Crypto Assets Regulation in the UK: An Assessment of the Regulatory Effectiveness and Consistency

Huang, Sherena

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**Crypto Assets Regulation in the UK: An Assessment of the
Regulatory Effectiveness and Consistency**

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1 Crypto-assets Regulation in the UK: An Assessment of the Regulatory
2 Effectiveness and Consistency

3 Abstract

4 *Purpose*

5 The UK authority published its first regulatory guidance on crypto-assets in July 2019.
6 This paper aims to critically evaluate the effectiveness of the crypto-asset regulation in
7 the UK and the consistency of the existing regulatory scheme.

8 *Design/methodology/approach*

9 This paper adopts comparative methods to carry out the analysis. The paper begins by
10 elaborating the development of crypto-assets alongside the financial innovation in the
11 world and pinpointing the core Acts and Regulations applied to crypto-assets in the
12 UK. The paper also discusses a court case in the EU to highlight an argument among
13 legal professions concerning crypto-assets classification.

14 *Finding*

15 Through carefully analysing relevant primary and secondary legislation of the UK and
16 EU, this paper identifies some unclarified issues in the regulatory framework and
17 discovers three flaws in the regulatory system. The paper concludes that the
18 effectiveness of the current regulatory scheme is poor and room for improvement
19 exists.

20 *Originality/value*

21 The paper provides the first review and a thorough analysis of the Laws and Acts
22 applied to the crypto-asset regulation in the UK. It also calls on a simpler and clearer
23 regulatory scheme from the perspectives of market participants and consumers. The
24 discovered issues in the crypto-asset regulation in the UK may urge authorities to
25 improve the existing regulatory frameworks and legal provisions.

26 Keywords: FinTech, Crypto-assets regulation, Bitcoin, Cryptocurrency

27 Introduction

28 The Financial Conduct Authority (FCA) finalised a framework in July 2019 to regulate
29 business activities of crypto-assets (FCA, 2019b). Crypto-assets were created as ‘a purely
30 peer-to-peer version of electronic cash’ by Nakamoto in 2008 (Nakamoto, 2008, p.1). Crypto-
31 assets use Blockchain — ‘a shared, immutable record of peer-to-peer transactions built from
32 linked transaction blocks and stored in a digital ledger’ (Holloway, 2017, pp.3-4), which is
33 one application of the Distributed Ledger Technology (DLT)—distributed network
34 technology (Reyes, 2017, p.8).

35 Crypto-assets carry multifaceted characteristics consisting of virtual property and financial
36 products and have been adopted in payment transactions, financial instruments, investments
37 and corporate coupons (The World Bank, 2017; HM Treasury *et al.*, 2018; FCA, 2019b).
38 Although the technology comes with enhanced efficiency and security (Holloway, 2017), it
39 offers an anonymous network for value transactions without financial intermediaries, which
40 has caused concerns over financial crimes, such as money laundering (Albrecht *et al.*, 2019;
41 Blundell-Wignall, 2014; Brown, 2016; Irwin and Turner, 2018). A trade-off exists in
42 policymaking between regulation and financial inclusion: strict regulation of crypto-assets
43 will impede technology innovation and investments; non-intervention may expose investors
44 and consumers to risks. Is the existing regulatory framework effective and consistent and
45 what is its impact on market participants? This paper intends to examine the consistency and
46 effectiveness of existing regulatory regimes in the United Kingdom (UK) and identifies
47 potential issues, accordingly.

48 Crypto-assets have been involved in financial misconduct in some countries. The knockdown
49 of a dark web—Silk Road in the United States (US) in 2013 (*US v Matthew Jones*, 2014) and
50 the arrest of two former Federal agents in 2015 (*US v Carl Mark Force IV*, 2015) marked the
51 first combat of crypto-assets crime in the world. More than \$1.5 million US Dollar worth of

52 money was involved and the illicit earnings were laundered on an international crypto-assets
53 platform—BTC-e (Magnuson, 2020, p.95). The BTC-e was ordered shut down and the
54 owner, Alexander Vinnik (Russian), was arrested in Greece in July 2017 (NDC-Department
55 of Justice, 2017) and was remanded in custody in Greece (BBC News, 2019) at the time of
56 writing. Also in 2017, a cross-border and large-scale money laundering group was shut down
57 by the European Union Agency for Law Enforcement Cooperation (Europol), 23 people were
58 arrested. The involved amount was around €2.5 million, and the criminals were from Spain,
59 Colombia and Venezuela (Europol, 2019a). In earlier 2019, the Europol, Canada and the
60 United States of America (US) Joined Forces targeted the users of controlled products on
61 dark web marketplaces, 61 people were arrested, and 50 illicit dark web accounts were
62 closed, the involved amount was over €6.2 million (Europol, 2019b). The soaring popularity
63 and cross-border use of crypto-assets used for internationally organised crimes or potential
64 illegal purposes stress why competent authorities around the world must deliberate on the
65 establishment of regulatory schemes.

