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This volume, titled **"Regulatory and Compliance Insights"**, focuses on the significant progress and ongoing challenges in the field of financial regulation and compliance. The articles are organized to cover key themes such as, capital markets, independence of financial supervision, digital transformation, and capacity building, reflecting the comprehensive approach needed to address the dynamic nature of financial markets.

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Professional Insight

A Regulatory Blueprint for Tokenisation: the Bermuda Paradigm

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Authors' Bios

Christos Efthymiopoulos is an Assistant Director within the Financial Technology ('FinTech') Department at the Bermuda Monetary Authority ('BMA'). Christos is responsible for regulation, licensing, and supervision of the FinTech sector, particularly digital asset businesses and issuers. He is directly involved in developing, implementing, and administering the legislative and regulatory frameworks under the Digital Asset Business Act 2018 ('DABA')[1] and the Digital Asset Issuance Act 2020 ('DAIA').[2] He is a legal professional with more than twelve years of experience in the financial services industry, focusing on FinTech for the past nine years, including five years at the BMA. Prior to joining the BMA, Christos worked at the Malta Financial Services Authority ('MFSA'), where he was heavily involved in developing and implementing Malta's legislative and regulatory Virtual Financial Assets ('VFA') framework. He was, *inter alia*, responsible for regulating, licensing and supervising VFA Agents, VFA Issuers and VFA Service Providers. During his tenure, Christos represented the MFSA at various European fora, including the European Banking Authority's taskforce on crypto assets.

Alessandro Spellanzon is a FinTech specialist at the BMA, where he licenses and supervises a variety of firms, evaluates business-impacting requests, and ensures compliance with regulatory norms. He is instrumental in driving the strategic development initiatives in the arena of digital payments and investments, crucial for spurring sector growth and efficiency. Prior to the BMA, Alessandro held significant roles at prominent firms such as National Australia Bank, KPMG, Barclays, and Checkout.com, advising on prudential regulatory measures, capital management, and conducting industry analysis and research on banking regulations.

1 Digital Asset Business Act 2018 (as amended).

2 Digital Asset Issuance Act 2020 (as amended).

Abstract

This article delves into diverse tokenisation types and their affiliated pros and cons. Leveraging their hands-on experience within the BMA's FinTech department, the authors suggest Bermuda's digital asset framework as a potential regulatory model for asset tokenisation. Despite numerous benefits, tokenisation also brings forth several hurdles and challenges, including regulatory and legal issues, interoperability deficiencies, and the lack of a well-rounded ecosystem. While tokenisation is not without challenges, its prospective benefits hold considerable promise for transforming existing trading mechanisms. These include augmenting efficiency via automation, enhancing liquidity, expediting transactions, and fostering financial inclusivity. Collectively, Bermuda's comprehensive approach to governing asset tokenisation could serve as a potent blueprint for other regulatory authorities globally. However, the authors underscore the necessity for global legislative and regulatory harmonization, given the inherently cross-border characteristic of tokenisation and potential systemic risks that may emerge in the future.

A Regulatory Blueprint for Tokenisation: the Bermuda Paradigm

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Introduction

This article presents a comprehensive examination of asset tokenisation, a paradigm-shifting approach within blockchain-based digital asset representation. Section 1 sets the scope of the article and elaborates on two primary types of tokenisation – off-chain and on-chain – using specific examples like 'tokenised bonds' versus 'bond tokens' to highlight pivotal distinctions. Section 2 then delves into the attributes, benefits and challenges associated with tokenisation, while also highlighting consequential impacts on financial stability. Section 3 subsequently employs Bermuda's digital asset framework as a proposed regulatory blueprint for asset tokenisation, offering valuable learnings for regulatory bodies venturing into the pertinent dynamic domain. The insights and perspectives presented in this article benefit from the authors' direct experience and active involvement in the authorization and supervision of digital asset entities within the BMA's FinTech department.

01

Asset tokenisation overview

This section explores asset tokenisation, which represents an innovative paradigm in the context of digital asset representation via blockchain technology. This process involves the creation of a digital token on a blockchain, typically (but not exclusively) representing a Real-World Asset ('RWA'), whether tangible or intangible, such as securities. Tokenisation leverages the inherent benefits of blockchain – including transparency, security, and immutability – within the sphere of conventional finance and asset ownership.

