The Bank of England's RSCoin: An Experiment for Central Banks or a Bitcoin Alternative?

by Bitcoin Magazine

March 29th, 2016
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This is a guest post by Leah Zitter.

On February 21, 2016, the Bank of England reported that it had partnered with researchers at University College in London to produce RSCoin, a digital currency designed for central bankers.

Sarah Meiklejohn and George Danezis, two students from University College, created RSCoin which, they announced, offered a protocol superior to that of Bitcoin. The researchers said their work was a response to Bitcoin's limited transaction throughput, which is capped at around seven transactions per second today based on the 1 megabyte block size limit and current network conditions. In comparison, credit card payments networks like Visa are able to process around 7,000 transactions per second.

Bitcoin Magazine talked to Andreas M. Antonopoulos, author of *Mastering Bitcoin*, about RSCoin and centralized digital currencies.

Digital Currency Not a Winner-Takes-All Domain

Although developers are currently debating the best way to increase Bitcoin scalability, other researchers have tried to tackle the problem by plotting alternate or additional decentralized systems that would lighten the load. However, none of these systems has been properly tested to date and all fail to produce high transaction volumes says Gün Sirer, hacker and professor at Cornell University.

Meiklejohn and Danezis argue that RSCoin is the first type of digital currency that pivots around a central network.

They noted that their system was more scalable in that it "can process over 2,000 transactions per second" and that "most transactions take less than one second to clear, as compared to many minutes in traditional cryptocurrency designs." Meanwhile, Ben Broadbent, the Bank of England's deputy governor, told the London School of Economics that a centralized digital currency could strengthen the financial system.

Antonopoulos disagrees:

> "I find it to be a hyperbolic claim that RSCoin will replace or void Bitcoin. First of all, the new currency domain is not a winner-takes-all domain and has no monopoly status like national currencies do. Secondly, Bitcoin's design is intended to solve problems that are entirely different from the problems RScoin is designed to solve. The two systems fit in completely separate niches and serve completely

He continued:

> "I see no reason why a Bitcoin user would be interested in RScoin or vice-versa. Bitcoin offers censorship resistance, open access, borderless commerce, permissionless innovation, network neutrality and strong immutability. RScoin has none of those features, replacing the network-centric trustless and decentralized model with a centralized authority. Anyone who wants centralized authority has no interest in Bitcoin."

Will RSCoin Help the Banks?

Banks have long disagreed over whether Bitcoin will help them. Taking the Bank of England as an instance, Broadbent told *The Guardian* that a digital-style currency would be bad for loans and may even threaten financial stability in the U.K. But a centralized RSCoin, Broadbent believes, could benefit retail payments and stabilize the financial system.

Says Antonopoulos:

> "Bitcoin's disruption to banking comes from the fact that it removes intermediaries and barriers to entry, reducing the cost of participation and providing neutrality of transport of value. RSCoin may be more palatable to banks, but it does nothing to dampen the disruption caused by a completely different approach to global finance as offered by Bitcoin."

In other words, banks may prefer RSCoin precisely because banks can have control over the digital currency – but initial problems remain.

Antonopoulos elaborated: "RSCoin is business as usual, dressed up as innovation, by emulating the least interesting features of Bitcoin. When the Internet came out, phone companies initially countered by introducing video-telephony and full-color faxing. RSCoin is the full-color-fax equivalent to Bitcoin's Internet of Money."

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Completely agree with Mr Antonopoulos

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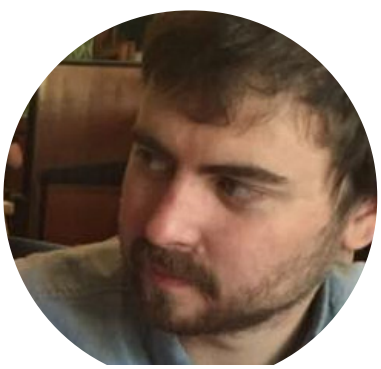

