

Libra Basics: What Is Facebook's Currency Project?



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Executive Summary

There is much debate about what the Libra project really is, who owns it, and the aims of Facebook. This paper is based on public statements and documents from Facebook and the Libra organization. Libra is a project that has, thus far, been fully financed by Facebook, and is likely fully owned by Facebook as well.¹ There are currently 28 founding members who have each pledged \$10 million apiece towards capitalizing the Libra project, and Facebook claims its current dominant position in the project is temporary. Analysis of this project is hindered in part by Facebook's failure to honor public commitments and serial lawbreaking. This history includes a 2011 consent decree with the Federal Trade Commission and a \$5 billion dollar fine resulting from alleged violations of that decree. As a result, it is difficult to take public statements about the Libra and Calibra projects at face value.

Facebook is launching two separate but related products. The first is Libra, a proposed "global, digitally native currency" and payment system launched in ostensible partnership with several other corporations, including Uber, Spotify, and PayPal as well as financial services incumbents like Visa and MasterCard.² Libra will be what is known as a Convertible Virtual Currency (CVC), or a medium of exchange that can operate like currency or act as a substitute for currency but lacks essential elements of money, such as legal tender status.³

The second project is Calibra, a financial services company wholly owned and controlled by Facebook and designed to provide financial services, presumably in the Libra currency. Calibra will offer digital wallets, and eventually other forms of banking services, such as savings, payments, and loans.⁴ Facebook appears to be entering into the business of banking.

The stated reason for Libra is to service those without access to the traditional financial products and services, which proponents of new currency/payments systems accurately portray as inefficient and often structured around unfair fees. It is not clear that this rationale is the whole story. Strategically Facebook has sought for years to leverage its social media footprint into becoming a bedrock of payments and finance, with the primary goal of building competitive barriers to entry and pricing power for its own products.⁵ While Facebook's interest in this project are clear, the case has not been made that providing access to affordable financial products and services requires the establishment of a new currency.

In 2012, Facebook founder and CEO Mark Zuckerberg discussed his competitive rationale for a payments product for users of Facebook's mobile apps. His idea was to tie a Facebook payment service with Facebook's other products and use that integration to increase pricing power for third-party businesses that operated on top of Facebook. "If we layer in a service like this with our login, then that's a pretty awesome combo and a good reason for people to use FB platform," he wrote. "If we make it so [developers] can generate revenue for us in different ways, then it makes it more acceptable for us to charge them quite a bit more for using [our] platform."⁶

This information came to light because of a series of leaked emails from a case litigated around the creation of the Facebook platform. Since 2012, Facebook's strategy has emphasized selling advertising rather than services to software developers, but this rationale is still a useful starting point from which to understand the thinking behind this project.

These two projects – both Libra and Facebook’s Calibra bank – raise multiple public policy concerns. These concerns include:

1. The risk that such new systems can facilitate money laundering, counterfeiting, terrorist financing, and tax avoidance.
2. The risk that Facebook’s control of a payments platform or a significant financial services business may enable anti-competitive activity, and/or enable novel coercive forms of debt collection or discrimination in credit allocation.
3. The risk of systemic instability should Libra reproduce destabilizing aspects of private financial markets, like bank runs and panics requiring lender of last resort facilities or bailouts.
4. The reduction of the sovereign power to control the money supply and the payments system, which may undermine sanctions regimes.
5. The undermining of fragile monetary or payments systems in weak countries, with dangerous implications for the ability of developing countries to manage their own macro-economic destinies.
6. The extension of Facebook’s dominance in advertising and social media to another key industry, finance, risking so much power in the hands of one corporation that all other businesses will be forced to accept the company’s terms or face economic retribution.

This brief will describe the basics of how Libra will ostensibly work, as well as regulatory, tax, technological implications. This paper is limited to discussions of the American regulatory landscape.

What is Libra? How will it function?

Libra will be valued in reference to a basket of sovereign-issued currencies such as the dollar, euro, yen, and so forth. In regulatory terms, Libra appears to be both a CVC and an Exchange-Traded Fund, or derivative (which means a financial instrument whose value is derived from something else, in this case, a basket of currencies).⁷ This paper will reference Libra as both a CVC and ETF depending on the context, because it seems that Facebook seeks Libra to operate both as a derivative and as a medium of exchange.

Libra is marketed as a crypto-currency, using a distributed ledger technology known as ‘blockchain.’ This marketing is designed to leverage public understanding of the crypto-currency Bitcoin as having no central overseer. In fact, the actual standards for the Libra currency will be managed by a nonprofit in Switzerland called the Libra Association. Libra will be permissioned, so it lacks the decentralized nature of cryptocurrencies like Bitcoin. The currency will have its own central bank known as the Libra Reserve to manage the ETF, and the board will be the committee of corporations who have bought into the Libra Association. Transactions will be verified by centralized trusted sources, rather than by consensus among all Libra users.

When buying Libra, presumably users will transfer sovereign currency, such as dollars or euros, to the Libra Association, and receive Libra in return. That currency will be invested in safe assets, such as government bonds or deposits, with the Libra Reserve, so as to provide a measure of safety, price stability, and sovereign backing for users. Returns from these safe assets will accrue to the corporate governors of the system, which will be one profit stream for Libra Reserve members.⁸

How have payment systems in America evolved and how does Libra fit in?

Throughout American history, banking and payment systems have paralleled a struggle over political sovereignty. The Constitution included a provision restricting states from coining their own money. It vested the authority to structure the currency in the hands of Congress. From the early 19th century until the Civil War, Americans lived in an era of ‘wildcat banking,’ without centralized management of the dollar. The nation’s currency was less a unified currency and more a unit of account, with different state-chartered private banks printing their own notes, backed by an assortment of gold, confidence, or bonds.

These privately issued “banknotes” fluctuated in value against one another. As one analyst put it, ‘A dollar note issued by Billy the Kid Bank or Sidewinder Bank might trade at 50% of par, for example, amounting to no more than ‘four bits,’ not a dollar. A dollar note issued by Wyatt Earp Bank or Bald Eagle Bank might, by contrast, go for 90% of par, or even full par.’⁹

Importantly, the government historically separated banks from other commercial activities for two reasons. One, such a separation helped block potential anti-competitive activity. Two, such a regime of structural separation was motivated by stability concerns. A bank invested in equities instead of debt is much more vulnerable to runs and insolvency.¹⁰

Starting during and after the Civil War, with the chartering of the Office of the Comptroller of the Currency and the Legal Tender Acts, the national government gradually gained control of the monetary system, and the value of the dollar. Still important problems persisted. Americans relied on a nationally managed though fragile banking system, with check-clearing offering somewhat similar problems of credibility that wildcat banking had years earlier. A check from a small or far-away bank might clear at less than par, much as a bank note from an unknown bank might be valued at less than its face value. Control over the meaning of money was a highly contested political issue, with the 1896 election revolving in part on whether the amount of currency in circulation should be tied to the amount of gold reserves held by the Treasury.

