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SOUTH KOREA'S CRITICAL MOMENT IN DIGITAL CURRENCY POLICYMAKING: BETWEEN REGULATING CRYPTOCURRENCIES AND LAUNCHING A CENTRAL BANK DIGITAL CURRENCY (CBDC)

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ABSTRACT

Why is South Korea pilot-testing its Central Bank Digital Currency (CBDC), and what made it shift from non-issuance to consideration? This paper investigates the Bank of Korea (BOK)'s CBDC-related developments amid the geopolitical contest between the U.S. and China. It examines the Moon Jae-in administration's defiance of decentralized finance (DeFi) and the BOK's sudden shift from non-issuance to potential issuance, which led to expedited research, development, and pilot-testing of CBDCs. As in the case of the digital yuan, the BOK envisions a hybrid architecture for the digital won, wherein central banks and associated partner institutions are CBDC distributors, though they are distinguished by placing the digital won on distributed ledger technology rather than by centrally controlling it. However, South Korea's previously rash decision to forego DeFi under an undemocratic process has deprived the country of the time and opportunity to develop new innovations as a leading country in the digital frontier. By sticking only to digitalizing centralized finance, the country now aims to be in "standby" mode for its CBDC launch if and when required, so as not to fall behind in digital financial architecture. This paper scrutinizes the South Korean government's moves on crypto and CBDCs and argues that 1) the Moon administration has shown incapability in addressing DeFi amid the crypto boom and bust, and 2) the BOK's shift from non-issuance to potential issuance of the digital won is driven by its interest to uphold central bank independence amid swaying geopolitics between the U.S. and China and an unpredictable upcoming presidential election in South Korea.

Key Words: *central bank digital currencies (CBDC), cryptocurrencies, stablecoins, central bank independence, Bank of Korea (BOK)*

INTRODUCTION

Why is South Korea serious about launching CBDC in the post-pandemic era? What has prompted the Bank of Korea to transition from non-issuance to possible issuance of CBDCs? Exiting the Global Financial Crisis (GFC), central banks have been scrambling to lay out a blueprint for a global measure on digital currencies, and the Bank of Korea (hereafter the BOK) has been no exception. Prior to

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2018, the BOK's position on CBDCs had been very much in line with other major central banks in terms of not even considering the launch of CBDCs. This was reflected largely by the Bank of International Settlements (BIS), representing the views of major central banks around the world.[1]

During the GFC, a seminal paper on bitcoin that used distributed ledger technology (DLT)—otherwise known as "blockchain"—was written under the pseudonym "Satoshi Nakamoto."[2] It pointed to underlying issues in the existing financial system and suggested a new method to overcome them, building on previous work on chronologically connected time stamps to prevent data fraud.[3] The paper established three core concepts of a blockchain: 1) a decentralized structure, in which a point of failure does not exist; 2) the sharing of the electronic document to prevent manipulation of the e-document; and 3) encrypted connectivity via all pages (blocks) and passwords. Witnessing that the U.S. Federal Reserve (hereafter the Fed) failed to maintain the dollar's value in the GFC, what the DLT proposed was a method of renewal in digital finance in which transactions would no longer require dependence on financial authorities that wielded a tremendous amount of centralized power (i.e., central banks, financial institutions), and instead relied on encryption to replace the trust that had been bestowed upon financial authorities.

Although the Fed had been eyeing this technology as a future medium of transaction,[4,5] it was not until the rise of cryptocurrencies (e.g., Bitcoin, Ethereum) that blockchains took off. Their skyrocketing and plunging prices in boom-bust cycles in tandem with their expansion of the realm of *decentralized finance* (hereafter DeFi) has been riling up the gatekeepers of *centralized finance* (hereafter CeFi)—central banks—around the world. The critical threat to central banks is not only the rise of cryptocurrencies but also stablecoins (e.g., Tether, Binance USD, USD Coin)—cryptocurrencies that are pegged to a legal currency such as the U.S. dollar or a commodity such as gold.

Central banks—mainly those of Europe and North America that built the current post-war global financial architecture centering on the U.S. dollar as the key reserve currency—perceived a potential shakeup in the existing system by the rise of DeFi. Adding to the pressure was the People's Bank of China (PBOC)'s movements to develop and pilot-test the digital yuan, which is not even on blockchain.[6] During the COVID-19 pandemic, U.S. policymakers also saw the positives of having a digital U.S. dollar that would be legally issued by the Fed for an efficient distribution of emergency funds and stimulus packages.[7] In addition, the U.S. came to the realization that it could no longer hold off on taking some action to harness the expansion of DeFi that may continue into the coming years and cause CeFi to wane.[8] The Fed has thus shifted opinions from its original stance of rejection to discussing the possibility of issuing a digital dollar.[9]

Amid this shifting landscape, this paper investigates South Korea's policy choices in response to the developments on CBDCs, pressured by domestic and external forces. By process-tracing the South Korean government's unprecedented crackdown on DeFi and the BOK's turnaround to emphasize CeFi, it argues that South Korea's actions to curb cryptocurrencies as stipulated in the controversial pan-government measures[10] were a rushed effort to find ways to maintain existing financial authorities and political institutions. As it stands, the BOK struggles to sustain its role and independence, which in turn is potentially challenged by cryptocurrencies, stablecoins, and possibly the issuance of other CBDCs that it may be in competition with in the coming years. Following the introduction, section two addresses the geopolitics and issues of central bank independence involving CBDCs, and section three lays out the argument that guarding central bank independence is the core interest of the BOK's policy turnaround and expedited actions on CBDCs. Section four details the developments thus far and the methods being pilot tested for the digital South Korean won by the BOK. Section five concludes with policy recommendations for the road ahead.

