
# Will Libra Succeed?

## Results of a Global Randomized Survey Experiment

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# Table of Contents


EXECUTIVE SUMMARY ..... 2

INTRODUCTION ..... 4

WHAT IS LIBRA? ..... 6

BLOCKCHAINS VS. LIBRA ..... 6
WHY WOULD FACEBOOK ISSUE LIBRA? ..... 7
WHICH USERS MIGHT BENEFIT FROM LIBRA? ..... 8

SURVEY DESIGN ..... 9

SURVEY OUTCOMES ..... 13

INDIVIDUALS ..... 13
BUSINESS OWNERS ..... 17
REGRESSION ANALYSIS ..... 19

CONCLUSIONS ..... 22

APPENDIX A: SURVEY QUESTIONS ..... 23

ABOUT THE AUTHORS ..... 25

# Will Libra Succeed?

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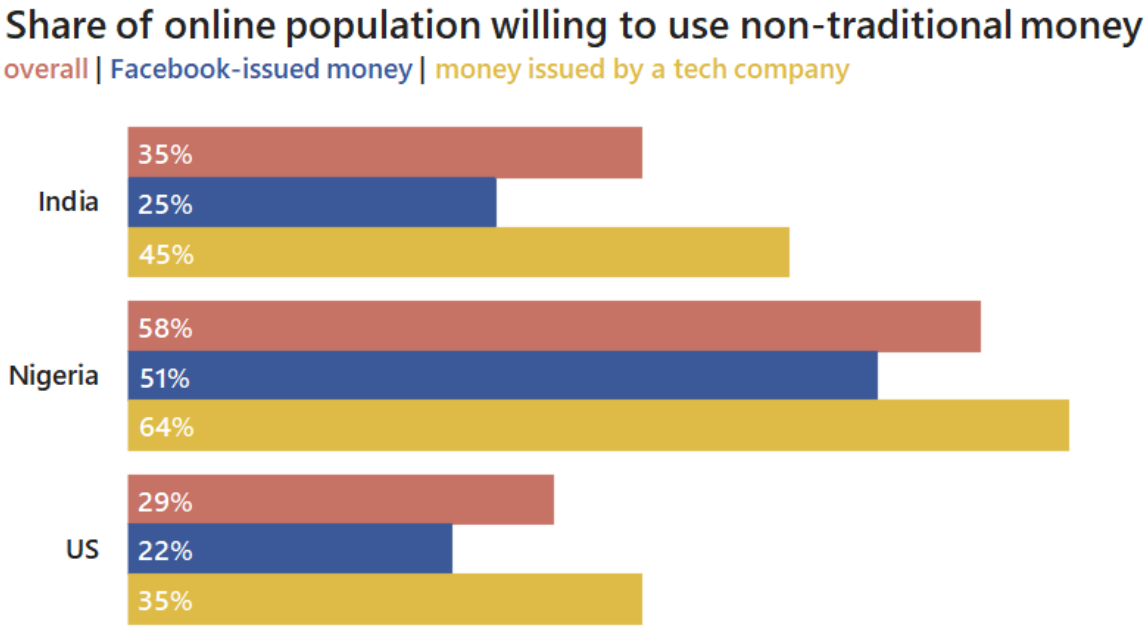
## Executive Summary

Facebook's cryptocurrency project Libra -- and the associated impacts on banks, central banks, the global payments and trading system, and others -- hinges on the widespread and global adoption of the digital currency, especially amongst young people in emerging markets.

To assess the likelihood of Libra adoption, we deploy a survey of 5000+ respondents in the U.S., India, and Nigeria, asking whether respondents are prepared to use money that has been issued by a technology company, and whether, if they own a business, they are willing to accept such money.




Source: RIWI data, India, Nigeria and US tracking, July 31 - September 6, 2019.
3,040 (India) + 1,200 (Nigeria) + 828 (US) respondents representative of the online population.

In order to assess the true likelihood of Libra's success, we need to hear from those who represent the full set of potential adopters: anyone on the Web. We therefore use a survey technology that engages respondents randomly from the Web-using population. Unlike

traditional survey approaches or other online survey approaches, the technology's algorithms ensure that anyone on the Web in each country of analysis has an equal chance of being exposed to the questions. This results in a large number and share of respondents under age 35 (74 percent), those who have never taken a survey before (50 percent), and those without a bank account (41 percent). This matters, among other reasons, because Libra's success will hinge upon its adoption by young people in emerging markets, who represent a large share of the global online population.

