

## **The 2nd Edinburgh FinTech Law Lecture**

### **Money and Payments in the 4th Industrial Revolution**

#### **The democratisation of money**

30<sup>th</sup> January 2020

Sir William Blair

It is a pleasure and honour to give the 2<sup>nd</sup> Edinburgh FinTech Law Lecture, following the 1<sup>st</sup> lecture given by Lord Hodge last year<sup>1</sup>. I thank the Edinburgh Centre for Commercial Law, and particularly Professor Emiliios Avgouleas, for the kind invitation, and the co-funders, the Edinburgh Futures Institute. I have some personal connection with Edinburgh University through my father who studied law here after the War, and I am fortunate to have the opportunity to speak here.

The subject of money, including in its legal iteration, has come back into vogue in the last decade, with many fine contributions. This is largely because cryptocurrencies and particularly Bitcoin have raised the possibility of money moving from its base in sovereign states, coupled with the exponential growth in information technology, and its tendency to merge with the human experience as denoted by the phrase “4th Industrial Revolution”.

The issues that arise are often technical, economic and practical – can it work and will it work? Money in history has always been a subject for economists because of the role it plays in the economy particularly as a medium of exchange. But when we look at money, we find that the law plays a central role, a point

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<sup>1</sup> Lord Hodge, Justice of the Supreme Court, *The Potential and Perils of Financial Technology: Can the Law adapt to cope?*, First Edinburgh FinTech Law Lecture, University of Edinburgh, 14 March 2019.

presciently recognised by Aristotle in his *Nicomachean Ethics*<sup>2</sup>, and recognition in the law has important consequences.

As set out in an analysis by Professor Avgouleas and myself due to be published shortly in the Singapore Journal of Legal Studies, we do not suggest that the only valid form of money is that provided or backed by the state through its laws, but rather that it is unlikely that money-like means of payment will prove sustainable in the long-term if not perceived as being vested with some form of legality, even if such instruments are never actually banned or declared illegal.

The structure of these remarks will begin with the generally accepted categorisation of money. This serves as a framework for the ensuing discussion. I will then discuss money and payment in the common law. There is an extensive jurisprudence, and the starting point for a common law analysis is how analogous issues have been applied to money in the past. Finally, I will identify the new forms of money or money-like instruments – of which cryptocurrencies are one – that exist, or are planned, or have been posited, to see how they measure up.

### *Money as a social institution*

Let me start, however, with the impact of technology. Today is the sixth day of the Lunar New Year. 2020 has been scarred by the coronavirus, a reminder of how much more potent biological viruses are than those that we describe as “infecting” our technology.

In China, this is a time of year when red paper packets containing “lucky money” are traditionally handed out to friends and family. The idea of money being “lucky” clearly has nothing to do with its place in the payment system. In 2018, the last year for which I could find statistics, it is reported<sup>3</sup> that as many as

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<sup>2</sup> Aristotle, *The Nicomachean Ethics of Aristotle*, translated by F. H. Peters, M. A. 5<sup>th</sup> ed (London: Kegan Paul, Trench, Truebner & Co., 1893) at ch V.

<sup>3</sup> <https://thediplomat.com/2019/02/digitizing-the-chinese-new-year/>

768 million people sent out red packets in digital form using WeChat, currently the most popular messaging app in China.

Other than being an interesting number, does this tell us anything? Most obviously, it tells us that the digitalisation of money proceeds apace. But this has been happening for a long time, with a steep decline in the use of cheques as well as cash. A significant question however is the extent to which the new technology truly revolutionises the nature of money, or whether it is simply a new means of delivering payment. If the latter is the case, then while we certainly live in a new era of payments – quite properly described as a revolution with many implications – we cannot claim to live in a new era of money.

More profoundly, it tells us about an important aspect of money. Apart from its economic role, money is a social institution. This was well put in an IMF note of July 2019 on “*The Rise of Digital Money*”<sup>4</sup>. “Economists beware!”, the authors said, “Payments are not just the act of extinguishing a debt. They are an exchange, an interaction between people—a fundamentally social experience. If two people use the same payment method, a third is more likely to join.”

This has been enhanced in new ways. As the authors put it, payments can be more fun in e-money, since messages and photos cannot be sent with a credit card payment! As well as the obvious drivers of the payments’ revolution, therefore, such as convenience and low transaction costs, another is the social aspect – from red packets, to getting on the Metro, to buying a cup of coffee, payment by phone increasingly becomes part of the experience.

The social aspect is developing apace. Bill-splitting apps allow people to eat as a group, without arguing about the bill afterwards, and the same technology is available for other social activities, such as flat sharing, and travelling. Because it so widely available

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<sup>4</sup> Tobias Adrian and Tommaso Mancini Griffoli, “The Rise of Digital Money” IMF FinTech Notes No. 19/001, 15 July 2019, p. 8. Available at <https://www.imf.org/en/Publications/fintech-notes/Issues/2019/07/12/The-Rise-of-Digital-Money-47097>

to people, in the developing as much as the developed world, the payments revolution can be seen as a kind of democratisation of money, empowering anyone with access to mobile technology.