GEOPOLITICS AND CENTRAL BANK INDEPENDENCE AT STAKE BY CBDC LAUNCH

Post-Pandemic Inflation and the U.S. and China Stances on CBDCs

During the initial two years of the COVID-19 pandemic, the Chinese Communist Party (CCP) showed an array of tactics to strengthen its leadership. In the U.S., political pressures are growing regarding inflation in the aftermath of continuous quantitative easing (QE) and stimulus packages distributed by the Biden administration, putting the Fed under scrutiny and policy pressure. The dividing line between the two countries' approach to managing the pandemic and tackling inflation pressures derive from the stark differences in domestic power structure and role of institutions. China's centralized and top-down approach contrasts with the U.S.

emphasis on the Fed's independence and congressional procedures. In the case of regulating crypto assets and pursuing CBDCs, China has outlawed crypto, while the U.S. is regulating crypto but not outlawing it. Before showcasing the digital yuan during the Beijing Olympics in February 2022, China quashed big-tech companies operating e-payment systems (e.g., Alibaba, Tencent) and outlawed all crypto domestically to ensure that the digital yuan issued by the PBOC is the only legitimate digital currency in its jurisdiction.

China's digital yuan, or e-CNY, is only a substitute for M0 (total amount of currency in circulation in public hands or commercial bank deposit form held in the central bank's reserves) and pays no interest—in other words, it is only a substitute for fiat renminbi but centrally administered by the PBOC and controlled by the CCP. It is centrally monitored and managed and is not on blockchain.[11] The e-CNY pilots were first launched at the end of 2019 in Shenzhen, Suzhou, Xiong'an, Chengdu with the 2022 Beijing Winter Olympics in mind, and expanded to Shanghai, Hainan, Changsha, Xi'an, Qingdao and Dalian from November 2020. The Yangtze River Delta, the Pearl River Delta, the Beijing-Tianjin-Hebei region and China's central, western, northeastern and northwestern regions are now part of the pilot as of July 2021.

The Fed is not as far along in launching a digital dollar and has only recently been open to public comments regarding a potential CBDC upon publishing an initial paper,[12] although the discussion has been ongoing in the private sector.[13] The latest move in the U.S. toward CBDCs is the Project Hamilton Phase 1, conducted by the Boston Fed's joint research with the Massachusetts Institute of Technology's Digital Currency Initiative (MIT DCI).[14] The Fed saw a contending form of currency at home—in the form of Facebook (now Meta)'s initial agenda for its proposed digital currency, "Libra 1.0"—which led to U.S. financial authorities quashing big tech's potential for digital currency. Still, Libra was a catalyst for the PBOC to proceed with developing the digital yuan.[15] Had Libra been deployed, the U.S. could have benefitted from having leverage against China's digital yuan development. However, its subsequent form—"Libra 2.0," later dubbed "Diem,"— eventually came to an end under regulatory pressures.[16] Noting that the Fed has consistently defended central bank independence against cryptocurrencies and stablecoins citing market disruption—actions which were compounded by the regulations on crypto through the U.S. Securities and Exchange Commission (SEC)[17] and the U.S. Treasury's shift from dissent to admittance of "urgency" to issue a CBDC against the rise of crypto and stablecoins—it may well be perceived that the idea of a CBDC is a countermeasure for the Fed to any potential contending digital currencies.

CBDCs as a Means for Policy Dominance in Global Finance and Central Bank Independence

In understanding how China and the U.S. got to this point regarding CBDCs, it is worth noting that China's economic standing is considerably different from a decade ago, when major economies were pulling themselves out of the rubble of the Global Financial Crisis. Then PBOC governor Zhou Xiaochuan had argued for reforming the international monetary system, displaying dissatisfaction regarding China's limited say in global finance in relation to the large scale of its economy, and demanded greater authority in the International Monetary Fund (IMF).[18] In the decade since the GFC, China has sought global dominance by engaging in a geopolitical and geoeconomic powerplay outside existing institutions, via the Belt and Road Initiative (BRI) launched in 2013 and the Asian Infrastructure Investment Bank (AIIB) launched in 2015. The Chinese yuan was eventually included in the IMF basket of currencies in October 2016 (Table 1), but China has remained dissatisfied with the rules and mechanisms led by the Board of Directors, the overall assessment of renminbi (RMB) cross-border transactions via RMB internationalization, and the fiat renminbi cross-border transactions by several clearing houses installed across the globe that are not on par with the usage of the dollar.[19]

For a China that is unhappy with the existing structure of global finance, dominance in the digital currency realm would be a policy option to pave the way for the Chinese currency to gain momentum and acceptance in the form of increased transactions. While salient efforts by the Chinese government to set up RMB clearing houses were visible in the earlier phases of RMB internationalization, they are no longer prevalent. The CCP's strategy now appears to be a combination of the following: 1) petroyuan, 2) gradual financial liberalization, and 3) increasing the usage of the yuan via the BRI. As early as Xi Jinping's first term, China saw a first-mover advantage in digitalizing its currency to help internationalize the RMB by improving cross-border payments, and thus has discreetly pursued the strategy prior to the pandemic.[20]

Table 1. Who's in Charge on CBDCs: Central Bank Independence in China, Korea, and the U.S.

