

# Risks and opportunities of Blockchain and Distributed ledgers

25 April 2017

## REPORT



On 25 April 2017, ACCA (the Association of Chartered Certified Accountants) and EY organised a conference called “Risks and opportunities of Blockchain and Distributed ledgers” to stimulate reflection and discussion on the complicated, controversial and fast-moving blockchain and distributed ledger technologies (BDLTs), seeking to try and understand their potential and limitations.

After a welcome address by **Andrew Hobbs**, EMEIA Regulatory & Public Policy leader, EY, keynote speeches were delivered by **MEP Cora van Nieuwenhuizen**, EP rapporteur on FinTech, and **MEP Eva Kaili**, Chair of Scientific Foresight Unit (STOA), **Narayanan Vaidyanathan**, Head of Technology Insight, ACCA, moderated a lively panel discussion entailing **Tobias Mackie**, Member of the FinTech Task Force, DG FISMA, European Commission, **Elizabeth Krahulecz**, Director - Head of EMEIA Regulatory & Public Policy of EY Brussels Office, **Mathias Bucher**, Founder and CEO of Blockchain –Innovation and a lecturer at the Lucerne University of Applied Science and Arts, and **Siân Jones**, Founder of EDCAB- European Digital Currency & Blockchain Technology Forum. **Adam Farkas**, Executive Director of the European Banking Authority, gave the final keynote speech.

The debate revealed that

- It is too early to contemplate regulatory solutions for the newest technologies.
- The future EU legislation and supervision for FinTech should be risk-based and proportionate to avoid hampering the emergence of this new sector with too rigid rules which would punish innovators. Focus should be on creating an enabling regulatory environment.
- It is now time for testing, looking at all the potential applications for blockchain, both from a public and private sector perspective, in a collaborative -and inclusive way.
- The very important issue is the improvement financial literacy, including financial and accounting skills of individuals, and the current skill gap coupled with the difficulty to attract talent with generous remuneration.



### **Main highlights:**

#### **Andrew Hobbs, EMEIA Regulatory & Public Policy leader, EY**

- Last year EY recruited more than 65000 people around the world. The average employee age at the EY is 29 – it is a young organisation.
- This is the day and age where technology companies are gaining value at shocking speed. Technological shifts are creating great opportunities to define new industries and develop new business models.
- Professional Services Firms like EY are working to keep up the pace with innovations. Companies are not immune to disruption themselves. Advancements in technologies will enable firms to give even greater confidence to stakeholders.
- Audit in 2030 will be a very different product than it is now because of technology. Auditors already need to have more diversified skills. Audit firms are looking to recruit more science, informatics and mathematics graduates. This will allow leveraging new technology and improving audit quality.

#### **MEP Cora van Nieuwenhuizen, lead EP rapporteur on FinTech**

- Everyone should be encouraged to experiment with bitcoin in order to see what it can offer. It is not a currency – it is a commodity because there is no VAT on it as a consequence. It is surprising how many places already accept bitcoin.
- There are also several downsides to it precisely because of the absence of VAT. These are the tricky questions for governments all over the world.
- Blockchain connects different sectors with each other and it forces actors to change their roles.
- An important distinction needs to be made between public and permissioned Distributed Ledger Technology (DLT). Bitcoin has been linked to anonymous and criminal online transactions. The permissioned DTL provides more innovative opportunities for FinTech entrepreneurs. Permission often means departure from anonymity, which takes many other concerns away. But it also means that permission blockchains can be tailor-made and potentially used for high variety of use cases. We should embrace these possibilities and it is not a choice if we don't want to lose our competitive position as Europe in the world.
- Europe doesn't have the best starting position, given that the big European banks faced legacy issues as they struggle to adapt to new technology. Besides, Europe

does not have the best legislation to support this new ecosystem. And it is finding it difficult to fill the skill gap and to attract talent with generous remuneration.

- We need to look forward and past the financial crisis because the rest of the world is moving on. When it comes to the global race to FinTech, it is important to remember that if we are not at the table, we will be on the menu.
- As regards to policy, it is still too early to take targeted policy actions. It is now up to the markets to identify how blockchain technologies can be used. [The European Parliament's report on FinTech](#) , adopted on 17 May, emphasises that this technology is still at an early phase.
- At this stage policy makers can focus on organisation of an annual multi-stakeholder conference on unpermissioned public blockchains.
- We should call for increased experimentation with blockchain technology by entrepreneurs and supervisors together. We should create a mental shift from supervisors that are focussed on rule-based and ticking-box exercises, and move towards supervisors with more positive and innovative thinking.
- Policy makers should also raise awareness because many people still don't know what blockchain is and how it can be used. Increased knowledge can lead to easier acceptance.

