R3 Response to the Financial Stability Board Consultation: Regulatory, Supervisory and Oversight Recommendations for "Global Stablecoin" Arrangements

<u>**EXECUTIVE SUMMARY**</u>

R3 welcomes the Financial Stability Board's (FSB) Consultative Document, "Addressing the regulatory, supervisory and oversight challenges raised by 'global stablecoin' arrangements," issued on 14 April 2020. This is an important topic, and we support the overall approach that the FSB is taking, which we believe to be balanced and proportionate. Regulators around the world are grappling with the appropriate classification and treatment of digital assets. It is critical that as part of that exploration, all regulators examine the underlying technology and the relationship between the technology, the asset and the underlying value. We applaud the FSB for its contribution to this global effort, and for issuing this consultation.

Below we outline how we have approached many of the issues raised in the Consultation Paper from R3's own perspective on digital assets. We would be delighted to discuss our perspective or any of the points raised in the consultation and our response.

Introducing R3

R3 is an enterprise blockchain software firm working with a broad ecosystem of more than 300 participants across multiple industries from both the private and public sectors to develop blockchain applications on Corda, an open-source blockchain platform, and Corda Enterprise, a commercial version of Corda for enterprise usage.

We are very excited about this opportunity and invested in the continuing evolution of crypto-assets. We are keen to work with the FSB and your peer regulators to ensure that regulation in this area develops with the technology in a way that protects consumers and enables innovation and growth.

R3's Corda Platform

The fundamental design decision of Corda, which was made at the very beginning, is that Corda allows for limited data sharing, which facilitates compliant transactions between regulated institutions subject to reporting and data privacy regulations. We have been developing this platform significantly over the years and went to market with our first enterprise version in July 2018. As an enterprise-grade blockchain platform, Corda removes costly friction in business transactions by enabling institutions to transact directly using smart contracts, while ensuring the highest levels of privacy and security. This provides value to the users and the customers of the users, while also benefitting markets at large.

Corda was originally built by the financial services industry, for the financial services industry. It was developed to leverage the power of blockchain to address their specific business challenges in highly

regulated markets. Corda is now being applied seamlessly to other sectors including healthcare, energy, insurance and supply chain.

Further information on R3's work, portfolio and its partners can be found on our website: https://www.r3.com/.

R3's Digital Asset Observations

Below we outline our digital asset observations, which highlight key aspects of Corda's design as they relate to some key characteristics. We believe our approach will help the FSB in understanding not only the technology and the digital assets market, but also how the market will evolve over time, enabling the FSB to regulate it effectively.

Over the past year, we have seen increased focus on digital assets that offer the promise of a new, lower friction method of asset and capital formation. Such tokens, if developed appropriately and for enterprise usage, could automate or simplify much of the asset origination, issuance, execution and secondary trading processes that make up the full asset lifecycle. Issuers of securities everywhere would reap value from a more efficient, effective connection to those looking to allocate capital, all in a safe, regulated and automated environment.

In addition to payment tokens (such as stablecoins or Central Banking Digital Currency (CBDC)), our research has shown a large market for digital assets in two forms:

1. Asset-backed tokens: The digital token represents an asset that is held somewhere else, often a regulated custodian such as a bank. The token acts as a 'digital twin' and can be traded or exchanged freely on a blockchain. Examples of asset-backed tokens are gold, real estate, and traditional stocks and bonds held in custody.

2. Native-asset tokens: The digital token does not represent an asset but is instead the asset itself. These digital assets are issued directly onto the ledger. This could be a recognizable financial asset like a bond, equity or bank deposit that has some obligation back to its issuer. Examples of native-backed tokens include security tokens, utility tokens, and platform tokens.

For R3, the same enterprise-ready focus that led to the design and capabilities of our Corda platform also bring the best innovations to the token world. There are several enterprise token uses on Corda today, using the asset-backed token model (e.g., HQLA^x, Tradewind Markets). To continue to foster that, we are building a robust digital asset ecosystem on Corda through engaging users, collecting capability requirements and supporting partners in developing CorDapps (the applications that sit atop our platform). We work with digital asset issuers, market infrastructure providers and digital asset purchasers.