Whereas several forms of asset tokenisation are present in the markets, this article will focus on the following two avenues: off-chain (or digital twins)[3] and on-chain (or native tokens, excluding crypto assets).[4] Off-chain tokenisation involves the representation of external, RWAs on the blockchain, wherein the actual asset remains outside the blockchain, but its digital token on the blockchain serves as a symbol of ownership or rights to the physical asset. Conversely, on-chain tokenisation pertains to the issuance of traditional asset classes directly and solely in tokenized form, with their entire life cycle (from creation to settlement and redemption), preserved within the blockchain network. To elucidate, the focus of this article does not extend to crypto assets that are inherent to public blockchains, such as Bitcoin and Ether, as well as Central Bank Digital Currencies. These topics remain beyond the article's established scope.

To gain clearer insight into these two venues, one can consider the examples of 'tokenized bonds' versus 'bond tokens'. Tokenised bonds signify traditional bonds digitized on a blockchain, each token embodying a bond unit and its corresponding rights and obligations. This manoeuvre can streamline trading, liquidity, settlement, and accessibility while reducing costs. Conversely, bond tokens are blockchain-native instruments resembling bonds, representing tradeable debt. Though formatted like traditional bonds, they are not linked to/backed by a real-world bond and exist solely on blockchain, governed by a smart contract. The distinction lies in their nature and blockchain issuance. Tokenised bonds mirror real-world financial assets, whereas bond tokens are inherently digital financial instruments housed predominantly on the blockchain.

Asset tokenisation activities have evolved in recent years, both in terms of volume and complexity. Whereas there is a plethora of asset tokenisation projects globally, some of the most widespread ones include the following:

- Digitalization of bonds aiming to leverage blockchain technology to ensure verifiable ownership and facilitate seamless transactions of digital bonds via small scale digital bond tokenisation pilots which aim at testing issuances, payments, and settlements at different volume levels;[5]

- Stablecoin issuers with reserve assets being tokens of RWAs combining the advantages of stablecoins as a means of payment with the yield offered by a digital representation of RWAs;[6]

3 OECD, *The Tokenisation of Assets and Potential Implications for Financial Markets*, (OECD Publishing 2020), Paris.

4 *Idem*

5 Cointelegraph Research, *$3 billion projected investment into tokenized US Treasury bills by the end of 2024* (2024).

6 Marketsable.com, *Stablecoins Settled $10 Trillion in Annual Transactions, Real-World Asset (RWA) Tokenisation report* (2023).

- Tokenisation of commodities (e.g., gold, diamonds) with the aim of issuing a commodity-backed token and offer the same to its customers. Each token distributed represents tokenized commodity, a digital certificate stored on the blockchain.

Recent developments also demonstrate the move towards utilizing tokenized shares of money-market funds as collateral in trading books.[7] Another noteworthy recent use case for tokenisation is its deployment to address congestion issues in blockchain systems, focusing on designing a transaction inclusion policy that incentivizes predictable fees specifically with a system called Blockchain Space Tokenisation[8], which involves tokenizing the capacity for blockchain transactions, allowing users to pay ahead to make regular transactions over a specific time period.

02

Asset Tokenisation: attributes and considerations

This section aims to provide an overview of the various attributes, benefits, and key challenges of asset tokenisation. It further emphasizes the relevance of financial stability considerations, elucidating potential risks linked to the impact of tokenisation on traditional financial systems, operational risks, market integrity, and potential for increased risk contagion.

I. Attributes, benefits, and challenges

Foremost among the defining attributes of tokenisation is fractional ownership. This mechanism facilitates the division of high-value assets into smaller, affordable units or 'tokens', broadening the investor base and arguably democratizing asset investment. Linked closely to this is liquidity enhancement, where breakdown of assets into tokens enhances liquidity of traditionally illiquid assets like art and real estate, fostering more robust market dynamics and financial versatility.

Another critical advantage is the augmented accessibility and inclusivity enabled by tokenisation. Opening investment avenues to a vast, global audience, it surpasses geographical limitations and promotes financial inclusion through facilitating fractional ownership across an extensive span of asset classes. Consequently, tokenisation of assets could potentially extend access to global high-performing capital markets to investors across diverse geographies. This is further bolstered by transaction efficiency afforded by blockchain technology, streamlining complex procedures into seamless and cost-effective transactions that minimize dependency on traditional intermediaries; this further results in significant cost reductions (e.g., decreased underwriting fees and lower interest rates).

