

FUTURE OF MONEY: MONETARY REVOLUTION OR EVOLUTION?



Speculation abounds on how new digital technologies will alter money and payments, with a great deal of emphasis placed on cryptocurrencies, blockchain and decentralised finance.

Peter Ware, Head of Research & Development at the ADGM Academy Research Centre, sat down with Professor Alistair Milne, Loughborough University, and Ronit Ghose, Head of Future of Finance Research, Citi, to discuss their views on money and the drivers of change.

The discussion revealed some scepticism of the more radical visions of the future, for example those envisaging that crypto or other digital currencies will supplant existing bank-based money. Yet by learning from key developments that have enabled significant change in the way money is held and used, there was agreement that we can identify where innovation is more likely to take hold.

Money, regardless of its form, needs to adhere to three defining properties. It must serve as:

- a medium of exchange,
- a unit of value,
- and, a store of value.

What money looks like has evolved throughout the ages; from shells, to livestock, to coinage, through to paper notes, electronic and digital forms. Money as a medium of exchange has evolved to be fit for purpose according to the needs of the society in which it is used.

The adoption and acceptance of money depends on trust. Whereas historically this would have been linked to sovereignty, this now usually depends on government oversight and regulation.

MONEY IS A REGULATED INSTRUMENT: THAT IS THE NATURE OF FIAT MONEY

Ronit Ghose highlighted that a key stumbling point for many fintech startups is that while the software industry is bound by some degree of regulation, there are very few industries as regulated as financial services. Technology providers new to the financial industry often take a long time to understand the limitations of what can and cannot be developed within the regulatory and jurisdictional boundaries. The requirement to comply with a multitude of regulations (e.g. KYC, AML, consumer protection, data privacy, misappropriation of customer funds, etc.) serve as a sanity check on many innovation initiatives within the banking sector.

Consequently, many of the more recent innovations in money and payments around the world are regulatory driven. Examples include:

- The many real-time or instant payments initiatives whether through commercial interbank ledgers and ultimately or directly settled through central bank schemes.
- Open Banking and similar directives such as the PSD2 in Europe.
- India's public digital infrastructure, India Stack, which is a set of layered capabilities comprising the Aadhaar biometric digital ID system, the interoperable Unified Payments Interface (UPI) and further data management layers.

These examples also tend to imply that money has and will likely remain mostly national and issued by the central monetary authority. The Euro is of course the exception, but that has required unprecedented political commitment.

IT'S ALL ABOUT TIMING AND LOCATION

There are no universal laws about innovation in money; the context of both time and place is critically important. Professor Milne cited the early successful example of M-PESA, launched in Kenya in 2007 by Vodafone and Safaricom (Kenya's largest mobile network operator). M-PESA was and still is a mobile phone-based money transfer and payments service, with additional facilities added since its initial launch. The service allows users to deposit money into an account stored on their mobile phones, to send balances to other users, and to redeem deposits for money. Since its launch, the service has provided access to the formal financial system to millions of people that previously had no access at all to a banking infrastructure, whether due to remote location or the cost of traditional banking services.

Across Southeast Asia there has been an astonishing trajectory of technology enabled forms of payment evolution which has leapfrogged many developed economies. For example, in some cases QR codes have replaced cards and cash to become the adopted method of making payments. Key contributing factors are deemed to stem from:

- regional economic development and the growth of the middle classes,
- the advances in telecommunications and mobile networks,
- the ubiquitous ownership of smartphones,
- and, the rise of local big-tech platforms enabling new digital payment services such as Alipay through Alibaba, and WeChat Pay through Tencent.

Where is innovation most likely going forward? There are likely to be piecemeal developments. One is in digital replacements for the role of notes and coin in small value payments. In many countries, though far from all, the use of physical cash in payments has substantially declined. This poses several challenges. First, maintaining access to physical cash or its equivalent for those who rely on it. Second, devising digital alternative to physical cash, available for offline use, while maintaining privacy, for smaller value transactions. This may be an important use case for CBDC.

Another is in automated e-invoicing and business-to-business payment processing, an area where developments have lagged well behind those in consumer payments. Innovation in consumer payments has been driven by the demand for convenience and automation in person-to-person transfers with the rise of ‘faster payment’ schemes, and in both offline and online consumer expenditure with Google, Apple and Microsoft integrating payments approval and security into their eco-systems. The same demand for convenience can be expected to drive innovation in small business payments, with integration into accounting software and automated transaction initiation and tracking.