#### **MEP Eva Kaili, Chair of Scientific Foresight Unit (STOA)**

- Blockchain is not a solution trying to find a problem. It reflects the characteristics of the New Economy and the new way of thinking where we move away from traditional banks. The New Economy is not an abstract notion anymore.
- Traditionally we perceived Economy in Michael Porter's terms of a chain of value creation. In every stage of the production (the value chain) market participants exploit their competitive advantage and deliver their contribution to the next ring of the value chain. It is predominantly a "system of intermediation and distribution".
- The traditional value chains, favoured incremental transaction costs. Transaction costs were the glue of the value chain system.
- The information Technology and the Internet drove the transaction costs down. By doing so, the weakening of the glue of the traditional value chains weaken the structures that put the traditional value chains together, so the industries had no incentives any more for vertical integration.
- The new economy offered solutions that are cheaper and easier to access. Blockchain gives the control back to the citizens. This also changes the understanding of distances because the new transactions have no borders.
- Blockchain is not a pioneering technology: it is the infrastructure of the new economy. It is the infrastructure that will enable the exchanges of the Value Web.
- Blockchain enables to make smart contracts (e.g. transfer of property without the need of notary) and transfer of immaterial value, copyrights, ideas, creative content.
- FinTech is not a "financial revolution" it is better banking (usage of data structuring and artificial intelligence for better allocation of capital and risk). Blockchain empowered financial interactions without banking.
- FinTech is "branch-less" banking. Blockchain is "bank-less" financial system.
- We need to explore how to use this technology in the best way and figure out what kind of legislation is needed. We also need to assist SMEs that are using it. Banks need to be open to the newest technologies. We must improve the digital literacy, financial and accounting skills of individuals.

- We need better incentives for market development and our regulations should be technology neutral and business model neutral.
- EU should develop blockchain platforms. Strengthening the blockchain infrastructure is critical for the success of the EU Digital Market Union and the achievement of the Capital Markets Union.
- The priority of the Scientific Foresight Unit (STOA) is to put Blockchain at the core of the works of the ITRE Committee of the European Parliament in the next 2,5 years. STOA, European Parliament & DG CONNECT, European Commission organised an event on 11 May 2017 called "[Spotlight on blockchain: a new generation of digital services](#)".

**Narayanan Vaidyanathan**, Head of Technology Insight, ACCA and lead author of the [ACCA's professional accountant's guide to distributed ledgers and blockchain](#)

- For the accountancy profession, distributed ledgers might help with tasks particularly linked to recording and tracking of information. In audit for example this might open up the possibility of basing the opinion on the entire data-set rather than a sample. Also rather than relying on an annual snap-shot, a more on-going view of business performance might become possible. But like any technology it is important to know where not to use them, as much as where to do so. If you want to interpret a standard taking into account a particular business context, figure out fair values of assets, or deal with an issue requiring ethical judgment – these tools seem less likely to provide the definitive answer.
- Perhaps the lesson of history is that technology works best when combined with human judgement. Just as online learning co-exists with classroom teaching to create blended learning solutions these tools may be at their best when combined alongside human expertise.

**Tobias Mackie**, Member of the FinTech Task Force, DG FISMA, European Commission

- The European Commission (EC) is curious and excited by the potential that distributed ledger technology can deliver in terms of improved and more efficient processes, more competition, reduced costs for the end consumer.
- The Commission has not yet announced a Commission strategy on FinTech, but it did publish, on 23 March, a public consultation entitled "FinTech: a more competitive and innovative European Financial Sector".
- The EC made clear that its goal is to "*create an enabling environment, where innovative FinTech products and solutions take off at a brisk pace all over the EU, while ensuring financial stability, financial integrity and safety for consumers, firms and investors alike*".
- The EC has set up a cross-DG Financial Technology Task Force, co-chaired by DG FISMA and DG CONNECT, to bring together services responsible for financial regulation and for the Digital Single Market, along with others dealing with competition and consumer protection policy.
- The Task Force is looking at a FinTech from a number of different perspectives:
  - Regulatory and supervisory innovation and outsourcing/cloud frameworks
  - Distributed ledger technology
  - Financial sector cybersecurity and operational risk
  - Data-related policies
  - Platform based and automated financial services