66 As of June 2020, there were over 5,537 crypto-assets^[1] and more than 265 crypto-assets
67 exchanges^[2] available online. The number of crypto-assets doubled from July 2019.^[3]
68 Bitcoins, the original and by far the most popular crypto-assets launched in January 2008
69 (Nakamoto, 2008) hold the majority of the global market shares (CoinMarketCap, 2020) and
70 have been used as intermediaries for value transactions worldwide. Walch (2015, pp.40-41)
71 believes that the DLT makes value transactions more efficient, economical, secure and
72 transparent and explains that *'open-source software is less vulnerable and more resilient than
73 proprietary software, because the development of the software is transparent, and since more
74 eyes are looking for bugs, more bugs will be noticed and fixed'*. Authorities are also
75 following up with the technology development (Arner *et al.*, 2017), such as Regulatory

Technology (FCA, 2017) that aims to enhance the efficiency of market oversight, reporting and compliance.

The FCA set forth a relevant regulatory framework of crypto-assets in 2019 under the Financial Services and Markets Act 2000 (Regulated Activities) Order 2001 SI 2001/544 (RAO 2001) and the Perimeter Guidance Manual 2019 (PERG 2019) and categorises crypto-assets into four types: security tokens, e-money tokens, exchange tokens and utility tokens. Of which, the security token and e-money token fall within the regulatory perimeters of the FCA corresponding to specified investment/financial instruments and e-money, respectively. However, regulatory flaws exist. Article 76 of the RAO 2001 regarding shares of specified investments contains convoluted phrases, which may perplex market participants; the PERG 2019 allows exemptions for the European Economic Area (EEA) firms operating in the UK and through the internet under the single market system, however, EEA licensed crypto-assets may fall outside the regulatory perimeters of the FCA.

For instance, the European Banking Authority (EBA) categorises crypto-assets into three types: investment tokens, exchange/payment tokens and utility tokens (EBA, 2019, pp.6-7) and Bitcoin-like tokens that fall outside the regulatory perimeters of the FCA (FCA, 2019b) are grouped into exchange/payment tokens and are able to apply for licences in the EU (EBA, 2019, p22).

In addition, the classification of crypto-assets in the UK presents some flaws. A crypto-asset may fit in multiple categories, for instance, utility tokens can be identified as investment tokens, exchange tokens or e-money tokens. The FCA states that falling into the regulatory perimeters does not determine the regulatory status, while crypto-assets may move from one category to another during their business cycle. Therefore, the FCA will identify the regulatory status of crypto-assets on a case by case basis (FCA, 2019b). This complicates the regulatory process for both market participants and the regulator and indirectly increases the

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3 101 cost of financial technology (FinTech) firms. This regulatory regime is inflexible and
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5 102 inefficient in response to the rapid technology innovation in the financial sector. The
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7 103 regulatory complexity may also cause managerial uncertainty at UK firms; cumulative
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9 104 managerial uncertainty can further transfer to consumers through the markets and incur risks.
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13 105 This paper intends to address the flaws in current regulatory regimes in the UK and draw
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15 106 attention to potential risks.
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19 107 **Background**

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22 108 *Definition of crypto-assets and relevant literature*

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24 109 Crypto-assets, as one of the notable outcomes of FinTech—built on DLT and Blockchain,
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26 110 offer a new approach for value transactions with enhanced privacy and efficiency. These
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28 111 crypto-assets operate as an intermediary of exchange at a person-to-person level enabling
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30 112 direct payments between individuals (Badev and Chen, 2014, p.5; Walch, 2015, p.6; The
31
32 113 World Bank, 2017, p.IV; Houben and Snyers, 2018, p.15; Dryall, 2018, pp.15, 158-161).
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34 114 Crypto-assets transactions are anonymous or semi-anonymous and processed on peer-to-peer
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36 115 networks using encrypted keys that are generated randomly and held by transaction parties
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38 116 only (Li *et al.*, 2019).
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43 117 The DLT refers broadly to a distributed network technology that:
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- 46 118 (1) [E]nables users to upload programs and to leave the programs to self-execute; (2)
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48 119 maintains a permanent and public record (ledger) of the current and past states of every
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50 120 program; (3) is distributed; (4) uses public key cryptography for authentication; and (5)
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52 121 uses a consensus mechanism to ensure that the network maintains the technology’ (Reyes,
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54 122 2017, p.8).
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56 123 And
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[B]lockchain is a shared, immutable record of peer-to-peer transactions built from linked transaction blocks and stored in a digital ledger. ... Blockchain is alleged to be: (1) Transparency and Privacy; (2) Security and Reliability; (3) Trust and Integrity (Holloway, 2017, pp.3-4).

The technology establishes point-to-point or peer-to-peer networks enabling permissionless and anonymous transactions, which causes issues in identifying the rights and liabilities. The initial idea of peer-to-peer networks was to share music files freely and anonymously within users on a music platform, 'Napster', using 'BitTorrent' (Stern, 2000, p.4). Napster was charged with infringement of copyright for indirectly distributing music files without authorisation and was ordered shut down in 2001. Although Napster did not directly breach copyright as the peer-to-peer network did not hold or store music (*A&M Records, Inc. v. Napster, 2001*), the technology was banned (Brown, 2016, pp.330-331). The idea of peer-to-peer sharing was well received, while the ban of Napster was criticised by online users and legal professions for undermining creation in the music industry (Shih and Ku, 2002, p.263; Landes and Lichtman, 2003, p.119).

