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Via email: digital-innovations@frb.gov
Via submission form: www.federalreserve.gov/apps/forms/cbdc

Board of Governors of the Federal Reserve System
20th Street and Constitution Avenue NW
Washington, DC 20551

Response to Request for Comment on "*Money and Payments: The U.S. Dollar in the Age of Digital Transformation*"

PayPal appreciates the opportunity to provide this letter in response to the request for comment issued by the Board of Governors of the Federal Reserve System (Board) on its paper entitled "Money and Payments: The U.S. Dollar in the Age of Digital Transformation." The paper marks a thoughtful and important step in the exploration of a U.S. central bank digital currency (CBDC) or "digital dollar." PayPal commends the Board for its leadership in this space and offers the following feedback and recommendations to assist the Board in its ongoing work. PayPal agrees with the Board that a "CBDC would represent a highly significant innovation in American money" and, if properly designed, could provide individuals and small businesses with substantial benefits, including increased access to financial services, lower costs, faster transaction speeds, enhanced privacy, and greater optionality, leading to overall improved financial health.

I. Introduction

Across the globe, governments are actively studying the merits of CBDCs, with 87 countries (representing over 90 percent of global GDP) noting active exploration.[1] **We believe the United States should take a leadership role in this space.**

The U.S. Dollar plays a critical role not just domestically, but across the globe. As the primary global reserve currency, the dollar is used to conduct international transactions based on the availability and prevalence of financial instruments denominated in dollars as well as the depth and integrity of U.S. financial markets. The relative stability of the

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[1] Atlantic Council - Central Bank Currency Tracker, accessed 05/12/22, https://www.atlanticcouncil.org/cbdctracker/.

dollar against other currencies instills trust and confidence that dollars will serve as an effective medium of exchange and store of value. The importance of dollars in international transactions makes the Federal Reserve one of the leading central banks that can provide international liquidity.[2]

The importance of the U.S. dollar and its ubiquity in international payments is based on many factors, including the country's underlying economic infrastructure, governmental and financial stability, rule of law, and global trust. While several countries aim for their currencies to play a greater role internationally to reduce dependence on the dollar, the persistent strength of the dollar indicates the formidable advantages it enjoys.

If the U.S. dollar is to remain the world's primary reserve currency in the unfolding century, then being at the forefront of technological innovation that reduces friction in payments should be an area of focus. **Accordingly, the U.S. government and the Board should actively explore and consider new digital forms of money that can most effectively operate in an increasingly digital world. PayPal believes that a digital dollar could be a logical next iteration to futureproof the U.S. dollar.** A properly designed digital dollar could promote diversification of the payment system and spur financial innovation, inclusion, and global currency interoperability.

To maximize the benefits of a CBDC, the private sector should play a key role in developing new technologies, partnering with the Fed on implementation and distribution, and expanding digital dollar access to the un- and underbanked to drive financial health.

The following sections outline PayPal's feedback on key aspects of a CBDC, including the potential benefits to financial health and inclusion, the role of intermediaries, key technology elements, privacy, the evolution and future of money, and opportunities for further exploration and collaboration. Underpinning these sections is a belief in certain core tenets of a digital dollar. **To that end, PayPal agrees with the Board that "a potential U.S. CBDC, if one were created, would best serve the needs of the United States by being privacy-protected, intermediated, widely transferable, and identity-verified."**

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[2] The Digital Dollar Project, *Exploring a US CBDC,* May 2020, http://digitaldollarproject.org/wp-content/uploads/2021/05/Digital-Dollar-Project-Whitepaper_vF_7_13_20.pdf.

Building on these principles, we believe a future digital dollar should:

- Operate alongside existing and future payment options and innovations, including but not limited to ACH, wire, credit, and private digital currency payment solutions;
- Be offered to retail and wholesale users;
- Be facilitated and distributed through accounts and digital wallets at regulated banks and financial services companies, such as trust companies and money transmitters;
- Ensure individual privacy, while satisfying law enforcement requirements;
- Promote global digital currency and network interoperability;
- Be flexible in its design to account for future technology, policy, or economic changes; and
- Encourage private sector innovation and collaboration.

