



## DE-CODING FINTECH AND BLOCKCHAIN

Very simply FinTech can be separated out into its constituent parts, finance and technology, that is to say the use of technology within financial services and markets. Finance and technology working together is not a revolutionary concept, however the current difference is the influence that technology is having on the financial sector and the pace of change which results.

The modern FinTech revolution includes; Alternative Investment Platforms such as Peer-to-Peer lending and Crowd Funding, Robo-Advisors providing cheap investment strategies dependent upon user profiles and providing access to algorithm based investment advice; and Crypto-currencies such as the Bitcoin, developed with blockchain technology to provide secure transactions.

The common theme with all these products is that they bypass the middle man and instead facilitate transactions through technology.

Inevitably there will be an effect on large swathes of the financial services industry with participants having to adopt new technology, provide something more bespoke to clients than data processing or algorithmic investment advice, or face the prospect of losing clients to cheaper technology-focused competitors.

The pace of change being forced on the industry – under intense political pressure to create a UK FinTech 'hub' - also presents a significant challenge to both regulators and regulated businesses looking to adopt new technologies and there are critical questions being raised about how you regulate an industry which is likely to have mutated before the ink is dry on new regulations. 2015/16 or 2016/17 purely in order to benefit from rebasing and protect the gains accrued on the foreign properties up to 5 April 2017 from UK tax.

Rebasing is restricted to individuals who will become deemed domiciled in the UK on 6 April 2017 under the 15 out of 20 rule. The individual will also need to remain deemed domiciled in the UK under this rule for all subsequent tax years up to the year of disposal.

Unfortunately, individuals who become deemed domiciled in years after April 2017, and those who become deemed domiciled because they were born in the UK with a UK domicile of origin ('returners'), will not be able to rebase their foreign assets. These individuals could consider disposing and re-acquiring after 30 days their foreign assets in a remittance basis year to manually rebase their assets. For returners this will have to take place before 6 April 2017.

Although the legislation is still under consultation, it is unlikely that rebasing will apply to non-reporting offshore funds, which are subject to income tax on disposal rather than CGT. Individuals who will become deemed domiciled on 6 April 2017 under the 15 out of 20 rule may therefore wish to claim the remittance basis for 2016/17, dispose of the non-reporting funds prior to 5 April 2017 and reacquire after 30 days to achieve a manual uplift in the base cost. This is subject to investment advice.

We strongly recommend that foreign assets are reviewed and valuations as at 5 April 2017 are obtained to ensure optimum benefit. To discuss this further please contact your usual Mercer & Hole contact.

### **Regulation and FinTech**

The FCA's response to the rapid expansion of the FinTech sector has (encouragingly) been to actively engage with FinTech businesses, and in October 2014 the FCA launched Project Innovate, including an Innovation Hub, Advice Unit and Regulatory Sandbox, designed to help innovator businesses navigate their way through the regulatory regime.



#### **FCA: Our aim is to make sure that:**

- We encourage innovation in the interests of consumers
- We promote competition through disruptive innovation – innovation that offers new services to customers and challenges existing business models

To do this we engage constructively with innovative businesses, and seek to remove unnecessary barriers to innovation.

<https://www.fca.org.uk/firms/project-innovate-innovation-hub/next-steps>

Blockchain is the technology that underpins Bitcoin. It is a secure open record of transactions which is distributed to the participants and verified through algorithms and links to previously verified transactions. In other words a secure distributed ledger.

Blockchain and Bitcoin work through the verification of sets of transactions by participants within the chain, which cannot be manipulated by any single or group of participants. The verifiers, or miners, are rewarded for confirming a set of transactions, or a block, by the issue of new Bitcoins or otherwise benefit from disintermediated transactions.

#### **A rough guide to the bitcoin blockchain:**

1. A set of transactions will be bound together using an algorithm, to form a Block, and linked to previously verified blocks already on the chain.
2. Participants within the blockchain known as 'miners' will use their processing power to solve the algorithm and verify the transactions, looking back to previously solved blocks, to authenticate the current block.
3. Once solved the successful miner will broadcast a 'proof of work', which other Miners will verify.
4. Once verified the block is chronologically added to the chain and the updated ledger is distributed.
5. The ledger does not show details of the transactions but just a record that the transactions have happened.
6. The encryption of the block through the algorithm is known as Hashing.
7. Each block will include a hash to the previous block, linking it to the chain.
8. The miners are incentivised to solve the algorithm and verify the block, in order to gain the reward of the issue of the next Bitcoin.

To use a banking analogy, a block is a bank statement and the blockchain is the record of all bitcoin transactions that have ever happened. In essence the blockchain is simply doing what traditional banks seek to achieve, to keep a secure record of who has what.

As a true blockchain is a decentralised ledger verified by participants, there is no central server or mediator to be attacked by hackers. The programming facilitates the ongoing verification process adjusting the complexity of the algorithms depending on the processing power being used to solve them. Therefore regulating the frequency with which new blocks are added to the chain and protecting against corruption. As soon as a block is verified it cannot be altered.

Clearly the programming behind blockchain is significantly more complicated than can be explained in this article, we haven't for example sought to discuss the detail behind the cryptography, security, or a theoretical 51% attack here.

We would instead like to consider some of the wider implications for distributed ledger databases.

#### **Additional Applications**

As well as cryptocurrency, and uses within the financial sector such as removing the need for clearing houses and efficient payment processing, blockchain also has wider implications for non-financial markets.

The technology supporting a distributed ledger could be used for activities as diverse as, recording ownership and transfer of property potentially replacing the Land Registry, smart contracts, and verification of ethical supply chains (the end of conflict diamonds?).

Within the next year corporations such as Microsoft and IBM will launch Blockchain-as-a-Service offerings which will again extend the use and accessibility of the technology. Separately banks are spending significant resource to harness blockchain applications to facilitate smart settlement systems and reduce the back office cost of trading.

The amount of investment in the technology and the variety of applications to which it can be applied, means blockchain will not go away.



**The Effect on the Recovery & Restructuring Profession:**

FinTech will disrupt the financial sector, causing change for many existing businesses and presenting opportunities for new entrants into the market place. As with any changing market place there will be a need for restructuring advice as entities grow, face increased competition, and try to differentiate themselves. Advising Insolvency Practitioners will need to ensure that as well as considering restructuring strategies, regulatory obligations (which are unlikely to be straight forward) are properly discharged.

As the use of this technology diversifies away from FinTech, any industry associated with the gathering, recording, processing, or verifying of information, is likely to see change and a requirement for professional restructuring advice.

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