

FACEBOOK'S DIGITAL CURRENCY

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1. BASIC FEATURES OF "LIBRA"

On 18 June 2019, Facebook announced that in 2020 it will release a digital currency called "Libra." This announcement attracted great interest in the financial world because of Facebook's ability to promote this currency among its claimed 2.7 billion users worldwide (although experts believe that the 2.7 billion figure is exaggerated because it includes a huge number of fake accounts). By comparison, about 1/8 this number of people use the U.S. dollar (USD) as their principal currency.

Despite the use of such words as "cryptocurrency" and "blockchain" in the publicity about the Libra, in fact Facebook's proposal has little in common with Bitcoin, Ethereum, and other true blockchain-based cryptocurrencies. In the first place, it is not decentralized. The system will be run by a non-profit organization called the Libra Association that works for a consortium of large companies that are allied with Facebook. At present Facebook has 27 corporate partners, but it hopes that the number will increase to 100 before the currency is launched. That consortium will run all the nodes that verify transactions. It is not a true peer-to-peer system.

In the second place, Libras have a controlled rate of exchange — essentially they are a weighted average of the main global fiat currencies (USD, euro, yen, etc.), and so the Libra itself is a fiat currency, not a true cryptocurrency.

In the third place, the central authority — the Libra Association — will have records of the true identities of all users, so there will be no anonymity as is possible in cash or Bitcoin purchases.

Facebook has good reasons to use a conventional technology rather than a peer-to-peer blockchain similar to Bitcoin. Peer-to-peer systems, in which the validity of transactions is verified by large numbers of users, are relatively slow: Bitcoin can process only 7 transactions per second, and Ethereum can process 15, whereas Libra is designed to process up to 1000 transactions per second. Another efficiency advantage of Libra is that transactions are confirmed very fast, whereas in Bitcoin a merchant has to wait for about an hour to be sure that the payment is valid (because of the possibility of "soft forks" in consensus systems; such forks occasionally result from discrepancies in the messages reaching nodes in different parts of the world).

In addition, cryptocurrencies such as Bitcoin and Ethereum have been very volatile: the exchange rate to USD has jumped up and down wildly. As a result, so far their main attraction has been to speculators, not to merchants, who want to receive payment in a stable currency. In contrast, Facebook hopes that Libra will become a standard payment method and will not attract speculators.

Moreover, because cryptocurrencies have a high degree of anonymity (though not perfect anonymity), they have been used extensively by criminals. For example, in ransomware attacks a hacker locks the records of a hospital, city government, or other institution, and notifies them that they can have their records back if they send a large amount of money in Bitcoins to the hacker's anonymous account. Criminal use of Libra will be much more difficult, since the Libra Association will verify the true identities of all users. Facebook has made it clear that it will comply with all national and international "know your customer" regulations that are designed to prevent money-laundering, tax-evasion, child pornography, and other crimes.

Libra's design is much closer to that of traditional online payment systems such as PayPal than it is to Bitcoin. There is no good reason why Facebook has decided to put Libra on a blockchain, since a centralized system run by an organization that holds all records of transactions and true identities has no need for a consensus mechanism. It seems that Facebook's use of such cryptographic terms as "blockchain," "cryptocurrency," and "Byzantine agreement" is explained by the widespread tendency of American companies to want to portray their new products as being more innovative than they really are.

The most important differences between Libra and PayPal are that (1) PayPal is based in the U.S. and uses USD, whereas Libra will be based in Switzerland and use a new currency that is pegged to an average of the fiat currencies of several countries and regions; and (2) the fees will be much lower. In fact, Facebook has explained that the only reason why any fees are necessary is to prevent massive denial-of-service attacks that would disrupt the system and annoy users. That is, a hacker would not be likely to send 10 million fake transactions if each transaction costs 1/10 USD.

The financial benefits for Facebook's consortium of companies will not come from the fees. Rather, what will happen is the following. Users will purchase Libras from sellers licensed by the Libra Association, which will hold the money until the libras are spent, at which point the merchant can exchange them back for a standard currency. If Libras are being used by a significant proportion of Facebook's roughly two billion users, that means that at any given time there will be a huge number of Libras in circulation, and so the Libra Association will be holding a huge cash reserve. That reserve will earn interest and dividends, which will be used for various purposes (administration of the system, research, and grants) and to give a financial benefit to the companies that make up the consortium.

The income from the cash reserve will not be the only benefit to those companies. They can use the system in various ways to enlarge their customer base and, in particular, extend it to parts of the world where many potential customers do not have USD, euros, or yen. They can give incentives to their customers who do have access to the main currencies to use Libras instead, and for that the companies will be rewarded by the Libra Association. In addition, if Libra users give explicit permission to include their Facebook information in their Libra records, then those companies can harvest that information for targeted advertising. The Libra Association can also sell access to that information to advertisers that are not part of the consortium, provided that users agree (and users could be given incentives, such as reduced prices, to induce them to agree).

