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Regulation of virtual currencies in the United Arab Emirates: accounting for the emerging public/private distinction

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ABSTRACT

This article maps the changing global conversation on virtual currencies (VCs) internationally and brings that to bear on the development of a suitable regulatory framework for VCs in the United Arab Emirates (UAE). Through a review of recent international developments, the article notes a reversal in regulatory attitude towards VCs. This review suggests two emerging horizons of regulatory intervention. The first concerns the public issue of VCs to develop financial traceability and economic transparency – an arrangement that would be particularly relevant for developing countries with large informal economies. In particular, public VC issue raises follow-up questions of technological adequacy and the legal status of a means of payment guaranteed by the State. The second concerns privately issued VCs traded on independent platforms and focuses on the trade off between economic development, through a private market for VCs, and the risks connected to money laundering and the financing of terrorism. Here, a two-pronged system of ex ante licensing to private venture capitalists, coupled with ex post-sanctions, appears to be an emerging international standard for supporting economic development in countries marked by the preponderant weight of an underground economy.

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1. Introduction

Virtual currencies (VCs) have gradually become an established reality in many countries. VCs are modern monetary systems based on encryption, digitisation, and advanced technical solutions for enabling the reliable validation of transactions – as exemplified by the blockchain technology. Their widespread uptake has promoted them from niche financial experiment to regulatory hot topic. For instance, ‘early adopter’ jurisdictions have introduced licensing systems for VC exchange platforms, and introduced laws to regulate trading. However, a shift is visible even with international financial institutions and regional organizations like the European Union – which has backtracked from challenging the legitimacy of VC trading platforms, and moved instead to explore the potential of VCs for economic and financial policy. And last but not least, legal research has also started to develop – particularly in the US – around questions of adaptation of national legislation to the unique opportunities and challenges posed by VCs (Andersen Hill 2014).

Another significant shift has occurred in terms of the institutions initiating VC schemes. VCs obviously originated in a private innovation ecosystem, at one step

removed from the authority of the State. However, public monetary authorities at the national and regional level – most notably central banks – have begun exploring in earnest the possibility of VC issue under public control.

The questions raised by the public VC issue, in general, have been explored elsewhere (Sadok and El Maknouzi 2021). In this paper, we focus on a specific jurisdiction within the Gulf Cooperation Country (GCC) – the United Arab Emirates (UAE) – under the assumption that our findings will also speak to other regionally emerging economies confronted with the VC phenomenon. Emirati monetary and financial authorities have thus far displayed a hesitant stance. For this reason, our goal in this paper is to introduce some orientations to help think about the question of how to gain access to the opportunities offered by VC use, albeit in a principled and discriminating way. This discussion will be of relevance to regulatory policy debates in developing economies at large since it will address certain trade-offs that are of particular consequence in a development context. In particular, on the assumption that developing economies tend to have large informal sectors, recent developments in VC technology mean that publicly issued VCs could be a tool to expand the reach of

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legal tender and the scope of economic traceability to realms of exchange that are normally the purview of the cash economy. In so doing, public VC schemes would facilitate the emersion of those exchanges out of the informal economy – with spillover effects on tax revenue and the ability to access credit. Second, privately issued VCs offer developing economies an additional opportunity for attracting venture capital investment, alongside raising specific risks connected to money laundering and the financing of terrorism – hence, striking the right regulatory balance to check against such risks could turn VCs into an added economic development tool at the disposal of national authorities.

In pursuing these questions further, Section 1 tracks the changing mood in the international regulatory conversation on VCs: from dubious financial scheme to reliable means for settling transactions. The section also lays out the approach currently taken by Emirati monetary authorities – and primarily the central bank – which remains on the cautious side of the spectrum. This view is placed in the context of underlying jurisprudential attitudes – particularly from the camp of Islamic finance – that remain conservative as to the possibility of licensing VC trading. Subsequently, Section 2 sketches a possible regulatory approach to the VC phenomenon in the UAE. Our proposal delineates an emerging distinction between two alternative regulatory tracks. The first concerns VCs issued by central banks – following an international trend that has been set in motion as recently as 2020 – and the second concerns VCs issued by private platforms, where important regulatory pillars, such as contrast to money laundering and terrorism financing, clash with the enduring anonymity of these private schemes.

