Central Bank Digital Currencies in ASEAN

US-ABC Financial Services Committee Whitepaper

US-ASEAN
BUSINESS COUNCIL INC

OVERVIEW

Attention on Central Bank Digital Currencies (CBDCs) continues to grow, driven by government and private sector activity, as well as the ongoing rise in digital payments and the implications of the COVID pandemic. This paper sets out some considerations around CBDCs, as well as some suggested general principles for regulators.

Definitions

Generally, Central Bank Digital Currencies (CBDCs) can be defined as "an electronic form of central bank money that could be used by households and businesses to make payments and store value[1]". CBDCs are different from privately issued digital assets, or crypto-assets, which are not denominated in fiat currency; nor are they stablecoins, which are crypto-assets often pegged to a national currency/ies. CBDCs can generally be thought of as either "wholesale" (restricted in use to certain players, such as financial institutions) or "retail" (available to the general public).

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Central Bank Activity

More than 80% of central banks – including the Federal Reserve, European Central Bank, Bank of England, Bank of Japan and the People's Bank of China – are actively assessing CBDCs.[2] However, relatively few have so far conducted pilot programs. In ASEAN, Thailand has been piloting a wholesale CBDC (Project Inthanon) and also announced a retail CBDC pilot in late 2020, Cambodia has launched a version of a CBDC (the Bakong) and Singapore has been assessing the use of wholesale CBDC through Project Ubin since 2016. China has undertaken several recent pilots as part of its Digital Currency Electronic Payment initiative[3] and Japan and South Korea have said they will each test the basic payment functions of a CBDC later this year.

Two themes appear to be emerging from this work: that retail CBDCs are generally more of a focus for countries where the informal economy is larger; and that many central banks appear to prefer models where the private sector handles customer-facing activity (a so-called "two-tier" model)[4].

1. Bank of England: CBDC: opportunities, challenges and design, March 2020: https://www.bankofengland.co.uk/paper/2020/central-bank-digital-currency-opportunities-challenges-and-design-discussion-paper
2. Ready, steady, go? Results of the third BIS survey on central bank digital currency. BIS, January 2021
3. Shenzhen, Suzhou, Chengdu and the Xiong'an New Area
4. See for example The Bank of Japan's Approach to Central Bank Digital Currency, October 2020: https://www.boj.or.jp/en/announcements/release_2020/data/rel201009e1.pdf

Policy objectives

As the Bank of International Settlements (BIS) has pointed out, the motivations, policy approaches and technical designs of CBDCs differ across countries.[5] In general, regulators see the potential benefits of CBDCs as[6]: improving financial inclusion; driving digitization; reducing the costs associated with physical cash; tackling fraud and money laundering; increasing competition; facilitating cross-border payments; strengthening resilience and improving mechanisms for stimulus payments that are enabled by the "programmability" of CBDCs[7].

At the same time, there are a number of well-noted potential risks with CBDCs, some of which relate to financial stability, including: impeding monetary policy transmission; hindering the role played by commercial banks in maturity transformation and intermediation; as well as others such as outsourcing, cyber-resilience and even enabling bank runs during a crisis. Concerns have also been raised around the consequences of a move away from existing forms of money and whether an increase in the proportion of central bank-issued (as opposed to commercial bank) money could lead to an incipient nationalization of credit.[8] One particular concern shared by the public and private sector is that the direct access to central bank money by non-banks and individuals could affect the deposits banks need to extend credit. Mitigating all of these risks critically depends on the design of a CBDC, and not disintermediating those regulated entities that play a critical function in the economy.

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Considerations around CBDCs are not straightforward and often require a fundamental assessment of the role and provision of money in the financial system. In particular, they highlight the critical role that will be played by central banks in designing the architecture for CBDCs and in attempting to realize some of these potential benefits while avoiding the risks.

5. BIS Working Paper No. 880: Rise of central bank digital currencies: drivers approaches and technologies, August 2020: https://www.bis.org/publ/work880.pdf
6. A Survey of Research on Retail Central Bank Digital Currency – IMF Working Paper: WP/20/104, June 2020: https://www.imf.org/en/Publications/WP/Issues/2020/06/26/A-Survey-of-Research-on-Retail-Central-Bank-Digital-Currency-49517
7. Such as stipulating exactly how a stimulus payment can be spent eg only on food purchases.
8. Bank of England: CBDC: opportunities, challenges and design, March 2020: https://www.bankofengland.co.uk/paper/2020/central-bank-digital-currency-opportunities-challenges-and-design-discussion-paper

Design choices

There are several key questions around the potential design of CBDCs, which include[9]:

1. ***Provision:*** *the allocation of functions and responsibilities between different players, from central banks to financial institutions (payment providers, fintechs, etc). Central banks that perform distribution as well as issuance for example may also need to solve for KYC, AML/CFT, fraud protection, dispute resolution, and even customer support.*

