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Facebook's Libra 2.0: Why you might like it even if we can't trust Facebook

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STATEMENT OF INDEPENDENCE

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Introduction

A year ago, Facebook announced it would create a global digital currency called “Libra” in order to help the billions of people around the world who lacked access to basic financial services. The currency would be a “stablecoin” backed by a basket of sovereign currencies such as the U.S. dollar, the euro and the Japanese yen. With it, Facebook claimed, you would be able to send money as easily as sending an email. The proposal provoked widespread skepticism about Mark Zuckerberg’s motives—surely financial inclusion was just a veil for data collection ambitions—as well as criticism that this would undermine the U.S. dollar and cause all sorts of other problems. But the proposal also prompted a number of central banks to initiate or speed up research on the possibility of government-issued digital currencies.

In April, because of the Covid-19 pandemic, news that would normally have gotten our attention was sidelined. And so when in the space of 48 hours Facebook issued a revised Libra proposal and China launched a test of its new central bank digital currency (CBDC), there was not much media coverage.

Covid-19 itself may cause a decline in the use of cash and add momentum to the development of digital currencies. Many governments have urged their citizens to use contactless or electronic forms of payment instead of cash as a result of the pandemic. Some, such as China and South Korea, required banks to disinfect bank notes with ultraviolet light or other means; and the Federal Reserve quarantined notes coming back from Asia.¹ (CAUTION: Do not try sterilizing your money at home: a South Korean reportedly put his won in the microwave and singed about \$700 worth.²) If we had had a government-issued digital currency in place prior to the pandemic, it would have been a lot easier to get government assistance to individuals by simply crediting accounts at the Federal Reserve, instead of having to print and mail checks to millions of Americans.³

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1. Raphael Auer, Giulio Cornelli, and Jon Frost, “Covid-19, Cash and the Future of Payments,” Bank for International Settlements, April 3, 2020, <https://www.bis.org/publ/bisbull03.pdf>.
2. Rachel King and Alice Shen, “Will Cash Survive Covid-19?,” *Central Banking*, March 20, 2020, <https://www.centralbanking.com/central-banks/currency/7509046/will-cash-survive-covid-19>.
3. Of course, direct deposit accounts are a faster means than checks as well. The Internal Revenue Service said it sent 120 million CARES Act payments to individuals by direct deposit, 35 million by check and 4 million by pre-paid debit card. Media reports estimated that recipients of checks and pre-paid cards waited an extra month. See Internal Revenue Service, “159 Million Economic Impact Payments Processed; Low-Income People and Others Who Aren’t Required to File Tax Returns Can Quickly Register for Payment with IRS Non-Fileers Tool,” June 3, 2020, <https://www.irs.gov/newsroom/159-million-economic-impact-payments-processed-low-income-people-and-others-who-arent-required-to-file-tax-returns-can-quickly-register-for-payment-with-irs-non-fileers-tool>; Brad Tuttle, “When Are Paper Stimulus Checks Being Mailed?” *Money*, May 19, 2020, <https://money.com/when-are-paper-stimulus-checks-mailed-irs/>.

What this paper is about

Digital currencies are just one innovation in payments, which are becoming faster, cheaper and more convenient as a result of many developments. This paper will not attempt to survey what is happening in payments generally. My focus is on Libra, because of the unique characteristics of the proposal and the controversy it has created, much of which is attributable to its creator, Facebook.

I began this work last year in large part because I wanted to consider whether Libra can succeed in increasing access to the financial system, a goal that in my view has far greater social importance than simply making payments faster and cheaper for all of us for whom the payments system already works well. Frankly, it feels a bit inopportune to publish a paper about the dry subject of payment systems when the nation is grappling with the challenges of the Covid-19 pandemic and systemic racism symbolized by the killing of George Floyd. But at least improving access to the financial system helps address inequalities of opportunity, wealth and income in our society which underlie many challenges we face. The need for financial inclusion is significant: almost 25% of American households are unbanked or underbanked, with the rate among black and Latino households five times higher.⁴ And while Libra is clearly a business enterprise, not a charity, Facebook and the Libra Association—the new governing body for the Libra network—have emphasized this goal from day one.

I examine whether the changes to the structure of Libra have addressed the many criticisms made of the original proposal. Should we regard it as a good innovation or something that still poses significant risk and problems? And is it likely to help increase access to the financial system, or will it be like other fintech ideas that have not dramatically moved the needle on an intractable problem?

The paper also discusses CBDCs for two reasons. First, Libra has caused an increase in CBDC research and development, and there is an almost constant stream of announcements and reports from central banks on the subject today. Second, CBDCs are often seen as a way of increasing financial inclusion. I provide a brief look at their advantages and disadvantages and the impact of the Libra proposal on development efforts.

These topics led me to study the dramatic growth of the China third-party mobile payments industry over the last decade. That may seem like a detour to some, but it is relevant in several respects. First, the China mobile payments industry developed outside of the traditional banking system—which is what Libra hopes to do—and contributed significantly to financial inclusion in China. It is worth considering whether the reasons for its success are relevant to Libra's potential. In addition, the Chinese regulatory response to the industry is instructive in thinking about how to regulate Libra.

The announcement of Libra also appears to have caused the Chinese government to accelerate its development of a CBDC, and so I briefly examine its actions. The Chinese government's reaction to Libra was in one respect completely opposite the initial reaction in our

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4. See text beginning at note 86.

Congress: whereas many of our elected representatives said Libra would undermine the U.S. dollar, China saw it as a reinforcement of an international payment system that they believe is already too dominated by the dollar.

Having chaired the Commodity Futures Trading Commission during which time the agency declared cryptocurrencies like Bitcoin to be commodities, and having recently written a paper on the need to strengthen U.S. regulation of cryptocurrencies, my focus is also on the financial regulatory implications of the Libra proposal.⁵ Rarely has a single proposal united a more diverse group of government officials in opposition: President Donald Trump, Chairman Jerome Powell of the Federal Reserve, and Representative Maxine Waters—the Democratic chair of the House Financial Services Committee—all quickly expressed dislike or concern about Libra following the initial announcement.⁶

A summary of my own views

Let me take the unusual step of stating my conclusions up front: I was skeptical of Libra when the White Paper was first issued.⁷ But the changes made to the proposal are very sensible, and deal with many of the concerns previously raised. While Libra may not succeed in improving access to financial services for the underserved, we should let it try. That is, we should create a reasonable regulatory framework under which the Libra proposal can be developed and implemented. The competition in payments will be a good thing.

Innovation in our financial markets has been a constant and a source of great benefit to consumers. Sometimes regulation stifles innovation, and sometimes regulation fails to catch up before innovation leads to excessive risk—consider the history of subprime mortgages or credit default swaps. In the Congressional hearings on Libra, many wanted development of Libra stopped, for fear of the risks it might create and the power it might give Facebook. Others worried the hostility to the proposal was a sign that we are “losing” the financial technology or fintech innovation race.⁸

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5. Timothy G. Massad, “It’s Time to Strengthen the Regulation of Crypto-Assets,” *Brookings Institute*, March 18, 2019, 26–28, <https://www.brookings.edu/research/its-time-to-strengthen-the-regulation-of-crypto-assets/>.
6. Yen Nee Lee, “Trump: I’m ‘Not a Fan’ of Cryptocurrencies, and Facebook May Need a Banking Charter for Libra,” *CNBC*, July 11, 2019, <https://www.cnbc.com/2019/07/12/trump-criticizes-bitcoin-cryptocurrencies-questions-facebook-Libra.html>; Kate Rooney, “The Fed Is Looking into Facebook’s Libra Cryptocurrency as Powell Flags ‘Serious Concerns,’” *CNBC*, July 10, 2019, <https://www.cnbc.com/2019/07/10/powell-says-facebooks-Libra-cryptocurrency-raises-serious-concerns-such-as-money-laundering.html>; Salvador Rodriguez, “Rep. Maxine Waters Asks Facebook to Pause Work on Cryptocurrency Libra,” *CNBC*, June 18, 2020, <https://www.cnbc.com/2019/06/18/rep-maxine-waters-facebook-should-stop-work-on-Libra-cryptocurrency.html>.
7. Timothy Massad, “Is Facebook Libra a Betrayal of Satoshi Nakamoto’s Vision?,” *Fortune*, July 15, 2019, <https://fortune.com/2019/07/15/facebook-Libra-coin-cryptocurrency-hearing/>.
8. See, e.g., *An Examination of Facebook and Its Impact on the Financial Services and Housing Sectors: Hearing before the House Committee on Financial Services*, 116th Cong. (October 2019) (statements of Reps. Tom Emmer, Anthony Gonzalez, David Kustoff, Roger Williams).

Libra is a regulatory challenge because it cuts across traditional regulatory categories like banking, securities and payments as well as national borders. The issues are particularly challenging for the United States because of our fragmented financial regulatory system—we have multiple regulators with different interests—and the absence of a comprehensive federal framework for the regulation of payment systems. We are not as well situated as Switzerland, where the Libra Association is incorporated and there is a single financial regulator with broad powers. The Libra Association is in the process of obtaining regulatory approval from Swiss authorities to launch the service, which increases the stakes on what U.S. regulators do.

Regulators around the world need to work together to construct the proper framework for Libra. There will need to be capital, liquidity and other requirements to address prudential and financial stability concerns; disclosure and other consumer protection standards; adequate know-your-customer (KYC), anti-money laundering (AML) and combating financial terrorism (CFT) standards, and that is just a partial list.

The financial regulatory challenge in the United States would be best addressed if Congress created a comprehensive framework for the regulation of payment systems, but that seems unlikely to happen in the short term. I consider whether the Financial Stability Oversight Council could step in by declaring Libra a payments system subject to Federal Reserve oversight, which would be an alternative way to create a more unified approach, but that seems unlikely in the short term also. That means our individual financial regulators will need to collaborate with one another and with Swiss and other foreign authorities to stitch together a regulatory approach.

But Libra also raises many issues outside of the traditional purview of financial regulators, such as privacy and data issues and broader issues about the power of large digital platforms. What type of data can be collected, what can be done with it and how to achieve informed consent? Should we even let an entity as powerful as Facebook attempt to launch a payments system? That is, while it might bring competition in payments, it may simply enhance the power of an already dominant social media platform. Facebook frequently points out it will just be one of the members of the Libra Association; it will not govern it. But Facebook will have a subsidiary, called Novi (previously Calibra), that will be a digital wallet offering services on the Libra network.

I share these concerns. They are broader and more important than just Libra; but Libra has become a focal point in the debate. Some people may continue to oppose the Libra proposal outright because of these issues. Because the payments system works for many of us, it may seem better just to say no to Libra. Most Americans have a variety of electronic and other payment options, such as credit cards, debit cards, mobile banking, and checks, that are often free. Some of those options even pay us financial benefits—credit cards give us free revolving credit, if you pay your bill each month, as well as rewards and rebates (though we effectively pay for these services because of the charges imposed on merchants). The risks associated with an increase in Facebook's power and its collection of data may seem greater than the potential benefits Libra might bring to our payment options.

But the people whom Mark Zuckerberg wants to help, if we take him at his word, might see that equation differently. To give one illustration: a total of \$706 billion was sent in remittances in 2019, much of it by people working in developed countries to their families and friends in low and middle income countries, at an average cost of 7%.⁹ Shouldn't we figure out the necessary regulatory protections to let a private company compete to reduce that cost?

The organization of the paper

This paper is for anyone who wants to think about these issues. It does not assume any background in the policy or technical aspects concerning digital currencies or payment systems. The paper is organized as follows: first, I examine the changes to the Libra proposal that were recently announced, and the extent to which the Libra Association has responded to objections that have been raised. I also discuss how Libra should be regulated, including whether the Financial Stability Oversight Council should play a role.

Second, I consider whether Libra can help improve access to financial services in the United States. Third, I consider what we can learn from the growth of the third-party mobile payments industry in China, and the regulatory response to it. Fourth, I examine how the Libra proposal has accelerated the development of CBDCs and their potential advantages and disadvantages, particularly when it comes to increasing financial inclusion. I conclude with some thoughts on how we should move forward.

Before discussing the changes to the Libra proposal, I briefly discuss in the section below how I use the term “digital currency,” which is not consistently defined in the literature.

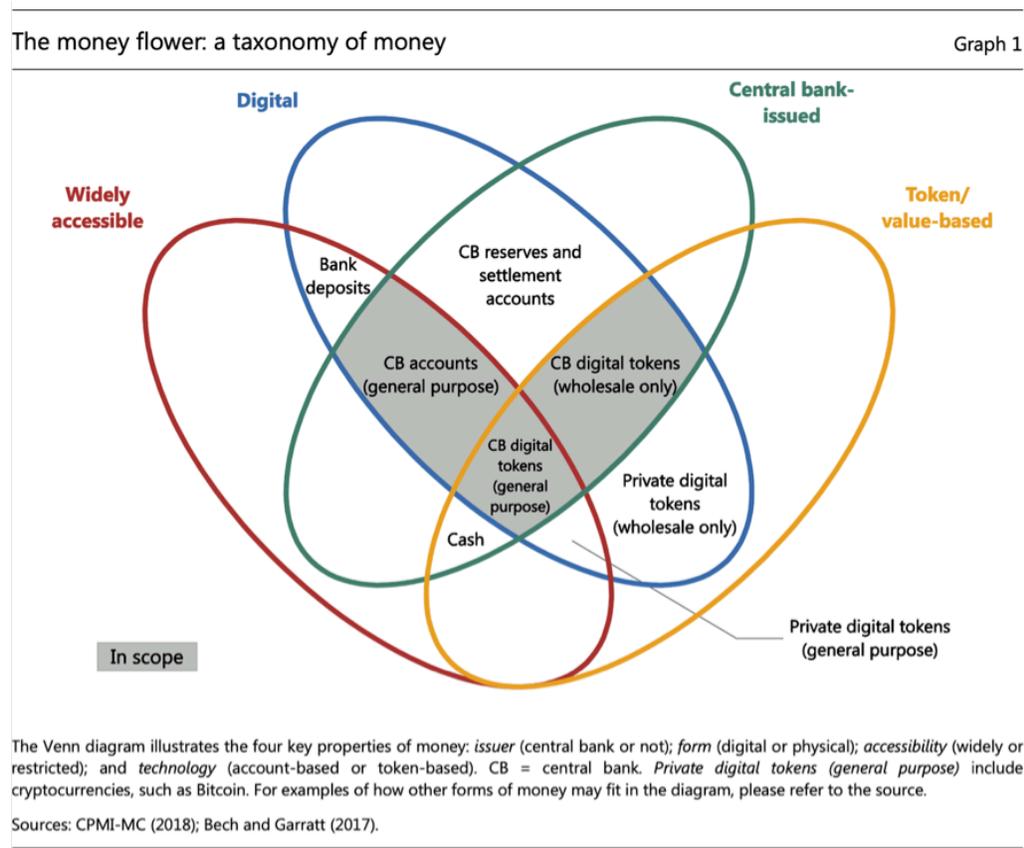
A note on the term “digital currency”

The term “digital currency” does not have a consistent meaning in the relevant literature, and distinctions between “digital currencies” and other electronic means of payment are not always clear. I use the term “digital currencies” to include central bank digital currencies or CBDCs, as well as non-government-issued digital payment instruments in *token* form. I do not include other forms of electronic or mobile payments, which are linked to commercial bank accounts. I explain why below.

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9. Alfonso Garcia Mora and Michal Rutkowski, “Remittances in Times of the Coronavirus – Keep Them Flowing,” *World Bank Blog*, April 3, 2020, <https://blogs.worldbank.org/psd/remittances-times-coronavirus-keep-them-flowing>; Global Knowledge Partnership on Migration and Development, *Migration and Remittances: Recent Developments and Outlook*, World Bank Group, Brief 31, April 2019, vii & 4, <https://www.knomad.org/sites/default/files/2019-04/Migrationanddevelopmentbrief31.pdf>. See also The World Bank, *Remittance Prices Worldwide*, Issue 33, March 2020, 2 & 11, https://remittance-prices.worldbank.org/sites/default/files/rpw_report_march_2020.pdf.

Figure 1: The money flower



The “money flower” Venn diagram created by Morton Bech and Rodney Garratt and published by the Bank for International Settlements is helpful as it refers to four properties of money: issuer (central bank or not); technology (account-based or token based); form (digital or physical) and accessibility (widely or restricted).¹⁰

Issuer: Public money vs. other money

Money can be issued by the central bank or by someone (or something) else. Paper notes constitute money issued by the central bank.¹¹ They represent claims on or liabilities of the central bank. Money issued by someone else includes the money created by a bank through fractional reserve banking: when a bank takes in deposits and then lends most of them out (keeping only that portion required by law as necessary for safety and soundness), it is creating money. It would also include Libra: although backed one-to-one by dollars (or another currency), the Libra coins do not constitute claims on the Federal Reserve, but on the Libra Association and/or the wallet that issued the coin. Bitcoin is also in the “other” category, if one considers it money. It is issued by a protocol rather than an entity. I use the

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10. Bank for International Settlements, *Central Bank Digital Currencies*, 5.

11. Although coins are issued along with paper notes by many central banks, in the United States coins are actually issued by the U.S. Treasury Department.

term “private money” to refer to all money other than that issued directly by a central bank and representing a claim on the central bank.

Technology: account-based vs. token-based

Money can be account-based or token-based. In an account-based system, transfers are recorded on a ledger of accounts by an intermediary. The transaction is considered valid if the identity of the payer is verified—that is, is the payer the owner of the account from which the funds are being transferred. Paper checks, debit cards and mobile banking today are all instruments of an account-based system. In a token system, the validity of the transaction depends on the authenticity of the thing exchanged: the token. Cash—paper notes and coins—are one type of token money. There can be digital tokens as well, where transfers are validated by determining the authenticity of the token. Bitcoin is a type of digital money in token form—the transfer is recorded on a distributed ledger if the validity of the token is verified.

The other two properties: digital vs. physical and accessibility

The other two properties are straightforward. Physical is paper notes, coins and checks; digital is everything electronic. As for accessibility, the most widely accessible form would be paper notes; anyone can hold and use them. Restricted forms would include central bank electronic reserves, available only to financial institutions with accounts at a Federal Reserve bank, or the JPM Coin—J.P. Morgan’s digital token available for use by its customers.

Where does the term “digital currency” fit in?

So far, so good, hopefully. The bad news is the term “digital currency” does not fit neatly into this money flower diagram. The term is used in different ways.

When it comes to CBDCs, the literature uses the term to refer to both account and token based forms, as well as systems that are retail (meaning widely accessible) and wholesale (meaning available only on a limited basis). A retail CBDC would be quite different than what we have today, where individuals can only hold claims on the Federal Reserve in the form of physical currency. By contrast, it is often hard to distinguish a “wholesale CBDC,” which would be available only to a limited number of financial institutions, from what exists today, where financial institutions with accounts at a Federal Reserve Bank do hold electronic claims on the Federal Reserve.

When it comes to privately issued money, some use the term digital currency in a narrow sense, to refer only to tokenized forms. Others use it more broadly, in ways that seem to include just about any type of electronic payment, or at least those you can use with your phone.

Some might suggest the term “digital currency” should be reserved for CBDCs because they take the view that only sovereigns can issue a “currency.” That would avoid trying to decide which of the various types of electronic money issued other than by central banks should be classified as a digital currency. But it would leave us without what I consider a useful

term to describe an important area of private and public innovation. As noted above, my usage includes tokenized forms of money not issued by a central bank, like Libra and Bitcoin. But I do not include in the term forms of privately issued electronic money that are based on a system of accounts, as that seems too broad, though I acknowledge the line is blurry.

Part I: The new and improved Libra

The original Libra White Paper, released in June of 2019, proposed a global digital currency in the form of a stablecoin which would be backed by a basket of sovereign currencies such as the U.S. dollar, the euro, the British pound and the Japanese yen. It would be a new, real-time payments system that would be independent of existing bank and credit card payment rails. It would be governed by the Libra Association, a new non-profit entity to be incorporated in Switzerland. Facebook would be one of the members and would not control the Association. There would be separate firms—digital wallets—to issue Libra to consumers in exchange for their fiat currency and to facilitate transactions. Facebook would own one such firm but it promised the system would be open to other wallets. The sovereign currencies paid by users to obtain Libra would be held in a reserve that would be invested in high quality, short-term assets; any interest on such investments would go to pay operational expenses and profits to the Association members, not to the users. The network would be based on blockchain technology, and while it would be a “permissioned-based” system initially—meaning there would be a central administrator—the White Paper promised a transition to a “permissionless” system, similar to the distributed, decentralized ledger of Bitcoin, within five years.

The proposal was met with harsh criticism on many grounds: Facebook was just attempting to monetize our data; there could be the equivalent of bank runs if the reserve investments had losses; users would mistakenly believe their money was insured as with a bank deposit; the system would be used for illicit finance and money laundering; and so forth. It was also seen as potentially undermining the role of the U.S. dollar as the world’s leading reserve currency—a negative to many in the United States though not necessarily elsewhere.

