asset class of all – derivatives – before it turns to the bond markets. Either way, Cash Equity is only a starting point. “Once we have developed the ability to issue an asset on to a distributed ledger, the technology will remain much the same, irrespective of the asset class,” he says. “Once we have solved for equities, we can adapt the platform to

derivatives. Under test conditions, we have proved we can already accommodate fixed income quite easily.”

EquiChain has identified the Middle East as the ideal test-bed, since officials in the region are keen to develop their financial markets, and see blockchain as a way of leapfrogging competitors for foreign capital. The Middle East also provides EquiChain with a manageable environment in which to refine its technology before exporting it to Africa and emerging Asian markets as well (Latin America and central and eastern Europe are longer term targets).

But Bone expects even the earliest adopters to test the EquiChain distributed ledger technology in markets parallel to the main exchange first - perhaps for smaller companies that have previously baulked at the cost of a full listing. “Once the platform has proved itself, it will make sense for all corporates to make use of its benefits,” says Bone. “So we expect entire markets to migrate to the new technology, but only over time.”

The observation illuminates a distinctive feature of the EquiChain offering. Other organisations looking to use distributed ledger technology to overhaul the way markets work tend to focus on improving one link in the chain, rather than revolutionising the whole process.

“If you try to bolt blockchain on to parts of the existing processes and procedures, such as proxy voting or corporate actions, you will create a faster horse, not a new car,” explains Bone. “If you do not make every link in the chain more efficient, from trading through to settlement, the efficiency gains are much smaller. Our goal is to truncate the sequential processes of today into a single process, in which the language of pre-trade, trade and post-trade is simply redundant.”

**“We are building a platform which will free new entrants as well as existing businesses to compete at every point along the value chain, from research to asset-servicing,” he says. “There will be more losers than winners, but the winners will be the participants that are agile enough, and imaginative enough, to take the risk of giving up their existing revenue stream in favour of developing a whole new revenue stream which is much bigger and more sustainable.”**

**- Nicholas Bone, EquiChain CEO**

Nobody could describe this as a truncated vision. If it is vulnerable to charges of being unrealistic, Bone is unapologetic. “If you just want to improve aspects of the value chain, there are technologies that can do that already,” he says. “In fact, blockchain may not even be the best technology to make those improvements. The industry has a long track record of retro-fitting new technologies to old processes, but the gains promised by this technology are so great that they warrant a complete re-think of how we do things. Capital markets based on distributed ledger technology are revenue generating, cost saving and balance sheet accretive.”

Certainly, if the EquiChain vision is ever fully realised, a string of reconciliation processes – pre-matching, matching, the delivery-versus-payment settlement process itself, income collection and allocation, corporate action notifications and instructions – will become unnecessary. Liquidity will be freed up, and capital consumption shrink as operational risk is reduced. The duplication of Know Your Client (KYC) work can be ended, because validated information will be stored on the distributed ledger, and be always up-to-date. Screening of transactions for anti-money laundering (AML) purposes might also become more efficient.

“A capital market needs a place where buyers and sellers can meet, and a mechanism to record transfers of assets between them,” says Bone. “That is all.” For the various intermediaries that make up the securities value chain today, that is a bleak message. But Nicholas Bone sees it differently. “We talk a lot about disintermediation,” he says. “We tend to forget the high barriers to entry erected by the various intermediaries, including the dependence on high volumes of assets and transactions to deliver the economies of scale needed to build a profitable business for each link in the value chain. The discussion

should therefore be around blockchain as a transformational enabler for incumbent intermediaries, as opposed to sounding their death knell.”

In his view, distributed ledger is more about opportunities for innovators than threats to incumbents. “We are building a platform which will free new entrants as well as existing businesses to compete at every point along the value chain, from research to asset-servicing,” he says. “There will be more losers than winners, but the winners will be the participants that are agile enough, and imaginative enough, to take the risk of giving up their existing revenue stream in favour of developing a whole new revenue stream which is much bigger and more sustainable.”

Building a platform that enables the imaginative incumbents not merely to survive, but to thrive, is a substantial claim for a FinTech start-up that has only just embarked on its Series A funding round. Bone counters that EquiChain has a working prototype already and, above all, that it is the brainchild of post-trade insiders, not technologists or traders. “There is no DLT company out there which has the same level of experience of post-trade and its problem areas as we do,” he says.

Bone himself has worked in securities services at three custodian banks. CTO Hugh Madden has already built blockchain solutions for cash payments in Asia at ANX International. The advisory board includes a former CEO of Standard Chartered Bank (Peter Sands), a former COO of Schroders (Markus Ruetimann), a specialist in securities law (Professor Eva Micheler) and a senior payments banker (Sonia Rossetti).