Country	People's Republic of China	Republic of Korea	United States
Political System	Unitary Marxist-Leninist one-party socialist republic	Unitary presidential re-public	Federal presidential constitutional republic
Central Bank	People's Bank of China (PBOC)	Bank of Korea (BOK)	The Federal Reserve Board (FRB)
Bureaucratic Autonomy *(Central Bank Independence)*	None (Policy executor required to implement the policies of the CCP)	Sought but contested (Central bank independence sought by BOK under the BOK Act)	Upheld by strong policy focus on central bank independence
Head of Central Bank	Governor Yi Gang	Governor Lee Ju-yeol	Chairman Jerome Powell
Dominant Decisionmaker	Xi Jinping General Secretary of the Chinese Communist Party (CCP) Chairman of the Central Military Commission Leader of the Central Financial and Economic Commission (since 2018)	Domestic pressures by the VIP (Presidency), the executive branch (MOEF) and other financial institutions; External pressures (i.e., Fed)	Jerome Powell 16th Chairman of the Fed (since 2018) Board of Governors
Reserve Currency Status	Yes (Included in IMF's SDR since October 2016)	No	Yes (since 1944)
CBDC Development Stage	Pilot-Test (Digital yuan showcasing at the 2022 Beijing Winter Olympics)	Pilot-Test (Stage 2)	Research and Development
CBDC Architecture for Pilot-Test	Hybrid architecture (PBOC and associated partner institutions)	Hybrid architecture (BOK and associated partner institutions)	Not decided Modest test-run (Project Hamilton Phase 1 by the Federal Bank of Boston and the Massachusetts Institute of Technology's Digital Currency Initiative)
CBDC Infrastructure for Pilot-Test	Centrally controlled (not on blockchain)	Ethereum Distributed Ledger Technology (Blockchain)	

Source: Author's compilation

The key component in understanding the various pathways toward a CBDC launch is the level of bureaucratic autonomy—or central bank independence—exercised by different countries (Table 1). Central bank independence is heavily influenced by political systems. Although the PBOC has been rising as a domestic policymaking actor,[21] its digital yuan launch is a top-down policy execution effort guided by the State Council and the Central Financial and Economic Affairs Commission which Xi Jinping (not Premier Li Keqiang) has presided over since 2018. Meanwhile, the Fed continues to enjoy considerable monetary policy discretion domestically in addition to being the international lender of last resort, exerting global policy influence of the dollar as the key reserve currency. Although the U.S. President nominates the chairperson of the Fed and Chairman Jerome Powell was reappointed by Biden, the nomination goes through Congress, which would also need to approve the Fed's issuance of a digital dollar.

South Korea's case presents a hybrid between the two. In the South Korean political system, central bank independence has been contested and advocated for by being written into law but is not always guaranteed in practice. Based on the revised BOK Act in 2012, BOK governors are required to go through a nomination hearing process by the National Assembly in addition to the process at the State Council[22] and serve fixed terms regardless of political leadership transition. The current BOK Governor Lee Ju-yeol was appointed by Park Geun-hye, and in a rare instance, was reappointed by Moon Jae-in. However, Moon will need to appoint a new governor when his term ends on March 31, 2022, which means a nomination is required in early March, around the presidential election on March 9.

ARGUMENT: CENTRAL BANK INDEPENDENCE AT THE CORE OF BOK'S POLICY SHIFT

The Lingering Question about Central Bank Independence in South Korean Democracy

The speedy progress of China's CBDC pilot-tests has coincided with the contactless mode of everyday life in the pandemic, prompting central banks including the Fed and BOK to reconsider CBDCs. Currently, many country responses to CBDCs are being delivered in tandem with regulations on cryptocurrencies.[23] The reason behind many central banks' earlier reluctance to incorporate digital finance is that it took decades for them to build a sophisticated global financial system that has given them power and leverage, and they fear losing monetary decision-making power and discretion which would in turn dismantle the existing system. Central banks are now grappling with the challenges from DeFi, as its relevance increases by the day when central banks' traditional role for price stability and management of economic fluctuations is challenged during the pandemic by stimulus packages and years-long quantitative easing (QE).