Similar to Napster, the peer-to-peer network allows anonymous crypto-asset transactions. The anonymity together with the permission-less network has opened a window for financial misconduct (Murray, 2019, pp.438-452). This has challenged the regulatory capacity of the financial sector (Buocz *et al.*, 2019; Vandezande and KU Leuven Centre for IT & IP Law, 2018; The World Bank, 2017; Dryall, 2018).

The creator of Bitcoins, Nakamoto, states that

[P]urely peer-to-peer version of electronic cash would allow online payments to be sent directly from one party to another without going through a financial institution. ... We propose a solution to the double-spending problem using a peer-to-peer network. The network timestamps transactions by hashing them into an ongoing chain of hash-based proof-of-work, forming a record that cannot be changed without redoing the proof-of-work. ... As long as a majority of CPU power is controlled by nodes that are not

151 cooperating to attack the network, they'll generate the longest chain and outpace attackers
152 (Nakamoto, 2008, p.1).

153 The Organisation for Economic Co-operation and Development (OECD) emphasises the
154 potential issues of crypto-assets in consumer protection, including value volatilities and
155 business shutdown (Blundell-Wignall 2014, p.7); the International Monetary Fund (IMF)
156 discusses the risks of crypto-assets and urges authorities to introduce relevant regulations to
157 ensure market integrity (IMF, 2018); a joint publication of Her Majesty's Treasury (HMT),
158 the FCA and the Bank of England (BoE) discusses the features of crypto-assets and provides
159 the definition (HM Treasury *et al.*, 2018).

160 Academic studies have investigated some crypto-assets related issues, such as user privacy
161 and cybersecurity (Li *et al.*, 2019; Ng and Kwok, 2017; Buocz *et al.*, 2019), money
162 laundering and terrorism financing (Vovchenko *et al.*, 2017; Teichmann, 2018; Turner and
163 Irwin, 2018; Albrecht *et al.*, 2019; Irwin and Dawson, 2019), however, discussions on the
164 Laws and Regulations of crypto-assets in the UK are sparse. There are institutional studies
165 and books providing overviews of the regulations of crypto-assets around the world. For
166 instance, Norton Rose Fulbright (2015) gives an introduction of the global legal framework
167 of crypto-assets in 2015; Arner and others (2017) emphasise the importance of digital
168 innovation in regulation and suggest sequenced reforms; the Law Library of Congress (2018)
169 studies the regulation of crypto-assets in multiple countries in 2018; The Cambridge Centre
170 for Alternative Finance provides an overview of crypto-assets development around the world
171 in 2019 (Blandin *et al.*, 2019); and Dean and others (2019) list the associated issues of
172 crypto-assets with the financial systems; Hughes (2020) reviews the definitions and functions
173 of crypto-assets and global responses. These studies only summarise crypto-assets regulations
174 in different countries. In addition, official working papers of the UK focus on the

175 interpretations of the aims, scope and process of the regulatory frameworks (HM Treasury *et*
176 *al.*, 2018; FCA, 2019a), whilst the evaluations of their regulatory schemes are absent.

177 ***Regulatory Framework of Crypto-assets in the UK***

178 *The Legal Basis*

179 The FCA published a consultation paper in January 2019 to collect feedback on its initial
180 regulatory framework (FCA, 2019a). Within six months, the FCA received feedback from 92
181 parties of 10 sectors, including large banks, FinTech firms, crypto-assets issuers, exchanges,
182 and custody service providers. Based on the feedback, the FCA finalised the guidance of
183 crypto-assets regulation in July 2019 by virtue of a document titled 'Guidance on Crypto-
184 assets Feedback and Final Guidance to CP 19/3'. The objective of the final guidance is to
185 provide clarification on crypto-assets falling within or outside the regulatory remits of the
186 FCA and to set forth the obligations on market participants (FCA, 2019b).

187 The fundamental Acts and Regulations applied in the guidance paper are the Financial
188 Services and Markets Act (FSMA) 2000 c.8, the PERG 2019, the RAO 2001, the Electronic
189 Money Regulations (EMR) 2011 SI 2011/99 (EMR 2011), the EU Markets in Financial
190 Instruments Directive II (MiFID II) (Council Directive 2014/65/EU, 2014), as well as the
191 FCA Handbook and the Prudential Regulation Authority (PRA) Rulebook.

192 The FCA categorises crypto-assets into four types of tokens: security tokens, e-money tokens,
193 exchange tokens and utility tokens. Security tokens and e-money tokens are grouped in the
194 category of regulated tokens, otherwise unregulated tokens. Generally, security tokens refer
195 to crypto-assets presenting similar characteristics as traditional shares or debentures; e-money
196 tokens are the crypto-assets that fall into the definition of e-money under the EMR 2011;
197 exchange tokens refer to crypto-assets used as a means of remittances, such as Bitcoins;

198 utility tokens are crypto-assets that allow holders to have access to the current or prospective
199 product or services with agreed conditions (FCA, 2019b, p.30).

