

“BLOCKCHAIN TECHNOLOGY AND LEGAL FRAMEWORKS: CHALLENGES AND OPPORTUNITIES IN THE FINTECH ERA”

AUTHOR – HIMANSHU PANET* & ANUJ SETHI **

* STUDENT AT LAW COLLEGE DEHRADUN, UTTARANCHAL UNIVERSITY

** ASSISTANT PROFESSOR AT LAW COLLEGE DEHRADUN, UTTARANCHAL UNIVERSITY

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ABSTRACT

Once mostly connected to cryptocurrencies, blockchain technology has developed into a disruptive force in a number of industries, including the legal field⁷⁴⁰. The relationship between blockchain technology and legal systems is examined in this study, with an emphasis on the opportunities and difficulties associated with incorporating blockchain technology into current legal frameworks. Blockchain has the ability to completely transform legal transactions, contract execution, and data privacy management due to its decentralised, unchangeable, and transparent nature. Nevertheless, for blockchain⁷⁴¹ to be successfully integrated into legal systems, a number of regulatory obstacles, including jurisdictional problems, a lack of standardisation, and worries about privacy and security, must be resolved. The fintech ecosystem has been a key facilitator of digital transformation as India begins its journey on a digital trajectory. One of the most talked-about technological phrases in the fintech industry is next-generation trading currencies based on blockchain technology. However, more stringent legal frameworks apply to digital currencies and assets that also employ DLT underneath. This study offers a framework for analysing this particular concern of policymakers and the Central Bank, which highlights the necessity of regulatory frameworks that simultaneously protect users' interests and the country's economic and security interests.

KEYWORDS – blockchain, india, USA, UK, regulation

I. INTRODUCTION

Blockchain is one of the most innovative and disruptive technologies of the twenty-first century.⁷⁴² Trade, finance, governance, and social impact are just a few of the economic sectors they have the ability to significantly change. However, they also provide significant risks and challenges for users, legislators, and regulators. Different countries have adopted different positions regarding the adoption and management of new technology; these positions range from strict to accommodating,

from legalisation to prohibition. India, one of the largest and fastest-growing economies in the world, must make a tough choice regarding its stance on blockchain technology. On the one hand, India has a large market and talent pool for these technologies, and it may benefit from their adoption in terms of efficiency, innovation, and inclusion. However, if these technologies are used improperly, India may face issues with

⁷⁴⁰ Satoshi Nakamoto, Bitcoin: *A Peer-to-Peer Electronic Cash System* (2008).

⁷⁴¹ Primavera De Filippi & Aaron Wright, *Blockchain and the Law: The Rule of Code* (Harvard University Press, 2018).

⁷⁴² Don Tapscott & Alex Tapscott, *Blockchain Revolution: How the Technology Behind Bitcoin Is Changing Money, Business, and the World* (Portfolio 2016).

consumer protection, money laundering, tax evasion, financial stability, and cybercrime.⁷⁴³

The goal of blockchain technology is to securely record transactions on a distributed network via a decentralised, impenetrable ledger system. By eliminating the middlemen, it makes peer-to-peer transactions more secure and transparent.⁷⁴⁴ Blockchain technology is a game-changer in the financial sector since it is based on distributed ledger technology, consensus protocols, and encryption techniques. A legal framework that fully addresses blockchain use in banking has not yet been developed, despite regulatory interest in the use of blockchain in banks and financial institutions and calls for a framework that is consistent with current banking legislation, data protection laws, and the financial regulatory environment under "the Reserve Bank of India Act, 1934, Banking Regulation Act, 1949, and the Payment and Settlement Systems Act, 2007." Regulations pertaining to security, data protection, anti-money laundering, and compatibility with current banking systems are raised by blockchain's continued growth beyond bitcoin.