2. The changing regulatory conversation on VCs and the current Emirati approach

Regular followers of global financial trends cannot miss the change underway – on the part of monetary and financial authorities, regional organisations, and international financial institutions – toward VC regulation. In particular, the debate seems to have shifted from safeguarding against abuses to positive engagement with matters of VC issue and trading.

2.1. VCs as an emerging global financial phenomenon

In order to appreciate the disruptive potential of VCs, it is useful to consider them as the latest link in a historical chain of monetary innovations. Innovation at the level of

means of payment has generally signaled a step up in the complexity of economic relations and marked significant transitions in the economic development of societies. Already in antiquity, the widening geographic reach of trade relations prompted a shift away from direct barter, towards metallic or fiduciary coins and finally to scriptural money such as bank-issued notes. These initial considerations shore up a trend towards progressive dematerialization of currency. We argue this same trend is still at work today, where the advent of the Internet and the introduction of disruptive technologies enabling disintermediation have opened up new economic prospects (Reinhart and Rogoff 2009) – alongside accompanying risks (Foley, Karlsen, and Putnīš 2019).

Some raw figures can help get a realistic sense of the size of the current VC market. As of 14 July 2020, Coinmarketcap.com – the reference site for digital currencies – recorded over 2,500 crypto currencies in circulation, with an aggregate capitalization of close to USD 264 billion. This was a decrease compared to the peak capitalization reached by the VC market of USD 830 billion, in January 2019 (Investing.com 2020). By comparison, the M3 monetary aggregate is estimated at USD 13 trillion for the Eurozone, and at USD 26.5 trillion for G20 countries (Central Intelligence Agency 2020). Further comparisons are possible with the global value of gold, which is estimated to be around USD 8 trillion (Gold.org 2020), and the global market capitalization of equities, estimated at USD 59 trillion (World Bank 2020).

These sobering comparisons appear to suggest that VCs do not currently play a significant role in the global economy and should matter little for financial markets. For instance, the mass of payments occurring daily in VCs is estimated at USD 100 million per day. This is less than 1% the amount of daily payments on the MasterCard and Visa circuits in the United States (USD 16.5 and 9.8 billion, respectively). In the Euro area, payments in VCs represent less than 0.09% of total payments (Sodeberg 2018).

Figures like these are often presented as evidence of the niche nature of the VC phenomenon. Nevertheless, actors of the crypto-sphere and followers of economists – like Hayek¹ – who favoured monetary reform all draw attention to the disruptive potential of VC technology, for the purpose of democratizing participation in transnational financial exchanges and of granting access to money as a common good (Hayek 1990). Conversely, skepticism around VC development has been an initial feature of the response of established institutional actors. Among the many points where the two camps have diverged are the prospective economic impact of VCs and the goals that ought to inform regulatory intervention.

Starting in 2020, however, a new trend seems to have taken hold, whereby a small group of national authorities and central banks begun exploratory work around the possibility of public VC schemes, with varying degrees of specialization on particular types of transactions or users. Among these ‘early adopter’ institutions are the Swedish central bank, the state of Estonia, and the Bank of England (Ali, Barrdear, and Clews 2014). It is possible to speculate that at least part of the impetus behind these explorations comes from the shakeup brought by Facebook’s launch of a VC project (originally called ‘Libra’), back in June 2019. State-backed VC experiments are not confined to a particular region of the world either. For example, just a few months after Sweden formalized its national VC project, and Facebook announced it would enter the VC market, the People’s Bank of China confirmed it had authorized four cities to implement VC schemes (Cheng 2020). This is a clear indication that China has been shifting its initial position away from the blanket ban it imposed in 2013, which was followed by a shutdown of exchange platforms, in 2014, and a stop to the practice of initial coin offerings (ICO), in 2017.