7 Bloomberg, *Use of BlackRock Tokens as Collateral Moves Closer to Mainstream* (2 October 2024). Retrieved from Bloomberg website.

8 A. Kiayias, *Blockchain Space Tokenization* (2024), [City of Publication: Publisher] (Replace "City of Publication" and "Publisher" with the actual information, respectively).

Imbued within blockchain technology are the vital traits of transparency and immutability. Add to this mix the technology's programmability through smart contracts, and it creates a system that can automatically trigger actions based on predetermined conditions. It becomes a platform for advanced financial products and programmable money. This sophisticated blockchain infrastructure results in improved settlement efficiency, fostering near instantaneous and round-the-clock atomic settlements. A prime example is the prospective application of liquidity pools or Automated Market Makers for trading tokenized assets.[9][10] Such technologies, falling under the umbrella of 'Decentralised Finance', are currently under examination for integration into traditional financial markets in a regulatory compliant manner, as evidenced by pilot programmes such as the Bank for International Settlements ("BIS") Hub Project Marianna.[11]

Recent research on tokenisation has further highlighted significant benefits in terms of pricing, margin, efficiency, and liquidity.[12] With the increasing prevalence of tokenisation, it has begun to impact repo activity and securities lending practices, considering the requirement to pre-fund positions in tokenized transactions. This rise in tokenisation has catalyzed the facilitation of enhanced mobility, eased unwinding of collateral, and simplified mobilization across security pools. Collectively, these functionalities position tokenisation as a potentially transformative player in the investment arena – one that could thoroughly reshape the financial sector, boost financial inclusivity, and revolutionize the processes of asset ownership and trading.[13]

While asset tokenisation carries a range of benefits, it also presents its share of challenges. For instance, the lion's share of tokenized transactions is predominantly part of experimental pilots or tests run by both the private and public sectors such as proofs-of-concept or sandbox simulations. Live projects spearheaded by private institutions are relatively few and are commonly tailored to serve their incumbent clientele. These projects often lack interoperability, resulting in a fragmented operation which, to date, has hindered their progress towards achieving a substantial scale. Inhibiting the mass adoption and growth of tokenisation are factors such as a lack of standardization and a well-rounded ecosystem. From a regulatory perspective, the environment poses a major hurdle, with varying regulations across different jurisdictions leading to inconsistency and potentially impeding widespread adoption. The lack of standardization in tokenizing and trading digital assets forms another significant obstacle, obstructing interoperability across diverse platforms. Legally, intricate issues related to the transfer of ownership rights for tokenized tangible assets further compound these challenges.

Furthermore, the need to upgrade existing digital asset and financial market infrastructures, including exchanges, custodians, and payment systems, to support tokenized assets is another notable concern. Security, always paramount in the realm of digital assets, presents its own set of challenges, with the need to safeguard against cyber threats including hacking and theft. The risk of 'trash tokens,' tokens representing worthless or non-existent assets, could also threaten market integrity. Privacy issues, arising from the transparent and traceable nature of blockchain transactions, also pose a concern.

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9 OECD, *Why decentralised finance (DeFi) matters and policy implications* (OECD Publishing 2022) Paris.

10 OECD, *Institutionalisation of crypto-assets and DeFi–TradFi interconnectedness* (OECD Publishing 2022) Paris.

11 BIS Innovation Hub, *Project Mariana: Cross-border exchange of wholesale CBDCs using automated market makers* (2023).

12 Hong Kong Monetary Authority, *An Assessment of the Benefits of Tokenisation* (2023).

13 OECD, *The Tokenisation of Assets and Potential Implications for Financial Markets*, (OECD Publishing 2020) Paris.

II. Financial stability considerations

Further to the above, and whereas asset tokenisation is not currently considered to pose a material risk to financial stability,[14] this may change in the future, especially in view of the ever-increasing institutional adoption. Therefore, considerations around financial stability also hold significant relevance in the domain of asset tokenisation, given its potential to impact traditional financial systems, operational risk aspects, market integrity, investor protection measures, and risk contagion across global financial markets.