In 1913, the Federal Reserve was chartered in part to clear checks at par, so that individual private banks could not control the payment system. In 1933, FDR took the country off the gold standard. That year, the government also created the Federal Deposit Insurance Corporation, which offered national deposit insurance, thus unifying and stabilizing the banking and payments system under a strong central government. In this system, the government would manage the supply of dollars and not be constrained by its gold reserves. The Fed and bank regulators essentially gave franchises to operate the payment system in the form of bank charters.

Professor Saule Omarova called this system, still in operation today, the “New Deal settlement” in finance. In this “New Deal settlement,” as Omarova argued, “profit-seeking private actors retain control over allocating capital and generating financial risks, while the sovereign public bears responsibility for maintaining systemic financial stability.”¹¹

In the 1960s, Bank of America popularized a new payments system, the credit card, through its BankAmericard subsidiary. Eventually, BankAmericard was spun out into a bank-retailer cooperative known as VISA. Credit cards, like pre-Federal Reserve checks, did not clear at par, but allowed banks to take a swipe fee, or ‘interchange fee.’ Credit cards represented a new financial utility structure based on national electronic information systems and an infrastructure of automated credit reporting.

There are many complex layers in the payments system, which include clearing and transfer systems for various financial instruments. But in terms of straightforward consumer transactions, the American payments system is still largely a mixture of infrastructure built on top of credit card utility, check-clearing, and wire transfers. Venmo, for instance, is a payments utility that allows peer-to-peer transfers of money, but it is linked into the payments system because each user must have either a credit card, debit card, or bank account.

Convertible virtual currencies in their initial iterations represent an attempt to return to wildcat banking. Bitcoin, for instance, is a crypto-currency which fluctuates in value, and whose value is dependent largely on the confidence that bitcoin users have in the currency itself. Similarly, the Libra project in some ways represents an attempt to move away from sovereign control of the currency system, and thus evade restrictions inherent in the “New Deal settlement” of finance.

So far, CVC’s have failed to meet the basic criteria of money. As the European Central Bank has noted, crypto-assets are volatile, have found limited acceptance among merchants, and have no sovereign backing, and so have not achieved any meaningful penetration as monetary assets.¹² One path to resolving these problems is to create so-called “stablecoins,” privately issued currencies whose value is tied to a stable currency or basket of currencies. JP Morgan, for instance, has issued a JPM Coin, which is designed to use technology to reduce transaction costs. A JPM Coin always has the value of one dollar, so it is not a CVC.¹³

Libra seems to represent an attempt to mix the stability and usability of a stablecoin with the reduction of sovereign control implied by the original crypto-currencies.

What are the implications of Libra for monetary policy?

Libra is a global currency, so it will have different implications depending on the stability of the monetary order in which it is enmeshed, as well as the regulatory environment and the scale of adoption.

The implications of Libra depend on the relationship between Libra and existing sovereign currency systems. If Libra can easily be redeemed for a sovereign currency and enter or exit the banking system in a relatively friction-free process, the effects could be quite profound.

As former FDIC Chair Sheila Bair notes, a few people converting some currency to Libra will not be particularly significant.¹⁴ But if everyone decides they want Libra, they will be withdrawing cash from the banking system and handing it to the Libra system, which will put that money into the unregulated Swiss Libra Reserve. This means less money for banks to use as fuel for lending, and a large stockpile of currency available to the Libra Reserve to invest. The Libra Reserve could put these assets into banks, though it is likely to far exceed the threshold for depository insurance, or it could buy government bonds. As Bair puts it:

The white paper promises to invest in low volatility assets such as bank deposits and short-term government securities, using “investment grade” financial institutions as custodians. (Reminder: Lehman Bros had an “A” rating from Standard and Poor’s before its collapse in 2008.) But there is no regulatory body to ensure that it does so, nor to require that Libra’s sponsors put up any of their own capital or reserves to backstop those investments if they go sour.

In essence, Libra proposes the failed business model used by money market funds prior to the financial crisis. It wants you to buy Libra on the promise that the coin will maintain stable value, but there will be no regulatory oversight of what Libra actually does with your money and no capital and liquidity requirements that you would typically find with a bank. That structure proved disastrous during the 2008 crisis, when the Reserve Fund, a money market fund that heavily invested in Lehman Bros debt, “broke the buck” and prompted widespread runs on other money market funds.¹⁵

If the Libra Reserve does invest solely in government securities, this would be a transfer of resources from private lending to lending to governments.¹⁶ Moreover, the implications of such a shift in monetary supervision and data remain unexplored. Who controls access to the large trove of financial data generated by the Libra system? What happens if there is a breach in the Libra Reserve or in some important technical area of the system and a run on the Libra currency? Will the Libra Association be able to provide emergency liquidity facilities? If not, who backs such a system when it becomes systemically intertwined with our commerce?

These concerns apply not only to wealthy developed countries with stable monetary systems. In developing countries, the effects could be even more significant. In countries with volatile domestic currencies or weak banking systems, local currencies will fluctuate against the Libra as they do against sovereign currencies such as the dollar. Should the Libra gain widespread acceptance in these areas, it is likely that mass adoption would cause the dumping of the local currency in favor of the Libra, and thus depreciation, worsening inflation, or instability in the local banking system. Monetary policy might end up being set for areas all over the world by a board of largely Western companies located in California with a pot of hard currency-denominated assets in a potentially unregulated Swiss reserve, rather than by democratically accountable, sovereign governments.^{17,18}

Who regulates Libra?

The answer is we don't know. No one has ever tried to launch a private parallel currency on a global social network using largely untested technology. On a domestic level, the answer is Congress, because the Constitution places the authority over the right to “coin money” and “regulate the value thereof” to the legislative branch.¹⁹ Congress has delegated its power to the Federal Reserve, so the Fed should have a significant role in structuring policy around CVCs.

There are additional domestic regulators with whom Libra may intersect. Libra is similar to an exchange-traded fund (“ETF”), which is a basket of securities traded on an exchange. Libra will be backed by a basket of foreign currencies in the same way as an ETF and could be considered a foreign exchange derivative. The Securities and Exchange Commission (“SEC”) regulates ETFs pursuant to the Investment Company Act of 1940.²⁰ Considering Libra is tied to a basket of currencies and not stocks, the Libra Association may not be required to register as an investment company with the SEC. Additionally, since they do not offer publicly offered shares, they are not registered under the Securities Act of 1933.²¹

Libra may also be regulated by the National Futures Association, which oversees derivatives markets, including foreign exchange trading.²² Another regulatory body might be the Commodity Futures Trading Commission (“CFTC”). The Commodity Exchange Act gives the CFTC jurisdiction over foreign currency futures and options transactions when traded in certain markets.²³ In addition, the Financial Crimes Enforcement Network (“FinCEN”) coordinates the enforcement of laws against anti-money laundering,

terrorist financing, and other financial crimes through the regulated banking system and through non-bank money services businesses (“MSB”).²⁴

The Libra reserve fund and its employees may need to register with the Financial Industry Regulatory Authority (“FINRA”) and comply with FINRA requirements in order to facilitate securities transactions and business with the U.S. investing public.²⁵ Should the Financial Stability Oversight Council (FSOC) designate Libra as a Systemically Important Financial Institution, the Federal Reserve would become a major regulator of Libra.