Central bank independence lies at the core of the issue. In the case of the PBOC, it is only in an executing role without autonomy in monetary policy. Conversely, central bank independence is sacrosanct and staunchly defended by the Fed, although to a lesser extent in the case of the BOK. The BOK has been pained by domestic political pressures and external forces throughout its existence. Although its independence is stipulated in Article 3 of the Bank of Korea Act,[24] the BOK is not entirely free from political pressures by the Ministry of Economy and Finance (MOEF) and even the Blue House. At the same time, if the Fed raises interest rates, the BOK will have to do so as well to prevent capital flight or hot money outflow. For this reason, albeit in differing degrees compared to China's crackdown of digital currencies, both the U.S. and South Korean governments are considering limiting digital currencies by taxation, if not outlawing them altogether, and taking very slow and incremental steps on CBDC launches. Most central banks in the free world, excluding the case of the Sveriges Riksbank, the central bank of Sweden, remain in the digital currency development, study or pilot-test phase.[25]

In line with this broader trend, South Korea has not been successful in coming up with a creative solution on DeFi and CeFi. Rather, the past few years were spent merely on tackling speculative behavior via taxation or some other form of crackdown. Financial supervision in the digital economy does not fall under the BOK's discretion since the revision of the Bank of Korea Act in 1998, and thus incapability in policymaking or silence on crypto crackdown cannot be attributed to the BOK. But its current moves to expeditiously pilot-test CBDCs reflect a direction of policymaking in a reactionary, defensive mode whereby it looks to external developments by the PBOC and the Fed, and to domestic changes expected due to political leadership transition in 2022. It remains to be seen whether the BOK's actual launch of CBDCs will go through a legislative process in South Korea after the presidential election is held on March 9, 2022. Depending on who becomes president, the directions on digital currency policymaking may differ. Moon Jae-in will remain seated at the Blue House until May 9, 2022, and policy changes, if any, would occur in tandem with the leadership transition.

BOK's Pursuits: Hedging for Control over DeFi or Looking to the Digital Future via CBDCs?

It is difficult to tell at this point whether the BOK is hedging for the future of digital economy or simply trying to hold a grip on financial power by maintaining control over monetary policy. What the BOK has continuously expressed officially is a concern on developing trends externally, mainly other central banks' acceptance of the idea of CBDCs. This is a clear divergence from pre-pandemic years when there was no expressed intent from the BOK to consider a digital South Korean won. The BOK statements thus far only point to the changes in the international environment where other central banks are shifting their positions to accept the idea of CBDCs, flatly denying that it is set on launching CBDCs in the foreseeable future (a defense mechanism so as not to cause a rift among players in domestic finance) but indicating it would prefer to be ready when swift action is required. While that may provide justifications for the policy change, external pressures alone do not provide sufficient grounds for the BOK's policy shift.

What are not expressed alongside the publicly stated external factors are domestic factors. More specifically, the BOK is on a tight schedule to produce a technical design for CBDCs by working with a domestic private sector partner (Ground X) on blockchains. Additionally, the BOK must gauge the economic impact and consider how to best protect its interests amid potential revisions to the Bank of Korea Act, as presidential hopefuls have called for some validation of crypto assets. This may further jeopardize the policy discretion and central bank independence of the BOK if it does not have any digital mechanisms of its own when a new administration is inaugurated by May 2022. The BOK is therefore on a mission to guard its monetary policymaking role at all costs by ensuring that CeFi does not get deterred by DeFi, by trying to complete the second stage of pilot test by June 2022 (Table 2).

SOUTH KOREA'S CRITICAL MOMENT ON DIGITAL CURRENCIES

The Undemocratic Crackdown on Crypto under the Moon Jae-in Administration

Thus far, South Korea has maintained that legal validation of crypto assets would not be permissible due to speculation and instability. Under President Moon Jae-in, rising unemployment rates and rapidly rising real estate prices exacerbated by failed policies have contributed to speculative endeavors in stocks and cryptocurrencies, largely among people in their 30s and 40s. Fearing the impact of speculative behavior in crypto markets, on December 28, 2017, the Office for Government Policy Coordination (consisting of the Prime Minister's Office with the Prime Minister's Secretariat, then held by Lee Nak-yeon), the Moon administration launched a pan-government effort to uproot speculation on crypto, namely by enforcing the use of legal names on crypto accounts, penalizing crypto-related crimes through the Prosecutors' Office and the Korea Police Agency, and abolishing crypto trading houses as suggested by the Ministry of Justice.[26] The timing coincided with China's banning of initial coin offerings (ICO) for crypto on September 4, 2017. While Moon's government did not outlaw crypto, it instead prohibited the opening of new anonymous crypto accounts (wallets) in cryptocurrency trading houses under the new regulatory measures, and eventually began a gradual clampdown on cryptocurrency trading houses in South Korea by ordering them to operate only under legal names for accounts from September 25, 2021, voiding the nature of anonymity in crypto trading and DeFi.

