VIRTUAL AND LOCAL CURRENCIES: ARE PARACURRENCIES THE NEW FORM OF MONEY?

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The phenomenon of virtual and local currencies, which we will call "paracurrencies" in this paper, is not new. However, in recent years, new technological developments have encouraged their development and have led to them becoming widespread at global level. This increasing expansion and the potential money substitution effect of these currencies have prompted regulators and supervisors to begin to pay particular attention to them.

Currently, despite the initial intentions that they might have to substitute money, they cannot be considered as money and they will not foreseeably replace money in future. Nevertheless, the increasing popularity of paracurrencies could lead to a rise in the risks to the financial system. The identified risks to the stability of the financial system are limited for the moment, since paracurrencies are not widespread and their connection with the financial system is limited. However, the risks for consumers can be significant, even when they are used within a limited scope, as is the case at present.

Supervisors' and regulators' efforts to date have focused on the assessment of the phenomenon and the monitoring of these risks, with the purpose of evaluating whether to adopt measures to mitigate them and the advisability or not of developing a specific regulatory framework for paracurrencies.

1 Introduction

In recent years there has been a proliferation of the issuance and use of the so-called virtual and local "currencies". To avoid confusion with any notion of money, they can also be called jointly, "paracurrencies". In most jurisdictions they do not have legal coverage and are potential replacements for money, although they only partially fulfil the characteristic functions of money, broadly speaking, in its various physical and electronic forms; these being to act as a medium of exchange, as a store of value and as a unit of account.

It is precisely the growing, albeit still limited, expansion of virtual and local currencies, and their potential money substitution effect, which has prompted regulators and supervisors to begin to pay more attention to both phenomena. In other developed countries and international institutions efforts are currently focused on accurately evaluating the attendant risks with a view to possibly adopting measures centred on mitigating them and evaluating the possibility of regulation in the future, or the possible regulation of some of the more significant or problematic aspects of virtual and local currencies.

To this end, Section 2 first defines conceptually the rather ambiguous notions of "virtual currency" and "local currency", marking the boundaries between them and the various other forms of money: commodity money, central bank money, cash, scriptural money and e-money. Next, Section 3 aims to determine more precisely the nature of virtual and local currencies, attempting to specify their characteristics and underline the differences between them; it is only possible to do so in general terms, given the diversity of the existing types of these currencies, each having their own particular features. Section 4 looks at the similarities and differences between these currencies and money. Section 5 provides a systematic summary of the risks of issuing and using paracurrencies for financial stability and consumers. Finally, Section 6 describes the measures adopted to date by the authorities and outlines certain possible regulatory actions in relation to both virtual and local currencies.

2 Identification of the types of money

It is difficult to pinpoint the moment in history when the monetisation of society occurred, although it seems that as early as approximately 2200 BC payments were made using some type of money. That embryonic money, initially of very limited scope, was "commodity money", namely an object with an intrinsic value (cattle, seeds, etc. and later gold and silver) which facilitated trade in goods and services.

Around the 18th century the use of money issued with the backing of a commodity ("fiduciary money") became widespread; it consisted of representative elements of that underlying asset (e.g. gold certificates). These documents, that lacked intrinsic value, but which were backed by the attendant commodity, could be exchanged for a fixed amount of the underlying commodity and, consequently, the advantages of the transferability of money and of the possibility of sending or moving amounts of money from one place to another were added. The international monetary system was based on "fiduciary money" until 1971 when the United States decided to abandon the Bretton Woods agreement of 1944 and the dollar, the international benchmark currency, was no longer convertible into gold.

Since the gold standard was abandoned, economies have been based on so-called "fiat money", which in appearance is similar to money backed by a commodity (or "fiduciary money") but conceptually it is very different since the holder is not entitled to the reimbursement of any commodity. Thus, "fiat money" is like any other legal tender designated as such and issued by a central authority,[1] whose only backing is the confidence in that central authority. Individuals are willing to accept it in exchange for the delivery of goods or the provision of services simply because "they trust" that central authority. Consequently, all "fiat money" systems turn purely on public confidence, which is also the basis for fiat money being widely accepted in society.[2]

Irrespective of the form adopted by money, the latter has been associated traditionally with the fulfilment of three different functions:

- *A medium of exchange.* Money is used as an instrument of exchange in trade, so as to avoid the disadvantages of a barter system (the needs of two parties to a transaction and the amount of what is provided and the consideration coincide).

- *A unit of account.* Money operates as a standard numerical unit to measure the value and cost of goods, services, credit claims and debts.

- *A store of value.* Money retains a certain value (not necessarily invariable) over time and thus can be saved (or stored) for use by the holder at a future point in time.

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1 In pure terms, a central bank, which calculates the money that should be put into circulation, and private banks, which create money through loans extended to the public, intervene in the money creation mechanism. For more details see McLeay et al. (2014).

2 Note that economic literature does not always attribute the same meaning to the concept of "fiduciary money":
i) occasionally it seems to be used merely as a synonym of what we have called here "fiat money" (perhaps as a consequence of the English term "fiat money" having being translated interchangeably as "fiat money" or "fiduciary money");
ii) at other times its meaning is more generic, comprising both "fiat money" and money backed by a commodity;
iii) lastly, it can also be understood as referring solely to money backed by a commodity (and, therefore, the opposite to what we have called "fiat money"). In order to avoid ambiguity, this criterion was chosen with the result that "fiduciary money" and "fiat money" are treated as two separate concepts.

