Question: 03. Could a CBDC affect financial inclusion? Would the net effect be positive or negative for inclusion?

Return to CBDC Benefits, Risks, and Policy Considerations | **Provide Feedback**

This is a compound question, but the second part of the question relies on the first.

Question

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1. **Could a CBDC affect financial inclusion?**
2. **Would the net effect be positive or negative for inclusion?**

Answer

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Could a CBDC affect financial inclusion?

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The answer to these questions depends on the Currency Model underlying the CBDC. Based on the content of the White Paper, it appears as if the concept of “inclusion” means the participation of those who rely on Nonbank Money.

The World Bank defines Financial as:

> ***Financial Inclusion*** *means that individuals' inclusion means that individuals and businesses have access to useful and affordable financial products and services that meet their needs – transactions, payments, savings, credit, and insurance – delivered in a responsible and sustainable way.*
>
> *Being able to have access to a transaction account is the first step toward broader financial inclusion since a transaction account allows people to store money, and send and receive payments. A transaction account serves as a gateway to other financial services, which is why ensuring that people worldwide can have access to a transaction account is the focus of the World Bank Group...*https://www.worldbank.org/en/topic/financialinclusion/overview#1

Barriers to **Financial Inclusion** have existed for a long time. Fortunately, a number of efforts are poised

to help broaden access to financial services taken for granted by affluent consumers.

Figure 1 shows the six services or capabilities that indicate **Financial Inclusion**: Bank Account, Cheaper Credit, Insurance, Savings, Financial Advice, and transfer of Funds. [1)]. A person does not have to have all six services or capabilities in order to have Financial Inclusion but, as a general rule, more is better. For example, in the U.S., having a Bank Account probably will also provide access to the other five services and capabilities. However, in some countries, having a Bank Account might support the Transfer of Funds, and depending on where the Bank Account is, it may or may not be insured. A Bank Account may or may not support savings and the paying of interest and may or may not include financial advice or ensure that the advice provided is fair and equitable to the saver. Within the U.S. the big hurdle is to get people into the system starting with a Bank Account.

Figure 1: An Overview of Financial Inclusion Services[2)]

Figure 2 summarizes the problem that people who are excluded from the financial system struggle with. If they don't have a Bank Account, then they have a problem saving, getting insurance on their savings, etc.

Figure 2: An Overview of Financial Exclusion[3)]

The financial industry has determined that getting the non-banked or the under-banked population included in the financial system is a potential growth market for their services. Some of the financial industry have developed new methods and strategies to provide their products and services to the under-served population and can actually add to their own revenue streams.

The financial industry is making this possible through the use of low-cost Financial Technology (Fintech) solutions rather than trying to extend the traditional financial products and services to the financially underserved. For example, the financial industry is now using FinTech to offer cashless Digital Transactions, the advent of low-fee Robo-Advisors, and the rise of Crowdfunding and Peer-to-Peer Lending (P2P Lending) .

According to Investopedia, Peer-to-Peer (P2P) Lending:ccc

> ***P2P Lending*** *has proved particularly beneficial to people in emerging markets, who may be ineligible for loans from traditional financial institutions because they lack a financial history or credit record to assess their creditworthiness. Microlending has also become a source of capital in places where it is otherwise hard to come by.*
>
> *While these innovative services have brought more participants into the financial marketplace, there is still a significant portion of the world's population—including in the United States—that lacks such access and remains, for example, either unbanked or underbanked.*
>
> *The World Bank Group, which includes both the World Bank and the International Finance Corporation, is also sponsoring an initiative called Universal Financial Access 2020, the goal of which is to ensure that by the year 2020, an additional 1 billion adults will "have access to a*

transaction account to store money, send and receive payments as the basic building block to manage their financial lives."

If successful, that effort would significantly reduce the number of adults who currently lack even rudimentary financial services, which the World Bank recently estimated at some 1.7 billion. However, the results will not be known until sometime in 2021.

Would the net effect be positive or negative for inclusion?