The revised Libra proposal—which I will call Libra 2.0—contains changes in four areas. First, the proposal contemplates a series of digital stablecoins, each backed by a single sovereign currency, such as the U.S. dollar or euro, rather than a single stablecoin backed by a basket of currencies. The concept of a multi-currency stablecoin is still present but only as what is now called a “digital composite of some of the single currency stablecoins available on the Libra network.”¹² Second, the proposal claims there will be enhanced compliance procedures to address concerns that the network could be used for money laundering and financing illicit activity. Third, there is greater detail on how the Libra Association will protect the reserve of sovereign currencies that it receives in exchange for issuing Libra

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12. Libra Association Members, *White Paper v2.0*, April 2020, 2, <https://Libra.org/en-US/white-paper/#cover-letter>.

stablecoins. And finally, the original idea of transitioning within five years from a “permissioned” blockchain system to a “permissionless” system has been jettisoned.¹³

All of these changes are improvements, and I discuss each one below. I also discuss objections to the proposal that were raised when first made and are not directly addressed by these changes. Overall, I doubt the proposed changes will cause many of Libra’s severest critics to change their minds, because much of the opposition was about the proponent, Facebook, and the potential consequences of Facebook launching a currency, rather than the details of the proposal. But the changes may enable the Libra Association to gain sufficient regulatory approvals to launch the idea.

Single-currency stablecoins in addition to the basket

The biggest change is the introduction of single-currency coins in addition to the multi-currency basket, which was probably the single design feature that created the greatest criticism.

The basket approach created practical problems. There might be volatility in the Libra basket’s value as the relative weights of currencies change. The structure might also confuse users. The volatility might also mean every time you used Libra to purchase something, you could have a reportable transaction for tax purposes, absent some special dispensation from tax authorities (see section below). Those problems would diminish Libra’s utility as a payments system.

The tax treatment of Libra

The Internal Revenue Service treats “virtual currency”—whether Bitcoin or a stablecoin like Libra—as property. That means you are considered to have exchanged one type of property for another when you use Libra to make a purchase.¹⁴ If the value of Libra changes between the date you acquire it and the date you dispose of it, that triggers reporting and a possible tax liability (or tax loss), unless tax authorities were to exclude reporting for a de minimis change in value. That problem was more significant in the old proposal because the value of the basket might change as a result of exchange rate movements or even changes in the basket composition. This should not be a problem for a U.S. taxpayer using the Libra dollar coin under the new proposal, although there could still be such an issue in using the composite coin or other single-currency coins.

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13. Libra, *White Paper v2.0*, 3.

14. Notice 2014-21, Internal Revenue Service, U.S. Treasury Department (Apr. 14, 2014), <https://www.irs.gov/pub/irs-drop/n-14-21.pdf>.

A system that uses several single-currency stablecoins rather than a single multi-currency coin should eliminate or minimize these problems and increase the attractiveness of Libra. In addition, there are already single-currency stablecoins based on the U.S. dollar, such as Tether. Although they are not widely used for payments, their existence means Libra is not quite so novel.

The change is not just more practical; it substantively redefines—or some might say reduces—Facebook’s ambitions. Although no one has created a global payments system that relies on multiple stablecoins, this new approach is a more modest undertaking than suggesting you intend to displace the major sovereign currencies of the world.

The change is evident in the first words of the White Paper. Contrast the opening line of the original proposal with the revised one. The original proposal said, “*Libra’s mission is to enable a simple global currency and financial infrastructure that empowers billions of people (emphasis added).*”¹⁵ The new proposal begins: “*the Libra Association’s mission is to enable a simple global payment system and financial infrastructure that empowers billions of people (emphasis added).*”¹⁶

Earlier this year, I spoke with David Marcus, who has been leading the development of Libra and is the former president of PayPal. When we discussed the original launch of Libra, he said “our intent was always to build a digital payment system,” but that when Libra was announced “we perhaps did not land that message clearly enough.”¹⁷ Perhaps, or maybe Mark Zuckerberg actually had visions of a new currency. In any event, building a payments system that relies on digital assets sounds like a PayPal with a different technological backbone, not a challenge to sovereign authority.

Indeed, the revised proposal claims the Libra network will be compatible with, rather than a competitor to, CBDCs. The network would provide “a clear path for seamlessly integrating CBDCs as they become available.”¹⁸ The proposal says that if the U.S., the U.K. or another jurisdiction were to launch a CBDC, the Libra Association would replace the applicable single-currency stablecoin with the CBDC.¹⁹

The revised White Paper is short on details of how exactly the multi-currency coin will work, which would be used where there is not a single-currency Libra coin. The paper says it “can be implemented as a smart contract that aggregates single-currency stablecoins using fixed nominal weights (e.g., ≈USD 0.50, ≈EUR 0.18, ≈GBP 0.11, etc.)”²⁰ and would be like a special drawing right or SDR. Whether the comparison to SDRs is on point—there are many differences between the two—the issue is whether there will be sufficient intermediaries and liquidity in the multi-currency coin (or for that matter in the individual

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15. Libra Association Members, *White Paper*, June 2019, 1, https://libra.org/en-US/wp-content/uploads/sites/23/2019/06/LibraWhitePaper_en_US.pdf.

16. Libra, *White Paper v2.0*, 1.

17. David Marcus (leader of the development of Libra; board member of the Libra Association; and head of Novi), in discussion with the author, February 26, 2020.

18. Libra, *White Paper v2.0*, 2.

19. Libra, *White Paper v2.0*, 11.

20. Libra, *White Paper v2.0*, 11.

currency coins) to make all this work. Will conversion of fiat currency into Libra and vice versa be easy and free (or close to it)?

To address an earlier objection that the basket might change, the White Paper says “the Association would welcome the oversight and control over the basket composition (both currencies included and their respective weights) by a group of regulators and central banks or an international organization (e.g., IMF).”²¹

The revised White Paper also tries to allay concerns that Libra would interfere with the ability of the Federal Reserve—or any other central bank—to conduct monetary policy. In my view, that concern arose in part because of the grandiose language of the initial White Paper, not just the structure of the proposal. It said, “Since Libra will be global, the association decided not to develop its own monetary policy but to inherit the policies of the central banks represented in the basket.”²² But that language is gone, replaced by “The Libra network is intended to support global, cross-border exchanges by extending the functionality of fiat currencies, which are appropriately under the governance and control of central banks. Under this new approach, we seek to reduce concerns around monetary sovereignty. . . .”²³ In my conversations with one senior Federal Reserve official about Libra, there was much greater concern about risks of the Libra proposal related to illicit payments, consumer protection and illiquidity rather than interference with monetary policy or impact on U.S. dollar stability.

The White Paper also responds to the criticisms that the introduction of Libra in countries with weaker sovereign currencies might undermine those currencies, lead to capital flight or cause “back-door dollarization” because the U.S. dollar would be the largest currency in the basket. The paper says that, “if adoption in a region without a single-currency stablecoin on the network generates concern about currency substitution, then the Association could work with the relevant central bank and regulators to make a stablecoin available on the Libra network.”²⁴ Whether that expression of intent addresses the concern—and whether central banks will want to create Libra stablecoins for their currencies—remains to be seen.

A stronger compliance framework?

The second change pertains to the compliance and risk management framework. When Libra was first proposed, there was a lot of criticism that it would be used for money-laundering and illicit activity. This is a general problem with cryptocurrencies. Transactions in

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21. Libra, *White Paper v2.0*, 11.

22. Christian Catalini et al., “The Libra Reserve,” Libra Association, June 2019, 3–4, https://libra.org/en-US/wp-content/uploads/sites/23/2019/06/TheLibraReserve_en_US.pdf. Perhaps this language was intended to contrast Libra with Bitcoin, where the supply and frequency of issuance is fixed by the protocol. The supply of the fiat currencies that could be exchanged for Libra would be determined by the respective central banks; there would be no other restriction on supply of Libra. But they might have said that more directly.

23. Libra, *White Paper v2.0*, 11.

24. Libra, *White Paper v2.0*, 11.

cryptocurrencies are not, as is often thought, anonymous. They are instead pseudonymous. There is an account number tied to every transaction that is never erased. If you can identify the owner of an account, then the ledger provides you with a history of all transactions involving that account. That can make it easier to track illicit payments made with cryptocurrencies than with cash in suitcases. But because the regulatory framework for cryptocurrencies is weak, the standards to prevent illicit finance that have been extensively implemented in other financial sectors are not as vigorously applied and enforced. In addition, illicit crypto payments are often “washed” through many accounts which makes it difficult as a practical matter to identify the owner.²⁵ Mixers and tumblers can be used to combine multiple transactions and obfuscate exactly who paid whom.²⁶ In addition, there are so-called “privacy coins” like Monero which do not have as transparent a ledger. And even if one identifies a registered owner of a cryptocurrency account, complex beneficial ownership chains can hide the true identity.

The ability to prevent illicit activity in Bitcoin and other cryptocurrencies depends in large part on the strength of the compliance operations of the on-ramps and off-ramps between fiat and cryptocurrencies as well as the exchanges and other intermediaries that handle transactions. While the international Financial Action Task Force and the Financial Crimes Enforcement Network (FINCEN) of the U.S. Treasury have developed standards, the fact is the cryptocurrency universe of actors is not subject to an overall regulatory framework that is as rigorous as that imposed on banks or securities and derivatives intermediaries.²⁷

When the White Paper was first published, many doubted the Libra Association could implement strong standards on KYC, AML or CFT, or ensure compliance with financial sanctions. There was very little discussion of the issue in the White Paper. In the Congressional hearings, David Marcus said the responsibility rested with the wallets or “on-ramps” that would exchange Libra for fiat currency, rather than with the Libra Association. He insisted that Facebook’s wallet would have stringent protections. And he claimed that KYC/AML/CFT standards would be important criteria in the Libra Association’s selection of on-ramps.²⁸

But that system will only be as strong as its weakest link. It was not clear whether or how the Libra Association would monitor compliance. It was also not clear whether it would impose its own stronger standards if a wallet was subject to oversight in a jurisdiction with

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25. A report last year by Chainalysis found that two professional criminal groups were largely responsible for \$1 billion in cryptocurrency hacks in 2018. The hackers typically moved stolen funds 5,000 times (and 15,000 in one case), often through crypto exchanges, to disguise the funds’ criminal origins. See Chainalysis, *Crypto Crime Report: Decoding Increasingly Sophisticated Hacks, Darknet Markets and Scams*, January 2019, <https://blog.chainalysis.com/2019-cryptocrime-review>.
26. Tumbling and mixing break the connection between the cryptocurrency wallet address from which coins are sent and the wallet address at which they are received, by combining multiple transactions. The chain then shows coins were sent *from* several particular addresses and coins were sent *to* several particular addresses but one cannot connect the individual pairs.
27. Massad, “It’s Time to Strengthen the Regulation of Crypto-Assets,” 26-28.
28. *Examining Facebook’s Proposed Cryptocurrency and Its Impact on Consumers, Investors, and the American Financial System: Hearing before the House Committee on Financial Services*, 116th Cong. (July 2019) (testimony of David Marcus, Chief Executive Officer, Calibra).

weak standards. And, as Congressman Bill Foster of Illinois asked, isn't it possible that someone could use Libra through self-custody, rather than through an authorized wallet, and evade any such standards unless built into the code itself?²⁹

The new White Paper discusses compliance as a Libra Association responsibility. It claims some aspects of compliance will be built into the system. It says “automated protocol level compliance controls will apply for all on-chain activity,” which will include automatic blocks on “transactions involving blockchain addresses identified by authorities as associated with sanctioned persons” as well as sanctioned jurisdictions.³⁰ There will also be transaction and address balance limits on dealers and wallets except for those otherwise subject to regulatory oversight or whose compliance frameworks have been certified. It also says the protocol will require compliance with the Travel Rule, a rule under the Bank Secrecy Act that requires a financial institution to pass on certain information to the next financial institution in funds transmittals involving more than one institution. The White Paper also describes diligence and other procedures that will be followed with respect to the various intermediaries in the system.³¹ In our conversation, Marcus said the incorporation of compliance measures into the protocol was critical and “unprecedented for blockchain.”³²

This is welcome news. It suggests the Libra Association intends to take these matters seriously. The fact that the association recently hired Stuart Levey, former Undersecretary of the U.S. Treasury for Terrorism and Financial Intelligence, who was responsible for combatting illicit finance in that role, as its chief executive officer is also positive.³³ But the devil is in the details. Banks have spent massive amounts of money to develop and implement their KYC, AML and CFT systems. Regulators will need to review carefully whether the Libra Association's systems and standards are adequate. And as noted earlier, the question of which regulatory agencies will engage in oversight of the Libra network and its various intermediaries on a regular basis is critical. (I also discuss below the Libra Association's plans for sanctions enforcement, which could raise some geopolitical challenges.)³⁴

Restrictions on the Libra reserve

The revised proposal also contains greater detail on the management of the Libra Reserve, and the steps that will be taken to protect customer funds and prevent losses or a run when many users seek to exchange their Libra for fiat currency all at once and overwhelm the system. The original White Paper said that Libra would be fully backed by the reserve, but the lack of detail as to how the reserve would be invested, along with the complexities of

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29. *Examining Facebook's Proposed Cryptocurrency*, 116th Cong. (statement of Rep. Bill Foster).

30. Libra, *White Paper v2.0*, 22.

31. Libra, *White Paper v2.0*, 19.

32. Marcus, in discussion with the author, February 26, 2020.

33. “The Libra Association Appoints Stuart Levey as CEO,” Libra Association, May 6, 2020, <https://libra.org/en-US/updates/ceo-announcement/>.

34. See text at note 80.

the basket feature, created concern about the risk of investment losses, liquidity problems or runs. The revised proposal describes how the Reserve funds will be invested.³⁵

Whether the measures proposed by the Libra Association are sufficient to deal with liquidity and run risks will require careful and ongoing scrutiny by regulators. The 2008 financial crisis taught us that there can be runs even against money market funds that are invested in high quality short-term securities. Similarly, the Chinese government has recently taken action to address liquidity and run risk concerns arising from activities of their mobile payment companies.³⁶

The White Paper also says the Libra network will hold a capital buffer to absorb any losses. This is necessary, because even with one-to-one backing of the coins, there can be not only investment losses and liquidity risks but operational losses as well. The paper says the size of the capital buffer will be determined in consultation with regulators.³⁷

The original proposal claimed operating costs could be funded by earnings on the investments. There is an inherent tension between investing the reserve to preserve capital (which maximizes users' interests) versus investing to generate a return (which benefits investors), and regulators should focus on that conflict. The revised paper acknowledges there may not even be earnings, given low interest rates. It also acknowledges the risk of negative yields, but simply says that the Libra network will "have to cover these costs through its other revenue streams (e.g., transaction and other fees)." It does not provide any detail.³⁸ The White Paper also provides more detail on the various intermediaries that will be involved in minting and burning coins, taking custody of customer assets, and facilitating transactions. But it is not specific on how these various intermediaries will be compensated or what the costs will be. The revenue model thus remains unclear.

Forgoing a transition to a permissionless system

The new White Paper gives up on the idea that there would be a transition to a permissionless system within five years. The notion of a permissionless system may have appealed to crypto enthusiasts who believed that Bitcoin's decentralized, permissionless ledger would transform the financial system. (They may not like some other changes in Libra 2.0 either, as noted in the following section.) In my view, just as the Bitcoin vision has not been realized, the original idea of a permissionless Libra was not feasible. That's not to diminish the potential importance of distributed ledger technology. But at least to date, we have not seen

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35. The new white paper says the Reserve will consist of short-term, high quality liquid assets—80% in sovereign bonds of up to three months remaining maturity, with at least an A+/A1 rating, and 20% in cash with overnight sweeps into money market funds invested in similar government securities. The fiat currency received for each single-currency stablecoin would be invested in securities meeting such criteria that are denominated in that currency; funds otherwise received for the multi-currency will presumably be invested in similar securities. See Libra, *White Paper v2.0*, 12.

36. See text at note 168.

37. Libra, *White Paper v2.0*, 12–13.

38. Libra, *White Paper v2.0*, 13.

the development of applications that would enable critical financial systems to operate on a permissionless basis without any institutional oversight. In the case of Libra, while some compliance and risk-management procedures can be built into the protocol, not everything can be. The investment and custody of the reserve similarly require a system of administration that seems inconsistent with a permissionless approach. The paper claims that the “key economic properties of a permissionless system” can still be achieved.³⁹ That appears to mean having an architecture that allows other parties to build applications on top of the network.

Why some crypto enthusiasts don't like Libra 2.0

Many crypto-enthusiasts are disappointed by the revised White Paper, not only because it gives up on the transition to a permissionless system but also because it drops the idea of a single global digital coin not issued by any government that could in theory be used anywhere in the world, regardless of national boundaries. In addition, the revised White Paper embraces the need for government regulation and promises that compliance systems will be built right into the protocol, ideas that offend the crypto community's libertarian element. A *Financial Times*'s article on the revised White Paper, “How Facebook's Libra went from world changer to just another PayPal,” reflected this sentiment. The new Libra is not “‘censorship resistant’—arguably the most important and unique feature of blockchain networks like Bitcoin and Ethereum,” said Garrick Hileman, head of research at crypto wallet company Blockchain. But as David Gerard, a historian of cryptocurrencies, noted, “the original vision for Libra was one with wild crypto dreams of private money, free of regulation” that was “never going to fly.”⁴⁰

I agree. That original vision for Libra echoed elements of the vision for Bitcoin articulated by its mysterious creator, Satoshi Nakamoto, in his/her white paper. The timing of the publication of that white paper and the launch of Bitcoin—during the dark days of the 2008 financial crisis—contributed to the hope that it would bring a radically different financial system. But while distributed ledger technology has great potential, the fact is Bitcoin's high volatility in price, limited ability to process transactions (5-10 per second compared to up to 24,000 for Visa⁴¹), energy inefficiency, and lack of a strong regulatory framework for transactions, among other reasons, has meant that to date, it has not been widely used

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39. Libra, *White Paper v2.0*, 4.

40. Kiran Stacey and Hannah Murphy, “How Facebook's Libra Went from World Changer to Just Another PayPal,” *Financial Times*, April 17, 2020, <https://www.ft.com/content/79376464-72b5-41fa-8f14-9f308acaf83b>.

41. Visa's website says that the capacity of its system is 24,000 transactions per second. The crypto community often cites figures in the range of 1,700 as the actual number of transactions processed per second, which is still much higher than Bitcoin. See Visa, “Visa Acceptance for Retailers,” accessed June 5, 2020, <https://usa.visa.com/run-your-business/small-business-tools/retail.html>; Sedgwick, Kai, “No, Visa Doesn't Handle 24,000 TPS and Neither Does Your Pet Blockchain,” *Bitcoin.com*, April 20, 2018, <https://news.bitcoin.com/no-visa-doesnt-handle-24000-tps-and-neither-does-your-pet-blockchain>.

as a means of payment, and is mostly a speculative investment.⁴² The creators of Libra may have disappointed some crypto-enthusiasts, but the new design is more likely to work.

Other objections to Libra

While the changes in these four areas are designed to address some of the main objections to the proposal, there were other objections to the proposal that are not directly addressed by these changes that are worth re-examining.

Facebook's past sins and fears about big technology companies

The most frequent objections to Libra concerned not so much the details of the proposal but the creator: Facebook. Consider the twelve hours that Mark Zuckerberg and David Marcus spent testifying before Congress. For much of that time, members of Congress raised complaints about Facebook's power and ambitions, its failures to protect the privacy of users, its dissemination of misinformation and its role in the 2016 election—including the Cambridge Analytica scandal and its complicity in Russian interference.

The objections based on Facebook's past failings blended into those concerning its power and practices today: what would happen with the data generated by Libra transactions? Would it be used—and misused—by Facebook? Would Facebook's digital wallet, Novi, be able to use data from users' social media accounts? Many simply felt that Facebook and other large digital platforms already have too much power, and we should not let them enter financial services.

Facebook insists it will be just one of many members of the Libra Association, the governing body, and will not have the ability to control the Association. But that argument hasn't persuaded some critics, and the fact is Facebook will have a digital wallet subsidiary that will offer services on the platform and could have a significant presence.

The reaction of Representative Maxine Waters, chair of the House Financial Services Committee, to Mark Zuckerberg's testimony exemplified the view: "As I have examined Facebook's various problems, I have come to the conclusion that it would be beneficial for all if Facebook concentrates on addressing its many existing deficiencies and failures before proceeding any further on the Libra project."⁴³

He may be one of the world's richest people, but it was like she was talking to a child: clean up your room before you even *think* about going outside.

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42. See Massad, "Is Facebook's Libra a Betrayal of Satoshi Nakamoto's Vision," for a discussion of how the original Libra compared to the vision for Bitcoin, and Massad, "It's Time to Strengthen the Regulation of Crypto-Assets," for a discussion of the vision for Bitcoin and its connection to the 2008 financial crisis, as well as Bitcoin's deficiencies as a payment system.

43. *An Examination of Facebook*, 116th Cong. (testimony of Mark Zuckerberg, Chairman and Chief Executive Officer, Facebook).

I share the concerns about the power of Facebook and other large digital platforms and their use of our data in this digital age. But those concerns will be with us regardless of whether Libra proceeds. Ideally, we should address those issues in a comprehensive way that transcends the particulars of the Libra proposal. And Facebook's past deficiencies and failures may be glaring, but financial regulators must still address the issues at hand with the proposal.