What are the tax implications of Libra?

The basket of currencies that will be used to fix Libra’s value generates tax implications for users of Libra. The fluctuation in global currencies will alter the value of a user’s Libra holdings in their Calibra wallet against any particular currency. This change creates capital gains or losses anytime users conduct a transaction. Users will need to track when they acquired Libra, when they spent Libra, and the exchange rate at the time.²⁶ A spokesperson for Facebook has stated that it will be up to users to ensure they complied with tax laws.²⁷ This could be a significant issue for Libra and tax authorities, as users may not be willing to deal with tax compliance. Libra has stated that they “expect that many wallets and financial services built on the Libra Blockchain will provide people with tools to help manage this process.”²⁸

There are useful precedents from the experience of existing parallel currencies. In November 2017, a judge in San Francisco ruled that Coinbase needed to turn over the information of users with at least \$20,000 to the IRS and stated that there was legitimate reason for investigation since only 800 to 900 taxpayers reported gains from Bitcoin on their returns from 2013 to 2015.²⁹ According to Credit Karma Tax, only 100 of the first 250,000 tax returns included crypto tax data in 2018.³⁰ However, Libra is not decentralized, operating differently than cryptocurrency. The Libra association will be governed by an association of businesses, making up a central authority over user transaction data. Tax authorities may be able to request information regarding user transactions like the IRS requested against Coinbase.

What is blockchain? Does Libra use blockchain?

A blockchain is a cryptographic database maintained by a network of computers, each of which stores a copy of the most up-to-date version of that database.³¹ Permissionless blockchains are decentralized and rely on cryptographic techniques to verify transactions. Permissioned blockchains rely on trusted validators.

Each computer in a blockchain network is called a “node.” Unlike a traditional ledger or database, in a permissionless blockchain there is no central authority or third-party involvement in validating transactions. It is called a blockchain because each time there is a new transaction, a block which includes a record of the transaction is created and validated by nodes, and then added to the chain of previous blocks.

Unless there is a majority consensus among nodes that the transaction is legitimate, the ledger does not change. Theoretically, this is a protection against hacking, cyber-attacks, and concentrations of power.

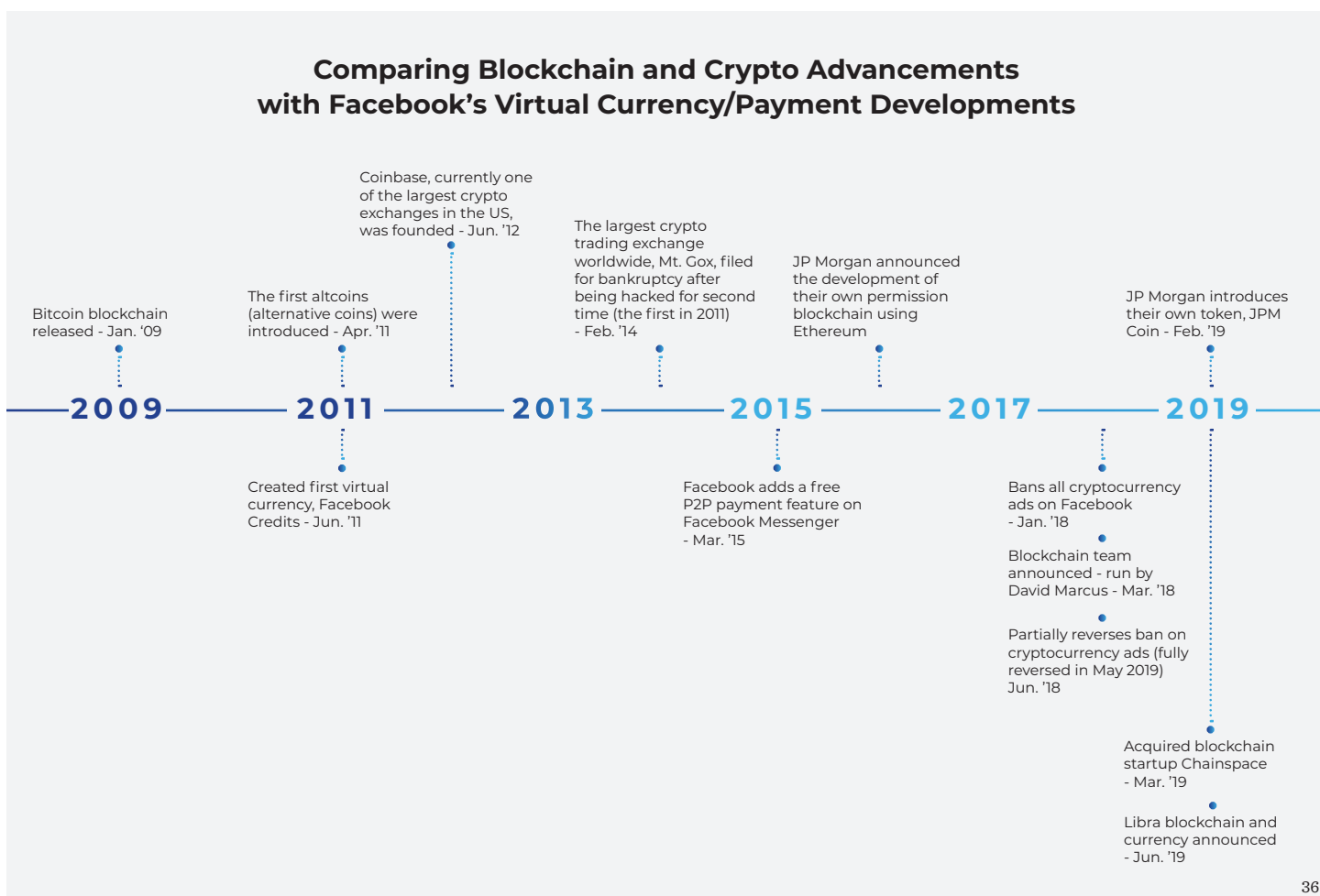
Think of blockchain like a spreadsheet held across multiple computers who talk to one another and collectively decide to update the spreadsheet together when a transaction occurs.

Bitcoin was the first application built using this technology, which allowed the cryptocurrency to be exchanged over the bitcoin blockchain network without any centralized validator. Since then, the technology has been used in a variety of industries, from financial transactions to supply chain tracking to humanitarian aid.³²

There are two types of blockchains: public and private. Public blockchains are “permissionless,” meaning that anyone can join the network and run a node to participate in consensus. Private or enterprise blockchains are “permissioned,” which is where node operators and consensus participants are approved or publicly known by a consortium of entities.³³

Libra appears to be a private blockchain, meaning only founding partners have the ability to validate transactions. The Libra White Paper implies a plan to shift to a public/permissionless blockchain, but it will not start out that way.³⁴ Private blockchains, like any centralized structure, raise questions about ownership, access to data, and potential limitations on users.