At the same time, the flood of data attached to the new forms of payment gives rise to issues as to its protection, misuse and the possibility of harm to humans which have never been associated with money in the same way before. The massive increase in connectivity which underpins the payments revolution also leads to concerns that the 4<sup>th</sup> Industrial Revolution could also become known as the age of surveillance.

*Perceived legality as essential to public confidence*

The law is relatively invisible to users of these payment systems, and, charging apart, the contractual arrangements and regulations that govern their internal operation do not often come before the courts. The competition law aspects of charging by Visa and Mastercard have led to massive anti-trust litigation in several jurisdictions. The Mastercard and Visa appeals relating to multilateral interchange fees were heard by the Supreme Court at the end of January, but this litigation does not go to the operation of the systems themselves.

Recognition in the law is essential to public confidence. In the Singapore article, Professor Avgouleas and I argue that the perceived legality of these new instruments as stores of value and means of payment will be crucial in times of stress.

We say that:

“Most of these instruments may enjoy user confidence in the beginning or during good times due to custom created by social preferences, e.g., social preferences to transact and pay for essentials using forms of money/means of payment that are not issued by governments. But when a generic economic event, i.e., one that is not related to specific cryptoassets or other payment-like instruments, creates a crisis of confidence in the market, it is predictable that only assets that are perceived to enjoy legal recognition of their status as a means of payment will be seen as a safe means of payment.”

This is not an issue for digitalised fiat currencies issued by central banks if proposals to issue these go forward. It is however an issue for the so-called private currencies which have now become technically possible. In short, where would their perceived legality come from?

It is not just how these instruments are used that matters. How they are treated in the law also matters. It is difficult to see how new instruments could endure as money without some form of legality. The perception of legality underwrites public trust, which is what underwrites currency itself, and “fair weather money” simply will not last.

### *Money and its categorisation*

Characteristically, money in contemporary times is fiat money, in other words, money that is backed by the resources of a State, or, as in the case of the euro, a group of States.

We tend to take fiat money for granted, but its dominance is surprisingly recent. Right up to 1971, the US dollar was backed by gold under the Bretton Woods system agreed in 1944. The fact that money was issued in paper banknotes tended to obscure the fact that the metallic nature of currency going back to Sumerian times continued in the form of the gold standard.

The proposal by Keynes in the early forties of a non-fiat international unit of account as a reserve currency was not taken up, though it was visionary for its time. In the event, other countries agreed to keep their currencies fixed by reference to the US dollar. This worked for a time not least because by the end of the War, the United States held about three-quarters of the world’s official gold reserves<sup>5</sup>. But a run on gold put an end to the system.

The national central bank is the issuer of fiat money. Scotland and Northern Ireland are relatively unusual examples of places where the physical banknotes are issued by private banks, in this case backed with assets held with the Bank of England equal to

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<sup>5</sup> [https://www.federalreservehistory.org/essays/gold\\_convertibility\\_ends](https://www.federalreservehistory.org/essays/gold_convertibility_ends)

the value of banknotes in circulation<sup>6</sup>. Another is the Hong Kong SAR in China. In the euro area, national central banks physically issue euro banknotes and coins subject to the oversight of the European Central Bank.

During the 19th century, the rise of commercial banks (and bodies offering similar services such as building societies, savings and loans, and credit unions) with reliable and accessible statements of account, and the development of reliable payment systems (such as cheque clearing), tended to blur the legal concepts of money/currency/legal tender with rules as to payment<sup>7</sup>.

It also resulted in the bulk of money in circulation being in the form of dematerialised commercial bank money consisting of entries in bank accounts – estimated as 90% in the European Union. Bank money, though private in a sense, may be seen as ultimately backstopped by the State, for example as a provider of liquidity or through deposit insurance. In developed countries, most payments entail the transfer of funds from one bank account to another<sup>8</sup>.

Electronic money, or e-money, is the digital representation of fiat money. The EU Electronic Money Directive 2009/110/EC defines it as electronically stored monetary value which is issued for the purpose of making payment transactions and which is accepted as such<sup>9</sup>.

The decline of cash in favour of e-money in one form or another is very marked in the UK. Cash as a percentage of all payments was 60% in 2008, down to 28% in 2018, and is projected to be 9% by 2028. Perhaps a more revealing statistic is that during 2018, there were 5.4 million consumers who almost never used cash at all, instead relying on

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<sup>6</sup> See the Scottish and Northern Ireland Banknote Rules 2017.