Even if it is possible to stop the Libra Association from proceeding with Libra because of Facebook's involvement, someone else may come along in the near future with another private stablecoin. Chair Waters endorsed the "Keep Big Tech Out of Finance Act," legislation that would prohibit a "large platform utility"—defined as a technology company that offers an online marketplace, exchange or platform for connecting people and has more than \$25 billion in annual revenue—from sponsoring a digital currency.⁴⁴ But would we feel better if it is JP Morgan or PayPal creating this system, rather than Facebook or Google? Some may say yes because a major financial institution presumably has less data about our families and friends, our habits, our interests and our movements than a social media platform or search engine. But the possibilities for monetizing or abusing the transaction and personal data that will be generated still exist. And if it's not a digital currency, but the provision by a large digital platform of other types of financial services—such as small business loans by Amazon—similar issues will arise.

We have addressed issues of privacy and use of data in other contexts. The response to the pandemic is also generating talk of intrusive collection of our location and health data in order to determine who might be carrying the coronavirus. So rather than simply oppose the concept of a private digital currency, we should address these concerns.

These concerns raise much broader and more important issues than Libra, but Libra became a focal point in the debate. It's clear that we need standards on what transaction or personal data can be collected, how it can be used, and by whom. To the extent possible, there should be requirements for real, informed consent, not just contracts of adhesion. There should be liability for breaching those standards and for failing to take reasonable action to prevent breaches.

There is also the issue of how to foster competition among digital platforms. The United Kingdom recently formed a Digital Competition Expert Panel to develop pro-competition policies to "help unlock the opportunities of the digital economy." Its report offers a broad range of recommendations that are relevant to the Libra proposal, such as the need for interoperability requirements and open standards to facilitate competition among digital platforms—something that could help prevent dominance by Facebook's subsidiary Novi in the offering of services on the Libra network. Another is personal data mobility requirements so that consumers can easily choose which service providers to use. The report also says "merger control can only address the use of acquisitions to expand the scale and scope of the incumbent digital companies but cannot address their existing scale and scope." It recommends a special government unit—the digital markets unit—that would develop policies to promote competition and "beneficial outcomes for consumers and businesses,"

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44. Keep Big Tech Out Of Finance Act 2019, H.R. 4813, 116th Cong. (2019).

including the development of a code of conduct for digital platforms that have strategic market status to prevent anti-competitive behavior.⁴⁵

Whether these issues can be adequately addressed in the United States under current law by existing regulators such as the Federal Trade Commission and Federal Communications Commission, or whether Congressional action is needed, and the substance of policy in these areas, I leave to those with more expertise. But we cannot expect financial regulators to solve these issues, nor can they simply say no to innovations like Libra because of them.

Libra is “private money”

In the Congressional hearings, another frequent objection was that Libra was “private money”, a currency sponsored by a corporation. But most money is “private money.” Physical currency—paper notes and coins—constitutes an obligation of the Federal Reserve (or Treasury in the case of coins) but represented only a small part of the overall money supply (approximately 11% of M2, which includes currency in circulation, demand deposits, savings deposits, small-denomination time deposits and money market funds in May 2020).⁴⁶ Most transactions involve forms of money created by commercial banks through fractional reserve banking: when a bank takes in deposits and then lends most of them out (keeping only that portion required by law as necessary for safety and soundness), it is creating money. Americans use cash—paper money, or Federal Reserve banknotes— more than in some other developed countries, but it still represents a small proportion of overall payments, and the behaviors adopted in response to COVID-19 might well accelerate the decline of cash.⁴⁷

We accept the fact that most money is privately created not just out of habit and convenience, but also because there is a regulatory framework that inspires confidence. While our faith in the financial system as a whole was damaged by the 2008 global financial crisis, confidence in banking deposits remained unshaken, supported no doubt by Federal

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45. “Unlocking Digital Competition: Report of the Digital Competition Expert Panel,” HM Treasury, March 2019, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/785547/unlocking_digital_competition_furman_review_web.pdf. See letter from Furman in preface for first quotation, page 6 for merger control quotation, pages 8–9 for code of conduct quotation, and pages 8–17 generally for recommendations.
46. For M2, see “Money Stock and Debt Measures: H.6,” Board of Governors of the Federal Reserve System, May 14, 2020, <https://www.federalreserve.gov/releases/h6/Current/>. For the amount of currency in circulation, see “FAQs: How Much U.S. Currency Is in Circulation?,” Board of Governors of the Federal Reserve System, May 6, 2020, https://www.federalreserve.gov/faqs/currency_12773.htm.
47. See Joshua Younger, Munier Salem, and Henry St. John, “Can Stablecoins Achieve Global Scale?,” J.P. Morgan, December 3, 2019, 3 (estimating that private money consisting primarily of commercial bank deposits represents more than 75% of the total). A recent study by the San Francisco Federal Reserve found that individuals used cash for 26% of their transactions in 2018. But this has fallen from 30% in 2017, and checks, debit and credit card transactions and electronic and mobile payments—all of which are “private” money—comprise the remaining 74%. See Raynil Kumar and Shaun O’Brien, Cash Product Office, Federal Reserve System, *2019 Diary of Consumer Payment Choice*, June 2019, 5, <https://www.frbsf.org/cash/files/2019-Findings-from-the-Diary-of-Consumer-Payment-Choice-June2019.pdf>.

Deposit Insurance Corporation (FDIC) insurance and other forms of government regulation and support, such as lender of last resort powers.

Libra would not be entitled to FDIC insurance nor would it be a bank eligible for those other forms of support. But it is also not creating money in the same way as a commercial bank that keeps only a fraction of deposits on hand. Libra coins would be backed one-to-one by reserves of sovereign currency. But we need regulation that makes sure those reserves are kept in safe assets, much like a money market fund, as discussed below.

Will Libra undermine the role of the U.S. dollar in global commerce?

Another concern—at least in the United States—was that Libra would undermine the role of the U.S. dollar in the global economy. While the change to a series of single-currency stablecoins means there is less likelihood that the composite Libra will emerge as a significant new currency, the project will still create new payment rails. Will it therefore reduce the use of existing dollar-based international payment mechanisms and will that undermine the role of the U.S. dollar?

A significant shift in international payment patterns would require that Libra be widely used for business to business payments, not just consumer-to-consumer or consumer-to-business payments. That is because business-to-business (B2B) payments constitute the largest volume of cross-border payments, by far.⁴⁸ It is not clear that Libra will be attractive in that market. Today, the most widely used B2B payments platforms (such as the Fedwire system) provide liquidity facilities or efficient intra-day netting for customers. Business customers do not want to wait to receive one payment before making another in the course of a day. The real-time, intra-day settlement that could come with a digital currency should in theory reduce the need for intra-day liquidity, but some businesses may still prefer the comfort of knowing they have that overdraft protection.

Nevertheless, one reason China and European countries are interested in CBDCs is to reduce the importance of dollar-based international payments systems.⁴⁹ Shortly after listening to members of Congress complain that Libra would undermine the U.S. dollar, I attended a financial regulatory conference in Shanghai where the dominant attitude was that Libra would perpetuate the influence of the dollar because it would be the primary component of the basket. There were also plenty of complaints about SWIFT (the Society for Worldwide Interbank Financial Telecommunication), the primary international financial payment messaging system. There was interest in alternatives—other than Libra—for several reasons: economic (promote the RMB), technological (the SWIFT technology is old) and geopolitical (including objections to the ability of the U.S. government to impose financial sanctions through SWIFT and other dollar-based systems).

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48. See Joshua Younger, Munier Salem, and Henry St. John, “The Market Implications of Libra and Other Stablecoins,” J.P. Morgan, September 5, 2019.

49. See text at note 214 for further discussion of China’s reasons for launching a CBDC. A few months after the announcement of Libra, the desire to reduce the importance of dollar-based systems was expressed by former Governor Mark Carney of the Bank of England, Governor François Villeroy de Galhau of the Bank of France, and Benoit Couré of the European Central Bank. See text beginning at note 195.

One could take the view that the United States shouldn't do anything—including permitting Libra to go forward—that might create a risk of weakening existing dollar-based international payment systems. But restricting Libra's development in the U.S. may not stop its development in countries more willing to experiment. We may be better off coming up with a framework in which it can be responsibly developed, as well as exploring the potential for our own CBDC.

Does it matter that the Libra Association is incorporated in Switzerland?

Quite a few members of Congress from both parties expressed concern about the fact that the Libra Association is organized in Switzerland. Some worried it would limit the benefits of jobs and technological innovation flowing to the United States. Others worried the choice would limit U.S. ability to regulate Libra, or that it reflected flaws in the U.S. regulatory system.

The jurisdiction of organization does not dictate where the work takes place or who benefits from technological innovation. Moreover, there are precedents for the choice. SWIFT is incorporated in Belgium and has offices around the world. Around half of all high-value cross border payments rely on SWIFT. Over 11,000 financial institutions in over 200 countries and territories participate, sending over 30 million messages per month. SWIFT's website speaks of the "neutral, global character of its cooperative structure" and says its governance is designed to "ensure our global relevance, support our international reach and uphold SWIFT's strict neutrality."⁵⁰ The original White Paper contained similar language, noting that Switzerland "has a history of global neutrality and openness to blockchain technology, and the association strives to be a neutral, international institution."⁵¹

It is not surprising that the Libra Association did not incorporate in the United States given the complexity of our financial regulatory system. We have multiple financial regulators which have interests in the project. It is easier for the Libra Association to go to FINMA, the Swiss financial market regulator, as a lead regulator, because it is a single regulator with broad jurisdiction. David Marcus said "a solid regulatory framework is desirable as it'll guarantee that the Libra Association won't deviate from commitments we're making today like the one-to-one reserve backing, and our approach to compliance. We found that Switzerland would allow for a regulator with a strong global reputation, located in a neutral country, to implement these guardrails effectively."⁵²

Marcus's comment suggests the Libra Association seems to appreciate that Libra can only succeed—at least in countries with well-developed financial systems—if it is regulated in such a way that creates consumer confidence. U.S. authorities will still have a say. The question is exactly how should regulators, both here and abroad, exercise their authority.

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50. "SWIFT's Organisation and Governance," SWIFT, 2020, <https://www.swift.com/about-us/organisation-governance>.

51. Libra, *White Paper*, 8.

52. Marcus, in discussion with the author, May 28, 2020.

How should Libra be regulated?

Several members of Congress, including Chair Waters, said Libra should not go forward until all regulatory approvals were obtained, and both Zuckerberg and Marcus promised that it would not be launched until such time.⁵³ But there was little discussion of exactly what regulatory approvals are needed.

Although we have laws that regulate certain aspects of their operations, we do not have a comprehensive federal framework for payment systems generally. We also do not have a framework for the regulation of cryptocurrencies, as I have previously written.⁵⁴ While the Libra proposal implicates a variety of laws—securities, banking, state money transmitter—it does not fit neatly into any one category. This is similar to the regulatory gap we face with cryptocurrencies. The question becomes how to create a regulatory framework that addresses the multiple concerns raised.

As a recent paper by the European Central Bank (ECB) notes, Libra can be thought of as a combination of an asset management fund and a transfer or payment system. Some would say it should be thought of as a bank as well. The concerns it raises include, to name just a few, prudential regulatory issues: for example, what types of restrictions should there be on investment of funds in the Libra Reserve, to minimize the risks of illiquidity and losses? Who should hold those investments? What should be the size of the capital buffer? Or, consider the allocation of legal responsibilities: who has a legal obligation to redeem your Libra and return your sovereign currency? Is it just the on-ramp that made the original exchange, or does the Libra Association have any duty? (In our conversation, Marcus said the Libra Association “will not directly interface with consumers,” which I would interpret to mean it would not have such a duty.⁵⁵) If there is a mistake in a transaction, can you get recourse, and if so from whom? What type of consumer disclosure is necessary? How do we make sure consumers understand their account is not insured by the government? How do we make sure AML, CFT and KYC rules are adequately enforced? And of course, how do we protect the privacy and data of users? If an entity that is part of the Libra system were to provide loans, credit, investment management products or other services, then other traditional banking, securities and asset management concerns would be implicated as well.

The White Paper indicates the Association is in discussions with FINMA as its lead regulator about several issues. A recent statement indicated it would seek a payments entity license.⁵⁶ Swiss law allows FINMA to impose additional requirements to the extent a payments entity poses additional risks including “bank-like risks.”⁵⁷ FINMA can also impose

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53. See, e.g., *Examining Facebook’s Proposed Cryptocurrency*, 116th Cong. (statements of Reps. Maxine Waters, Carolyn Maloney, Brad Sherman, and Nydia Velasquez).

54. Massad, “It’s Time to Strengthen the Regulation of Crypto-Assets.”

55. Marcus, in discussion with the author, May 28, 2020.

56. “Libra Association Applies for Payment System License from FINMA,” Libra Association, April 16, 2020, <https://libra.org/en-US/updates/finma-payment-system-license/>.

57. “Libra Association: FINMA Licensing Process Initiated,” Swiss Financial Market Supervisory Authority (FINMA), April 15, 2020, <https://www.finma.ch/en/news/2020/04/20200416-mm-libra/>.

conditions that must be met in order to obtain and retain that license. Those powers mean it can address a host of concerns—prudential issues related to traditional banking concerns, consumer protection issues and potentially, privacy. FINMA has also said it will give “special consideration to whether . . . international standards for payment infrastructures and for combatting money laundering can be upheld.”⁵⁸

Marcus said the Association will also register with FINCEN as a money service business, which will subject it to AML requirements. (There will be state registrations also, as all but one of the fifty states require money service or money transfer businesses to register; the requirements under these laws are typically not burdensome.) There appears to be discussion with and among other U.S. regulators, including the Federal Reserve and the Securities and Exchange Commission, about Libra. The issues also pertain to regulation of the digital wallets and other intermediaries. I assume U.S. agencies can collectively coordinate with FINMA, and stitch together responses, to address U.S. concerns, though such an improvised, patchwork approach may be weaker or less efficient than is desirable. (The areas that traditionally are not central concerns of financial regulators—like rules on use of consumer data and privacy—need to be addressed also, as noted earlier.)

This is especially important, and difficult, because Libra could become significant in size very quickly. The ECB has projected that Libra could reach a global size of anywhere from €153 billion up to €3 trillion. These estimates assume that all of Facebook’s 2.4 billion users participate, a questionable assumption given the many payment alternatives available as well as the challenge of building out the system worldwide. In addition, the upper projection assumes that Libra functions as a “store of value” and the average user holds an amount of Libra equivalent to the average investment in the money market fund linked to Alipay, one of the principal mobile payments companies in China, but with an upward adjustment for differences in income and purchasing power (see discussion of Alipay in Part III).⁵⁹ That too may be unrealistic given the many alternative investment options that consumers have, at least in developed nations. The percentage of the volume of payments that can be expected to convert into balances, in a payment system that does not offer significant investment options, may be quite low.⁶⁰ The ECB acknowledges the upper estimate is the “extreme-case scenario.”⁶¹ But even if that size is not reached, it is not hard to imagine that Libra could become systemically important very quickly.

As the ECB points out, the scaling up of Libra could result, among other things, in a conversion of a large amount of relatively stable retail bank deposits (as consumers withdraw funds to buy Libra) to more fluid institutional deposits (Libra Reserve investments), which

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58. “Libra Association,” FINMA.

59. Mitsutoshi Adachi et al., *A Regulatory and Financial Stability Perspective on Global Stablecoins*, European Central Bank, May 5, 2020, 7, https://www.ecb.europa.eu/pub/financial-stability/macprudential-bulletin/html/ecb.mpbu202005_1~3e9ac10eb1.en.html.

60. Christian Catalini, head economist at Novi, told me he estimates that percentage would be around 4%, based on the experience of other mobile payment systems such as Paypal or Googlepay. Christian Catalini (Head Economist, Novi), in discussion with the author, May 29, 2020. That would mean Libra’s volume would need to be around €75 trillion to reach the ECB upper estimate.

61. Adachi et al., *Regulatory and Financial Stability Perspective*, 7.

creates a risk of greater runs.⁶² Chinese authorities worried about the same risk with their mobile payment industry.⁶³ The ECB also notes the size of the Libra Reserve could contribute to the scarcity of safe assets in the euro area, a point also raised by U.S. banking analysts.⁶⁴ But despite that potential systemic importance, it is not clear whether the process created in the Dodd Frank Act to regulate new systemically important companies can be invoked (see discussion of the Financial Stability Oversight Council in the section below).

What is the role of the Financial Stability Oversight Council?

Could the Financial Stability Oversight Council (FSOC) take action to make sure Libra is properly regulated, either through its designation power or otherwise? The FSOC was created by the Dodd Frank Act to monitor and prevent systemic risk. It has the power to designate “those financial market utilities or payment, clearing or settlement activities that the Council determines are, or are likely to become, systemically important.”⁶⁵ If it does so, the Federal Reserve Board, in consultation with other regulators, must then prescribe risk management standards governing the operations and conduct of the designated activity. Those standards must “promote robust risk management; promote safety and soundness; reduce systemic risks; and support the stability of the broader financial system.”⁶⁶ The Federal Reserve is given broad authority as to the areas that may be covered.

To date, this power has been used only to designate business payment systems, not retail payments systems. During the Obama Administration, the FSOC designated two entities: the Clearing House Payments Company L.L.C., as operator of the Clearing House International Payments System or CHIPS, one of the two largest international wire transfer systems (the other being Fedwire), and CLS Bank International, which settles foreign exchange transactions.⁶⁷ However, the FSOC declined to include in its final rule implementing the statute a categorical exclusion for retail payment systems, as some commenters had advocated, thus leaving open the possibility that this power could be used for retail systems.⁶⁸ Moreover, while Libra’s target market is retail, businesses might still use it.

Having served on the FSOC and participated in designation decisions during the Obama Administration,⁶⁹ I think it is doubtful, under the current administration as well as its current rules, that the FSOC would use this power to designate Libra today. The Trump Administration has circumscribed the role of the FSOC generally, by reversing systemic

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62. Adachi et al., *Regulatory and Financial Stability Perspective*, 6.

63. See text at note 168

64. Adachi et al., *Regulatory and Financial Stability Perspective*, 8; Younger, Salem, and St. John, “Can Stablecoins Achieve Global Scale?,” 6–8.

65. Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, 12 U.S.C. § 5463(a)(1) (2012).

66. Dodd-Frank Act, 12 U.S.C. § 5464(b).

67. Financial Stability Oversight Council, *2012 Annual Report*, 2012, 145–57, <https://www.treasury.gov/initiatives/fsoc/Documents/2012%20Annual%20Report.pdf>.

68. FSOC Authority to Designate Financial Market Utilities as Systemically Important, 12 C.F.R. ch. XIII & pt. 1320 (2011).

69. I served on the FSOC in my capacity as chairman of the Commodity Futures Trading Commission from June 2014 until January 2017. I participated in the designation of MetLife, Inc. on December 18, 2014 and the rescission of the designation of GE Capital Global Holdings, LLC on June 28, 2016.

designations and refraining from having the FSOC produce reports that fall in its jurisdiction.⁷⁰ I have previously written that the FSOC is the logical place to address the need to enhance regulation of crypto assets, but that has not happened either.⁷¹

The FSOC's current rules are also not designed for taking action in advance of seeing whether Libra reaches significant scale. The fact that the statutory designation standard is forward looking—it refers to financial market utilities (FMUs) that “are, *or are likely to become*, systemically important” (emphasis added)—is helpful in making the argument that FSOC could act even before Libra is launched. Systemic importance is defined to mean “a situation where the failure or disruption” of the payment system “could create, or increase, the risk of significant liquidity or credit problems spreading among financial institutions or markets and thereby threaten the stability of the financial system of the United States.”⁷² But the FSOC uses a two-stage process under its current rules to determine systemic importance, the first of which is quantitative and involves measuring, among other things, the aggregate value and number of transactions and exposures to other institutions using publicly available data.⁷³ There would be nothing to measure until Libra is operational. A federal court overturned the FSOC's designation of MetLife, Inc., as systemically important on grounds that included a finding that FSOC failed to follow its own guidance.⁷⁴ Unless FSOC amended its rule, I do not see how it could even get to the stage two analysis, which involves a more qualitative assessment.

Frankly, it would be in the Libra Association's interest to be designated by FSOC. It would bring not just greater clarity and coordination to U.S. regulation—and I believe a strong regulatory framework is necessary for consumers to trust and use Libra. It would also make the Libra Association eligible for an account at the Federal Reserve, at which the dollar

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70. The FSOC rescinded the designation of Prudential Financial. “Financial Stability Oversight Council Announces Rescission of Nonbank Financial Company Designation,” U.S. Treasury Department, October 17, 2018, <https://home.treasury.gov/news/press-releases/sm525>. The Treasury Department, instead of FSOC, produced a series of reports on developing trends in the financial markets. See generally “Financial Markets, Financial Institutions, and Fiscal Service,” U.S. Treasury Department, <https://home.treasury.gov/policy-issues/financial-markets-financial-institutions-and-fiscal-service>.