2. ***Functional design:*** *the types of payment and user interaction. A wholesale CBDC for example could be limited to banks or clearing houses and be settled in a peer-to-peer manner.[10] This use case continues to draw interest and concern from regulators, but recently some limited use cases in the United Kingdom have performed compliantly in a sandbox environment.[11]*

3. ***Economic design:*** *including who can access the CDBC, whether it would be interest bearing, fully convertible and/or have caps on its usage.*

Resulting practical questions include the infrastructure that would be required to operate a CBDC, from the type of database used to record activity (such as central database, DLT/blockchain or cloud-based solution) to the point-of-sale devices used to conduct transactions. Tokenized (as opposed to account based) CBDCs for example are more likely to need new infrastructure and potentially create additional risks. While an account-based CBDC system relies on verifying the identity of the payer, a token-based system relies on verifying the validity of the currency used to pay. The risks behind a tokenized system include losing funds if end users do not keep their private key secret, facing severe challenges in designing an effective AML/CFT framework, and difficulties when seeking to identify claim owners or follow money flows. Thus, central banks would need to invest in additional infrastructure providing safeguards if a tokenized approach is followed.

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9. Taken from terminology used by the Bank of England
10. http://www3.weforum.org/docs/WEF_Central_Bank_Activity_in_Blockchain_DLT.pdf
11. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/950206/HM_Treasury_Cryptoasset_and_Stablecoin_consultation.pdf

GENERAL PRINCIPLES

Rather than prescribe a particular operating architecture, the Council suggests the following regulatory principles, which could be referenced by central banks as they undertake further research in these areas:

1. **Financial stability:**
   An overarching principle should be that monetary and financial stability be maintained and that CBDCs are able to coexist with current, and new (i.e. stablecoins and other crypto currencies) forms of money.[12] This would include focusing on financial stability and other risks, as well as ensuring the availability of adequate information to monitor activity.

2. **Consumer protection:**
   Some of the potential risks arising from a general purpose CBDC include exposing consumers to fraud, cyber, and other types of financial crime risk, especially where inclusion is a key driver of the CBDC's introduction.

3. **Security and trust:**
   A CBDC must be secure and reliable in order to meet or exceed the cyber security, availability, and fraud prevention standards that consumers expect today. We know that consumers will not use technology they do not trust. Relatedly, a CBDC must enable compliance with and not disrupt the global anti-money laundering and countering regime.

4. **Design outcomes**:
   CBDCs should be designed to be broadly accessible, transferrable in real-time. They should support limited offline use, which can be especially beneficial in economies where digital connectivity is a challenge and/or where natural disasters are a concern.

5. **Augmenting existing payment systems:**
   Policymakers should consider the potential development of CBDCs alongside other means to augment payment systems, such as the development of 24*7 Real Time Gross Settlement (RTGS) systems. CBDCs should be designed to seamlessly interoperate with existing payment systems and stores of

12. BIS: Central Bank Digital Currencies: foundational principles and core features, October 2020: https://www.bis.org/publ/othp33.htm

value (e.g., commercial bank deposits), in order to avoid the creation of closed loops that reduce the fungibility and portability of money. It is likely that expansion of access to digital payments cannot be achieved with CBDCs alone, regardless of their design. Laws and regulations will therefore need to be updated.

6. **Industry and public consultation:**
   Given the scope of issues set out above and the existing expertise of the financial sector, thorough and ongoing, and iterative industry consultation should be a cornerstone of CBDC development. So too should be public opinion, as drivers for adoption may differ from country to country.[13]

7. **Interoperability and international standards:**
   Given the number of jurisdictions considering CBDCs in parallel, as well as the scope for these instruments to facilitate cross-border payments, interoperability must not be an afterthought. Regulators should focus on developing international standards in areas like APIs, messaging, and the division of responsibility within CBDC ecosystems. Working with other international organizations such as the Bank for International Settlement (BIS), the Organization for Economic Cooperation and Development (OECD), and the World Economic Forum (WEF) will be important in this respect.

8. **Private sector participation:** Open and competitive payment ecosystems are critical to enabling access, adoption, and use of a comprehensive suite of payment options that serve a wide range of user needs and preferences. Payments innovation, financial inclusion, and the efficiency of national and international payment flows all depend on vibrant private sector competition in payments. A CBDC should seek to preserve those functions through the inclusion of the private sector in its design and distribution