<sup>7</sup> For a history, see Benjamin Geva, *Cryptocurrencies and the Evolution of Banking, Money and Payments*, chapter 2 in *Cryptoassets: Legal, Regulatory, and Monetary Perspectives*, ed by Chris Brummer, OUP 2019.

<sup>8</sup> See footnote 3 above.

<sup>9</sup> Article 2.

cards and other payment methods to manage their spending. This was an increase from 3.4 million consumers the previous year.<sup>10</sup>

But it seems unlikely that physical cash will ever disappear. There are sound policy reasons for ensuring that it remains a viable means of payment. Other than the risk of systems failure, it has been estimated that around 12% of adults in the UK suffer from “digital exclusion”<sup>11</sup>. There is a distinct possibility that this will continue to be a marked feature of payments, because the technology changes – what is routine for millennials now, may look very different as their own age profile changes.

The UK was also an early adopter of another important technological development, that is digital banking providers, virtual banks like Monzo and Starling making inroads into the traditional banks’ customer bases, particularly among millennials. Revolut is an app which simplifies payments in foreign currency and reduces the cost of exchange.

The trend towards digital banking has been boosted by the EU Payment Services Directive ("PSD 2"), which entered into force on 13 January 2018, under which payment services in Europe have become the frontrunner of "open banking".

Open banking has not met with universal approval. In the financial sector, it has been said that competition will be distorted. This is because banks must grant competitors access to customer data and their payment infrastructure, whereas internet platforms, for instance, de facto retain sovereignty over the personal data of their customers as well as access to bank platforms<sup>12</sup>.

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<sup>10</sup> UK Payment Markets Summary 2019, <https://www.ukfinance.org.uk/sites/default/files/uploads/pdf/UK-Finance-UK-Payment-Markets-Report-2019-SUMMARY.pdf>

<sup>11</sup> <https://www.psr.org.uk/psr-publications/speeches/chris-hemsley-inaugural-speech-as-MD-at-SIBOS-transformation-of-payments>

<sup>12</sup> [http://www.dbresearch.com/PROD/RPS\\_EN-PROD/PROD000000000471102/PSD\\_2%2C\\_open\\_banking\\_and\\_the\\_value\\_of\\_personal\\_data.PDF](http://www.dbresearch.com/PROD/RPS_EN-PROD/PROD000000000471102/PSD_2%2C_open_banking_and_the_value_of_personal_data.PDF)

### *Payment systems*

In China with its highly developed smart phone payment system (particularly in urban centres), the linkage to the financial system of the two main players, Alipay and WeChat Pay, is typically through bank accounts: credit card usage is much less than in the West.

However, there is a significant difference between these providers and (for example) Visa and MasterCard in the West. Whereas the latter have their roots in the banking system, Alipay and WeChat Pay come from technology companies, Alibaba and Tencent respectively. The scale of this blurring of the boundaries between technology and finance is so far unique to China, but it may become a global trend with significant implications.

Once fiat money gets out of the bank account into the user's Alipay/WeChat Pay electronic purse, the systems largely operate autonomously. So far as users are concerned, the physical link with the currency has disappeared. Payment becomes an abstract experience, something which may encourage spending.

But money remains of the essence – it is denomination in a fiat currency, and the financial infrastructure that comes with that, that enables these systems to work<sup>13</sup>.

Both Alipay and WeChat Pay are now trialling systems that allow customers to make payments in several retail chains in China by simply scanning their faces, bypassing even the phone.

Very recently, it is reported that the European Commission is considering banning facial recognition technology in public areas for up to five years to give it time to work out how to prevent abuses.<sup>14</sup>

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<sup>13</sup> The future of money and the payment system: what role for central banks?, Agustín Carstens, General Manager, Bank for International Settlements, Princeton University, 5 December 2019.

<sup>14</sup> <https://www.reuters.com/article/us-eu-ai/eu-mulls-five-year-ban-on-facial-recognition-tech-in-public-areas-idUSKBN1ZF2QL>



Concern about these abuses is very real. But given the growing pace of facial recognition, how long will it realistically be before the human face takes the place of cash/card/phone? The risks here are not principally monetary, but go to data protection, illicit data linkages, and other potential abuses, but the public tends to look first to convenience, and the technology now has an impetus of its own.

However profound a change payment by facial recognition may be, does it tell us anything about money, and its recognition in the law as such?

In legal terms, contemporary payment systems are governed by complex interlocking agreements and subject to financial supervision. Since 2015, the UK has had a dedicated Payment Systems Regulator, and payment systems are also of close concern to the Treasury, the Bank of England and the FCA.

The performance of these payment systems is subject to criticism around issues such as cost, speed of settlement, and financial inclusion generally. But overall, they have genuinely revolutionized payment, and as I have described, this is happening more so.