Initially the Moon administration refrained from or delayed any policy discussion on outlawing crypto, fearing political backlash from younger constituents, but towards the end of his term has announced plans to tax crypto assets (now delayed until 2023 after the presidential election has been concluded). On November 25, 2021, the judicial branch added to the controversy by dismissing a constitutional petition against the Moon administration's regulatory measures on crypto by a 5:4 decision—giving a green light to the executive push toward crypto regulation.[27] Dissenting opinions from the four judges stressed that such regulations occurred in the absence of deliberative democratic process through legislative efforts at the National Assembly.[28] Meanwhile, South Korean financial authorities—both the Financial Services Commission (FSC, a government agency) and the Financial Supervisory Service (FSS, a private agency)—during Moon's term avoided and delayed discussing or enacting policies regarding the issue of consumer protection amid the cryptocurrency boom and bust, and turned a blind eye to the alleged cyber-hacking of South Korean crypto trading houses by North Korea, jeopardizing investor interests.

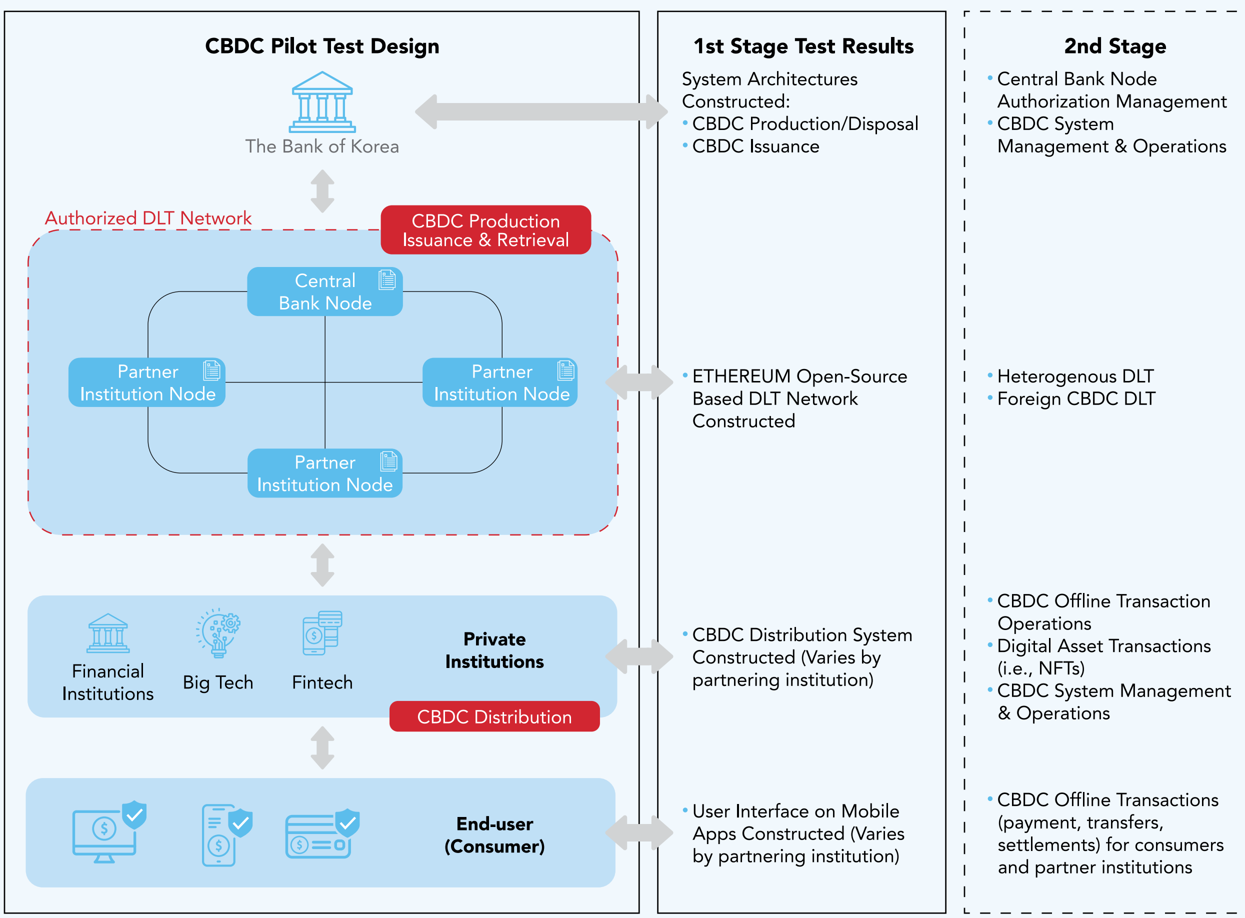
Domestic and External Forces that Compelled the Idea of CBDCs

Leading up to the 2022 South Korean presidential election, campaign pledges on crypto became competing slogans without teeth. Lee Jae-myung, as the progressive candidate, has proposed legalizing crypto asset trading and crypto ICOs, while conservative candidate Yoon Seok-yeol has campaigned on the idea of tax exemption up to 50,000,000 KRW ($42,000) per year, coupled with additional strategies to protect investors of digital assets. Ahn Cheol-soo, a contending candidate with a background in information technology, has criticized the Moon administration's shallow knowledge and misperceptions of blockchains and cryptocurrencies, highlighting the absence of legal mechanisms to protect consumers or transparency and focusing only on taxation, and hinted that the launch of CBDCs would be the biggest threat to cryptocurrencies.

