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THE FUTURE OF DIGITAL CURRENCY IN PAKISTAN

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Key Points:

- Digital currency is defined as any currency that exists only in electronic form and never takes physical form at any point in time.
- In the context of Pakistan, a risk-based approach is suitable, which involves conducting a thorough assessment of risks associated with adopting a digital currency.
- Keeping in view the weak fiscal position of Pakistan, hyperinflation, and debt financing, SBP could establish a hybrid and decentralised framework in collaboration with private entities or banks for CBDCs.

INTRODUCTION

Digital currency has been gaining popularity around the world within the realm of financial technology in recent years. There are thousands of digital currencies, ranging from Bitcoin, one of the most well-known fully decentralised currency reaching over USD 1.28 trillion in 2021, to stablecoins, which has a value of an underlying asset or a fiat currency like the US dollar.¹ The digital currency has grown from digital novelties to trillion-dollar technologies. As of 2022, the global cryptocurrency market is valued at USD 2,019 billion and is expected to grow further at a compound annual

rate of 12.1%, reaching USD 4,007 billion in 2028.² The digital currency is held as an investment and is used to buy goods and services, including digital real estate and software. As crypto remittance is 388 times faster and 127 times cheaper compared to the traditional methods, digital remittance and cross-border transfers are preferably increasing, reaching USD 95.96 billion in 2020.³ According to a report, digital cross-border remittances are expected to grow from USD 295 billion in 2021 to USD 428 billion in 2025.⁴ In light of the recent progress, it is notable that a growing number of states are actively exploring and adopting Central Bank Digital Currencies (CBDCs) as a substantial avenue for financial innovation. One hundred thirty countries are exploring a CBDC, 11 have fully launched it, and 20 are expected to take significant steps towards piloting a CBDC. Meanwhile, Pakistan is in the research stage

¹ Nikunj Gundaniya, "The Rise of Digital Currencies and Their Potential Impact on Traditional Banking," *Digipay. Guru*, January 31, 2023, <https://www.digipay.guru/blog/rise-of-digital-currencies-and-impact-on-traditional-banking/>.

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² Research and Markets, "Cryptocurrency Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2023-2028," March 2023, <https://www.researchandmarkets.com/reports/5769077/cryptocurrency-market-global-industry-trends#product--toc>.

³ Tech Desk, "Pakistan Ranks Third in Global Crypto Adoption Index," *The Express Tribune*, December 2, 2021, <https://tribune.com.pk/story/2331906/pakistan-ranks-third-in-global-crypto-adoption-index>.

⁴ "Cryptocurrency Ownership Data," *Triple-A*, accessed July 06, 2023, <https://triple-a.io/crypto-ownership-data/>.