200 Identifying the regulatory status of crypto-assets follows three steps. First, market
201 participants shall identify if they are carrying on activities by way of business in the UK
202 under the PERG 2019 and Sections 22, 418 and 419 of the FSMA 2000. In addition,
203 Schedule 2 of the FSMA 2000 pinpoints that By Way of Business in the UK refers to
204 business or business-like activities in the UK including domestic and overseas registered
205 venues. However, this excludes individuals (excluding self-employed or freelancers) and
206 non-profit institutions that carry on irregular commercial activities (FCA, 2019c, section.2.3).
207 The second step requests market participants to identify if their crypto-assets fall within the
208 definition of specified investments under Part 3 of the RAO 2001. Some financial instruments
209 defined under the MiFID II are recognised as certain types of investments and mapped to the
210 RAO 2001(FCA, 2019b, p.29).

211 The third and final step is to identify whether crypto-assets fall within the definition of e-
212 money under the EMR 2011 (FCA, 2019b, p.30) if crypto-assets fall outside the categories of
213 specified investments. Crypto-assets products falling outside the definitions of both specified
214 investments and e-money are categorised as unregulated tokens.

215 *Regulated Crypto Tokens*

216 Crypto tokens that show clear ownership rights or contractual rights are classified as
217 regulated tokens in the UK (FCA, 2019b, pp.14 and 34-39). Token holders may participate in
218 multiple crypto-assets activities, only tokens that fall within the definition of security tokens
219 and e-money tokens are regulated by the FCA (FCA, 2019b, pp.40-48).

220 *Security Tokens*

221 The FCA classifies security tokens following the definition of ‘Specified Investments’ under
222 the RAO 2001(FCA, 2019b, p.40). The classification focuses on the legal titles of crypto-
223 assets investments and whether the legal titles are negotiable and transferable^[4] on capital
224 markets. Specified investments of the kind include Shares, Debentures, Warrants and Units in
225 Collective Investment Schemes.

226 Shares of crypto-assets are defined under Article 76 of the RAO 2001. Crypto-assets shares
227 shall be registered under the names of a natural/legal person/persons, who can provide clear
228 identity information of the ownership. The shareholders can be any person in the UK or
229 overseas constituted under the law of the country. Crypto-assets present similar properties as
230 shares of specified investments and are negotiable and transferable on the capital markets are
231 considered as security tokens in accordance with business operation, corporate law and
232 MiFID; the operation of a company can be used as a reference but not determinants (FCA,
233 2019b, p.41).

234 Crypto-asset debentures are defined under Article 77 of the RAO 2001—‘instruments
235 creating or acknowledging indebtedness’. This category refers to debentures, debenture stock,
236 loan stock, bonds, certificates of deposit and any other instrument creating or acknowledging
237 indebtedness. This does not include borrowed money for defraying or paying goods or
238 services and heritable security which might be payable using crypto-assets, and it does not
239 include government and public securities. The certificates of deposit are unlikely to be
240 recognised as crypto-assets and are not yet treated as deposits. Negotiable and transferable
241 indebtedness crypto-assets could be treated as security tokens under MiFID II only if the
242 legal titles of token holders are clear or identifiable and have the rights to trade on capital
243 markets (FCA, 2019b, pp.42-43).

244 Crypto-assets acting as warrants follow the definition “Warrants” under Article 79 of the
245 RAO 2001— ‘investments giving entitlements to investments’. Warrants give the rights to

246 crypto-assets holders to access specified investments, including token-like shares and
247 debentures under Article 76 and 77 of the RAO 2001. Warrants refer to the rights that the
248 token issuer grants token holders to participate in new specified investments directly.

249 Units in Collective Investment Schemes refer to pooled investments including internet-based
250 crowdfunds. Units in Collective Investment Schemes define that investors gaining benefit
251 from the rising income/profit of specified investments based on the proportions of their token
252 shares under Article 80 and 81 of the RAO 2001. The pooled investments refer to one
253 specified investment at a time, investing in multiple specified investments is treated as
254 separate specified investments, even if the investments are operated by the same issuer.

255 However, whether collective token investments fall within the regulatory perimeters of the
256 FCA depends on the agreements or prospectus of the investments, while collective
257 investments involving exchange tokens or utility tokens also fall outside the regulatory
258 perimeters of the FCA (FCA, 2019b, p.44).

259 *E-money Tokens*

260 The FCA defines e-money tokens under the EMR 2011 and Article 9b of the RAO
261 2001(FCA, 2019b, p.40). Authorised e-money must be a representative equivalent to the
262 value of users' funds and widely accepted in society (*Electronic Money Regulations 2011, SI*
263 *2011/99*, regs. 2 and 3). E-money token issuers can only be third parties in providing
264 transaction services with stabilised rates against fiat money and comply with capital
265 requirements, recordkeeping and money laundering regulation. E-money tokens issued by
266 credit institutions, credit unions and municipal banks for the purpose of debt securities, shall
267 meet a minimal value of redemption of £100,000 or equivalent value of other currency and
268 shall have an office situated in the UK (*Electronic Money Regulations 2011, SI 2011/99*,
269 reg.6).

