

DESIGNING A PRUDENTIAL TREATMENT FOR CRYPTO-ASSETS

A Policy Contribution Note

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INTRODUCTION

By definition, crypto-assets are digital unit of account in which cryptographic techniques are used to regulate the generation and distribution of units on a blockchain and include crypto-currencies (that are subject, by their "currency" status to central bank regulatory regimes in the varying jurisdictions in which they operate); security tokens and utility coins form a segment of crypto assets within the regulatory jurisdictions of Securities and Exchange Commission (SEC) as the U.S. Federal regulator for capital markets.

There has been an increase in crypto-assets and their proliferation in recent times. In January 2018, Crypto-assets' valuation exceed USD 800 billion with sub-Saharan Africa seeing a considerable uptake of crypto-assets as a share of GDP compared to many developed economies- with a significantly under developed regulatory framework around crypto-assets of their proliferation especially in sub Saharan Africa (especially Kenya) poses Serious challenges and opportunities as they form a significant part of the financial system.

CHALLENGES IN ADOPTION OF DIGITAL/CRYPTO-ASSETS AND THEIR LEGAL FRAMEWORK.

The proliferation of crypto-assets and Distributed Ledger Technologies and general blockchain are advancements that have aimed at facilitating peer-to-peer (P2P) commerce.

In 2019 Facebook unveiled plans to launch a crypto-currency known as LIBRA. Digital currency platforms such as Facebook and LIBRA structure seeks to facilitate transactions on P2P basis and information flow through companies that operate digital platforms and social media networks as trusted intermediaries make an interesting case for the adoption of crypto-assets while leveraging the size and enormity of the adoption of social media.

One of the biggest challenges of crypto-assets' (currencies') adoption has been their decentralized structure without trusted intermediaries which has had negative legal regulatory and operational effect *inter alia*, Facebook LIBRA has adopted to address this specific challenge.

For countries across the globe such as Kenya laws governing "traditional" currency for example in this case the Central Bank of Kenya Act do not sufficiently cover the legal definition of "currency" for crypto-currencies.

It is equally note worthy to underscore the challenges of electrification in blockchain currently a significant number of sub-Saharan African and other developing economies are pursuing industrialization-friendly policies such as rural electrification.

Many countries across the developing world have and continue to encounter challenges around electrification. Massive volume of electricity used for mining crypto-assets impede the adoption of crypto-assets especially in rural areas given this challenges the adoption of block chain technology has not been successful except for urban settings where electricity is readily available albeit at a higher cost than say compared to the developed economies of North America, Europe and Asia. There are ongoing policy initiatives by government across the developing world to subsidize the cost of electricity but that has not been enough to make it cheap enough to entice the mining of crypto-currencies as the blockchain consumes more than 53TWH of electricity a year- approximately the entire annual electricity of a developing nation in sub-Saharan Africa as the average cost of electricity for a single average transaction could be equivalent to that consumed by five households in a high income country per day and continues to increase with the mining of bit coin.

Clearly, there is a need to sufficiently address the infrastructural barriers to the adoption of crypto-assets across the globe.

THE EVOLUTION OF A NEED FOR A REGULATORY PRUDENTIAL FRAMEWORK ON CRYPTO-ASSETS

The motivations behind crypto-currencies across from as noted by Elwell (2013) a need to counter government and central authorities' monopoly of currency issuance.

The evolution and adoption of crypto-assets specifically crypto-currencies such as bitcoin surged after the Great Recession of the post decade as a future alternative to government – backed currencies Rooney (2018) and recent interest from government entities responsible for monetary policy and issuing government-backed currencies such as the European Central Bank (ECB) and the People's Bank of China (PBoC) leading the curve on digital currencies warrants regulatory evolution *pari-passu*.

Indeed, Great Progress has been made towards the regulatory evolution in some jurisdictions. On 1st December 2017, The U.S. Commodity Futures Trading Commission (CFTC) approved trading in bitcoin futures. By 2018 17million Bitcoins had been created with an estimated value of USD 137 billion.

There however are other political and geopolitical aspects to this evolution for example China's Central Bank pursuit of a digital currency maybe closely linked to her desire to replace the U.S. dollar as a major trade currency and consequently "de-centralize" global trade. Recent Sino-American trade disputes are proof of this.

The desire to lead the curve on the adoption of digital currencies having notes in political and geopolitical aspects may pose serious challenges for the global economy if appropriate and necessary regulatory regimes are not put in place for example around their (Crypto-currency) volatility.

Many countries in the developing world have significant percentages of crypto-assets (Bitcoins, etc.) To their respective gross domestic products without appropriate regulatory regimes to address issues that may emanate from their continued adoption to address the issue of volatility proper regimes could be established that says mandate a five percent gain/loss on this asset class for a circuit breaker to be triggered.

Crypto-currencies generally have a higher seignorage vis-à-vis fiat currencies though relatively lower than gold.

Their adoption by government entities as indicated by the European Central Bank and the People's Bank of China could have an overwhelming impact on the conduct of monetary policy across the globe, specifically for developed economies' monetary and even fiscal authorities. This would necessitate a vibrant prudential framework given the challenge and opportunities that will be presented by this young and evolving assets class. As this assets class continues to evolve and undergo unprecedented transformation, bitcoin and other crypto-currency- backed Exchange-Traded Product e.g. Exchange-Traded Notes and ETFs following the volatility of ETPs as noted by the 2010 Flash Crash would move volatile hence would warrant a very robust prudential framework.

