

ESG

# FinTech: Buzzing about Blockchain

Marissa Blankenship | 09/01/2016



## Summary

In the past two years, in terms of financial innovation, Blockchain has surged past cyber security, peer-to-peer lending, mobile payments, and cloud computing. Marissa Blankenship investigates this new technology, examining the potential risks and rewards of its application within the financial industry.

It is impossible to follow the financial sector without being bombarded by information about distributed ledger technology (DLT) or 'Blockchain', as it is more widely known. Blockchain is the technology which underpins Bitcoin and allows participants to share in a single "golden record" without relying on central authorities or intermediaries. It has sprung up from almost nowhere as even as early as two years ago it was largely an absent topic from sell side research, Bloomberg Intelligence, and industry conferences. However, it is now recognized as a potential disruptive force for systems, process and infrastructure used to settle and record financial transactions. To that point, financial and technology companies are investing greater than USD 1 billion in 2016 to bring this technology to the market according to Magister Advisors, having already spent over USD 900m in the past 36 months.<sup>1</sup>

In the past two years, in terms of financial innovation, blockchain has surged past cyber security, peer-to-peer lending, mobile payments, and cloud computing and is being touted as the best revolutionary idea since the Internet. What is driving such attention is that the transaction ledger database with cryptographic integrity is shared by all parties in a distribution network and every transaction that occurs in the network is recorded and stored by creating an irrevocable and auditable transaction history.

The fact that every business has a ledger means that the potential scale and application of DLT is far reaching and could easily evolve into areas that are not yet in a pilot phase. In addition to diversified financials (stock exchanges, banks, and asset managers), pilot applications of DLT include e-commerce and manufacturing, supply chain management, and healthcare. Intermediaries such as custodians, clearing houses and financial messaging services can be seen at most risk of disruption and are joining consortiums such as R3 which consists of 42 banks and Hyperledger which consists of banks, exchanges, post-trade, and other technology companies and consultants to invest in research, design, and engineering of pilot applications.

**Figure 1: Google Trends - Global Interest<sup>1</sup> over 5 years in Blockchain and Distributed Ledger Technology**



Source: Google Trends ([www.google.com/trends](http://www.google.com/trends)). <sup>1</sup> A value of 100 is peak popularity for the 5-year term while a score of zero means the term was less than 1% as popular as the peak.

In addition to banks, venture capital is also active and growing globally. According to Outlier Ventures, there are 967 blockchain start-ups as of June 2016 with the United States and United Kingdom leading the pack, although close to 20 percent of start-up origins were not disclosed. While still dwarfed by the US and UK, financial technology investment in Asia quadrupled last year with venture capital firms backing blockchain, peer-to-peer lending, online lending, cloud computing, and cyber-security.

Realistically, wide-spread adoption of DLT is ten plus years away as vested interests in legacy technology systems will make change costly and the governance of aligning shareholder interests and developing common protocols is a key challenge in addition to data privacy, scalability and regulation.

As the application of blockchain becomes better understood, there are trends emerging from an ESG perspective. Naturally, there will be an impact on human capital although it is too early to determine the magnitude. According to 'Blockchain in Capital Markets: the Prize and the Journey',<sup>2</sup> it is estimated that IT and capital markets currently cost banks close to USD100 – 150 billion per year in addition to another USD100 billion for post-trade and other market inefficiencies. Santander estimates that about USD20 billion in costs could be reduced per year with more efficient digital ledgers. Further work needs to be done on quantifying both operational costs and savings from blockchain. Human capital would be impacted due to a reduction in operational overheads as well as cost-sharing across institutions.

**Figure 2: Percentage Blockchain Start Ups by Country as of June 2016**

Source Bloomberg, Outlier Ventures.

The nature of blockchain is such that it is designed to enable trust and cooperation in new and innovative ways. This would be a welcome benefit for financial companies who are still suffering from mistrust post the global financial crisis. For banks, which are under pressure to cut costs due to downward pressure of net interest margin (NIM), blockchain can be used to streamline processes and reduce inefficiencies in the capital market infrastructure. Specifically, post trade settlement, custody, clearing, and international payments are the most named applications. Furthermore, DLT allows for more transparency for regulators on transaction history and can enhance monitoring; know your client (KYC) and anti-money laundering (AML) processes.