- During the negotiations on the fourth anti-money laundering Directive, the appearance on the regulatory radar screen of virtual currencies such as Bitcoins took many by surprise. The need for regulation in the original proposal was not anticipated, and the disruptive effects of this new technology were perceived as a threat from a regulatory and law enforcement perspective – as it allowed circumvention of the controls that apply to other forms of payment.
- While the Commission was rightly concerned about the clear threat posed by virtual currencies which allowed financial transactions to be carried out anonymously and in conflict with AML/KYC rules, it also quickly realised that there were potential beneficial aspects behind the blockchain technology in other areas of financial services.
- Blockchain/DLT – by its de-centralised or distributed nature – has the potential to transform the current architecture or design of areas of the financial system, deliver increased efficiencies and significantly reduce back-office costs.
- There is a lot of hype around these new technologies and the task of regulators is to see through it. The EC's emphasis this time around is on the opportunities that the blockchain technology offers – and what can be done from an EU perspective to ensure that the EU remains an open and competitive environment for FinTech solutions.
- The technology is still very new and evolving. That raises a number of challenges from the regulatory perspective:
  - To understand the current developments – in particular where are the most likely applications of the technology likely to occur – and to ensure that any potential risks (e.g. financial stability, cybersecurity, consumer and data protection) resulting from the use of new technology are appropriately covered;
  - To ensure that the regulatory environment is sufficiently accommodating and permissive to ensure that new technological solutions can emerge and are not stifled by overly inflexible rules;
  - To ensure that the financial services environment remains open to competition – especially for new entrants;
- In order to achieve that, in the DLT workstream the Commission has brought together experts both from within DG FISMA – those with sectoral financial services knowledge – and from across the Commission – from CNECT, DG COMP, DG JUST – to provide different perspectives;
- The EC is also reaching out to external stakeholders – through meetings and organisation of seminars – to learn about some of the latest developments.
- The Commission is counting on a solid set of responses to the public consultation launched on 23 March – in which six of the questions directly concern blockchain.
- Once the Commission has digested the results of the consultation, it will decide on the next course of action – it is expected to come forward with a broad strategy on FinTech before the end of 2017.
- Given the newness of the technology, it is clearly too early to contemplate regulatory solutions – we need to see how the market develops.
- Depending on how profound the disruption and change is, it is going to affect the way regulators are going to respond.

**Elizabeth Krahulecz**, Director - Head of EMEA Regulatory & Public Policy , EY Brussels Office, presentation of [Blockchain, DLT and the Capital Markets Journey: Navigating the Legal and Regulatory Landscape](#)

- For the technology to progress, broad industry collaboration and regulatory certainty are critical. It is also important that standard setters keep up the phase with innovative technologies without rushing to rule-making.
- The blockchain technology has the potential to revolutionise the profitability of capital markets by delivering operational efficiency, freeing up capital and reducing risk.
- EY is keen to facilitate technology leaders and regulators that work together, to ask better questions in order to find better answers.
- Blockchain has generated a significant amount of interest within the capital markets community, as FinTech start-ups, market infrastructure providers and global banks evaluate technology and potential use cases that fit into current regulatory and legal infrastructure.
- For blockchain, or other forms of DLT, to deliver viable and valuable solutions in the highly-regulated environment of capital markets, it will need to navigate that legal and regulatory landscape – by evolving solutions or by engaging with policymakers.
- The first step is to understand the legal and regulatory context in which DLT solutions would operate.
- There is no one solution that fits all jurisdictions. As the result of this, the regulatory framework needs to be re-examined; regulators need to understand where DLT can deliver benefits without additional risk.
- DLT provides an opportunity to reduce the use of intermediaries.
- One of the DLT characteristics is that it provides immutable records. Participants in the capital markets would need certainty on which data is treated to be immutable for legal purposes.
- Contracts need to create clarity and certainty and they need to be written in a way that they are understood by the regulators.
- Potential compliance benefits include reporting of transactions to regulators directly. DLT allows multiple users to share records. We need to see whether additional compliance measures are necessary.
- It needs to be examined how to ensure effective competition, transparency and data privacy.
- The new technologies will inevitably reduce the back-office work. Banking and financial services will be one of the most affected sectors.

