Executive Summary

Objective: To have a brief information about Central Bank Digital Currency and to identify its possible implication to the government's partner for rural development and financial inclusion which is rural banks.

Findings: Central Banks around the world is currently exploring digital currencies. According to CBDC tracker of Atlantic council, 10 Central banks has launched CBDC, 15 Central Banks on its pilot, 24 Central Banks on Development, 43 Central Banks on Research, 10 Central Bank has inactive CBDC project and 2 Central Banks canceled their CBDC project.

Central Bank Digital Currency (CBDC): it is a digital representation of bank notes issued by the central banks. It is pegged to the value of the country's fiat currency. There are two types of CBDC, **Wholesale CBDC** and **Retail CBDC**.

- **Wholesale CBDC -** it is used as digital settlement for wholesale transactions and has restricted access mainly for banks and other financial institutions (BSP 2020).
- **Retail CBDC -** it is a widely accessible digital currency that could be used for retail transactions and other purposes (BSP, 2020) in other words its main purpose is to be used as cash. It can be **account based** or **token based**.
    - **Account Based –** relies on the ability to verify the identity of the account holder.
    - **Token Based -** relies on the ability of the payee to verify the validity of the payment transaction.

  Possible architectures of a Retail CBDC:

    - **Indirect CBDC** - CBDC held by consumers represent a claim on the financial intermediary.
    - **Direct CBDC** – CBDC Held by consumers have a direct claim on the central bank.
    - **Hybrid CBDC –** CBDC held by consumers have direct claims on the central bank but intermediaries handle real-time payments.

Three foundational principles of a CBDC: According to the Bank for International Settlements (2020), there are 3 foundational principles of a CBDC. These include that CBDCs: (i) **"do no harm"** to monetary and financial stability; (ii) **coexist** with cash and other types of money in a flexible and innovative payment ecosystem; and (iii) promote broader **innovation and efficiency**.

CBDC design features and attributes according to BSP: Central banks recognize that the design and features of a CBDC are crucial. The economic effects of a CBDC as well as its implications for the payments, monetary policy and financial stability will significantly depend on its attributes (BIS, 2018). The design and feature of a CBDC are the following:

- **Availability.** CBDC could be available 24 hours a day and seven days a week or over a specified period of time.
- **Anonymity.** CBDC can be designed to provide some degree of anonymity.
- **Transfer mechanism.** CBDC can be transferred either on a peer-to-peer basis or an intermediary.
- **Interest-bearing.** CBDC could bear an interest.
- **Limits or caps.** CBDC can have quantitative limits or caps on holding.

Motivation for CBDC: Potential Benefits: Depending on the kind and feature of CBDC that the central bank adapts. CBDC could potentially provide for safer, faster and cheaper payments (including cross-border payments), encourage innovation and expand financial inclusion.

- **Financial Inclusion.** CBDCs may create considerable opportunity for financial inclusion specially for a country that have a problem in accessibility of financial help and services due to the geographic situation.
- **Enhanced AML/CFT monitoring.** CBDCs could make it easy for a central bank to keep track of the precise location of every unit of the currency.
- **Credit and Liquidity risk free.** CBDC significantly reduces the concentration of liquidity and credit risk in payment systems.
- **Monetary Policy Freedom.** CBDC provides the central bank an opportunity to enhance the effectiveness of monetary policy (BSP, 2020).
- **Promote Digitalization and Encourage Competition.** CBDC may promote the digitization and innovation of value chains in the economy, such as in agriculture, promoting person-to-business and business-to-business digital payment system.
- **Cost Effective.** CBDC would be much more cost-efficient than physical cash.

Operational Challenges of CBDC: A number of legal, technical and operational issues that central banks and other relevant parties have encounter and must be considered before CBDC is suitable for wide-scale use (BIS, 2018).