MONEY AND OTHER SIMILAR FORMS TABLE 1

With physical backing		
Commodity money		
Fiduciary money		
Without physical backing		
With the backing of a state central authority	Funds (Article 2(15) of the Payment Services Law)	Cash
		E-money
		Scriptural money (deposits at credit institutions)
	Deposits at central banks	
Without the backing of a state central authority	Virtual currencies	
	Local currencies	

SOURCE: Devised by authors.

Thus, money is a social institution which has been created and shaped according to society's needs and has evolved and adapted over time. Logically, recent technological innovations (the internet, telecommunications, etc.) have had a particular impact on these developments and are not immune to the emergence of modern forms such as e-money and also the above-mentioned proliferation of virtual and local currencies.

In order to better understand the terms used, it is useful to define conceptually the various forms of money according to the EU and national legal provisions in force. We can perform an initial basic classification of money – understood in a broad sense – based on how issues are backed (commodity-backed money as compared with unbacked money). In turn, money not backed by a commodity can be subdivided into regulated money, with the backing of a central authority, and unregulated money, which comprises local and virtual currencies.

Thus, using this approach we can distinguish:

– *Commodity money.* Although strictly speaking there is no legal definition, commodity money means an asset which has an intrinsic value and this value is the same as a monetary unit and as a commodity (gold, precious stones, etc.). The commodity chosen as money should have the qualities of being lasting, transferable, divisible, homogeneous and of limited supply (usually commodities).

– *Central bank money.* A concept not defined legally, it comprises cash, as a whole, and the accounts opened by the central bank for its customers. Note that the accounts opened at the central bank are typically only available to certain institutions and can be used to make interbank payments but they are not accessible to the general public.

– *Funds.* Article 4(25) of Directive (EU) 2015/2366 of the European Parliament and of the Council of 25 November 2015 on payment services in the internal market and Article 2(15) of Law 16/2009 of 13 November 2009 on payment services define the term "funds" as, "banknotes and coins, scriptural money or electronic

money [...]", i.e. as a term comprising the three concepts delimited below: cash, scriptural money and e-money.

- *Cash (banknotes and coins).* According to the provisions of Articles 10 and 11 of Council Regulation (EC) No 974/98 of 3 May 1998 on the introduction of the euro, and Article 3 of Law 46/1998 of 17 December 1998 on the introduction of the euro, banknotes and coins denominated in euro are the only banknotes and coins with the status of legal tender in Spain and, therefore, the full power to discharge debts (Article 1170 of the Civil Code). In Spain, therefore, "cash" (euro banknotes and coins) are the "legal tender".

- *Scriptural money.* A term not legally defined which means the equivalent of "commercial bank money" or "bank money", but which is different to e-money. This refers to the balances held in deposit accounts at commercial banks which are reimbursable on demand: these balances can be transferred from one individual to another through money transmission services, such as credit transfers, direct debits or card payments. The notion of scriptural money coincides with sight deposits held by the public at credit institutions.

- *E-money.* As provided in Article 2(2) of Directive 2009/110/EC of the European Parliament and of the Council of 16 September 2009 on the taking up and pursuit of the business of electronic money institutions, and the transposition by Article 1(2) of Law 21/2011 of 26 July 2011 on electronic money, electronic money is defined as, "electronically, including magnetically, stored monetary value as represented by a claim on the issuer which is issued on receipt of funds for the purpose of making payment transactions as defined in Article 2(5) of Law 16/2009 of 13 November 2009 on payment services, and which is accepted by a natural or legal person other than the electronic money issuer".

– *Paracurrencies.* A general term with which we will designate virtual currencies and local currencies.[3] Given the absence of widely accepted definitions and the range of existing models, nowadays the difference between them is not clear; a single scheme may have the features associated with local and virtual currencies.

3 Paracurrencies: concept and scope

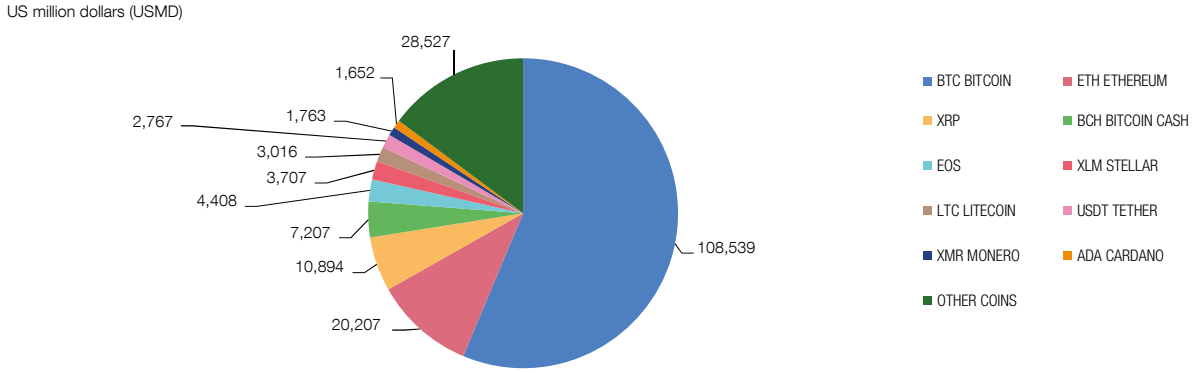
Virtual and local currencies are characterised more precisely below with a view to addressing the risks which they pose and their regulatory treatment in the following sections.