2. ATTRACTIONS OF LIBRA

Libra will make international commerce by ordinary people much easier. The large number of people, especially in developing countries, who have no bank accounts or credit cards will be able to use Libras to make purchases from companies anywhere in the world.

The extremely low fees are crucial for people in underserved parts of the world. A particularly important use of Libras would be for immigrants to send remittances to their families in their home country. At present, the average cost of remittances (through such companies as Western Union) is 7%. Libras would make it possible for immigrants to support their families back home without being financially exploited. (For Facebook to set this up will not be as easy as it sounds, because the Libra Association will be required to verify the identity of all users, wherever they are.)

For merchants, Libras will have several advantages. Unlike credit card payments, there are no fees to the merchants. Nor are there “chargebacks” (where a customer refuses payment for some reason, and the credit card company refunds the payment at the expense of the merchant). All sales are confirmed quickly and are final. And because of the ease of use, merchants can reach out to new customers.

3. THE DOWNSIDE

By Facebook's own admission, the main reason why they formed a consortium of big companies to profit from Libra rather than simply doing it themselves (and perhaps calling it Facebook Coin rather than Libra) is that the public does not trust Facebook. The massive invasion of privacy and misuse of customer information in the Facebook/ Cambridge Analytica scandal of 2018 and the shocking security lapse that led private information of half a billion users to be exposed on Amazon cloud servers this year have caused many users to doubt Facebook's ethics and competence.

Despite Facebook's attempt to distance itself from direct control of Libra, critics wonder whether the inclusion of other companies is more than just

cosmetic. First of all, is there any evidence that the other large companies have greater respect for customer privacy than Facebook does, take more care with data security, or put ethical conduct as a higher priority than profits? Secondly, the obvious source of users for Libra will be Facebook users, and so Facebook will have the best opportunity to find ways to profit from Libra. Thirdly, the entire set-up of Libra was created by Facebook, and all the software was written by Facebook engineers. It's clear that Facebook, even though it will have "only one vote" (according to Facebook spokespeople) in the Libra Association, will be the dominant company running the system.

Facebook has claimed that it will safeguard the privacy of personal data of Facebook users by not giving Libra access to it without the express permission of the user. However, Facebook and the other companies will be free to offer incentives to get users to give that permission. The history of the internet has shown that most users do not fully understand the dangers of forfeiting privacy rights.

For example, suppose that a student waives his privacy rights in return for a discount on Libra purchases. He believes that his data will be used mainly for targeted advertising, and he does not object to that. However, a few years later the data is also sold to a company that gathers information about job candidates for the hiring offices of major corporations. They evaluate his purchases and Facebook postings, and conclude that he has participated in efforts to publicize and support customer complaints and worker grievances. In other words, he would be a likely whistleblower in a company that is pursuing questionable policies toward its customers and workers. As a result, he is denied employment at any major company.

An even more fundamental concern is that Facebook will simply become too powerful. Essentially, Facebook is a monopoly that has the power to either acquire competitors or force them out of business. On 9 May of this year Chris Hughes, a co-founder of Facebook, wrote a long article for *The New York Times* with the title "It's Time to Break Up Facebook." After the 18 June announcement about Libra, financial officials in many countries, especially in Europe, expressed concern that Facebook was attempting to usurp the role of government. The French Finance Minister Bruno Le Maire called upon the Group of Seven central bank governors to prepare a report on Facebook's digital currency project for their July meeting, and the Bank of England Governor Mark Carney said that it "will have to be subject to the highest standard of regulation."

Many people erroneously assume that it is always institutions of the government that are the worst violators of the rights of their citizens. But in many countries — including both Vietnam and the United States — the worst violators are in the private sector. For example, in Vietnam there is much more mistreatment of women — discrimination and sexual harassment — in private companies than in the state sector. In the United States, which has the highest incarceration rate of any country of the world (it has

4.4% of the world's population and 22% of the world's prisoners), the most inhumane conditions for prisoners are usually in the prisons run by private companies that are contracted by the state (this "privatization" of prisons has been going on for over 30 years).

Facebook is already more powerful — as measured by wealth, influence, and number of "citizens" — than most countries of the world. The currency it is creating will give it still more influence in our lives. One man, Mark Zuckerberg, who is not accountable to any political process, has all final decision-making authority in Facebook. He cannot be overruled or replaced. Facebook's critics are worried that such a concentration of wealth and power will lead to a continuing sequence of abuses.

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