The FSB properly emphasizes the importance of the technology underlying digital assets. It is critical that issuance of digital assets and the lifecycle of those digital assets be conducted in a secure and

regulated manner. Specifically, that means platforms that are permissioned with well-defined governance, settlement finality and known identity. Each is detailed below:

- Well-defined governance enables participants to ensure there is accountability, that they are dealing with appropriate actors, and that they can identify, manage and mitigate risks.
- Settlement finality enables the real-world issuer to demonstrate compliance with associated finality regulations as well as reduce their own risk stemming from blockchain 'reorganizations' that can occur on other platforms (i.e. on platforms that use probabilistic settlement such as proof of work or proof of stake platforms that use the "longest chain" rule). Settlement finality also provides the holders of digital assets certainty that their transactions will not be reversed, and, therefore, can properly value and count those assets.
- Known identity enables firms to know who is holding or has held tokens they have issued. It also allows those transacting in the token to know with certainty with whom they are transacting. This is particularly important from a compliance perspective.

As an additional note, cybersecurity is of utmost importance in any blockchain solution that is meant to be safe and reliable and, therefore, a prerequisite for use particularly in the enterprise context. Unfortunately, we have seen many platforms fall short on cybersecurity to date. Strong cybersecurity and strong security measures are core focuses of Corda and have been since the beginning. Corda transactions are secured using public key cryptography: the public key is used to confirm the identity of the entity participating in the Corda Network and the private key allows transactions to be signed between parties on a need to know basis.

Our Initiatives to Date

We have built and released Corda Settler, which is an open source CorDapp that shows other CorDapp developers how to structure flows to update and settle financial obligations arising from Corda based activities on other payment rails, including on other platforms. Corda Settler allows two transacting parties to agree to the method of settlement, set additional conditions to the settlement, then execute the transaction, marking it settled if and only if all conditions are satisfied and the corresponding settling payment is successful. Settlement can be achieved with an on-ledger transfer of settlement assets (like cash), or with a payment initiation and confirmation on a non-Corda payment system. One of the first integrations using Corda Settler was with SWIFT gpi, which is representative of the uptake we are seeing from sophisticated legacy infrastructure providers. SWIFT gpi is integrating with Corda, which means that banks will no longer have to continuously message, email or call recipient banks to confirm that a payment has been made. This creates a smoother, more efficient process.

Our Work in CBDC (selected projects)

R3 has taken part in a number of CBDC projects across the world. Below is a selection of projects that we have been involved in and some brief information. We are happy to discuss these with the FSB.

11 W 42nd St
New York, NY 10036

2 London Wall Place
London, EC2Y 5AU

80 Robinson Road, #09-03
Singapore, 068898

Project Jasper (Phases 1 & 2)
      Date: March 2016 onwards
      Use: Canadian experiment with DLT for domestic interbank payments
      Technologies: Corda, Ethereum (private network)
      Participants: R3, Bank of Canada, Payments Canada, Canadian banks

Project Jasper (Phase 3)
      Date: Paper published October 2018
      Use: Securities settlement using DLT
      Technologies: Corda
      Participants: R3, TMX, Payments Canada, Bank of Canada, Accenture, Canadian banks

Project Ubin (Phases 1 & 2)
      Date: Paper published May 2017 (Phase 1); Paper published November 2017 (Phase 2)
      Use: Tokenised Singapore dollar (Phase 1); RTGS on DLT (Phase 2)
      Technologies: Ethereum (Phase 1); Corda, Hyperledger Fabric, Quorum (Phase 2)
      Participants: R3, MAS, Singapore banks (Phase 1); R3, Accenture, MAS, Association of Banks
      Singapore (ABS), Singapore banks

Project Inthanon (Phase 3)
      Date: Paper published Jan 2020
      Use: Leveraging DLT to increase efficiency in cross-border payments
      Technologies: Corda
      Participants: R3, Bank of Thailand, Hong Kong Monetary Authority, Thai banks, Hong Kong
      banks

E-Krona Project
      Date: 2020 and ongoing
      Use: Retail CBDC
      Technologies: Corda
      Participants: R3, Accenture, Riksbank

Working with You

R3 fully supports the FSB. We have engaged extensively with Bank of International Settlements on the topic of CBDC and would welcome the opportunity to do so directly with you in the future.

RESPONSES TO QUESTIONS

1. **Do you agree with the analysis of the characteristics of stablecoins that distinguish them from other crypto-assets?**

The distinction the FSB outlines between the characteristics of stablecoins and other forms of crypto-assets appears comprehensive. Additionally, the means of distinguishing stablecoins from global stablecoins (GSC) outlined in Annex 5 appears a sensible criterion.

The FSB is right to highlight the risks that GSCs pose, especially in regard to emerging markets and developing economies (EMDEs) and consumers more broadly. We view the potential for a GSC to establish a significant market share in domestic payments as a significant concern, specifically in relation to monetary sovereignty of the nation in which it is operating. As the FSB points out, the risk of this happening in EMDEs is especially high, but not unique to them. Further, R3 concurs with the FSB's description that the value of stablecoins are not necessarily stable in practice, which introduces significant risks to consumers in the way of volatility and through the introduction of stress to the infrastructure and governance systems needed for consumer protection.