3.1 VIRTUAL CURRENCIES

Virtual currencies are not a new phenomenon but until a short time ago their issuance and exchange were usually restricted to only one entity and the scope for using them was very limited (for example, on-line gamers or certain platforms' or companies' customers). However, recent technological developments have permitted the emergence of numerous virtual currencies which generally use decentralised methods of issuance and exchange and have a global reach via the internet.

3 Strictly speaking, we would also have to include closed-loop paracurrencies which can only be used to acquire goods and services in the issuer's distribution channels (for example, the use of air miles, loyalty points or on-line games). Due to its limited scope, this type of paracurrencies is of scant interest for the purposes of this paper and, consequently, it has been excluded from our analysis.

MARKET VALUES OF THE TOP TEN VIRTUAL CURRENCIES CHART 1



SOURCE: https://coinmarketcap.com.
NOTE: Data from 1 September 2018 in US million dollars (USMD).

This type of virtual currency which does not have a specific issuer and is not subject to centralised control, but is distributed and based on cryptography is called "cryptocurrency". The most notable example is the bitcoin which uses a registration and transfer mechanism based on Distributed Ledger Technology (DLT). DLT allows the decentralised recording of the history of bitcoin transactions. The ledger consists of a database shared by all users, in which the transactions are entered and users are responsible for verifying the transactions and receive virtual currencies as a compensation for the verification cost (mainly hardware and electricity). There is no central body which takes responsibility for verification of the transactions.

In fact, the underlying technology of these virtual currencies, the distributed ledgers, transcends the environment of the currencies themselves and is a field for development which, albeit incipient, in certain financial areas could lead to significant efficiency improvements.

The debate prompted by this new technology has even given rise to several countries currently considering the possibility of issuing central bank money in a digital format which is accessible to the general public. This issue, which has proponents and detractors, is currently subject to intensive doctrinal discussions. In any event, this paper does not examine in depth the possible applications of decentralised ledgers in the financial sectors and, similarly, does not address their application to a virtual currency issued by a central bank or the general problems of an issue of this type.

Today there are more than 1,500 virtual currencies in circulation, each with their own features, and their total market capitalisation in September 2018 amounted to slightly less than $200 billion.[4]

In the absence of a legal definition there was a prolific discussion about whether virtual currencies were a medium of exchange or a means of payment. In 2014 the European Banking Authority (EBA) considered them to be medium of exchange:[5] "a digital representation of value that is neither issued by a central bank or public authority nor

4 Source: https://coinmarketcap.com/ consulted on 1 September 2018.
5 See EBA (2014).

necessarily attached to a FC [fiat currency], but is used by natural or legal persons as a means of exchange and can be transferred, stored or traded electronically". However, subsequently, the Court of Justice of the European Union[6] compared the bitcoin virtual currency to a means of payment, since it considered that it had no other purpose than to be a means of payment and that it was accepted as such by certain operators. This issue is not trivial from a regulatory standpoint, given that whether prior authorisation is needed to issue a virtual currency may depend on this consideration.

Recently, with the approval of Directive (EU) 2018/843 of the European Parliament and of the Council of 30 May 2018 (5AMLD) amending Directive (EU) 2015/849 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing (4AMLD), providers engaged in exchange services between virtual currencies and fiat currencies, and custodian wallet providers were included in the scope of the latter directive.

In an initial draft of this directive, the European Commission had suggested considering virtual currencies as a means of payment. However, following a dissenting opinion issued by the European Central Bank (ECB), a definition of virtual currencies was finally included in the text of the directive which treats them as a medium of exchange since it considers them a "digital representation of value that is not issued or guaranteed by a central bank or a public authority, is not necessarily attached to a legally established currency and does not possess a legal status of currency or money, but is accepted by natural or legal persons as a means of exchange and which can be transferred, stored and traded electronically". It is stated, furthermore, that they are not deemed to be funds, as defined in Article 4(25) of Directive (EU) 2015/2366 of the European Parliament and of the Council of 25 November 2015, nor are they deemed to have a monetary value stored in excluded instruments, as specified in Article 3(k) and (l) of this directive.[7]

Although the key issue during the legal passage of the 5AMLD was, as far as virtual currencies are concerned, whether they are considered a means of payment or a medium of exchange, it was also underlined that the main difference between this type of currency and e-money is their different level of connection with "fiat" money: while e-money can be considered in a sense as another form of legal tender, virtual currencies do not have that direct relationship with the latter.

3.2 LOCAL CURRENCIES

There is no legal concept to encompass "local currencies", "local area currencies" or "social currencies" either. Based on their different forms, we can typify them generally as complementary or alternative media of exchange to legal-tender means of payment which are accepted and used voluntarily in a limited (territorial or sectoral, etc.) area. They may have a physical or digital representation.