There are however three points to make about these systems in answer to the question I have just posed. First, they are mainly retail rather than wholesale where the pace of change has been slower. Second, in economic terms money continues mostly to consist of the transferable debts of banks to account holders – i.e., commercial bank money. The accounts are now electronic, but (as it has been put) the architecture has not changed<sup>15</sup>. And third, and this is point I want to emphasise, the systems have not changed the concept of money, since they deal in fiat money.

#### *Fiat money and the development of private currencies*

When it comes to currency, some hold that payment in fiat money is the best and perhaps the only feasible medium to fulfil the three classic functions of money, a unit of account, a store of value, and a means of exchange or payment.

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<sup>15</sup> <https://www.ft.com/content/fc079a6a-f4ad-11e9-a79c-bc9acae3b654>

In September 2019, a member of the ECB’s Governing Council said: “Private currencies have little or no prospect of establishing themselves as viable alternatives to centrally-issued legal tender. Only an independent central bank can give money the institutional backing needed to make it reliable and able to win public trust.”<sup>16</sup>

Is this belief correct? One person who would not share it is Satoshi Nakamoto. “There are lots of ways to make money,” a New Yorker journalist wrote at the time. “You can earn it, find it, counterfeit it, steal it. Or, if you’re Satoshi Nakamoto, ... you can invent it”.<sup>17</sup>

This story will be well known to many here. Justifiable criticism of which there is plenty aside, bitcoin is an innovative idea and an elegant piece of 21<sup>st</sup> century financial engineering.

Nakamoto identified what he – if it is a he, since the name is a pseudonym – described as the inherent weaknesses of the “trust based model reliant on financial institutions serving as trusted third parties” to process electronic payments. His solution was an electronic payment system based on cryptographic proof instead of trust. The software encrypts each transaction, but a public record of every coin’s movement is published across the entire network. Whereas in a conventional payment system there is in principle a single ledger, bitcoin uses an open, decentralised ledger that records transactions between parties in a permanent way without needing third-party authentication.

This has, as is well known, has become known as Distributed Ledger Technology, or blockchain, though it can also work on a centralised, permissioned, basis.

There have been many cryptocurrencies issued since, but whilst the cryptography is unquestionable, as I shall explain, there are serious objections to describing them as “currencies”, and indeed what their legal status is generally.

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<sup>16</sup> <https://www.ecb.europa.eu/press/key/date/2019/html/ecb.sp190902~aedded9219.en.html>

<sup>17</sup> October 10, 2011 issue.

In the quest for a new concept of money, in addition to cryptocurrencies, there are currently three other front runners which are still at the ideas stage. First, an asset backed payment system known as Libra using Facebook's messaging systems. Second, fiat currency issued by central banks in digital form (CBDC). Third, an idea proposed by Governor Mark Carney in 2019 for what he described as a global electronic currency that could act as a "synthetic hegemonic currency" provided through a network of central bank digital currencies.

If they are to get underway and flourish, any such systems will require a sound legal basis. Cryptocurrencies are already underway, with the law lagging behind the technology, and the Libra model shows how a payment system can be delivered via an existing messaging system, as has happened in China with Alipay and WeChat Pay.

The lag in the law and regulation as regards cryptocurrencies seems largely deliberate on the part of policymakers, who up to now have been wary of placing obstacles in the way of the developing technology, though this hands-off approach is changing quite rapidly. In any case, so far, the amounts concerned are too small to have any effect on monetary policy. Nevertheless, important legal questions do exist which I examine later.

The position as regards Libra is different. This is seen as a credible blueprint for a private global currency, reigniting the debate as to payment and money since it was proposed in June 2019.

It raises important political and geopolitical issues, and the law will be important also, and as noted already, legal recognition underpins trust, and the converse is also true. What rules has the law, and specifically the common law, developed to deal with monetary issues?

#### *The lex monetae and monetary sovereignty*

It is necessary first to draw a distinction between the law that governs contracts identified in accordance with well-established principles of private international law, and the law that governs money itself.

The *lex monetae* is the body of law which governs money in particular aspects, and particularly currency and legal tender. Its role is reflected in the international law doctrine of monetary sovereignty.

This is taken as including essentially three exclusive and very significant rights for any given State — the right to issue currency, that is, coins and banknotes that are legal tender within its territory; the right to determine and change the value of that currency; and the right to regulate the use of that currency, or any other currency, within its territory<sup>18</sup>.

The distinction between the *lex monetae* and the *lex contractus*, i.e. between the sovereign right of a state in respect of its currency, on one hand, and the relationship between parties to a contract on the other, is of practical importance. Whilst it is the *lex monetae* that defines the currency, the parties (at least in commercial transactions) can choose the currency, and it is the governing law of the contract that determines questions as to payment<sup>19</sup>.

#### *Money in the common law*

The common law has tended to avoid overarching definitions of money. Classically, and in keeping with its character as a system developed by judges over time, the courts have considered legal questions as to the nature of money in the context in which they arise—and such questions arise particularly in relation to payment.