The key longer-term impacts on financial stability due to tokenisation primarily revolve around the interactions it establishes between the traditional financial system and the digital asset ecosystem through tokenisation redemption procedures. To illustrate, an extensive and rapid liquidation of tokenized assets could potentially ripple through traditional financial markets. Distortions in crypto market prices could incentivize participants to buy the token, redeem it for its underlying asset, and subsequently sell that asset. As such, tokenisation could act as a channel for transmitting volatility from crypto markets to the markets for the underlying assets of the tokens.

The transmission of instability could be further amplified by certain peculiarities that apply to venues where tokenized assets trade but are not applicable to venues where their underlying assets are traded, and vice versa. Crypto exchanges permit continuous, round-the-clock trading, whereas most underlying asset markets operate only during standard business hours. This discrepancy in operating hours could have unforeseen consequences during stressed market conditions. For instance, a tokenized asset issuer offering redemption options could encounter a rapid liquidation event over the weekend. Given the off-chain possession of the underlying asset, redemptions could not be swiftly fulfilled as traditional markets would be closed. This inability to meet redemptions could prolong the rapid sell-off, substantially diminishing the asset's value. If a financial institution with significant holdings of the tokenized asset was involved, this situation could also endanger its solvency.

Additionally, if such an institution required liquidity boosts from conventional money markets, obtaining this funding would not be feasible during the weekend. Consequently, an extensive liquidation event could quickly depreciate the market value of the related institutions and the issuer's assets, jeopardizing their borrowing capabilities and, ultimately, their financial stability.

Finally, drawing parallels with the securitization role during the global financial crisis, tokenisation could potentially mask riskier or illiquid underlying assets as secure and liquid, possibly propelling greater leverage and risk assumption. An abrupt disentanglement of these positions could subsequently trigger systemic financial disturbances.

14 FSB, *The Financial Stability Implications of Tokenisation* (2024).

03

Asset tokenisation Regulatory blueprint and the Bermuda paradigm

As cited in other sections of this article, asset tokenisation is garnering attention from international bodies such as the Organization for Economic Cooperation and Development ("OECD"),[15][16][17][18] the International Organization of Securities Commissions ("IOSCO"),[19] the BIS,[20] the Financial Stability Board ("FSB")[21] and the International Swaps and Derivatives Association.[22]

In this section, we provide a succinct comparison of principles-based and rules-based regulatory approaches appropriate for asset tokenisation. Through an exploration of each approach's unique traits, benefits, and pitfalls, the discussion highlights the potential merits of an integrative model that merges their key attributes, arguing its suitability for fostering innovation. As a case in point, this discourse cites Bermuda's digital asset legal and regulatory framework as an effective example of such a hybrid approach and a fit-for-purpose regulatory blueprint, as pertains to asset tokenisation.

I. Principles-based versus rules-based regulation

Principles-based regulation, or outcome-focused regulation, anchors itself on a set of fundamental principles that must be adhered to. The inherent flexibility of this approach is a distinguishing feature, with principles broadly defined and less prescriptive, allowing organizations to decide the most effective ways to meet the desired outcomes within their specific contexts. However, the elastic nature of these principles does not merely facilitate flexible compliance, they also enable adaptability over time in response to evolving circumstances and the development of new business models or technologies. This approach focuses on the spirit of the law rather than its letter.

On the other end of the regulatory spectrum, we have rules-based regulation. This more prescriptive approach details specific rules firms must meticulously comply with. The detailed guidance provides assured specificity, clarifying what actions are allowed and what are not, thereby reducing ambiguity. This specificity, in turn, simplifies the tasks of monitoring compliance and enforcing regulations, as the parameters of compliance are precisely defined. Moreover, the detailed nature of these rules ensures that there is a high level of consistency in complying

15 OECD, *Regulatory Approaches to the Tokenisation of Assets* (OECD Publishing 2021) Paris.

16 OECD, *The Tokenisation of Assets and Potential Implications for Financial Markets* (OECD Publishing 2020) Paris.

17 OECD, *Why decentralised finance (DeFi) matters and policy implications* (OECD Publishing 2022) Paris.

18 OECD, *Institutionalisation of crypto-assets and DeFi–TradFi interconnectedness* (OECD Publishing 2022) Paris.

19 IOSCO, *Update to IOSCO 2023-24 Work programme, March 2024 – March 2025 Workplan* (2024) <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD764.pdf>.