On a wider note, R3 views privately issued GSCs as introducing needless risk into the system. We believe that the benefits of digital currencies would be better achieved through CBDC at the retail level. Using CBDC to digitise the large value payments system at the wholesale level, in the foreign exchange markets and in cross-border payments would also preserve sovereignty and minimize systemic risk, perhaps removing it entirely in some areas.

While CBDCs are outside the scope of the FSB, synthetic CBDCs have been described by the International Monetary Fund as a type of stablecoin;[1] "e-money backed by central bank reserves." Although there are similarities between a synthetic CBDC and "Stablecoin A" described in Annex 1, we do not view synthetic CBDC as a form of GSC. We would characterise synthetic CBDC as CBDC that is issued by commercial banks as part of a recognised delivery of a CBDC solution to the public that has the official agreement of the domestic central bank and is regulated as such.

[1] Tobias Adrian and Tommaso Griffoli, "The Rise of Digital Money", International Monetary Fund, 15 July 20

2. **Are there stabilisation mechanisms other than the ones described, including emerging ones, that may have implications on the analysis of risks and vulnerabilities? Please describe and provide further information about such mechanisms.**

We believe that the FSB's outline of the stabilisation mechanisms is reflective of the possible arrangements. As the paper points out in the models of stablecoin delivery, we would envisage that for a stablecoin to establish and maintain user trust and confidence, value stability is vital in order for it to replicate the characteristics of a functioning fiat currency. In the work we have carried out with central banks on the topic of CBDC, we have found a strong preference for one-to-one fiat backed reserves as the stabilisation mechanism for CBDC. This finding is in keeping with the characterisation of centralised stablecoins as found in the CPMI-IOSCO preliminary findings and their preference for private permissioned ledgers.

3. **Does the FSB properly identify the functions and activities of a stablecoin arrangement? Does the approach taken appropriately deal with the various degrees of decentralisation of stablecoin arrangements?**

We believe that the FSB properly identify the functions and activities of a stablecoin arrangement. We would add for clarity that we believe that these functions and activities could be performed by different entities within the solution, rather than relying upon one to command the whole end-to-

end solution. For instance, the entity responsible for issuance, redemption and stabilisation may be different from that (or those) responsible for user interaction. These may be a combination of public and private organisations that work together to provide the functionality. We believe that a benefit of this model of delivery is that it allows the respective parties to perform roles most closely associated with their existing expertise. The Bank of England's recent discussion paper on CBDC, which provided such a structure for the delivery of CBDC, described this as a hybrid model of delivery. This is a term we would support. In this hybrid model, payment service providers (PSPs) can deliver innovation and competition in delivering the user experience to the retail user. At the level of CBDC token issuance, the technical running and management of the underlying ledger would be best performed by a platform company, with governance set and controlled by the central bank. This would allow the central bank to focus on its core mission of financial stability and monetary policy and spread the burden of performance across suitable parties, with appropriate regulation in place to protect consumers and the system's health.

4. What criteria or characteristics differentiate GSC arrangements from other stablecoin arrangements?

The criteria outlined in Annex 5 provide a satisfactory way of differentiating between GSC and other stablecoins. The work of the paper highlights how GSCs (as characterised by Annex 5) possess characteristics that are deserving of specific analysis and debate centred on an appropriate way of regulating their use.

For R3 the key characteristics that distinguish a GSC from a stablecoin surround the following variables: the breadth of distribution, the amount of reserves backing the coins and whether those reserves are a single fiat or a basket of currencies. We would characterise a GSC as being a coin that acts as e-money, with a wide (regional, if not truly global) distribution with a strong support reserve and backed by a basket of one or more fiat currencies. This is in contrast to how we envisage a CBDC working, where we anticipate that distribution would be national/jurisdictional, supported by a strong reserve and backed by a native fiat currency. In some jurisdictions, particularly EMDEs, there may be some merit to CBDCs being backed by a basket of currencies in order to mitigate financial stability and price stability that may be a feature of the native currency alone.

5. Do you agree with the analysis of potential risks to financial stability arising from GSC arrangements? What other relevant risks should regulators consider?

We agree with the potential risks outlined in the paper. We would further note that the performance of the underlying assets is key to the stability of the GSC and that regulators are right to carefully consider the implications of that on the coin.

6. Do you agree with the analysis of the vulnerabilities arising from various stablecoin functions and activities (see Annex 2)? What, if any, amendments or alterations would you propose?

