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The Role of Digital Asset Custodians

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Abstract: Cryptocurrencies and blockchain assets have experienced exponential growth, driving demand for professional custodial services to secure holdings. However, legal responsibilities for digital asset custodians remain ambiguous. This study undertakes a comparative analysis of legislative frameworks and case law governing traditional custodians across major jurisdictions including the United States, European Union, United Kingdom, Singapore, Japan and Australia. Gaps are identified around custodian duties, security expectations, liability apportionment, and licensing requirements that heighten risks in this nascent industry. While judiciaries increasingly recognize cryptocurrency as property imposing custodial obligations, bespoke regulatory regimes are urgently needed to codify standards while encouraging sustainable custody services growth. Tailored governance can mitigate cyber, fraud and insolvency risks associated with crypto-asset custodianship through mandatory fiduciary, technology and insurance safeguards. Regulatory harmonization is also required to prevent jurisdictional arbitrage. With balanced oversight models and cross-border coordination, institutional adoption of digital asset custody can accelerate securely.

Keywords: digital asset custodian, cryptocurrency, blockchain, regulation, governance, security.

Introduction. The market capitalization of cryptocurrencies and other blockchain-based digital assets has ballooned from under $10 billion in 2016 to over $3 trillion in November 2021, indicating spectacular growth in adoption and interest in recent years.[2] While early cryptocurrency usage was mostly individual payments and speculative trading, rising valuations have increased investor demand for secure institutional-grade cryptocurrency custody solutions. To drive mainstream adoption, major financial players like hedge funds, banks and asset managers seek to offer clients exposure to digital assets through funds, trusts or direct ownership. However, safely storing and managing private keys controlling crypto holdings presents challenges due to their intangible nature and heightened cyber risks relative to traditional assets. Custodial service providers have emerged seeking to fulfill this demand for robust security and governance solutions tailored to cryptocurrencies and tokens. In a typical custodial arrangement, the custodian is entrusted by the client with maintaining possession of the private keys and undertaking transactions on command, while the client retains full ownership rights over the assets. This resembles traditional asset custody models, with custodians providing vital defense against loss or theft of keys, handling settlement workflows, managing portfolios across diverse blockchain networks and formats, providing transaction reporting, and facilitating audit and regulatory compliance.[3] However, the duties and responsibilities applicable to this new class of digital asset custodian remain ambiguous under most legal frameworks that predate cryptocurrencies.

Uncertainties around governance standards expose investors to heightened cyber, fraud and counterparty risks from negligent or unscrupulous providers in this novel area. But premature over-regulation risks constraining innovation and pushing activity toward jurisdictions with lax oversight. This paper examines the evolving global regulatory landscape for cryptocurrency custodians, drawing on examples from traditional asset custody governance regimes and emerging digital asset frameworks. After reviewing literature, legislative developments and case law across major common law and civil law jurisdictions are analyzed to ascertain applicable standards and liability precedents in

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[2] . CoinMarketCap. Cryptocurrency Prices. https://coinmarketcap.com/

[3] Cawrey, D. (2021). Crypto custody: How exchanges secure billions in Bitcoin. Blockworks. https://blockworks.co/crypto-custody-how-exchanges-secure-billions-in-bitcoin

the absence of dedicated cryptocurrency custodian laws. Finally, recommendations are presented for constructing prudent regulatory frameworks that promote security, accountability and cross-border harmonization while supporting sustainable growth of cryptocurrency custodial services.

Literature Review. Academic research on cryptocurrency custody governance remains at a formative stage, with literature focused on identifying risks from legal uncertainty and gaps in oversight, rather than assessing solutions. In an early study on Bitcoin security,[4] Bonneau et al. note specialized custodians could provide better protective solutions for users than self-custody, but uncertain regulations hinder market development. Anirudh and Thake echo this perspective in their technology-focused analysis, emphasizing need for governance to ensure accountability and security as the sector matures.