In the United States, the exploration of a VC called the ‘digital dollar’ has received impetus under the CoVID-19 emergency as a potential measure for economic relief. Indeed, the Democratic Party sponsored the proposed creation of a digital means of payment, to help deliver assistance to distressed American consumers, states, businesses, and other vulnerable populations as a consequence of the pandemic (Brett 2020). Foreseeably, the implementation of one such proposal would impact both the US (and the global) economy, in general, and the digital currency world in particular. At the state level, it is noteworthy that as early as 2015, the state of New York implemented a ‘BitLicense’ under the supervision of the Department of Financial Services. This license tied VC operators to various obligations, particularly in terms of capital requirements, consumer protection, in contrast to money laundering and terrorism financing, cyber-security, and transparency guarantees in relation to transactions and consumers (Nelson 2018).

In the European Union, the three primary regulators of financial markets (European Banking Authority, European Financial Markets Authority, European Insurance and Occupational Pensions Authority) have set up committees to examine a revision of the guidelines for operators (i) providing exchange services between VC and legal tender or (ii) storing cryptographic keys on behalf of their customers’ signature devices – which are needed to trade in VCs. The work of these committees eventually issued, in May 2018, in a revised set of guidelines. Last, but by no means least, is the conversation

around a ‘digital euro,’ as a response by the European central Bank to corporate and state VC projects (Paul and Irrera 2019; ECB 2020).

In Japan, Bitcoin has been accepted as an official payment system since April 2017. As a consequence, it was estimated that – just a few months after that, by December 2017 – more than 30% of global Bitcoin purchases were denominated in yen (Hileman and Rauchs 2017). In response, Japan introduced an obligation for VC operators to register with the Japan Financial Services Agency (JFSA). Finally, in Brazil, the National Bank for Economic Development and (BNDES) – a state-owned institution – launched a stablecoin project on the Ethereum blockchain that would be backed by national currency (Cuen 2018).

A similar shift in focus can be registered with international financial institutions. For instance, on 21 January 2020, the Bank for International Settlements (BIS) set up a working group composed of representatives of the European Central Bank, and the central banks of Sweden, Canada, Japan, and Switzerland. The working group was dedicated to central bank-issued VC schemes, and it aimed to assess any connected technical, functional, and regulatory aspects (Bruce and Canepa 2020). Meanwhile, the International Monetary Fund (IMF) hinted that central bank digital currencies (CBDCs), which are state-backed cryptocurrencies, could soon become a reality, and followed that with a recommendation to the central banks of its 189 member countries, gradually to introduce public VCs (Kiff et al. 2020).² This initiative is in line with the prototyping of a private blockchain by the IMF and the World Bank. This blockchain (which is a digital ledger for recording and validating transactions) houses an internal digital token called ‘Learning Coin.’ The goal of this prototype is to help IMF and WB staff gain familiarity with different possible uses of a blockchain ledger, such as housing cryptocurrencies and recording smart contracts (Wigglesworth 2019).

It seems, therefore, that Facebook’s proposed Libra initiative – by presenting a threat to national money sovereignty – acted as a catalyst for accelerating reflection around the possible creation and adoption of VCs, including by public actors like central banks. If one accepts this changed regulatory horizon, new questions seem to emerge. For example: should an asset with transnational circulation be regulated at a national level? Should all VC schemes carry the same regulatory constraints, or should legal frameworks distinguish between macro-categories of crypto-assets – such as between public and private VC schemes? And more: how to establish a regulatory regime that does not stifle innovation and actors’ capacity to take initiative?

Faced with a relatively novel technology, it remains difficult to decide exactly when to enact tailored regulation. At the same time, it is important that these very questions – which are gaining momentum in international monetary and financial policy circles – be addressed thoughtfully. Hence, we turn next to consider how they might be contextualized in a jurisdiction – like that of the UAE – where they would also yield spillovers on the regional economic ecosystem.

2.2. The regulatory conversation in the UAE

In the UAE, the first available official statement on VCs dates back to the summit of the Islamic Financial Services Board – held in Abu Dhabi in 2017. There, the governor of the Central Bank of the UAE emphasized the risks of trading in VCs, such as the absence of supervisory agencies or the informational asymmetry between VC users and VC issuers, which makes these schemes a target for money laundering activities (Al-Minshawi 2017).