II. BLOCKCHAIN TECHNOLOGY

Blockchain technology makes it possible to construct and maintain a distributed record of transactions that is secure and verifiable using encryption. Cryptocurrency is a type of digital asset that uses blockchain technology as a unit of account, store of value, and medium of trade. The blockchain ledger, which keeps track of bitcoin transactions, is maintained by a network of nodes that follow a consensus process. Cryptocurrencies can be used to buy goods much like regular cash. Cryptography protects and verifies transactions involving cryptocurrencies. They typically don't exist in the real world and aren't issued by any central authority. They use decentralised control, in contrast to digital currency issued by central

banks. Solana, Litecoin, Ether, Bitcoin, and Stablecoins are the most popular cryptocurrencies.⁷⁴⁵

2.1 Legal Issue

Blockchain and cryptocurrencies are two of the most innovative and ground-breaking technologies of the twenty-first century. However, they also provide a variety of legal challenges and issues for businesses, clients, and authorities. The following are some of the numerous legal issues surrounding cryptocurrencies and blockchain technology:

- The definition and legal status of blockchain technology and cryptocurrencies, as well as whether some governments acknowledge them as property, securities, commodities, legal money, or something else entirely.
- The legal framework and compliance requirements for blockchain activities, including as purchasing, selling, mining, issuing, storing, transporting, and paying taxes, as well as how they vary by country and region.
- The legal rights and obligations of users, developers, mediators, service providers, regulators, and other participants in blockchain and cryptocurrency transactions, as well as the ways in which these rights and obligations are protected.
- The legal risks and challenges related to cryptocurrencies and blockchain technology, including strategies to prevent and mitigate the consequences of fraud, theft, hacking, loss, privacy, security, liability, and enforcement.
- The potential legal benefits and advantages of blockchain technology and cryptocurrencies, including how to best use and promote its creative, efficient, transparent, inclusive, and socially impacting qualities.

⁷⁴³ Government of India, *Inter-Ministerial Committee Report on Virtual Currencies* (Ministry of Finance 2019).

⁷⁴⁴ Don Tapscott & Alex Tapscott, *Blockchain Revolution: How the Technology Behind Bitcoin Is Changing Money, Business, and the World* (Portfolio 2016).

⁷⁴⁵ Andreas M. Antonopoulos, *Mastering Bitcoin: Unlocking Digital Cryptocurrencies* (O'Reilly Media 2014).

III. BLOCKCHAIN TECHNOLOGY IN INDIA

In many ways, the banking and financial services industry in India is leading the way in implementing blockchain technology. In 2016, the first application of blockchain technology in the Indian sector was documented⁷⁴⁶. Private companies leading the race include ICICI Bank, Mahindra⁷⁴⁷, and Yes Bank⁷⁴⁸. The Andhra Pradesh government also used blockchain technology for citizen services in 2017⁷⁴⁹. The demonetisation of India in November 2016 led to a significant increase in the use of digital payment services for cashless transactions. But a month earlier, in October 2016, ICICI Bank and Emirates National Bank of Dubai announced a trial initiative to test blockchain networks for their remittances from the UAE to India. Both banks used the Edge Verge Blockchain Framework for remittances, which eliminated the need for letter exchanges, drastically reduced settlement times, and consequently decreased bank operating expenses. Mahindra and IBM stated in the same year that they would conduct a pilot test to apply blockchain technology for supply chain finance. In January 2017, the technology was implemented and tested for invoice discounting. Following the initial test case's successful implementation, the Mahindra Group is currently investigating the use of blockchain technology in its various other businesses.

In 2017⁷⁵⁰, Bajaj Electricals began utilising blockchain technology for supplier and vendor finance alongside IBM and Yes Bank. Bajaj Electricals' payment processing time was reduced from five days to nearly real-time with this new change. The first state to use blockchain technology for public services was Andhra Pradesh in 2017. The plan was to deploy blockchain technology in the Government of Andhra Pradesh's Land Record Department and Transport Department to utilise the unaltered

land and vehicle data obtained from legitimate owners.

3.1 India's Blockchain Law

The way we used to perceive changes has changed due to rapid technology improvements. Blockchain's transparency has several applications and may lead to several long-term changes in Indian society.⁷⁵¹ Blockchain's foundational technology, distributed ledger technology, is becoming more widely used in India. Although this technology's distributed nature allows for the greatest level of openness, lawmakers find it equally difficult to enact any kind of legislation pertaining to it. The National Informatics Centre is the only organisation in India tasked with establishing and managing the country's blockchain ecosystem. Blockchain technology will be used for e-governance, according to the Ministry of Electronic and Information Technology. State governments and other government agencies must also embrace blockchain technology for security and other improvements⁷⁵². The majority of Indians lack knowledge of blockchain technology, its applications, and its potential, which presents politicians with extra difficulties. The legislative process is hampered by citizens' lack of understanding because it is extremely difficult to even offer a paper about a topic that most people are unaware.⁷⁵³ The Indian government, like the majority of the country, attempted to regulate distributed ledger technology under the current legal framework in the early days when blockchain technology was new to India and its nature needed to be understood by the Indian parliament and Indian agencies. Since bitcoin trading accounts for the majority of blockchain activity, the regulations appear to solely address this specific risk in general. Prominent legislation governing the technology included the RBI Act of 1934, the

⁷⁴⁶ ICICI Bank Ltd. & Emirates NBD, *Press Release on Blockchain-Based Remittance Pilot* (Oct. 2016), <https://www.icicibank.com>.