The main objective usually pursued by local currencies is to encourage economic activity within a geographical area or specific group so that a substantial portion of spending is undertaken within that community. There are various mechanisms to incentivise their use by consumers (for example, applying discounts to the acquisition of local currency or to purchases made in local currency). Similarly, one characteristic that local currencies can

6 Judgment C-264/14 of 22 October 2015 on the treatment for Value Added Tax purposes of the exchange of bitcoin for traditional currencies.

7 Since virtual currencies are conceived to be a medium of exchange – not a means of payment – and are explicitly denied the legal status of currency or money, this emphasises that they do not have one of the characteristics inherent to legal tender, such as the power to discharge bearer debts.

be given to encourage this spending is depreciation (the so-called "demurrage") which in certain cases means the value of the local currency falls as from a certain date or expires in full.[8]

Throughout history different systems or models have been developed with the aim of becoming complementary or alternative media of exchange to legal-tender means of payment. Especially in times of economic recession (such as at the end of the 19th century and during the interwar period in the 20th century), diverse local currency systems proliferated in some countries. These schemes, operating within defined territorial areas, to varying degrees of success and of mixed duration, sought to act as a channel for payments made in a specific region, district or town.[9] In all of these cases, the purpose and aims pursued with the implementation of such currencies was to prompt the general public to focus their spending on that geographical area, fostering among them a greater sense of belonging and commitment to the local community and contributing, likewise, to money circulating more rapidly in that area so as to stimulate demand and achieve higher economic growth within that territorial area of reference.

The functioning of local currencies generally met the needs of a model in which participants (the general public and retailers) could request to voluntarily become a member of the scheme, with the result that once they had joined, they could exchange legal tender for the local currency (usually at a parity of one to one). In many cases, this local currency was considered a "voucher" which was issued on paper and could be used to pay for goods and services acquired within the network of all the participants. Local currencies which function according to the scheme described currently exist in several European countries.[10]

Note, however, that these currencies are not regulated by law insofar as they are the result of an agreement by a relatively limited specific group of individuals which is ready to accept them as a means of payment for transactions carried out between them. The only existing regulatory reference we can find is in Directive (EU) 2018/843 of the European Parliament and of the Council of 30 May 2018 (5AMLD) amending Directive (EU) 2015/849 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing (4AMLD), which is limited simply to clarifying in Recital (11) that, "Local currencies, also known as complementary currencies, that are used in very limited networks such as a city or a region and among a small number of users *should not be considered to be virtual currencies*". Aside from this exclusion and the general description above, it is not possible to find a legal definition of local currencies.

The application of new technologies has made it possible to issue local currencies in digital format. Consequently, the distinction between local and virtual currencies appears to be more diffuse since both are alternative digital media of exchange to legal tender (although local currencies are usually characterised by being centralised with a scope limited to a geographical area or a specific group, whereas the majority of virtual currencies are decentralised and global in nature).

8 For example, the Stroud pound depreciates by 3% every six months and the Lewes and Bristol pounds have an expiry date.

9 The local currency brought into circulation during the interwar period in Wörgl, Austria to rekindle the local economy, which has subsequently inspired other similar models, is paradigmatic in this sense.

10 See Naqvi and Southgate (2013).

CHARACTERISTICS OF MONEY AND OTHER SIMILAR FORMS TABLE 2

	Cash (coins and banknotes)	Deposits at commercial banks (scriptural money)	E-money	Virtual currencies	Local currencies
Legal-tender means of payment for the discharge of debts	Yes	No	No	No	No
Issuer	Central bank	Credit institutions	Credit or e-money institutions	Generally decentralised	Generally centralised
Scope	Global	Global	Global	Global	Limited
Physical or digital representation	Physical	Digital	Digital	Digital	Physical or digital
Management	Centralised	Decentralised	Decentralised	Generally decentralised	Generally centralised
Immediate reimbursement	Yes	Yes	Yes	Not in general	Not in general
Existence of a general regulatory framework	Yes	Yes	Yes	No	No

SOURCE: Devised by authors.

4 Similarities to and differences from money

Having defined the concepts of virtual and local currencies, Table 2 shows their main characteristics in accordance with various assessment parameters.

Both virtual and local currencies aim to fulfil, to some extent, the functions traditionally associated with money (to serve as a medium of exchange, a store of value and unit of account), but at present they only achieve these objectives in a very limited way. Both currencies are designed to be used as a medium of exchange (at least within their respective scopes of use) and can likewise serve as an instrument in which a value is stored. With these objectives, they are homogeneous and fungible and divisible without loss of value, like cash.

However, despite any pretensions they may have to replace money – and their misleading name in this sense ("currencies") – they can neither be considered as money nor will they foreseeably replace legal tender in the future, given their marked limitations.

Thus, in the case of virtual currencies, their possible function as a unit of account and medium of exchange is rather mediocre both on account of their limited acceptance for making retail payments[11] and the high cost of those "payments", as well as on account of their volatile and unforeseeable value, which makes it extremely difficult to set prices in these currencies. Given their very high volatility they are not very reliable either as a store of value towards which the general public can channel their savings. Furthermore, their lack of both an intrinsic and extrinsic value (since they are not backed by any authority) also makes it difficult for them to comply with the functions of money. In fact, virtual currencies have begun to be used increasingly frequently as investment instruments, often for speculation.