The tenor of the foregoing statement matches that of similar early statements by other national monetary authorities elsewhere or by the supervisory bodies of regional organizations, like the European Banking Authority (EBA). For example, the EBA issued several press releases on VCs, the first of which in December 2013. In that statement, the EBA similarly warned of the risks connected to VCs as unregulated financial assets (EBA 2014). However, it is important to recall that the conversation in the European Union has since shifted through the promulgation of several dedicated directives introducing forms of regulation, as well as through the exploration of the EU-wide VC, as mentioned earlier.

The reference legislation for monetary regulation in the UAE is Federal Law No. 14 of 2018 on the Central Bank and the Organization of Financial Facilities and Activities (hereinafter ‘UAE Central Bank Law’). Under this piece of legislation (which does not make explicit mention of VCs) it is nevertheless forbidden to issue or otherwise put into circulation currency notes, coins, or *any other instrument or token payable to the bearer on demand*, which might have the appearance or likeness of – and therefore might be confused with – legal tender. The legal text is explicitly formulated in a general manner so that, even though it refers explicitly only to notes and coins, the prohibition extends to any other instrument that poses a risk of confusion with legal tender. This catches VCs as well.

At the state level (the UAE being a federation of Emirates), the Emirate of Dubai models a more positive attitude to VCs. This can be evinced from its announcement, in June 2020, that it would launch the first gold-backed digital currency for investors, companies, banks,

financial institutions, sovereign wealth funds, treasury funds, and asset management companies active in the member states of the Gulf Cooperation Council, the Middle East, and in Africa. Of note is that emphasis was placed on the fact that the VC would be sheltered from market volatility due to its being backed by a tangible asset, that is, a gold coin (Saleh 2020). Incidentally, we submit this kind of justification for the safety of a VC scheme is misleading. Namely, it identifies the value of money with whether or not it is backed by precious metals, rather than with what it can buy – that is, the throughput of the circuit of economic exchange to which it grants access (Mellor 2019). The real innovation of VC schemes lies less in reverting back to precious metal backing, and more in democratising monetary emission away from the control of monetary authorities.

Another opinion worth considering – in order to offer a sketch of the regulatory conversation in the UAE – is that of the International Islamic Fiqh Academy (IIFA). This is a dedicated body of the Organisation of Islamic Cooperation, whose opinions – particularly in matters of Islamic finance – often carry important weight. At the IIFA meeting held in Dubai in November 2019, two resolutions were issued specifically on VC-related matters. Resolution No. 230 (24/1) on smart contracts (IIFA 2019a) was an interlocutory statement: it simply postponed issuing an official position until further research would become available, in particular on the connection between smart contracts, VCs, and the blockchain infrastructure, used for transaction validation and recording. Resolution 237 (24/8) on VC has not gone much further (IIFA 2019b). It suggested possible working definitions for the concept of ‘virtual currency,’ and then laid out the main operational risks. However, the resolution testifies to an unresolved difficulty in classifying VCs under the principles of Islamic law, due to uncertainty as to the nature of a VC in legal terms: is it a product, a benefit, an investment asset or a digital asset? In this case, too, a final opinion was postponed. Both resolutions displayed caution before commenting on the compatibility of smart contracts and VCs with Islamic legal principles and invited further exploration of such questions as the legal nature of these arrangements, the sources of financing they call upon, and how coverage from operational risks is obtained. Secondly, both resolutions testified to a lack of agreement on a single term for what, in this article, we are calling ‘virtual currencies’ (some of the options discussed in the resolutions are: ‘electronic currencies,’ ‘cryptocurrencies,’ and ‘digital currencies’).

Contrary to the prudent stance taken by the International Islamic Fiqh Academy, some Islamic finance scholars have not hesitated to comment on the

compatibility of VCs like Bitcoin with Islamic legal principles, stating that VCs clearly infringe on the Islamic law prescriptions concerning currency (Omar 2019). Indeed, there is a consensus amongst Islamic legal scholars that currency issues should be reserved for government authorities, and this is not a prerogative that other persons can share (El Leil 2019). This view, however, seems premised on a narrow understanding of the monetary phenomenon – one that is not capable of accounting satisfactorily for monetary innovations geared to make currency available also outside of the purview of state authority.