Facebook’s second project, Calibra, is a digital wallet integrated with Facebook products that will use Libra. If Libra gains widespread adoption, it is likely that Facebook users will be a significant part of the payments ecosystem using the Calibra wallet. Clearing and managing transactions among Calibra users may have nothing to do with blockchain and will be managed within Facebook’s corporate structure as a centralized ledger.³⁵



What are the privacy, consumer protection and competition policy implications?

Libra will likely be rolled out on Facebook's three platforms; Facebook, Instagram, and WhatsApp. Facebook's new subsidiary, Calibra, will be the wallet provided to hold the currency on these platforms. If Facebook successfully steps into the financial services industry, it will increase its hold on users inside and outside of their three current platforms.

As noted in the executive summary, Zuckerberg's original rationale for a payment product in 2012 was to create pricing power over third-party developers seeking to use Facebook as a platform on which to build businesses.³⁷ Seven years is a long time, and the company has subsequently purchased Instagram and WhatsApp, as well as substantially downgraded the Facebook platform as a meaningful business line.

But this rationale may still hold. Facebook is seeking to centralize as much commerce as possible on its platform. With "Checkout with Instagram," Facebook is creating the ability for users to buy directly on Instagram without ever having to leave the app. Facebook is already using its Instagram subsidiary to control the relationship between the sellers of products and buyers.³⁸ With a direct payments subsidiary, Facebook may control the terms of every part of a transaction, including processing fees, credit terms, advertising, where the product is shown on a feed, the communications network between the customer and the merchant, and even debt collection.

Even without such possibilities, just the data it will acquire from overseeing massive numbers of third-party financial transactions will help generate potential advantages over competitors. Facebook is an advertising company, and it thrives on the acquisition and use of data. As former ad executive and legal scholar Dina Srinivasan notes, accurate data is the essence of the advertising business. The same ad space could be worth one dollar if the advertiser knows the viewer is a 56-year old man with an interest in sports, or three hundred dollars if the advertiser knows the viewer is the billionaire owner of a football team.³⁹ A trove of rich data is why Facebook dominates advertising. Even if Facebook disclaims access to all Libra data, Facebook will still have access to the data its users create by using wallets on its own site. It's enough for Facebook if people's crypto wallets become embedded in Facebook accounts and that becomes the location people become accustomed to go to buy/sell crypto.

Tommaso Valletti, the chief economist with the European Competition Authority, observes, "With Libra, FB can do two things: match data of its ecosystem with Libra data on individual daily income, individual purchases, etc. Not even credit cards have that info... Hyper-targeted ads go to a new level."⁴⁰

Another set of policy questions is oriented around updating consumer protections and credit scoring rules. As Bank of International Settlements official Hyun Song Shin noted last month, one significant friction in credit allocation is monitoring borrowers and enforcing claims against them. As he put it, "if the big tech is dominant, the simple threat of a downgrade or an exclusion from its ecosystem will be a powerful sanction against the borrower."⁴¹

To what extent would Facebook be able to use other parts of its business to enforce claims against borrowers? The legal framework in the United States on credit allocation and debt collection is well-tested and provides a balance, if a creditor-friendly one, between the rights of creditors and debtors. This balance is poised to become even more credit-friendly as the public enforcement regime weakens. Just recently, for instance, the Consumer Financial Protection Bureau proposed granting greater freedom to debt collectors,

under the rationale that digital technologies enable new types of relationships between debtors and creditors.⁴² Such a restructuring of legal frameworks under the guise of technological advance could repeat themselves.

For example, to what extent could Facebook engage in unsavory debt collection techniques, considering the amount of surveillance capacity it has? What kind of power might Facebook exert over a debtor should he or she contest a debt to Calibra? How might Section 230 of the Communications Decency Act, which provides a liability shield to interactive computer services for information flowing over them transmitted by a third party, interact with laws such as the Fair Debt Collection Practices Act?⁴³

We don't have to imagine what a highly coercive system would look like, we can just observe what is happening in China, which does not have any meaningful privacy restrictions or civil liberty protections. In China, a service called WeChat offers a host of services, including payments and messaging. The total model of commercial and political surveillance is linked to what the government hopes will become a pervasive social credit score, which will both offer and remove opportunities to Chinese citizens based on automated preferences set by a centralized body.

Libra and Calibra thus prompt questions about how the widespread adoption of digital payments shift social architectures. Should this shift to digital forms of money be accompanied by a removal of sovereign democratic controls over monetary power via the establishment of private currencies? Do we want a world where global payment systems mimic WeChat, which has become an ecosystem with apps that give social credit scores and financial ratings?⁴⁴

Facebook knows who we are, who we socialize with, what we're doing, what we're spending money on and with whom we're transacting. Given the poor track record of Facebook's privacy regime, it is hard to trust that data will not be shared among its various divisions (Calibra, Instagram, WhatsApp, and Facebook). Presumably, users will opt-in to data-sharing without knowing it, such as if they agree to merge contacts between WhatsApp and Calibra to pay friends seamlessly.⁴⁵

Why do people in developing countries (or in the U.S.) not have access to banks?

Libra's white paper describes issues associated with financial inclusion and claims that Libra can provide financial services to many of the 1.7 billion individuals without them. However, it is not clear that the problems associated with the unbanked are technological in nature. Rather they are a function of social and political factors that must be addressed within each country. Access to banking services in developing countries is also a problem that is already being solved, largely through improved telecommunications and the explosion of mobile banking.⁴⁶

For instance, in the United States, the number one reason for not having a bank account was cited as not having enough money according to surveys.⁴⁷ Another common answer was a lack of trust in banking institutions.⁴⁸

Abroad, reasons for lacking access to financial institutions include not having document proof to verify identification, often a result of inadequate infrastructure to obtain citizen data, lack of residential data, or concerns regarding privacy (people may mistrust their government having their personal information). Identification in other countries may not include a single digit identifier issued by a national authority,

making it harder for lower income individuals to obtain identification from different government agencies.⁴⁹ The disconnected system of identification in many countries complicates Anti Money Laundering and Counter-Financing of Terrorism (AML/CF'T) efforts, posing a major challenge for Calibra's onboarding of individuals.

Distance from banks is another major challenge for the unbanked. The rural poor still depend on liquid assets but lower incomes and infrastructure deficiencies limit their access to banks to deposit cash.⁵⁰ Transaction costs are expensive in rural areas, both domestically and abroad.⁵¹ In addition, weak legal systems contribute to the mistrust of banking services, as legal systems in countries may not ensure marketable property rights and contract enforcement.

How will Libra abide by Know Your Customer/ Anti-Money Laundering requirements?

Calibra has registered as a money services business ("MSB") with the Financial Crimes Enforcement Network ("FINCEN"), pursuant to Bank Secrecy Act regulations ("BSA") and will need to apply for MSB licenses in all 50 states.⁵² In order to comply with Bank Secrecy Act (BSA) regulations and recommendations, Calibra will have to create a robust Anti-Money Laundering ("AML") Compliance program that encompasses Know Your Customer ("KYC") and Customer Due Diligence ("CDD") programs. BSA requirements require the identities of individuals to be verified with name, date of birth, address, and identification number.⁵³ For every transaction, an MSB should ensure that they know the sender's source of funds, the purpose of the transaction, the receiver's name, address, and nationality, and have the government ID of the sender.⁵⁴

The United States Office of Foreign Assets Control ("OFAC") enforces economic and trade sanctions against individuals, organizations, and countries. MSBs must filter and clear out matches to possibly sanctioned entities to ensure compliance with OFAC regulations. Clearing out potential alerts to sanctioned individuals, flagging high-risk jurisdictions, and verifying the identity and information of beneficiaries are issues that can impede Facebook's ability to quickly clear alerts and achieve faster payment processing times.