71. Massad, “It's Time to Strengthen the Regulation of Crypto-Assets,” 55–57.

72. Dodd-Frank Act, 12 U.S.C. § 5462(9). It should also be noted that the definition of “financial market utility” refers to a person that operates a system for “transferring, clearing and settling payments, securities or other financial transactions among financial institutions or between financial institutions and the person.” While it does not specifically include consumer-to-consumer or consumer-to-business payments, even retail systems can involve payments with or among financial institutions, and as noted, the rule implementing the statute expressly said retail systems were not excluded.

73. FSOC Authority to Designate Financial Market Utilities, 12 C.F.R. ch. XIII & pt. 1320.

74. The U.S. District Court for the District of Columbia rejected FSOC's designation of MetLife, Inc. See *MetLife Inc. v. Financial Stability Oversight Council*, 177 F. Supp. 3d 219 (D.D.C. 2016). Many, including myself, disagreed with the ruling and thought the holding that the FSOC failed to follow its own guidance was especially unpersuasive. However, the decision came late in the Obama administration, and while it was appealed, the FSOC under the Trump administration dropped the appeal. The FSOC subsequently amended its guidance regarding the designation of systemically important financial institutions to adopt an “activities-based” approach. However, this guidance did not apply to designations of financial market utilities. See FSOC Authority to Require Supervision and Regulation of Certain Nonbank Financial Companies, Final Interpretive Guidance, 12 C.F.R. pt. 1310 (2019).

reserve could be held, eliminating the cost and risk associated with custodial banks holding such funds, and potentially eligible for discount window access if it were ever in trouble.⁷⁵ As noted earlier, Libra is meant to be “compatible” with a CBDC, and surely the Libra Association’s chances of some type of public/private partnership for a digital currency (see discussion in Part IV) would be enhanced by designation. Perhaps no one would have standing to challenge designation by FSOC, notwithstanding the MetLife decision, if the Libra Association did not do so. But FSOC might not react positively to a request for designation, out of a concern it would be giving a benefit to a private entity. The fact that the Libra Association is incorporated in Switzerland could be another reason for not designating it, as the FSOC might view the entity as the responsibility of Swiss authorities.

Even in the absence of designating the Libra Association as a systemically important FMU, the FSOC could play an important role. It has the explicit power and duty to “facilitate information sharing and coordination among the member agencies and other Federal and State agencies regarding domestic financial services policy development” and to “identify gaps in regulation that could pose risks to financial stability.”⁷⁶ It is supposed to make recommendations to regulatory agencies “to apply new or heightened standards and safeguards for financial activities or practices that could create or increase risks. . . .”⁷⁷ It is supposed to “advise Congress and make recommendations in such areas that will enhance the integrity, efficiency, competitiveness, and stability of the U.S. financial markets.”⁷⁸ Thus, it could make recommendations to Congress as to how we can best regulate an innovation like Libra—whether that means a new legislative framework, or just addressing certain gaps—and it could help coordinate the work of the various individual regulators in responding to Libra. But in practice, the Secretary of the Treasury has often performed these functions—perhaps because it is easier to act unilaterally than to build consensus among the FSOC members.

How will the Libra Association deal with differences in international standards, especially regarding sanctions?

The fact that the Libra Association may need regulatory approval in several jurisdictions could create an incentive to build the network to meet the highest or most stringent requirements. It may be operationally easier to design systems that are consistent worldwide, even if in excess of legal requirements in some jurisdictions. But that might not be true for compliance at the wallet or other intermediary level where there may be varying standards depending on the jurisdiction. That might create competition to the extent consumers have a choice. Or it might just lead to inconsistency and confusion among users.

The issue of inconsistency among international standards could be vexing for the Association when it comes to CFT (combatting the financing of terrorism) standards and financial

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75. Dodd-Frank Act, 12 U.S.C. § 5465(a). In contrast with depository institutions, which are entitled to an account at a Federal Reserve Bank, a designated entity is not entitled to such an account; the Federal Reserve must still decide. Designated FMUs are entitled to discount window access only upon a vote of the Board of Governors and only in unusual and exigent circumstances.

76. Dodd-Frank Act, 12 U.S.C. § 5322(a)(2)(E) & (G).

77. Dodd-Frank Act, 12 U.S.C. § 5322(a)(2)(K).

78. Dodd-Frank Act, 12 U.S.C. § 5322(a)(2)(D).

sanctions. The implementation by the United States of financial sanctions through dollar-based payment and financial messaging services has aroused opposition from other countries, particularly in recent years involving sanctions against Iran. Marcus confirmed that “protocol-level sanctions screening will be built into the Libra network and apply to all network participants.”⁷⁹ But who decides who is on the “blacklist” for sanctions purposes? Will the list of Treasury’s Office of Foreign Asset Control be used? Will the Swiss FINMA, as lead regulator, together with FINCEN arbitrate?⁸⁰ The Association may be perceived as having doubled down on following the U.S.’s lead on such matters through its recent hiring decisions. It has hired Stuart Levey as CEO, who was the first Deputy Secretary of the Treasury for Terrorism and Financial Intelligence, and Robert Werner as General Counsel, who was the Director of FINCEN and of the Office of Foreign Assets Control.⁸¹ These moves may have the effect of reinforcing the perception in China and possibly elsewhere that Libra is another dollar-based payment system, and one that could be used to implement U.S. foreign policy sanctions.

Of course, these are not the only criticisms of the initial proposal, just some that were mentioned frequently in the Congressional hearings. Nor are they the only obstacles to Libra’s success, because there are a host of operational challenges that must be solved—like whether the technology will have the throughput to match rival systems, and the coordination among the various intermediaries. But let’s assume the Libra Association can solve the various operational and regulatory challenges it faces. Can it achieve Zuckerberg’s goal of financial inclusion—at least, for purposes of this paper, in the United States?

Part II: Libra and financial inclusion

You may be skeptical of Mark Zuckerberg’s motives, but the need is real

In his appearance before the House Financial Services Committee last October, Zuckerberg stated his vision: “More than a billion people around the world don’t have access to a bank account... Being shut out of the financial system has real consequences for peoples’ lives... I believe this problem can be solved and Libra can help.”⁸²

But few members of Congress were interested. Chair Maxine Waters responded to Zuckerberg’s opening statement by discussing how it had “allowed Russia to undermine and

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79. Marcus, in discussion with the author, February 26, 2020.

80. Marcus, in discussion with the author, February 26, 2020.

81. “The Libra Association Appoints Robert Werner as General Counsel,” Libra Association, May 19, 2020, <https://libra.org/en-US/updates/general-counsel-announcement/>.

82. *An Examination of Facebook*, 116th Cong. (testimony of Mark Zuckerberg).

divide our country” in the 2016 election and now was seeking to profit through a new ad policy “that allows politicians to lie” and that no longer bans cryptocurrency ads.⁸³

Zuckerberg later acknowledged the obvious: “I believe this is something that needs to get built, but I get that I’m not the ideal messenger for this right now. We faced a lot of issues over the past few years, and I’m sure there are a lot of people who wish it were anyone but Facebook who were [sic] helping to propose this.”⁸⁴

Chair Waters is of course right to challenge Zuckerberg and his motives, given the company’s history. But Zuckerberg is right about the need to increase access, and the people he spoke of are not only in faraway, developing countries. They are also here, in the United States.

According to a FDIC survey, one in fifteen American households are unbanked, meaning they do not have a bank account.⁸⁵ One in six are underbanked, meaning they have a bank account but used “alternative financial services” within the last 12 months, such as check cashing, payday loans, or money orders.⁸⁶ The total of unbanked and underbanked is one quarter of the population, or 63 million adults and 22 million children.⁸⁷ Unbanked household rates vary significantly by race and ethnicity, with the rates among black and Latino households being around five times higher than among white households.⁸⁸

It costs a lot to be unbanked or underbanked. A 2014 postal service inspector general report found that the underserved spend approximately 10% of their income just to *use* their money.⁸⁹ The cost of alternative financial service interest and fees was estimated at \$2,412 for the average underserved household with income of \$25,500 in 2011—or the amount the typical American family spends on food.⁹⁰ In 2011, the report said, underserved families spent a total of \$89 billion on alternative financial service interest and fees.⁹¹

The FDIC survey asked unbanked households about the reasons why they did not have a bank account. The most common reason was “did not have enough money,” followed by “don’t trust banks” and “bank account fees are too high” or are “unpredictable.”⁹²

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83. *An Examination of Facebook*, 116th Cong. (statement of Rep. Maxine Waters).

84. *An Examination of Facebook*, 116th Cong. (testimony of Mark Zuckerberg).

85. Federal Deposit Insurance Corporation (FDIC), *2017 FDIC National Survey of Unbanked and Underbanked Households*, 2017, 1, <https://www.fdic.gov/householdsurvey/2017/2017report.pdf>.

86. *2017 FDIC National Survey*, 1.

87. *2017 FDIC National Survey*, 1. The total number of unbanked and underbanked may be higher because the survey found that the banking status of 6.3% of households is unknown. A total of 68.4% of households are deemed fully banked, meaning they had a bank account and did not use alternative financial services.

88. *2017 FDIC National Survey*, 3.

89. Office of Inspector General, U.S. Postal Service, *Providing Non-Bank Financial Services for the Underserved*, January 27, 2014, 2, https://www.uspsioig.gov/sites/default/files/document-library-files/2015/rarc-wp-14-007_0.pdf.

90. U.S. Postal Service, *Providing Non-Bank Financial Services*, 2.

91. U.S. Postal Service, *Providing Non-Bank Financial Services*, 2.

92. *2017 FDIC National Survey*, 4.

Those making \$25,000 or less use cash more than twice as much as those making more than \$125,000, and they use it for almost 50% of their purchases, according to a recent San Francisco Federal Reserve Bank study.⁹³

I am not an expert on issues of financial inclusion. But I wanted to explore the issue in order to get a sense of whether Libra could make a difference, or whether it might be similar to other fintech initiatives—announced with great optimism but ultimately not making a significant difference on a difficult problem.

There are of course many different views on the best way to tackle the problem. Those who have studied the use of alternative financial service providers point to the challenges of living paycheck to paycheck. If you deposit a paycheck in the bank, you cannot be certain it will clear in time to make payments that may be due right away. As Aaron Klein of the Brookings Institute has written, this is especially a problem at the end of a month. Obligations such as rent or a mortgage payment, child care or monthly utilities are often due on the 1st of the month, and are often paid by direct debit. If your paycheck does not clear in time, you can be hit with a bank overdraft charge, which can be \$35—for each check you write. It is cheaper to go to a check cashing service.⁹⁴ A recent report found that banks charged \$11 billion in overdraft fees in 2019, and that 9% of account holders paid 84% of such fees.⁹⁵

Real-time payments could lead to reduced overdraft fees and might help people manage their funds better. The Federal Reserve Board is working on speeding up payments through an initiative called FedNow, discussed briefly in the section below. But it is still years away from implementation.

Because Libra would offer the equivalent in speed to real-time payments, it could have an advantage over the batch processing used by most existing payment systems. But its benefits would appear to be similar to prepaid cards—a useful tool to manage bill payments, but it won't change how quickly a payroll check clears (unless your employer pays you via Libra). Green Dot, one of the major providers of prepaid cards, was similarly launched with

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93. Raynil Kumar, Tayeba Maktabi, and Shaun O'Brien, Cash Product Office, Federal Reserve System, *2018 Findings from the Diary of Consumer Payment Choice*, November 15, 2018, <https://www.frbsf.org/cash/publications/fed-notes/2018/november/2018-findings-from-the-diary-of-consumer-payment-choice/>.
94. Aaron Klein, "The Fastest Way to Address Income Inequality? Implement a Real Time Payment System," *Brookings Institute*, January 2, 2019, <https://www.brookings.edu/research/the-fastest-way-to-address-income-inequality-implement-a-real-time-payment-system/>. The amount of overdraft fees can also depend on the order in which checks are cleared, as a National Consumer Law Center study showed. If the consumer writes checks in a certain chronological order, knowing his or her account balance is getting low, but the bank clears the highest dollar checks in a certain batch first, the consumer can end up paying a lot more in overdraft charges. See Chi Chi Wu and Katie Plat, *Account Screening Consumer Reporting Agencies: A Banking Access Perspective*, National Consumer Law Center and Cities for Financial Empowerment Fund, October 2015, 7–8, <https://www.nclc.org/images/pdf/pr-reports/Account-Screening-CRA-Agencies-BankingAccess101915.pdf>.
95. Peter Smith, Shezal Babar, and Rebecca Bourne, *Overdraft Fees: Banks Must Stop Gouging Consumers During the Covid-19 Crisis*, Center for Responsible Lending, 1 & 3, <https://www.responsiblelending.org/sites/default/files/nodes/files/research-publication/crl-overdraft-covid19-jun2019.pdf>.

the goal of helping the underbanked. A 2016 FDIC report found that many underserved used prepaid cards as one of many tools, but they generally perceived the providers of such cards as weaker on security and customer service compared to banks, and they noted that prepaid cards do not alter the speed with which deposits clear.⁹⁶

The premise of the original White Paper was that Libra can help because many people without access to the financial system have phones. A 2016 FDIC report found that three-fourths of the underbanked had a smart phone and more than one-third had used mobile services in the past year, percentages that were slightly higher than even fully banked households. On the other hand, unbanked households were found to have markedly lower access to technology—less than 50% had a smart phone.⁹⁷ The pandemic has also reminded us of the inequality in access to digital services, when poorer children cannot participate as easily in online learning, and adults who cannot easily shop online must take greater health risk by shopping in person.

The FDIC report found that mobile banking has “great potential” to improve the ability of the underbanked to manage and maintain a bank account. Among other aspects, alerts and monitoring tools helped them reduce fees. But survey respondents said mobile banking was weaker than traditional banking when it came to security and customer service.⁹⁸

Jonathan Mintz of the Cities for Financial Empowerment (CFE) Fund says digital solutions are typically not designed for the unbanked as they build on top of banking.⁹⁹ Because having a bank account remains a fundamental building block of financial access and security, the CFE Fund has worked with the FDIC to promote the concept of “safe accounts”—bank accounts that provide basic services and are designed to be low cost for the user and the bank. Another option advocated lately by some elected officials is postal banking. For those readers interested in learning more about these options as well as real-time payments and the FedNow project, please see the section below.

Other recent proposals to help the unbanked and underbanked

A comprehensive look at the problem of financial inclusion is beyond the scope of this paper, but a brief look at a few of the policy options mentioned these days provides useful points of contrast to Libra.

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96. Federal Deposit Insurance Corporation (FDIC), *Opportunities for Mobile Financial Services to Engage Underserved Consumers*, May 15, 2016, 10-11, 25-26. https://www.fdic.gov/consumers/community/mobile/mfs_qualitative_research_report.pdf.

97. FDIC, *Opportunities for Mobile Financial Services*, 3, 29–30.

98. FDIC, *Opportunities for Mobile Financial Services*, 3–4.

99. Jonathan Mintz (President and Chief Executive Officer, CFE Fund), in discussion with the author, May 26, 2020.

Real-time payments and FedNow

Aaron Klein, Professor Mehrsa Baradaran and others have argued that one of the most important actions we could take is to move to real-time payments. This would reduce overdraft fees, check cashing fees and payday loans.¹⁰⁰ As Klein has said, “how could we develop a system where I can deposit a paper check through a cell phone at 3:00 in the morning from my house and get an email back saying it’s been approved, and the money still isn’t there for four days?”¹⁰¹

A recent BIS report on fintech developments and financial inclusion discusses the benefits of “instant payments”—a category the report defines not by technology but by outcome, as payments in which transmission of the payment message and the availability of funds occur in seconds. It notes how instant payments offer not only speed and ease of use but also better control over one’s finances, which can be of great value to those traditionally underserved by the financial system. As a payer, instant payments provide immediate verification and make it easier to avoid overdrafts; as a recipient, the immediacy may be helpful in coping with an unanticipated expense. (The report briefly discusses stablecoins and says it “remains to be seen” whether they can contribute to the policy objectives related to financial inclusion.)¹⁰²

The Federal Reserve has the power to order banks to provide immediately available funds, but has not used that power. The proposed Payments Modernization Act of 2019, introduced by Senators Chris van Hollen and Elizabeth Warren and others, would require financial institutions to recognize funds in real-time and require the Federal Reserve to build a real-time payments network.¹⁰³

The Federal Reserve has launched its “FedNow” project, which will expand the scope of real-time payments by bringing more depository institutions into the Fed payment system. The included institutions would then be subject to a requirement to make funds available to their customers in real-time. There are approximately 10,000 depository institutions in the United States, and thus moving to real-time payments nationwide requires a major

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100. Klein, “Fastest Way to Address Income Inequality?”; *Examining Regulatory Frameworks for Digital Currencies and Blockchain*, 116th Cong. (testimony of Mehrsa Baradaran, Professor of Law, UC Irvine School of Law).

101. “Aaron Klein on Real-Time Payments and Financial Regulation,” interview by David Beckworth, Macro Musings, *The Bridge* Podcast, Mercatus, August 12, 2019, <https://www.mercatus.org/bridge/podcasts/08122019/aaron-klein-real-time-payments-and-financial-regulation>.

102. Bank for International Settlements, Committee on Payments and Market Infrastructures, *Payment Aspects of Financial Inclusion in the Fintech Era*, April 2020, 20, 25–26, <https://www.bis.org/cpmi/publ/d191.pdf>.

103. “Van Hollen, Warren, Pressley, Garcia Introduce Legislation to Ensure the Fed Will Act on Faster Payments,” U.S. Senator for Maryland Chris Van Hollen, July 24, 2019, <https://www.vanhollen.senate.gov/news/press-releases/van-hollen-warren-pressley-garcia-introduce-legislation-to-ensure-the-fed-will-act-on-faster-payments>.

effort. But even today, the Federal Reserve is saying the system won't be ready until 2023 or 2024, which has led some to call it "Fed Five Years From Now."¹⁰⁴

Safe accounts

In 2011, the FDIC launched its Model Safe Accounts Pilot to develop a low-cost bank account that would be responsive to the needs of underserved consumers but also economical for banks to offer. The account template included a low balance requirement and no overdraft or nonsufficient funds fees and offered debit cards that could be used for ATM withdrawals, point-of-sale transactions and other electronic and mobile payments. There were no check writing privileges in order to keep bank costs low. The FDIC concluded that the project was a success: about 3,500 accounts were created, retention rates were higher than normal, and the banks found the cost was the same or lower than conventional accounts.¹⁰⁵ Martin Gruenberg, chairman of the FDIC at the time of the initiative, said the accounts were a "win-win" for consumers and banks, proving to be popular not only with the targeted population of the underserved but also with millennials.¹⁰⁶

Non-profit organizations, such as the Bank On initiative led by the CFE Fund, continue to promote the concept of the Safe Account. The CFE Fund also promotes National Account Standards based on the FDIC template.¹⁰⁷ Its chief executive officer, Jonathan Mintz, believes having a bank account is a fundamental building block, not just one of many helpful steps. Mobile or digital solutions might work as a starting point in other countries, but he is skeptical they can work without a bank account in the United States. He also says that while financial education is important, it should not become a prerequisite to getting an account, or else it becomes another barrier. The advantage of the Safe Account is that it is in effect foolproof—it cannot result in overdraft fees.¹⁰⁸

A report by the St. Louis Federal Reserve Bank found that almost 800,000 such accounts were opened by ten reporting banks in 2018. Although the study did not determine how many of the customers opening accounts were unbanked or underbanked, it found that 75% were for customers new to the institution. There is turnover, with slightly over 400,000 accounts closed, representing 30% of the total such accounts open at the time of the survey.¹⁰⁹ But that was considered normal.

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104. The FedNow service is described on the Federal Reserve website, with links to relevant materials. See Federal Reserve, "FedNow Service," August 5, 2019, https://www.federalreserve.gov/payment-systems/fednow_about.htm.

105. Federal Deposit Insurance Corporation (FDIC), *Model Safe Accounts Pilot Final Report*, April 2012, <https://www.fdic.gov/consumers/template/SafeAccountsFinalReport.pdf>.

106. Martin Gruenberg (former FDIC Chairman), in discussion with the author, May 19, 2020.

107. Bank On, "About," Cities for Financial Empowerment Fund, accessed June 5, 2020, <https://join-bankon.org/about/>.

108. Mintz, in discussion with the author, May 26, 2020.

109. Bank On, "Research," Cities for Financial Empowerment Fund, accessed June 5, 2020, <https://join-bankon.org/research/>; Federal Reserve Bank of St. Louis, *The Bank On National Data Hub: Findings from the First Year*, 2019, https://www.stlouisfed.org/~media/files/pdfs/community-development/bank-on/2019_bankon_report_final.pdf.