⁷⁴⁷ IBM Corp. & Mahindra Group, *Blockchain Pilot for Supply Chain Finance* (2016), <https://www.ibm.com>.

⁷⁴⁸ Yes Bank Ltd., *Blockchain Adoption in Banking and Financial Services* (2017), <https://www.yesbank.in>.

⁷⁴⁹ Government of Andhra Pradesh, *Blockchain Initiative for Land Records and Transport Department* (2017), <https://www.ap.gov.in>.

⁷⁵⁰ Bajaj Electricals Ltd., *Blockchain for Vendor and Supplier Finance* (2017), <https://www.bajajelectricals.com>.

⁷⁵¹ Ministry of Electronics and Information Technology, *National Strategy on Blockchain: Towards Enabling Trusted Digital Platforms* (2021), <https://www.meity.gov.in>

⁷⁵² Shah, *Blockchain Technology and Its Role in Indian Governance*, 27 INDIAN J.L. & TECH. 45, 52–54 (2022).

⁷⁵³ Singh & Chawla, *Awareness and Regulatory Challenges of Blockchain Technology in India*, 11 INDIAN J.L. & TECH. 67, 72–74 (2019).

Securities Contracts (Regulation) Act of 1955, and the Negotiable Instrument Act of 1881.

The Indian Copyright Act of 1957 and the IT Act of 2000 were later added to the list of legislation to govern this new technological advancement in addition to the previously stated ones. The Reserve Bank of India, in collaboration with FinTech firms and digital banks, has indicated that the country's central bank will take into account the Regulatory Sandboxes for Blockchain regulation under RBI's jurisdiction in an effort to propose a legal framework⁷⁵⁴. The legislative framework on blockchain in India mostly addresses financial transactions and payments because, as of right now, the technology is still making its way to other significant industries besides the financial sector. Regarding cryptocurrencies, Budget 2022 was the first official attempt by India to recognise them through fiscal legislation. By adding a clause under section 2(47A) of the Income Tax Act, 1961 that specifies virtual digital assets and is not limited to bitcoin, the new law is being put into effect. Following this amendment, non-fungible tokens, or NFTs, are subject to the Income Tax Act of 1961⁷⁵⁵. Unlike other countries, India does not outlaw cryptocurrencies or NFT, but it does include these digital assets under its tax rules. Additionally, the Indian government proposed adding draft section 15BBH to the Income Tax Act of 1961 as part of its new tax system. All aspects of taxation on revenue from virtual digital assets are governed by this clause.

According to section 15BBH recommends that all income from the transfer of virtual digital assets will be subject to 30% tax and that no deduction set-off will be permitted on income from any of the virtual digital assets. Additionally, by permitting buyers of virtual digital assets to deduct 1% of the purchase price after it has been

made, section 194S permits advance tax collection and verification of the transfer of any digital assets (Jain, 2022). Since the platform's opaque nature makes it impossible to pinpoint the precise location of cryptocurrency transactions, it is anticipated that the number of money laundering instances would rise, necessitating the implementation of rules to address such situations. Despite the fact that FEMA covers the NFT and cryptocurrencies, the law is insufficient given the constantly evolving situation.⁷⁵⁶

3.2 Case Laws

- Shreya Singhal v. Union of India⁷⁵⁷

The scope of the Information Technology Act of 2000 was made clearer by this case, which also highlighted the protection of free speech. It matters when thinking about legal supervision of digital platforms, such as blockchain networks.

- Trimex International FZE Ltd. v. Vedanta Aluminium Ltd.⁷⁵⁸,

established the fundamental legal basis for smart contracts under the IT Act of 2000 by acknowledging the legitimacy of contracts made electronically.

- Anvar P.V. v. P.K. Basheer⁷⁵⁹

clarified, with support from Section 65B, the acceptability of electronic records as evidence under the Indian Evidence Act pertinent to the evidentiary value of blockchain.

