3.0 White Paper Analysis

OMG Responses to Federal Reserve Discussion Paper

Executive Summary

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The following is the **Executive Summary** provided in the Money, and Payments: The U.S. Dollar in the Age of Digital Transformation[1)] **White Paper**:

> *For a nation's economy to function effectively, its citizens must have confidence in its money and payment services. The Federal Reserve, as the nation's central bank, works to maintain the public's confidence by fostering monetary stability, financial stability, and a safe and efficient payment system.*
>
> *This paper is the first step in a public discussion between the Federal Reserve and stakeholders about Central Bank Digital Currencies (CBDCs). For the purpose of this paper, a CBDC is defined as a digital liability of a central bank that is widely available to the general public. In this respect, it is analogous to a digital form of paper money. The paper has been designed to foster a broad and transparent public dialogue about CBDCs in general, and about the potential benefits and risks of a U.S. CBDC. The paper is not intended to advance any specific policy outcome, nor is it intended to signal that the Federal Reserve will make any imminent decisions about the appropriateness of issuing a U.S. CBDC.*

Preparation for Responses to the Request for Comments

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In order to provide answers to the 22 questions requested by the Federal Reserve in the White Paper, it is important to summarize the rest of the content of the **White Paper** so as to help provide context for the questions in the White Paper and OMG's answers to these questions. The questions fall into two major categories:

- CBDC Benefits, Risks, and Policy Considerations
- CBDC Design

In order for the Object Management Group (OMG) to prepare responses to the questions in the **White Paper**, the OMG has taken a traditional Systems Engineering approach to understanding the problem by dissecting it into smaller, more manageable pieces based on the stated objectives outlined in the **White Paper**. We noted four major objectives:

- Benefit Considerations
- Policy Considerations
- Risk Considerations
- Design Considerations

Methodology

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The **White Paper** was read linearly (i.e., from top to bottom) with each statement classified as describing or providing: Background, Benefits, Policy Considerations, Risks, or Design. The sentences were then copied into the appropriate table (e.g., Table 1, Benefits) in this White Paper Overview. Statements in the **White Paper** that provided Background were not transcribed into any table. This does not mean these Background statements were unimportant; they were used to provide definitions and context for the Benefits, Policy Considerations, Risks, or Design statements captured in the tables below.

> **Note:** Some of the statements have been edited to allow them to be standalone and written in the form of an "action". For future iterations, these statements need be written as requirements. See: Specifying Requirements in the Distributed Immutable Data Object - References Architecture (DIDO-RA).

Benefit Considerations

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The following are the U.S. CBDC **Benefits** identified in the White Paper:

Table 1: The Benefits identified in the **White Paper**

Desirement No.	Page No.	Desirement[2)]
B0001	**1**	Provide benefits to households, businesses, and the overall economy that exceed any costs and risks
B0002	**1**	Yield such benefits more effectively than alternative methods
B0003	**1**	Complement, rather than replace, current forms of money and methods for providing financial services
B0004	**2**	Protect consumer privacy
B0005	**2**	Protect against criminal activity
B0006	**2**	Provide broad support from key stakeholders
B0007	**3**	Provide households and businesses a convenient and electronic form of central bank money with: 1. safety 2. liquidity