Recently, the CFE Fund worked with the FDIC and the IRS in connection with CARES Act payments. Recognizing that checks for the millions of people without direct deposit would be a slow means of getting money out the door, Mintz says the IRS wanted to give people “another shot” at getting direct deposit. But it was important not just to give generic advice on the merits of direct deposit but rather specific advice on how they could establish an account. The IRS created a link on its website to the FDIC page on Safe Accounts, and the FDIC in turn had a link on the Bank On page which offered information on specific banks offering Safe Accounts that could be opened online.¹¹⁰

Postal banking

Some advocate helping the unbanked by a return to Postal Service banking—where post offices would offer low-cost checking and savings accounts for limited amounts of deposits and potentially other financial services as well. Senator Kirsten Gillibrand has introduced legislation to this effect,¹¹¹ and several former candidates for the Democratic Party’s 2020 nomination for president, including Michael Bloomberg, Senator Bernie Sanders, Senator Elizabeth Warren and Andrew Yang, supported the concept.¹¹²

Postal Service banking began after the Panic of 1907, at a time when we had neither government insurance of deposit accounts nor a Federal Reserve with lender of last resort powers. Post offices offered savings accounts for up to \$500 at 2% interest, and the funds were then channeled directly to private local banks. But deposits did not grow significantly until the Great Depression, and grew again during a second spike in the 1940s when the accounts offered a slightly higher interest rate than commercial banks. Activity declined thereafter as banks raised their interest rates and government savings bonds offered a better return, and postal banking was terminated in 1967.¹¹³

The principal reason postal banking was created—government protection of deposits—no longer exists because we have FDIC insurance of commercial bank deposits. But Senator Gillibrand suggests a broader scope of services, in which post offices would compete with payday lenders by offering low-cost loans. She also believes the service would help the Postal Service financially; she refers to a 2014 Postal Service inspector general report that estimated \$9 billion in revenue.¹¹⁴ But that figure simply represents 10% of the estimated amount spent by the underserved on alternative financial services; the report did not otherwise calculate potential demand or costs.¹¹⁵

Could postal banking work? The fact that there are 30,000 post offices around the country might be helpful in reaching the underserved, particularly in rural areas. But as one experienced observer put it, there’s a bit of “magical thinking” going on. It is not clear whether

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110. Mintz, in discussion with the author, May 26, 2020.

111. Kirsten Gillibrand, “Trump Called the Postal Service A Joke. I’m Trying to Save It,” *New York Times*, April 26, 2020, <https://www.nytimes.com/2020/04/26/opinion/kirsten-gillibrand-usps-coronavirus.html>.

112. Nicole Goodkind, “Bloomberg, Sanders and Warren Want to Use Post Offices as Banks,” *Fortune*, March 4, 2020, <https://fortune.com/2020/03/04/post-office-banks-sanders-warren-bloomberg/>.

113. U.S. Postal Service, *Providing Non-Bank Financial Services*, 22–23.

114. Gillibrand, “Trump Called the Postal Service A Joke.”

115. U.S. Postal Service, *Providing Non-Bank Financial Services*, i & 16.

the Postal Service could offer a lower cost, competitive alternative to traditional bank offerings. Would it create new systems and infrastructure from scratch or contract out to other providers, and at what cost? Senator Gillibrand's legislation offers no detail on how the Postal Service would implement the service nor on funding—the legislation would simply “allow capitalization of an amount deemed necessary by the Postmaster General.”¹¹⁶ A study by the Universal Postal Union (which is a body of the United Nations) found that the greatest potential for postal banking was in small, developing countries.¹¹⁷ Postal banking in the United States may warrant further study, but the case for it is mixed.

Central bank digital currencies or CBDCs

Another idea discussed frequently these days to improve access to the financial system is CBDCs. While blockchain and other technological advances often underly CBDC proposals, one variation is for the Federal Reserve to simply create accounts for individuals in the existing Federal Reserve payments system under present technology. This is discussed in Part IV.

What are the chances that Libra can help?

In her testimony at a Senate hearing on digital currencies last year, University of California Irvine Law School Professor Mehrsa Baradaran said that while the crypto industry has drawn attention to the financial inclusion need, “cryptocurrency is [not] the best solution to the problems of financial inclusion and equity in banking” because these are policy problems not technology problems.¹¹⁸ A digital currency would still face many challenges, the first being how does someone who does not have a bank account get Libra? As Professor Baradaran said, “those who are unbanked need a way to cross the cash/digital divide so they can engage in commerce.”¹¹⁹

In their classic song “Across the Great Divide,” The Band made it sound easy: “just grab your hat and take that ride.”¹²⁰ Not so with crossing the cash/digital divide. While Libra would presumably have many convenient features—speed, one-click simplicity of use, and

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116. Postal Banking Act, S. 2755, 115th Cong. (2018).

117. Universal Postal Union, *Global Panorama on Postal Financial Inclusion*, 2016, 10, http://www.upu.int/up-loads/tx_sdownload/globalPanoramaOnPostalFinancialInclusion2016En.pdf. The report says the greatest potential is in countries such as Burundi, Burkina Faso, Senegal, Benin, Armenia, Moldova, Comoros, Malawi, Togo, Kyrgyzstan, Tunisia, Indonesia and Morocco because they have low financial inclusion rates and strong postal operators.

118. *Examining Regulatory Frameworks for Digital Currencies and Blockchain: Hearing before the Senate Committee on Banking, Housing, and Urban Affairs*, 116th Cong. (July 2019) (testimony of Mehrsa Baradaran, Professor of Law, UC Irvine School of Law), 1 & 6, <https://www.banking.senate.gov/imo/media/doc/Baradaran%20Testimony%207-30-19.pdf>.

119. *Examining Regulatory Frameworks for Digital Currencies and Blockchain*, 116th Cong. (testimony of Baradaran), 1 & 5.

120. “Across the Great Divide,” by Robbie Robertson, *The Band*, Capitol Records, 1969.

easy verification and monitoring of payments—whether it can help the unbanked and underbanked in the United States will depend on many factors. Even leaving aside whether the targeted population are users of Facebook, here are a few thoughts on the challenge:

Libra can only help the unbanked if there are easy ways to cross the cash/digital divide, either at physical locations or through prepaid cards or other means. If you don't have a bank account, you must go somewhere to convert your paycheck or cash to Libra. The number and proximity of those locations, and the hours they are open, will matter. RiteCheck, a major check cashing firm, has offices throughout the Bronx that are open 24 hours a day because many customers cannot visit during normal business hours. The distance matters particularly if you do not have a car and must travel by public transportation. It not only costs the unbanked a lot to use their money, it can take longer too.

Facebook does not have a network of physical stores. Digital wallets such as Novi that offer Libra will need to partner or contract with companies that have a network of outlets that could issue Libra in return for cash and, ideally, cash a paycheck as well. David Marcus acknowledged that need in our conversation, and said wallets like Novi would partner with “cash-in/cash-out businesses” and those with networks of physical locations like convenience stores.¹²¹

The process for obtaining Libra must be free (or close to it) and easy to understand. The White Paper does not address whether there will be a cost to converting cash to Libra, and vice versa, and presumably that will be up to the digital wallets. Marcus said Novi would cover that cost so that the user does not. He said costs would be covered by the fees charged merchants, which would be less than existing interchange charges.¹²²

The fact that the White Paper now contemplates single-currency stablecoins rather than only a multi-currency coin is of some benefit: at least users won't face the complexities of understanding the basket and its value, or the possibility of taxes on each transaction because of fluctuations in that value, except perhaps when using the composite coin.¹²³

The network must be extensive and robust, and users must have trust in the service. Even if Libra can be acquired at no cost and is easy to use, people will only use it if it is widely accepted and they trust the service. Will Libra be accepted by the merchants who the unbanked and underbanked must typically pay, such as landlords, utility companies, grocery stores, gas stations, doctors, child care providers and public transportation services? As Professor Baradaran noted, “in order for cryptocurrencies to be the solution to financial inclusion, they must be widely adopted and user-friendly—even for the least technologically savvy on both ends of the transaction. This is the policy equivalent of moving a mountain.”¹²⁴ You won't make the effort to cross the cash/digital divide unless the grass really is greener on the other side. Marcus acknowledged the importance of the issue,

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121. Marcus, in discussion with the author, February 26, 2020.

122. Marcus, in discussion with the author, February 26, 2020.

123. See text “The tax treatment of Libra.”

124. *Examining Regulatory Frameworks for Digital Currencies and Blockchain*, 116th Cong. (testimony of Baradaran), 6.

but said “cheaper forms of payment are always adopted by merchants if you have customers on the other side.”¹²⁵

The perceived safety and reliability of using Libra will also affect consumer choice. A Pew Charitable Institute study found that many consumers avoid using mobile payments because of concerns about loss of funds, and that many trust protections on credit and debit cards more than mobile payments.¹²⁶ Consumers will need to believe that using Libra is as safe and predictable as their other options, which will depend in part on whether there is strong regulatory oversight.

Libra must overcome consumers’ inertia that comes from familiarity with existing payment options as well. It may cost a lot for the underbanked to use their money, but as a senior official of a federal financial regulatory agency told me, they have their strategies for meeting their needs, and there is an inertia that may prevent switching. Libra will have to overcome that inertia.

Even if Libra is not widely used by the underserved for other needs, global remittances are a significant opportunity. One of the biggest market opportunities for Libra is remittances, which the World Bank estimated were \$706 billion in 2019. Remittances are important in reducing poverty. Approximately 10% of that amount was sent from the United States.¹²⁷ Remittances to low and middle income countries (LMICs) were \$554 billion, which the World Bank says made remittance flows larger than foreign direct investment and official development assistance to LMCs in many countries.¹²⁸ Approximately 800 million people receive remittances according to the United Nations Department of Economic and Social Affairs.¹²⁹ The global average cost of a remittance was almost 7%, more than twice the Sustainable Development Goal target of 3% by 2030. Banks are the costliest channel at 11%. The World Bank concluded that “de-risking by international correspondent banks—that is, the closing of bank accounts of money transfer operators (MTOs) to avoid rather than manage the risk in their efforts to comply with anti-money laundering and countering financing of terrorism (AML/CFT) norms—has affected remittance services and may have prevented further reduction in costs.” The average cost of using a national postal service was almost 8%, which the report attributes in part to the “policy incoherence” of a postal service paying a premium to a dominant MTO for an exclusive

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125. Marcus, in discussion with the author, February 26, 2020.

126. Pew Charitable Trust, *Are Americans Embracing Mobile Payments? Survey of Consumer Experiences Finds Greater Trust in Credit, Debit Cards*, October 2019, 2, https://www.pewtrusts.org/-/media/assets/2019/10/mobilepayments_brief_final.pdf.

127. Mora and Rutkowski, “Remittances in Times of the Coronavirus.” The 2018 figure was \$689 billion. See *Migration and Remittances, Recent Developments and Outlook*, vii, 3-4.

128. World Bank Group, *World Bank Predicts Sharpest Decline of Remittances in Recent History*, April 22, 2020, <https://www.worldbank.org/en/news/press-release/2020/04/22/world-bank-predicts-sharpest-decline-of-remittances-in-recent-history>. See also *Migration and Remittances*, 1-3.

129. United Nations Department of Economic and Social Affairs, *Remittances Matter: 8 Facts You Don’t Know about the Money Migrants Send back Home*, June 17, 2019, <https://www.un.org/development/desa/en/news/population/remittances-matter.html>.

partnership.¹³⁰ Dilip Ratha, lead author of a 2019 World Bank report, concluded that “letting new players operate through national post offices, banks, and telecommunications companies will increase competition and lower remittance prices.”¹³¹

The World Bank has found that mobile money is the cheapest method for funding a remittance, but volume of usage is low.¹³² The fact that Libra can build on the single, global network created by Facebook could be a significant cost advantage. A wallet like Novi will still have to partner with businesses in the countries where remittances are sent, so that recipients have easy ways to convert Libra into local currency. But if Libra succeeds only in reducing the cost of remittances, that would be a significant social benefit to many people around the world, including in the United States.

Ancillary financial services—such as small amounts of credit—could increase the attractiveness of the system to the underbanked. But it is not clear what might be offered and such services may raise additional regulatory concerns.

The White Paper did not propose to offer other financial services or even interest on deposits of Libra. Presumably it will be up to the digital wallets on the network to choose to do so. Given today’s single basis point rates on deposits, interest may not matter to customers (particularly those with low balances). But in the long run, the ease with which customers can manage their savings, as well as make payments, and the ability to get small amounts of credit, may matter. Those services were critical to the growth of Alipay and WeChat Pay in China, as discussed below. The provision of those services adds more complexity to the operation and it raises more regulatory issues. Marcus said the Libra network “is designed with interoperability at its core,” so presumably others could build applications on the system to offer such products and services.

Success with the underbanked will also depend on Libra’s success in attracting the “fully banked.” Libra can only succeed and serve the underbanked if it has scale, and scale will require extensive use by the fully banked. Facebook’s customer base is certainly an asset in that competition. But the fully banked have many alternative means of payment—checking accounts, debit cards, credit cards, mobile payment apps or wallets like PayPal, Apple Pay or Venmo—which are low or no cost. Credit cards and Internet or mobile phone payments linked to credit cards provide users with free credit for 30 days, as long as they pay their balance at the end of the month, and often offer cash rebates, frequent flyer miles or other rewards—though we indirectly pay for these privileges because of the fees that merchants must pay. Libra’s ability to compete will depend on many of the same factors as with the unbanked—convenience and cost of use, degree of network and ancillary

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130. World Bank Group, *Remittance Prices Worldwide*, vii, 6–7, 11. It found the average cost in 2020 declined slightly to 6.79%, and that the average cost from the United States was 5.36%. See also *Migration and Remittances*, 5.

131. World Bank Group, *Record High Remittances Sent Globally in 2018*, April 8, 2019, <https://www.worldbank.org/en/news/press-release/2019/04/08/record-high-remittances-sent-globally-in-2018>.

132. *Remittance Prices Worldwide*, 11.

benefits, recourse rights if there's a problem¹³³—but the challenge is greater because the existing options work so well for those with money. We should expect the businesses that offer those options to respond to defend their market position should Libra gain traction. Of course, that is the competition we want.

The privacy and data issues could cut both ways. I noted the importance of addressing the privacy and use of data issues raised by the proposal. Assuming for the moment that consumers have meaningful rights to decide what data is collected and how it is used, there are potentially multiple, diverse interests at issue. On the one hand, one can imagine that many people, especially those with other good payment options, may be reluctant to use Libra because of concerns that their transaction history will be monetized by Facebook. And a merchant may not want to accept Libra if it fears its product SKUs, prices or other sensitive data will be collected and sold to competitors. Just as the unbanked cite “don't trust banks” as a primary reason for not having a bank account, some will say “don't trust Facebook” as the reason for not using Libra.

On the other hand, if a Libra digital wallet can create stronger tools to authenticate identity or a person's eligibility or acceptability for a loan or other financial product, because of the multiple “touch points” that come from the social media platform, that might be attractive to users, especially among the underserved, as well as to providers of those financial products. If the system can reduce fraud risk for similar reasons, merchants might welcome the service as an alternative to card transactions, particularly because it is the merchant, not the card issuer, who is liable for fraud in card-not-present transactions. If the system means more “push” rather than “pull” transactions, so that a user does not have to give sensitive personal data to merchants or suppliers as often, that means less chance one's personal data is breached or misused.¹³⁴ These could be significant competitive assets.

What about outside the U.S.?

The size of the population that lacks good access to the financial system is obviously much greater outside the United States. There may be a greater receptivity, and a greater willingness to experiment with Libra and digital currencies generally, in emerging market countries. During the House Financial Services hearing, Marcus described such countries as the primary market (along with remittances). The issues in those countries are beyond the scope of this paper, but I will note two recent studies. The Official Monetary and Financial Institutions Forum (OMFIF) found that respondents in emerging market economies were much more open to the prospect of a digital currency than those in developed countries. It also found that emerging markets “welcome all digital providers,” including technology

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133. The non-reversability of the Bitcoin blockchain was heralded as a major advantage: no one could tamper with it. But if the goods you ordered remotely on your credit card never arrive, it's nice to have recourse against the credit card provider.

134. The difference between a push and pull transaction is the originator of the request. In a push transaction, the payer “pushes” the money to the merchant. In a pull transaction, the merchant pulls the money out of the account, after having been given the necessary account information by the payer to do so.

companies; by contrast, developed markets prefer a central bank issuer.¹³⁵ Similarly, a recent survey by the Bank for International Settlements (BIS) found that financial inclusion was a “very important” or “important” motivation for launching a digital currency in emerging market countries, whereas it ranked as “not so important” or only “somewhat important” in developed economies.¹³⁶

The BIS survey found that “central banks collectively representing a fifth of the world’s population are likely to issue a general purpose CBDC in the next three years.”¹³⁷ The survey does not specify countries, but China alone represents almost 20% of the world’s population and is now testing its CBDC. China has experienced a dramatic growth in financial inclusion through its third-party mobile payments industry *without* the use of digital currencies. What can we learn from its experience?

Part III: The value of Chinese lessons

It is worth considering whether the growth of the third-party mobile payments industry in China offers lessons as to Libra’s potential. Mobile and Internet-based third-party payments in China increased from around \$1 trillion in 2013 to approximately \$40 trillion in 2019, with about 90% of the 2019 total attributable to mobile-based payments.¹³⁸ The growth was largely outside of the traditional banking system and was driven by two firms in particular: Alipay and WeChat Pay. The chart below shows the approximate number of customers and volume of payments for each company during 2013, 2016, and 2019.¹³⁹

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135. Official Monetary and Financial Institutions Forum (OMFIF), *Digital Currencies: A Question of Trust*, February 2020, 20, <https://www.omfif.org/wp-content/uploads/2020/02/Digital-currencies-A-question-of-trust-1.pdf>.
136. Codruta Boar, Henry Holden, and Amber Wadsworth, “Impending Arrival – A Sequel to the Survey on Central Bank Digital Currency,” *Bank for International Settlements*, January 2020, 4, <https://www.bis.org/publ/bppdf/bispap107.pdf>. See also *Payment Aspects of Financial Inclusion in the Fintech Era*, 18–19.
137. “Impending Arrival,” *Bank for International Settlements*, 1.
138. Analysys 易观, *Yi Guan zhongguo di sanfang zhifu hangye zhuanti fenxi 2018* 易观中国第三方支付行业专题分析 2018 [Analysys China Third-party Payment Industry Special Analysis 2018], September 26, 2018, 6–7, <https://www.analysys.cn/article/detail/20018904>; Analysys 易观, *Yi Guan zhongguo di sanfang zhifu hangye zhuanti fenxi 2019* 易观中国第三方支付行业专题分析 2019 [Analysys China Third-party Payment Industry Special Analysis 2019], August 21, 2019, 5, 9, <http://www.199it.com/archives/913486.html>. This paper assumes an exchange rate of \$1 to 7 RMB.
139. The payment of WeChat Pay is processed by Tenpay, a subsidiary of Tencent which operates WeChat Pay. See Qichacha 企查查, “Cai fu tong zhifu keji youxian gongsi” 财付通支付科技有限公司 [Tenpay Technology Company Limited], QCC, accessed June 3, 2020, https://www.qcc.com/firm_497MDRG.shtml; Tenpay 财付通, *Tenpay*, accessed April 25, 2020, <https://www.tenpay.com/v3/>. For number of customers, see Zhang Yao 张遥, “Zhifubao cheng shiming renzheng yonghu jin 3 yi cheng quanqiu zuida yidong zhifu gongsi” 支付宝称实名认证用户近 3 亿 成全球最大移动支付公司 [Alipay Claims It Has Nearly 300 Million Real-name Authenticated Users and Became the World’s Largest Mobile Payment Company], *China Economics*, February 8, 2014, http://finance.ce.cn/rolling/201402/08/t20140208_2261332.shtml; Alibaba Group Holding Limited, *FORM 20-F*, May 24, 2016, 78, <https://otp.investis.com/clients/us/alibaba/SEC/sec->

Figure 2: Number of customers and volume of payments



* Tenpay processes payments of both WeChat Pay and QQ Wallet, another payment product of Tencent with much less popularity than WeChat Pay.

The paths the two companies took differed slightly. Alipay was started in 2004 to provide payment services for the e-commerce platform of its affiliate Alibaba.¹⁴⁰ As of June 30, 2019, Alipay had approximately 1.2 billion customers globally, of which about 900 million were customers from China.¹⁴¹ WeChat Pay, which began in 2013, grew out of the social

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140. Alipay is owned by Ant Financial, an affiliate of Alibaba. See Qichacha 企查查, “Zhejiang mayi xiao wei jinrong fuwu jituan gufen youxian gongsi” 浙江蚂蚁小微金融服务集团股份有限公司 [Zhejiang Ant Micro Financial Service Group Ltd.], QCC, accessed March 13, 2020, https://www.qcc.com/firm_ff3aac2898ef5e5f12f3d31032898c7c.html; Qichacha 企查查, “Zhifubao (zhongguo) wangluo jishu youxian gongsi” 支付宝(中国)网络技术有限公司 [Alipay (China) Internet Technology, Co., Ltd.], QCC, accessed March 13, 2020, https://www.qcc.com/firm_fab96b719ef6387bd9d095bec03de3f0.html.

141. Alibaba Group Holding Limited, FORM 6-K, 4.

media platform of WeChat, one of the largest social media sites in China and worldwide.¹⁴² When WeChat Pay began, Alipay had a dominant position in mobile and Internet-based payments, with over 300 million customers and a volume of approximately \$526 billion in 2013.¹⁴³ But WeChat Pay was able to successfully build a payments business, in part by capitalizing on the Chinese tradition of *hongbao* during the Lunar New Year—small gifts of money given in red envelopes at family and social gatherings.¹⁴⁴ It now rivals Alipay in numbers of customers and payments volume. The two companies together are estimated to represent over 85% of total mobile and Internet payments in China in 2019.¹⁴⁵

What can we learn from China’s experience?