As exception is the Uniform Commercial Code of the United States (which was mainly drafted in the 1940s and 1950s and is by enactment part of US State law). In its general definitions, the UCC explicitly adopts the theory that “money” means what is issued by a state as such, providing that, ““Money” means a medium of exchange

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<sup>18</sup> François Gianviti, *Current Legal Aspects of Monetary Sovereignty*, Chapter 1 of *Current Developments in Monetary and Financial Law*, IMF 2005, p4.

<sup>19</sup> And which identifies the currency in case of doubt.

currently authorized or adopted by a domestic or foreign government” ((UCC § 1-201(b)(24)<sup>20</sup>). However, as will be seen, this definition is exceptional.

Of all the common law cases on the nature of money, the most famous is also the earliest. The case involved what would now be termed currency manipulation, arising out of Queen Elizabeth I’s debasement of the silver coins of the Irish currency in 1601 in connection with the war that she was waging in Ireland.

In *Gilbert v. Brett* (*‘Case of Mixt Monies’*)<sup>21</sup> decided in 1604, an English merchant argued that he was entitled to be repaid a debt owed by an Irish merchant in English not debased Irish currency. The debt was repayable in Dublin. The court rejected that contention on the basis that the Irish currency was the lawful currency in Ireland.

The case distinguishes between the intrinsic value of silver currency, and its extrinsic value by reference to its denomination, thereby confirming the principle of monetary nominalism, which is taken among other things as ruling out revalorisation on grounds of inflation (absent special terms such as gold clauses) – inflation being the modern version of debasement.

The conclusion seems obvious to us, but it cannot have been obvious at a time when money was measured by reference to precious metals, and absent the ruling of the court, a monetary obligation might have been expected to reflect that.

As Professor David Fox has commented<sup>22</sup>, the case provided the foundation for the common law’s use of nominal values to enforce monetary obligations, and so has remained important long after the demise of the commodity money systems at issue in the case itself.

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<sup>20</sup> The definition continues that, “The term includes a monetary unit of account established by an intergovernmental organization or by agreement between two or more countries”. The reference to money’s third function, as a store of value, is omitted.

<sup>21</sup> (1604) Davis 18. an English translation of the case appears in (1605) 2 Howells State Trials 114.

<sup>22</sup> David Fox and Wolfgang Ernst, *Money in the Western Legal Tradition: Middle Ages to Bretton Woods* (OUP, Oxford, 2016), p.243.

It equally provides the essential legal basis for digital currencies in contemporary times. Nominal values are what that counts in monetary law – these are set by the state in the case of fiat currencies, but are set by the issuer in the case of private currencies, though, as in the case of “stable coins”, they may be fixed by reference to fiat.

With the emergence of banknotes in the 18<sup>th</sup> century – a development in some ways more profound conceptually than that of e-money – a pressing question arose as to the incidence of loss. Is someone steals my car, and you buy it from the thief, I am entitled to have it back, even if you bought it in good faith. Would this apply where a person was robbed or defrauded of a specific banknote, and that banknote passed into the hands of an innocent party? This question in a modern form is very much alive today, with ever rising cases of bank fraud, but we have the answer.

In *Miller v Race* (1758) 1 Burrow 452, a Bank of England banknote being sent through the mail in payment of a debt was stolen in a stagecoach robbery. It ended up in the hands of an innkeeper who had taken it without notice of the robbery.

This raises a basic question as to the nature of money. In a celebrated judgment, the great commercial lawyer, Lord Mansfield, who I need not remind this audience was born in Scone Palace in Perthshire, found for the innkeeper. Citing the needs of commerce, he treated banknotes as negotiable, so that property passed to someone taking them for value in good faith.

Lord Mansfield placed banknotes in a distinct category of property, saying that “...they are not goods, not securities, nor documents for debts, nor are so esteemed: but are treated as money, as cash, in the ordinary course and transaction of business, by the general consent of mankind; which gives them the credit and currency of money, to all intents and purposes”. The factual basis of the decision is that, “A bank-note is constantly and universally, both at home and abroad, treated as money, as cash; and paid and received, as cash; and it is necessary, for the purposes of commerce, that their currency should be established and secured”.

This avowedly commercial approach focuses on how a money-like instrument is treated. If the evidence establishes that it is treated as money, it shows the court prepared

to accept it is as money. This is entirely consistent with the point made earlier, about money as a social institution.

The approach is not unique to banknotes, but was taken by the courts through the 19<sup>th</sup> century to determine the negotiability of the financial instruments that were mushrooming in the growing global capital markets, of which London was the main centre<sup>23</sup>.

