

# The OECD and the Blockchain Revolution

*Presentation by Greg Medcraft  
Director, Financial and Enterprise Affairs, OECD*

*OECD Friends of Going Digital Meeting, Paris  
Thursday 29 March*

*Check against delivery*

Ambassadors and colleagues.

Many of you will have heard me speak of the transformative potential of blockchain in other meetings here at the OECD. Some of you may have come to one of the briefings for delegations and staff we've held recently on the technology and its applications.

I first started speaking publicly about blockchain in 2015 in a speech for the Carnegie Mellon's Distinguished Speakers series, as the chair of the Australian Securities and Investments Commission.

At this point I was focused on blockchain's applications in financial services and markets – in particular the pilot of the ASX blockchain-based clearing and settlement platform – because I was the nation's financial services and markets regulator.

The intervening years have served to highlight just how far-reaching the impact of blockchain is poised to be on our markets and our economies – digital and real alike. This is a technology that goes far beyond finance and far beyond the bitcoin hype.

I'm going to cover three things this afternoon:

1. Blockchain's benefits and its risks.
2. What we as policymakers can do to help harvest the benefits and mitigate the risks
3. The role of the OECD in achieving this.

## **1. The benefits and risks of blockchain**

I will start by first laying out the core characteristics of blockchain and the benefits it could bring to business and government. I'll then explore the risks.

Blockchain works through a distributed ledger – a database of transactions or other data shared across multiple independent computers. This fully decentralised network runs on a mutually agreed protocol to record transactions and data.

The ledger can be conceptualised as series of blocks, each detailing a transaction or other data, chronologically linked in a chain that cannot be modified without the agreement of the network’s participants, making the blockchain an immutable record.

The distributed, protocol-based nature of blockchain is the key to its potential. It gives rise to:

- Transparency.
- Traceability.
- Trust.

I see blockchain’s potential coming from its 3 key use cases:

1. Secure transfer of value;
2. Secure transfer of data;
3. Cyber-security and privacy, provided by its distributed nature of nodes.

These three uses have so far been applied mostly to digital assets. Yet, through “tokenisation”, physical assets can also be registered and transacted. This expands the power of blockchain exponentially – to the point where the technology has the potential to completely revolutionise our economies and societies.

Blockchain’s benefits for businesses include:

- Reducing the number of intermediaries needed for any type of transaction.
- Improving the transparency and traceability of goods in the supply chain.
- Speeding up payments and reducing costs.
- Increasing security and privacy of data and assets.
- Improving access to markets and financing, particularly for SMEs.

The benefits of blockchain for governments are no less impressive and a cover wide range of areas. Some of the top applications being explored or implemented are:

1. Land transfers and property title registrations;
2. Personal identification and passport documentation;
3. Management of health records;
4. Vehicle registrations; and
5. E-government applications that require secure identity verification, like online voting.

And there is the potential to apply distributed ledgers to tackle international policy issues, such as:

- Due diligence in global supply chains.
- Facilitating the automatic exchange of information between tax authorities.
- Anti-money laundering and tracking development aid.

To give just a few examples of blockchain innovations currently in their early stages:

6. Chinese insurer ZhongAn's *GoGo Chicken* product, which combines blockchain and artificial intelligence to provide assurance on the provenance of chickens to consumers in-store, *and* to set up smart insurance contracts for farmers for unexpected death of chickens due to fire, flood, etc.
7. The World Wildlife Fund is tracking tuna in Fiji from the catch to the store, to manage stocks and prevent illegal fishing.
8. Peat Resources, a Toronto-based company is using blockchain meet the OECD Due Diligence Guidance on Responsible Mineral Supply Chains in its cobalt mining operations in the Democratic Republic of Congo.
9. The pilot in the Swiss city of Zug to use distributed ledgers to secure and manage a digital ID to access government services
10. Pilots by central banks such as the Monetary Authority of Singapore to use blockchain for clearing and settlement of payments and securities.
11. Initial Coin Offerings, a form of blockchain-based, crowd-sources fundraising which have raised over USD 8 billion for start-ups in the past 18 months.

This list is already impressive but this is just the beginning. We will be seeing many more applications develop over time which we can't even imagine today.

And actually, I see a model like ZhongAn's as the future of the digital economy. Chinese companies are combining artificial intelligence, big data and blockchain to develop powerful systems that drive innovation in digital products and services, and meet customer needs, like never before.

Of course, these innovations come with risks, and I see three areas in particular:

1. Consumer and investor protection
2. Cybersecurity
3. Privacy

I'd like to unpack each of these briefly, because while they are risks, there are opportunities here as well.