The Libra white paper has mentioned that transactions (peer-to-peer) using Libra will be subject to low transaction fees.⁵⁵ The Libra blockchain will handle 1,000 transactions per second and the onboarding process for the digital wallet Calibra will be simple, according to Calibra VP of Product Kevin Weil.⁵⁶

Libra has not indicated how currency will be deposited for Libra funds.⁵⁷ Libra could set up local conversion offices or implement an e-KYC program. According to the Financial Action Task Force, however, non-face-to-face interaction (if e-KYC is set up) indicates a higher money laundering and terrorist financing risk situation and "an absence of CDD increases the difficulty for the service provider to identify suspicious activity."⁵⁸

Complying with BSA/AML regulations for MSBs will also mean an effective education or training program of appropriate personnel.⁵⁹ According to the FINCEN advisory, an institution's leadership is responsible for all areas related to compliance with BSA/AML regulations and must receive training tailored to their roles.⁶⁰

In 2012, the FDIC cited possible risks associated with mobile payment systems in regards to record-keeping, screening and reporting, and challenges satisfying AML/BSA/OFAC requirements. The use of fraud accounts represents a potential challenge to third party service providers in complying with KYC regulations. In the Silk Road methamphetamine trafficking and money laundering ring, multiple PayPal, Bitcoin, and Western Union accounts were used to transfer illicit funds.⁶¹

In the U.S., banks reported that sanctions screenings, customer risk profiling, KYC for account onboarding, and efficient resolution of alerts were the main challenges in their AML compliance programs. Additionally, the average annual amount spent for compliance for mid/large banks was \$16.8 million.⁶²

How efficient is the existing payments infrastructure?

Pervasive inefficiency and entrenched advantage exist in the modern financial and payments system.

Today's card processing systems are characterized by high fees, and rules that protect profit streams of established institutional players. It, however, is far from clear that Libra can offer a global payments service that costs little to nothing for average users.

Inefficiency abounds in the modern payments network. The Automated Clearing House (ACH) Network, operated by the National Automated Clearing House Association (NACHA), handles account-to-account transfers, recurring and one-time payments, government and business payments, "moves more than \$41 trillion and 24 billion electronic financial transactions."⁶³ While the system is extremely low-cost -- each transaction costs just under two-hundredths of a cent -- the system is also slow.⁶⁴ Bank transfers and debit card payments typically take anywhere from one to three days to be settled, and the system does not operate on weekends, bank or national holidays.⁶⁵

Efforts to improve the ACH Network, which has not changed significantly since its creation in the 1970s, have been unsuccessful. In August of 2012, an attempt by NACHA to implement a same-day settlement system, Expedited Processing and Settlement, was voted down by a number of its member banks.⁶⁶ The failed initiative "demonstrated the enormous power that a small number of large commercial banks wield over the U.S. payments system."⁶⁷ These large commercial banks include JP Morgan, Bank of America, Citigroup, and Wells Fargo. Industry commentators alleged that large financial institutions opposed NACHA's proposal because they "were worried a faster ACH service would hurt their revenue from wire transfers."⁶⁸

Wire transfers, which are single payments executed in real-time, are notorious for being costly, with the cost of a single transfer ranging from as little as \$10 (for a domestic wire) to \$30-40 (for an international wire). Most wire transfers are executed either over FedWire (operated by the US Federal Reserve) or over the Clearing House Interbank Payments System (CHIPS), a payments system owned by a consortium of large banks.⁶⁹

While it is difficult to determine precise profit margins for wire transfer providers, evidence suggests that the business is highly profitable. Banks and wire services (like Western Union) charge customers widely varying rates based on frequency, volume, point of origin, and destination. One widely cited report stated that Spanish bank Santander made 10 percent of its 2016 global profits from international cash transfers alone.⁷⁰

The existing financial system has developed over decades an elaborate (but imperfect) system for reducing fraud and resolving disputes between transacting parties -- whether between consumers and merchants, or between businesses.

Libra will not be a fraud-free system, and it is completely unknown at this point whether, and how, the Libra Association will be able to manage the costs of mandatory consumer protection activity. While credit card fees are much maligned, for example, a majority of those fees, “at around 2 to 3% per transaction... goes toward things like rewards and fraud prevention. The network fees are a sliver of that, around 5 cents, compared with \$1.63 for bitcoin transaction processing, and 12 cents for the ethereum cryptocurrency.”⁷¹ Libra has not released any information on network fees so far; and when it comes to the question of who will cover the cause of fraudulent activity (and how), documentation issued by Facebook subsidiary Calibra states only that “in the event we find an unauthorized transaction has taken place, Calibra will offer the appropriate party a full refund.”⁷²

Dispute resolution is also an unresolved question, governed as they are by the Truth in Lending Act and the Electronic Fund Transfer Act. Existing financial institutions -- including VISA, MasterCard, and large banks -- have significant experience resolving disputes between consumers and merchants, a task which is “hard, expensive, and requires international knowledge and cultural sensitivity.”⁷³ For instance, it is unclear whether Libra will comply with the error resolution requirements of the Electronic Fund Transfer Act.

The inefficiency and excess fees in the domestic and international payment networks are a result of both powerful financial institutions holding up improvement of the payments system, as well as a refusal by the slothful Federal Reserve to exercise its delegated role as the manager of the dollar. Senator Sherrod Brown noted in a letter to Federal Reserve Chairman Jerome Powell, a similar though far less extensive private takeover of the payments system took place in 2015. That year, the Fed organized a Faster Payments Task Force to study improvements in the payment system. Meanwhile, large financial institutions organized “their own real time payments network and threatened to increase prices if in the future they face competition from other networks, including a Fed-operated system.”⁷⁴

Policy Recommendations

Proponents of Libra are correct that the existing domestic and international payment systems are bloated and inefficient. But non-sovereign parallel currencies are inherently dangerous.⁷⁵ Beyond the sovereign aspects, running a banking/payments system while also running a non-financial technology platform enables anti-competitive behavior. Thus, there should be three basic policy choices for Congress. One, Congress and/or the Federal Reserve should block the creation of any parallel non-sovereign currency. Two, Congress should impose a structural separation between all payment systems and non-financial services. This separation is especially critical for large technology platforms with dominant market power and surveillance capacity.

Imposing these barriers would involve four planks.

1. No federally or state licensed financial institution can hold or make transactions using any currency not issued by a sovereign nation.
2. No Convertible Virtual Currency is eligible for use in paying taxes, fees, fine, or other payments to government accounts.