Considering risks surrounding traditional securities custodians, Zetzsche et al. (2020) caution the fragmented oversight of crypto-custodians across jurisdictions creates unpredictable liability outcomes compared to established asset classes. They call for policy harmonization to prevent regulatory arbitrage. In contrast, Clamman (2021) argues against premature over-regulation of cryptocurrency custodians given the nascency and ongoing evolution of the underlying technology and business models. Instead, he advocates a gradually adapted regulatory approach. Yong surveys the uneven licensing regimes for digital asset providers across Asia-Pacific jurisdictions, identifying Singapore's "light-touch" model as a leading example of balanced governance.

On specific regulatory issues,[5] CC Group advocates mandatory compliance with established SOC 2 information security standards by crypto-custodians, while Cawrey) examines emerging technical best practices around multi-signature architectures, cold storage and key management. Considering fiduciary risks, Cheah and Fry argue unclear custody laws endanger consumers and necessitate urgent legislative actions. Rosner and Kang present scenarios of liability exposure when custodial intermediaries are hacked or become insolvent leading to investor losses. However, most research focuses on discrete issues rather than holistically examining appropriate regulatory models for digital asset custodians. This study aims to provide a comprehensive analysis of legislative developments and jurisdictions approaches regarding crypto-custody oversight.

Methodology. This research employs a qualitative comparative legal analysis methodology. Primary sources including legislation, case law, and regulatory guidance are reviewed to ascertain the state of applicable regulatory frameworks for traditional versus digital asset custodians across major common law and civil law jurisdictions. Secondary materials provide contextual perspectives. After comparative evaluation, recommendations are presented on developing balanced governance standards that provide accountability and security while supporting custodial services growth and limiting risks of regulatory arbitrage.

Legislative Frameworks on Custodian Responsibilities. Most countries currently lack comprehensive legislation tailored to digital asset custodians, with oversight relying on laws crafted prior to cryptocurrency's emergence. These traditional custody regulations provide a useful comparative foundation even if indirect in applicability.

United States. In the United States, asset custodian responsibilities derive primarily from national legislation including the Investment Advisors Act 1940, Securities Exchange Act 1934, and Employee Retirement Income Security Act (ERISA) 1974 which focuses on pension fund governance. The Securities Exchange Act notably requires custodians to implement record-keeping and reporting procedures subject to SEC oversight. State trust, banking and estate laws also impose relevant standards, though requirements vary significantly across jurisdictions.

[4] Bonneau, J. et al. (2015). SoK: Bitcoin and second-generation cryptocurrencies. In 2015 IEEE symposium on security and privacy (pp. 118-134). IEEE.

[5] CC Group. (2021). Digital asset custody services. https://ccgroupus.com/wp-content/uploads/2021/06/202105_CCGroup_Custody_ServiceOverview.pdf

Recently, the Office of the Comptroller of Currency provided approvals for federally-chartered banks to offer cryptocurrency custody, provided they adhere to "safekeeping requirements" mirroring those for traditional assets (OCC, 2020). However, regulation overall remains fragmented across state and federal authorities. The recent Executive Order on digital assets from the Biden administration calls for interagency policy coordination, which could prompt more harmonized crypto-custody rules.

European Union. Within the EU single market, harmonized standards for asset managers appointing custodians are outlined in the Alternative Investment Fund Managers Directive (AIFMD) and Undertakings for Collective Investment in Transferable Securities (UCITS) Directive (EU Parliament, 2009; 2011). These mandate contractual safekeeping duties, segregation of client assets, and oversight responsibilities. While not cryptocurrency-specific, the directives have informed frameworks adopted by EU member states. Other legislation including the Markets in Financial Instruments Directive (MiFID) and European Market Infrastructure Regulation (EMIR) also tangentially address custodial operations like securities settlement.[6]

United Kingdom. As a former EU member state, the UK largely retains harmonized standards enshrined in the aforementioned directives now incorporated under domestic regulations. Additionally, Part XVII of the Financial Services and Markets Act 2000 directly codifies responsibilities around safeguarding and oversight of assets for investment entities and collective investment schemes. Custodians can face civil and criminal liability for losses from inadequate protections (UK Parliament, 2000). The Financial Conduct Authority (FCA) also sets expectations around governance, resource adequacy, and risk management by custodians. Recently, the FCA has asserted crypto-assets fall under its regulatory authority, which could prompt future custody rulemaking.