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This would require more study; however, the Savanta: ComRes & the Financial Conduct Authority did a study which is a great first step in understanding the barriers to adoption of Digital Currency and/or Digital Accounts. [4)]. They concluded the following:

1. ***There is a steady group of people that will continue to rely on cash, with some depending on cash:*** *There is a spectrum of self-reported reliance on cash – some consumers are more dependent, and some are closer to preference. This research found that whilst some had a reliance on cash, for others – particularly those with low financial resilience – the need to avoid overspending was such that they depended on cash. This is because, for these individuals, small budgetary errors could lead to harm such as unmanageable debt and difficulty affording essential goods.*
2. ***The key demographic factors driving dependence on cash are having a very low income and displaying characteristics of vulnerability*** *Some examples that drive dependence on cash are ill health, life events, low financial resilience, and lower financial or digital capability. These characteristics of vulnerability are present across most groups of respondents, in some more so than in others. Many of the individuals with a dependence on cash – though not all – are aged under 50.*
3. ***The more dependent/vulnerable could be at greater risk of harm:*** *If cash infrastructure declines, those with a reliance on cash may find accessing cash to be an increasing challenge. Some of those with a reliance on cash will already walk long distances and wait for extended periods of time to access cash if they do not have access to local, convenient cash infrastructure. This is harmful to those with long-term health conditions that limit mobility or their ability to spend extended periods of time in queues or outdoors. Whilst many have an aversion to pay-to-use ATM machines, some will resort to these in cases of emergency, spending money they may struggle to afford in order to access cash.*
4. ***The pandemic has affected the way people shop and the way businesses accept payments:*** *Looking ahead, we can see that some of the typologies in this research (Needs-based, Functional, and Older & disengaged) are likely to continue to rely on cash, while others have shown that they could be able to transition, though often facing psychological and behavioral barriers (Cash defenders, Impulse avoiders and Comfortable & capable). The ones that are dependent and likely to continue to use cash are more likely to have characteristics of vulnerability.*

Examples

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The following “desirements” are from the White Paper as identified by the Object Management Group's CBDC WG report called White Paper Analysis:

Table 1: Example of mapping Financial Inclusion requirements identified during the White Paper Analysis conducted by OMG's CBDC WG.

Requirements	B: B0007, B0008, B0009, B0010, B0011, B0012, B0013, B0014, B0015, B0018, B0019, B0028, B0029, B0030, B0031, B0033, B0034, B0035, B0038, B0041, B0043, B0045, B0046, B0047, B0048, B0049, B0054 P: P0003, P0023, P0025, P0026, P0027 R: R0011 D: D0012, D0012, D0015, D0016, D0017

Discussion of Examples

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The following discussion covers both of the Currency Models:

- Digital Cash Model
- Digital Account Model

Table 2: The Benefits identified in the **White Paper**

Statement No.	Statement	Comment
B0007	**Provide households and businesses a: 1. convenient 2. an electronic form of central bank money with a. safety b. liquidity**	1. **Digital Cash**: a. By definition offer, be liquid b. Depending on the implementation, be more convenient than physical cash c. Offer more safety than physical cash 2. **Digital Accounts**: a. Depending on the implementation, be more convenient than physical cash b. Offer more safety than physical cash c. Be less liquid than physical cash
B0008	**Provide entrepreneurs a platform on which to create new financial products and services**	1. **Digital Cash**: Since Digital Cash is new, there would be a need for more platforms that can handle Digital Cash. These platforms could be created by existing intermediaries or from new startups 2. **Digital Accounts**: Since Digital Accounts are similar to existing intermediary accounts, the ability of entrepreneurs to create new financial products is limited.
B0009	**Provide faster and cheaper payments (including cross-border payments)**	1. **Digital Cash**: would be more efficient and safer than using Physical Cash when sending more cross-border 2. **Digital Accounts**: would be more efficient and safer than using Physical Cash, BUT would require the receiver of the CBDC to have an account to receive the money. In essence, this means the people, not residents in the US and perhaps not US citizens have access to US accounts.
B0010	**Expand consumer access to the financial system**	Access to the financial systems implies Access to the Internet. **Note:** This is beyond the scope of CBDC. Figure 3: Network Availability in the US 1. **Digital Cash**: would have all the same limitations as physical money as far as providing access to the financial system, however, the financial systems could provide gateways to-and-from a Digital Cash system allowing financial services to the underserved without having a physical presence. 2. **Digital Accounts**: if people do not currently have access to existing intermediaries, the CBDC accounts would probably not improve that situation. For example, Know Your Customer.

