Chairman Himes, Ranking Member Barr, the distinguished members of the subcommittee, and my fellow panelists, it is an honor to participate in today’s hearing. Please allow me to add that although I do consulting with the private sector on financial technology issues, my comments today are my personal opinion and are not on behalf of any clients.

Central Bank Digital Currency (CBDC) research and development is at such a nascent stage that it would be foolhardy to try to predict exactly how CBDCs will evolve globally or to assert how the United States should potentially implement a digital dollar. I do assess that CBDCs inevitably will become a part of our global economic landscape. In my testimony, I will offer a framing to understand the rise of CBDCs, outline some of the geopolitical positioning currently underway around the technology, and explain the policy posture needed to navigate the opportunities and threats that a CBDC environment would bring to U.S. national security.

First, it is best to frame CBDCs not just as a monetary development, but as a data development. Recently, the Head of Research for the Bank for International Settlements (BIS) said that the potential benefits of CBDCs lie in what the technology could enable for data governance.¹ For example, China’s motivation for its digital fiat currency is rooted in the Chinese Communist Party’s (CCP) push for national financial technology development, which is focused on building a data-driven digital economy.²


Although proposed designs for CBDCs around the world vary, they all aim to enhance the user experience with money by offering new capabilities, or at least more efficiency and effectiveness in payment systems. These enhancements come from aligning money more closely with the infrastructure of the internet. Online retail bank accounts, mobile payments, distributed ledger technology, digital asset tokenization, and small contract programmability are part of a range of software innovations that are unlinked to central bank money. CBDCs are an attempt to integrate the world of central bank money directly with both conventional and emerging data technology. And this is where the “promise” comes in. By deploying CBDCs, governments are seeking to derive sharper insights and analyses for their monetary system, but also to offer better payment functionality for businesses and citizens.

The promise is such that even certain national security challenges to the United States arising from CBDC technology could simultaneously offer national security advantages when viewed from a certain angle. Let’s look at concerns relating to sanctions power, for example. If a majority of countries shift to CBDC-to-CBDC platforms for facilitating cross-border transactions, there is a long term risk that the correspondent banking system, which is highly vulnerable to U.S. sanctions pressure, could become less prominent in global finance. The United States relies on banks around the world to screen for transactions by designated individuals and entities. Banks are also important for the due diligence they conduct on the customers and business operations they underwrite. But this sanctions compliance is a rather disjointed, siloed process, run individually by financial institutions with varying degrees of efficacy and uneven alignment with U.S. interests. In a system where central bank money gets digitized, it would theoretically be possible to encode sanctions screening into CBDC money itself. For example, financial regulators could insert specifications into CBDC software to provide alerts (or even block transactions) if certain conditions are met, such as a verified designated entity trying to open up a CBDC account at a bank. Instead of the bank screening on its own initiative, the sanctions check could occur as part of the CBDC architecture. Although the feasibility of such a sanctions compliance system is likely to depend on advancements in digital identity technology, the programmability of the CBDC, and how much other nations accept international sanctions requirements into their domestic CBDCs, this model could make sanctions evasion in digital payments more difficult. Private digital currencies, if programmed similarly, could also offer these technical enhancements. The key is that new financial technologies may provide more functionality than the current global banking architecture and some of this functionality could conceivably bolster national security aims. The new functionality comes from the evolution in data governance.

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Whether or not CBDCs hold either more promise or more peril for U.S. national security will depend on how well the United States crafts policy to partake in and influence the march of fintech innovation emerging globally. With CBDCs still mostly in a nascent exploratory stage, it is premature to recommend fully-fleshed CBDC policies. Instead, here are some important strategic concerns that U.S. policymakers must address in order to navigate a sound, national security-informed approach to the rise of CBDCs.

**Correspondent banking is likely to be disintermediated when CBDCs proliferate.** This must be accepted as an inevitability. Private banks will not become obsolete. But they will need to augment their services to maintain relevance in a world where users digitally possess direct liabilities with their central bank and can transact more seamlessly with foreign counterparties online. Even though most retail CBDC proposals envision a two-tier model where private financial institutions remain critical by disbursing CBDC to retail users and managing the AML requirements around customers, a key objective for CBDCs is to streamline cross-border transactions.³ Note that the BIS head of research also said in June 2021 that CBDCs would simplify monetary architecture and eliminate the costs and delays associated with correspondent banking.⁴ As mentioned above, CBDCs should be understood as a development in data governance. So, private banks will need to find revenue models revolving around data and software-related services to remain profitable in a CBDC world. Also, banks should leverage big data analysis and artificial intelligence arising from CBDC transactions to inform their manual due diligence work.