THE BEST LESSONS COME FROM FAILURES

The future evolution of money is inherently unpredictable, and adoption of new forms of money is very uncertain. Failed initiatives form part of the evolutionary path with the best lessons coming from failures. One of the most recent and boldest attempts at revolutionising money came from the former Facebook’s attempt in 2019 to create a new global currency in the format of a Stablecoin called Libra (later renamed to Diem).

In its early whitepaper detailing the initiative, Libra’s mission was “to enable a simple global currency and financial infrastructure that empowers billions of people.” It was to be built on blockchain infrastructure, with Libra the digital currency to be backed by a reserve of assets.

In the face of regulatory review neither Libra nor Diem ever came to be. But the concept, the use of digital assets and blockchain-related technologies, and the perceived potential threat to financial stability and national monetary policies, sent shockwaves across the global banking and regulatory community. It served as a significant wake-up call over potentially disruptive technologies and has been quoted as serving as a catalyst for greater urgency in the ongoing explorations around the potential for Central Bank Digital Currencies (CBDCs.)

CENTRAL BANK DIGITAL CURRENCIES (CBDCS)

CBDCs are basically digital forms of a national fiat currency issued by the central bank. One can regard them as digital forms of cash, however, from a strictly economic perspective they are not necessarily a like for like replacement of M0 (currency in circulation or held in reserves). The digital form can have additional programmable properties, including traceability, or limitations on how the money can be spent. Each country’s design of its CBDC will dictate its properties and infrastructure (e.g. it may not necessarily be built on blockchain or distributed ledger technology).

For Professor Milne, the case for a retail CBDC in more developed economies is unpersuasive. It is unclear how it improves on existing payment solutions. The case for a wholesale CBDC, however, is more compelling. Wholesale use cases of CBDCs could include domestic (and even cross-border) transactions between financial institutions and licensed non-banks.

The case for a retail CBDC in emerging markets holds more weight particularly in areas where the population is either unbanked or underbanked. In Ghana, for example exploration and piloting of the E-Cedi is underway with the ultimate ambition of financial inclusion. China is deemed to be the most advanced with its E-CNY (digital renminbi).

The outlook for the future of CBDCs is impossible to predict with regard to retail use. Many countries have explored, piloted and assessed various designs and technologies. Some have ceased further exploration with concerns over data privacy and the impact on financial stability, while others are taking the view of ‘better to be ready in case needed.’ Only a small percentage of countries have proceeded to launch.

Veering the discussion towards crypto, Ronit Ghose suggested that the best use cases for blockchain lie in the digital native solutions and infrastructures such as cryptocurrency trading. Strictly speaking, however, cryptocurrencies are not money. They may be a medium of exchange within a closed environment and useful for peer-to-peer exchange, however, their value is highly volatile and not based on a fixed value, such as a fiat currency or a guaranteed and liquid asset. Questions remain around their economic value to society or whether cryptocurrencies and their market infrastructures will ever be integrated into the traditional financial services industries.

Economic value aside, from a technical perspective the value add of alternative digital currencies on distributed ledger technologies lies in their potential for peer-to-peer exchange (as tokens) and the rule-based smart contracts, which can drive operational efficiencies and reduce settlement frictions through atomic settlement (simultaneous exchange of assets meaning instant settlement with no need for separate channels around communication and settlement). However, at the time of writing the cryptocurrency ecosystem is under fire from regulators across the world, therefore, it is likely that such digital assets will need to evolve and encompass incoming regulation.

ARE WE ON THE CUSP OF A TECHNOLOGICALLY DRIVEN MONETARY REVOLUTION?

The answer is both *yes* and *no*. Change will be less dramatic than many suppose. From both an academic and practitioner perspective the consensus lies with *evolution* rather than *revolution*.

Established forms of money like cash or bank accounts will not easily be abandoned. At the same time money and payments will continue to evolve in the years ahead. Many factors will contribute to the future landscape including regulatory frameworks, societal trust and adoption, technological advancement and the preferences and needs of individuals and businesses. Sometimes changes will be quite dramatic, but more often they will arise as relatively small innovations, cumulating over time.



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