Statement No.	Statement	Comment
B0011	**Make payments:** **1. faster** **2. cheaper** **3. more convenient** **4. more accessible**	1. **Digital Cash**: a. Faster - Physical Cash is immediate b. Cheaper - Physical Cash costs nothing to use c. More Convenient - The use of cash is very convenient during a transaction and when the amount of cash is small. However, it is often inconvenient to obtain physical cash or to dispose of physical cash. d. More Accessible - Physical Cash is generally easy within the US to obtain within the US. However, see the Figure 3. 2. **Digital Accounts**: a. Faster - Digital Cash will have delays that need to be as fast as current account-based systems such as savings, checking, investment, direct pay, credit, debit cards, etc., and is dependent on electricity and network connectivity, see Figure 3. b. Cheaper - The main cost in Digital Accounts is most likely the cost of achieving consensus. c. More Convenient - Digital Accounts must be as convenient to use as current account-based systems such as savings, checking, investment, direct pay, credit, debit cards, etc. Digital Accounts would be more convenient for large physical cash transactions. Depending on the implementation of the CBDC, Digital Cash and Digital Accounts may offer the same convenience. d. More Accessible - Unless more “financial infrastructure” is developed beyond the existing intermediary financial structures.
B0012	**Provide payment services to households and businesses around the clock, every day of the year**	Payment services imply Digital Accounts, which for those people already included in the financial system, it is not a problem. With the rise of FinTech solutions, many payment services already operate 24-7-365. However, if people are currently excluded from the Financial System, they must rely on physical cash or digital cash to pay bills. Often, in some areas within the U.S., there are no financial services nearby to make physical cash payments let alone 24-7-365! Although the private sector FinTech solutions are available when people have access to: 1. Financial accounts 2. Smart Phones 3. Networks
B0013	**Provide immediate access to transferred funds**	1. **Digital Cash**: There are no problems with gaining access to transferred funds since they operate very similarly to the current Physical Cash system. 2. **Digital Accounts**: As with most financial transactions, there is usually a need for a “settlement period”. Granted in the “blockchain” environments, these “settlement times” have been reduced from days to minutes. However, the same can be said with most FinTech solutions as well as Mobile Payment Systems such as Apple Pay or Google Pay.
B0014	**Reduce costs and fees associated with certain types of payments**	FinTech is expanding and improving every day. There is also competition between FinTech vendors to compete for customers, so the costs should naturally come down. However, when intermediaries are required to complete a transaction, these intermediaries extract a price to allow the transactions. This is particularly a problem in Cross-Border transactions and the closer the transactions get to Peer-to-Peer (P2P) the less the cost.
B0015	**Reduce cross-border costs to benefit:** **1. economic growth** **2. enhance global commerce** **3. improve international remittances** **4. reduce inequality**	See **B0014**.
B0018	**Allow the general public to make digital payments**	The FinTech industry would say that this already exists, especially with the rise of Mobile Payment Systems such as Apple Pay or Google Pay.
B0019	**Provide the safest digital asset available to the general public, with no:** **1. associated credit** **2. liquidity risk**	The only way to offer the **safest digital asset** is to develop Digital Cash.
B0028	**Offer the general public broad access to digital money:** **1. free from credit risk** **2. liquidity risk**	The only way to offer the **safest digital asset** is to develop Digital Cash.
B0029	**Support basic purchases of:** **1. goods** **2. services** **3. pay bills** **4. pay taxes**	The FinTech industry would say that this already exists, especially with the rise of Mobile Payment Systems such as Apple Pay or Google Pay.