**Whoever governs (or influences) the international CBDC-to-CBDC architecture is likely to gain considerable geopolitical power.** Although it is unclear how a cross-border CBDC platform will work, there are multiple efforts to pilot international CBDC systems.⁵ One trial with significant central bank buy-in is the BIS’ multiple CBDC or mCBDC Bridge project, where the central banks in China, Hong Kong, Thailand, and the United Arab Emirates are piloting a distributed ledger technology system for cross-border payments.⁶ The BIS, as a consulting body of central banks, is poised to lead CBDC standard-setting and China appears influential in that organization’s deliberations of an international CBDC framework. In early 2021, China’s central

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⁶ “Multiple CBDC (mCBDC) Bridge.” The Bank for International Settlements, February 19, 2021, [www.bis.org/about/bish/topics/cbdc/mcbdc_bridge.htm](http://www.bis.org/about/bish/topics/cbdc/mcbdc_bridge.htm).
bank proposed rules for CBDC interoperability across jurisdictions at a BIS seminar. The rules for CBDC-to-CBDC platforms will likely include policies for how sanctions are enforced (or not) in international trade. The BIS also could become the environment where CBDC software is recommended or authorized for all central banks. China currently has the most progress in CBDC piloting among major economies. The United States will need to increase its CBDC expertise and assert greater influence in the BIS and other international forums that guide CBDC development.

**CBDC systems could be weaponized to retaliate against the United States** Depending on how a global CBDC system is governed, it might be possible for a bloc of countries to restrict the United States from an international CBDC apparatus that operates outside conventional payment messaging systems like SWIFT. Also, a foreign government’s control over its CBDC infrastructure would probably make it easier for that government to block local CBDC accounts or wallets used by U.S. companies operating in the country. A sign of this risk materialized when China removed the digital presence of the Swedish clothing store H&M from most online platforms in China after the company offended the CCP by voicing concerns about possible forced Uyghur labor in its supply chain. If China’s CBDC, the eCNY, had been fully launched and H&M had been required to use it in China, the CCP probably could have directly blocked eCNY transactions to the company without having to coordinate with Chinese banks and private payment firms.

**CBDC functionality is likely to enable more innovative money laundering techniques.** Although criminals will prefer the pure anonymity of physical cash over the data footprints attached to central bank digital currencies, CBDCs may offer features useful to hiding illicit proceeds. If CBDCs have smart contract programmability, microtransactions, and can generate multiple wallets for users and even for devices, money launderers will likely exploit these features to design elaborate, automated payments to try to obfuscate criminally earned funds. In fact, illicit actors would have incentive to move from more rudimentary conventional digital money to the more agile CBDC. Also, criminal organizations with illegally-derived cryptocurrencies or illicit physical cash will probably pay CBDC holders with clean profiles to operate on their behalf

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in the CBDC ecosystem. A laundering market with CBDC “money mules”\textsuperscript{11} is likely to spring up alongside the criminal activity that occurs in other money formats. This is another example of how CBDC innovation offers both promise and peril.

**U.S. economic policymakers are going to need more collaboration with computer scientists.** Because CBDC research focuses heavily on data governance and software development, economists at the U.S. Federal Reserve are going to have to wrestle increasingly with complex computer science problems as they assess CBDC possibilities. The Federal Reserve Bank of Boston’s current partnership with the Massachusetts Institute of Technology’s Digital Currency Initiative is an important step in U.S. CBDC research.\textsuperscript{12} But given the global pace of CBDC development, multiple Fed branches should probably collaborate with respective computer science departments around the country for more extensive central bank digital currency research.

**Fine-tuned rules around data privacy will be needed if the United States launches a digital dollar.** The world is moving toward a “oneness of data” where our personal activities rely increasingly on online platforms that generate digital footprints that can be captured and analyzed.\textsuperscript{13} CBDC transactions—even if anonymized—will comprise a new data stream that could help the government and private firms improve financial services. And CBDC discussion papers generally propose that regulators and law enforcement agencies will be able to acquire personal identification information on users when necessary for anti-money laundering and counter-terrorist financing purposes.\textsuperscript{14} But more specific guidelines on data access must be mapped out. Will law enforcement have real-time access to the raw, anonymized data feed? Policymakers and technologists must create parameters not only around what entities can directly acquire CBDC data, but precisely how much of it and for how long. Authorities will need to consider situations such as when a suspected criminal transacts in CBDC with businesses and individuals for purposes later found to be benign. If the criminal is found guilty, but the other parties are not, will their wallets or accounts remain unmasked, tagged, and monitored moving forward in the real-time, raw data feed or will they be purged from law enforcement databases? Also, what aspects of aggregate data will be made public and could official data disclosures be reverse engineered by illicit actors


to target neighborhoods or even individuals? The answers to these questions will influence not only CBDC technical design, but the legal framework needed to guide the broader CBDC ecosystem.

The growing exploration of CBDCs does not mean that all nations will develop a CBDC in the near future. But with all the CBDC research and piloting occurring, it seems highly likely that the world will not return to the status quo of a decade ago, when there was no foreseeable technological shift in central bank money governance. So, CBDCs in some form or another, are probably a part of our global economic future. Instead of asking if CBDCs will proliferate, the U.S. inquiry should be on how they will develop and what their governance should be across borders. Despite the accompanying risks from CBDCs that I’ve outlined, the sound policy posture is not to seek to stop CBDCs’ development. The U.S. position should be to promote, harness, and shape fintech innovation so that it aligns with American interests and values.15 This very well may manifest in the United States deploying a digital dollar. But either way, the United States must prepare for a world where CBDCs operate in the global economic landscape.

Thank you for your time and I look forward to your questions.

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