11 It is difficult to monitor their level of acceptance, since there are no reliable statistics available on the degree to which virtual currencies are used in commercial transactions (at present it is estimated that globally approximately 250,000 transactions are performed in bitcoins on a daily basis, compared with 300 million transactions performed in euro).

It does not seem foreseeable that in the near future these limitations will be overcome, since in most of these initiatives there are problems of scalability arising from the high energy cost of producing these currencies, the elevated transaction costs,[12] governance problems and the rigidity of their supply mechanism. In itself, the underlying technology is a brake on the development of these currencies since it does not provide a simultaneous response to the three properties or requirements which would be necessary: decentralisation, cost efficiency and proper performance of operations.

As a result, payments made with these currencies are not perceived as efficient payments, unlike payments made with legal tender. Currently, the existence of a public authority which backs legal tender contributes to sustaining the robustness of the payment systems and confidence in money as a generally accepted, common medium of exchange: the general public understands that payments made using money are safe and are performed immediately, without any setbacks.

However, it should also be admitted that in certain jurisdictions and in situations where there is a deterioration of the sovereign currency, the use of virtual currencies could spread since it is an alternative or replacement mechanism which satisfies the needs of the general public: consider, for example, countries where the official currency is not convertible or where there is hyperinflation in the economy.

Industry is proposing alternatives to attempt to solve the stability problems of the value of virtual currencies[13] and to resolve technological limitations in order to facilitate their use as a means of payment, although this seems difficult given the governance problems of many of these proposals.

As for local currencies, their use as a medium of exchange is also very restricted since they operate in small territorial or sectoral areas. Although they do not pose volatility problems (on account of the one-to-one parity rate usually set with legal tender), they may not be appropriate as a store of value, especially if they have certain rapid depreciation rates (e.g. "demurrage"-charged local currencies). Additionally, since they lack the backing of a sovereign authority and often have established depreciation rates to incentivise their circulation they are not conceived and are not especially attractive to serve as money.

To conclude, it cannot be said that nowadays paracurrencies fulfil the functions of money since they are not a common and generally accepted means of payment or medium of exchange. In fact, the term "currencies" is somewhat misleading and the name of virtual currencies or cryptocurrencies has evolved recently towards "virtual assets" or "crypto-assets", precisely with the intention of clarifying them with respect to the notion of "money". Nor will they foreseeably replace legal tender in the near future, even if their use spreads, given their limitations.

In any event, the phenomenon of paracurrencies in respect of their use as a medium of exchange and as a financial instrument entails certain risks which are analysed in the next section.

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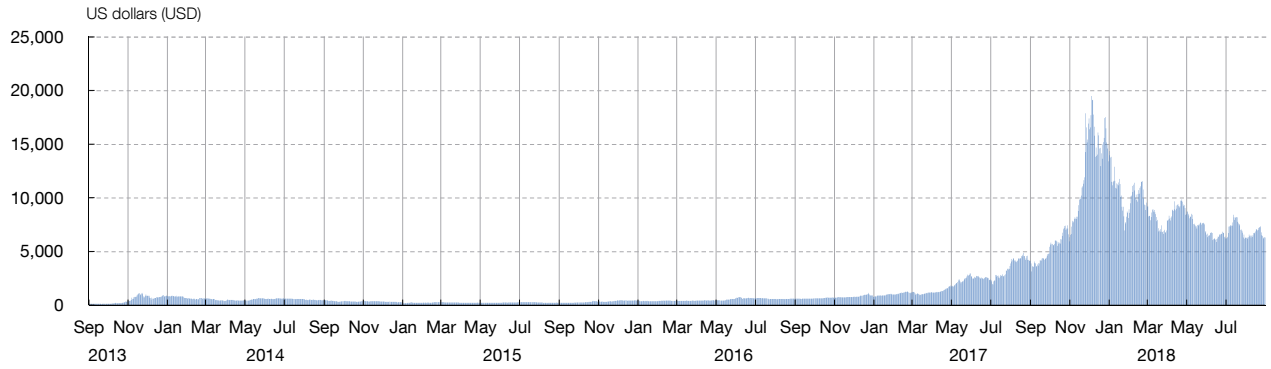
12 With their existing design, virtual currencies are not optimal for those exchanges in which the product is delivered immediately.

13 One example is the recent emergence of "stable coin" currencies, which seek to hold a stable value since they are pegged to a stable fiduciary currency, or collateralised by goods.

BITCOIN TRADING PRICE BETWEEN SEPTEMBER 2013 AND AUGUST 2018 CHART 2



SOURCE https://coinmarketcap.com.

5 The risks of paracurrencies

5.1 VIRTUAL CURRENCIES

As we have seen, virtual currencies are digital representations of value, issued through private bodies and denominated in their own unit of account. Most of these currencies are "quasi-anonymous", since the transactions are recorded so that users are only known by their virtual currency public addresses and their real identity cannot be easily retrieved. The better known virtual currencies habitually use distributed ledgers; for instance, in the case of bitcoin a registration and transfer mechanism based on DLT technology is used. DLT allows the decentralised recording of the history of bitcoin transactions.[14]

The rigidity of supply and the high volatility of these currencies may lead to the risk of a speculative bubble in the virtual currencies market. In fact, the extreme appreciation of the bitcoin at end-2017 was immediately followed by a swift value correction: from almost reaching US$20,000 in December 2017, it collapsed to less than US$7,000 barely two months later (see Chart 2).