IV. BLOCKCHAIN REGULATION IN US

The GENIUS Act of 2025 (Guiding and Establishing National Innovation for U.S. Stablecoins of 2025) was passed by the U.S. Senate on June 17, 2025, making history⁷⁶⁰. The first significant cryptocurrency bill ever enacted by the US Senate, this law creates a legal framework for stablecoins and marks a significant change in policy regarding the cryptocurrency industry.⁷⁶¹

⁷⁵⁴ Mohsin, *Regulatory Sandbox and Blockchain Regulation in India*, 6 J. FINTECH L. 112, 118–20 (2021).

⁷⁵⁵ Jain, *Taxation of Virtual Digital Assets in India: Budget 2022 Analysis*, 14 NUJS L. REV. 233, 240–43 (2022).

⁷⁵⁶ Shah, *Blockchain Technology, Cryptocurrencies and Regulatory Challenges in India*, 27 INDIAN J.L. & TECH. 61, 69–71 (2022).

⁷⁵⁷ *Shreya Singhal v. Union of India*, (2015) 5 S.C.C. 1 (India).

⁷⁵⁸ *Trimex International FZE Ltd. v. Vedanta Aluminium Ltd.*, (2010) 3 S.C.C. 1 (India).

⁷⁵⁹ *Anvar P.V. v. P.K. Basheer*, (2014) 10 S.C.C. 473 (India).

⁷⁶⁰ *Guiding and Establishing National Innovation for U.S. Stablecoins Act of 2025 (GENIUS Act)*, 2025, S. ____, 119th Cong. (passed by Senate June 17, 2025) (U.S.).

⁷⁶¹ Hannah Lang, *U.S. Senate passes stablecoin bill in milestone for crypto industry*, REUTERS, June 17, 2025, at 1–4.

There was some debate around the bill's passage. Democrats vehemently opposed the bill, claiming there were insufficient rules to stop abuses. The lack of anti-corruption regulations that would stop President Trump and his family from making money off of bitcoin ventures was especially criticised. This Senate triumph is significant for the crypto industry's pursuit of Washington (and thus worldwide) legitimacy, even though the House still needs to adopt the bill before it reaches the president's desk.

Amidst significant political intrigue, the blockchain legislation progressed. In another controversial 50-50 Senate vote that same week, Republicans barely passed President Trump's budget reconciliation plan, with Vice President JD Vance casting the final vote. Both parties criticised the "One Big Beautiful Bill Act" for tax redistribution, healthcare reduction, and worries about AI regulations. Senator Cynthia Lummis of Wyoming tried to include provisions addressing what she saw as "unfair tax treatment" of cryptocurrency stakers and miners during the budget debate. The Senate floor never saw her amendments. Representative Nicholas Begich of Alaska remarked, "I would have liked to have seen that provision in the final product," later. "I think there will be other opportunities for us to get that into must-pass legislation."⁷⁶²

4.1 Law governing blockchain in us

First, a federal framework for payment stablecoins denominated in US dollars was established by the GENIUS Act. The Act authorises insured depository institutions to issue through subsidiaries under Federal Reserve supervision, provides a "primary Federal payment stablecoin regulator," and directs non-bank issuers to a licensing track overseen by the Office of the Comptroller of the Currency ("OCC"). State legislation authorises state "qualified" issuers to continue, subject to information exchange and, in extreme situations, federal backstop enforcement. The following are now

legally required core program obligations: reserves held in liquid, high-quality assets consistent with safety and soundness; monthly reserve reporting reviewed by a registered public accounting firm with CEO/CFO certifications; capital and risk management standards issued jointly by the federal regulators; and redemption mechanisms that function in accordance with clear cut-off times and fees. Timing regulations are just as crucial as content. Regulators have 180 days from legislation to provide implementing rules; a complete application must be decided within 120 days on specified safety-and-soundness standards, with implied acceptance if the agency misses the deadline. The GENIUS Act⁷⁶³ offers supervisors civil money punishment authority, including fines for unauthorised issue, as well as familiar examination authorities. A federal statute that simplifies program design, reserve custody, attestation, redemption, disclosures, examinations, and enforcement is the outcome for firms that in 2024 found it difficult to map stablecoin operations onto old banking categories.