There are some useful lessons from China’s mobile payments experience, as well as significant differences that limit its relevance:

The competitive landscape in China was quite different than what Libra faces because cash was the dominant means of retail payment. Cash transactions were the dominant means of retail payment in China in 2012. Point-of-sale (POS) terminals were and still are much less common in China than in the U.S., resulting in lower use of debit cards (as well as credit cards, which themselves are less common).¹⁴⁶ The volume of mobile payments through third party payment entities increased from \$20.6 billion in 2012 to over \$35 trillion in 2019.¹⁴⁷ According to a recent survey, more than 60% of Internet users use mobile payment for more than 60% of their total payments.¹⁴⁸ China essentially leapfrogged over the U.S. system—in which there is widespread use of credit, debit and prepaid cards tied to the banking system—to mobile payments that were less connected to the banking system.

Libra will face a much tougher competitive landscape in light of the many other electronic payment options. As Hans Morris, former president of Visa and now a prominent fintech

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142. Baidu 百度, “Weixin Zhifu” 微信支付 [WeChat Pay], *Baidu*, accessed March 13, 2020, <https://baike.baidu.com/item/%E5%BE%AE%E4%BF%A1%E6%94%AF%E4%BB%98/7322448?fr=aladdin>; Tencent 腾讯, “Guanyu weixin zhifu” 关于微信支付 [About WeChat Pay], QQ, accessed March 13, 2020, <https://kf.qq.com/faq/181012y6bUNR181012nMFnMr.html>.
143. Enfodesk, *Enfodesk China Third-party Payment Industry Business Extension Research Report 2014*, 12–14; Zhang, “Alipay Claims It Has Nearly 300 Million Real-name Authenticated Users and Became the World’s Largest Mobile Payment Company.”
144. Tencent, “About WeChat Pay.”
145. Analysys, *Analysys China Third-party Payment Industry Special Analysis 2019*, 5, 8–9, 11.
146. In 2016, China had around 1,774 POS terminals per 100,000 capita, while the United States had around 4,300 POS terminals per 100,000 capital. See G4S Cash Solutions and Payments Advisory Group, *World Cash Report 2018*, May 1, 2018, 48, 88, <https://cashesentials.org/app/uploads/2018/07/2018-world-cash-report.pdf>. In 2019, China had around 2,210 POS terminals per 100,000 capita. See People’s Bank of China 中国人民银行, *2019 Nian zhifu tixi yunxing zongti qingkuang* 2019 年支付体系运行总体情况 [2019 Overall Operation of the Payment System], March 17, 2020, <http://www.pbc.gov.cn/zhifu-jiesuansi/128525/128545/128643/3990497/index.html>.
147. Analysys, *Analysys China Third-party Payment Industry Special Analysis 2019*, 5; Enfodesk, *Enfodesk China Third-party Payment Industry Business Extension Research Report 2014*, 11.
148. iiMedia Research 艾媒咨询, *2018-2019 Zhongguo xianxia lingshou jiaoyi xianjin yu wangluo zhifu xingwei zhuangkuang diaocha* 2018-2019 中国线下零售交易现金与网络支付行为状况调查 [2018-2019 China Offline Retail Transaction Cash and Online Payment Behavior Survey], December 12, 2018, <https://www.iimedia.cn/c400/63159.html>.

venture capitalist, says, “there’s no product development chief for cash”—meaning that, because the competition was largely cash, Alipay and WeChat Pay did not face other businesses defending their market share.¹⁴⁹ Libra will. While the China experience shows consumers can quickly get comfortable using a new payments technology if it brings convenience and cost savings, that does not mean consumers will easily switch from other convenient, electronic options.

The ways in which these companies helped consumers cross the cash/digital divide may be relevant to Libra’s potential with underserved consumers. Despite the differences in the competitive landscape, the actions the companies took to enable the unbanked to join may be relevant. For example, Alipay consumers could walk into a mobile telephone store, grocery store, or post office partnered with Alipay and convert their cash to an Alipay account.¹⁵⁰ The low cost and convenience of using the systems (for consumers and merchants) also made the platforms attractive. One need only scan a barcode or QR code to initiate or receive a payment, which is easier and cheaper than using a bank card in a traditional POS terminal.

The robustness of the network was critical to growth. Both companies created extensive network benefits to attract and retain customers. In addition to holding special shopping events,¹⁵¹ they provided access to a broad range of goods and services to meet consumers’ daily needs. For example, Alibaba’s online-shopping platform Taobao and Tmall had over two billion product and service listings as of March 31, 2019.¹⁵² Their apps can be used to pay utility and medical bills, book train or flight tickets, call for a cab, rent a bike and other services.

Alipay’s actions to earn customers’ trust may be similar to what Libra needs to do. When e-commerce began in China, many were skeptical that buyers would deliver funds or that sellers would deliver the goods. There was not only little usage of credit cards;¹⁵³ it was also not easy to get a refund from a bank if there was a problem with an order. To address consumers’ concerns, Alipay provided custody of customer funds until goods were delivered.

We take for granted our ability to call a card issuer to seek a refund or contest a charge when the real target of our complaint is the merchant. One of the limitations of Bitcoin as a payments system is that it does not incorporate such protections or the ability to reverse a mistake. Although the White Paper does not address the issue, it is hard to imagine Libra

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149. Hans Morris (Managing Partner, Nyca Partners), in discussion with the author, May 27, 2020.

150. Alipay 支付宝, “Ruhe huoqv chongzhi ma?” 如何获取充值码? [How to Get the Recharge Code?], Alipay, accessed March 13, 2020, https://cshall.alipay.com/lab/help_detail.htm?help_id=248025.

151. For example, Alibaba pioneered the “11.11 global shopping festival” in 2009 which has become the most important shopping event in China. See Alibaba Group Holding Limited, *Global Offering*, November 15, 2019, 199, <https://www1.hkexnews.hk/listedco/listconews/sehk/2019/11/15/2019111500039.pdf>.

152. Alibaba Group Holding Limited, *Global Offering*, 191.

153. In 2018 Q3, average credit card holding per capita was 0.47 in China. See China Banking and Insurance Regulatory Commission 中国银行保险监督管理委员会 and Guanyan Tianxia 观研天下, *2019 Nian zhongguo yinhang ka hangye shichang zhuangkuang ji fazhan qvshi fenxi* 2019 年中国银行卡行业市场状况及发展趋势分析 [2019 China’s Bank Card Industry Market Status and Development Trend Analysis], May 16, 2019, <http://free.chinabaogao.com/gonggongfuwu/201905/0516422Y42019.html>.

succeeding unless the digital wallets like Novi provide equivalent recourse and take other actions to build trust.

The provision of additional financial services further incentivized consumers to keep their money with the payment entities. These companies are more than just payment services; they provide a broad range of financial services to their customers. Today, a significant offering is wealth management products. In 2013, Alipay created a digital fund management wallet, Yu'e Bao, through which their customers could invest in a money market fund linked to a customer's Alipay account.¹⁵⁴ Money could be swept back and forth easily, earning a higher return when in the money market fund, but available for transfer to the core account when needed for a third-party payment. Unlike ordinary money market funds, Alipay's Tianhong Fund had a low investment threshold (one cent in RMB), T+0 settlement, and higher returns than bank deposits.¹⁵⁵ This led to the fund becoming the largest money market fund in the world by the end of 2017, with 474 million customers and RMB 1.6 trillion (\$228 billion) in assets.¹⁵⁶ WeChat Pay also entered this business after Alipay.

The companies or their affiliates also offered various credit products. This has included consumer loans and small business loans.¹⁵⁷ It will be interesting to see whether digital wallets on the Libra network offer additional services in order to attract consumers away from existing options.

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154. Alipay's digital wallet, Yu'e Bao, originally had only one money market fund commonly known as "Tianhong Fund," which was managed by Tianhong Innovation Assets Management Co., Ltd. ("Tianhong Management"). That entity was acquired by a company controlled by Jack Ma in 2013 and is now 51% owned by Ant Financial. Yu'e Bao later started offering third party funds. See Qichacha 企查查, "Tian hong jijin guanli youxian gongsi" 天弘基金管理有限公司 [Tianhong Innovation Assets Management Co., Ltd.], QCC, accessed March 13, 2020, https://www.qcc.com/firm_e1d8f4dde60d8112c77e3f66cb776dc0.html#base; Jinniui Caijing 金牛财经, "Tian hong jijin gudong mingdan" 天弘基金股东名单 [Tianhong Fund Shareholders List], *Jinniux*, June 24, 2018, www.jinniux.com/jijin/8379.html.
155. Alipay 支付宝, "Yu'e bao jieshao" 余额宝介绍 [Yu'e Bao Introduction], *Alipay*, accessed March 13, 2020, https://cshall.alipay.com/lab/help_detail.htm?help_id=257914; Wuyou zhifu wang 无忧支付网, "Yu'e bao fazhan de zuli ji xiangguan zhengyi" 余额宝发展的阻力及相关争议 [Challenges and Controversies of Yu'e Bao], *Wyzhifu*, September 30, 2014, www.wyzhifu.com/yjwendang/428.html.
156. Tianhong Innovation Assets Management Co., Ltd. 天弘基金管理有限公司, *Tianhong Yu'e Bao huobi shichang jijin 2017 nian niandu baogao* 天弘余额宝货币市场基金 2017 年年度报告 [Tianhong Yu'e Bao Money Market Fund 2017 Annual Report], March 29, 2018, <http://fund.eastmoney.com/gonggao/000198.AN201803291114006000.html>; Ouyang Jie 欧阳洁 and Qiu Chaoyi 邱超奕, "Yu'e Bao weihe hui bei xiangou Renmin Ribao: Huobi jijin bingfei ling fengxian" 余额宝为何会被限购 人民日报: 货币基金并非零风险 [Why Yu'e Bao's Purchase is Restricted, People's Daily: Monetary Fund is Not Zero Risk], *Sina*, April 9, 2018, http://finance.sina.com.cn/money/bank/bank_hydt/2018-04-09/doc-ifyuwqez7035199.shtml.
157. See, e.g., Baidu 百度, "Mayi jinrong fuwu jituan" 蚂蚁金融服务集团 [Ant Financial Group], *Baidu*, accessed March 20, 2020, https://baike.baidu.com/item/%E8%9A%82%E8%9A%81%E9%87%91%E8%9E%8D%E6%9C%8D%E5%8A%A1%E9%9B%86%E5%9B%A2/15897571?from_title=%E8%9A%82%E8%9A%81%E9%87%91%E6%9C%8D&fromid=15897076&fr=aladdin; Baidu 百度, "Weili Dai" 微粒贷 [Weili Loan], *Baidu*, accessed June 19, 2020, <https://baike.baidu.com/item/%E5%BE%AE%E7%B2%92%E8%B4%B7/17576220?fr=aladdin>; We Bank 微众银行, *Webank*, accessed June 19, 2020, <https://www.webank.com/>.

China's regulatory response to the growth of mobile payments

We can also learn from the Chinese regulatory response to the growth of mobile payments. The factors described above—convenience, low cost, network benefits, ancillary services, as well as the fact that commercial banks paid low interest on consumer deposits—meant that customers tended to keep funds in the Alipay and WeChat Pay systems, and did not transfer funds back to the traditional banking system. This led to a huge growth of funds outside of the regulated financial system. As noted earlier, Libra could similarly lead to a buildup of funds outside the regulated system.¹⁵⁸

For many years, the Chinese payment companies deposited customer reserve funds in banks but did not pass on the interest income to their customers. The Peoples Bank of China (PBOC), the banking regulator, became concerned about misappropriation of customer reserve funds and exposure of such funds to high-risk financial products.¹⁵⁹ In addition, as mobile payments and customer funds on deposit grew, Alipay and WeChat Pay acted as de facto clearing houses by netting and settling transactions between banks. That was a function previously performed only by entities controlled by the PBOC.

The PBOC began taking actions to regulate third-party payments services in 2010, and tried several different approaches over the next decade. It initially restricted the number and type of accounts that a payment service could have with banks. These measures were intended to centralize custody of customer reserve funds and give the PBOC better oversight into flows of funds.¹⁶⁰ But these measures had limited effect. The PBOC took more aggressive action beginning in 2016 to restrict the payment entities' use of customer reserve funds and their clearing activities. At the time, the PBOC reported that 267 payment entities held more than RMB 460 billion (\$66 billion) in customer reserve funds.¹⁶¹ In 2017, the PBOC began phasing in a requirement that all customer reserve funds be deposited with the PBOC

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158. See text at note 59.

159. People's Bank of China 中国人民银行, "Zhongguo renmin yinhang youguan fuze ren jiu fei yinhang zhifu jigou kehu beifujin jizhong cungan youguan wenti da jizhe wen" 中国人民银行有关负责人就非银行支付机构客户备付金集中存管有关问题答记者问 [Relevant Persons in Charge of the PBOC Answered Reporters' Questions on the Central Custody of Customer Reserve Funds Held by Non-bank Payment Entities], *People's Bank of China*, January 13, 2017, www.pbc.gov.cn/goutongjiaoliu/113456/113469/3234880/index.html.

160. The initial regulations directed payment entities to deposit customer reserve funds in one commercial bank. See Administrative Measures for the Payment Services Provided by Non-financial Institutions 非金融机构支付服务管理办法 (promulgated by the People's Bank of China, June 14, 2010, effective September 1, 2010), art. 26, CLI.4.134238(EN) (Lawinfochina). But payment entities, with the cooperation of commercial banks, nevertheless opened multiple accounts at many banks. See People's Bank of China 中国人民银行, "Renmin yinhang youguan fuze ren jiu 'Zhifu jigou kehu beifujin cungan banfa' da jizhe wen" [Relevant Persons in Charge of the PBOC Answered Reporters' Questions on the Measures for the Custody of Clients' Reserves of Payment Institutions [人民银行有关负责人就《支付机构客户备付金存管办法》答记者问], *People's Bank of China*, June 9, 2013, www.pbc.gov.cn/goutongjiaoliu/113456/113469/2867763/index.html. In 2013 the PBOC issued a second set of regulations that allowed for three types of accounts at different banks but imposed a variety of restrictions in order to increase transparency. See Measures for the Custody of Clients' Reserves of Payment Institutions 支付机构客户备付金存管办法 (promulgated by the People's Bank of China, June 7, 2013, effective June 7, 2013), art. 12–14, CLI.4.204944(EN) (Lawinfochina).

161. People's Bank of China, "Relevant Persons in Charge of the PBOC Answered Reporters' Questions on the Central Custody of Customer Reserve Funds Held by Non-bank Payment Entities."

in non-interest-bearing accounts. Initially the requirement was as low as 12% of such funds in April 2017, but it was gradually increased to 100% by January 2019.¹⁶² By the time Alipay and WeChat Pay had fully complied with the requirements, their customer reserve funds were estimated to be a combined RMB 1 trillion (\$143 billion).¹⁶³ After losing the interest income from deposits of customer reserve funds, Alipay and WeChat Pay started to charge customers for services that were previously provided for free, such as transferring money from Alipay/WeChat Pay accounts to their bank accounts and paying credit cards.¹⁶⁴ Considering that third-party payment entities continued to face funding pressures, the PBOC subsequently adjusted its policy by paying third-party payment entities an annual interest of 0.35% from August 2019.¹⁶⁵ The deposits of third-party payment entities in the PBOC reached over RMB 1.5 trillion (\$214 billion) as of December 2019.¹⁶⁶

The PBOC also reclaimed the clearing and settlement function. It required that all clearing and settling of payments between banks take place through a government established clearinghouse called NetsUnion Clearing Corporation (NetsUnion) in which the payment entities were given equity.¹⁶⁷

The PBOC and the China Securities Regulatory Commission (CSRC) also took actions in response to the dramatic growth of money market funds linked to third party payment accounts. The authorities were concerned about the potential effects on bank funding costs of a large shift from lower-cost and stable retail bank deposits to higher-cost and less stable institutional deposits (as consumers withdrew bank deposits to purchase money market funds).¹⁶⁸ In addition, because money market funds in China generally invest more than 50% of their funds in bank deposits, and banks would also advance money to fund

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162. Notice of the General Office of the People's Bank of China on Matters concerning Implementing the Centralized Deposit of the Funds of Pending Payments of Clients of Payment Institutions 关于实施支付机构客户备付金集中存管有关事项的通知 (promulgated by the People's Bank of China, January 13, 2017, effective January 13, 2017), art. 3, CLI.4.288811(EN) (Lawinfochina); Notice of the General Office of the People's Bank of China on Matters concerning Complete Centralized Deposit of the Funds of Pending Payments of Clients of Payment Institutions 关于支付机构客户备付金全部集中交存有关事项的通知 (promulgated by the People's Bank of China, June 29, 2018, effective June 29, 2018), art. 1, CLI.4.316748(EN) (Lawinfochina).
163. Xue Hongyan 薛洪言, "Beifujin jizhong cungan tisu, dui zhifu jigou yingxiang jihe?" 备付金集中存管提速, 对支付机构影响几何? [Acceleration of Central Custody of Customer Reserve Funds, What Are the Implications on Payment Entities?], *Baidu*, December 5, 2018, <https://baijia-hao.baidu.com/s?id=1618933927117048968&wfr=spider&for=pc>.
164. Xue, "Acceleration of Central Custody of Customer Reserve Funds, What Are the Implications on Payment Entities?"
165. The interest is paid on a quarterly basis from August 1, 2019 to July 31, 2022, with 10% of such interest reserved for an industry safeguard fund. See Yidong Zhifu Wang 移动支付网, "Zhong bang: yanghang chongqi zhifu jigou beifujin lixi, nian lilv 0.35% an ji jie xi" 重磅: 央行重启支付机构备付金利息, 年利率 0.35%按季结息 [Outbreak: The PBOC Restarted to Pay Interest for Payment Entities with an Annual Interest of 0.35% Paid Quarterly], *Mpaypass*, January 7, 2020, <http://www.mpaypass.com.cn/news/202001/07133735.html>.
166. The deposits of third-party payment entities are reflected as the "deposits of non-financial institutions" in the PBOC balance sheet. See People's Bank of China, *Balance Sheet of Monetary Authority*, accessed April 5, 2020, <http://www.pbc.gov.cn/diaochatongjisi/resource/cms/2020/01/2020011716363947588.htm>.
167. Qichacha 企查查, "Wang lian qingsuan youxian gongsi" 网联清算有限公司 [NetsUnion Clearing Corporation], QCC, accessed March 13, 2020, https://www.qcc.com/firm_e19ee30788115bc0e5b92224c8be7c2b.html.
168. Four-dimension Finance 四维金融, "Yu'e Bao de cunkuan banjia xiaoying jiang hui chansheng shenme yingxiang" 余额宝的存款搬家效应将会产生什么影响 [What Is the Implication of Yu'e Bao's Effect of Deposit Moving], *Sohu*, June 26, 2017, https://www.sohu.com/a/152185570_479787.

withdrawals made on a T+0 settlement basis, the authorities were concerned that rapid withdrawals of money from the funds could create liquidity risk for the banking system.¹⁶⁹ Beginning in late 2015, the authorities imposed certain fund disclosure requirements and prohibited the payment entities from advancing customer reserve funds to facilitate money market fund redemptions.¹⁷⁰ In 2017, the CSRC limited the size of money market funds to 200 times their risk reserve, and in 2018 the authorities limited the amount that could be withdrawn from a fund on a T+0 basis and prohibited third party payment entities from advancing funds for such withdrawals.¹⁷¹

Initially, Alipay responded to government concerns by imposing limits on the aggregate amount of an individual's investment as well as a daily limit in 2017.¹⁷² However, those restrictions did not affect the vast numbers of investors whose investment amount was below the caps and therefore did little to slow the growth of such funds. Alipay then diversified its fund offerings so as to avoid a concentration of customer investments in a single fund in May 2018.¹⁷³ Currently, there are a total of 28 money market funds offered through Yu'e Bao by third party partners other than Tianhong Fund.