Statement No.	Statement	Comment
B0030	**Support benefit payments directly to citizens**	The U.S. States like California would claim that this already exists with Electronic Benefits Transfer (EBT). The FinTech industry would say that this is already possible, especially with the rise of Mobile Payment Systems such as Apple Pay or Google Pay.
B0031	**Provide the general public broad access to digital money that is free from:** **1. credit risk** **2. liquidity risk**	The only way to offer the **safest digital asset** is to develop Digital Cash.
B0033	**Support a level playing field in payment innovation for private-sector firms of all sizes**	The U.S. Government already has programs available to help level the playing field. The Federal Reserve and the U.S. CBDC need to use the programs to help with Research Development Test & Evaluation (RDT&E) Funding. Additional ways to help level the U.S. CBDC playing field: **Small Business Innovation Research (SBIR):** The original charter of the SBIR program was to address four goals:[5)] 1. Stimulate technological innovation 2. Use small businesses to meet Federal R/R&D needs 3. Foster and encourage participation by the socially and economically disadvantaged small businesses and those that are 51 percent owned and controlled by women, in technological innovation 4. Increase private-sector commercialization of innovations derived from Federal R/R&D, thereby increasing competition, productivity, and economic growth **Small Business Technology Transfer (STTR):** The Small Business Technology Transfer program, or STTR, came later and was modeled after the SBIR program. Its goal, however, is to facilitate the transfer of technology developed by a research institution through the entrepreneurship of a small business concern (SBC). Research institutions include universities and Federally Funded Research and Development Centers, also referred to as FFRDCs. It is important to keep in mind that the applicant for an STTR award is always a small business.[6)] **Grants.gov:** Provide a common website for federal agencies to post discretionary funding opportunities and for grantees to find and apply to them. grants.gov **SBA 8(a) Business Development Program:** Sections 7(j)(10) and 8(a) of the Small Business Act (15 U.S.C. §§ 636(j)(10) and 637(a)) authorizes the U.S. Small Business Administration (SBA) to establish a business development program, which is known as the 8(a) Business Development program. The 8(a) program is a robust nine-year program created to help firms owned and controlled by socially and economically disadvantaged individuals. Businesses that participate in the program receive training and technical assistance designed to strengthen their ability to compete effectively in the American economy. Also eligible to participate in the 8(a) program are small businesses owned by Alaska Native corporations, Community Development Corporations, Indian tribes, and Native Hawaiian organizations. Small business development is accomplished by providing various forms of management, technical, financial, and procurement assistance. SBA partners with federal agencies to promote maximum utilization of 8(a) program participants to ensure equitable access to contracting opportunities in the federal marketplace. Once certified, 8(a) program participants are eligible to receive federal contracting preferences and receive training and technical assistance designed to strengthen their ability to compete effectively in the American economy. https://www.sba.gov/federal-contracting/contracting-assistance-programs/8a-business-development-program **SBA-backed loan guarantees:** The U.S. Small Business Administration helps small businesses get funding by setting guidelines for loans and reducing lender risk. These SBA-backed loans make it easier for small businesses to get the funding they need. https://www.sba.gov/funding-programs/loans Also see: Appendix C: Other Transaction Authority (OTA)
B0034	**Generate new capabilities to meet the speed and efficiency requirements of the digital economy**	See: **B0033** above.
B0035	**Streamline cross-border payments by using:** **1. new technologies** **2. introducing simplified distribution channels** **3. creating additional opportunities for cross-jurisdictional collaboration and interoperability**	See: **B0033** above.