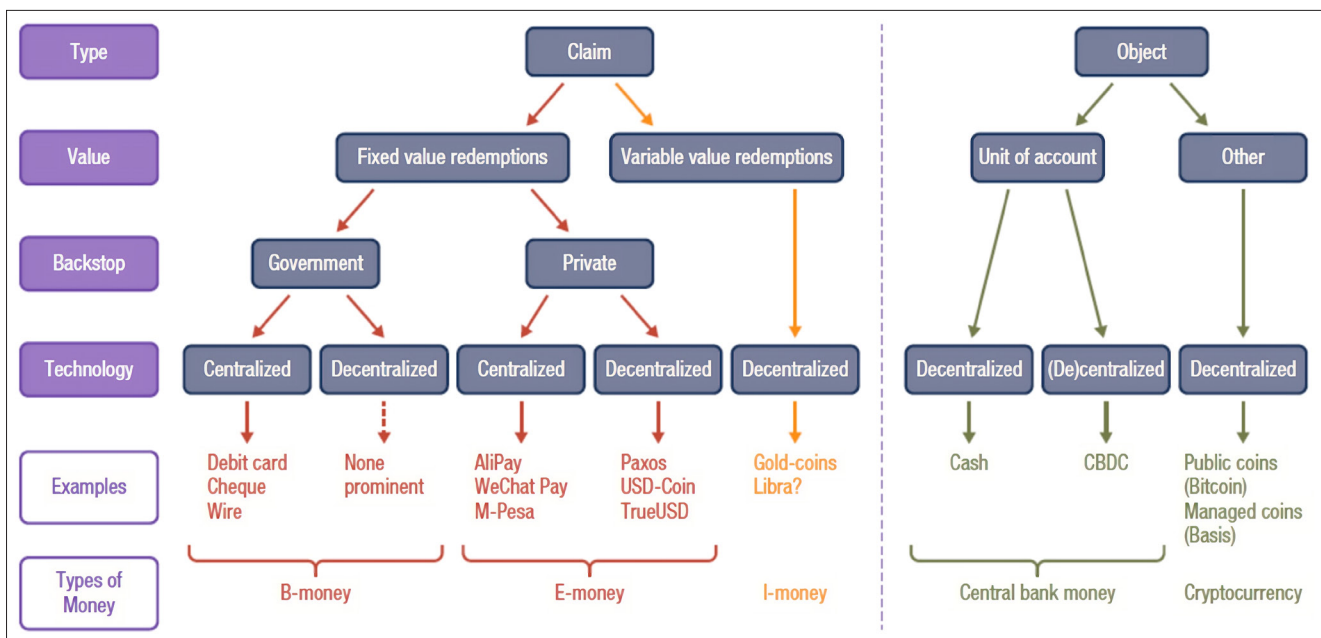


Figure 1: The Money Tree (Source: International Monetary Fund)

right now.⁵

DIGITAL CURRENCY: A CONCEPTUAL FRAMEWORK

Digital currency is defined as any currency which exists only in electronic form and never takes physical form at any point in time.⁶ This definition appears to be quite straightforward. However, various complex technologies, processes, exchanges, laws, and information play a crucial role in the background. In order to analyse how digital currency works, it is important to understand the fundamental attributes and types of money involved in the overall financial system. For this understanding, a conceptual framework of “Money Tree” is applied in this paper. This framework was proposed by Tobias Adrian and Tommaso Mancini-Griffoli in their research for the International Monetary Fund (IMF).⁷ There are four basic attributes of means of payments in the Money Tree: type (object or claim based); value (fixed or variable); backstop (government or private); and technology (centralised or decentralised ledger technologies/blockchain). Keeping in view these attributes, money could be divided into five types (Figure 1):

⁵ “Central Bank Digital Currency Tracker,” *Atlantic Council*, 2023, <https://www.atlanticcouncil.org/cbdctracker/>.

⁶ David Rodeck, “Digital Currency: The Future of Your Money,” *Forbes*, February 16, 2023, <https://www.forbes.com/advisor/investing/cryptocurrency/digital-currency/>.

⁷ Tobias Adrian and Tommaso Mancini-Griffoli, “The Rise of Digital Money,” *Fintech Note*, NOTE/19/01 (July 2019): 1- 5, <https://www.imf.org/en/Publications/fintech-notes/Issues/2019/07/12/The-Rise-of-Digital-Money-47097>.

- 1. Central Bank Money (CBM) & CBDC:** CBM is an anonymous, decentralised and object-based money that consists of traditional coins and notes issued by the central bank of the state, e.g., the dollar, the rupee. Unlike CBM, CBDC is an emerging type of money that would not be anonymous. It could be either centralised or decentralised, like Sand Dollar or Naira.
- 2. B-money:** It is claim-based money which is transferred through centralised technologies. It covers commercial bank deposits. However, these deposits are backed by the government and insured to a specific limit under proper regulations.
- 3. Crypto-currency:** It is a permissionless and object-based money often referred to as algorithmically stabilised value coins issued by non-banks, for example, Basis, Bitcoin, and Ethereum.
- 4. Electronic Money (e-money)/Stable Coins:** E-money is just like B-money, except it is not backed by the government, and its value solely relies on available assets for reclamation. However, e-money can also be issued by banks and through a block-chained technology, for instance, Gemini or TrueUSD. Terms like a stable coin, managed coin and fiat tokens are also used for them.
- 5. I-money:** It is like e-money, except its value could be reclaimed in terms of a variable amount of CBM along with the assets, for example, Novem, or Digital Swiss Gold (DSG).⁸

⁸ *Ibid*, 3-4.