While it is difficult to quantify whether the various regulatory measures had a substantial effect on the growth of money market funds, the size of the Tianhong Fund finally declined in the second quarter of 2018 when the spread between the fund's return and the return on commercial bank deposits narrowed.¹⁷⁴ This suggests that consumers consider monetary return as well as convenience in deciding how much money to keep in a payment entity's system. Nevertheless, the Tianhong Fund still had 642 million customers and RMB 1.09

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169. Ouyang and Qiu, "Why Yu'e Bao's Purchase is Restricted, People's Daily: Monetary Fund is Not Zero Risk"; Zhang Qi 张奇, "T+0 shuhui xian'e 1 wan yunxun yinhang wei T+0 shuhui dianzi" T+0 赎回限额 1 万允许银行为 T+0 赎回垫资 [Limits T+0 Redemption to RMB 10,000 and Allows Banks to Advance Funds for T+0 Redemption], *Sohu*, June 2, 2018, <http://finance.sina.com.cn/money/fund/jjyi/2018-06-02/doc-ih-cikcew7366808.shtml>.
170. Measures for the Supervision and Administration of Money Market Funds 货币市场基金监督管理办法 (promulgated by the China Securities Regulatory Commission and the People's Bank of China, December 17, 2015, effective February 1, 2016), art. 18, 20, 23, CLI.4.261551(EN) (Lawinfochina).
171. Provisions on the Administration of Liquidity Risk of Publicly Offered Open-End Securities Investment Funds 公开募集开放式证券投资基金流动性风险管理规定 (promulgated by the China Securities Regulatory Commission, August 31, 2017, effective October 1, 2017), art. 29, CLI.4.301236(EN) (Lawinfochina); Guiding Opinions on Further Regulating the Services Relating to the Internet Sales and Redemption of Money Market Funds 关于进一步规范货币市场基金互联网销售、赎回相关服务的指导意见 (promulgated by the China Securities Regulatory Commission and the People's Bank of China, May 30, 2018, effective June 1, 2018), art. II, CLI.4.315325(EN) (Lawinfochina). The restrictions did not limit withdrawals from a money market fund that went directly to a customer's third party payment entity account.
172. Jujin Jinrong 聚金金融, "Xian'e 1 wan yuan, Yu'e Bao Weihe Yao ba qian'ju zhi men wai"? 限额 1 万元, 余额宝为何要把钱“拒之门外”? [With a Limit of RMB 10,000, Why Does Yu'e Bao "Reject the Money"?], *Sohu*, May 15, 2018, https://www.sohu.com/a/231792582_178000.
173. "Diyi Caijing 第一财经, "Boshi, Zhong'ou jijin jie ru, Yu'e Bao jiang jieshu mei ri miao qiang xiangou" 博时、中欧基金接入, 余额宝将结束每日秒抢限购 [With Boshi and Zhong'ou Fund's Access, Yu'e Bao Ends the Daily Purchase Limit], *Sohu*, May 3, 2018, https://www.sohu.com/a/230323564_114986.
174. ZOL Zhongguancun Zaixian ZOL 中关村在线, "Yu'e Bao shouyilv xiahua de yuanyin zhaodaole" 余额宝收益率下滑的原因找到了 [The Reasons for the Decrease of Investment Return of Yu'e Bao Have Been Found], *Ifeng*, July 17, 2019, tech.ifeng.com/c/ToN6J97cQQJ. See also Joshua Younger et al., "A Case Study in Alternative Payments: Lessons from the Chinese Experience," J.P. Morgan, December 5, 2019, 15.

trillion (\$156 billion) in assets as of December 31, 2019, making it the largest money market fund in China.¹⁷⁵

In addition to these measures, the PBOC also imposed capital requirements on payment entities of 10% of the average daily balance of customer reserve funds, which is higher than the requirement of 8% on commercial banks.¹⁷⁶ However, the amount of capital is effectively reduced—relative to the amount of funds actually circulating through the payment entity systems—to the extent that customers keep their balances in affiliated money market funds rather than in the payment account.¹⁷⁷

Chinese authorities have also imposed customer protection and other requirements that include:

- (i) Adequate consumer disclosure—among other things, companies must make clear that funds in payment accounts are not equivalent to bank deposits and are not insured,¹⁷⁸ and must make adequate disclosures about ancillary financial products that are offered to customers;¹⁷⁹
- (ii) Compensation for customer losses—companies must establish a risk reserve fund and compensation system to cover losses that are not the fault of the customer;¹⁸⁰
- (iii) Protection of customer information—companies must collect, use, store and transmit the minimum amount of customer data necessary to facilitate the transaction, and not provide customer data to other entities without customer consent.¹⁸¹ Barcodes (QR) can only contain transaction relevant information and cannot contain sensitive customer information;¹⁸²
- (iv) Know your customer requirements—payment entities are required to verify the identities of customers and maintain copies of their National IDs.¹⁸³ Larger transactions are subject to more rigorous verification provisions,

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- 175. Tianhong Innovation Assets Management Co., Ltd. 天弘基金管理有限公司, *Tianhong Yu'e Bao huobi shichang jijin 2019 nian niandu baogao* 天弘余额宝货币市场基金 2019 年年度报告 [Tianhong Yu'e Bao Money Market Fund 2019 Annual Report], April 24, 2020, http://fund.eastmoney.com/gonggao/000198_AN202004241378540578.html; Tianhong Asset Management 天宏基金, *Thfund*, accessed March 15, 2020, <http://www.thfund.com.cn/yuebao#page1>.
- 176. Administrative Measures for the Payment Services Provided by Non-financial Institutions, art. 30; Administrative Measures for the Capital of Commercial Banks (for Trial Implementation) 商业银行资本管理办法(试行) (promulgated by the China Banking Regulatory Commission (dissolved), June 7, 2012, effective January 1, 2013), art. 23, CLI.4.176745(EN) (Lawinfochina).
- 177. Zhang Sa 张飒 and Shi Yingnan 施颖楠, "Zhifubao lianshou jijin tui 'Yu'e Bao'" 支付宝联手基金推“余额宝” [Alipay Cooperated with Funds to Launch “Yu’e Bao”], *163.com*, June 17, 2013, <http://money.163.com/13/0617/10/911A8K400253B0H.html>.
- 178. Administrative Measures for the Online Payment Business of Non-Banking Payment Institutionsa 非银行支付机构网络支付业务管理办法 (promulgated by the People's Bank of China, December 28, 2015, effective July 1, 2016), art. 7, CLI.4.261833(EN) (Lawinfochina).
- 179. Administrative Measures for the Online Payment Business of Non-Banking Payment Institutions, art. 18. See also Law of the People's Republic of China on the Protection of Consumer Rights and Interests 中华人民共和国消费者权益保护法 (promulgated by the Standing Committee of the National People's Congress, October 25, 2013, effective March 15, 2014), art. 28, CLI.1.211792(EN) (Lawinfochina).
- 180. Administrative Measures for the Online Payment Business of Non-Banking Payment Institutions, art. 19.
- 181. Administrative Measures for the Online Payment Business of Non-Banking Payment Institutions, art. 20.
- 182. Standards for the Barcode Payment Business (for Trial Implementation) 条码支付业务规范(试行) (promulgated by the People's Bank of China, December 25, 2017, effective April 1, 2018), art. 18, CLI.4.307472(EN) (Lawinfochina).
- 183. Administrative Measures for the Online Payment Business of Non-Banking Payment Institutions, art 6.

and customer accounts are subject to daily and annual transaction limits depending on the level of verification.¹⁸⁴ There are daily limits placed on customer barcode (QR) transactions;¹⁸⁵ and

- (v) Anti-money laundering requirements—transactions are subject to extensive record collection and retention requirements for anti-money laundering purposes.¹⁸⁶ There are also reporting requirements for suspicious transactions.¹⁸⁷

All of this underscores the importance of creating a regulatory framework for private digital currencies. Many of the principles motivating the Chinese regulatory response to third-party mobile payments would be applicable to private digital currencies: prudential regulations such as capital and liquidity requirements, restrictions on what is done with customer funds and measures to meet traditional safety and soundness standards; adequate consumer disclosure standards; consumer recourse requirements; protection of consumer data; and strong KYC and AML requirements. The Chinese experience is also a reminder that we should create that framework now, and not play catch-up if a digital currency suddenly scales up.

Indeed, I believe a digital currency like Libra is much more likely to thrive in the United States if the regulatory framework is in place from the beginning. Consumers in China may have been willing to try new platforms that operated outside the banking system in the absence of a regulatory framework, because those platforms were mostly competing with cash. Consumers in the U.S., including the underserved, are unlikely to trust the Libra network with their money unless they believe the system is as safe and reliable as their existing payment options.

Notwithstanding the growth of third-party mobile payments, the PBOC is moving forward with plans for its own CBDC, and it is to that subject I now turn.

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184. Administrative Measures for the Online Payment Business of Non-Banking Payment Institutions, art. 11, 24.

185. Standards for the Barcode Payment Business (for Trial Implementation), art 12.

186. Administrative Measures for the Online Payment Business of Non-Banking Payment Institutions, art 14, 16; Notice of the People's Bank of China on Matters concerning Strengthening the Administration of Payment and Settlement and Preventing New-Type Illegal and Criminal Activities Related to Telecommunications Network 中国人民银行关于加强支付结算管理防范电信网络新型违法犯罪有关事项的通知 (promulgated by the People's Bank of China, September 30, 2016, effective December 1, 2016), art. 15, CLI.4.281464(EN) (Lawinfochina).

187. Notice of the People's Bank of China on Matters concerning Strengthening the Administration of Payment and Settlement and Preventing New-Type Illegal and Criminal Activities Related to Telecommunications Network, art. 16, annex 1.

Part IV: Will a proposal for a private digital currency lead to public digital currencies?

Libra has accelerated the path to CBDCs

Perhaps the most significant consequence of the Libra proposal to date has been to accelerate work on central bank digital currencies or CBDCs. This work pre-dates Libra in many countries and is motivated by other factors as well, but it does seem partly defensive, as a way to pre-empt private stablecoins.¹⁸⁸

In February of this year, in testimony before the House Financial Services Committee, Jerome Powell, chairman of the Federal Reserve Board, said, “Libra really lit a fire and was a bit of a wake-up call that this is coming fast and could come in a way that is quite widespread and systematically important.”¹⁸⁹

This was quite a change from his testimony before the same committee in July 2018. When asked about cryptocurrencies, Powell curtly replied, “We don’t regulate cryptocurrencies. We regulate banks.”¹⁹⁰

The BIS published surveys in 2018 and 2020 of over 60 central banks regarding CBDCs. The 2018 report was entitled “Proceeding with Caution” and found that while a majority were studying the issue, “few report plans to issue a digital currency in the short or medium term.”¹⁹¹ The more recent report was titled “Impending Arrival” and found that “central banks collectively representing a fifth of the world’s population are likely to issue a general purpose CBDC in the next three years.”¹⁹²

In January of this year, the central banks of Canada, England, Japan, Sweden and Switzerland, together with the ECB and the BIS, announced they would share experiences as they assess the potential for sovereign digital currencies.¹⁹³

In March, the Bank of England issued a discussion paper on CBDCs which described potential advantages and disadvantages and invited public comment.¹⁹⁴ This followed a speech by former Governor Mark Carney in August of last year, where he suggested that,

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188. See, e.g., Bank of England, *Central Bank Digital Currency: Opportunities, Challenges, and Design*, March 2020, 5, <https://www.bankofengland.co.uk/-/media/boe/files/paper/2020/central-bank-digital-currency-opportunities-challenges-and-design.pdf?la=en&hash=DFAD18646A77C00772AF1C5B18E63E71F68E4593> (stating that a CBDC may be safer than a private stablecoin); see also discussion below of China DCEP.

189. *Monetary Policy and the State of the Economy: Hearing before the House Committee on Financial Services*, 116th Cong. (February 2020) (testimony of Jerome Powell, Chair of the Federal Reserve).

190. *Monetary Policy and the State of the Economy: Hearing before the House Committee on Financial Services*, 115th Cong. (July 2018) (testimony of Jerome Powell, Chair of the Federal Reserve).

191. Christian Barontini and Henry Holden, “Proceeding With Caution – a Survey on Central Bank Digital Currency,” *Bank for International Settlements*, BIS Papers No. 101, January 2019, <https://www.bis.org/publ/bppdf/bispap101.pdf>.

192. *Payment Aspects of Financial Inclusion in the Fintech Era*, 1.

193. “Central Bank Group to Assess Potential Cases for Central Bank Digital Currencies,” Bank for International Settlements, January 21, 2020, <https://www.bis.org/press/p200121.htm>.

194. Bank of England, *Central Bank Digital Currency*.

in lieu of Libra, central banks should consider launching a “synthetic hegemonic currency”—some sort of digital composite or network of central bank currencies—which would “dampen the domineering influence of the U.S. dollar on international trade.”¹⁹⁵

In December 2019, Bank of France Governor François Villeroy de Galhau spoke of the need to “respond” to the “disruption” and “risks” related to the possible issuance of digital stablecoins like Libra. He said that “following on from the questions raised by the Governor of the Bank of England, Mark Carney, on the idea of creating an international digital currency in response to the dominance of the US dollar, I think there would be some advantage in moving rapidly to issue at least a wholesale CBDC, as we would be the first such issuer in the world and would thus reap the benefits of having a benchmark CBDC.”¹⁹⁶ A recent paper by the Bank of France said a CBDC could “boost the euro’s appeal and international role, especially if the euro area moves sufficiently early in issuing its CBDC.” It concluded by saying “keeping the status quo might mean allowing private initiatives, such as JPM Coin, to satisfy demand for a high-calibre digital currency and, in so doing, support and even increase the dollar’s domineering influence, as suggested by [former Bank of England Governor] Carney.”¹⁹⁷

Similarly, Benoit Couré, the ECB board member who runs the BIS Innovation Hub, warned that new initiatives for global stablecoins “raised potential risks across a broad range of policy domains.” He also noted the fact that two-thirds of European retail payments are made using non-European cards, and called for the development of a digital “pan-European” system to avoid “the rising challenges to our global governance system.”¹⁹⁸

The Deputy Governor of the Bank of Japan recently offered a more measured view, noting that “the currency systems and the payment and settlement systems of [many advanced] economies are operating safely and stably. They cannot simply jump into new technologies, or actually, they should not.” While describing advantages and disadvantages of CBDCs, he suggested a primary role for CBDCs could be to “improve the interoperability between different types of private digital money.”¹⁹⁹

In April, the PBOC began testing its CBDC, known as the Digital Currency Electronic Payment or DCEP. Although research and development has been going on for many years,

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195. Mark Carney, “The Growing Challenges for Monetary Policy in the Current International Monetary and Financial System,” August 23, 2019, <https://www.bankofengland.co.uk/speech/2019/mark-carney-speech-at-jackson-hole-economic-symposium-wyoming>.

196. François Villeroy de Galhau, “Central Bank Digital Currency and Innovative Payments”, December 4, 2019, <https://www.banque-france.fr/en/intervention/central-bank-digital-currency-and-innovative-payments>.

197. Bank of France, *Central Bank Digital Currency*, January 8, 2020, 2, 41, https://www.banque-france.fr/sites/default/files/media/2020/02/04/central-bank-digital-currency_cbdc_2020_02_03.pdf.

198. Benoit Couré, “Towards the Retail Payments of Tomorrow: A European Strategy,” November 26, 2019, <https://www.bis.org/review/r191126e.htm>. See also Martin Arnold, “ECB Explores Development of a Digital Currency,” *Financial Times*, November 26, 2019, <https://www.ft.com/content/56db1f62-104b-11ea-a7e6-62bf4f9e548a>.

199. Amamiya Masayoshi, “Central Bank Digital Currency and the Future of Payment and Settlement Systems,” February 27, 2020, https://www.boj.or.jp/en/announcements/press/koen_2020/ko200306a.html.

there were statements by several government officials suggesting the Libra announcement caused China to speed up the project.²⁰⁰

But where does that path take us? Some advantages and disadvantages of CBDCs

If the path to CBDCs has accelerated, where does that path take us? What problem would a CBDC solve? And would a CBDC increase access to financial services?

A CBDC would be a digital representation of central bank money. While we have many forms of electronic money or payments created by private parties, most of us can only hold money issued by the central bank in the form of paper money—those \$1 bills (or any other denomination) that read “Federal Reserve Note”. We have a variety of electronic claims on private banks (deposit accounts, debit cards), but these do not create claims on the Federal Reserve (though deposit accounts are insured by the FDIC, up to the statutory limits).

A CBDC would be the electronic equivalent of cash, and a claim on the Federal Reserve. Today, only banks and certain other financial institutions can hold electronic central bank money, that is, electronic claims on the Federal Reserve.

The discussion of CBDCs often refers to two types: a wholesale version and a retail version.²⁰¹ The wholesale version would be available to a restricted group of financial institution participants, which could be broader than those given access to the central bank payment system today. A CBDC based on distributed ledger technology might reduce dependence on the central bank as system administrator, which could mean greater operational hours and less vulnerability to a single point of failure. While a wholesale CBDC could affect business and cross-border payments, it would probably not dramatically affect how most people transact in the economy, unless it includes a very large swath of financial institutions and businesses. But that is effectively what the Federal Reserve is trying to achieve through FedNow: by bringing a much larger group of depository institutions into its existing payment and settlement system, it is seeking to move the United States banking system closer to real-time payments.

A retail CBDC, on the other hand, could be made available to all individuals and businesses, either directly or in a two-tiered way through banks. This could be done through a token or

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200. As reported by the *China Daily*, a senior official said the PBOC was accelerating its efforts to introduce a government-backed digital currency, aiming at securing a cutting-edge position in the global cryptocurrency race. Wang Xin, director of the PBOC Research Bureau, said the world's economies had yet to decide how to cope with the challenge by the Libra system, though accelerating the launch of their own digital currencies could be a counterbalance. Huang Yiping, director of the Digital Finance Research Center of Peking University and a former member of the PBOC monetary committee, said the birth of Libra served as an “alert” for China’s digital currency innovators and regulators. Chen Jia, “Central Bank Unveils Plan on Digital Currency,” July 9, 2019, <https://www.china-daily.com.cn/a/201907/09/WS5d239217a3105895c2e7c56f.html>.

201. See, e.g., “Impending Arrival,” *Bank for International Settlements*; Bank for International Settlements (Committee on Payments and Market Infrastructures), *Central Bank Digital Currencies*, March 12, 2018, <https://www.bis.org/cpmi/publ/d174.htm>; Official Monetary and Financial Institutions Forum (OMFIF), *Retail CBDCs: The Next Payment Frontier*, November 2019, <https://www.omfif.org/ibm19/>.

“value” method where currency is stored on an app on a mobile phone or a card, or an account method where each individual or business has an account at the central bank maintained in a central ledger.

Such a system could mean faster, more efficient payments, and real-time settlement. But although there are other advantages to a retail CBDC, there are also significant disadvantages and risks. A variety of recent papers have explored these,²⁰² and I will summarize a few of the critical issues.

From a financial inclusion standpoint, in an account form of a CBDC, everyone could have an account with which they could make or receive payments. In this respect, the term “CBDC” is often used not to denote a particular technology—such as a distributed ledger-based system—but rather to describe giving everyone access to the government-run electronic payment system that is today available only to financial institutions. A staff paper published by the St. Louis Federal Reserve Bank endorses the concept of a “central bank for all” in which individuals and businesses would have accounts and thus access to electronic claims on the central bank; but disparages the idea of a token-based, decentralized and permission-less CBDC.²⁰³

Assuming a CBDC results in a decline in the use of paper money, it would reduce the cost and burden of printing, issuing, transporting, and redeeming paper notes. But it would create new costs of administration for a central bank, including the burden of having to do KYC and AML screening. In this Covid-19 world, a CBDC could also reduce the risk of transmitting disease. But if this shift had the effect of making merchants more reluctant to accept cash, it might make it harder for the elderly, low-income citizens or other groups who prefer cash to transact.

A CBDC would probably mean greater traceability of transactions than with banknotes since there would be a digital record. That could be useful for several reasons—general record keeping as well as preventing money laundering and illicit finance. But it obviously raises significant privacy issues as well. The PBOC may want a system where every transaction can be seen by the government, but do we?

A CBDC could reduce the desirability of keeping your money at a commercial bank. This potential disintermediation could have some beneficial consequences: there would be greater diversity in payment systems, and the footprint of the largest financial institutions might be reduced. But this is also one of the greatest risks of CBDCs. If the commercial banking sector were to shrink, the creation of credit could be adversely affected, and it is not clear whether or at what cost market-based or other alternatives would fill the gap, particularly for the credit needs of smaller enterprises that cannot access public capital markets. Banks could seek to substitute other sources of funding for deposits, but that

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202. See, e.g., “Impending Arrival,” *Bank for International Settlements*; Bank for International Settlements, *Central Bank Digital Currencies*; OMFIF, *Retail CBDCs*; Bank of England, *Central Bank Digital Currency*; Sveriges Riksbank, *E-krona Reports*, 2017–2018, <https://www.riksbank.se/en-gb/payments--cash/e-krona/e-krona-reports/>.

203. Aleksander Berentsen and Fabian Schar, “The Case for Central Bank Electronic Money and the Non-Case for Central Bank Cryptocurrencies,” Federal Reserve Bank of St. Louis, April 16, 2018, <https://research.stlouisfed.org/publications/review/2018/02/13/the-case-for-central-bank-electronic-money-and-the-non-case-for-central-bank-cryptocurrencies>.

might increase costs, and those other sources could be less stable. The reliance of some financial institutions on short-term “runnable” funding—that is, funding that was terminated or not rolled over when financial stress increased—was a significant contributing factor to the 2008 financial crisis.

The risk of disintermediation might also be greatest precisely when it is most dangerous. In a period of financial stress, or in the event of rumors about the health of a bank, the availability of a CBDC could intensify the risk that depositors convert commercial bank deposits into CBDC in a flight to safety. The central bank would therefore need to manage carefully the transition to a CBDC and its effects on the commercial banking system and credit creation.