RISK AND FINANCIAL STABILITY

Bitcoin and crypto-currencies offer lower transaction costs privacy and long-term protection of purchasing power as a result of inflation (Bitcoin and Crypto-currencies are deflationary). This attribute of long-term protection of purchasing power explains the boarding of crypto-currencies as a hedge against dovish monetary policies and inflation.

A case on lower transaction cost could be made on platforms such as Bitpesa in Kenya that allowed people in the diaspora to send money in Bitcoins this money was converted to Kenya shillings then sent to Mpesa (Mobile Money platforms) and other wallet provisions with mobile money (Mpesa, Airtel Money etc.) integration systems and Application Programming Interface (APIs).

There are three distinct features of Crypto-currencies (Bitcoin etc.):

- The transaction system is open source
- Peer- to- Peer currency hence no need for a third party.
- The transaction system is decentralized and not under control of government or government- affiliated entities, Nakamoto (2009).

The distinct nature of crypto-currencies poses risks and serious financial stability issues that form the core of this document.

In Europe, Asia and North America and many other parts of the world people are conducting cross border transactions that would be subjected to existing foreign exchange regimes using blockchain technologies and as a speculative investment asset.

As an evolving complex and rather new asset class some government and start- ups are innovating ways of making crypto-assets more transparent to remove possibilities of terrorism

financing respecting of people privacy through legal frameworks such as the European Union's General Data Protection Regime (GDPR) as relevant policies that have been put in place to address other cyber- related issues.

A case could be made in relation to the Canadian crypto-assets investment company Quadriga Fintech Solutions on the risks and implications to financial stability and operational challenges that could in the future arise by and as a result of the very nature of this asset class. The case for Quadriga Fintech Solutions is interesting in the sense that upon the demise of its founder who was the sole custodian of operational and system security information millions of U.S. dollars could not be accessed by investors hence in such cases resulting litigations as investors in futility try to access their investment could consult in serious reputational damage inter alia. The Quadriga CX case is a text book example that emblemizes the risks of crypto-assets as an asset class that requires serious operational and regulatory development without which there is significant loopholes that pose great disadvantages to its investors.

The continued proliferation of blockchain technologies after the great financial crisis of the past decade could to a significant degree be attributed to a lack of faith and trust in systems that employ central planners in their architecture. Whether a bubble as noted by Krugman (2013), or as a future alternative to govern- backed currencies Rooney (2018), clearly a global prudential standard and treatment of Crypto-assets is warranted.

FEEDBACK ON THE DISCUSSION PAPER

Crypto-assets the use stabilization tools linked to other Assets. Another type of crypto –assets that may a different risk profile compared to high risk crypto-asset are those that represent a claim on an underlying asset and are fully irrevocably and verifiably backed by other tangible asset. The specific risk profile of such types of crypto-asset would depend in part on the control and governance on place to ensure valuation stability ; as noted discussion paper, these regulatory controls, for example regular disclosures of the availability and valuation of the underlying asset, regular external audits, et cetera form a rich basis for the regulatory design of a prudential treatment for crypto-assets that present this risk profile and by extension the entirety of the crypto-asset with varying risk profile that form the core of the discussion paper.

Illustrative example of capital and liquidity requirement for high-risk crypto-assets. The treatment would apply to any direct exposures for example derivatives to high risk crypto-assets ides, those that aren't directly linked to or backed by assets with intrinsic value.

Views on/Question: the extent to which these types of crypto-assets should be subject to a different prudential treatment than the illustrative example outlined in this paper?

I agree with the illustrative example on p.11 that capital and liquidity requirement for high-risk crypto-assets and liabilities to be allocated to the banking book and indirect exposures like in the case of net short position or derivatives to be assigned to the trading book.

Views on/Question: the specific condition and criteria that would need to be met for such crypto-asset types to be subject to a different prudential treatment.

Response: crypto=assets for intra and interbank settlements that are fully backed by fiat currencies as these may have a different risk profile compared to high risk crypto-asset.

Views on/question: what benefits do crypto-assets provide for the banking system and the provision of financial services more generally?

Response:

1. They act as a universal medium of exchange, facilitating cross-border commerce in peer-to-peer transaction as there is no need for foreign exchange interventions by any of the counterparties in the transaction.
2. Cheap transactional costs during peer-to-peer commerce.
3. The design of crypto-assets being in such a way that as a medium of exchange it is immune to the forces of inflation, unlike fiat currencies means that they can be a reliable store of value.

Views on/Question: what are your views on the disclosure requirement related to banks crypto-assets? Should additional information related to banks crypto-assets exposure be disclosed?

Response: Yes, additional information on banks crypto-asset exposures should be disclosed.

Views on/Question: the extent to which the treatment for some or all of these crypto-asset types could build on the existing framework;

Response: this should be to the extent that they are economically equivalent to existing asset classes. I believe this view to also be applicable to the question that has also been presented in the discussion paper on the potential prudential treatment of specific types of crypto-asset that economically equivalent risks to traditional asset classes.

Conclusion

A recent central bank digital currencies survey conducted by the Bank for International Settlements showed that central banks are doing extensive work on digital currencies, and a small number indicate that they are likely to issue one soon.

The regulatory challenge presented by crypto-assets maximization of the benefits of blockchain while minimizing the potential risks for financial stability, and more broadly the wider economy, as innovations within blockchain tend to happen at unprecedented speed. Regulatory legumes should be put in place that move beyond the traditional scope of financial services to be more robust and adaptive to the changing landscape.