Statement No.	Statement	Comment
B0038	**Allow private-sector innovators to focus on: 1. new access services 2. distribution methods 3. related service offerings**	See: **B0033** above.
B0041	**Support streamlining cross-border payments**	Mobile Payment Systems already in many countries around the world. The barrier does not seem to the technology or the desire on the part of the FinTech industry but the Geopolitical. Apple Pay participating banks in Africa, Europe, and the Middle East. Apple Pay works with many of the major credit and debit cards from the top banks. Just add your supported cards and continue to get all the rewards, benefits, and security of your cards.https://support.apple.com/en-us/HT206637 Google Pay users in the U.S. will be able to send money to Google Pay users in India and Singapore, thanks to a new integration with Western Union and Wise. By the end of the year, we expect that U.S. Google Pay users will be able to send money to people in more than 200 countries and territories through Western Union and to more than 80 countries through Wise. https://blog.google/products/google-pay/send-money-loved-ones-abroad/
B0043	**Promoting financial inclusion—particularly for economically vulnerable households and communities**	The financial industry is already happening through the use of low-cost Financial Technology (Fintech) solutions rather than trying to extend the traditional financial products and services to the financially under-served. For example, the financial industry is now using FinTech to offer cashless Digital Transactions, the advent of low-fee Robo-Advisors, and the rise of Crowdfunding and Peer-to-Peer Lending (P2P Lending) .
B0045	**Enable rapid and cost-effective payment of taxes**	Sales taxes are already collected by the merchant at the point of sale. The Internal Revenue Service (IRS) uses third-party payment processors for payments by debit and credit card. It's safe and secure; your information is used solely to process your payment. [7] 1. You can pay online or over the phone (see Payment Processor Contact Information below for phone payments) 2. You can pay using digital wallets such as PayPal and Click to Pay 3. There's a maximum number of card payments allowed based on your tax type and payment type 4. Employers' federal tax deposits cannot be paid by card; see how to pay employment taxes 5. For card payments of $100,000 or more special requirements may apply Each state and local jurisdiction has different rules.
B0046	**Enable rapid and cost-effective delivery of: 1. wages, 2. tax refunds 3. other federal payments**	The U.S. States like California would claim that this already exists with Electronic Benefits Transfer (EBT). This could be expanded to a national level but would require Laws and Regulations to change. According to the IRS[8]: *The best and fastest way to get your tax refund is to have it electronically deposited for free into your financial account. The IRS program is called direct deposit. You can use it to deposit your refund into one, two, or even three accounts.* *Eight out of 10 taxpayers get their refunds by using Direct Deposit. It is simple, safe, and secure. This is the same electronic transfer system used to deposit nearly 98 percent of all Social Security and Veterans Affairs benefits into millions of accounts.*
B0047	**Lower transaction costs**	FinTech solutions as well as Mobile Payment Systems such as Apple Pay or Google Pay have already brought the cost of a transaction down.
B0048	**Provide a secure way for people to save**	FinTech solutions as well as Mobile Payment Systems such as Apple Pay or Google Pay already supports customers maintaining a positive balance.
B0049	**Promote access to credit**	FinTech solutions as well as Mobile Payment Systems such as Apple Pay or Google Pay have already brought credit to customers.
B0054	**Attract risk-averse users to CBDC**	The only way to offer the **safest digital asset** is to develop Digital Cash. See section answer for Question: 13. How could a CBDC be designed to foster operational and cyber resiliency? What operational or cyber risks might be unavoidable?
P0003	**Complement current forms of money and methods for providing financial services**	The FinTech industry would say that this already exists, especially with the rise of Mobile Payment Systems such as Apple Pay or Google Pay.
P0023	**CBDC would need to be readily transferable between customers of different intermediaries**	This is a place for International Standards to be created. There are lots of "common standards" that can apply to Blockchains. See within each of these sections for a list of applicable standards: 1. DIDO RA - Technical Standard Bodies 2. DIDO RA - de facto Standards Bodies Unfortunately, within the *"blockchain"* world, there is confusion about what constitutes a standard. Often, if something is Open Source, it is considered a standard. However, often these projects lack the rigor needed to be considered a *"standard"*. Also, see the discussion in the DIDO RA on Talk Openly Develop Openly (TODO) and look at the DIDO RA definition of a Standards Developing Organization (SDO).