DIGITAL CURRENCY LANDSCAPE

The advancements in technology and the emerging digitisation trend have a noticeable impact on the monetary and financial systems. Digital currency is the outcome of this drift. Currently, the largest pilot project of digital currency in the world is being carried out by the People's Republic of China in terms of circulation (261 million wallets) as well as amount (13.61 billion RMB). The e-CNY is the CBDC pilot project that began in April 2020 in just four cities in China: Shenzhen, Suzhou, Xiongan, and Chengdu. In 2022, it was extended to 25 cities with the sole objective of performing in China's domestic payment landscape. Research and development of e-CNY started in 2014. Winning free e-CNY through lotteries or giveaways played a major role in attracting people towards digital currencies. Issued and regulated by the government of China, e-CNY use would get a further boost via partnerships with a few biggest online shopping platforms. The exchange operations of cryptocurrencies have been banned in China since 2017, and transactions since 2021.⁹ Globally, 11 countries have fully launched a digital currency as a fiat currency, including Nigeria, Bahamas, Anguilla, Jamaica, and other Eastern Caribbean states.¹⁰

DIGITAL CURRENCY LANDSCAPE IN PAKISTAN

As per the Global Crypto Adoption Index 2021, Pakistan was ranked third, after India and Vietnam, out of 154 countries for adopting cryptocurrency in Central and Southern Asia.¹¹ In 2021, Pakistan had approximately two million individuals, 0.5 million web traders and 1.5 million (mobile) app traders dealing with cryptocurrency.¹² As stated by Rain Financial Pakistan's General Manager Zeeshan Ahmed, the industry has the potential to hit 10 million traders by the end of 2025.¹³ However, in the subsequent report of 2022, Pakistan's

⁹ Thai-Binh Elston, "China Is Doubling Down on its Digital Currency," *Foreign Policy Research Institute*, January 2, 2023, <https://www.fpri.org/article/2023/06/china-is-doubling-down-on-its-digital-currency/>; The Paypers, "China includes CBDC in its currency circulation report," January 12, 2023, <https://thepappers.com/cryptocurrencies/china-includes-cbdc-in-its-currency-circulation-report--1259816>.

¹⁰ Atlantic Council, "Central Bank Digital Currency Tracker," accessed July 06, 2023, <https://www.atlanticcouncil.org/cbdctracker/>.

¹¹ Chainalysis, "The 2021 Global Crypto Adoption Index: Worldwide Adoption Jumps Over 880% With P2P Platforms Driving Cryptocurrency Usage in Emerging Markets," October 14, 2021, <https://blog.chainalysis.com/reports/2021-global-crypto-adoption-index/>.

¹² Chainalysis, "The 2021 Global Crypto Adoption Index: Worldwide Adoption Jumps Over 880% With P2P Platforms Driving Cryptocurrency Usage in Emerging Markets," October 14, 2021, <https://blog.chainalysis.com/reports/2021-global-crypto-adoption-index/>.

¹³ Abdullah Mughal, "Pakistan among Top 3 Countries for Cryptocurrency Adoption?" *Business Recorder*, June 2, 2022, <https://www.brecorder.com/news/40177287>.

ranking dropped to sixth place.¹⁴ In 2018, the State Bank of Pakistan (SBP) issued a public advisory against digital currencies. This advisory stated that "digital currencies are neither recognised as a Legal Tender nor has SBP authorised or licensed any individual or entity for the issuance, sale, purchase, exchange or investment in any such currencies in Pakistan."¹⁵ SBP mentioned factors like high price instability, absence of legal protection, hacking threats, high level of anonymity and prospects of being used for funding illegal activities as fundamental reasons behind the nonacceptance of digital currencies in Pakistan.¹⁶

Meanwhile, SBP has been actively working on developing its own version of virtual currency, the CBDC. It is engaging in discussions with regional members to exchange knowledge and experiences on relevant macroeconomic policies and prospects of CBDC in the SAARC region. It hosted the 43rd SAARCFINANCE governor's meeting, where it welcomed the central banks and delegates to this regional meeting.¹⁷ Nevertheless, the government-backed centralised currency offers various prospects and faces certain impediments. One of the significant challenges in Pakistan with regards to the CBDC remains its regulation and implementation, which are thoroughly discussed in the next section.