1. Consumer and investor risks are not based on an inherent trait of blockchain but in the way it currently interacts with markets – particularly financial markets – and in its potential for technological disruption.

- Market participants' lack awareness of regulatory frameworks that might apply.
- The largely unregulated nature of these markets raises a range of investor protection, governance and market integrity issues.
- There is a longer-term risk of financial exclusion if the technology leaves some consumers behind.

2. Cybersecurity is much discussed in the cryptocurrency markets because of high-profile theft of assets like bitcoin, and scam Initial Coin Offerings.

- Cryptocurrency theft is committed by stealing individuals' cryptographic keys, not hacking the network. It's akin to stealing a bank card and its PIN, rather than robbing a bank.
- No network is invulnerable, but if the entry points or nodes are secure and widely distributed, blockchain networks could be more secure than the large centralised databases which can be very attractive to cyber criminals.

3. Privacy concerns relate to the security, ownership and use of personal data stored in distributed ledgers – but as we are seeing more and more, this is a growing concern no matter how data is stored, whether stored centrally or on distributed nodes.

- Recent hacks on systems containing sensitive personal information like Equifax or the questionable use of data on Facebook have only served to make the questions around internet privacy and data governance more urgent.
- The EU's General Data Protection Regulation goes some way in addressing the desire for people to be in control of their own data, and bring transparency to the organisations which hold it.
- Blockchain could actually take this one step further. Distributed ledgers and cryptography could enable individuals themselves to own and control elements of their own online identity.

## **2. What can policymakers do?**

The ultimate impact of blockchain will depend on the ability of governments to develop the right policies to harness the potential benefits of the technology while mitigating its risks and potential for misuse.

To this end, policymakers' efforts should be guided by three objectives:

1. To be pro-active and forward looking. This will help us avoid regulatory knee-jerk reactions and resist the temptation to jump in before we properly understand developments.
2. To ensure regulators and policy-makers keep up to date with the rapid changes brought about by new distributed ledger applications, and the need to build up their capacity to understand and deal with these innovations.
3. To ensure a coordinated approach on two fronts:
  - 1. First, working collaboratively with key stakeholders, including industry, academic and consumer groups.
    - Industry Standards, such as those of the ISO, are important to assist build trust in the technology and guide new business models.
    - Industry standards can support can support policymaking and regulation but do not necessarily replace the need for the rule of law.
    - We need a mix of industry standards, policies and regulation to create the right co-regulatory framework.
    - Working across and within sectors is critical. Blockchain will pose different regulatory challenges in different sectors. We must have a harmonised approach to ensure interoperability both within and between sectors – this connectivity is important in realising blockchain's full potential.
  - 2. Second, internationally. The global nature and inter-connectedness of markets call for international co-operation to avoid regulatory fragmentation, curb incentives for regulatory arbitrage, and spread best practice. Global standards will be an important tool to achieve both of these.

Recent experience with Initial Coin Offerings illustrates these points.

The first ICO took place in July 2013 but ICOs have only gained momentum very recently – as of today, over USD 8.8 billion have been raised through ICOs, the vast majority in the past 18 months.<sup>1</sup>

---

<sup>1</sup> CoinDesk (2018), ICO Tracker database, accessed 8 March <https://www.coindesk.com/ico-tracker/>

ICOs are a new venture capital funding model not only for start-ups but also for more mature firms, as shown by Telegram's plan to issue the biggest ever ICO, through which it expects to raise funds well above the USD 1 billion mark.

The potential is clear, and it is already attracting considerable use. However, ICOs currently suffer from 3 issues that give rise to legitimate market integrity and investor trust concerns:

1. They often escape regulatory oversight.
2. There is a lack of global industry standards to support investor confidence.
3. They are prone to overvaluation due to wider cryptocurrency speculation.

So far the response from regulators has been fragmented:

- Many are applying existing regulation to ICOs on a case-by-case basis;
- Others acknowledge that most ICOs largely fall outside the realm of law and supervision;
- Several authorities have issued investor warnings about ICOs;
- While others have effectively banned them outright.

Industry and investors lack the kind of certainty needed to fully realise the potential of ICOs, while the regulatory and legal void makes criminal activity difficult to detect and counter.

Many of these regulators are beginning to consider long-term policy responses. But as the wide range of treatments across jurisdictions shows, those efforts must be co-ordinated internationally.

Which brings me to my final point.