3. Any technology platform that could be used as a substitute for regulated payments systems will be subject to the same Bank Secrecy Act/Anti-Money Laundering standards that are applicable to participants of regulated systems.
4. Payments are part of the business of banking, and technology platforms with non-financial core businesses are barred from the business of banking. Ownership restrictions to prohibit de facto combinations should also be prohibited. Banking firm may have no ownership stake in a non-financial firms and vice versa.

Finally, Congress and the Federal Reserve should explore having the Federal Reserve issue its own digital currency and public payment system accessible to ordinary citizens, providing a public option for citizens and businesses to pay one another without being subject to exploitative fees. The Fed needn't be the institution organizing such a system, the Post Office has the physical branch infrastructure to facilitate a digital dollar ecosystem. Regardless of the governing institution, public control over monetary and payment systems is a core aspect of sovereignty and democratic governance.

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Endnotes

- ¹ Constine, Josh, *We Still Don't Know How Much of Libra Facebook Owns*, Tech Crunch, July 3, 2019, <https://techcrunch.com/2019/07/03/facebook-libra-cryptocurrency/>.
- ² Popper, Nathaniel, *Regulators Have Doubts About Facebook Cryptocurrency. So Do Its Partners*, New York Times, June 25, 2019, <https://www.nytimes.com/2019/06/25/technology/facebook-libra-cryptocurrency.html>. There are nonprofits who are partners in the project, but they are not a significant portion of the association's formative membership.
- ³ Legal tender is defined in 31 CFR§1010.100(m).
- ⁴ Irrera, Anna, *Facebook's Libra Coin Likely to Run a Regulatory Gauntlet*, Reuters, June 28, 2019, <https://www.reuters.com/article/us-facebook-crypto-regulation/facebooks-libra-coin-likely-to-run-a-regulatory-gauntlet-idUSKCN1TT30A>.
- ⁵ See Zuckerberg discussion of payments strategy in 2012, p. 240-241 <https://www.parliament.uk/documents/commons-committees/culture-media-and-sport/Note-by-Chair-and-selected-documents-ordered-from-Six4Three.pdf>.
- ⁶ See p. 240 of <https://www.parliament.uk/documents/commons-committees/culture-media-and-sport/Note-by-Chair-and-selected-documents-ordered-from-Six4Three.pdf>.
- ⁷ Kaminska, Izabella, *Alphaville's Libra Cheat Sheet*, Financial Times, June 18, 2019, <https://ftalphaville.ft.com/2019/06/18/1560848464000/Alphaville-s-Libra-cheat-sheet/>.
- ⁸ *The Reserve*, Libra Association, 2019, https://libra.org/en-US/about-currency-reserve/#the_reserve.
- ⁹ Hockett, Robert, *Money's Past is Fintech's Future: Wildcat Crypto, the Digital Dollar, and Citizen Central Banking*, Stanford Journal of Blockchain Law & Policy, June 28, 2019, <https://stanford-jblp.pubpub.org/pub/wildcat-crypto-fintech-future>.
- ¹⁰ Permanent Subcommittee on Investigations, *Wall Street Bank Involvement with Physical Commodities*, U.S. Senate Committee on Homeland Security & Governmental Affairs, November 20, 2014, [https://www.hsgac.senate.gov/imo/media/doc/REPORT-Wall%20Street%20Bank%20Involvement%20With%20Physical%20Commodities%20\(12-5-14\).pdf](https://www.hsgac.senate.gov/imo/media/doc/REPORT-Wall%20Street%20Bank%20Involvement%20With%20Physical%20Commodities%20(12-5-14).pdf).
- ¹¹ Omarova, Saule T., *New Tech v. New Deal: Fintech As a Systemic Phenomenon*, Yale Journal on Regulation 735 (2019), June 20, 2019, <https://ssrn.com/abstract=3224393>.
- ¹² European Central Bank Task Force, *Crypto-Assets: Implications for Financial Stability, Monetary Policy, and Payments and Market Infrastructures*, European Central Bank, May 2019, <https://www.ecb.europa.eu/pub/pdf/scpops/ecb.op223-3ce14e986c.en.pdf>.
- ¹³ J.P. Morgan Chase, *J.P. Morgan Creates Digital Coin for Payments*, February 14, 2019, <https://www.jpmorgan.com/global/news/digital-coin-payments>.
- ¹⁴ Bair, Sheila, *Why the Fed should oversee Facebook's Libra*, Yahoo Finance, July 8, 2019, <https://finance.yahoo.com/news/fed-libra-sheila-bair-160930832.html>.
- ¹⁵ Bair, Sheila, *Why the Fed should oversee Facebook's Libra*, Yahoo Finance, July 8, 2019, <https://finance.yahoo.com/news/fed-libra-sheila-bair-160930832.html>.
- ¹⁶ Bair, Sheila, *Why the Fed should oversee Facebook's Libra*, Yahoo Finance, July 8, 2019, <https://finance.yahoo.com/news/fed-libra-sheila-bair-160930832.html>.
- ¹⁷ Kaminska, Izabella, *Alphaville's Libra Cheat Sheet*, Financial Times, June 18, 2019, <https://ftalphaville.ft.com/2019/06/18/1560848464000/Alphaville-s-Libra-cheat-sheet/>.
- ¹⁸ *Ibid.*
- ¹⁹ U.S. Constitution - Article 1 Section 8
- ²⁰ Investment Company Institute, *Understanding the Regulation of Exchange-Traded Funds Under the Securities Exchange Act of 1934*, August 2017. https://www.ici.org/pdf/ppr_17_etf_listing_standards.pdf.
- ²¹ Financial Industry Regulatory Authority, *Exchange Traded Funds*, 2019, <https://www.finra.org/investors/exchange-traded-funds>.
- ²² National Futures Association, *Forex Dealer Members*, 2019, <https://www.nfa.futures.org/members/fdm/index.html>.
- ²³ National Futures Association, *Forex Transactions: Regulatory Guide*, 2019, <https://www.nfa.futures.org/members/member-resources/files/forex-regulatory-guide.html>.
- ²⁴ FinCEN's Mandate From Congress, <https://www.fincen.gov/resources/fincens-mandate-congress>.
- ²⁵ Financial Industry Regulatory Authority, *Register a New Broker-Dealer Firm*, 2019, <http://www.finra.org/industry/new-bd-firm-registration>.
- ²⁶ Clifford Chance, *Facebook's Libra Currency – Will Unexpected Tax Complications Scare off Users?*, July 5, 2019, https://talkingtech.cliffordchance.com/content/micro-cctech/en/industries/fintech/facebook-s-libra-currency---taxing-problems/_jcr_content/text/parsysthumb/download/file.res/TL%20Libra%20tax_LR.pdf.
- ²⁷ Giles, Chris, *Lawyers Warn of Facebook's Libra Tax Risks in Europe*, Financial Times, June 30, 2019, <https://www.ft.com/content/bdf46cfc-99aa-11e9-8cfb-30c211dcd229>.
- ²⁸ *Ibid.*
- ²⁹ Voreacos, David, *IRS Cops Are Scouring Crypto Accounts to Build Tax Evasion Cases*, Bloomberg, February 8, 2018, <https://www.bloomberg.com/news/articles/2018-02-08/irs-cops-scouring-crypto-accounts-to-build-tax-evasion-cases>.
- ³⁰ Cheng, Evelyn, *Barely Anyone is Paying the Taxes They Owe on Their Bitcoin Gains*, CNBC, February 13, 2018, <https://www>.