II. The Need for More Robust Financial Health

We believe that financial inclusion and access are key prerequisites to achieving and maintaining the broader goal of "Financial Health." Financial Health is a framework for assessing how well a person's daily financial systems help people cope, build resilience, and create opportunities to pursue one's goals. Whether rural or urban, in countries both developed and developing, people share a common aspiration for financial health.

Being financially healthy is both a feeling and a metric. It's the sense of security gained by knowing you have enough money to pay the bills and have a cushion for a rainy day or unexpected event. It's the ability to develop and stick to a plan and achieve a goal. Helping people to accomplish and/or maintain strong financial health is at the heart of PayPal's mission to democratize the movement and management of money.

We firmly believe that how we pay for goods and services is fundamental to financial health, meaning that consumers must have choice in payment methods, understanding of payment options, visibility into their financial standing, financial options to achieve their goals, and the ability to exercise those needs in the coming digital age. Central bank digital currencies are an integral part of that overall framework.

As a financial technology platform bringing together consumers and merchants for over 20 years, we have played an instrumental role in fostering the growth of digital finance. **PayPal helped enable the digital evolution of payments** with the onset of online commerce. **We believe that digital assets will help to enable the next generation of payments.** In furtherance of that vision, we now enable our customers to buy, sell, hold, and check out with 4 select cryptocurrencies. The advent of stablecoins presents another option that could be widely used, as it is pegged to fiat currency and could enable faster cheaper financial transactions in the digital and coming web3 environment. And, we would want to develop the ability to hold and transfer CBDC through PayPal as well.

Depending on how a CBDC is designed, it could potentially fulfill currently unmet and future payments needs. For example:

- Further digitization of the small business sector, which makes up 99% of all businesses in the United States, can be facilitated by a retail CBDC.
- Sending international remittances to loved ones overseas may incur lower fees and take fewer days in a more efficient infrastructure.
- The disbursement of government-to-person (G2P) payments could take place quickly at scale, which can provide critical relief in times of disaster and crisis.

These are tremendous opportunities, and they would be dependent on the design choices of CBDCs, which are complex and need to be carefully researched.

III. Financial Innovation Should Be Viewed through the Lens of Financial Health & Inclusion

Given PayPal's long-standing focus on technology-driven innovation that can improve the financial lives of consumers and small business owners around the world, we bring a unique perspective to the topic of digital money and its potential evolution. Indeed, PayPal has remained at the forefront of the digital payment revolution for more than 20 years. By leveraging technology to make financial services and commerce more convenient, affordable, and secure, the PayPal platform is empowering more than 425 million consumer and merchant accounts in more than 200 markets to join and thrive in the global economy.

The Board's paper identifies the potential for greater financial inclusion and access as among a CBDC's greatest potential benefits. We agree. It is well documented that nearly 7.1 million households in America remain unbanked, with the majority of such households being Black and Hispanic. Despite some evidence of progress, roughly 13.8% of Black households and 12.2% of Hispanic households were unbanked according to a 2019 FDIC survey.[3] Notably, a separate 2021 survey found that one of the primary reasons individuals remain unbanked is due to distrust of banks given experience with surprise punitive fees, such as overdraft.[4] That is why facilitating access through different regulated financial intermediaries is important to the distribution of a U.S. CBDC.[5]

The underbanked represent an additional subsegment of the U.S. population that is currently underserved by the financial system. Approximately 20% of U.S. households are considered underbanked, meaning that they used alternative financial products outside the banking system.[6] 30% of Americans worry daily about the amount of debt they carry and 32% have difficulty paying for basic household expenses including food.[7] A further 67% of Americans are not financially healthy, meaning they have little financial cushion if economic conditions worsen.[8] 69% of Americans are living paycheck-to-paycheck, meaning they would experience financial difficulty if paychecks were delayed for a week.[9] And, 77% of Americans report feeling anxious about their financial situation.[10]

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[3] Federal Deposit Insurance Corporation, *How America Banks: Household Use of Banking and Financial Services 2019*, Oct 2020, https://www.fdic.gov/analysis/household-survey/2019execsum.pdf.

[4] Maiden and MIT DCI, *Centering Users in the Design of Digital Currency,* Dec 2021, https://static1.squarespace.com/static/59aae5e9a803bb10bedeb03e/t/61bb7af28a8f1708b6da3bc3/1639676662775/Maiden_US+CBDC+Report+Executive+Summary_Dec16_v3.pdf.