Stock exchanges are working on industry changing applications by replacing Central Depositories (CSD) and positioning themselves as a "digital vault." This sets them up to build applications which process data for reporting and allow for performance monitoring. Early projects involve the testing of providing real time access to issuers to their share register and using smart contracts to facilitate corporate actions.

Nasdaq Tallinn (Estonia) is trialling using DLT to facilitate proxy voting and the National Settlement Depository in Russia has also developed an e-proxy voting system which allows for electronic interaction between securities holders and issuers for the purpose of exchanging information and documents. According to financial messaging service company, SWIFT, the proxy voting function has been characterised by non-standard, proprietary processes, with frequent requirements for manual intervention. Proxy voting covers about 85,000 companies each year is labour intensive for investors as well as their intermediaries, is subject to significant errors and carries a significant cost. The once manual process has moved largely to online platforms but smart contracts would help catch the large proportion of votes that go uncast each year. This was the case in 2014, where according to Broadbridge, over 22 billion retail shares went un-voted in 1,077 US company shareholder meetings from July to December.<sup>3</sup>

**“ For banks, blockchain can be used to streamline processes and reduce inefficiencies in the capital market infrastructure. ”**

In addition to stock exchanges and banks, there are several examples which would be a positive from an ESG perspective including providing trade finance facilities, real estate registration facilities, databases on agricultural receivables and digital assets. Notably, it is possible to use blockchain to help make supply chains more transparent by using digital encryption to create an immutable history of a products authenticity and ownership. This is being explored in respect to conflict minerals and blood diamonds which would enable compliance with disclosure requirements under the Dodd-Frank Act in the US. In Honduras, blockchain technology is being used to build a land title registry which will help to reduce land title fraud which is a common issue in poorer countries.

The race to production has kicked off with most large financial institutions already having 10-20 applications in prototype phase. Yet the overarching hurdle to implementation is achieving the necessary governance, regulation and compliance. This will be aided by having regulators such as International Organisation of Securities Committees (IOSCO) taking the lead to developing

harmonised global standards. Assuming these barriers can be scaled, what remains to be considered from an ESG perspective is the trade-off between improved transparency, reduced fraud and corruption and better management of complex supply chains versus the implied risk to human capital. The buzz about blockchain is indeed a constant chatter and the opportunity to reduce ESG risks due through applications which increase protection and promote the efficacy of institutions across multiple sectors is needed globally.



<sup>1</sup> <http://uk.businessinsider.com/magister-advisors-report-on-bitcoin-and-blockchain-ecosystems-2015-12/#-1>

<sup>2</sup> <https://www.euroclear.com/en/news-views/news/press-releases/2016/2016-MR-02.html>

<sup>3</sup> <http://bravenewcoin.com/news/nasdaq-to-simplify-proxy-voting-process-for-shareholders-with-the-blockchain/>

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## Marissa Blankenship

Assistant Vice President, ESG Analyst

 London

Ms. Blankenship is an ESG analyst and an assistant vice president with Allianz Global Investors, which she joined in 2011. As a member of the firm's Environmental, Social and Governance team, she is responsible for conducting sustainability research on the financial sector. Before joining the firm, she worked as an associate in the equity-strategies group at Hall Capital Management. Ms. Blankenship also conducted sustainability research on a wide range of sectors, companies and funds at Truestone Impact Investment Management and Incofin Investment Management. She has a B.S. in economics from the University of California, Davis, and a master's in Latin American economic development from the University of London. Ms. Blankenship holds the IMC designation.

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# How Does ESG Affect the Credit Rating of Corporate Bonds?

Steffen Hörter | 09/01/2016



## Summary

Dr. Steffan Hörter and his team have performed a meta-analysis evaluating recent, selected, high-quality industry and academic research on ESG in investment grade corporate bonds. The format of a meta-analysis provides a diversified research view and aims to avoid research bias.

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