270 The FCA will identify e-money tokens on a case by case basis. There are possibilities of not
271 being recognised as e-money tokens even crypto-assets falling within the definition of e-
272 money under the EMR 2011 and meet the abovementioned criteria (FCA, 2019b, p.45).

273 *Unregulated Crypto Tokens*

274 The FCA classifies exchange tokens and utility tokens as unregulated tokens (FCA, 2019b,
275 pp.34-36). Unregulated tokens are mainly anonymous and can be transferred directly among
276 users or through crypto-assets service providers. Bitcoins and bitcoin-like crypto-assets are
277 unregulated tokens. Although these tokens fall outside the regulatory perimeters of the FCA,
278 they shall comply with the Fifth Anti-Money Laundering Directive (Council Directive (EU)
279 2018/843, 2018) (AMLD5) of the EU and the Money Laundering and Terrorist Financing
280 (Amendment) Regulations 2019, SI 2019/1511 (MLR 2019) of the UK.

281 *Exchange Tokens*

282 Exchange tokens refer to crypto-assets used for payment transactions or trading on crypto-
283 asset exchanges or stored on custody wallets. The FCA denotes that exchange tokens do not
284 need existing regulatory permissions as there are regulatory rules applying to unregulated
285 crypto-assets. These rules include the Principles for Business (PRIN) 2020 for commercial
286 conduct and the Senior Managers and Certification Regime (SMCR) 2019 for individual
287 conduct, as well as the Banking: Conduct of Business sourcebook (BCOBS) 2020 for banks
288 and financial firms. These rules are applicable to insurers and other FCA regulated firms with
289 activities under the definition of 'SMCR financial activities' including regulated activities
290 and activities in connection with a regulated activity no matter when the connection takes
291 place.

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The FCA has recognised the incremental use of exchange tokens and the DLT. However, some characteristics of exchange tokens made them fall outside the regulatory perimeters of the FCA. For instance, anonymity and value volatility. Thus, firms using crypto-assets to facilitate regulated payments must have the correct permission and must follow the relevant Laws and Regulations. This includes, but is not limited to, the Payment Services Regulations 2017, SI 2017/752 (PSR 2017), and from 1 August 2019, PRIN 2020 and BCOBS 2020. Certain activities of exchange tokens are regulated under the MLR 2019 implementing of the AMLD5.

Utility Tokens

Utility tokens refer to crypto-assets acting like ‘a current or prospective product or service and often grant rights similar to pre-payment vouchers’ (FCA, 2019b, p.36). Utility token owners can be anonymous and trade or exchange their tokens on secondary markets and use their tokens for speculative investment purposes. Utility tokens have a wider range of characteristics that are similar to all other three token classes. Therefore, further clarification of the regulatory perimeters of utility tokens is needed.

Methodology

FinTech blends the subjects of technology and finance, and it becomes more complex when business activity and market regulation engage. To reflect the interdisciplinary nature, this paper employs a comparative legal analysis to estimate the effectiveness of current regulatory frameworks of crypto-assets in the UK. The comparative legal analysis can be used in interdisciplinary subjects (Legrand, 1996) and multi-markets research (Siems and Deakin, 2010). It allows the discussion of ‘micro-legal questions’— a specific legal problem, such as a specific provision of a statute or code, or a

315 specific case or line of cases (Siems, 2008), and assists to identify if ‘the subdivisions of a
316 legal concept or field are in a logical, systematic, succinct, and complete way’(Van Hoecke,
317 2016, p.16).

318 FinTech has developed internationally within a short period. Relevant laws and regulations of
319 crypto-assets in most countries are still at their initial phases. Regulatory challenges seem
320 inevitable given the interdisciplinary nature of FinTech, such as balancing financial
321 innovation of crypto-assets and consumer protection (Baer and Pavel, 1988; Yeoh, 2017),
322 whereas evaluation of their regulatory frameworks has lagged behind.

323 Adopting a comparative legal analysis, this paper works up a new perspective on the
324 challenges in financial regulation in the UK and attempts to encourage interdisciplinary
325 discussions on the effectiveness of crypto-assets regulation—if the established regulatory
326 framework is logical, simple to understand and clear to comply with and if it serves the
327 mission of the regulator, the FCA, that is to ‘enhancing trust in markets, improving how
328 markets operate, delivering benefits through a common approach to regulation, and working
329 to prevent harm from occurring’ (FCA, 2017).

330 The comparative law is, therefore, not just another positivist approach that merely concerned
331 with the rules of a legal system. It is unravelling the use of the law in an interdisciplinary
332 subject and enhances the originality of this paper. A thorough discussion on potential issues
333 of crypto-assets regulation in the UK may assist in decision-making and multi-dimensional
334 improvements.