Desirement No.	Page No.	Desirement[2)]
B0008	**3**	Provide entrepreneurs a platform on which to create new financial products and services
B0009	**3**	Provide faster and cheaper payments (including cross-border payments)
B0010	**3**	Expand consumer access to the financial system
B0011	**7**	Make payments: 1. faster 2. cheaper 3. more convenient 4. more accessible
B0012	**7**	Provide payment services to households and businesses around the clock, every day of the year
B0013	**7**	Provide immediate access to transferred funds
B0014	**7**	Reduce costs and fees associated with certain types of payments
B0015	**9**	Reduce cross-border costs to benefit: 1. economic growth 2. enhance global commerce 3. improve international remittances 4. reduce inequality
B0016	**11**	Provide Stablecoins that are: 1. well-designed 2. appropriately regulated
B0017	**9**	Provide Stablecoins that are: 1. faster 2. more efficient 3. more inclusive payment
B0018	**13**	Allow the general public to make digital payments
B0019	**13**	Provide the safest digital asset available to the general public, with no: 1. associated credit 2. liquidity risk
B0020	**13**	Maintain public confidence by not requiring mechanisms, such as deposit insurance
B0021	**13**	Maintain value by not using backing by an underlying asset
B0022	**13**	Provide a CBDC that is: 1. Privacy-Protected 2. Intermediated 3. Widely Transferable 4. Identity-Verified
B0023	**14**	Create a liability to the Federal Reserve
B0024	**14**	Provide transactions finalized and completed in real time
B0025	**14**	Serve as a new foundation for the payment system
B0026	**14**	Provide a bridge between legacy and new payment services
B0027	**14**	Maintain the centrality of safe and trusted central bank money
B0028	**14**	Offer the general public broad access to digital money: 1. free from credit risk 2. liquidity risk

Desirement No.	Page No.	Desirement[2)]
B0029	**14**	Support basic purchases of: 1. goods 2. services 3. pay bills 4. pay taxes
B0030	**14**	Support benefit payments directly to citizens
B0031	**14**	Provide the general public broad access to digital money that is free from: 1. credit risk 2. liquidity risk
B0032	**14**	Provide a programmable CBDC
B0033	**15**	Support a level playing field in payment innovation for private-sector firms of all sizes
B0034	**15**	Generate new capabilities to meet the speed and efficiency requirements of the digital economy
B0035	**15**	Streamline cross-border payments by using: 1. new technologies 2. introducing simplified distribution channels 3. creating additional opportunities for cross-jurisdictional collaboration and interoperability
B0036	**15**	Preserve the dominant international role of the U.S. dollar
B0037	**15**	Support private-sector innovation
B0038	**15**	Allow private-sector innovators to focus on: 1. new access services 2. distribution methods 3. related service offerings
B0039	**15**	Provide a programmable CBDC to deliver payments at certain times
B0040	**15**	Provide micropayment support
B0041	**15**	Support streamlining cross-border payments
B0042	**15**	Preserve the dominant international role of the U.S. dollar
B0043	**16**	Promoting financial inclusion—particularly for economically vulnerable households and communities
B0044	**16**	Facilitate access to digital payments
B0045	**16**	Enable rapid and cost-effective payment of taxes
B0046	**16**	Enable rapid and cost-effective delivery of: 1. wages 2. tax refunds 3. other federal payments
B0047	**16**	Lower transaction costs
B0048	**16**	Provide a secure way for people to save
B0049	**16**	Promote access to credit
B0050	**16**	Extend Public Access to Safe Central Bank Money
B0051	**19**	Generate data about users' financial transactions similar to the current Commercial Bank[3)] and nonbank_money

Desirement No.	Page No.	Desirement[2)]
B0052	**19**	Prevent Financial money laundering crimes
B0053	**20**	Provide resiliency to threats to existing payment services—including: 1. operational disruptions 2. cybersecurity risks
B0054	**19**	Attract risk-averse users to CBDC

Policy Considerations

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The following are the U.S. CBDC **Policy Considerations** identified in the White Paper:

Table 2: The Policy Considerations identified in the **White Paper**

Desirement No.	Page No.	Desirement
P0001	**1**	Provide benefits to households, businesses, and the overall economy that exceed any 1. costs 2. risks
P0002	**1**	Provide Yield benefits more effectively than alternative methods
P0003	**1**	Complement current forms of money and methods for providing financial services
P0004	**2**	Protect consumer privacy
P0005	**2**	Protect against criminal activity
P0006	**2**	Garner broad support from key stakeholders
P0007	**2**	Be policy outcome neutral (i.e., not advancing a specific policy outcome)
P0008	**2**	Have a neutral position on the ultimate desirability of a U.S. CBDC
P0009	**3**	CBDC would be a liability of the Federal Reserve, not of a commercial bank
P0010	**3**	CBDC would be a liability not of a commercial bank[4)]
P0011	**3**	The Federal Reserve does not intend to proceed with the issuance of a CBDC without clear support from: 1. The Executive Branch 2. The Legislative Branch 3. ideally in the form of a specific authorizing law
P0012	**7**	The firms that operate interbank payment services are subject to federal supervision
P0013	**7**	Systemically important payment firms are subject to 1. heightened supervision 2. regulation
P0014	**12**	The PWG report highlights gaps in the authority of regulators to reduce these risks
P0015	**12**	The PWG report recommends that Congress act promptly to enact legislation that would ensure payment Stablecoins
P0016	**12**	The PWG report recommends payment Stablecoin arrangements are subject to a consistent and comprehensive federal regulatory framework

Desirement No.	Page No.	Desirement
P0017	**12**	The PWG report recommends CBDC complement existing authorities Regarding: 1. market integrity 2. investor protection 3. illicit finance
P0018	**13**	The Federal Reserve Act does not authorize direct Federal Reserve accounts for individuals
P0019	**13**	Federal Reserve accounts for individuals represent a significant expansion of the Federal Reserve's role in the financial system and the economy
P0020	**13**	The private sector would offer accounts or digital wallets to facilitate the management of CBDC holdings and payments
P0021	**13**	The intermediaries would operate in an open market for CBDC services
P0022	**14**	CBDC itself would be a liability of the Federal Reserve
P0023	**14**	CBDC would need to be readily transferable between customers of different intermediaries
P0024	**14**	CBDC would need to comply with the U.S. robust rules
P0025	**14**	CBDC intermediary would need to verify the identity of a person accessing CBDC
P0026	**14**	CBDC transactions would need to be final and completed in real-time
P0027	**14**	CBDC a risk-free asset
P0028	**15**	Require significant international coordination to address issues such as: 1. common standards 2. infrastructure, 3. the types of intermediaries able to access any new infrastructure, 4. legal frameworks 5. preventing illicit transactions 6. the cost and timing of implementation
P0029	**16**	The Federal Reserve is committed to ensuring the continued safety and availability of cash
P0030	**21**	The Federal Reserve will only take further steps toward developing a CBDC if: 1. Research points to benefits for households, businesses, and the economy overall that exceed the downside risks 2. Indicates that CBDC is superior to alternative methods
P0031	**21**	The Federal Reserve would only pursue a CBDC in the context of broad public and cross-governmental support

Risk Considerations

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The following are the U.S. CBDC **Risks** identified in the White Paper:

Table 3: The Risks identified in the **White Paper**

Desirement No.	Page No.	Desirement
R0001	**3**	**Risk** of affecting financial-sector market structure
R0002	**3**	**Risk** to the cost and availability of credit
R0003	**3**	**Risk** to the safety and stability of the financial system
R0004	**3**	**Risk** to the efficacy of monetary policy
R0005	**7**	New payment services could pose **Risks** to: 1. financial stability 2. payment system integrity 3. other **Risks**
R0006	**8**	**Risk** of extreme price volatility
R0007	**8**	**Risk** CBDC is difficult to use without service providers
R0008	**8**	**Risk** of severe limitations on transaction throughput
R0009	**8**	Increased **Risk** of “runs” or other instabilities to the financial system
R0010	**11**	CBDC has **Risk** of significant energy footprint similar to Cryptocurrencies
R0011	**11**	Increased **Risk** to consumer's vulnerability to: 1. loss 2. theft 3. fraud
R0012	**12**	**Risk** of increased concern related to the potential for: 1. destabilizing “runs” 2. disruptions in the payment system 3. concentration of economic power
R0013	**13**	CBDC offers no associated credit or liquidity **Risk**
R0014	**13**	**Risk** of not achieving an appropriate balance between safeguarding the privacy rights of consumers and affording the transparency necessary to deter criminal activity
R0015	**14**	Require mechanisms to reduce liquidity **Risk**
R0016	**14**	Require mechanisms to reduce credit **Risk**
R0017	**15**	Using private digital money could present **Risks** to both individual users and the financial system as a whole
R0018	**17**	**Risk** a CBDC could fundamentally change the structure of the U.S. financial system, altering the private sector and central bank: 1. roles 2. responsibilities
R0019	**17**	**Risk** of reducing the aggregate amount of deposits in the banking system, which could in turn increase bank funding expenses, and reduce credit availability or raise credit costs for households and businesses.
R0020	**17**	**Risk** that interest-bearing CBDC could result in a shift away from other low-risk assets, such as shares in money market mutual funds, Treasury bills, and other short-term instruments.
R0021	**17**	**Risk** of reducing credit availability or raising credit costs for businesses and governments
R0022	**17**	**Risk** of Stablecoins and other types of nonbank money shifting deposits away from banks even without a CBDC