REGULATORY FRAMEWORK: A RISK-BASED APPROACH

The over-optimism about the potential benefits of digital currency is limited if it is launched without prior interpretation of a regulatory framework. In the context of Pakistan, a risk-based approach is suitable, which involves conducting a thorough assessment of risks associated with adopting a digital currency, primarily a CBDC, and implementing appropriate regulatory measures accordingly. Following an overview of the prevailing legal regimes, this section explores the potential challenges in the way of regulating and implementing digital currencies.

Relevant Legal Regimes

A clear shift towards digitisation has been seen over the past few years. The major factor responsible for

¹⁴ Chainalysis, "The 2022 Global Crypto Adoption Index: Emerging Markets Lead in Grassroots Adoption, China Remains Active Despite Ban, and Crypto Fundamentals Appear Healthy," September 14, 2022, <https://blog.chainalysis.com/reports/2022-global-crypto-adoption-index/>.

¹⁵ External Relations Department, Public Notice: Caution Regarding Risks of Virtual Currencies, *State Bank of Pakistan*, April 06, 2018, <https://www.sbp.org.pk/warnings/pdf/2018/PBNT-VC.pdf>.

¹⁶ Ibid.

¹⁷ External Communications Department, "State Bank of Pakistan Hosts 43rd SAARCFINANCE Governors' Meeting and SAARCFINANCE Symposium," *State Bank of Pakistan*, May 3, 2023, <https://www.sbp.org.pk/press/2023/Pr-03-May-2023.pdf>.

this shift is SBP's drive for financial inclusion through digital means. In 2015, SBP launched Pakistan's National Financial Inclusion Strategy (NFIS) with the aim of including approximately 50 per cent of the adult population under the digital financial system by 2020. This strategy failed to deliver the results, and SBP saw a 1 per cent increase overall in 2020. SBP issued the Enhanced Financial Inclusion Strategy (EFIS) and the Regulations for Electronic Money Institutions in 2018 and 2019, respectively, to speed up the inclusion process.¹⁸ In November 2019, SBP launched National Payment Systems Strategy.¹⁹ By the end of 2022, the SBP announced that it is working on CBDCs to reap the benefits of distributed ledger technologies based on blockchain technology.²⁰ The main objective of this work is to analyse the cost and benefit analysis and jurisdiction issues.

SBP issued a regulatory as well as a licensing framework to establish digital banks in Pakistan in 2022.²¹ The core objective is to align Pakistan's national legal and regulatory framework vis-à-vis digital currencies with the FATF's global and legally binding regulations, guidelines, and standards to minimise the misuse of "virtual assets" for illegal activities like terror financing and money laundering.²² Pakistan plans to launch CBDC by 2025. The new regulations for Electronic Monetary Institutions (EMI), non-bank entities offering digital payment instruments, have been introduced by the SBP.²³ These regulations warrant preventive measures against terror financing and money laundering while considering consumer protection, complaint-handling mechanism and reporting requirements.²⁴

Navigating the Challenges

The successful implementation and widespread adoption of digital currency, particularly CBDC in the case of Pakistan, face a range of substantial impediments

¹⁸ Saddam Hussein and Abdul Jalil, "Is Pakistan Entering Into The Digital Currency Ecosystem?" *PIDE Knowledge Brief*, March 14, 2022, <https://file.pide.org.pk/uploads/kb-062-is-pakistan-entering-into-the-digital-currency-ecosystem.pdf>.

¹⁹ External Relations Department, "SBP Launches National Payment Systems Strategy during Visit of World Bank's President," *State Bank of Pakistan*, November 01, 2019, <https://www.sbp.org.pk/ps/NPSS.htm>.