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by Kyle Torpey

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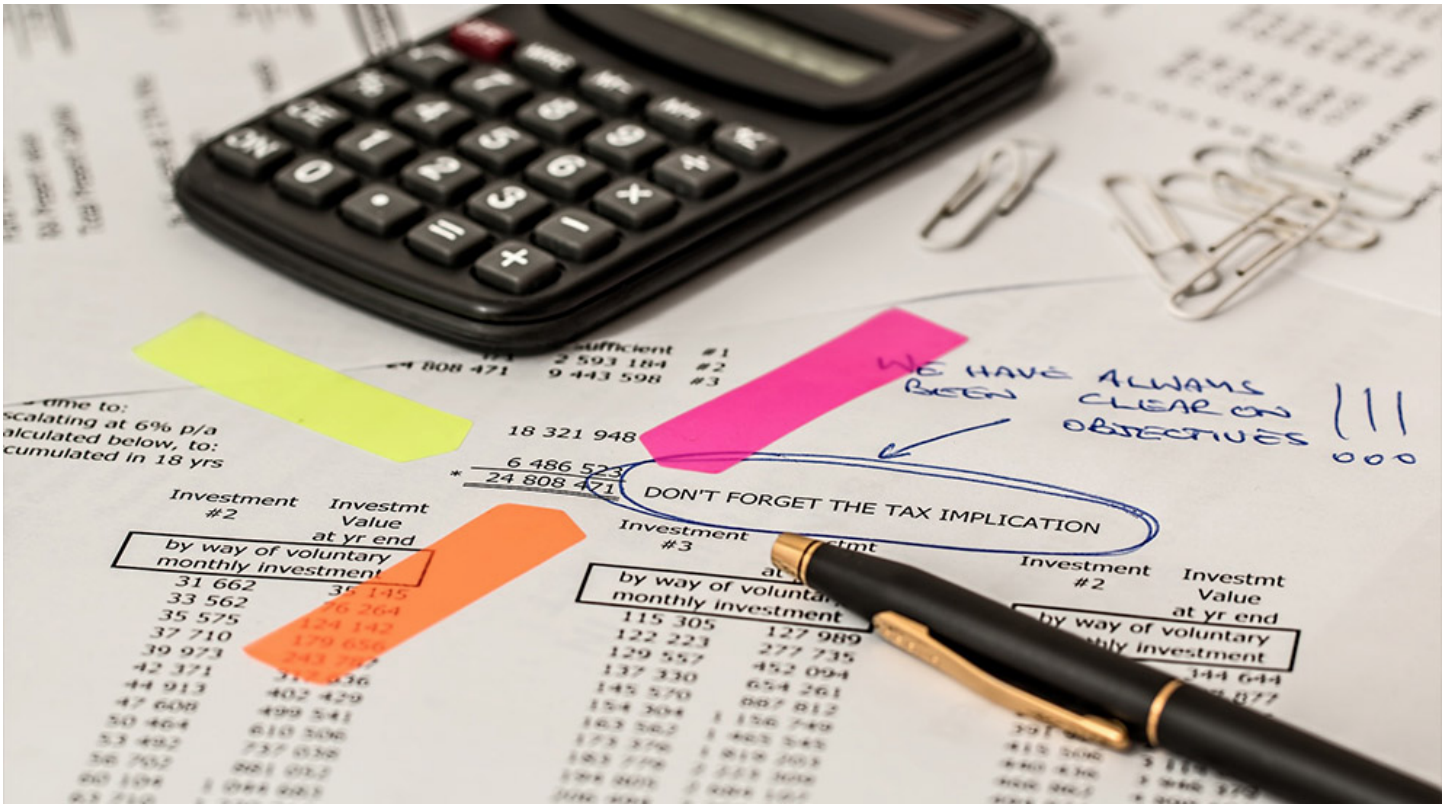

When most people think about computers and robots taking jobs away from humans, the images that usually come to mind are robots moving inventory around in an Amazon warehouse or McDonald's customers placing their order via a tablet instead of a cashier.

But the robots are coming for much more sophisticated jobs as well. For example, blockchain technology is out to eat the lunches of some professionals in the traditional financial system.

There's a Lot of Mistrust in the Banking System

At a recent blockchain-focused event in Toronto, Bitcoin Core contributor Peter Todd was asked to explain the reasoning behind Wall Street's increased interest in blockchain technology. During his initial response, Todd pointed out some of the mistrust that exists

technology. During his initial response, Todd pointed out some of the mistrust that exists in the current financial system:

> "The dirty secret is [the banks] don't actually trust [their databases]. I mean, they don't trust their own employees. ... They don't trust each other. There's so many levels of mistrust here."

Todd then discussed the massive industry built around financial audits. He noted:

> "If they did trust all this stuff, why are there so many auditors? Why is there this massive infrastructure of labor-intensive human beings sitting there poring over transactions and trying to figure out where the money got created out of thin air. Where did the money disappear? Who moved what where? Was it all legit?"

Many financial institutions are interested in the concept of creating new systems for record-keeping, which would replace the current closed-ledger system with a more open alternative, similar to Bitcoin. Many believe this open system would enable more efficient and transparent auditing of financial activity.

The Status Quo Is Doing All Right But It's Hard to Improve

Todd also pointed out that financial institutions are already pretty good at what they do in terms of audits. He stated, "For the most part, bank fraud is at tolerable levels, it seems."

Todd noted that maintaining a proper history of financial activity is one of the issues with increasing the speed of settlement. Because audits are labor intensive and require man hours to complete, it's difficult to essentially come to consensus on the correct version of events in a nearly instantaneous manner. He added, "The faster money can move around, the faster you could lose it all due to some hacker."

How Does the Blockchain Help?

Todd spoke on the perceived advantages of blockchains over the current way things work, which relies on placing trust in database admins and the people with the keys to the system. From this perspective, a blockchain simply looks like a strong audit log. Todd gave a specific example of how this technology can help:

> "It could be something as simple as when I, as a bank employee, type something in, we really do want a cryptographic signature that's actually tied to my keycard or something. And that should go into a database. Well, what does that look like? It looks like a blockchain."

The longtime Bitcoin researcher also pointed out that this is sort of what banks were already looking at doing before blockchain technology started to receive a lot of attention. He explained:

> "I think where they're thinking of going naturally looks like blockchains, so when they hear all this blockchain stuff it's like, 'Oh yeah. This is roughly what we were looking at doing anyway.'"

Replacing Humans Is the Point

At one point during the recent event in Toronto, Todd was asked if the trend is that blockchains will eventually replace human auditors. Todd responded:

> "All this blockchain stuff is really about: How good can we make the security to get to the point where we can imagine getting rid of human beings?"

Indeed, Todd's comments appear to fit well with Satoshi Nakamoto's original Bitcoin white paper. In the paper, Nakamoto stated:

"What is needed is an electronic payment system based on cryptographic proof instead of trust…."

Going back further, cypherpunk Nick Szabo has written about the concept that third parties are security holes. In addition to improving security by cutting out trusted parties, financial institutions can cut costs by replacing human labor with computer code.

Kyle Torpey is a freelance journalist who has been following Bitcoin since 2011. His work has been featured on VICE Motherboard, Business Insider, NASDAQ, RT's Keiser Report and many other media outlets. You can follow @kyletorpey on Twitter.

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