20 Joint report by the Bank for International Settlements (BIS) and Committee on Payments and Market Infrastructures (CPMI), Report to the G20 (2024). *Tokenisation in the context of money and other assets: concepts and implications for central banks.*

21 FSB, *The Financial Stability Implications of Tokenisation* (2024).

22 International Swaps and Derivatives Association, Inc., *Guidance for memorandum of law examining the validity and enforceability of collateral arrangements using the ISDA model provisions for tokenized collateral* (2024).

across different firms as the rules are uniform for all parties involved. Additionally, these clearly outlined rules offer a protective layer to firms by establishing clarity around requirements, lessening the risk of unintentional breaches. While both approaches have demonstrable merits, the choice between rules-based and principles-based regulation typically hinges on the specific context, the nature of the industry being regulated, and the regulatory philosophy embraced by the jurisdiction.

It may be reasonably argued that choosing principles-based regulation for the ever-evolving realm of blockchain technology and asset tokenisation emerges as a more suitable choice over rules-based regulation for various compelling reasons. Predominantly, the highly innovative and rapidly evolving nature of this sector calls for a flexible and adaptable regulatory framework. Principles-based regulations can keep up with the pace of change, navigating the exponential growth and development without necessitating frequent adjustments to the rules. This regulatory agility actually stimulates further responsible innovation by permitting relevant stakeholders to experiment and evolve within defined parameters of secure operations, rather than being encumbered by potentially restrictive rulebooks. The OECD's recent policy paper further highlights certain challenges stemming from prescriptive regulations,[23] particularly as pertains to enforceability.

Crucially, a principles-based approach can also bring meaningful effectiveness in tackling the challenge of designing rules for a technology that is largely borderless. Instead of specific rules that can be restricted by jurisdictional issues, broad-based principles can provide a universal regulatory blueprint, thereby promoting a more globally coherent response to regulating this international technology.

Notwithstanding the aforesaid, while a principles-based regulatory approach for tokenisation facilitates flexibility and adaptability, it is not without potential drawbacks. Its most significant pitfall arguably lies in the risk of legal and regulatory uncertainty. Given their inherently broad and non-prescriptive nature, principles can sometimes lack the specificity required to provide clear guidance on exactly what compliance looks like, leading to varying interpretations. In the face of unclear regulatory guidelines, the Damoclean sword of regulation can instil a sense of caution in market participants. This apprehension could inadvertently stifle innovation, as entities may adopt a more risk-averse stance to preemptively avoid non-compliance, thereby contradicting the original intent of promoting progress within the sector. Therefore, while a principles-based approach provides a strong foundation, it is essential to pair it with more granular guidance or examples of acceptable practices. Offering this combination can strike a balance between flexibility and specificity, ensuring both clear interpretation and room for innovation. By providing sufficient clarity on regulatory expectations, market participants can confidently innovate, secure in the knowledge that they are operating within agreed boundaries.

Bermuda's digital asset legal and regulatory framework (which encapsulates *inter alia* tokenisation) successfully marries the principles-based and rules-based approaches described above. By merging broad principles, which allow flexibility and adaptability, with specific rules that offer clear guidance for compliance, it creates an efficient, hybrid model. This blend fosters a conducive environment for innovation while also providing robust regulatory safeguards.

23 OECD , 'Tokenisation of assets and distributed ledger technologies in financial markets: Potential impediments to market development and policy implications' (OECD Business and Finance Policy Papers No 75, OECD Publishing 2025) Paris.

II. Bermuda's asset tokenisation landscape

Having determined that principles-based regulation presents a potentially optimal approach for asset tokenisation, this part will focus on the main elements that should be taken into consideration by international agencies in the promulgation of a fit-for-purpose regulatory mosaic. We shall explore the diverse elements that define Bermuda's regulatory model for tokenisation, offering it as a potential blueprint for other authorities in their pursuit to create robust frameworks catered to their unique market environments. Whereas most illustrative examples set out below pertain to off-chain asset tokenisation models, it is reiterated that similar considerations could apply *mutatis mutandis* to on-chain asset tokenisation models.