²⁰ Reza Baqir, "The Rise of Digital Currencies and the Road Ahead," *State Bank of Pakistan*, February 06, 2022, <https://www.sbp.org.pk/about/speech/Governors/RezaBaqir/2022/Speech-06-Feb-2022.pdf>.

²¹ Salman Siddiqui, "SBP ponders digital currency launch," *The Express Tribune*, November 24, 2022, <https://tribune.com.pk/story/2387881/sbp-ponders-digital-currency-launch>.

²² "Virtual Assets," *FATF*, accessed July 06, 2023, <https://www.fatf-gafi.org/en/publications/Virtualassets/Virtual-assets.html>.

²³ "Pakistan Launches New Laws to Expedite CBDC Launch by 2025," *Elliptic Connect*, December 7, 2022, <https://hub.elliptic.co/news/pakistan-launches-new-laws-to-expedite-cbdc-launch-by-2025/>.

²⁴ Arijit Sarkar, "Pakistan Launches New Laws to Expedite CBDC Launch by 2025," *Cointelegraph*, December 5, 2022, <https://cointelegraph.com/news/pakistan-launches-new-laws-to-expedite-cbdc-launch-by-2025>.

that necessitate thorough examination. As the concept of CBDC is new, Pakistan has yet to regulate or approve it for utilisation adequately. CBDCs are purely digital products; our authorities are not geared to operate this advanced technology. On the one hand, digital currency presents numerous possibilities like reliable, secured and accessible transactions; on the other hand, it presents numerous challenges, including its complicated usage due to the lack of technical knowledge and financial literacy.

Challenges associated with digital currency extend beyond the borders of any particular state; however, unprepared states may be particularly vulnerable to these challenges. One of the pertinent issues emerging from the digital currency is the emergence of cybersecurity threats. Pakistan has 60 to 70 per cent infrastructure to introduce a digital currency, yet strict monitoring to shield it from cyber theft will pose a challenge.²⁵ Since CBDC is entirely digital, more people are expected to be scammed. A report released by the Cyber Digital Task Force in 2020 stated three illicit uses of digital currencies, namely, (1) financial transactions related to criminal activities, for instance, buying and selling of drugs and renting servers for cybercrimes; (2) money laundering and tax avoidance; and (3) stealing directly through hacking and scamming investors.²⁶

Another issue remains with the internet and account penetration rate. Although the internet penetration rate has seen a rise every year in the country (Figure 2), the level of banking penetration remains unsatisfactory. Pakistan's population accounts for 2.8 per cent of the world's population, yet 8 per cent of the world's unbanked population resides within the state. This imbalance is evident in the country's low topline financial inclusion indicator, which has remained stagnant at 21 per cent from 2017 to 2021.²⁷ In the last decade, only 20 per cent of Pakistan's total population continued using digital financial services. The rest of the 80 per cent is still relying on traditional cash money, which makes financial transactions anonymous as well as untraceable. Pakistan is competing with regional and global peers to digitise and upgrade its financial systems, yet financial exclusion and high usage of cash remain the major obstacles.²⁸

²⁵ Salman Siddiqui, "Pakistan Aims for Digital Currency," *The Express Tribune*, April 19, 2021, <https://tribune.com.pk/story/2295486/pakistan-aims-for-digital-currency>.

²⁶ Office of the Deputy Attorney General, *Cyber Digital Task Force: Cryptocurrency Enforcement Framework*, (Washington, D.C.: United States Department of Justice, October 2020), 5-15, <https://www.justice.gov/archives/ag/page/file/1326061/download>.

²⁷ Naeha Rashid, "Pakistan's Unbanked," *Tabadlab*, August 12, 2022, <https://tabadlab.com/pakistans-unbanked/>.

²⁸ Khurshid Ahmed, "Pakistan 'Very Carefully' Treads Path to Launching Own Digital Currency — Central Bank," *Arab News*, November 24, 2022, <https://www.arabnews.pk/node/2205116/pakistan>.