In response to the alleged inadmissibility of money issue outside of government control, some commentators have looked for other ways in which an Islamic jurisdiction like the UAE³ might be able to regulate VCs in accordance with existing Islamic legal principles, for instance, by treating VCs as a branch of financial services (Al-Jumaili 2019).

We find the position articulated by Hussain (2019) to be perhaps the most principled one put forth so far. He suggests to approach the question of compatibility of VCs with Islamic legal principles through a tripartite classification: (i) government-issued VCs, which ought to be permitted, and (ii) VCs that would serve the commission of acts forbidden under Islamic law, which should be proscribed. Instead, (iii) other VC schemes that would not result in speculation and that operate on principles of transparency would not fall foul of a specific prohibition under Islamic law.

Moving from questions of compatibility with Islamic legal principles to state-enacted law, Youssef (2016) has noted that '[v]irtual money can be considered money under the provisions of UAE law, and its use needs to be validated accordingly.' This observation underpins his call for comprehensive regulation of this phenomenon. Moreover, the mentioned commentator places VCs within the more general category of 'virtual money,' which he suggests ought also to include 'virtual games' (since these can involve the use of game-specific tokens).

Finally, other opinions take stock of the growing international dissemination of VCs, their growing user base, the success of schemes like Bitcoin, and changing regulatory trends in the US, Canada, and the European Union (Farah 2019). On this basis, a pragmatic case can be made for recognising 'virtual currencies as an intangible [form of] money with real value, that can be used in electronic exchanges and may be intangibly possessed' (Farah 2019) – favoring *ad hoc* regulation to manage any connected risks.

The foregoing considerations help paint a picture of the enduring uncertainty that exists in the Emirati

regulatory conversation on VCs, swaying between prohibition and timid openings. In the next section, we offer a two-pronged approach for tackling the regulatory questions raised by VCs, in the hope that it might help advance a conversation that currently appears stuck. In particular, we pursue in a sustained way the fruitful distinction between VCs traded on private platforms and schemes that are issued and managed by national authorities.

3. A regulatory framework for VCs in the UAE

VCs made their first appearance around 2009, through the inventiveness of IT programmers (Drillon 2016). Early VC systems were able to offer a distributed infrastructure for recording and validating the balance of transactions, as users inside a 'circuit' of exchange operated through a common unit of account (Sadok and El Maknouzi 2021). Notably, these systems could be managed entirely outside of state control. Indeed, the norm till then was the exclusive use of national currency for settling exchanges: either in the form of physical coins and tokens issued by the central bank, or as 'bank balances' transferred through payment cards and wire transfers (which would be mirrored on the account balance that each and every bank holds with the central bank) – hence the centralized nature of the conventional system (Rivas Herazo 2016). This new found capability made it possible to bypass conventional bottlenecks for trading in currencies, operating across a broad geographical area, and for accessing open networks – where no intermediaries would be required (Malabat 2016). These background facts help account for the regulatory void (as was also the case with the UAE) in which VC schemes were first implemented.

However, the situation has since changed and justifies the assertion that a 'second phase' of VC development is currently underway. In this second phase, the issue of VCs by central banks has become a concrete possibility. The possibility of publicly issued VCs, circulating alongside privately issued VCs alters the entire landscape of VC circulation. Hence, it demands a discriminating regulatory approach, where the concerns of public issuers of VC are treated separately from the risks posed by private VC issue and exchange (especially in connection to money laundering and the financing of terrorism).

3.1. The Regulation of public VCs: technological development and legal classification

As VCs become a topic of regulatory intervention, it is inevitable that technological and digital factors ought

to exert a more prominent role in the coming generation of legislation. The development of VCs has already placed a number of issues on the legislative agenda: from anti-money laundering legislation, to prevention of terrorism financing, to licensing of VC trading platforms. This notwithstanding, the harmonization of technology with legal rules is not always easy to achieve, with several cycles of iteration being needed before finding a meeting point.