Second, the market structure for digital assets that are not stablecoins was redefined in the Digital Asset Market Clarity Act of 2025 (the "CLARITY Act").⁷⁶⁴ The CLARITY Act distinguishes explicitly between "investment contracts" and "investment contract assets," which, once a blockchain reaches a particular maturity, can trade outside of the securities framework. It defines "digital commodities," offers a rapid (and temporary) registration mechanism for dealers, brokers, and exchanges of digital commodities, and acknowledges "qualified digital asset custodians" under CEA monitoring. It mandates the segregation of customer assets, forbids the unreported use of customer funds for staking or other "blockchain services," and stipulates that these services can only be provided with the express written approval of the user and within the restrictions defined by the Commodity

⁷⁶² Nicholas Begich III, *Remarks on cryptocurrency provisions in federal legislation*, HOUSE.GOV (June __, 2025), <https://www.house.gov>

⁷⁶³ Jeremy McDiarmid, *From Banking Law to Stablecoin Statute: Why the GENIUS Act Matters*, 98 GEO. WASH. L. REV. 411, 428-32 (2025).

⁷⁶⁴ Digital Asset Market Clarity Act of 2025 (CLARITY Act), 2025, H.R. __, 119th Cong. §§ 101-104 (U.S.).

Futures Trading Commission ("CFTC"). It requires the Securities Exchange Commission ("SEC") and CFTC to conclude collaborative rulemakings on foundational definitions, mixed transactions, delisting procedures, portfolio margining relief, and cross-market coordination. It also offers a certification mechanism for a "mature blockchain system" that facilitates secondary trade like a commodity. By establishing a route from capital formation under the securities laws to commodity-style secondary markets when factual maturity is demonstrated, the CLARITY Act lowers the room for existential labelling conflicts while keeping anti-fraud and anti-manipulation instruments. Following the House's acceptance of the bill in the middle of 2025, agencies started producing parallel rulemakings and interim guidance in preparation of final passage, while market actors began aligning venue design and documentation with the client asset and custody parts of the CLARITY Act.⁷⁶⁵

Legislation was supplemented by executive action. Executive Order 14178 (January 23, 2025), Strengthening American Leadership in Digital Financial Technology, forbade the federal government from creating a central bank digital currency ("CBDC") and outlined policy commitments that are now evident in agency operations:⁷⁶⁶ safeguarding legitimate access to open, public blockchains; maintaining self-custody; advancing the role of the US dollar, including legitimate dollar-backed stablecoins; reinstating technology-neutral, transparent rulemaking; and rejecting "regulation by prosecution." The Order formed the National Economic Council's President's Working Group on Digital Asset Markets and demanded a 180-day report with proposals for legislation and regulations. A whole-of-government roadmap was defined in the Working Group's summer 2025 report. It included a plan to harmonise the implementation of the Bank Secrecy Act ("BSA")

travel rule without treating non-custodial software as a financial intermediary, a prudential template for stablecoin reserves and redemption risk under the GENIUS Act, supervisory expectations for key ceremonies and wallet governance at banks, and coordinated rulemakings under the CLARITY Act.⁷⁶⁷

Additionally, supervisory policies altered. In August 2025, the Federal Reserve halted its Novel Activities Supervision Program and restarted the standard regulatory framework for bank cryptocurrency operations.⁷⁶⁸ In order to confirm that national banks may act as agents to execute and settle digital asset trades for clients and may offer digital asset custody and settlement services when done in a safe and sound manner with appropriate risk management and disclosures, the OCC updated its interpretive guidance and bulletins. In response to the GENIUS Act, the Treasury Department ("Treasury") and Financial Crimes Enforcement Network ("FinCEN") introduced public processes, such as requests for comment on identity, sanctions screening, travel rule compatibility, and the application of analytics in BSA activities. When taken as a whole, these steps altered the discourse from whether or not banks could participate at all to how they would do so without commingling, with strong key management, and with examiners-testable incident response and customer asset segregation regulations.

Concurrently, the enforcement posture evolved. The Department of Justice⁷⁶⁹ ("DoJ") re-scoped digital asset enforcement in April 2025 with the Deputy Attorney General's memorandum titled "Ending Regulation by Prosecution," which prioritised fraud, sanctions evasion, misappropriation of client assets, and unlicensed money transmission while deprioritizing the use of criminal tools to settle

⁷⁶⁵ Skadden, Arps, Slate, Meagher & Flom LLP, *From Securities to Commodities: The CLARITY Act's "Mature Blockchain" Framework*, SKADDEN (July 2025), <https://www.skadden.com>.