The analysis contained in Annex 2 appears largely comprehensive. We do believe that the characteristics of the underlying DLT platform design are vital to the performance of the coin. Settlement finality and scalability are two tremendously important features of any foundational

platform. It is important to note that these are not features of every platform, but they are of R3's Corda. Permissioned systems like Corda not only ensure finality and scalability but are also well suited to address AML/CFT and governance concerns, which the FSB highlights as key considerations.

With regard to the storage of private keys providing access to stablecoin wallets, we would note that a considerable amount of work continues to be done in this space. These include multi-signature wallets and ways of securely backing-up keys using multiple fiduciaries. We would also note that with respect to managing the reserve asset that the current system works through systemic trust in certain actors. This may change in the future were the reserve asset a digital asset. This would allow for the potential for complete transparency, which may mitigate the need for trust in the management of the reserve asset and decrease systemic risk.

7. Do you have comments on the potential regulatory authorities and tools and international standards applicable to GSC activities presented in Annex 2?

The tools, authorities and international standards outlined in Annex 2 are comprehensive. We support the analysis referenced in Annex 2, but stated in Annex 4, that systemically significant stablecoins should comply with the Principles for Financial Market Infrastructure (PFMI). As the CPMI-IOSCO work highlights, this may require some partially or wholly decentralised stablecoins to have to adapt to meet these standards. Given the cross-jurisdictional nature of potential GSCs we agree that PFMI responsibilities will be key to the appropriate regulation of GSCs.

8. Do you agree with the characterisation of cross-border issues arising from GSC arrangements?

We do. We would particularly highlight the significance of GSCs to EMDEs and the knock-on effect this may have on their economic stability and monetary sovereignty. As the paper points out, advanced economies are likely to have a more mature regulatory environment and more robust enforcement, meaning that they are better equipped to remove a GSC from their jurisdiction or ensure that it is unable to operate from the outset. In EMDE nations, we believe that one of the major elements of what makes a GSC a GSC, is the potential public appeal of the coin to the user base. This is in accordance with the elements that the FSB outline in this paper. If this appeal is significant then it can reach the scale of use that threatens monetary sovereignty and stability.

The potential role for what the former Governor of the Bank of England Mark Carney called a synthetic hegemonic currency could be fulfilled by a form of stablecoin and used by legitimate international bodies to assist nations in establishing financial stability. However, we believe that such a stablecoin would not be best established by a private entity, but by the international community and issued to those nations in a targeted and controlled manner.

9. Are the proposed recommendations appropriate and proportionate with the risks? Do they promote financial stability, market integrity, and consumer protection without overly constraining beneficial financial and technological innovation?
   a. Are domestic regulatory, supervisory and oversight issues appropriately identified?
   b. Are cross-border regulatory, supervisory and oversight issues appropriately identified?

c. Do the recommendations adequately anticipate and address potential developments and future innovation in this sector?

We believe that the recommended outlines are thorough, appropriate and proportional. We strongly believe in the potential of blockchain, which is the technology underpinning stablecoins, to transform payments across the wholesale, retail and cross-border landscape. We do not believe, however, that privately issued stablecoins are safe and do not encourage their use as a form of e-money or digital currency. The work that the FSB is doing will enable regulators to assess and mitigate the risks that stablecoins may present over the coming years as private coin offerings develop and central banks continue with CBDC.

It is our belief that CBDC is far more likely to develop successfully in the payment space, with projects in Thailand, Hong Kong, Singapore, Sweden and China suggesting that there is a growing appetite for this type of solution from central banks. The FSB's work on this topic may be valuable in this area too, especially in light of the potential for users to hold multiple different CBDCs within their wallet. If such a solution were realised, then the issues the FSB addresses in this paper regarding cross jurisdictional considerations will be valuable and essential in providing financial stability through appropriate regulation.

10. Do you think that the recommendations would be appropriate for stablecoins predominately used for wholesale purposes and other types of crypto-assets?

The recommendations that the FSB proposes appear sensible and also provide a good background to stablecoin use with regard to wholesale purposes also.

11. Are there additional recommendations that should be included or recommendations that should be removed?

No. We believe that the FSB's approach is the correct one, with the principle of 'same business, same risks, same rules' being one we whole heartedly support.

12. Are there cost-benefit considerations that can and should be addressed at this stage?

The FSB rightly identify the need to both prudently regulate stablecoins and encourage innovation and market competition. It is our belief that the development of CBDC is likely to reduce the changes that privately issued stablecoins will attract the scale of popularity required to represent a systemic threat to financial stability. However, if central banks do not move into this space, the opportunity for a privately issued stablecoin to do so is greater, especially in EMDEs.