Capital markets and digital disruption

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Official Monetary and Financial Institutions Forum Roundtable (London, United Kingdom)
15 February 2016

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Introduction

I want to kick off this discussion today with some thoughts about what I see as a profound technologically-driven transformation of our economy – what I call digital disruption – and what this means for our capital markets.

I will make these comments with two hats:

- the first as Chairman of the Australian Securities and Investments Commission (ASIC); and
- the second as Chairman of the Board of the International Organization of Securities Commissions (IOSCO).

Let me make a couple of introductory comments about these organisations.

First, ASIC regulates conduct in financial services and markets in Australia. Our remit and objectives are broadly similar to those of the UK Financial Conduct Authority.

Second, IOSCO. As the title indicates IOSCO is an organisation which brings together markets regulators from over 120 jurisdictions – which together represent over 95% of the value of global capital markets.

It is the key global reference point for financial services and markets regulation globally – identifying emerging risks; developing guidance to deal with those risks; and supporting members in supervising and enforcing that guidance.

IOSCO has been particularly active in the post-global financial crisis period developing guidance and standards for our members across a number of areas, including financial benchmarks, deterrence models, financial market infrastructure and over-the-counter (OTC) derivatives markets – to name just a few.

Our key objectives are to ensure investors have trust and confidence in capital markets, that those markets operate in a fair, efficient and transparent way and the systemic risks they pose are mitigated. By doing this, we are working to ensure capital markets can do their job – of supporting the real economy and economic growth.

This morning in my introductory comments, I would like to touch on three things:

- first, the changes I see digital disruption bringing to existing business models
- second, the potential these developments have for capital markets as we know them, with particular reference to the emergence of blockchain technology, and
- third, how regulators – and particularly markets regulators – are responding.

My main message is that digital disruption has enormous potential to reconfigure and radically improve the efficiency of global capital markets. I see this happening because investors, and businesses looking for capital, will have more direct, more immediate and cheaper access to each other. And what this means for us as regulators is reconfiguring our tool kit around the end users of our markets – businesses and investors and how they behave.

Given the speed of change – we need to think about that tool kit now.

Changes digital disruption is bringing

Let me now turn to the changes digital disruption is bringing to capital markets. There are real opportunities.

The banking sector has seen massive innovation in the last 30 years – innovations like credit cards and ATMs, which were developed by banks to facilitate customer access. But now, innovation is going beyond the banking system.

Businesses have seen the potential for new ways of directly creating and sharing value with technologically savvy investors and consumers. Examples include:

- peer-to-peer lending/marketplace lending
- robo-advice or digital advice
- crowd-sourced equity funding, and
- payments infrastructures (e.g. digital currencies and Apple Pay).

All these innovations have the potential to change the way that investors and financial consumers interact with financial products and payments.

Potential these developments have for capital markets

To help understand the significance of these developments, I'd like to talk in more detail about blockchain technology. This technology has the potential to fundamentally change our markets and our financial system.

What is blockchain technology?

So what is blockchain technology? By now many of you probably know a little about it.

Blockchain is the technology that underpins bitcoin and allows bitcoin to be traded without a centralised ledger (which gives it its other name – distributed ledger technology). But blockchain is much more than just bitcoin.

In basic terms, it is an electronic ledger of digital events – one that's 'distributed' or shared between many different parties, together maintaining a continuously growing list of data records.

It has three key features:

- First, it is a vehicle for transferring value and holding records – each transaction or record is evidenced by a unique data set or 'block' that attaches to the continuously growing blockchain.
- Second, it does not involve a central authority or third-party intermediary overseeing it, or deciding what goes into it. The computers that store the blockchain are decentralised – and are not controlled or owned by any single entity.
- Third, it creates its own trust. Every block in the ledger is verified by parties interacting on the blockchain through a consensus algorithm. Each block is connected to the prior one in a digital chain algorithm. It is this verification process and decentralised nature that creates the trust.

How can blockchain transform capital markets?

So why does blockchain have the potential to transform capital markets?

I see five reasons – which together have the potential to deepen and support sustainable liquidity in capital markets globally:

- *Efficiency and speed*: Blockchain has the potential to simplify or automate processes that commonly take a number of days but could happen instantaneously – reducing counterparty risk.
- *Disintermediation*: Blockchain could eliminate the need for 'trusted' third-party intermediaries. In traditional markets, buyers and sellers develop trust in the system by using intermediaries. With blockchain, the decentralised ledger offers this trust.
- *Reduced transaction costs*: By eliminating the need to use settlement and registration systems and other intermediaries, transaction costs for investors and issuers could be reduced.

- *Improved market access*: Because blockchain knows no geographic boundaries, investors and issuers could more easily issue and invest in debt and equity securities across borders.
- *Transparency*: Because blockchain is updated in real or near-real time, everyone sees the same version of the truth at the same time, making markets more transparent.