⁷⁶⁶ Exec. Order No. 14,178, *Strengthening American Leadership in Digital Financial Technology*, 90 Fed. Reg. ____ (Jan. 23, 2025) (U.S.).

⁷⁶⁷ U.S. Department of the Treasury, *Digital Asset Regulation and Coordinated Rulemaking Roadmap*, TREASURY.GOV (July 2025), <https://home.treasury.gov>.

⁷⁶⁸ Board of Governors of the Federal Reserve System, *Supervisory Letter on the Termination of the Novel Activities Supervision Program and Reversion to Standard Supervisory Framework* (Issued Aug. 2025) (U.S.).

⁷⁶⁹ U.S. Department of Justice, *Justice Department Announces Reorganization of Digital Asset Enforcement Efforts*, DOJ.GOV (Apr. 2025), <https://www.justice.gov>.

regulatory classification disputes. After that, the DoJ reorganised its crypto enforcement efforts, integrating prior task force bodies into portions with more expansive financial crime responsibilities. While continuing to prosecute fraud and manipulation, the leadership of the securities regulator established an internal SEC crypto task force tasked with developing practical registration routes, disclosure models essential to tokenisation and decentralised governance, and coordinating rulemaking with the CFTC. These revisions did not halt enforcement; rather, they shifted it away from the concept that code release or open-source activity is inherently dubious and towards behaviour that affects customers or circumvents stated restrictions.

The results of litigation in 2024 and 2025 kept shifting the line between law and policy. The final judgement in *SEC v. Ripple Labs Inc.* (S.D.N.Y.)⁷⁷⁰ entered on August 7, 2024, permanently prohibited future Section 5 violations related to institutional sales and imposed a civil penalty, while maintaining the earlier conclusion that programmatic secondary sales on the record presented did not constitute investment contract offers or sales. Attempts in 2025 to vacate the injunction and reduce the penalty failed, and the parties dismissed their appeals in August 2025. The Office of Foreign Assets Control ("OFAC") removed Tornado Cash from the Specially Designated Nationals and Blocked Persons List ("SDN List") in March 2025 after the court in *Van Loon v. Department of the Treasury* (5th Cir. 2024) ruled that immutable Tornado Cash smart contracts were not sanctionable "property" under the International Emergency Economic Powers Act ("IEEPA"). A jury in *United States v. Roman Storm* (S.D.N.Y. 2025) found the defendant guilty of conspiring to run an unlicensed money-transmitting business while reaching a stalemate on counts of money

laundering and sanctions evasion, focussing the criminal analysis on control and services rather than just code. A jury found liability in *SEC v. Terraform Labs PTE Ltd. and Do Hyeong Kwon* (S.D.N.Y. 2024)⁷⁷² on April 5, 2024, and the court issued broad remedies in June and July of the same year, altering disclosure rules for reserve claims and third-party adoption narratives. Lastly, in *SEC v. Coinbase, Inc.* (S.D.N.Y. 2024–2025), the court dismissed claims pertaining to a non-custodial wallet while allowing core venue registration and staking theories to proceed. The court also stayed the case in January 2025 to allow for interlocutory appeal, indicating the judiciary's desire to make clear how investment contract theories relate to secondary trading.

To put it succinctly, the federal government reacted in 2026. Financial supervisors modified examination and guidance to incorporate lawful participation; enforcement agencies re-scoped their tools; courts continued to reward fact-specific, statute-anchored theories; Congress passed a stablecoin statute and advanced market-structure legislation; the President issued an executive order that reset policy, revoked a previous order, prohibited a CBDC, and established a cross-agency working group. The 2025 version's definitional pluralism still predominates, but the approach to handling it has changed from improvisation to playbook.⁷⁷³

V. BLOCKCHAIN REGULATION IN UK

Although the use of blockchain technology and asset tokenisation is expanding quickly, the presence of a transparent, uniform, and innovative legal framework is actually what is propelling these trends globally.⁷⁷⁴ As legislative models, some nations have already enacted particular regulations for DLT infrastructures, cryptoassets, and the issuing of legally backed tokens.⁷⁷⁵

⁷⁷⁰ *SEC v. Ripple Labs Inc.*, No. 20-cv-10832, (2024) ___ F. Supp. 3d ___ (S.D.N.Y. Aug. 7, 2024) (U.S.).

⁷⁷¹ *United States v. Roman Storm*, No. ___, (2025) ___ F. Supp. 3d ___ (S.D.N.Y. 2025) (U.S.).