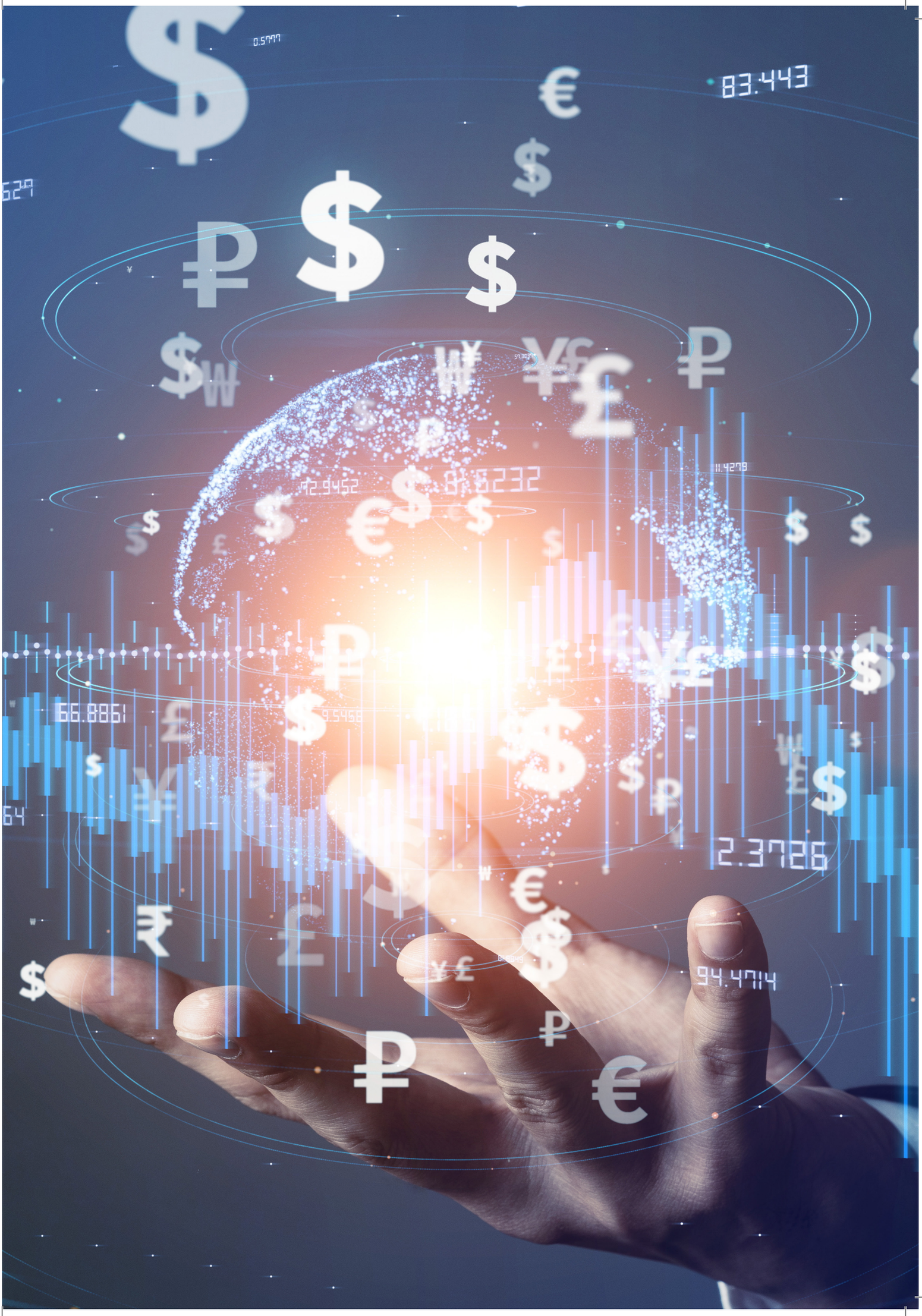
9. **Technology neutrality:** A tokenized CBDC should also accommodate the needs of emerging technologies like Internet of Things (IoT), micropayments, wholesale securities settlement and be able to integrate with other digital platforms for the benefit of consumers and corporates.

10. **Ubiquitous acceptance:** Any CBDC must be well integrated and interoperable with the existing payments system to ensure it can be easily accepted at acceptance points for cash and non-cash payments.

CONCLUSION

The development and rollout of CBDCs pose significant promise and questions for the financial system. The design choices of CBDC made by policymakers will be critical in attempting to establish an appropriate framework that manages these questions and subsequent risks. The principles outlined above are suggestions for regulators and others to keep in mind as this work moves forward. Industry and public consultation is one key aspect and the US-ASEAN Business Council Financial Services Committee stands ready to support and advise the efforts of ASEAN governments as their thinking develops in this area. In addition, we encourage ASEAN regulators to collaborate among themselves and with their global counterparts to advance an optimal framework for digital currencies.

13. The Bank of Japan CBDC paper cites research showing security, usability, and benefits/incentives as they key reasons for encouraging adoption, for example.


83.443
66.8861
2.3726
94.4714

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We believe opening and investing in the sustainability of efficient, resilient and competitive markets are critical to the continued growth of our member companies and innovation and job creation in the United States and Southeast Asia.

The Council has offices in: Washington, DC; New York, NY; Bangkok, Thailand; Hanoi, Vietnam; Jakarta, Indonesia; Kuala Lumpur, Malaysia; Manila, Philippines; and Singapore. The Council's Financial Services Committee is made up of over 20 of the world's leading financial services institutions and markets participants operating in Asia's most dynamic regional economic community.