Experience tends to temper ambition, and the focus on emerging markets, equities and a gradual rather than sudden transition to the future is evidence of this. So is the decision

not to commit to a particular protocol: EquiChain will be capable of running on Ethereum, Hyperledger, Ripple, Multichain or Corda for the foreseeable future. This has the advantage of clearing technical obstacles to inter-operation with other distributed ledger networks. “We do not see any value to our clients in pinning our colours to a single mast,” says Bone. “Relative to our peers, we have the unique luxury of not being wedded to any one protocol, allowing us to remain agnostic over the medium term. This is highly important, given the nascent condition of the industry.”

But nothing illustrates the leavening of experience better than the clarity with which EquiChain outlines how its plans will transform the securities industry. According to Nicholas Bone, financial assets will be “isolated” – the neologism is telling – so that they can be tokenised. Tokenisation will convert rights of ownership in the financial asset into digital tokens which can be issued on to the distributed ledger.

Tokenising complex assets like securities is harder than tokenising fungible assets such as money, gold or commodities, but it is not unprecedented. Bone likens it to securitising mortgages, or creating a derivative. What tokenisation is manifestly unlike, however, is the method by which the securities services industry has treated financial assets since the late 1980s: immobilising or dematerialising them on a centralised ledger maintained by a central securities depository (CSD).

That said, Bone does not expect CSDs to disappear. Quite the opposite, in fact. He predicts that tokenised assets exchanged on a distributed ledger will still require CSDs to hold the equities which the tokens represent. On this view, CSDs will fulfil a crucial notary function, both as tokenising agents and as operators of the escrow accounts in which the real assets are held.

**“The winners will be the organisations that prove most agile, and able to adapt,” repeats Bone. “That may be the CSDs, but not as we know them today.”**

**- Nicholas Bone, EquiChain CEO**

It is not improbable. CSDs are, after all, the entities into which equities are issued already. “It is not impossible that custodians could fulfil the same role, but they are one step removed from the issuance process,” explains Bone. “The CSD is responsible for maintaining the integrity of the issue, so it is the single source of truth about how many assets are in issue.”

But Bone accepts that the real gains in efficiency, and the accompanying reductions in risk and cost, cannot be realised through tokenisation of real assets held in escrow accounts. They hinge on issuers issuing financial assets in fully digitised forms directly on to distributed ledger networks. One reason other blockchain start-ups have shied away from talking about that possibility is that, once it begins, every entity in the current securities value chain is at risk of disintermediation.

“There is only one link in the current chain that we can predict with certainty will survive,” says Bone. “That is the regulator. For every other entity in the chain – the exchange, the broker, the global custodian, the sub-custodian, the transfer agent, the registrar, the clearing house – the jury is out.”

On the most extreme reading of a future governed by distributed ledgers, even the regulator is reduced to no more than the creation and distribution of digital updates to existing regulations. Revisions to the rules can be embedded in smart contracts, which are absorbed automatically by members of the distributed ledger network.

In principle, this could dispense with the need for regulators to act as gatekeepers to regulated markets. But Bone thinks this notion remains futuristic. “The technology is moving fast, but open, public networks of the Bitcoin kind are difficult to envisage in a regulated industry such as financial services,” says Bone. “The networks we support will be ‘permissioned’ networks.”

By this he means that regulators will continue to license the entities admitted to distributed ledger networks, in much the same way that they govern entry to markets today. They will also, armed with a much greater degree of transparency into what is actually transpiring in markets every day, continue to monitor both regulated institutions and individual transactions.

This is another area in which CSDs can help. While regulators will set the standards for admission to the networks, the admissions tests are likely to be administered by others. The likeliest candidates for that role, says Bone, are the CSDs. “The regulators are unlikely to want to immerse themselves in the operational details of the authorisation process,” he says. “They will sub-contract that work to a trusted intermediary.”

In becoming the trusted gatekeepers to distributed ledger networks, CSDs have a head-start. They are already the first home of financial assets issued by corporate and other issuers, and guardians of the integrity of every issue they accept.

But Bone warns CSDs they will need to adapt to competition (there is nothing to prevent a custodian bank or group of custodian banks from applying for a CSD licence) and evolve to meet new demands (they will almost certainly need to add trading to their existing issuance, settlement and safekeeping capabilities).

“As I have said, the winners will be the organisations that prove most agile, and able to adapt,” repeats Bone. “That may be the CSDs, but not as we know them today.”

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