- **Privacy concerns and requirements.** CBDCs raise sensitive privacy issues as they entail the collection and use of individual information and immutable records of transactions (Kshetri & Loukoianova, 2022). It is noted that there's a policy trade-off between anonymity and the risk for illicit use.
- **Cyber-security.** Cybersecurity is a persistent and significant risk to any digital payment infrastructure (BIS, 2016). the World Economic Forum, outlined some cybersecurity threats to CBDCs which includes: Credential theft and loss user roles and privileges, System integrity, Double-spending and Quantum computing.
- **Technological uncertainty.** being a Resource-Intensive and technology is still developing, choosing the best technology is deemed a challenge.
- **Infrastructure Dependency.** CBDC is highly relied on the availability of required infrastructure.
- **Unwillingness to adopt digital payments.** general population is suspicious and doubtful about CBDC and digital payments in general.

Possible Implication of Implementing CBDC to Rural Bank in the Philippines. effects of a CBDC as well as its implications for the payments, monetary policy and financial stability will significantly depend on its form and design.

Wholesale CBDC: Potential Problems and Implications to Rural banks

- **Connectivity.** since most of rural banks are located in rural and marginalized areas, one of the main problems in implementing CBDC is network coverage and internet connection stability.
- **Electricity.** as power outages is common in rural areas where rural banks most likely to operate.
- **Technological Capacity.** a rural bank must be able to provide its own technology system and an IT infrastructure which is in line with the minimum requirement mandated by the Central Bank as transactions using this CBDC are entirely digital.
- **Greater Role of Central Banks.** since central banks could assume more important roles, they could have a larger impact on lending and financial conditions of rural banks.
- **Exclusivity.** central bank can give exclusive perks and benefits for wholesale CBDC users, which can be used as a competitive advantage against smaller banks, like rural banks.

- **Greater Cyber Risks.** a successful cyberattack on a central bank implementing a centralized distributed ledger technology would be catastrophic it will largely affect participating Rural Banks.

Retail CBDC: Potential Problems and Implications to Rural banks

- **All Possible Problems and Implications that carried out by Wholesale CBDC to Philippine Rural Banking System.**
- **Competition**. a CBDC would give clientele a non-bank option to store their money risk-free and without limit which will affect rural banks' ability to source Deposit, Payment System and ATMs/Branches. In addition, an interest-bearing CBDC provides the central bank an opportunity to compete with existing banks (BSP, 2020), including Rural Banks. As this would likely increase the attractiveness of CBDC as a store of value and compete directly with other forms of interest-bearing instruments, such as bank deposits.
- **Disintermediation of Rural Banks.** CBDC could affect banking intermediation if it directly competes with bank deposits, which they emphasized that the extent of disintermediation will be greater among banks in more direct competition with CBDC.
- **Balance Sheet.** Because of the substitution happens when rural banks try to replace the lost deposit due to the introduction of CBDC, with other forms of funding like commercial paper, bonds, and equity, which is more costly and riskier, the structure of Rural banks' balance sheet will change significantly.
- **Rural Bank Runs.** CBDC could be perceived as a safe haven making bank deposits, particularly uninsured deposits, which is more volatile and thus increasing the risk of bank runs.

Conclusions: Rural Banks, as a partner of the government in rural development and financial inclusion, should always take it into account that flexibility and adaptability are necessary to survive in the changing banking system. CBDC could have a great potential to offer new opportunities for innovation, which may benefit the existing rural banks and also supports a competitive and diverse financial system (BIS, 2020). But the benefits that may gained from the issuance of a CBDC must be carefully weighed against its implications on the current banking system (BSP, 2020), especially for rural banks as they cater the financial needs in rural areas, which has a vital role in the development of a country. An Interest-Bearing Retail CBDC could be fatal to the struggling rural banks as it directly competes with rural banks source of deposits. As the efficiency in rural financial markets is a crucial objective in the formulation of monetary policy. it is necessary to strengthen rural bank's capacity to source deposit in order to stabilize the rural banking system to meet the credit needs of farmers and fishermen as well as of cooperatives and micro-small and medium enterprises in rural areas. Hopefully with the support of the government, Rural bank should begin to explore, adapt and innovate in the digital environment as well as develop the appropriate skillset in the new digital environment. In addition, rural banks should consider how their current systems may potentially need to be updated, integrated or retired based on design and feature of CBDC that the central bank may implement.

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