The bitcoin's appreciation by more than 1500% during 2017, is inevitably reminiscent of other speculative bubbles including, most notably, the tulip bubble (1634-1637) which was one of the most important in history.[15]

Virtual currencies pose important risks for consumers, potentially entailing an economic loss. These risks can be summarised as follows:

– *Financial risks.* These currencies lack intrinsic value, legal coverage and institutional backing, with the result that there is a risk of non-payment since, if there is any non-compliance by the counterparty, the user does not have the protection afforded by international payment systems (credit risk). Their value is solely reliant on there being users willing to acquire them and they usually experience sharp swings without any apparent objective cause (market risk). Price formation is not transparent and could be manipulated by exchange platforms. The holders might not have the option to convert their virtual

14 Although virtual currencies do not function as a sound substitute for money, their innovative underlying technology could be a significant catalyst for the transformation of the financial sector.

15 Considered one of the first financial bubbles in history, tulipmania, also known as the tulip crisis, occurred in the Netherlands in the 17th century. The object of the speculation was tulip bulbs whose price reached exorbitant levels (one bulb was worth as much as 15 times the annual salary of a skilled craftsman or the equivalent of five hectares of land). When the bubble burst in spring 1637, the sudden collapse of bulb prices led to the ruin of vast numbers of the general public and bankrupted the Dutch economy.

currencies into conventional money at will (liquidity risk). Even if there is the possibility of selling the virtual currencies, there may be limited transparency relative to the commission applicable.

– *Operational risk,* since the technology on which most virtual currencies are based is not consolidated and the security offered by the platforms supporting virtual currencies is not yet comparable with that of traditional payment systems. There are many examples of operational incidents and theft through computer attacks which have affected providers engaged in exchange services and custodian wallet providers.

– *Risk of fraudulent use and unlawful activity.* The anonymity of many virtual currencies means that they have been used occasionally for money laundering and the financing of terrorism or other unlawful activities, such as tax evasion, trade in illegal goods, extortion, the collection of ransomware as well as for avoiding restrictions on exchange controls or the movement of capital in certain jurisdictions.

– *Legal risk,* since virtual currencies are not backed by any central bank or other authority, they do not fit clearly into any pre-existing legal form and are not regulated or supervised. Virtual currencies do not have a direct relationship with legal tender and are usually considered a medium of exchange and not a means of payment from a legal standpoint. Consequently, no type of authorisation is required to operate with them, since this activity can be performed outside the regulatory framework applicable to credit, e-money or payment institutions as well as of that referring to foreign currency exchange services.

  Whenever goods and services are acquired by using virtual currencies, the purchasers might not be fully protected by consumer protection legislation if any problem arises with the payment or with the product acquired or service engaged, especially in cross-border transactions. Nor is there a system of rights and obligations which sets out certain rules to protect virtual currency users (among others, the right to repayment if transactions are carried out incorrectly or are not authorised and reporting transparency obligations).

The high volatility of virtual currencies and the risks they entail (operational, legal, credit and liquidity risks, etc.) could adversely affect the stability of the financial system. However, since the use of virtual currencies is not currently widespread, compared with legal tender, and their interconnectedness with the financial system is limited, these instruments do not seem to involve significant risks for the moment. If they were used more widely, or if the financial sector were to increase its exposure to these currencies, which to date has been very low, this assessment could, however, be changed.

5.2 LOCAL CURRENCIES

As seen above, local currencies generally have a fixed parity to the national currency. Additionally, the use of these currencies is largely based on trust in the issuer, which furthermore – unlike virtual currencies – is usually a known entity that, as a last resort, could be held accountable.

Based on these premises, it could be considered that the risks associated with the use of local currency schemes are less serious than those indicated in the previous section for virtual currencies. However, it is essential to analyse in detail the rules which, in each case,

establish how these schemes operate and regulate the rights and obligations of each participant, especially as regards the possible convertibility into euro of the units of value, so as to adequately assess the possible risks.

Notwithstanding this, one of the most relevant risk for consumers is the legal risk arising from potential legal uncertainty, in particular in the case of local currencies not issued by a public authority. Since local currencies are not regulated, users may be affected by the limited clarity concerning the regulations applicable to local currencies and the lack of protection should any incident arise.

Operational risk is also significant, due to the fragility of the scheme. For example, an interruption or failure in the functioning of the scheme would lead to the holders of units of value not being able to convert them into national currency. Also noteworthy is the risk of fraud or currency counterfeiting, especially where the currencies are issued on physical media.

Lastly, the bankruptcy of a local currency scheme could generate risks for financial stability if the volume of transactions in this currency were high enough to trigger a reduction in the capacity to make payments. At present, the implications of this type of currency are clearly limited, essentially because of their small volume.[16]

6 Regulatory responses to paracurrencies

6.1 VIRTUAL CURRENCIES

The increasing popularity of virtual currencies – with the bitcoin in the lead – could trigger an increase in risks both for economic and financial stability and for consumers in general. Although the risks identified related to the stability of the monetary and financial system are deemed to be limited for the moment, conversely, the risks for consumers, as we have seen, are significant, despite the restricted scope of use of these currencies.