If a central bank is open to all and holds deposits of individuals and businesses, what assets does it hold to fund those liabilities? A paper published by the Philadelphia Federal Reserve Bank explores that issue and raises the concern that political considerations might influence those choices and produce a sub-optimal result.²⁰⁴

It is beyond the scope of this paper to explore the implications of a CBDC for monetary policy but suffice to say the effects could be significant, and they are mixed. If a CBDC is meant to be the equivalent of cash, then it should not bear interest. But that eliminates the possibility of the “lower bound” of interest rates falling below zero. (The lower bound can be below zero today because there are costs to holding cash, such as secure storage, but those costs would not exist with a CBDC.) No one would purchase a sovereign bond with a negative yield if you can park your money at the central bank and not bear any cost. If a CBDC is interest bearing, there are the practical issues of when and how interest payments are made, particularly in a token-based system, as well as potential arbitrage issues if the interest rate is not equivalent to the rate paid on bank reserves. If individuals and businesses had accounts at the central bank, the central bank could easily increase money in circulation, and provide it directly to individuals or businesses—those CARE Act payments could have been made quickly, though that also could have been accomplished if everyone had direct deposit accounts.

The recent BIS report on financial inclusion and fintech is ambivalent on CBDCs as a tool to promote financial inclusion because of many of the issues noted above. The report says CBDCs are “not likely to be the first or most straightforward choice” to promote access to and usage of transaction accounts. It cites the risks in monetary policy transmission, financial intermediation and financial stability as well as operational and reputation risk to the central bank.²⁰⁵

The new White Paper suggests the Libra network could accommodate CBDCs, and that it would discontinue a single-currency Libra stablecoin if a CBDC in that currency is issued. That would presumably mean the Libra Association would no longer manage deposits of that fiat currency in the reserve but would simply provide the payment rails, and relieve

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204. Jesús Fernández-Villaverde, Daniel Sanches, Linda Schilling and Harald Uhlig, “Central Bank Digital Currency: Central Banking for All?”, Federal Reserve Bank of Philadelphia, June 2020, 11, 26, <https://www.philadelphiafed.org/-/media/research-and-data/publications/working-papers/2020/wp20-19.pdf?la=en>.

205. *Payment Aspects of Financial Inclusion in the Fintech Era*, 31.

the central bank from building out a network. On the other hand, a central bank may want to tie distribution of a CBDC to the banking system, which is what China is doing as discussed below.

The revised White Paper's suggestion of a public/private collaboration is in contrast to the concern raised by the original paper that Libra would compete with sovereign currencies. In a stimulating paper last year, my colleague at the Harvard Kennedy School, Jean-Pierre Landau, together with Markus K. Brunnermeier and Harold James of Princeton University, said CBDCs may be a tool to ensure that "public money" remains relevant in a world of increasing competition from new types of currencies such as Libra. They suggested these new currencies might not perform all the traditional functions of money but might be coupled with other data services, encouraging differentiation but discouraging interoperability among systems. This could in turn lead to the creation of "digital currency areas" that transcend national borders. A government "may need to offer [a] central bank digital currency (CBDC) to retain monetary independence," that is, to compete with private currencies or with other countries' CBDCs that seek to be trans-national instruments.²⁰⁶

As noted earlier, competitive considerations do seem to be a motivation for some countries to study CBDCs, though with respect to the dollar as much as any private currency. It is also premature to discuss the possibility of cooperation between Libra and a CBDC since Libra isn't even a reality. And while a lot of work is taking place, no major country other than China appears actually ready to launch a retail CBDC, while several have issued reports concluding that costs and risks outweigh the benefits.²⁰⁷

Why is China launching a CBDC?

The PBOC began testing the DCEP in April in several areas, including the special economic zone of Shenzhen; Chengdu, one of China's largest cities; and the area of the 2022 Winter Olympic Games in Beijing. The method of launch involves a two-tiered system, in which the PBOC makes the DCEP available to four major state-owned banks, and those banks then make it available to targeted groups such as municipal workers. The DCEP does not bear interest, and each bank must deposit 100% full reserves with the PBOC for the DCEP it distributes. Each bank has its own platform for distribution. Below is a screen shot of the Agricultural Bank of China's mobile phone app in its testing stage, which shows the DCEP wallet will support functions such as payment by scanning a QR code, sending and collecting money, touching phones for peer-to-peer payments (without needing an Internet connection), digital currency exchange, wallet management, reviewing transactions records, and linking the wallet to other accounts.²⁰⁸

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206. Markus K. Brunnermeier, Harold James, and Jean-Pierre Landau, "The Digitalization of Money," August 2019, https://scholar.princeton.edu/sites/default/files/markus/files/02c_digitalmoney.pdf.

207. See Raphael Auer, Giulio Cornelli, and Jon Frost, "Taking Stock: Ongoing Retail CBDC Projects," *BIS Quarterly Review*, March 2020, https://www.bis.org/publ/qtrpdf/r_qt2003z.htm. It reviews the status of 17 projects or reports on retail CBDCs published prior to February 19, 2020. It notes several that have decided the costs and risks outweigh the benefits, including Denmark, Israel, Switzerland and Ukraine.

208. Ledger Insights, "China's Central Bank Digital Currency Wallet Is Revealed," April 16, 2020, <https://www.ledgerinsights.com/china-digital-currency-wallet-dcep-cbdc>.

Mu Changchun, the director of the PBOC's Digital Currency Research Institute, has spoken of creating a "horse race" between several banks and telecom firms to see whose service is the most popular.²⁰⁹ Mr. Mu has been critical of blockchain technology and said the distributed ledger is inconsistent with the centralized management required by the PBOC.²¹⁰ In addition, he has described blockchain as inadequate in terms of volume of transactions, finality of payment and security.²¹¹ But the exact technology behind the DCEP has not been described publicly.

There have been few statements suggesting that increasing access to financial services is a major goal. The third-party mobile payments industry has already brought the benefits of efficient, electronic payments to much of the population, and the percentage of adults over 15 with a bank account has increased from 63.8% in 2011 to over 80% in 2017.²¹² Still, the remaining 20% represents around 230 million people.²¹³

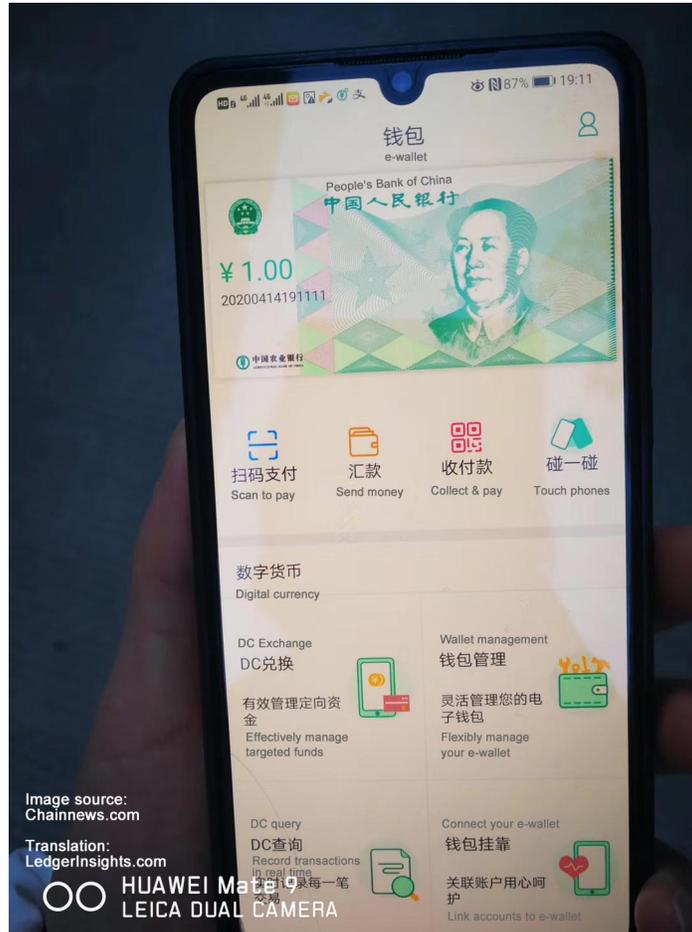


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Some have speculated that the DCEP will give the PBOC greater regulatory control over the mobile third-party payment industry, as well as greater ability to monitor transactions

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209. See Sina Finance 新浪财经, "Mu Changchun: Yanghang shuzi huobi caiyong shuangceng yunying tixi, yi huzhiyuchu" 穆长春:央行数字货币采取双层运营体系, 已呼之欲出 [Mu Changchun: The Central Bank's Digital Currency Adopts a Two-tier Operation System and It Is Almost Ready to be Launched], *Sina*, August 11, 2019, <https://finance.sina.com.cn/money/bank/2019-08-11/doc-ihytcem0096491.shtml>.
210. Mu Changchun 穆长春 et al., "Yanghang shuzi huobi yanjiu suo: Muqian bu jianyi jiyu qukuailian gaizao chuantong zhifuxitong (quanwen)" 央行数字货币研究所: 目前不建议基于区块链改造传统支付系统(全文) [PBOC Digital Currency Research Institute: Currently Not Recommend Transforming Traditional Payment System Based on Blockchain (Full Text)], *Baidu*, February 21, 2020, <https://baijia-hao.baidu.com/s?id=1659120412329293113&wfr=spider&for=pc>.
211. Mu Changchun 穆长春, "Yanghang Mu Changchun jiang Libra he shuzi huobi quanwen" 央行穆长春讲 Libra 和数字货币全文 [Full Text of the Central Bank Mu Changchun's Speech on Libra and Digital Currencies], *Chainhoo*, September 5, 2019, <https://www.chainhoo.com/?p=101314>.
212. The World Bank, "Globalindex," 2018, <https://globalindex.worldbank.org/sites/globalindex/files/country-book/China.pdf>.
213. In 2017, there were approximately 1.16 billion people over 15 years old in China. See National Bureau of Statistics 国家统计局, "Renkou nianling jiegou he fuyang bi" 人口年龄结构和抚养比 [Population age structure and dependency ratio], accessed June 5, 2020, <http://data.stats.gov.cn/easyquery.htm?cn=C01&zb=A0301&sj=2017>.

generally. But the effort to develop the DCEP began before the mobile payment industry grew so dramatically.

Instead, it seems the primary motivation for the DCEP is to further China's geopolitical and economic ambitions, including its desire to increase the international standing of the RMB and reduce the influence of the U.S. dollar on international payments. Mr. Mu said the first goal of the DCEP is "to protect our monetary sovereignty and fiat currency status."²¹⁴ There was clearly a concern that if Libra succeeded, it would bolster the U.S. dollar because of its weight in the basket. In July 2019, the director of the PBOC Research Bureau Wang Xin said that Libra could "could create a scenario under which sovereign currencies would co-exist with U.S. dollar-centric digital currencies. But there would be in essence one boss, that is the U.S. dollar and the United States. If so, it would bring a series of economic, financial and even international political consequences."²¹⁵

A recent article in the *China Daily* spoke of the need for the DCEP to counter "the weaponization of the dollar . . . as a strong arm of American foreign policy . . . [which] is achieved via the imposition of unilateral punitive sanctions with the threat to exclude companies from the SWIFT dollar settlement system."²¹⁶ A recent Atlantic Council paper on CBDCs also said countries may be motivated to develop CBDCs to counter the fact that the United States has "weaponized the U.S. dollar."²¹⁷

Other Chinese officials and economic experts have noted the importance of a digital currency to RMB internationalization and economic competition generally, and claimed that the first central bank to launch a digital currency would gain advantage.²¹⁸

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214. Mu, "Full Text of the Central Bank Mu Changchun's Speech on Libra and Digital Currencies."

215. Ana Alexandre, "China's Central Bank Developing Own Digital Currency in Response to Libra," July 8, 2019, *Cointelegraph*, <https://cointelegraph.com/news/chinas-central-bank-developing-own-digital-currency-in-response-to-libra>. See also Huoxing Caijing 火星财经, "Yanghang Wang Xin: Guowuyuan yi pizhun yanghang shuzi huobi de yanfa (quanwen)" 央行王信: 国务院已批准央行数字货币的研发(全文) [Central Bank Wang Xin: The State Council Has Approved the Research and Development of Central Bank Digital Currency (Full Text)], *Sina*, July 9, 2019, <http://finance.sina.com.cn/blockchain/roll/2019-07-09/doc-ihy-tcitm0707824.shtml>. See also text at note 200.

216. Daryl Guppy, "The Future of China's Economic Engagement," *China Daily*, April 24, 2020, <https://www.chinadaily.com.cn/a/202004/24/WS5ea28240a310a8b2411516bf.html>.

217. Nikhil Raghuvvera, "Design Choices of Central Bank Digital Currencies Will Transform Payments and Geopolitics," Atlantic Council, April 23, 2020, <https://www.atlanticcouncil.org/blogs/geotech-cues/design-choices-of-central-bank-digital-currencies-will-transform-digital-payments-and-geopolitics/>.

218. According to Mu Changchun, director of the PBOC's Digital Currency Research Institute, the DCEP may help RMB internationalization. See Sina Finance, "Mu Changchun: The Central Bank's Digital Currency Adopts a Two-tier Operation System and It Is Almost Ready to be Launched" According to Huang Qifan, Deputy Director of the China Center for International Economic Exchanges, the DCEP will greatly reduce the dependence on banks' accounts for transactions and facilitate the Chinese yuan's circulation and internationalization. See Xu Wei, "PBOC to Be First Central Bank With Digital Currency; Libra Is Likely to Fail, Think Tank Says," *Yicai Global*, October 29, 2019, <https://www.yicai.com/news/pboc-to-be-first-central-bank-with-digital-currency-libra-is-likely-to-fail-think-tank-says>. According to the Zhongzhengtong Research Institute, the country that issues the CBDC ahead of others will reap the benefits and advantages of being the first-mover. See Zhang Wei 张威, "Fading shuzi huobi shi shui" 法定数字货币试水 [DCEP Testing the Water], *Caijing*, December 9, 2019, <http://magazine.caijing.com.cn/20191209/4632010.shtml>.

What should the United States do?

To date, the Federal Reserve Board has indicated it is examining the issue of CBDCs, but it has not produced any report that might provide more detail on its views or level of interest. Chairman Powell has simply said that it was “incumbent on us to understand the costs and benefits and trade-offs of a central bank digital currency.”²¹⁹

Governor Lael Brainard has been the most outspoken member of the Board of Governors of the Federal Reserve System on the issue of CBDCs. In a speech prior to Powell’s testimony, she talked about the status of FedNow, the challenges raised by technology companies entering the payments space, and CBDCs. She said the U.S. needed to “remain on the frontier of research and experimentation related to distributed ledger technologies and their potential use case for digital currencies, including the potential for a CBDC.” But she also noted the many pros and cons, and concluded by saying that we must continue to “consider . . . whether a CBDC would deliver important benefits on net.”²²⁰

It’s safe to say the U.S. will not be a first mover when it comes to CBDCs. That’s not just because China is moving faster, but also because our various forms of electronic payments work pretty well, the Fed is focused on the FedNow initiative, cash is still widely used, CBDCs have their disadvantages, and there doesn’t seem to be any organized constituency pushing for it. The choices of other countries with respect to CBDCs could force us to act, however. That is sufficient reason to explore potential options.

From the financial inclusion perspective, Morgan Ricks, John Crawford and Lev Menard have argued that the real issue with CBDCs is not one of technology but access: they say we should simply give everyone—individuals and businesses—an account at the Fed, since it already has a digital payments system. They see a wide range of benefits in addition to financial inclusion, such as greater financial stability by reducing the footprint of commercial banks, and better consumer protection.²²¹ But I believe they minimize the risks of disintermediation of the banking system. Professor Baradaran similarly argues for giving people the option to have checking accounts at post offices that are tied into the Fed system, but postal banking has disadvantages of its own as discussed earlier.²²²

Perhaps a more limited “public option” when it comes to FedAccounts could promote financial inclusion without creating significant risk of disintermediation. That is, allow individual accounts at the Fed but limit the balances, and limit the number of transactions per month. Anyone whose funds or transaction needs exceed the minimums can graduate to an account at a commercial bank. One could impose an income ceiling to further limit

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219. Daniel Roberts, “Fed Chair Jay Powell Grilled on China’s Cryptocurrency Plans, US Response,” *Yahoo*, February 11, 2020, <https://finance.yahoo.com/news/fed-chair-jay-powell-grilled-on-chinas-cryptocurrency-plans-us-response-211840877.html>.

220. Lael Brainard, “The Digitalization of Payments and Currency: Some Issues for Consideration,” February 5, 2020, <https://www.federalreserve.gov/newsevents/speech/brainard20200205a.htm>.

221. Morgan Ricks, John Crawford, and Lev Menard, “FedAccounts: Digital Dollars,” *Vanderbilt Law Research Paper 18–33*, *UC Hastings Research Paper No. 287*, *George Washington Law Review*, Forthcoming, (February 1, 2020), <https://ssrn.com/abstract=3192162>.

222. *Examining Regulatory Frameworks for Digital Currencies and Blockchain*, 116th Cong. (testimony of Baradaran), 4. See text at note 111

availability to those who are likely to be underserved by the commercial banking system, but that might stigmatize the benefit. By limiting the number and size of accounts in some way, the amount of deposits removed from commercial banks would be minimal, and there would be no risk of further disintermediation in a stressful period. In addition, the limits on number of accounts and transaction limits would make the administrative burden on the Fed minimal. Alternatively, perhaps the Treasury Direct system, by which individuals and businesses can purchase Treasury securities, could be modified to offer a savings or transaction account. That system is already designed for individual use and would therefore not require the participation of the Federal Reserve.²²³

While I believe proposals like a retail CBDC or a system of FedAccounts deserve serious exploration, we should proceed carefully as they would significantly change the mission and responsibilities of the Federal Reserve. Some might say that mission has been changing anyway. The Federal Reserve has acted nimbly and quickly to implement a response to the Covid-19 pandemic that has gone well beyond even the aggressive playbook from the 2008 financial crisis, and included a wide range of programs that not only support financial markets but provide credit directly to private businesses. So perhaps a CBDC or similar proposals that move in the direction of “central banking for all” are not as radical as they would have been a few decades ago.²²⁴ But we need to make sure a CBDC really would deliver “important benefits on net” as Governor Brainard has said; and insofar as the primary goal is real-time payments or financial inclusion, there would seem to be simpler proposals worth trying first.

Conclusion

“Financial inclusion starts with payments,” begins the recent BIS report on financial inclusion and fintech. “They serve as a gateway to other financial services, such as savings, credit and insurance.” But after describing various potential fintech solutions, including stablecoins and CBDCs, the report reserves judgment and concludes by noting that “if risks are not properly managed, they can undermine financial inclusion outcomes.”²²⁵

That is certainly true of CBDCs, which could enhance financial inclusion but pose some challenges and risks. While I believe the United States should increase its exploration of CBDCs, the fact is we are not likely to issue one in the near future. The FedNow system, once operational, will help by bringing us closer to real-time payments, but it will take time. And while it is possible that Congress could take other action that might help increase access to financial services, it is more likely to be innovation by the private sector that brings change in the near term. That is why I believe we should devise a strong regulatory

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223. The concept of using Treasury Direct was suggested by Professor Howell Jackson of Harvard Law School. See also discussion of postal banking in text at note 111.

224. Indeed, the paper recently published by the Philadelphia Federal Reserve Bank argued that “the sharp distinction between a central bank operating only with depository institutions and commercial banks dealing with members of the public at large is, to no small extent, a post-WWII development.” See Villaverde, Sanches, Schilling and Uhlig, “Central Bank Digital Currencies: Central Banking for All?”, 6.

225. *Payment Aspects of Financial Inclusion in the Fintech Era*, 2 & 61.

framework for Libra and let it proceed. U.S. regulators should work with Switzerland's FINMA and regulators in other countries to design that framework.

I began by noting the skepticism that greeted the original White Paper's stated goal of increasing access to financial services, and Libra will face challenges in doing so here in the United States. The proposal also poses risks that must be addressed. But if Libra succeeds simply in lowering the cost of remittances, that would be significant for those on the lower end of the income scale in many parts of the world, including in this country.

A year ago, I wrote a paper on the need to strengthen our regulation of crypto-assets like Bitcoin.²²⁶ I noted how crypto-assets provoke intense views: there are those who think crypto-assets will fundamentally change our financial system and believe our regulatory framework needs to facilitate their development. And there are those who believe they have little merit and would be happy to see us tax or regulate them out of existence. I wrote that we should follow our traditional approach to financial market regulation and refrain from making normative judgments about investments. We should instead create a strong regulatory framework that ensures transparency and integrity in crypto-asset markets, and addresses the risks that they pose, both to investors and society at large. I discussed the gaps in our regulatory framework and how to fix them.

We should follow a similar principle here. We should create a reasonable regulatory approach for private digital stablecoins like Libra, through collaboration among our various financial regulators assuming Congress does not take action. They can probably do so in most areas, though the limits of their collective jurisdiction will be stretched with respect to issues of privacy, use of data and the power of large digital platforms generally. We need a more comprehensive response to those issues.

In the meantime, perhaps the coronavirus pandemic will bring new attention to—and empathy for—the needs of those underserved by the financial system. It is certainly casting a spotlight on how those who are less fortunate are facing greater challenges, including in digital access. Surely when it comes to access to financial services, we can do better.

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