[5] *Id*.

[6] Federal Deposit Insurance Corporation, *2017 FDIC National Survey of Unbanked and Underbanked Households,* updated Dec 2021, https://www.fdic.gov/analysis/household-survey/2017/index.html.

[7] Aspen Institute, *It's Time for the US to Commit to Public Financial Health by Building More Inclusive Financial Systems,* Oct 2021, https://www.aspeninstitute.org/blog-posts/its-time-for-the-us-to-commit-to-public-financial-health-by-building-more-inclusive-financial-systems/.

[8] Financial Health Network, *U.S. Financial Health Pulse: 2020 Trends Report*, Oct 2020, https://finhealthnetwork.org/research/u-s-financial-health-pulse-2020-trends-report/.

[9] PRNewswire, *Number of Americans Living Paycheck to Paycheck on Decline Despite Pandemic,* Sept 2020, https://www.prnewswire.com/news-releases/number-of-americans-living-paycheck-to-paycheck-on-decline-despite-pandemic-301134207.html.

[10] CNBC, *77% of Americans are anxious about their financial situation—here's how to take control,* May 2022, https://www.cnbc.com/select/how-to-take-control-of-your-finances/.

Concurrently, there is growing global evidence of gradual decreases in the use of physical cash. Though likely impacted by the COVID-19 pandemic, a recent survey found that cash only accounted for 19% of transactions by individuals in 2020, marking a decline of seven percentage points from 2019.[11] An early 2021 survey conducted by PayPal found that 26% of consumers in the United States hoped to use *less* cash during the year and 58% liked the idea of not having to carry cash or coins.[12] Additionally, 73% of those surveyed in the United States stated they would be likely to use a secure U.S. CBDC that is usable online and everywhere cash is accepted. That percentage was even higher with younger demographics, including millennials.

Against this backdrop, the potential appeal and inclusionary benefits of a digital dollar begin to crystallize.

First, if a U.S. CBDC were made available through a digital wallet service offered by regulated financial services firms, it is likely that a meaningful percentage of **currently un- and underbanked individuals would find benefits** from a digital dollar.[13.] There are numerous and complex causes that contribute to unbanked and underbanked populations. We need to study these and address them individually – there will be no one solution to this global problem. It is a problem that deserves thought and action, which may need to come in small doses to test solutions for effectiveness, or recalibrate to achieve the desired results. While a U.S. CBDC may not succeed in converting all unbanked and underbanked persons into those that fully utilize the needed financial services, even impacting a small percentage of the 20% of U.S. households that are underbanked is worthwhile and should be fully considered.

Non-bank financial services providers like PayPal and Venmo typically offer free onboarding and carry no minimum balance. Additionally, PayPal's two-sided platform connects both consumers and merchants in a seamless manner. Our services provide a favorable experience for the consumer and entree into a digital marketplace that does not typically accept cash or checks.

Digital wallets could be tailored to offer access to digital dollars, custody, and related payments services. These offerings would be in parallel with other payments services,

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[11] Federal Reserve Bank of San Francisco, *2021 Findings from the Diary of Consumer Payment Choice,* May 2021, https://www.frbsf.org/cash/publications/fed-notes/2021/may/2021-findings-from-the-diary-of-consumer-payment-choice/.

[12] PayPal, *Research Study: The Third Wave of FinTech Innovation,* Oct 2021, https://newsroom.paypal-corp.com/2021-10-18-Research-Study-The-Third-Wave-of-FinTech-Innovation.

[13] The Digital Dollar Project, *Exploring a US CBDC,* May 2020, http://digitaldollarproject.org/wp-content/uploads/2021/05/Digital-Dollar-Project-Whitepaper_vF_7_13_20.pdf.

providing competition and consumer choice. Once onboarded through a digital wallet service, a previously unbanked or underbanked individual would find herself connected to the global financial system and e-commerce platforms.

Second, the impact on G2P payments could be immense. Far too many Americans waited months to receive stimulus checks at the onset of the COVID-19 pandemic. A combination of a CBDC and digital identity could enable these individuals to receive their money through direct deposit in a far more timely manner. G2P payments provide a lifeline to millions of Americans and can be made far more efficient through a CBDC.