- [cnbc.com/2018/02/13/barely-anyone-is-paying-the-taxes-they-owe-on-their-bitcoin-gains.html](https://www.cnn.com/2018/02/13/barely-anyone-is-paying-the-taxes-they-owe-on-their-bitcoin-gains.html); Hankin, Aaron, *Americans Lost \$1.7 Billion Trading Bitcoin in 2018 — and More than Half Don't Know They Can Claim a Deduction*, MarketWatch, January 15, 2019, <https://www.marketwatch.com/story/americans-lost-17-billion-trading-bitcoin-in-2018-and-more-than-half-dont-know-they-can-claim-a-deduction-2019-01-15>.
- ³¹ Orcutt, Mike, *Once Hailed as Unhackable, Blockchains are Now Getting Hacked*, MIT Technology Review, February 19, 2019, <https://www.technologyreview.com/s/612974/once-hailed-as-unhackable-blockchains-are-now-getting-hacked/>.
- ³² Juskalian, Russ, *Inside the Jordan Refugee Camp that Runs on Blockchain*, MIT Technology Review, April 12, 2018, <https://www.technologyreview.com/s/610806/inside-the-jordan-refugee-camp-that-runs-on-blockchain>; Paton, Elizabeth, *Will Blockchain Be a Boon to the Jewelry Industry?*, New York Times, November 30, 2018, <https://www.nytimes.com/2018/11/30/fashion/jewelry-blockchain-de-beers.html>; BitPesa, *5 Ways BitPesa Makes Cross-border Business Easier*, November 20, 2018, <https://www.bitpesa.co/bitpesa-makes-cross-border-business-easier>.
- ³³ Vilner, Yoav, *What Could “Sharding” Mean for Enterprise Blockchain Adoption?*, Forbes, June 11, 2019, <https://www.forbes.com/sites/yoavvilner/2019/06/11/what-could-sharding-mean-for-enterprise-blockchain-adoption/#2d1391602c75>.
- ³⁴ Libra, *Moving Toward Permissionless Consensus*, Libra Association, 2019, <https://libra.org/en-US/permissionless-blockchain/#overview>.
- ³⁵ Hackett, Robert, *Facebook Cryptocurrency: Calibra’s Privacy Implications*, Yahoo Finance, June 18, 2019, <https://finance.yahoo.com/news/facebook-cryptocurrency-calibra-privacy-implications-111522808.html>.
- ³⁶ January 2009: The first Bitcoin was traded on the bitcoin blockchain, with the whitepaper being released in the fall of 2008
 April 2011: The first altcoins (alternative coins) were introduced
 June 2011: Facebook creates its first virtual currency (Credit)³⁶
 June 2012: Coinbase, currently one of the crypto largest exchanges in the US, was founded³⁶
 February 2014: The largest crypto trading exchange worldwide, Mt. Gox, filed for bankruptcy after being hacked for a second time (the first in 2011)³⁶
 March 2015: Facebook adds a free peer-to-peer payment feature on Facebook Messenger³⁶
 October 2016: JP Morgan announces the development of their own permissioned blockchain, Quorum, using Ethereum
 January 2018: Facebook bans all cryptocurrency ads from Facebook
 March 2018: Facebook announces blockchain team, run by David Marcus
 June 2018: Facebook allows certain cryptocurrency ads if criteria are met and a request form filled out³⁶
 February 2019: JP Morgan introduces their own token, JPM Coin, which will be used for payments between institutional clients³⁶
 March 2019: Facebook acquires blockchain startup Chainspace
 May 2019: Facebook allows all cryptocurrency ads on its platform³⁶
 June 2019: Facebook announces Libra
- ³⁷ See p. 240 of <https://www.parliament.uk/documents/commons-committees/culture-media-and-sport/Note-by-Chair-and-selected-documents-ordered-from-Six4Three.pdf>.
- ³⁸ Constine, Josh, *Instagram Launches Shopping Checkout, Charging Sellers a Fee*, Tech Crunch, March 19, 2019, <https://techcrunch.com/2019/03/19/instagram-checkout/>.
- ³⁹ Srinivasan, Dina, *How Digital Advertising Markets Really Work*, The American Prospect, June 24, 2019, <https://prospect.org/article/how-digital-advertising-markets-really-work>.
- ⁴⁰ Valletti, Tommaso, Twitter. July 12, 2019, <https://twitter.com/TomValletti/status/1149681188057047041> and <https://twitter.com/TomValletti/status/1149681185498521600>
- ⁴¹ Shin, Hyun Song, *Big Tech in Finance: Opportunities and Risks*, Bank for International Settlements, June 30, 2019, <https://www.bis.org/speeches/sp190630b.pdf>.
- ⁴² Merle, Renae, *Trump Administration Wants to Allow Debt Collectors to Call 7 Times a Week and Text, Email as Much as They Want*, The Washington Post, May 7, 2019, https://www.washingtonpost.com/business/2019/05/07/trump-administration-wants-allow-debt-collectors-call-times-week-text-email-much-they-want/?utm_term=.fe7ff3b0d8c4.
- ⁴³ “No provider or user of an interactive computer service shall be treated as the publisher or speaker of any information provided by another information content provider” (47 U.S.C. § 230).
- ⁴⁴ Mosher, Steven, *China’s New ‘Social Credit System’ is a Dystopian Nightmare*, New York Post, May 18, 2019, <https://nypost.com/2019/05/18/chinas-new-social-credit-system-turns-orwells-1984-into-reality/>.
- ⁴⁵ Hackett, Robert, *Facebook Cryptocurrency: Calibra’s Privacy Implications*, Fortune, June 18, 2019, <https://fortune.com/2019/06/18/facebook-cryptocurrency-libra-privacy/>.
- ⁴⁶ Melitta Ngalonkulu, *Why Digital Banking Is Unique In Africa*, Forbes, November 28, 2018
- ⁴⁷ Sweet, Ken, *Americans Who Don’t Have a Bank Account at Lowest Level Ever*, Associated Press. October 23, 2018, <https://www.apnews.com/8b2b93d4e9474c418853e0f20e79aaa8>.
- ⁴⁸ Sweet, Ken, *Americans Who Don’t Have a Bank Account at Lowest Level Ever*, Associated Press. October 23, 2018, <https://www.apnews.com/8b2b93d4e9474c418853e0f20e79aaa8>.
- ⁴⁹ Perlman, Leon, and Nora Gurung, *Focus Note: The Use of eKYC for Customer Identity and Verification and AML*, Columbia Business School, May 11, 2019, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3370665.
- ⁵⁰ Triki, Thouraya, and Faye, Issa, *Financial Inclusion in Africa*, African Development Bank, 2013, <https://www.microfinancegateway.org/sites/default/files/mfg-en-paper-financial-inclusion-in-africa-2013.pdf>. Hansen, Angela R., *Rural*