Bermuda's digital asset framework, comprising the DABA and the DAIA,[24] offers a comprehensive regulatory landscape covering various asset tokenisation models. DABA regulates digital asset operators, including token issuers among others, who engage in digital asset-related activities as part of their business. On the other hand, DAIA operates as a disclosure-oriented regime, primarily concerned with projects aimed at raising capital. For instance, where a Special Purpose Vehicle ('SPV') is utilized by an issuer/sponsor for tokenisation (for bankruptcy remoteness purposes), both regimes might come into play, albeit for different reasons. DABA would pertain to the issuer/sponsor that engages in the process of tokenisation as part of its business operations, governing the pertinent rules and regulatory standards. Simultaneously, DAIA could be applicable to the SPV if it is independent from the sponsor and the tokenisation is conducted for capital-raising purposes. Thus, Bermuda's dual-pronged digital asset framework can offer sufficient regulatory cover for a wide range of tokenisation configurations, promoting a secure and compliant environment for this innovative approach to asset management and investment.

As referenced in the previous section of this article, Bermuda's framework follows a hybrid approach, effectively synthesizing the principles-based and rules-based approaches outlined above. This framework is structured around four primary assessment pillars: prudential, conduct, cyber risk, Anti-Money Laundering ('AML') and Anti-Terrorist Financing ('ATF'). In the paragraphs to follow, these assessment pillars are examined in the context of asset tokenisation's idiosyncratic risks. All the forthcoming considerations/requirements should be understood and interpreted through the prism of proportionality, a guiding principle engrained within Bermuda's regulatory framework and evidenced *inter alia* via the tiered licensing regime available thereunder.

As pertains to the **prudential** pillar, numerous factors are taken into consideration. Firstly, the legal structuring of a tokenisation project plays a vital role in regulatory assessment, as it informs the legal obligations and responsibilities of all parties involved and has a direct implication on ownership rights, investor protection and risk mitigation. Whereas Bermuda's digital asset framework is legal-vehicle-agnostic, tokenisation projects must employ bankruptcy remote structures for the RWAs; however, depending on the legal vehicle to be opted for, different considerations may be applicable. For example, in case of a segregated account company,[25] whereby each cell constitutes a separate patrimony but is devoid of a separate legal personality, regulatory focus pivots towards the contractual arrangements in place (which designate the beneficiary cell), alongside appropriate accounting and reconciliation processes. Where a trust arrangement is deployed, the regulatory attention should be centred *inter alia* on the type of trust, the powers and duties assigned to the trustee, the governing law that frames the trust's

24 Digital Asset Issuance Act 2020.

25 Segregated Accounts Companies Act 2000 (as amended).

operation and management as well as the identification of beneficiaries, their associated rights, and safeguards in case of events like bankruptcy of the token issuer.

Governance also plays a pivotal role in asset tokenisation for two main reasons. Firstly, it ensures effective oversight of diverse stakeholders engaged in the process, from brokers and SPVs to trustees and vaults (in commodity tokenisation), thereby upholding operational integrity and regulatory compliance. Secondly, governance is crucial to managing potential conflicts of interest, particularly when affiliated parties are involved. It enforces measures to identify, disclose and manage such conflicts, safeguarding fair practices and the interests of all stakeholders.

Another fundamental aspect for assessment under this pillar is risk management, especially in view of the spectrum of risks inherent in this sector, ranging from market and liquidity to counterparty and legal/regulatory risks. One example of the relevance of a robust risk management framework in asset tokenisation is interoperability; as the tokenisation ecosystem consists of a multitude of diverse platforms, each with its own operational parameters, consensus mechanisms, and token standards, the need for interoperability becomes crucial (e.g., the ability to transfer a token representing an art piece from Ethereum to Polkadot or Solana can increase the token's liquidity and market reach). A token issuer's risk management function should therefore consider each blockchain's unique features and security measures prior to conducting cross-chain offerings, including the integrity/security of the selected blockchain, consensus mechanisms, gas fees, potential network congestion and cross-chain governance.

An additional evaluation cornerstone under the first assessment pillar is consolidated supervision, particularly due to the diverse stakeholders engaged in the asset tokenisation process (which vary depending on the tokenisation business model). One illustrative example is the tokenisation of gold, where intermediaries, such as storage facilities or vaults, ensure secure custody of the physical gold corresponding to the tokenized assets, while refineries certify the quality and quantity of the gold. If any of these intermediaries fails to perform its role correctly, it can disrupt the entire tokenisation process, leading to incongruencies between the physical and digital representation of the asset. It is therefore crucial to ensure that a regulator's oversight extends to these key intermediaries, by means of either statutory or contractual powers (e.g., by incorporating relevant provisions into service level or intercompany agreements, these parties could be contractually bound to comply with any regulatory requirements).