The pandemic underscored the importance of access to accurate, timely, safe, efficient, and affordable payments for all Americans and the high cost associated with being unbanked and underbanked. While the large percentage of pandemic relief payments moved via direct deposits to bank accounts, it took weeks to distribute relief payments in the form of prepaid debit cards and checks to households that did not have up-to-date bank account information with the Internal Revenue Service. Approximately 35 million individuals had to wait for months to receive their stimulus checks, if they received them at all.[14]

PayPal was honored to participate in the disbursement of stimulus checks. In the first round alone, 100,000 Direct Deposits were made via PayPal and Venmo. In the second round, 117,000 direct deposits were made via PayPal and Venmo. Instead of waiting for physical checks to be printed and mailed and later cashed and deposited, individuals and households could submit their PayPal account details directly to the IRS website and elect to receive their stimulus payment through Direct Deposit into a PayPal CashPlus account. The challenges of getting relief payments to these households highlighted the benefits of delivering payments more quickly, cheaply, and seamlessly through **new digital infrastructure**, and CBDCs can be a means of increasing financial inclusion and improving financial health.[15]

Third, given the likely speed, efficiency, and cost benefits of a digital dollar, low-income individuals should be able to **shift certain financial activity away from high-cost legacy providers**, including check-cashers and payday lenders, that often come with significantly higher fees.

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[14] CNBC, *35 million stimulus checks are still outstanding. What you need to know if you're waiting for your money,* June 2020, https://www.cnbc.com/2020/06/08/35-million-stimulus-checks-havent-been-sent-out-who-is-waiting-for-money.html.

[15] PayPal, *Addressing Your Questions About Government Stimulus Payments,* accessed May 5, 2022, https://newsroom.paypal-corp.com/covid-19-addressing-your-questions-about-government-stimulus-payments#:~:text=Elect%20to%20receive%20your%20stimulus,and%20you%27re%20all%20set.

Fourth, a digital dollar could render cross-border **remittance transactions more efficient and cost effective.** Many individuals face high fees sending money across borders due, in part, to numerous intermediaries; an interoperable digital dollar that could be readily exchanged across borders and converted into another digital fiat currency holds promise in connecting funds more directly, quickly, and efficiently to those who need them.

Fifth, a digital dollar could **support small business merchants** by providing them (and customers) with a new form of payment, especially given reduced physical cash dealings and the trend toward reduced cash usage. Indeed, as economies move away from physical money, it is prudent to offer the public access to a modern, digital form of cash. A digital dollar can offer important competition against other forms of payment and allow participants access to central bank money through regulated intermediaries.

Finally, a digital dollar would be **responsive to clearly shifting preferences** among consumers. Younger generations are increasingly reliant on mobile access to digital services, and a digital dollar meets them where they are. Offering public money in a digital format would appear to be the next step in the natural evolution of the dollar.

IV. The Importance of Regulated Non-Bank Financial Services Providers

PayPal has long worked to expand financial inclusion and health in the digital realm. We frequently work in partnership with banks and traditional financial institutions as a regulated financial services provider. **We believe that a US CBDC holds particular promise in advancing inclusion and financial health if it recognizes the benefits of open systems and broad distribution of digital dollars by regulated entities beyond traditional banks.**

More specifically, as this paper notes above, the traditional banking system has faced challenges in reaching all segments of the population, especially historically disadvantaged, minority, and low-income groups. Recent research underscores this dynamic by noting that non-bank fintech providers were far more effective in reaching minority-owned businesses during the COVID-19 pandemic to offer them Paycheck

Protection Program (PPP) relief. [16] For example, PayPal's PPP loan program is over-indexed in the majority of the top 30 counties that have the highest density of Black business activity and heightened incidence of COVID-19. More specifically, the coverage rate for PayPal-facilitated PPP loans is above average in 23 out of these 30 counties, [17] in sharp contrast to the overall PPP, in which the coverage rate is below average in 22 out of these 30 counties.[18]