**Mathias Bucher**, Founder and CEO of Blockchain –Innovation and a lecturer at the Lucerne University of Applied Science and Arts

- Banks fulfil 4 main roles: Payments, Credit, Custody services, Investment management. There are two main reasons why do banks exist as big, monolithic structures. 1. Banks provide trust. 2. Banks provide access to a global network.
- Blockchain characteristics: it is distributed, therefore, it is very resilient; cryptographically authenticated – the aspect of strong identity; Immutable data; Smart contracts – a way to provide efficiency.
- Thus, the Blockchain becomes a global authority of trust, and eventually the enabler of a true peer-to-peer economy. This will be a shift that will enable us to make economic transactions in a different way. However, this will not remove banks from the picture.

- Looking forward to 2025, it can be expected that blockchain will play the role of the provider of trust, and the provider of global network. Banks might lose their privilege of being the trust and network provider. Clients will transact directly among themselves through the blockchain.
- Banks will re-invent themselves, focusing on their core business: provider of central, value-adding services; asset providers on the blockchain.
- It is very important to have a clear view on different types of blockchain. In the next few years we need to sort out the adoption of permission distributed ledgers – this will be the area of the biggest money flows in the upcoming years.
- Efforts to develop FinTech solutions in the global blockchain space will continue. It is expected that they will not be tested in the developed world. The global blockchain will develop slower because issues such as scalability and privacy need to be resolved. That will take around three years.
- Adoption of useful technology cannot be stopped. The accountability is important – entities need to make sure they comply with regulation. The interfaces are the mitigators – you are almost never purely digital.
- As regards to ecological impact, we need more efficient ways to secure blockchain.

**Siân Jones**, Founder of EDCAB- European Digital Currency & Blockchain Technology Forum

- DLT has many use cases, both financial and non-financial. We should not fixate on money, payments and capital markets. Non-financial use cases will be just as important, if not more important.
- Blockchain and DLT will apply to a broad range of sectors and there are significant opportunities and benefits, as well as risks and challenges. Compared to other parts of the world, the EU has it about right in maintaining a pragmatic balance.
- There is a distinction between policy, legislation and regulation. They should not be confused. There is work to be done in all three - and in that order. Now we are at the early stages of policy making.
- Blockchain and distributed ledgers are not necessarily the same thing. There isn't just one blockchain. There will be thousands, hundreds of thousands; maybe millions of blockchains and distributed ledgers. Standards will help define what we're talking about and lay sound foundations for interoperability, governance and security.
- Most people will be blissfully unaware about the blockchains that will one day become as ubiquitous as the internet.
- Blockchain and DLT are still developing and we are going to see them emerge. In order to see a wide-spread use of blockchain, it will take around five years in non-regulated spaces. For regulated areas it might take over 10 years.
- Regulated space can be seen as accountable space. There will probably be no significant production use of permissionless blockchain in this area. Organisations or individuals are held accountable for an outcome in all circumstances, including when things go wrong. If entities, such as banks or governments, cannot assure the outcome, they won't rely on permissionless blockchains.
- As standards emerge, we might see some level of accreditation and certification around blockchain.
- Regulating technology doesn't work. We need to regulate business activities. Some areas of permissionless blockchain will not be able to be regulated.

**Adam Farkas**, Executive Director of the European Banking Authority

- The European Banking Authority (EBA) has a banking focus in its mandate. It has an explicit mandate to monitor developments in financial markets with the view to identify potential risks and benefits of new activities. It also aims to identify if any regulatory action is needed in order to respond to emerging trends.
- The EBA is not in the business of regulating technology. We are trying to identify what these new technologies are bringing to the financial sector.
- The regulators do not have the mandate to protect banks and they are open-minded about innovations and their impact. The aim is to harvest the benefits of innovations for financial sector while mitigating the risks, especially the ones related to consumers. Balancing the two is key in order to see the optimal outcome.
- As regards to virtual currency, the EBA saw new technology entering the space and it took a lot of time, skills and effort to understand it. In 2014 the EBA did an analysis in order to map out risks and benefits. At the time the EBA concluded that it was not the time to suggest a comprehensive regulatory approach. It suggested addressing few immediate risks, such as potential criminal activities.
- The area that is not sufficiently addressed is the consumer protection. The EBA came up with its [seven recommendations](#) in order to address the risks presented by virtual currencies.
- Regulators need to take analytical, proportionate and measured approach and not overdo it in order to ensure stability.