The leading case is *Goodwin v Robarts* (1874-75) L.R. 10 Ex. 337<sup>24</sup> in which the court in reaching its decision took a deeply international as well as commercial approach, having recourse to the law merchant, *lex mercatoria*, commercial custom and usage, the treatment of analogous instruments in 12<sup>th</sup> and 13<sup>th</sup> century Florence and Venice and textbooks from the United States, Germany and France.

The common law, it may be predicted, in the many jurisdictions in which it is practised, would take a similar approach to determine the nature of money-like instruments today – and it would be right to do so.

The courts likewise have had no difficulty in distinguishing between money and commodities. In *Moss v Hancock*<sup>25</sup>, the court ordered the return to the person, from whom it had been stolen, a five-pound gold piece – the coin, though legal tender, had a value greatly in excess of its face value. In effect the court treated the coin not as fungible money but as a commodity, and it did so on the grounds that this reflected the commercial transaction by which the defendant came to possess it which was not one of exchange<sup>26</sup>.

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<sup>23</sup> William Blair, *Negotiability and Estoppel*, 1988, 1 JIBL (Journal of International Banking Law), p.8.

<sup>24</sup> Affirmed (1876) 1 App. Cas. 476. This case is also notable for an early judicial recognition of what we now call bank money (at p351) at a time when the cheque was a novelty.

<sup>25</sup> [1899] 2 QB 111 QBD.

<sup>26</sup> A similar view was adopted in the US authority of *Cordner v. United States*, US Court of Appeals, 671 F.2d 367 (9th Cir. 1982).

The courts' pragmatism can also be found in the *Foley v Hill*<sup>27</sup> case which decided that "the relation between banker and customer, as far as the pecuniary dealings are concerned, [is] that of debtor and creditor" with the money belonging to the bank, and not to the customer. This "historical breakthrough"<sup>28</sup> cleared the way for the legally acknowledged development of privately created bank money.

The commercial rather than doctrinal approach shows that definitions are not static. As has been pointed out by Gleeson<sup>29</sup>, it does not follow that the question of whether a particular instrument is money or not should be a once-and-for-all determination.

It also shows – and this is crucial – that while there may be good reasons for treating "money" as restricted to fiat money, as suggested in the quotation from the member of the ECB Governing Council, the law is not one of them, because the common law (leaving aside the UCC which in this respect seems out of line) does not adopt an *a priori* approach.

With that in mind, how do the new forms of instrument measure up so far as the law is concerned?

### *Cryptocurrencies*

The first point to note is that cryptoassets are not limited to so-called currencies, but have had a fairly modest uptake in, for example, share issues. However, cryptocurrencies are by far the most common of this type of asset.

The 5<sup>th</sup> EU Anti-Money Laundering Directive ("5MLD")<sup>30</sup>, which came into force on 10 January 2020 and is a part of the tightening regulation of cryptoassets,

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<sup>27</sup> (1848) 2 HLC 28, p 45.

<sup>28</sup> Ross Cranston et al., *Principles of Banking Law* 3th ed (UK: Oxford University Press, 2017) at p 190.

<sup>29</sup> Simon Gleeson, *The Legal Concept of Money* (UK: Oxford University Press, 2018) at p 122.

<sup>30</sup> EC, *Directive (EU) 2018/843 of 30 May 2018 amending Directive (EU) 2015/849 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing and amending Directives 2009/138/EC and 2013/36/EU*, [2018] OJ, L 156/43. ("Directive (EU) 2018/843").



defines virtual currencies, as (and I am paraphrasing) a digital representation of value that is not issued by a central bank, is not necessarily attached to a legally established currency, and does not possess a legal status of currency or money, but is accepted as a means of exchange and which can be dealt with electronically.<sup>31</sup>

It is not entirely clear from this definition what is meant by the exclusionary words “a legal status of currency or money”, or what is meant by “a digital representation of value which is accepted as a means of exchange”. Though the basic distinction is between fiat money and non-fiat money, it seems to leave open the possibility that a “stable coin” which is “necessarily attached” to a “legally established currency” should be treated as “money” if used as a “means of exchange”.

One much publicised “stable coin” is JPM coin, though this is not so much a means of exchange, as a money transmission mechanism between the bank and its major wholesale customers.

In fact, the Court of Justice of the European Union has ruled that the services of a bitcoin exchange in exchanging bitcoin for a traditional currency is exempt from VAT on the basis of the “currency” exemption (*Skatteverket v David Hedqvist*, Case C-264/14), but this decision should be taken as limited to the particular context.

The fundamental reason why bitcoin and similar instruments are unlikely at present to be treated as money – let alone a private global currency – is that the blockchain technology is slow and clunky compared with conventional systems, and the assets are too volatile to have widespread use as a means of payment, and they have not been adopted as such.

So although Nakamoto set out to create an alternative payment system, in fact what was created was a highly volatile and speculative investment. Cryptocurrencies are mostly treated as securities by US regulators.