Indeed, there is clear evidence that non-bank financial technology providers are increasingly providing key services for underserved women and minority consumers.[19] For example, PayPal Working Capital (PPWC) loans are distributed to areas with greater concentrations of minority populations, helping to close the gap in access for minority entrepreneurs. The percentage of total PPWC loans going to census tracts with greater than 25% African American population share is slightly higher than traditional SMB loans (13% vs. 11%). Also, this same group of borrowers are growing more quickly than the average SMB (22% vs. 9%).[20]

Given the ability of non-bank fintechs to reach broader populations, it is critical that a U.S. CBDC be offered and distributed through both regulated banks and non-banks, including state-regulated money transmitters and trust companies. As previously noted, **distribution would likely occur through digital wallet services,** which would offer tailored custodial and payments services. Such offerings are ideal products for fintechs that specialize in nimble, consumer-friendly applications, as well as connectivity with other service providers. A U.S. CBDC offers a unique opportunity to leverage a broader set of regulated entities to help expand access to digital financial services.

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[16] Washington Post, *Racial bias affected Black-owned small businesses seeking pandemic relief loans, study finds,* Oct 2021, https://www.washingtonpost.com/national/ppp-bias-black-businesses/2021/10/15/b53e0822-2c4f-11ec-baf4-d7a4e075eb90_story.html.

[17] PayPal, *Resilience and Growth During the COVID-19 Pandemic: A Study of Digital Small Businesses,* Sept 2021, https://publicpolicy.paypal-corp.com/sites/default/files/2021-09/C19_and_Digital_SMBs_PayPal.pdf.

[18] Federal Reserve Bank of New York, Double Jeopardy: COVID-19's Concentrated Health and Wealth Effects in Black Communities, *Aug 2020,* https://www.newyorkfed.org/medialibrary/media/smallbusiness/DoubleJeopardy_COVID19andBlackOwnedBusinesses.

[19] Federal Reserve Bank of Cleveland, *Fintech Lenders and Their Potential to Reach Underserved Women- and Minority-Owned Small Businesses,* accessed 05/12/22, https://www.clevelandfed.org/newsroom-and-events/events/2017/policy-summit/coverage/fintech-lenders-and-small-business.aspx.

[20] PayPal, *Alternative SMB Financing: Fueling Underserved Entrepreneurs,* Nov 2020, https://publicpolicy.paypal-corp.com/sites/default/files/2020-11/Alternative_SMB_Financing_Fueling_Underserved_Entrepreneurs.pdf.

A brief note on "Nonbank Money":

The Consultation refers broadly to three categories of money: Central Bank Money, Commercial Bank Money, and Nonbank Money. "Nonbank money" is a newly defined concept for the Fed, which "are broadly defined as institutions other than banks that offer financial services." Thus, within this category of "nonbank money" are a range of financial products, from prepaid access and gift cards to money market mutual funds (MMFs) to stablecoins. This is a large category of numerous financial services providers, some of which are considered Commercial Bank Money, and each carry different levels of risk that should not be grouped together.

To be clear, when a customer holds a balance at a nonbank financial service provider, the funds underlying that balance are fully supported by permissible investments in an amount that meets outstanding customer liabilities, as defined by state banking law. For example, permissible investments include categories such as cash, bank deposits, and U.S. government securities. These are bankruptcy remote reserves that are available in the event of default by the service provider. This is just one category of nonbank money that is subject to rigorous state banking laws and examinations. By stating that Nonbank Money as a category contributed to the financial crisis, the Consultation casts a bold shadow across a significant segment of regulated financial service providers, most of whom were not contributors to those crises.

As a result, we urge the Fed to discuss these various forms of financial products and services as distinct, each with varying levels of associated risk. Many of these firms have been helpful in supporting and connecting the global economy in a responsible way. As a bottom line, through these labels, the Consultation implies that providers of "Nonbank Money" may not be appropriate for holding and facilitating access to CBDC on behalf of customers which, in our view, would eliminate a significant benefit that can be achieved from a digital dollar.

V. CBDC Technology

PayPal has long been at the forefront of financial services and technological innovation. By leveraging the Internet and mobile technologies, PayPal has focused on expanding access to financial services, reducing consumer friction and cost, as well as increasing transaction speed. We view this next generation of digital asset technology as part of this evolution and one, if properly harnessed, that can unlock benefits for consumers and small businesses alike.