### 3. The role of the OECD

International co-operation on the development of blockchain is particularly important to achieve four objectives:

1. Exchange information and identify emerging best practices.
2. Prevent regulatory arbitrage and avoid market fragmentation, which will enable efficiency and scaling of business.
3. Establish greater legal certainty.
4. Raise awareness of the potential risks but also benefits.

As I've already mentioned, the OECD is uniquely placed to help achieve these goals, because we:

1. Provide a forum for exchange of views across a wide range of policy areas.
2. Develop relevant international standards and guidance.
3. Provide capacity building to both members and partners.

I'll now go into each of these core competencies in more detail.

First, as a forum for exchange across a breadth of issues, the OECD must already consider the impact of blockchain on our existing work – this is illustrated in the table provided at the back of this session's background note.

Some areas we've already started considering are:

- Tracing inputs into global value chains, for example in the footwear and textile sector, food and minerals.
- Facilitating better access to finance for SMEs.
- Combatting tax avoidance and evasion.
- Creating digital land titling and registries to help citizens prove their identity.
- Increasing the efficiency and transparency of public services.

There have been several recent opportunities to better link governments to each other and with industry, and more coming up:

- In January under the OECD Responsible Business Conduct Committee, we established a task force in the global Footwear and Garment industry to look at the application of distributed ledgers in supply chains. We expect this to expand to other key sectors

- Earlier this month, regulators from the 40 member countries of the joint OECD/G20 Taskforce on Financial Consumer Protection discussed experiences dealing with ICOs, consider potential good practices going forward, and identify future avenues for cooperation.
- At the end of April, the OECD Committee on Financial Markets will consider policy issues in the ICO market.<sup>2</sup>
- In May<sup>3</sup> we will host a forum on digital assets to discuss challenges posed by technologies like ICOs, and consider policy responses with key industry players, other international organisations like the FSB and IOSCO, and regulators.
- In early June,<sup>4</sup> the OECD Competition Committee will hold a hearing with outside experts on “Blockchain and Competition” to start identifying potential competition and regulatory law issues.
- In July<sup>5</sup> the OECD will host a major blockchain conference here in Paris, where policymakers, business, academics and consumer groups will come together to consider the policy issues posed by blockchain, and consider what more needs to be done to best capture its benefits.

Blockchain is already impacting the work of many of our committees. We need to ensure that our efforts are linked up horizontally across the organisation.

We also need to anticipate the needs of our members, and be proactive in bringing forward promising new approaches that will help meet our economic and social challenges – and blockchain surely falls into this category.

Second, on standard setting – the OECD’s capacity to develop guidance for governments and international standards could be a powerful tool in responding to the strong demand we’re seeing:

- From business – currently developing business models but facing regulatory uncertainty;
- From governments – wanting to develop balanced and harmonised regulatory frameworks.

---

<sup>2</sup> 26-27 April 2018

<sup>3</sup> 15-16 May

<sup>4</sup> 8 June 2018

<sup>5</sup> Date TBC



There are existing policy tools which could provide a useful starting point in establishing joint frameworks for blockchain governance, and addressing some of the risks I mentioned earlier, such as:

- the G20/OECD Principles of Corporate Governance, which covers governance of markets and entities
- The OECD Observatory of Public Sector Innovation's guidance to support government innovation and embrace of technology – including its upcoming 'Blockchain Unchained' report.
- The OECD Guidelines on the Protection of Privacy and Transborder Flows of Personal Data
- The G20 High-level Principles on Financial Consumer Protection, developed by the OECD and other standard setting bodies
- The OECD Guidelines for Multinational Enterprise, and related due diligence guidance in a number of key sectors, including food and minerals.

We recognise that the OECD has certain comparative advantages as an organisation, and that working with other standard setting bodies on this is critical. For example:

- The ISO is advanced in its development of technical industry standards for blockchain, which the OECD is observing. We can ensure that their technical standards are reflected in our advice to governments.
- And we are working on ICOs with international counterparts like the International Organization of Securities Commission (or IOSCO) and the Financial Stability Board. The many issues raised by ICOs cut across our different remits and our response needs to be harmonised.

And finally, on capacity building.

Linkages to blockchain will likely continue to arise in various committees and discussions across the organisation, and that work will bear valuable lessons, best practices and principles which should set the foundation for a harmonised, coordinated policy approach.

The OECD can provide assistance to members and the many governments we partner with to make sure good policies are implemented and translate to tangible outcomes.

## Conclusion

To conclude, let me reiterate:

- Blockchain is transformative, and will touch many parts of the economy.
- Governments need to develop the right policy environment to help blockchain innovations and applications flourish.
- And the OECD has a role to play in getting this right.

Thank you. I welcome your questions and comments.