In the case of VCs, their cross-border circulation has gone hand-in-hand with the development of an advanced digital infrastructure through the blockchain distributed ledger technology (where a vast network of computers called 'miners' process updates to the ledger of transactions, and are in turn rewarded with newly 'mined' currency – according to an algorithm that governs the creation of new currency units). The blockchain has disrupted conventional patterns of currency circulation that, thus far, presupposed centralization for tallying transactions and crediting/debiting user accounts (Figuet 2016).

Despite this early promise, the blockchain remains far from perfect as a secure payment infrastructure. As for the conventional financial services industry, it remains impossible always to identify the owner of an asset (Thomas-Sertillanges 2014). This difficulty is compounded when assets circulate repeatedly (Nofer et al. 2017). Moreover, similar to what happens for the Internet and other open networks, even the services of blockchain-based VC networks can be subject to disruption, for example, through denial of service, or otherwise remain vulnerable to nuisance attacks (Antonopoulos 2014).

Against this background, April 2018 saw the UAE Government launch the Emirates Blockchain Strategy 2021, with the stated intention to record half of all federal government transactions on its own blockchain ledger by 2021 (Government of the UAE, 2021). It is useful to note that the blockchain is simply a technology for recording and validating information that can be stored on a ledger: as such, the UAE government's initiative does not automatically imply running a VC on its public blockchain. Nevertheless, this development could well mark the beginning of the UAE's shift towards the group of institutions mentioned in earlier sections – comprising 'early adopter' international financial bodies and national central banks – that are considering proactive regulation and adoption of public VC schemes.⁴ The UAE's existing strategy for developing a blockchain thus creates a technological window of opportunity for the Central Bank of the UAE to explore the implementation of a VC – a decision that would put the UAE at the forefront of VC

development by public institutions within the GCC regional grouping.

At the same time, there remains some confusion as to the legal character and policy relevance that a public VC scheme ought to take. Namely, the question concerns whether the VC would be issued as an equivalent of coins and notes (legal tender), and effectively substitute paper money, or whether it would operate alongside those – as a complementary digital payments system. Either way, VCs issued by a public body would frustrate the intentions of the original inventors of digital currency (i.e. to emancipate money supply from state control), and this difference could, in turn, lead to a fork in technological development and regulatory intervention (Bech and Garratt 2017). Indeed, when looked at from the state's point of view, the main role VCs could play is to accelerate the dematerialisation of *fiat* currency away from physical tokens.

Even without going as far as that, state-issued VCs could still enable to wrestle control over scriptural money (i.e. personal accounts mobilised through payment cards and wire transfers) away from private banks – the current crop of private intermediaries. This move could be justified on the evidence of an accrued demand for digital money, as captured in a November 2020 report by Deutsche Bank (2020). Specifically, the report suggests that factors like border closures and social distancing rules have boosted the use of payment cards. This, in turn, has increased the amount of wealth that is siphoned off into the payments industry and therefore creates an opportunity for states to intervene – using the disintermediation potential of VCs in their favor (Deutsche Bank 2020).

3.2. The regulation of private VCs: money laundering and terrorist financing

VCs issued by a public body would not guarantee complete anonymity since the keeper of the main transaction ledger (such as the central bank) would nevertheless hold ultimate access to transaction data (Sadok and El Maknoui 2021). This is not the case with respect to private VC schemes, where anonymity has been one of the distinguishing technical features of the blockchain ledger (Burnichon 2014). It is this very feature that justifies additional regulatory considerations on the grounds of money laundering and terrorist financing.

These matters cannot be dealt with under a blanket prohibition and require instead a careful and *ad hoc* regulatory approach (Sadok and El Maknoui 2020). In this respect, it is interesting to look at the regulatory system envisaged by the United Kingdom upon

withdrawal from the European Union. This would constitute an integrated licensing system for VC trading, placed under the supervision of the Financial Conduct Authority (FCA) (Devillier 2017). We take this measure as an early example of a system of *ex ante* supervision over VC trading platforms in order to ensure the legality of transactions carried out through them. It is no small point that a regulated environment incentivises legitimate users and pushes the further development of such a market (Velkes 2020).