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<sup>31</sup> Directive (EU) 2018/843 amended Directive (EU) 2015/849 by adding a new Art 3(18).

Were that to change, however, and cryptocurrencies were to emerge unaligned to a fiat currency but capable of fulfilling the same utilities, what the case law implies, in Joanna Perkins's words, is that, "In principle, virtual currencies which have achieved status as a medium of exchange within a significant user community have a good claim to be regarded as money".<sup>32</sup> We seem to be a long way off that presently.

What is the position as regards crypto as property, regardless of its status as money? In 2015, in a case arising out of the collapse of the Mt Gox exchange, the Tokyo District Court held that bitcoin lacked the necessary "corporeality" to be considered as property under the Civil Code<sup>33</sup>.

More recent consideration shows however, that is likely that cryptoassets will be treated as property, certainly at common law, despite some potentially difficult questions relating to bankruptcy, beneficial ownership, bankruptcy, and the legal status of the ledger itself, among others.

This was the result in *B2C2 Ltd v Quoine Pte Ltd* [2019] SGHC(I) 03, where the Singapore International Commercial Court ruled that virtual currencies can be considered as property which are capable of being held on trust.

The same conclusion was reached in November 2019 by the UK Jurisdiction Taskforce (which is part of the UK LawTech Delivery Panel) in a "Legal statement on Cryptoassets and Smart Contracts".

### *Facebook's Libra*

The coin called Libra is still at the planning stage, and faces continuing opposition from the authorities in key countries. It is conceived neither as a cryptocurrency nor as fiat but will be backed according to a specific ratio by five major fiat currencies (US

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<sup>32</sup> Joanna Perkins & Jennifer Enwezor, "The Legal Aspects of Virtual Currencies" (2016) 31:10 *Butterworths Journal of International Banking and Financial Law* 569.

<sup>33</sup> Tokyo District Court, Tokyo, 5 August 2015, *Case claiming the bitcoin transfer, etc. (Mt Gox case)*, Heisei 26 (Year of 2014), (Wa) 33320 (Japan).

dollars, euros, yen, sterling, and Swiss francs). The user can pay for or redeem Libra in his or her own currency, but the value of Libra will always be determined by the weighted value of the five currencies.

The governing body called the Libra Association is said to intend that the total value of outstanding Libra will be equal to the total market value of currencies held in reserve.<sup>34</sup> Redemption by holders would reduce both the amount of fiat held in reserve and the amount of Libra tokens in circulation.

There are three main characteristics of Libra to observe which make it – so far – unique.

First, and practically by far and away the most important, the key attribute is the messaging system not the coin. I cannot vouch for the statistics, but it was reported in August 2019 that latest messaging app usage statistics show that WhatsApp (which is owned by Facebook) has 1.6 billion users worldwide, and Facebook Messenger has 1.3 billion. Compare that with WeChat, with 1 billion mainly in China<sup>35</sup>.

This is the force behind Mark Zuckerberg’s statement that sending money should be as easy and secure as sending a text message<sup>36</sup>. The idea that a payment could be attached to a message with the same ease as a photo is immensely powerful, and resonates with a global audience which looks to technology for simple and accessible outcomes.

Second, as just noted, it is said that Libra will be fully backed by a reserve of cash and other highly liquid assets.

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<sup>34</sup> Libra Association, “Libra White Paper: The Libra Currency and Reserve”, online: WordPress.com VIP, <<https://libra.org/en-US/white-paper/#the-libra-currency-and-reserve>>.

<sup>35</sup> <https://www.messengerpeople.com/global-messenger-usage-statistics/>

<sup>36</sup> Testimony to Congress, October 23, 2019: <https://financialservices.house.gov/uploadedfiles/hhrg-116-ba00-wstate-zuckerbergm-20191023.pdf>

Third, the plan is to anchor the value of Libra in a basket of currencies, though Facebook is reported to have said that instead of or as well as a synthetic unit, it could have multiple denominations based on single currencies.

Facebook has emphasised the advantages of its proposal for financial inclusion, and the utility of Libra for the sending of remittances by the many workers around the world whose families depend on it.

If the synthetic proposal goes ahead then Libra's stated ambition to become a global currency would be complete. The way would be open for the common law to recognise the currency on the principles set out above.

The possibility then arises for Libra to be more than a payment system. This is because users may prefer to leave the funds in a more secure environment than that provided by their national currencies/financial systems.

Despite the many legitimate concerns expressed as to Libra, around for example financial stability and data misuse, and the obvious necessity for comprehensive regulation which as noted has hitherto been lacking in the case of cryptocurrencies generally, the force of the objections to Libra probably stem largely from the implications of this project.

The US dollar is presently close to a global currency in both its bank and physical cash form, and is the number one reserve currency. With that comes immense economic and geopolitical soft power.