Whereas the aforementioned considerations form essential elements of the first assessment pillar, it is reiterated that they should not be construed as an exhaustive list. There is a plethora of other prudential considerations that demand attention, including revenue modelling, secondary market trading, market-making arrangements and the investment mandate or policy for RWAs.

Conduct considerations are also intrinsic to Bermuda's asset tokenisation framework, with their primary role being to foster transparency and investor protection. Essential in this regard is the obligation for clear disclosures delineating the terms of the tokenized project, including comprehensive details about the rights and obligations of token holders (e.g., legal title, yield accruals/distributions, priority of claims in case of bankruptcy etc.), the mechanisms for minting and redemption as well details of the key third parties involved (e.g., regulated status, locations etc.). These conduct considerations thus not only underpin the overall integrity of the tokenisation ecosystem but also complement the prudential considerations described in the previous paragraphs.

Another critical assessment pillar in the context of tokenisation is the aspect of **cyber risk**. Given the digital and decentralized nature of tokenized assets, they are inherently susceptible to a spectrum of cyber threats.

Referencing again the example of interoperability, and while it is paramount for functionality and user experience, it also opens up potential avenues for cyber threats, underscoring the need for rigorous cybersecurity defences. Similarly, the use of oracles introduces another point of vulnerability, as any security breach therein could lead to manipulated data being fed to the smart contract, possibly leading to faulty executions. Furthermore, smart contracts themselves could be subject to exploits if not properly audited and secured. Therefore, a comprehensive assessment of cyber risks and the implementation of robust cyber-security measures is a *sine qua non* under Bermuda's framework.[26]

Bermuda's regulatory framework would of course be incomplete without appropriate **AML/ATF** requirements embedded therein. Although they are fundamentally prescriptive, they retain a technology-agnostic stance. This inherent duality is pivotal, particularly within the purview of tokenisation, a sector marked by rapid and diverse technological advancements. The technology-agnostic perspective of Bermuda's AML/ATF[27] regulation can arguably accommodate tokenisation platforms that incorporate built-in compliance within their token standards, such as ERC-3643.[28]

Lastly, of particular note is the support of Bermuda's digital asset framework by a flexible and technology neutral corporate legal regime. More specifically, under Bermuda's Companies Act,[29] there are no explicit restrictions, as pertaining to the dematerialization of securities (e.g., mandatory requirement to be held by a central securities depository). This becomes particularly relevant and useful for both off-chain tokenisation projects, where RWAs being tokenized are securities (bonds, shares etc.), as well as on-chain tokenisation models. Hence, this integration creates a holistic and conducive environment for token issuers.

26 Digital Asset Business Operational Cyber Risk Management Code of Practice (2024); Digital Asset Business Custody Code of Practice (2024).

27 Comprising *inter alia* the Proceeds of Crime Anti-Money Laundering and Anti-Terrorist Financing Regulations 2008; General Guidance Notes for AML/ATF Regulated Entities; Annex VIII Sector-Specific Guidance Notes for Digital Asset Business.

28 <https://www.erc3643.org/>

29 Companies Act 1981 (as amended).

04

Conclusion

In conclusion, this article presents an analysis of asset tokenisation and Bermuda's comprehensive approach thereto, which is argued to be well-positioned to serve as a blueprint for jurisdictions worldwide. It is acknowledged that the considerations highlighted in this article are not to be construed as an exhaustive list, as there are numerous other factors that should be taken into consideration in the promulgation of a fit-for-purpose framework (e.g., legal ownership of RWAs; the legal status of smart contracts; recognition of digital assets as property under private law; limits with regards to settlement finality when using DLTs; data protection; conflict of laws etc.)[303132]. However, in light of the inherently cross-border dynamics of tokenisation and its potential to introduce systemic risk in the future, the need for legislative and regulatory harmonisation cannot be overstated.

30 OECD, *Regulatory Approaches to the Tokenisation of Assets* (OECD Publishing 2021) Paris.

31 Joint report by the Bank for International Settlements (BIS) and Committee on Payments and Market Infrastructures (CPMI), *Report to the G20, Tokenisation in the context of money and other assets: concepts and implications for central banks* (2024).

32 International Swaps and Derivatives Association, Inc., *Guidance for memorandum of law examining the validity and enforceability of collateral arrangements using the ISDA model provisions for tokenized collateral* (2024).