The BOK conducted the first stage of its CBDC pilot test from August to December 2021 and is currently on the second stage with partner Ground X until June 2022 (Figure 1, Table 2).

The BOK's moves toward pilot studies on a CBDC may have been prompted not only by the PBOC's moves, but also BIS reports on DLT and its plausible deployment for launching CBDCs.[29] In effect, this suggests the BOK sought to read the policy intentions of the Fed and the European Central Bank (ECB) as well as the PBOC. The BIS reports were very cognizant of the PBOC's developments but sought to deploy blockchains instead of pursuing a centralized version as China has. Nevertheless, there is no global consensus on a designated model or the timing of a launch amongst "like-minded" central banks, albeit discussions are ongoing in multilateral institutional settings such as the G20, BIS, and IMF. The models of plausible CBDC launches vary by jurisdiction and central bank governance structure, due to the variance in political systems and monetary policy decision making. In the case of the U.S., Congressional approval will be required for a CBDC launch, as indicated by Lael Brainard's nomination hearing on January 13, 2022, calling for the U.S. Congress to explore the idea of a CBDC launch.[30]

Figure 1. South Korea's Envisioned CBDC Form based on Distributed Ledger Technology (DLT, or Blockchain)



Source: Visualized and combined by author based on BOK documents

Table 2. Contemplating a Digital Korean Won: The BOK's Developments on CBDCs

BOK Moves on CBDC Launch following the Moon Jae-in Administration's Regulatory Measures on Speculative Investments via the Financial Services Commission (December 28, 2017)				
Date	**Developments**	**Related Publication**	**BOK**	**Other Entities**
January 9, 2018	BOK holds intra-agency kick-off meeting to launch cryptocurrencies and CBDC research	Press release: "BOK to establish a Cryptocurrencies & CBDC Joint Research Task Force"	Financial Transactions Bureau	No external entities
March 2018	Examines relevant laws including Article 3 on "Central Bank Independence" of the *Bank of Korea Act* (as amended on March 29, 2016) Simulation model suggests that CBDC is not subject to zero lower bound interest rates, and better allocation of resources is achieved under a monetary system with CBDC	"A Study on CBDCs" • Points of law upon a CBDC launch • A Model of CBDC	Financial Transactions Bureau Payment Systems Research Team	Professors of law and economics in South Korea as external consultants The report explicitly states the findings are only by the authors and not of BOK's views
July 2018	Explores economic and legal characteristics of crypto assets as means of payment and eligibility as currency; underlines issues' negative impacts on central bank's operations (settlements, financial stability, monetary policy)	"Crypto Assets and the Central Bank"	Main authors from the Financial Transactions Bureau	No external entities
January 2019	Defines CBDCs, categorizes different methods of operation, and addresses CBDCs' impact on central bank operations (settlements, monetary policy, financial stability, and issuance) and calls for Bank of Korea Act to be revised if CBDC is launched	"Central Bank Digital Currencies (CBDC)"	Main authors from the Financial Transactions Bureau	No external entities

Date	Developments	Related Publication	BOK	Other Entities
February 2019	Examines impact of CBDCs on financial stability. Assumes CBDCs as a national currency-denominated, interest-bearing and account-based claim on the central bank which is accessed by the people via direct deposit.	BOK Working Paper: "Central Bank Digital Currency and Financial Stability"	Co-authored by Young Sik Kim, professor of economics at SNU and Ohik Kwon of BOK	The report explicitly states the findings are only by the authors and not of BOK's views
February 5, 2020	Newly establishes a Digital Currency Research Team and tech team within the Financial Transactions Bureau. Compares CBDC studies and pilot tests by category (by quantity of transactions and plans to launch); states plans to create task force on digital currencies and technology by additional hires and to review technical and legal issues of a CBDC launch	"A comparative analysis of 17 major central banks' responses to CBDCs" (Canada, Singapore, France, Switzerland, Uruguay, Bahamas, Cambodia, Ecuador, China, Turkey, Sweden, European Union, U.S.A., UK, Japan, Australia and Russia)	Main authors from the Financial Transactions Bureau; summarizes BOK projects conducted on money transfers (September 2017-January 2018), small transactions (September-December 2018) and ongoing test on simultaneous settlements of payments for securities	No external entities
April 2, 2020	CBDC pilot test launch announced; stresses the need for the central bank's "preemptive" measure to prepare for transformations in the method of settlements by reviewing technicalities and legal aspects of CBDC; does not suggest launching CBDCs soon	Press release: "BOK to pilot-test CBDCs"	Financial Transactions Bureau Digital Currency Research Team	Indicates further work with external consulting agencies on proposed CBDC design and tech requirements Further cooperation and monitoring with other central banks worldwide
May 18, 2020	Releases survey results from 14 other central banks and their 12 projects as case studies	Press release: "A Survey of foreign Central Banks' CBDC projects focusing on technical developments" (Norway, East Caribbean, Bahamas, Sweden, Switzerland, Singapore, UK, Japan-ECB, China, Canada, Thailand-Hong Kong, France)	Financial Transactions Bureau Digital Currency Research Team	No external entities