Desirement No.	Page No.	Desirement
R0023	**17**	**Risk** of financial panic causing outflows from Commercial Banks to CBDC without prudential supervision, government deposit insurance, and access to central bank liquidity

Design Considerations

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Table 4: The Designs identified in the **White Paper**

Desirement No.	Page No.	Desirement
D0001	**17**	**Design** should be for a non-interest-bearing CBDC, for example, would be less attractive as a substitute for commercial bank money
D0002	**17**	**Design** should allow the central bank to limit the amount of CBDC an end-user could hold
D0003	**18**	**Design** should allow a limit on the amount of CBDC an end-user could accumulate over short periods
D0004	**18**	**Design** should influence how the Federal Reserve might affect monetary policy
D0005	**18**	**Design** could affect monetary policy implementation and interest rate control by altering the supply of reserves in the banking system
D0006	**18**	**Design** should allow an increase in CBDC supply to provide an adequate buffer, so there is little effect on the federal funds rate
D0007	**18**	**Design** should allow the Federal Reserve to increase the level of reserves on average, in order to provide an adequate buffer against unanticipated increases in CBDC
D0008	**18**	**Design** should allow for interest-bearing at levels of the CBDC to be controlled independently of other safe assets
D0009	**18**	**Design** should allow for significant foreign demand for CBDC, further complicating monetary policy implementation
D0010	**18**	**Design** should consider the potential for interest-bearing CBDC as a new policy tool on the channels of influence in monetary policy
D0011	**19**	**Design** should generate data about users' financial transactions in the same ways that commercial bank and nonbank money generates data today
D0012	**19**	**Design** should address privacy concerns by leveraging existing tools already in use by intermediaries
D0013	**19**	**Design** should facilitate compliance with a robust set of rules already intended to combat 1. money laundering 2. the financing of terrorism 3. customer due diligence 4. record-keeping 5. reporting requirements

Desirement No.	Page No.	Desirement
D0014	**20**	**Design** should involve private-sector partners with established programs to help ensure compliance with existing rules
D0015	**20**	**Design** should include any dedicated infrastructure required to provide resilience to threats such as operational disruptions and cybersecurity risks
D0016	**20**	**Design** should include offline capabilities to help with the operational resilience of the payment system
D0017	**20**	**Design** should include digital payments in areas suffering from large disruption, such as natural disasters

1)

Board of Governors, The Federal Reserve System, January 2022, Accessed: 5 May 2022, https://www.federalreserve.gov/publications/files/money-and-payments-20220120.pdf

2)

Desirement is a blended word combining the word **Desire** and **Requirement**. **Desirement** is something that is desired, but not absolutely required and is often used to caption the capabilities of a product or system before it has reached the formal requirements phase. Source: Desirement

3)

Commercial banks include banks licensed either by federal or state banking agencies, credit unions, and thrifts from the **White Paper**.

4)

Commercial banks include banks licensed either by federal or state banking agencies, credit unions, and thrifts from the **White Paper**.

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