<table>
<tr><th>Statement No.</th><th>Statement</th><th>Comment</th></tr>
<tr><td>P0025</td><td>CBDC intermediary would need to verify the identity of a person accessing CBDC</td><td>Many systems are now using Two-Factor Authentication (2FA) requiring Biometrics (i.e., facial recognition, fingerprints, etc) or One-Time PIN (OTP). These 2FA methods generally require the user to be physically present to successfully log in or to have access to a mobile device like a phone or tablet.
Also see OMG DIDO-RA section on Authenticity.</td></tr>
<tr><td>P0026</td><td>CBDC transactions would need to be final and completed in real-time</td><td>CBDC Transactions need to compete with the current Currency Model used by the financially excluded, which is primarily cash partly because it is “real-time”. You see something, you want to buy it, you have the cash, and you complete the transaction then and there.</td></tr>
<tr><td>P0027</td><td>CBDC a risk-free asset</td><td>Obviously, cash is the ultimate risk-free asset readily available to the public at large. However, cash does have its risks too. For example: although cash is tangible and can be held in your hand, cash can be stolen or kickbacks required without a trace, which increases risks for people who use cash.
This research identifies three key factors that drive cash reliance in general. In factors in order of the importance is [9]:
1. Avoiding overspending: For most people with a reliance on cash, avoiding overspending and living within their means was the main reason for relying on cash. Respondents felt that using cash stops them from spending more than they have, helps them to keep track of spending, and puts enough friction into the payments process to allow them to evaluate whether they want to go through with the purchase. The physical nature of cash was also helpful in making budgeting decisions easier, particularly among those with a low cognitive ability for budgeting.
2. Ingrained habit: In all human behavior, there is a default option. For those in this research, when budgeting, using cash is often the default option. Using a different approach to budgeting would be cognitively effortful for many, and for those with low financial capabilities, very challenging.
3. Distrust of alternatives: Many respondents have concerns about fraud, personal error, and privacy when considering using alternatives to cash such as credit or debit cards. Concern about fraud and personal error is often a function of low digital capacity.
This is largely supported by the FCA’s Financial Lives survey, which outlines that:
a. just over half (55%) of adults who rely on cash to a great or very great extent do so for reasons of convenience (e.g. because cash is more convenient (35%) or it is part of their daily routine (36%)).
b. Under half (45%) rely on cash for budgeting reasons (e.g. to help them budget (33%)
The Better than Cash Alliance held an event and as part of the program, they held a moderated an Oxford-style mock debate entitled “Is Cash the Enemy of Financial Inclusion?” which was a thought-provoking approach to discussing the pros and cons of cash in financial inclusion. Table 2 is a summary of that debate.[10]
Table 2: Is Cash the Enemy of Financial Inclusion?[11]
<table>
<tr><th colspan="2">Position</th></tr>
<tr><th>“Cash is not all bad for the financially excluded”</th><th>“Digital financial services can extend financial inclusion”</th></tr>
<tr><td>Cash works for people who are unbanked – they have developed mechanisms that allow them to operate in the cash economy, so why “fix” a system that is not broken?</td><td>Digital payment services can bring huge cost savings and increase efficiency for payers. They are also often cheaper or the only access option for payees, especially in remote areas and rural communities</td></tr>
<tr><td>People like cash because it is tangible (unlike a digital wallet) and is accepted anywhere, which is important for functioning in local market economies.</td><td>Digital financial services allow people to manage their money, better control how they use their funds, save for unpredictable needs such as health and emergencies, and invest in business opportunities and in their household</td></tr>
<tr><td>Cash can be cheaper because the ecosystem around it is mature versus a still-growing digital system, where players in the value chain are still looking for ways to get paid.</td><td>Although cash is tangible and can be held in your hand, cash can be stolen or kickbacks required without a trace, which increases risks for people who use cash.</td></tr>
<tr><td>Digital systems take a long time to set up in uncertain environments and the current digital infrastructure does not solve the range of product and service needs – it’s better to reduce complexity, especially in uncertainty.</td><td>Digital financial services provide clients, and women, in particular, greater privacy.</td></tr>
<tr><td>Cash can be easily understood it does not require memorizing passwords, help from an agent, or waiting for ages to talk to a “help desk” when there is a problem.</td><td>Digital services create a financial history over time, and give people pathways to greater inclusion</td></tr>
<tr><td>Cash is often integrated culturally and changing cultural practices takes a lot of time… although in some cases it digitizes cultural practices so works really well.</td><td>The informal economy often deals in cash as a way to avoid taxes, digital finance ensures that payments are handled in a more transparent way and supports inclusion in the formal economy.</td></tr>
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Statement No.	Statement	Comment
R0011	**Increased Risk to consumer's vulnerability to: 1. loss 2. theft 3. fraud**	See **P0027**
D0012	**Design should address privacy concerns by leveraging existing tools already in use by intermediaries**	See section 4.4 National Privacy Considerations/
D0015	**Design should include any dedicated infrastructure required to provide a resilience to threats such as operational disruptions and cybersecurity risks**	See answer to Question: 18. Should a CBDC have "offline" capabilities? If so, how might that be achieved?;
D0016	**Design should include offline capabilities to help with operational resilience of the payment system**	See answer to Question: 18. Should a CBDC have "offline" capabilities? If so, how might that be achieved?;
D0017	**Design should include digital payments in areas suffering from large disruption, such as natural disasters**	See answer to Question: 18. Should a CBDC have "offline" capabilities? If so, how might that be achieved?;
B = Benefit Considerations		
P = Policy Considerations		
R = Risk Considerations		
D = Design Considerations		

1) , 2) , 3)
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5) , 6)
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https://www.betterthancash.org/news/is-cash-the-enemy-of-financial-inclusion