335 **Analysis of Crypto-asset Regulation in the UK**

336 ***Concerns over Crypto-assets Classification***

337 A clear classification of crypto-assets helps market participants and legal professions to
338 identify the regulatory status of crypto-assets. A German court case taking place in 2018

339 could be an example to see how crypto-asset classification could affect prosecution
340 proceedings. The court case between a Bitcoin service provider and the public prosecutor's
341 office of Berlin ("Citizen Service Berlin - Brandenburg - Criminality of trade in bitcoins",
342 2019)^[5] revealed an issue in identifying the regulatory position of Bitcoins among legal
343 professions — whether Bitcoins are 'financial instruments' (The Law Library of Congress,
344 2018). The lawsuit was on the ground that Bitcoins were financial instruments according to
345 the Federal Financial Supervisory Authority of Germany (BaFin) (2017), therefore the
346 service provider shall apply for a licence to provide banking services and was liable to carry
347 out due diligence measures. However, the court opinion was opposite and adjudicated that
348 Bitcoins were not financial instruments ("Banking Act (KWG)", 2014, s.1(11) (f)) as
349 Bitcoins were neither legal tender nor units of accounts (*Act on the Prudential Supervision of*
350 *Payment Services (Payment Services Supervision Act) 2009*, ss.(1a)(1)(5) and (1a)(3)). Both
351 the public prosecutor's office and the court referred to Section 1(11) of the Banking Act 2014,
352 Germany. The dispute was caused by whether Bitcoins were 'Financial Instruments' or
353 'Payment Instruments'.

354 The BaFin defines crypto-assets as financial instruments under the Banking Act 2014
355 regardless of the technology applied (BaFin, 2017). Bitcoin-like crypto-assets are recognised
356 as financial instruments because they are 'comparable to foreign exchange; value units which
357 function as private means of payment in barter transactions that is used as means of
358 payment' (BaFin, 2017). However, the Banking Act 2014 excludes payment instruments from
359 the definition of financial instruments under the German Payment Services Supervision Act
360 2009 (*Act on the Prudential Supervision of Payment Services (Payment Services Supervision*
361 *Act) 2009*, ss. (1a)(1)(5) and (1a)(3)). Since crypto-assets 'do not represent any claims on an
362 issuer, as in their case there is no issuer' (BaFin, 2017), therefore they are not recognised as
363 payment instruments in Germany, thus, associated service providers do not require banking

licences. The conflict over the German court case lays bare the fact that an unclear classification of crypto-assets could lead to misunderstanding, while similar issues may also take place in the UK as the FCA's classification is even more complicated.

The FCA defines security and e-money tokens as regulated tokens, unregulated tokens otherwise (FCA, 2019b, p.34). This classification seems simple, whereas it is practically more complicated than it looks. For example, the FCA states that identifying the regulatory status of crypto-assets (both regulated and unregulated) is on a case by case basis; one or more factors that make a token falling within or outside the regulatory perimeter are not determinative; while crypto-asset may move between the regulatory categories during their existence. The FCA also requires firms to identify relevant permissions themselves and consult independent advice (FCA, 2019b, p.32).

This ambiguous classification reflects the policy indecision about crypto-asset regulation: on the one hand, the FCA intends to encourage financial innovation and investments, which allows unregulated tokens to operate in the UK (FCA, 2019b, p.51); on the other hand, the regulator must ensure consumer protection. This implies policy uncertainty on token businesses. For instance, the current regulatory perimeters categorise products that reference crypto-assets as financial instruments under MiFID II as regulated tokens, including derivative instruments (FCA, 2019b, p.45). However, some unregulated tokens that possess properties of securities or derivatives are also financial instruments under MiFID II, such as BitCoins. This ambiguity may incur risks, especially to uninformed consumers. The FCA recognises this issue (FCA, 2019b, pp.40 and 45) and further introduced a ban in October 2020 on the marketing, distribution and sale of derivatives and exchange traded notes (ETNs) that reference crypto-assets to retail consumers. The rule applies to both UK and EEA MiFID investment firms and comes into force on 6 January 2021 (FCA, 2020).

388 In addition, the FCA's guideline is inconclusive and costly, especially to market participants.
389 For instance, identifying the regulatory status of crypto-assets on a case by case basis implies
390 a slow licensing process and requires more specialists. This implies extra cost to firms
391 including time and financial cost as well as opportunity cost: a slow process means firms
392 need to wait longer to launch/operate their businesses and pay more on bank loans interests if
393 they borrowed some; business opportunities may slip away during the time of waiting for
394 permission. Meanwhile, a slow process can lead to a backlog of business registrations and
395 delays in an Initial Coin Offering (ICO); investments may go to another country, which has a
396 simpler and faster-licensing process. Additionally, the indeterminate official guidelines will
397 puzzle market participants since falling within the regulatory perimeters does not mean
398 business permission; third party specialists may also hold different viewpoints from one to
399 another due to the unclear classification. The unclear classification may also offer room for
400 financial misconduct and cause conflicts in the regulatory process and legal proceedings.
401 In sum, the current regulatory framework requires further clarification. The abovementioned
402 regulatory issues may become more prominent when the number of market participants
403 increases. The FCA has admitted that there are some 'inherent structural differences'
404 amongst securities markets (FCA, 2019b, p.16) and 'believes' that the final guidance for
405 security tokens is sufficient to market participants and will continuously monitor the
406 developments in the unclarified areas while the market is maturing (FCA, 2019b, p.23).

407 ***Regulatory Flaws***

408 In addition to the concerns over crypto-asset classifications, this paper discovers some flaws
409 in the regulatory system. These flaws relate to the core provisions of crypto-assets regulation.