Date	Developments	Related Publication	BOK	Other Entities
June 15, 2020	Legal Task Force for CBDC launch hired by BOK for a term of one year (until May 2021)	Press release: "BOK establishes CBDC Legal Advisory Board"	Financial Transactions Bureau	Three South Korean law professors, two lawyers, and a BOK official on Legal Institutions coordinated by the Financial Transactions Bureau
July 10 & 19, 2020	Two consecutive calls on commissioned research tender on legal aspects of CBDCs	Call for Proposals: "BOK Financial Transactions Team External Research Project"	Financial Transactions Bureau	External groups of two-three individuals comprised of academics or lawyers focusing on financial regulations or information technology law
December 2020	Calls for introducing CBDCs with positive interest to reduce tax evasion incentives in cash transactions	BOK Working Paper: "Central Bank Digital Currency, Tax Evasion, Inflation Tax, and Central Bank Independence"	Co-authored by external economics professors Seungduck Lee, Jaevin Park and Ohik Kwon of BOK	The report explicitly states the findings are only by the authors and not of BOK's views
January 2021	Commissioned research (in July 2020) on the legal issues and legislation/revision of CBDC related statutes released; calls for CBDC to be legal currency equivalent to fiat South Korean won and labels other crypto assets ineligible as CBDC	"CBDC-related Legal Issues and the Directions for Legislations and Amendments"	Co-authored by external law professors Soon-seob Chung, Jun-hyuk Chung, and Jong-hyuk Lee	The report explicitly states the findings are only by the authors and not of BOK's views
May 24, 2021	Washington, D.C.-based BOK sources publish developments by the Fed on CBDCs (Citing Powell and Brainard)	Correspondence from Washington, D.C: "Recent developments regarding the Fed's push for CBDCs"	BOK correspondent based in Washington, D.C.	No external entities
May 25, 2021	Open bidding process to conduct 2-stage, 10-month pilot test of CBDCs on the BOK and Public Procurement Service website, to test-drive a blockchain-based CBDC in a virtual environment	Call for Proposals: "BOK CBDC Pilot Test Research"	Financial Transactions Bureau Digital Currency Research Team	External entities invited for public-private partnership to work on scenario in which a BOK-issued CBDC is circulated by participating agencies in virtual space

Date	Developments	Related Publication	BOK	Other Entities
July 28, 2021	Public-Private Partnership activated: Ground X, a subsidiary of Kakao Corp. focusing on blockchain is selected for the tender (4.9 billion KRW, for 10 months)		Financial Transactions Bureau Digital Currency Research Team	Ground X will collaborate with Kakao Bank, Kakao Pay, S-Core (South Korean digital and tech firms) as well as companies ConsenSys (U.S.) and KPMG (Netherlands-based international services firm). (Other strong contenders were LinePlus of Naver Corp. and SK Corp. based on their blockchain technology and fintech prowess)
BOK 1st stage of pilot study on CBDC: August 23, 2021-December 22, 2021				
November 18, 2021	Launches conference on CBDC related issues and tasks for the central bank	Presentation slides from the conference	BOK	External economists, lawyers, academics (professors of law and economics), Bank of International Settlements
BOK 2nd stage of pilot study on CBDC: December 23, 2021-June 22, 2022 (scheduled)				
January 20, 2022	Publishes core points from the Fed's recent CBDC paper focusing on definition, model, uses, functions, potentials, and risks	Correspondence from Washington, D.C: "Contents of the Fed's CBDC Report"	BOK Washington D.C. correspondent	Refers to the Fed's first discussion paper on CBDCs
January 2022	Publishes report addressing global debates on CBDCs (including acceleration of the cashless digital economy, market dominance by Big Tech, expansion of global stablecoins, financial inclusion, and international settlements)	"Global trends and debates on CBDCs by issue points"	BOK	Refers to CBDC definitions by the IMF and the BIS
January 25, 2022	1st test results released; success in operating the pilot test (production, issuance, distribution of CBDCs)	Press release: "1st Stage of the CBDC Pilot Test and Future Steps"	Financial Transactions Bureau Digital Currency Research Team	Ground X, a Kakao Corp.company

Date	Developments	Related Publication	BOK	Other Entities
June 2022 (scheduled)	Purchase of NFTs or digital art, international transfer of CBDCs, and international transfer in non-connected environment via NFC technology (in case of telecommunication failure or natural disasters)	(anticipated)	Financial Transactions Bureau Digital Currency Research Team	Ground X, a Kakao Corp.company

Source: Compiled by author based on BOK sources

A plethora of legal issues lie ahead if the BOK were to issue CBDCs. The BOK would argue that the potential issuance of CBDCs and application of negative interest rates would adhere to Article 3 of the BOK Act on central bank neutrality and independence.[31] But, under Article 4 of the Act, the BOK would be required not to disrupt the market by issuing CBDCs. Revising the BOK Act to recognize the BOK as the sole and legitimate issuer of CBDCs as a legal currency of digital form would be required for the BOK to reach full control and authority for enforcement.[32] Privacy issues to ensure confidentiality will also come under scrutiny to be in line with the South Korean Personal Information Protection Act (PIPA).[33] Currently, the BOK is testing a mechanism in which transaction information between the BOK and five partnering institutions would participate in the BOK-operated, authorized DLT network that is run independently by the BOK based on the open-sourced Ethereum. This is to be differentiated from other blockchain platforms whereby the transaction information would only be written into the databases of the BOK without real names of the sender and receiver, while partnering institutions A and B would know the real names on the different ends of the transaction (A – sender, B – receiver). Additionally, a thorough anti-money laundering and counterfeiting mechanism will need to be set in place.