Virtual currencies pose a regulatory challenge to the extent that, without fitting into any of the existing economic-legal forms, they share certain features with several of them, such as legal tender, payment systems and financial instruments. Also, they can impact market integrity and be used as a mechanism for tax evasion, money laundering and the financing of unlawful activities. This explains why regulators and supervisors are paying increasing attention to them in order to adequately assess the risks and, where appropriate, attempt to mitigate them through the various tools available.

Virtual currencies do not currently have specific legal coverage in most jurisdictions, "their use moves within the boundaries of what is permitted but not necessarily regulated". This is essentially what happens in the most developed – and most flexible – countries (the United States, Canada, European Union Member States, Japan, Australia and New Zealand); in some of these countries (among others, the United States and Spain) for the moment the authorities have confined themselves to issuing public warnings about the risks inherent in their use by the general public. However, a minority group of countries, including most notably Russia, have chosen to declare them illegal, while another minority group (China, Egypt, Saudi Arabia and Mexico) have subjected them to very stringent legal restrictions.

16 For example, the value in circulation of the Bristol pound, which is the local currency with the highest volume in the United Kingdom, is approximately 250,000 pound sterling, while the value in circulation of the banknotes issued by the Bank of England amounts to more than 54 billion pound sterling.

Within the European Union the initial public information comprised the above-mentioned opinion issued by the EBA (July 2014)[17] and the report issued by the ECB (February 2015)[18] which referred to the main risks of virtual currencies and the requirements for developing a regulatory approach to them. More recently, virtual currencies have only been regulated with the particular purpose of preventing the use of the financial system for money laundering and terrorist financing. Specifically, with the approval of Directive (EU) 2018/843 of 30 May 2018 (5AMLD) providers engaged in exchange services between virtual currencies and fiat currencies and custodian wallet providers were included in its scope.

As far as Spain is concerned, to date there has been no specific regulation for virtual currencies. That means that no type of authorisation is needed to operate with them since this activity can be performed outside the regulatory framework applicable to credit, e-money or payment institutions as well as that referring to foreign currency exchange services.

From a national standpoint, for the time being there does not seem to be a need for virtual currencies to be given general regulatory treatment aside from the regulation of certain specific aspects linked to their use, such as the necessary transposition of the 5AMLD. However, this could change in the future and it should not be ruled out that the virtual currencies boom and their degree of acceptance by the general public may ultimately make it necessary to readjust the regulatory perimeter. In any event, it should be noted that the regulation of virtual currencies, given their global nature, would presumably only be effective if it were coordinated at supranational level.

At international level, the Financial Stability Board, the Basel Committee on Banking Supervision, the International Organisation of Securities Commissions and the Committee on Payments and Market Infrastructures (FSB, BCBS, IOSCO and CPMI, respectively) are analysing the phenomenon of virtual currencies. In July 2018, the FSB together with the above-mentioned institutions published a report to the G20 on crypto-assets which updates the work currently in progress on this subject. The report details the various sources of risk of these instruments and concludes that they do not pose a significant risk to financial stability for the moment. However, it is considered necessary to continue to monitor their development and to this end monitoring metrics are being designed.

In sum, although virtual currencies were originally conceived for use as an unregulated and decentralised means of "payment", everything seems to suggest that they are mainly becoming a financial instrument for investment and speculation. Nevertheless, this trend could be reversed, if the use of the above-mentioned currencies in commercial transactions, which at present is very limited, were to begin to grow and become more widespread.

6.2 LOCAL CURRENCIES

In the aftermath of the protracted economic crisis, the upsurge and boom experienced by local currencies has also occurred in Spain. As with virtual currencies, in Spain local currencies currently do not have general legal coverage and they are issued, brought into circulation and used "within the boundaries of what is permitted but not necessarily

17 See EBA (2014).
18 Available at https://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemesen.pdf.

As from 2017 the use of virtual currencies in an innovative form of financing has boomed significantly: the so-called "Initial Coin Offering" (hereinafter "ICO"). It can be defined as an unregulated process undertaken by an entity (usually a start-up) to raise capital by issuing tokens or digital coins using distributed ledger technology. Payment of the tokens acquired can be made in virtual currencies or legal tender, a priori it is open to any investor and the remuneration of the assets acquired may be of different types (among others, project management, remuneration in the form of interest or dividends, entitlement to use products or services and the possibility of selling these assets).

In view of the growth of this phenomenon and the risks which might be associated with ICOs, some regulators began to take measures in this respect, by suspending these activities (which is the case of the People's Republic of China, where they were declared illegal), and warning consumers or providing information on the regulations applicable to ICOs.