410 ***A Regulatory Flaw in Specified Investments***

411 The first flaw exists in Article 76 of the RAO 2001 — shares of specified investments.

76.— (1) Shares or stock in the share capital of—

(a) any body corporate (wherever incorporated), and

(b) any unincorporated body constituted under the law of a country or territory outside the United Kingdom.

(2) Paragraph (1) includes—

...
(b) any transferable shares in a body incorporated under the law of, or any part of, the United Kingdom relating to industrial and provident societies or credit unions, or in a body constituted under the law of another EEA State for purposes equivalent to those of such a body.

(3) But subject to paragraph (2) there are excluded from paragraph (1) shares or stock in the share capital of—

...
(b) a building society incorporated under the law of, or any part of, the United Kingdom;
(c) a body incorporated under the law of, or any part of, the United Kingdom relating to industrial and provident societies or credit unions;

This Article seems mutually exclusive. Paragraph (1) states that this regulation applies to both incorporated and unincorporated bodies operating in the UK wherever registered.

Specifically, Paragraph (2)(b) includes transferable shares of industrial and provident societies or credit unions, or in a body constituted under the law of another EEA State in Paragraph (1), whereas Paragraph (3) excludes shares of those from Paragraph (1) subject to Paragraph (2).

The term ‘transferable’ in Paragraph (2)(b) refers to shares that can be freely transferred to any person and at any time in accordance with the issuing company's articles of association (*Companies Act 2006 c.46, s.544*). Thus, transferable shares, as a part of companies’ capital shares, are included in Paragraph (1) under Paragraph (2)(b) but excluded from Paragraph (1) under Paragraph (3)(c) and (d). Therefore, the application of this Article depends on interpretations of legal professions, which sometimes their opinions may differ between one another; speculators may use this to game the system. The RAO 2001 has been updated

441 regularly between 2001 and 2021, but this has not yet drawn attention to the legislatures of
442 the UK.

443 The mutually exclusive provision will perplex market participants: crypto-assets issued by
444 industrial and provident societies or credit unions, or in a body constituted under the law of
445 another EEA State can be classified as both regulated tokens (specified investments) and
446 unregulated tokens (non-specified investments) under Articles 76(2)(b) and 76 (3)(c)(d) of
447 the RAO 2001, respectively.

448 The regulatory conflict implies policy uncertainty and exposes consumers to risks. It
449 heightens the cost of identifying relevant compliance measures; misapprehension will affect
450 business activities, such as financial promotion, which may further misguide consumers and
451 induce unnecessary regulatory penalties. Therefore, authorities may consider clarifying the
452 Article, accordingly.

453 *Regulatory Flaws under the Single Market System*

454 The second flaw presents in the PERG 2019 in terms of e-commerce from the EEA.
455 According to the PERG 2019 (section 2.4), a firm registered and established a business venue
456 in the UK shall comply with the Carrying on Regulated Activities by Way of Business
457 wherever registered including overseas persons (PERG, 2019, section 2.4.6). However,
458 overseas persons (PERG, 2019, section 2.9.15G) and e-commerce (except insurance
459 businesses) from the EEA member states are exceptional to the PERG requirement under the
460 single market system (European Commission, n.d.).

461 (1) In accordance with article 3(2) of the E-Commerce Directive, all requirements on
462 persons providing electronic commerce activities into the United Kingdom from the EEA
463 are lifted, where these fall within the co-ordinated field and would restrict the freedom of
464 such a firm to provide services. ... (2) The Regulated Activities Order was amended by
465 the Financial Services and Markets Act 2000 (Regulated Activities) (Amendment)

(Electronic Commerce Directive) Order 2002 (SI 2002/2157). This Order creates a general exclusion from regulated activities (except for the regulated activities of effecting or carrying out contracts of insurance). Where activities consist of electronic commerce activities, an incoming ECA provider will not require authorisation for such activities in the United Kingdom.

The general exclusion may function well if the regulatory requirement of crypto-assets across the EEA countries is harmonised. For example, Bitcoin-like products that are unregulated in the UK can obtain a licence in some EEA countries and then operate in the UK through the internet.

In addition to business authorisation, the disparate regulatory regimes of crypto-assets within the EU (Brophy, 2019) and the single market system may cause another regulatory issue, which is the third flaw this paper has diagnosed. Some EU countries, such as Germany and Malta, have established regulatory frameworks for crypto-assets businesses including Bitcoin-like products (*The Virtual Financial Assets Act 2018, Cap.590*, s.2(2), p.3; BaFin, 2017). Although all firms that carrying on regulated activities in the UK are required to comply with the FSMA 2000, such as general prohibition and financial promotion (FCA, 2019b, pp.33-34), EEA firms may operate and promote their crypto-assets without authorisation in the UK under the general exclusion of the PERG (2019, section 2.9.15G).

Unregulated crypto-asset products and services provided by EEA firms either through the internet or in the UK can be mistakenly recognised as regulated tokens by uninformed consumers; associated market activities may mislead consumers, such as financial promotion. Authorities may consider a harmonised regulatory framework within the EEA regarding regulated token types and inform market participants, accordingly.

The second and third regulatory flaws in the UK may be patched after the EU withdrawal.