By facilitating greater automation, digital asset technology holds the promise to drive key benefits across the payments system including increased speed and efficiency; greater security; innovative new functionality; interoperability; and, programmability. As the Board and Reserve Banks consider design choices and related technology solutions for a digital dollar, it is important to ensure satisfaction of these elements. We unpack each element below.

One of the central benefits of digitized modern payments rails that leverage some of the innovations in blockchain and cryptography is the ability to **automate t**he settlement of payments and maintenance of the ledger. It is this automation that can eliminate costly, time-consuming, and sometimes manual processes associated with legacy infrastructure. This advantage can reduce transaction times and costs. It can further simplify the payments system by removing siloed databases and providing access to consumers and businesses to previously closed networks.

These features can result in a dramatically **more efficient and speedy financial system**. This in turn could result in reduced costs compared to the current system. The use of a digital dollar that transacts on more efficient rails should include regulated digital wallet providers who can process payments on the designated rails (and help manage or ensure proper governance of the rails) and the central bank operator of the CBDC system. Settlement times that today take days can be reduced to minutes, and errors that can be introduced due to the many intermediaries and systems through which a payment typically flows can be significantly reduced. As a result, financial system participants will not only have greater transparency into the movement of funds but will also enjoy greater liquidity and improved cash flow, further stimulating the economy.

A properly designed CBDC can also serve as a foundation for a **safer and more secure** payments network. Because digital currencies can employ multi-layer security in addition to strong authentication and authorization assurances, they can be subject to secure processes like multiparty authentication or enhanced transaction verification. Additional features embedded in a digital currency can facilitate compliance with reporting requirements, support AML and anti-terrorist financing efforts, and assist law enforcement in the prosecution of financial crimes. Notably, emerging encryption technologies can provide these benefits while preserving consumer privacy and control in how their data is used and shared.

The third feature of CBDC technologies is the ability to **spur additional innovations** across the financial sector. At PayPal, we have seen firsthand the impact that digitization has had on the economy and society. The ability to perform many different kinds of financial transactions directly on a mobile device has improved accessibility, particularly in rural locations and banking deserts. Giving small businesses the ability to accept payments digitally has enabled them to compete on a national or global scale. With more aspects of our lives taking place online, it's easy to see that a secure and open digital dollar could power use cases that we couldn't even conceive of today.

The fourth key feature of CBDC-related technology is the potential for **enhanced interoperability**. Domestically, this means operating alongside, and easily convertible to, other forms of digital currency, such as privately issued digital currencies like bitcoin and stablecoins, as well as digital representations of fiat currency. The system should facilitate consumer and business optionality and choice. The breaking down of silos provides an opportunity to connect digital economic systems, including other global CBDCs and financial networks. Interoperability, however, is predicated on careful coordination between the central bank issuers of CBDCs and related stakeholders, along with the development of standards. For this reason, **we urge the Board to assume a global leadership role in developing interoperability standards for CBDCs, including with respect to privacy and security**.

The final technological benefit of a CBDC is its **programmable nature**. This refers to "smart contracts" which enable tokens or currencies to be "programmed" to perform specific functions, like paying a mortgage on a certain date. Programmable money could help to reduce money laundering and terrorist financing by embedding eKYC and sanctions screening functionality. Tied to the concept of automation, digitized money can be wrapped in smart contracts and coded to include certain features and behave in determinable ways. The programmable nature of digital money means that regulation and compliance requirements can be embedded in money itself, and that business logic can drive desired outcomes. For example, a digital dollar could be programmed for humanitarian distribution in a disaster zone and only usable for the purchase of essential food and medical supplies in the first instance. In the context of financial markets, digital dollars could be programmed to facilitate clearing and settlement of transactions at efficient intervals. Programmability ultimately relies on interoperability, as noted above, to ensure that a digital dollar is usable across a range of digital economic spheres and use cases.

VI. Getting Privacy Right

One of the most important elements of a U.S. CBDC is ensuring user privacy while satisfying legitimate law enforcement requirements. Many have expressed concern that CBDCs could allow for government surveillance of citizen payment transactions, especially to the extent that the digital currency transacts upon highly centralized government rails. On the other hand, some worry that treating a CBDC as a pure analog to cash along with its anonymity features will facilitate illicit activity and threaten national security.