In Europe, ESMA issued two public statements on ICOs on 13 November 2017, the first on the risks they involve for investors and the second on the rules applicable to entities involved in ICOs. The first public statement alerts investors to the high risk of the total loss of their investment since ICOs are highly speculative investments. The price of digital coins or tokens is extremely volatile and investors may not be able to redeem them for a prolonged period. Another risk factor stems from the fact that, depending on how they are structured, ICOs may fall outside the EU's regulatory framework, in which case investors would not benefit from the protection afforded by EU regulations. Lastly, ICOs also entail the risk of fraud and money laundering. ESMA's second statement warns investors that where ICOs qualify as financial instruments, the entities involved must pay particular attention so that their activity complies with the applicable EU regulations (MiFID, Anti-Money Laundering Directive, etc.).

In the United States the Securities and Exchange Commission (SEC) issued a statement in December 2017[1] to report that all those activities which can be considered as offerings of securities are subject to the corresponding regulations, irrespective of the term used to describe the asset in question or the technology used to perform them.[2] Next, the International Organisation of Securities Commissions (IOSCO) issued on 18 January 2018 a media release on risks relating to "initial coin offerings (ICOs)".[3]

The Banco de España and the National Securities Market Commission underlined again that both virtual currencies and ICOs involve a high risk of loss or fraud for investors, in a joint statement issued on 8 February 2018.[4] Additionally, through a joint statement issued in February 2018 the European Supervisory Authorities for securities (ESMA), banking (EBA) and insurance and pensions (EIOPA) warned consumers about the risks of buying virtual currencies.[5]

1 Available at https://www.sec.gov/news/public-statement/statement-clayton-2017-12-11.
2 In addition, in December 2017, the US Commodity Futures Trading Commission authorised the launch of bitcoin futures products in its futures markets, specifically the Chicago Mercantile Exchange Inc. (CME), the CBOE Futures Exchange (CFE) and the Cantor Exchange.
3 Available at https://www.iosco.org/news/pdf/IOSCONEWS485.pdf.
4 Joint statement by the CNMV and the Banco de España. Available at https://www.bde.es/f/webbde/GAP/Secciones/SalaPrensa/NotasInformativas/18/presbe2018_07en.pdf.
5 Available at https://www.esma.europa.eu/press-news/esma-news/esas-warn-consumers-risks-in-buying-virtual-currencies.

regulated". This means that in each case local currencies are governed by the rules of the party that issues them.

A similar situation is observed in most other developed countries: for instance in the United Kingdom they have a comparable status to vouchers but they are not considered legal tender; in Germany they are considered alternative currencies, not issued by the central bank, and consequently, not legal tender; and in Italy they do not have any legal form, they are used voluntarily and do not have the power to discharge debts. Conversely, in France they were regulated by Law 2014-856 of 31 July 2014 amending the Monetary and Financial Code. This law specifies who can issue a complementary local currency and subjects local currency issuers and managers to supervision in their capacity as providers of bank payment services or as e-money institutions; certain exemptions are considered if the local currencies refer to a limited number of users or to a restricted activity.

As these currencies have expanded, some of them showed certain unique characteristics which distinguish them from the local currency model presented above in Section 3.2, since sometimes it is not clear that all the components of certain schemes are going to observe the fully voluntary membership principle of participants in these exchange systems. That would make it all the more necessary to precisely delimit the conceptual framework of local currencies and to assess their possible risks to and effects on market unity.

7 Conclusions

In recent years there has been a proliferation of the issuance and use of the so-called virtual and local "currencies" which we have jointly called paracurrencies. Both forms are presented as potential substitutes for money, since they attempt to fulfil the characteristic functions of money broadly speaking. However, despite any pretensions they may have to replace money, and their misguided name in this sense ("currencies"), they cannot be considered as money nor will they foreseeably replace legal tender in the future, given the marked limitations of their form.

It should be underlined that the increasingly widespread prevalence of this type of currencies could lead to higher risks for economic and financial stability and for consumers in general. For the moment, the risks to the stability of the monetary and financial system are limited since, despite the continued growth of both types of currency, their scope and the extent to which they are used are constrained. However, even within their limited scope, the risks for consumers, especially in the case of virtual currencies are significant; noteworthy, among others, are the high economic risks mainly associated with their extreme volatility as well as operational and legal risks.

Paracurrencies pose a regulatory challenge to the extent that, without fitting into any of the existing economic-legal forms, they share certain features with several of them, such as legal tender, payment systems and financial instruments. Virtual currencies do not currently have specific legal coverage in most jurisdictions and "their use moves within the boundaries of what is permitted but not necessarily regulated". The authorities of the vast majority of countries have preferred, for the moment, to issue public warnings about the risks inherent in the general public using these currencies or to regulate certain specific aspects of their use.

This explains why regulators and supervisors are paying more attention to these phenomena in order to adequately assess the risks and, where appropriate, attempt to mitigate them through the various mechanisms at their disposal.

For now, there does not seem to be a need for virtual currencies to be given general regulatory treatment aside from the regulation of certain specific aspects linked to their use. However, this could change in the future and it should not be ruled out that the virtual currencies boom and their degree of acceptance by the general public may ultimately make it necessary to readjust the regulatory perimeter. In addition, it is essential that both the monitoring of the risks and the analysis of their regulatory "fit" be undertaken in coordination with international bodies which are competent in this subject; given the global nature of virtual currencies, this would only be effective if it were coordinated at international level.

As for local currencies, it is important to monitor those initiatives which, arising in territorial areas, explore innovative mechanisms of digital media since their gradual introduction could affect market integrity.

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