Table 1 Disparate Regulation of Crypto-assets between the UK and EU

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{insert table here}

Table 2 Regulatory Flaws

{insert table here}

Conclusions

This paper diagnoses several issues in the current regulatory framework of crypto-assets in the UK. These issues bring out the inconsistencies and ineffectiveness in crypto-assets regulations including regulatory flaws. The current regulatory perimeters of the FCA manifest a narrow scope applying to only the minority of crypto-asset products; the most popular crypto-assets are currently unregulated.^[6] The complicated classification of crypto-assets indirectly raises the administrative cost of firms and exposes consumers to risks.

The current classification of crypto-assets is inflexible. Given the rapid development of financial technology, new varieties of crypto-assets may come into the markets. FinTech firms have to adjust product lines and business models to catch up with the developments; the UK authorities also need to adjust their regulatory scheme following markets variation, accordingly. This situation incurs uncertainty in devising long-term regulation. Authorities must take into account the dynamic connection between crypto-assets and the financial markets and structure a simpler and more practical approach.

The analytical outcome brings to light three flaws in the current legal framework in the UK. The three flaws exist in the secondary legislation, the RAO 2001 and the PERG 2019, respectively, which are the core references of the crypto-asset regulation in the UK (FCA, 2019b). The flaw in Article 76 of the RAO 2001 will cause identification issues not only to crypto-assets but to all ‘specified investments’ in the UK. The disparate regulatory frameworks between the UK and EEA countries call out a harmonised regulatory scheme for crypto-assets regardless of the EU withdrawal.

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3 515 In sum, the existing regulation on crypto-assets of the FCA is somewhat unclear,
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5 516 incomprehensive and incomplete, and it is complicated and costly to firms. It may cripple the
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7 517 enthusiasm for innovation and investments. Speculators may exploit regulatory
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9 518 vulnerabilities and game the system, which exposes investors and consumers to risk. Such an
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11 519 ineffective regulatory framework can impair market confidence and integrity. Despite money
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13 520 laundering regulation, it is also crucial to establish a harmonised regulatory framework in the
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15 521 EEA to overseeing overall internet-based business activities. The authority may have to
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17 522 reassess the regulatory framework and consider appropriate adjustments.
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22 523 This paper focuses solely on the effectiveness of the UK crypto-asset regulation; the
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24 524 effectiveness of international collaboration also requires a thorough examination.
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[4] The term of transferable in this definition does not refer to money transactions and remittance among individuals, which separates the security tokens from e-money tokens and exchange tokens.

[5] The court judgement is in German; thus, the information is based on Google translation.

[6] Unregulated tokens in the UK shall comply with the Money Laundering Regulation 2019, which implements the EU Fifth Anti-Money Laundering Regulation Directive. However, anti-money laundering is not the research objective of this paper.

Table 1 Disparate Regulation of crypto assets between the UK and EU

Crypto Assets	Require Authorisation of the FCA (FCA, 2019b)	EU Regulation (EBA, 2019)
Security tokens	Regulated under the MiFID II for financial instruments or the RAO 2001 for specified investments	Refer to investment tokens in the EU. Include ‘ownership rights and/or entitlements similar to dividends’, for example, ICOs. (EBA, 2019, p.7).
E-money tokens	Regulated under the EMR 2011 and the PSR 2017	Refer to virtual currencies in the EU including exchange and payment tokens (EBA, 2019, pp.6-7). ‘Current EU law does not prohibit financial institutions, including credit institutions, investment firms, payment institutions and electronic money institutions, from holding or gaining exposure to crypto-assets or from offering services relating to crypto-assets. (These types of firm are permitted, pursuant to their licence status, to carry out specified regulated financial services listed in the relevant directive’ (EBA, 2019, p.22). Firms meet certain criteria are regulated under the Electronic Money Directive (Council Directive 2009/110/EC, 2009) for e-money tokens, the Payment Services Directive (Council Directive (EU) 2015/2366, 2015) for payment instruments and the MiFID II for financial instruments (EBA, 2019, pp.7, 12 and 29), accordingly.
Exchange tokens	Do not require the authorisation of the FCA	
Utility tokens	Do not require the authorisation of the FCA	Under observation (EBA, 2019, p.28)

1. Crypto assets classification in the UK and EU is disparate.
2. Crypto assets regulated in the EU are not necessarily regulated in the UK and vice versa.

Table 2 Regulatory Flaws

Related Laws and Regulations	Identified Issues	Regulatory Flaws
RAO 2001, Article 76	Mutually exclusive phrases in the Article	The share-type tokens of industrial and provident societies or credit unions, or in a body constituted under the law of another EEA State can be apprehended as both regulated and unregulated crypto-assets at the same time. Further clarification will help market participants to comply with the law.
PEGR 2019, Section 2.9.15G EU Single Market System	Exception of authorisation for EEA e-commerce	EEA authorised tokens may not be regulated in the UK, however, can operate in the UK through the internet. This flaw can be patched after EU withdrawal.
	Disparate regulation of crypto-assets between EEA and the UK (see table 1)	EEA authorised tokens may not be regulated in the UK. However, promoting a token using an EEA licence may confuse UK consumers. This flaw can be patched after EU withdrawal.