Given these important considerations, it is imperative that the United States gets privacy right when it comes to a digital dollar. With thoughtful design and implementation, the digital dollar could enjoy competitive advantages relative to other national CBDCs that permit unchecked surveillance. One advantage the United States already enjoys is existing legal due process and protections when it comes to individual financial information. These protections, which include those under the 4th Amendment of the U.S. Constitution, should be embedded within the design of a digital dollar and associated authorizing legislation.

Notwithstanding the importance of privacy, it is also important that a CBDC system be capable of meeting key law enforcement requirements and objectives. A CBDC design that relies on regulated entities to serve as digital wallet service providers can ensure implementation of key KYC/AML requirements. **Additionally, we encourage the Board to actively explore leading-edge privacy technologies that can help satisfy privacy and law enforcement objectives simultaneously. For example, zero-knowledge proofs are an area of development that allows network participants to validate certain information without having direct access to underlying, sensitive information.** In the context of KYC/AML, this might mean verifying that an individual is not on a sanctions list without revealing the identity of the individual to the entity seeking verification.

VII. The Future of Money

As it stands today, the current payment rails are inconvenient and expensive, taking days to settle transactions, providing limited visibility to businesses conducting international payments, and charging high fees – especially to lower-income and underbanked segments of the population that are forced into costly check cashing, money order, payday lending, and remittance services.

Technology and regulation provide an opportunity to reshape the financial system to benefit the underserved; to support businesses, professionals, and creators with faster, lower cost payments as well as access to credit; and, to relieve financial stress for the general public. Responsible innovation in payment systems, lending, digital currencies, digitized protocols, digital identity and in the fight against fraud and financial crime can bring a new era of equitable, low cost, and accessible financial services. **The time is ripe to modernize and upgrade the technological infrastructure of the financial system – and we want to help businesses and consumers adapt and engage.**

The combination of public research funding, private innovation, global attraction of talent, and appropriate regulation cemented the role of the United States at the center of the digitization of communications, media, commerce, and financial services in the form of web 1.0 and web 2.0. Achieving the same leadership position in web3 is possible but should not be taken for granted.

Advances in technology, including the use of digital assets and smart contracts, have the potential to fundamentally change the way in which payment activities are conducted and the roles of financial infrastructures. The introduction of a CBDC may provide an important foundation for beneficial innovation and competition in retail payments in the United States, giving people choices that feel meaningful to them and their financial health.

Interest in CBDCs has accelerated over the past year and half because of the digitization of all economic activities, in part due to the COVID-19 pandemic. At PayPal, we have seen the digitization of verticals that have traditionally been brick and mortar, such as groceries and meal delivery. We have also seen the growing importance of omni-channel capabilities for commerce, which is especially important as we support economic recovery by supporting the integration of small businesses into the digital economy.

We have been learning a great deal about CBDCs through our collaborations with institutions. This includes supporting MIT's Digital Currency Initiative (DCI) to advance its independent central bank digital currency research and development as well as participation in the Atlantic Council's CBDC Private Roundtable Series with the goal of making the technology more accessible and understood by the public. Additionally, in early 2022, we established a cross-disciplinary advisory council for our Blockchain, Crypto and Digital Currencies unit comprised of some of the world's leading experts in cryptography, distributed technology, regulation, economics and capital markets. We also have staff serving on the Digital Dollar Project's Advisory Board. We're committed to working with central banks and regulators to help responsibly shape the future of digital financial services.[21] We believe CBDCs could be a great addition to the payment options available to businesses and consumers and complement the current retail payments system.

VIII. Conclusion - Preferred CBDC Design & Path for Collaboration.

We believe that any exploration into a new digital dollar necessarily includes collaboration between government and industry representatives experienced in technology, financial services and payments, and illicit finance. It is critical that any digitized dollar be carefully and thoughtfully planned and tested, and tested again, to ensure the vibrancy of U.S. currency for centuries to come. The private sector will play an important role in distributing a CBDC, enabling interoperability, and facilitating use among consumers, including the un- and under-banked. We would be happy to collaborate through discussions, pilots, or testing.

[21] PayPal, *2021 Global Impact Report*, April 2022, https://s26.q4cdn.com/519805829/files/doc_downloads/PayPal-2021-Global-Impact-Report.pdf.