This notwithstanding, *a priori* licensing cannot possibly be sufficient to evaluate the ongoing compliance of VC use with regulatory goals-against money laundering and terrorist financing. This requires placing periodic reporting duties upon VC platforms so that regular data may be made available for analysis by public monetary and financial authorities. Beyond regulatory compliance obligations, a wider legal ecosystem channeling VC development towards acceptable uses – for example, through the criminalization of illegal transactions – can also engender a more discriminating attitude towards VCs by clearly distinguishing prohibited and secure forms of investment.

Money laundering has typically been a non-virtual phenomenon (e.g. based on cash economies outside of the banking system and fiscal supervision). However, the stated goal of VC developers to create a ‘cryptocurrency’ that would guarantee user anonymity has played a decisive role in moving money laundering to the digital world (Andersen Hill 2014). Historically, VC traders have not been interested in developing industry policies to help identify VC users and thereby combat money laundering (Shcherbak 2013). Van Wegberg, Oerlemans, and Van Deventer (2018) review a range of studies demonstrating that Bitcoin is used by cybercriminals for money laundering purposes, given that it reduces the costs associated with circumventing legal checks. Foley, Karlsen, and Putniņš (2019) also note how Bitcoin use on gambling platforms has sometimes served as a similar avenue for money laundering.

The US is a particularly interesting case study with respect to these risks. There, a registration system with the Department of Treasury was already in place for activities classified as ‘money service businesses,’ pursuant to §1022.380 of the Electronic Code of Federal Regulations. Failure to register would attract civil and criminal sanctions. Federal registration would also come with the requirement of compliance to certain disclosure and record-keeping duties and other related obligations in connection to money laundering. These duties were meant to help with the identification of perpetrators of criminal activities (Andersen Hill 2014). First

of all, it is worth noticing how this system modeled two pillars of currency regulation: *ex ante* disclosure and reporting obligations and *ex post* sanctions against money laundering and enabling activities (Sykes and Vanatko 2019). Over the years, federal prosecutors in the US have repeatedly filed complaints against VC developers, on grounds that these were essentially a means of facilitating illegal transactions and for laundering the financial income of criminal activities. One of the arguments used by federal prosecutors was precise that VC operators were effectively running unlicensed money transfer businesses for money laundering purposes, pursuant to the Electronic Code of Federal Regulation. This argument was later accepted by the courts, so that ‘money service business’ – for the purposes of registration with the Department of Treasury – was eventually extended to private VC issuers and trading platforms, and not only to platforms facilitating transactions denominated in legal tender (Sykes and Vanatko 2019).

Beyond money laundering, a separate area of regulatory concern is the financing of terrorist activities, facilitating the commission of terrorist acts (Al-Nawaisa 2018). Under UAE Federal Law No. 20 of 2018 against Money Laundering and the Financing of Terrorism and Illegal Organizations, criminal responsibility for terrorist acts resides either with a person or an organization (Al Jasmi 2020). The anonymous circulation of a VC on an online platform creates a challenge for this, as it is not always easy to trace who the administrators of a VC platform might be.

Secondly, the digital footprint left by Internet users through their browsing behavior is one of the tools used to identify suspects in connection to anti-terrorism legislation. The nature of data captured in this browsing footprint may include the IP address, from which it can be possible to determine the date, hour, and topics of access (Al-Khasawnah, Al-Kasasbah, and Dradkah 2011). With distributed ledger technologies like the blockchain, however, the difficulty of capturing such information is compounded by the decentralization of recording nodes, which in turn creates supplementary difficulties for determining the competent jurisdictions in order to lodge any criminal proceedings.

In connection with Emirati law, there are three different criteria for establishing jurisdiction. The first one, which is less affected by the decentralized nature of VCs, is the nationality of the defendant. Instead, when jurisdiction cannot be established on this basis, and therefore needs to be established through domicile or place of abode, these supplementary criteria falter in the context of a digital environment. The fact that websites – including VC platforms – may be hosted on multiple computers

located in different countries makes it especially difficult to use the 'law of the server' as a criterion to anchor jurisdiction (Al-Anzi 2018). In this sense, the fight against terrorism financing through VCs suffers from the problems that beset the fight against cybercrime more generally. Namely: that the cross-border nature of criminal activity often demands procedural activities that exceed state borders (Al-Zahrani 2020).