But for any country, the possibility of the State losing its present de facto monopoly on currency issuance to a giant international technology company is an uncongenial prospect.

Nevertheless, the record of States in managing their currencies is patchy. At the extreme, following hyperinflation in Zimbabwe, with all the pain that goes with hyperinflation, the State currency was demonetised between 2009 and 2019, and the US dollar and South African rand became effectively legal tender.

The opposition to Libra may win out, and the project remain unconsummated. But the cat is out of the bag. It has become clear that a private global currency is relatively easily attainable by an entity with sufficient technological power. That cat will be difficult to get back into the bag. Without addressing the financial inclusion ideals that Libra seeks to ameliorate, it may be impossible.

On its website, Libra is open about wanting to “reinvent money”. Of all the instruments under consideration this evening, it is Libra that gets closest to this in a conceptual as well as a practical sense.

### *Central bank digital currencies (CBDC)*

Given our day to day experience in cashless payments, it may seem counter-intuitive that central banks are only now considering issuing digital as opposed to physical currencies, but digital currency in this context has a specific meaning, applying to money to which the public, and not just the banking system, has direct access as in the case of banknotes.

A number of central banks have been considering issuing digital currencies, but progress has been relatively slow. Part of the reason for this is that national payment systems are already perceived to work adequately or well. Another is that distributed ledger technology so far as it would be utilised still faces steep challenges if it is to improve on current arrangements. For political reasons, Libra has given the process a significant boost, which may however ease off if Libra does not go ahead.

A central bank issuing a CBDC needs the legal authority to do so. The Bank for International Settlements (BIS) reports that about a quarter of central banks have, or will soon have, such authority. A third do not have authority and about 40% remain unsure. Provided authority is established, no further questions as to legality should arise.

If a central bank issues a digital currency then, depending on whether it is wholesale or retail or both, everyone (including businesses, households and financial institutions other than banks) could store value and make payments in electronic central bank money. As the Bank of England has said, while this may seem like a small change,

it could have wide-ranging implications for monetary policy and financial stability, as well as potentially adversely affecting the banking sector by shifting retail deposits to the central bank.

As the IMF has pointed out, offering full-fledged CBDC requires central banks to be active along several steps of the payments value chain, potentially including interfacing with customers, building front-end wallets, picking and maintaining technology, monitoring transactions, and being responsible for anti-money laundering and countering the financing of terrorism.

So it may be that these currencies advance relatively slowly. As Professor Avgouleas and I put it in the article, it will be the first time that the transfer for cash-equivalent of fiat would be subject to continuous government monitoring,<sup>37</sup> raising the surveillance of citizen behaviour, e.g., spending habits, consumer preferences, and so forth, to intolerable levels.

#### *A synthetic hegemonic currency?*

In a 2019 speech, Governor Mark Carney discussed the possibilities of bringing CBDC's together in a "synthetic hegemonic currency". The purpose would be to "dampen the domineering influence" of the US dollar as the predominant reserve currency on global trade, rather as Keynes suggested, but composed of fiat currencies.

However, such a currency would likely be used in international payments even if that was not the original design and would pose a strong competitor to local fiat. At present, there is no realistic possibility of the US moving in this direction, and China shows no inclination to abandon capital controls and make the yuan fully convertible. Nonetheless, this counts as a major conceptual contribution to the subject under discussion.

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<sup>37</sup> See Paul Pichler, Martin Summer & Beat Weber, "Digital Money" (2018) Q3/18 *Monetary Policy and the Economy*, Oesterreichische National Bank (Austrian Central Bank) 23.

### *Concluding remarks*

The phrase “4<sup>th</sup> Industrial Revolution” comes out of Davos, and like some other such lines, it has no particular meaning. We all know what it is getting at – the combination of factors that makes the current development of information technology something more than a scaled-up version of what we have already. Lord Hodge explained the factors driving this in his 1<sup>st</sup> Edinburgh FinTech Law Lecture last year.

I will pick out just a few points in closing.

Whilst money has always been political, the immense economic and geopolitical soft power that goes with the reserve currency status of the US dollar does not have a precedent in history, not even sterling at its height. The crown does not currently seem unduly threatened – but there are signs that the hegemony may be fraying.

Whilst money has always been a social phenomenon, the technology is now powerfully amplifying this, in ways that have never happened before. As I said, from red packets, to getting on the Metro, to buying a cup of coffee, payment by phone increasingly becomes part of the experience.

Mobile technology has produced what I have called the democratisation of money, and this is happening worldwide. A technological generation has effectively been jumped in many parts of the world with enormous potential gains.

But finally, there is a darker side – will the many benefits that the payments revolution can bring be a marker on the road to the surveillance society? That in the end depends on us.

To the question, “will there be a private global currency?”, the answer may be, not yet. But it would be rash to predict what the position may be in a few years’ time.

Thank you for listening to me this evening.