Economically, the BOK would likely face protest from existing players in the South Korean financial architecture, in which complex operations by credit card companies and e-payment firms are intertwined, upon the announcement of a CBDC launch. While the BOK would argue for efficient allocation of resources by issuing CBDCs, the discontented public may question the rationale of CBDCs against stablecoins, if not cryptocurrencies, depending on the characteristics of the final prototype that the BOK announces in the future.

Technically, the second stage of the CBDC pilot test by the BOK targets enhancing the security features of the DLT infrastructure, as well as testing the possibilities of CBDC transactions in offline mode, digital asset purchases, and, more importantly, interoperability via cross-border transactions. Questions may again arise regarding which country's CBDC the BOK seeks to test its own with. While the BOK does not make its considerations public as to which countries are potential partners for pilot testing, one can assume that they may come from the list of countries that have already launched CBDCs (the seven countries of the Eastern Caribbean Central Bank, the Bahamas, Nigeria) or other countries in CBDC pilot testing mode (Anguilla, Jamaica, South Africa, Sweden, Ukraine, Saudi Arabia, United Arab Emirates, China, Thailand, Singapore, Malaysia, Hong Kong SAR, and the Eurozone, where CBDC is under development). Of these, only six jurisdictions have their CBDC pilot modes on DLT.[34]

Foreign policy-related issues also loom large in terms of interoperability vis-à-vis the digital yuan. The BOK may be seeking some compatibility in testing infrastructure but given that the lion's share of South Korea's overall settlements are with China, it is anticipated that the BOK would be figuring out the interoperability between the piloted digital yuan and the piloted South Korean won, which would raise eyebrows given the ongoing tensions (while the U.S. Fed flatly denies any chance that the digital yuan would be interoperable or circulated within its jurisdiction even if the U.S. were to launch CBDCs).

POLICY RECOMMENDATIONS FOR SOUTH KOREA'S POTENTIAL CBDC LAUNCH

By investigating the South Korean case of crypto regulations and policy shift toward CBDCs, this paper has shed light upon the core interest of the BOK—central bank independence—to retain control of CeFi against the rise of DeFi. South Korea's case reflects what may happen to many other economies that face similar challenges as cryptocurrencies and stablecoins play bigger roles in global finance. The importance of digital currencies—be it cryptocurrencies, stablecoins or CBDC—is anticipated to be greater in the post-pandemic era, whereby digital assets and transactions become the norm.

Moreover, the U.S. and China's geopolitical tensions influence the policy choices of countries around the world in the realm of digital currencies and their interoperability.[35] The future of money compels countries to come to a "breaking point" on digitalization, whereby they must deal with the challenges of finding the policy path that is appropriate for themselves by weighing the pros and cons on their own.

If a central bank issues a CBDC to uphold central bank independence at all costs, a few cautionary policy recommendations may be considered. This paper specifically calls on South Korea to concentrate its efforts moving forward in three areas, at both national and global levels:

First, at the national level, a clear strategy and roadmap to deliver to the public regarding the invalidation of cryptocurrencies/stablecoins and the rationale for CBDCs would be required. This is especially important if the digital Korean won would carry interest or be interoperable for cross-border transactions. The newly elected government may begin by announcing its intent to engage in policy discussion regarding DeFi and CeFi, while refraining from the positive effects of DeFi, such as financial inclusion, if the BOK faces a policy environment that would incorporate the two realms. Policy changes that will propel further innovation in digital finance under a new presidency rather than dwelling solely on taxation of crypto as witnessed during the Moon administration are desirable.

Second, and also at the national level, if the BOK seeks to sell the idea of CBDCs to the public, a persuasive account beyond simply dictating the policies, citing market disruption or a line borrowed from the discussions at the BIS or other global platforms such as G20 or the IMF, would be needed to persuade the public that the BOK is serious about ensuring consumer protection and market efficiency as much as it adheres to central bank independence. Additionally, for the BOK to bring out full participation of the South Korean public in using the blockchain-enabled CBDC when it does launch, fintech literacy and education for the public—particularly the elderly—is desirable for safe and equitable access to the technology.

Third, at the global level, South Korea should work toward expanding the discussions on DeFi and CeFi beyond central banks of the G7+ or G20 for global cooperation. In the process, the BOK would benefit from playing a proactive role by generating creative solutions regarding potential CBDC operations instead of relying on the cases and policies on digital currencies from China or the U.S. in order for its central bank independence to be meaningful and worth preserving.

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