- Financial Inclusion & Poverty Eradication: Challenges and Gaps*, United Nations, February 15, 2019, https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2019/03/20190215_ARH-Rural-Financial-Inclusion-and-Poverty-Eradication.pdf.
- ⁵¹ Richter, Patricia, *Empowering Rural Communities through Financial Inclusion*, International Labour Organization, June 30, 2011, https://www.ilo.org/employment/units/rural-development/WCMS_159004/lang-en/index.htm.
- ⁵² *MSB Registration Status Information*, Financial Crimes Enforcement Network, June 18, 2019, <https://www.docdroid.net/544Gxxg/calibra-msb-registration.pdf>.
- ⁵³ Financial Crimes Enforcement Network, *Anti-Money Laundering Programs for Money Services Businesses*, Electronic Code of Federal Regulations, July 10, 2019, https://www.ecfr.gov/cgi-bin/text-idx?SID=9bd185e43e8c6b2ef75acbb2e228806d&mc=true&node=se31.3.1022_1210&rgn=div8.
- ⁵⁴ Lahood, Mary-Jo, *The Money Service Business in the USA: How to Comply with Federal and State Laws & Regulations and Maintain Good Relationships with Banks*, Association of Certified Anti-Money Laundering Specialists, 2015, <http://www.acams.org/wp-content/uploads/2015/08/The-Money-Service-Business-in-the-USA-How-to-Comply-with-Federal-and-State-Laws-Regu.pdf>.
- ⁵⁵ Libra White Paper, Libra Association, 2019, <https://libra.org/en-US/white-paper/>.
- ⁵⁶ Olson, Parmy, *Libra Coin? What You Need to Know About Facebook's Answer to Bitcoin*, Wall Street Journal, June 18, 2019, <https://www.wsj.com/articles/libra-coin-what-you-need-to-know-about-facebooks-answer-to-bitcoin-11560864351>; Schroeder, Stan, *Facebook Announces Libra Cryptocurrency with a Massive List of Partners*, Mashable, June 18, 2019, <https://mashable.com/article/facebook-libra/>.
- ⁵⁷ Greeley, Brendan, *Facebook's Libra Will Not Help the Unbanked*, Financial Times, June 19, 2019, <https://ftalphaville.ft.com/2019/06/19/1560920406000/Facebook-s-Libra-will-not-help-the-unbanked/>.
- ⁵⁸ McCrossan, Sean, *Combating the Proliferation of Mobile and Internet Payment Systems as Money Laundering Vehicles*, Association of Certified Anti-Money Laundering Specialist, August 2015, <https://www.acams.org/wp-content/uploads/2015/08/Combating-the-Proliferation-of-Mobile-and-Internet-Payment-Systems-as-ML-Vehicles-S-McCrossan.pdf>.
- ⁵⁹ Financial Crimes Enforcement Network, *Anti-Money Laundering Programs for Money Services Businesses*, Electronic Code of Federal Regulations, July 10, 2019, https://www.ecfr.gov/cgi-bin/text-idx?SID=9bd185e43e8c6b2ef75acbb2e228806d&mc=true&node=se31.3.1022_1210&rgn=div8.
- ⁶⁰ *Advisory to U.S. Financial Institutions on Promoting a Culture of Compliance*, Financial Crimes Enforcement Network, August 11, 2014, <https://www.fincen.gov/sites/default/files/advisory/FIN-2014-A007.pdf>.
- ⁶¹ McCrossan, Sean, *Combating the Proliferation of Mobile and Internet Payment Systems as Money Laundering Vehicles*, Association of Certified Anti-Money Laundering Specialist, August 2015, <https://www.acams.org/wp-content/uploads/2015/08/Combating-the-Proliferation-of-Mobile-and-Internet-Payment-Systems-as-ML-Vehicles-S-McCrossan.pdf>.
- ⁶² *True Cost of AML Compliance Study*, Lexis Nexis Risk Solutions, October 2018, <https://risk.lexisnexis.com/insights-resources/research/2018-true-cost-of-compliance-study>.
- ⁶³ *What is ACH?: Quick Facts About the Automated Clearing House (ACH) Network*, Nacha, October 1, 2015, <https://www.nacha.org/news/what-ach-quick-facts-about-automated-clearing-house-ach-network>.
- ⁶⁴ *Network Administration Fees*, Nacha, <https://www.nacha.org/system/files/resources/Network-Admin-Fees-2018.pdf>.
- ⁶⁵ Andriotis, AnnaMaria, *For Walmart and Target, the Fed Holds the Keys to Faster Payments*, Wall Street Journal, December 6, 2018, <https://www.wsj.com/articles/for-walmart-and-target-the-fed-holds-the-keys-to-faster-payments-1544097601>; *United States Federal Reserve Bank Holidays*, PaymentVision, <https://www.paymentvision.com/resource-center/ach-non-processing-calendar>.
- ⁶⁶ Wack, Kevin, *How Big Banks Killed a Plan to Speed Up Money Transfers*, Wall Street Journal, November 13, 2013, <https://www.americanbanker.com/news/how-big-banks-killed-a-plan-to-speed-up-money-transfers>.
- ⁶⁷ *Ibid.*
- ⁶⁸ *Ibid.*
- ⁶⁹ *Wholesale Payment Systems*, FFIEC, [https://ithandbook.ffiec.gov/it-booklets/wholesale-payment-systems/interbank-payment-and-messaging-systems/fedwire-and-clearing-house-interbank-payments-system-\(chips\).aspx](https://ithandbook.ffiec.gov/it-booklets/wholesale-payment-systems/interbank-payment-and-messaging-systems/fedwire-and-clearing-house-interbank-payments-system-(chips).aspx).
- ⁷⁰ Collinson, Patrick, *Revealed: the Huge Profits Earned by Big Banks on Overseas Money Transfers*, The Guardian, April 8, 2017, <https://www.theguardian.com/money/2017/apr/08/leaked-santander-international-money-transfers-transferwise>.
- ⁷¹ Detrixhe, John, *What Does Facebook's Crypto Coin Mean for Visa and Mastercard?*, Quartz, June 18, 2019, <https://qz.com/1646097/what-does-facebooks-crypto-coin-libra-mean-for-visa-and-mastercard/>.
- ⁷² *Calibra: Customer Commitment*, Calibra, 2019, <https://tinyurl.com/y2l82mao>.
- ⁷³ Steven J. Murdoch, *Will Dispute Resolution be Libra's Achilles' Heel?*, Bentham's Gaze, July 9, 2019, <https://www.benthamsgaze.org/2019/07/09/will-dispute-resolution-be-libras-achilles-heel/>.
- ⁷⁴ Letter from Senator Sherrod Brown to Federal Reserve Chairman Jerome Powell, July 10, 2019 <https://www.brown.senate.gov/newsroom/press/release/brown-federal-reserve-must-protect-economy-and-consumers-from-facebooks-monopoly-money>.
- ⁷⁵ Non-sovereign parallel currencies are ones which float in value against sovereign legal tender. The use of blockchain to create currencies that are a one-to-one dollar match, like a JPM Coin, would not be included as such a currency.