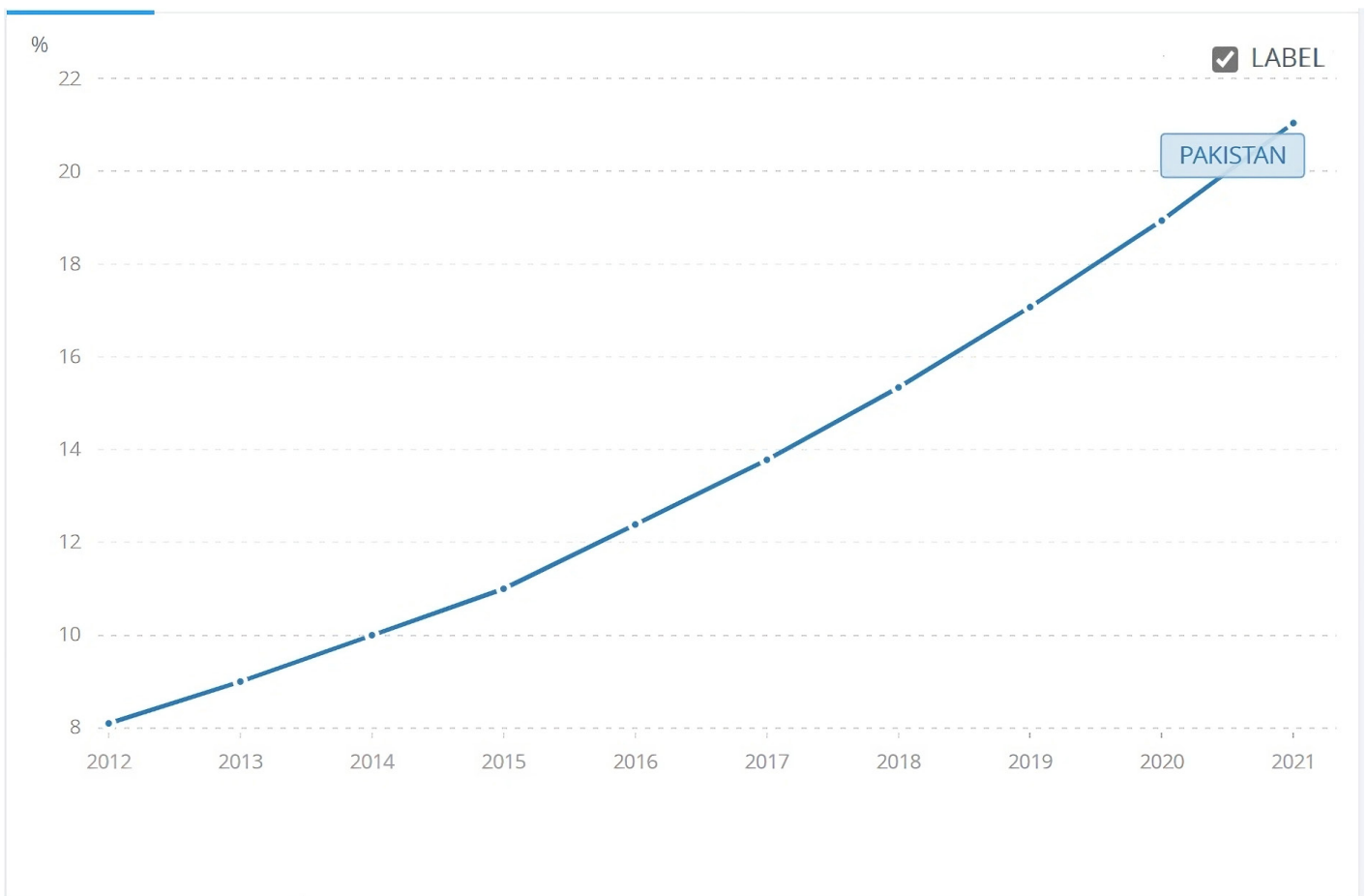


Figure 2: Individuals using the Internet - Pakistan (Source: The World Bank)²⁹

FUTURE OUTLOOK

The future of digital currencies in Pakistan depends on the value stability and role of the SBP. Despite the capacity for higher capital gains, cryptocurrency is the least favourable option because of its unpredictable value fluctuation. By virtue of the system variation option in their designs, the managed coins show fewer value fluctuations as compared to cryptocurrency. On the spectrum of value stability, e-money lacks value stability because it does not have the government's support for the reclamation. Furthermore, they are also exposed to risks like default and liquidity.