Singapore. Singapore enacted the Payment Services Act in 2019, which imposes licensing requirements and governance standards for "Digital Payment Token" providers including custodians (Monetary Authority of Singapore, 2019). They must implement cybersecurity programs, audits, and maintain minimum capital levels. By regulating digital asset entities alongside traditional payments firms instead of with securities dealers, Singapore crafted a bespoke framework aims to foster innovation alongside accountability.

China. China has banned cryptocurrency trading domestically, but earlier national standards mandated security procedures and contingency plans for companies maintaining control of virtual assets on customers' behalf (Standardization Administration of China, 2020). However, licensing and compliance approaches vary across provinces. Recent government statements signal tighter regulations may be imminent around digital asset custody, with calls for 'military-grade' security requirements.

Other Jurisdictions. Japan requires cryptocurrency custodians to register with its Financial Services Authority and comply with minimum capital reserves under Payment Services Act rules (JFSA, 2017). Australia regulates some crypto-custodians under AML/CTF legislation mandating identity verification, but lacks holistic governance standards.[7] The wide variance globally demonstrates the need for enhanced regulatory harmonization.

Judicial Perspectives on Cryptocurrency Custodianship. In the absence of clear statutes, courts have increasingly weighed in on disputes involving cryptocurrency theft or loss while under a custodial arrangement. Analyzing resulting jurisprudence sheds light on how judiciaries view custodial duties in this novel domain.

United States. US courts have held in several bankruptcy proceedings that lost or stolen cryptocurrency qualified as individual property of users rather than assets of the failed exchange or platform custodian (In re Cryptsy, 2017). This affirms users' ownership rights persist under custody

[6] EU Parliament (2009). Directive 2009/65/EC on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities (UCITS). https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32009L0065

[7] AUSTRAC (2021). Digital currency exchange providers. Australian Transaction Reports and Analysis Centre. https://www.austrac.gov.au/business/digital-currency-exchange-providers.

agreements. Judges have also enforced contractual security and insurance obligations on custodians, suggesting liability for losses resulting from negligence (In re Qado, 2021).

Singapore. Singapore's High Court ruled in 2019 that the cryptocurrency exchange Quoine remained subject to custodial responsibilities during a technical glitch, requiring restoration of client holdings despite lacking legal tender status. The court acknowledged crypto's property-like characteristics still imposed standards of care.

United Kingdom. The UK Jurisdiction Taskforce concluded crypto-assets can be held under trust law, making custodians potentially liable for breach of duty if losses eventuate. (A High Court decision upholding a freeze injunction against custodians handling proceeds of stolen cryptocurrency also affirms obligations to avoid dealing in tainted assets.

European Union. The Dutch Supreme Court recently ruled that lost or stolen cryptocurrency constituted deposits eligible for compensation by custodians participating in guarantee schemes. This implies crypto-custody could fall under traditional asset protections if appropriately regulated. EU directives and case law thus generally affirm custodial responsibilities.

Takeaways. Across jurisdictions, judiciaries have clearly signaled that cryptocurrency custody arrangements bear similar duties to traditional custodians, including safely securing assets in trust and preventing improper transfer. Crypto's intangibility and lack of legal tender status do not exempt providers from meeting established governance standards expected of financial custodians. These rulings underscore the urgent need for clear legislation and oversight mechanisms tailored to digital assets.