The issues just mentioned in connection to the cross-border, anonymous, and distributed character of private VCs suggests that current UAE legislation does not have much influence on the operation of such schemes. This is a consequence of the principle that there can be no incrimination without a matching piece of legislation that first criminalizes a particular activity. Therefore, the risks that private VCs might pose for terrorist financing are not yet fully accounted for and will require updating of the existing legislation. Here, it is notable simply to mention, as a possible example, French Ordinance No. 2016-1635 of 1 December 2016, which has included explicit provisions covering VC trading platforms, so as to enable monitoring and legal scrutiny into their activities (Legeais 2017).

4. Conclusion

This article has laid out various considerations that ought to guide the adoption of a regulatory regime for VCs by the UAE, in order to craft finer distinctions that will enable it to take advantage of the economic opportunities posed by such a technological development – whilst controlling the connected risks. First, we have sought to map the changing tide of regulatory attitudes towards VCs. While the initial response – on an international level – was one of prohibition, several jurisdictions and regional organizations have moved to a more proactive approach, exploring the potential of this currency innovation. We have suggested that Facebook's announcement of its own digital currency project, initially known under the name 'Libra,' prompted several countries to think of ways in which VCs could be used to re-assert monetary sovereignty. This trend has been especially encouraged by the World Bank, the IMF and the BIS, all of which have issued recommendations to guide regulatory and monetary experimentation in this field, on the assumption that VCs have definite potential as a development tool that might promote economic inclusion.

When the UAE regulatory conversation is taken as a case in point to showcase issues that will be of consequence for a broader range of developing economies, a fork (of a technological and regulatory nature) appears to lie ahead, whereby public VC schemes are bound to

attract different measures than private schemes. When it comes to VCs issued by a central bank, there is a growing entanglement of development potential with technological capabilities and legal qualification issues. On the one hand, setting up digital payment systems appears a necessity to ensure that the pursuit of social and economic development policies can be matched by means that will ensure central control (e.g. through public VC projects). This would ensure that developing economies do not simply grow, but grow in a traceable manner, which would impact tax revenues and access to credit on a country level. Second, a related question is whether government-issued VCs would be legal tender (effectively replacing banknotes and coins) or simply constitute an optional payment system, like a complementary currency.

Privately issued and traded VCs, instead, would maintain the features of anonymity and distributed operation that have characterized this technological arrangement since its beginning. This requires, however, that appropriate safeguards be put in place to allow the implementation of VCs, as levers of economic inclusion and societal development while combating money laundering and the financing of terrorism. In particular, regulatory and legislative intervention can help discriminate prohibited and permitted uses, thereby carving out a market for lawful VC use that would benefit the growth of the sector as a whole. We have suggested that, following the example of such jurisdictions as the US and the UK, a viable model could be one of *ex ante* licensing, ongoing reporting and disclosure duties, coupled with updated terrorism and anti-money laundering legislation to make criminal use of VC prosecutable.

Notes

1. In *The Denationalization of Money*, Friedrich von Hayek (1990) wrote the following passage, which sounds like a premonition of the policy conversations that were brought about by the onset of VCs: "as soon as one manages to free oneself from the accepted belief universal but unspoken that a country must be supplied by its government with its own distinct and exclusive currency, all kinds of interesting questions appear that have never been examined."
2. A 2019 report by the World Economic Forum (WEF 2019) describes research, experiments and projects carried out around the world by central banks around distributed ledger technologies. According to this report, at least 40 central banks are currently researching central bank digital currencies (CBDCs).
3. As is common for Islamic jurisdictions, Islamic law – the *Shari'ah* – is an applicable source of law, alongside positive law (*qanun*) (Jadhalhaq and Russi 2020). This is explicitly sanctioned in the UAE Constitution, at Art. 7, and it is also the reason why questions of Islamic law

compatibility belong to the regulatory conversation on VCs in the Emirati context.

4. On this front, it is useful also to factor in the development of niche technological innovations that might be susceptible of impact. For example, advances in digital linear tape (DLT) technology would enable more efficient storage of information, on a scale that might ease VC circulation.

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