Naturally, harnessing this potential will depend on the integrity, capacity and stability of blockchain technology and processes. It will also depend on industry's willingness to invest in, and make use of, new ways of doing business – particularly in settling and registering transactions.

The potential is, nonetheless, enormous. Industry is seeing that potential and is looking to see how it might adapt what it currently does to harness these opportunities.

The investment in investigating these opportunities is significant, with total global investment in over 750 blockchain start-ups recently exceeding USD1 billion.

Blockchain developments

Although much work has been done in digital currency, the use of blockchain is being explored in other areas. Let me mention five:

- *Clearing and settlement in traditional securities markets*: Earlier this month, the ASX announced that it will work with a company called Digital Asset to explore the use of blockchain to clear and settle transactions in equities market.
- *Private equity transactions*: The US stock exchange, NASDAQ, has implemented the first production-ready distributed ledger to issue and trade private market shares.
- *Government bond trades*: A US firm is developing a way to record and settle short-term government bond trades on a distributed ledger.
- *Money transfer*: In Mexico City a firm has developed an app that lets visitors send money through the blockchain to Mexico and withdraw cash from ATMs.
- *Foreign exchange*: A number of Australian banks are testing direct settlement between cross-border payment networks in the foreign exchange industry, rather than using correspondent banks.

How regulators are responding

I have talked about the opportunities blockchain can offer. But, as I have said, these opportunities can also threaten our strategic priorities of investor trust and confidence, and fair, orderly, transparent and efficient markets.

Right now, we don't know the full extent of how blockchain or other disruptive technologies will evolve. But we can already see that distributed ledger technology is gaining significant interest and momentum around the globe.

Blockchain will have profound implications for how we regulate. We will need to find the right balance between speed of execution and streamlining of business processes. As regulators and policy makers, we need to ensure what we do is about harnessing the opportunities and the broader economic benefits – not standing in the way of innovation and development. At the same time, we need to mitigate the risks these developments pose to our objectives. We also need to ensure those who benefit from the technology trust it.

At the end of the day, we are working to ensure that investors and issuers can continue to have trust and confidence in the market.

Domestic responses

Members of IOSCO are responding to these challenges in a number of ways. Let me run through five sets of responses – each of which ASIC is doing undertaking.

- *Education*: We are supporting investors and financial consumers in understanding the opportunities and the risks of using the technology.
- *Guidance*: We are providing guidance to industry about how to navigate through what often seems a regulatory maze. Much the innovation in financial services comes from start-ups and from outside the regulated sector. Authorities in a number of jurisdictions, including the FCA and ASIC, have set up innovation hubs designed to make it quicker and easier for innovative start-ups and fintech businesses to navigate the regulatory system we administer. These hubs provide us with important information about the developments that are on the horizon, and how they might fit into the current regulatory framework – or how that regulatory framework might change.
- *Surveillance*: We are monitoring the market to understand how investors use technology and financial products, and the risks that arise. In the case of blockchain, there is a need for regulators to focus on and understand a number of issues, including:
  - how blockchain security might be compromised
  - who should be accountable for the governance of services that make blockchain technology work, and
  - how transactions using blockchain can be reported to and used by the relevant regulator.
- *Enforcement*: We are working to understand how enforcement action can be taken where a transaction entered into here or overseas is recorded in the blockchain.
- *Policy advice:* We are starting to think about ensuring the right regulation is in place to protect investors and keep them confident and informed – without impeding innovation.

How IOSCO is responding

The challenges of blockchain cannot be managed by individual jurisdictions acting on their own. Multilateral action is needed. This is where IOSCO has a role. We have the opportunity to ensure a co-ordinated and co-operative approach.

We've been active in four areas:

- *Identifying and understanding risks flowing from digital disruption to business models*: The IOSCO Board will be meeting later this week in Madrid about blockchain to get a better understanding the opportunities and implications.
- *International policy space*: Our work here is about designing regulatory toolkits for use by our members that are flexible, creative and that address the balance between ensuring investor and financial consumer trust and confidence on the one hand, and not stifling innovation on the other.
- *Cyber resilience*: We have published guidance with the Committee on Payments and Markets Infrastructure that will help strengthen the cyber resilience of financial market intermediaries. We will be supplementing this in coming months with a toolkit of measures our members are using in other parts of capital markets.
- *Strengthening cooperation*: We are working on enhancements to IOSCO's Multilateral Memorandum of Understanding (MMoU) to deal with the new technological environment in which we are operating.

The MMoU is a cooperation arrangement that enables 105 regulators to share information to combat cross-border fraud and misconduct. These enhancements will make it easier for us to take action in relation to cross border transactions.

Conclusion

In summary, my main message is the need for us to recognise and harvest the opportunities digital disruption and blockchain offers, while mitigating the risks to consumer trust and confidence.

We want to help industry to take advantage of the opportunities on offer, whether it is from blockchain technology, or other innovations – but not at any price.