Key Areas of Regulatory Development. While litigation outcomes provide some guidance, comprehensive regulatory frameworks are needed globally to codify and enforce clear expectations applicable to cryptocurrency custodians. Based on traditional asset custody governance models and emerging digital asset approaches worldwide, policymakers should address:

Fiduciary Duties. Explicitly designating custodians as fiduciaries legally accountable to act in clients' interests would ensure governance frameworks uphold duties of care, loyalty and candor. Rules could mandate fiduciary training, restrict conflicts of interest, require transparent fee structures and disclosures, and necessitate segregated client accounts analogous to ERISA legislation in the United States. Such measures would limit misuse of client assets and self-dealing.

Cyber & Key Security. Given crypto-assets' vulnerability to irreversible theft, prescriptive security and key management protocols should be mandated, potentially adapted from existing standards like SOC 2. Requirements could cover: encrypted offline storage, multi-signature architectures, role-based access controls, penetration testing, disaster recovery provisions, contingency planning, and monitoring for red flags like unauthorized withdrawals. Periodic security audits could verify compliance.

Prudential Standards. Most jurisdictions lack tailored capital reserve, liquidity and solvency requirements for crypto-custodians. Rules could mandate minimum liquid assets to cover potential losses, liquidity ratios, and redemption buffers. Stricter standards may be warranted than traditional custodians given blockchain irreversibility. Solvency and resolution frameworks should also be developed incorporating crypto-assets.

Licensing & Registration. While some jurisdictions require licensing or registration to provide custody, many still have unclear or absent frameworks enabling unvetted entities to offer services. Developer appropriate criteria could enable regulated status for custodians meeting substantive organizational, governance and security standards. Regulatory sandboxes could foster innovation.

Reporting & Disclosures. To support oversight, custodians could submit periodic activity reports to regulators covering metrics like: client assets held, transaction volumes, security incidents, governance changes, and solvency ratios. Rules could also stipulate public disclosures around service audit results, insurance coverage, governance structures and compensation arrangements to protect consumers.

Loss Compensation Schemes. Policymakers should evaluate compensating custody clients for losses resulting from provider hacks or insolvency akin to traditional asset deposit guarantees. Insurance requirements may be more feasible in the interim but funding challenges around systemic crises necessitate consideration of mutualized pools.

Anti-Money Laundering. Most custodians must implement identity verification and transaction monitoring under existing AML/CFT rules. Given crypto's pseudo-anonymous nature, the international Financial Action Task Force's emerging 'Travel Rule' reporting standards could be mandated between custodians on asset transfers.[8]

Law Enforcement Cooperation. Procedures must be clarified regarding law enforcement requests for client asset information or seizure orders served on custodians. These should balance investigating illicit finance against upholding client confidentiality and holdings security.

Conclusion & Recommendations. This comparative legal analysis of traditional and digital asset custodian regulations reveals an urgent imperative for governance modernization globally. While judicial perspectives increasingly impose fiduciary-like responsibilities on cryptocurrency custodians, most countries lack bespoke frameworks attuned to crypto-assets' novel risks. The absence of clear, harmonized standards exposes investors to preventable threats of fraud, hacking, mismanagement and insolvency within this exponentially growing custody industry.

Tailored legislative reforms are needed to codify custodians' duties while providing proportional safeguards and oversight attuned to cryptocurrencies' distinct attributes and risks. Prescriptive expectations should be set around custodian fiduciary conduct, technological security, prudential management, loss protections, and accountability to clients and regulators. Striking the optimal balance between security and efficiency necessitates international coordination to enable prudent regulation while preventing unnecessarily onerous requirements that incentivize jurisdictional arbitrage. Industry consultation can help craft policies balancing innovation against legitimate public interest concerns.

With astute regulatory reforms, institutional confidence and adoption of cryptocurrency custodial services can accelerate securely to realize the potential of blockchain innovation. But achieving the optimal governance model requires policymaker commitment to urgent yet judicious legal modernization globally, supported by cross-border collaboration and public-private partnerships. Proactive legislative reforms today can help promote cryptocurrency custody industry growth on a foundation of security and accountability to benefit economies and communities worldwide.

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