⁷⁷² *SEC v. Terraform Labs PTE Ltd. & Do Hyeong Kwon*, No. 23-cv-01346, (2024) ___ F. Supp. 3d ___ (S.D.N.Y. Apr. 5, 2024) (U.S.).

⁷⁷³ National Economic Council, *President's Working Group on Digital Asset Markets: Final Report 1–6* (Summer 2025) (U.S.).

⁷⁷⁴ UK Jurisdiction Taskforce, *Legal Statement on Cryptoassets and Smart Contracts 6–12* (LawTech Delivery Panel, Nov. 2019).

⁷⁷⁵ David Fox & Sarah Green eds., *Cryptocurrencies in Public and Private Law 45–52* (Oxford Univ. Press 1st ed. 2019).

5.1 Financial Services and Markets Act (FSMA)

Within the UK financial regulatory framework, cryptoassets are incorporated by the FSMA⁷⁷⁶. It specifies the kinds of tokens that are governed and the conditions that must be met for their issuance, storage, exchange, and marketing. Further authority to regulate digital asset markets and platforms, including exchanges and custodians, is also granted to the FCA. The FSMA incorporates cryptoassets in this order. In addition to defining categories like qualifying cryptoassets, qualifying stablecoins, and security tokens, it also specifies which activities—such as issuance, custody, exchange operation, intermediation, and DeFi services—are subject to regulation. It will give the FCA more authority and mandate licensing for all providers, even those that operate overseas.⁷⁷⁷

5.2 UK AML Regulations

Service providers of cryptoassets are required to register with the FCA and adhere to national anti-money laundering law⁷⁷⁸s. This involves stringent KYC requirements, ongoing transaction monitoring, and reporting questionable behaviour in accordance with global financial compliance guidelines.

5.3 Digital Securities Sandbox

Under regulatory supervision, companies can test blockchain and digital asset innovations in the UK through the FCA⁷⁷⁹-run Digital Securities Sandbox, which promotes experimentation and the creation of new business models in a regulated setting. Although tokenisation enables the digital representation of physical goods via blockchain, a legislative framework that acknowledges this function is necessary for it to have legal significance.⁷⁸⁰ With particular regulations for token issuance, custody, and trading, the UK takes a different tack. In this

section, we describe the legal framework governing asset tokenisation, using a developed country like the UK as an example.

VI. CONCLUSION

Blockchain technology offers improved transparency, security, cost effectiveness, and financial inclusion, which could revolutionise India's financial industry. A trustless technique that lessens reliance on middlemen and guarantees transaction integrity is introduced via its decentralised structure and immutable ledger system. However, there are significant legal, regulatory, and technological obstacles to integrating blockchain into traditional banking and financial services.⁷⁸¹ The Reserve Bank of India Act of 1934, the Banking Regulation Act of 1949, the Information Technology Act of 2000, and the Prevention of Money Laundering Act of 2002 are examples of current laws that offer some guidance but fall short of a comprehensive legal framework designed to address the intricacies of blockchain systems⁷⁸². Scalability, cybersecurity, AML compliance, and harmonising laws across borders continue to be major challenges. However, there are also many potential in fields like financial inclusion, real-time auditability, cross-border payments, and smart contracts⁷⁸³. A clear, forward-thinking regulatory and legislative framework that strikes a balance between innovation, financial stability, consumer protection, and regulatory compliance is necessary for blockchain to reach its full potential in India's financial sector.

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⁷⁷⁸ Money Laundering, *Terrorist Financing and Transfer of Funds (Information on the Payer) Regulations* 2017, SI 2017/692, regs. 8–9, 27–28 (U.K.).

⁷⁷⁹ Financial Conduct Authority, *Digital Securities Sandbox* (FCA, 2023) (U.K.).

⁷⁸⁰ Law Commission of England and Wales, *Digital Assets: Final Report* (Law Com No. 506, 2023) (U.K.).

⁷⁸¹ Bank for International Settlements, *Sound Practices: Implications of Fintech Developments for Banks and Bank Supervisors* 33–38 (Basel Committee on Banking Supervision 2018).

⁷⁸² Reserve Bank of India, *Central Bank Digital Currency (CBDC) – Concept Note* 6–11 (RBI 2022).

⁷⁸³ Nandan Nilekani, *Rebooting India: Realizing a Billion Aspirations* 201–08 (Penguin Random House India 1st ed. 2015).

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