As of now, Pakistan has only allowed non-banking entities to issue e-money, not banks. In the case of the CBDC framework, SBP has two options. In the case of the first option, SBP could design a framework where it can hold the maximum power. It can act as the central operator of the CBDC and be responsible for all related operations like offering wallets, selecting underlying technologies, monitoring transactions, managing payment settlements, data management, and customer service. In the second option, SBP could establish a hybrid and decentralised framework in collaboration

with private entities or banks. Except for payment settlements, private entities or banks could handle all other operations.

Is CBDC a good or bad option for Pakistan? No matter what framework and underlying technology SBP would choose, CBDC is so far the cheapest and safest option for Pakistan. However, the ultimate success or failure of CBDC mainly depends on SBP and the level of power and responsibility it is willing to take up through a regulation mechanism.

Another important factor is public awareness vis-à-vis digital currency. According to the survey conducted by the Economist Intelligence Unit, the lack of fundamental understanding is the major barrier when it comes to the adoption of digital currency.³⁰ As discussed in the previous section, SBP is already struggling to include its adult population in the existing digital financial system. With approximately 80 per cent of the population outside the basic digitalised financial system, SBP could face serious issues in creating awareness regarding digital currencies in Pakistan.

SBP is committed towards openness, adoption of

²⁹ "Individuals Using the Internet (% of Population) - Pakistan," *The World Bank*, accessed July 03, 2023, <https://data.worldbank.org/indicator/IT.NET.USER.ZS?end=2021&locations=PK&start=2012&view=chart>.

³⁰ "Digitality: Fear and favouring of digital currency," *The Economist*, April 2020, <https://digitalcurrency.economist.com/wp-content/uploads/2020/04/EIU-Crypto-Digitality.pdf>.

technology and digitisation of our financial system.³¹ The introduction of CBDC in the country presents a range of opportunities and the potential to address longstanding threats. As the concept itself has arisen from its critics who prefer centralised and regulated digital currency, CBDC will resolve issues such as market volatility, inequality, empowered criminal groups and rogue states, et cetera.

Digital currency can divert capital from illegal crypto to legal digital currency. It can limit the prevalent shadow economy by introducing transparency and accountability. Former finance minister of Pakistan emphasised the need to safeguard financial institutions by introducing EMI, which will encourage the growth of the digital economy and e-commerce within the nation.³² Digital currency can create new value-added in the economy and reduce transaction costs, including across borders. It is an initiative that strives for the right balance between welcoming technology and maintaining protection and stability for consumers.

RECOMMENDATIONS

A risk-based approach should be followed by the state, as it involves the assessment of risks associated with digital currency adoption.

The key components of a beneficiary regulatory framework may include legal and regulatory clarity, financial stability and monetary policy, cybersecurity and resilience, Anti-Money Laundering (AML) and Counter-Terrorist Financing (CTF) measures, robust customer protection, and interoperability and standards.

Keeping in view the weak fiscal position of Pakistan, hyperinflation, and debt financing, the hybrid and decentralised framework in collaboration with the private entities or banks would give the SBP firm control over the reserves while saving itself from the risks involved in other operations. The hybrid framework would enhance customer trust due to the presence of SBP while ensuring healthy competition, efficiency and technological innovation among the private entities or banks.

Pakistan must always establish its national legal and regulatory framework vis-à-vis digital currencies in accordance with the FATF's global and legally binding regulations, guidelines, and standards to minimise the misuse of "virtual assets" for illegal activities like terror financing and money laundering.

³¹ Ibid.

³² Khurshid Ahmed, "Pakistan to Tap into Digital Currency Potential by 2025," *Arab News*, April 3, 2019, <https://www.arabnews.pk/node/1476496/pakistan>.