We find that:

- Respondents had strong opinions, and were split evenly between those that would consider using non-traditional money and those that would not. Only 1 in 5 said they need more information. This is far lower than in similar surveys using the same method, where typically about 1 in 3 don't have an opinion.
- We randomly assign half of respondents to questions about a Facebook-issued currency and the rest to a generic technology company-issued currency. Facebook has a very significant image problem, and not just in the U.S.: only changing the use of the word Facebook in the question meant 15-20 percent fewer respondents were willing to use the money.
- There is much more openness in Nigeria, and much less in the U.S. The majority (55 percent) of Nigerian respondents were willing to use non-traditional money and accept it as payment as a business (67 percent), whereas in the U.S., only 28 percent of consumers and 30 percent of businesses were willing to use or accept it.
- About 1 in 4 unbanked respondents are willing to try non-traditional money, far less than respondents with a bank account, but still notable that there is more than a marginal group of people that are open to adopting non-traditional money even without a bank account. We examine here only one aspect of the adoption of only one type of digital currency. Since the technology exposes questions to respondents representative of the full online population, it could be used to assess the likelihood of adoption of other digital currencies and other aspects of these currencies, as well as other financial technologies.

- These results are based on responses collected from 3,040 respondents in India, 1,200 in Nigeria, and 828 in the United States in August 2019. Surveys were translated into the dominant language in each country.

## Introduction

In late June 2019, the Libra Association announced that it will build the technology to host a financial infrastructure that would operate parallel to the current financial system. A key component of this infrastructure would be the Libra Coin, a global cryptocurrency that would be an international “stablecoin”, fully backed by reserve assets in a basket of currencies including the U.S. dollar, the euro, and the pound sterling. Facebook, the driving force behind this consortium, faced an immediate backlash from U.S. and European lawmakers and central bankers, who see this initiative as a threat to the integrity and stability of the global financial system. The U.S. Congress even called on Facebook to halt the development of the Libra Coin until further notice. A few months after the announcement, several of the Libra Association members – including Paypal, Visa, and Mastercard - dropped out of the project.

Around the world, domestic and cross border electronic payments are very costly, and their design allows payment processors such as banks to extract substantial economic rents from the economy. Innovation such as Libra in the digital payment infrastructure could save users significant costs. At its core, Libra is a private sector initiative and in contrast to government-issued money, nobody can force people to use it. The key question then is whether people are actually willing to use this money.

RIWI and the Rotman FinHub teamed up to run a survey to explore the appetite of Web users for private-sector issued money. We were interested in two questions:

1. Are users willing to use money that has been issued by a tech company, in particular, Facebook; and
2. Are businesses prepared to accept such money as a means of payment?

One aspect of Libra and any cryptocurrency is that it transcends borders and allows users worldwide to use a single means of payment. This is not a small feat: most users in the developed world enjoy a stable currency and stable prices, but much of the rest of the world needs to rely on money that is sometimes worth less than the paper on which it is printed.

Indeed, on its homepage the Libra Association features a photo from (presumably) Africa. Since most of Facebook's estimated 2 billion users live in developing economies, users in emerging economies may be the main beneficiaries of this innovation. For this reason, we ran our online survey in three countries: India, Nigeria, and the United States. We randomly asked half the respondents about Facebook-issued money and we used a generic technology company for the other half. In discussing our results we will use the term "non-traditional money".

Our results can be summarized as follows:

1. About 39% of respondents would at least consider using non-traditional money, 43% would not. The share is similar for young people who are likely to drive the future of payments: about 40% of respondents aged 16-34 would consider using non-traditional money.
2. The most common reason cited from not using the coin is that people worry about their privacy and that they don't like Facebook/tech companies.
3. Businesses are open to accepting non-traditional money: 57% would at least consider it, only 29% would not.
4. Users show little interest in other cryptocurrencies (such as Bitcoin or Ethereum): 62% of respondents stated that they would not use "other" cryptocurrencies and only 9% state that they have used them in some capacity.
5. Respondents in Nigeria were most willing to accept non-traditional money (55% yes, only 25% no) and accept it as payment as a business (67% yes, 21% no). For respondents in the U.S., the numbers are reversed: only 28% would consider using non-traditional money (48% no), and only 30% of businesses would accept it as payment (42% would not).
6. Women are less willing to use non-traditional money than men.
7. Facebook has a very significant image problem: only changing the use of the word Facebook in the question meant 15-20 percent fewer respondents were willing to use the money.

The last finding is probably one of the most noteworthy and affects whether third party firms may invest resources in developing products on Libra. Business owners are also more willing to accept generic tech-company issued money compared to Facebook-issued money.

Our results indicate that there is generally an interest and a willingness of users to use non-traditional money, especially in the developing world. However, there is an equally sizable group that is not open. And when Facebook is associated with the Libra project, openness drops considerably.

## What is Libra?

### Blockchains vs. Libra

The self-proclaimed purpose of the Libra Association is to build a simple global payment and smart contract infrastructure that strives to be an open, inclusive system so that external parties can build financial products and services. The initial group of members of the Libra Association contained many household names from the payments industry, such as Mastercard, Paypal, and Visa, online marketplaces and sharing platforms such as eBay, Lyft and Uber, telcos like Vodafone, venture capitalists Andreessen Horowitz and Union Square Ventures, and non-profits such as the University of Toronto's Rotman School of Management's Creative Destruction Lab.

Functionally, the description of Libra is that it aims to be essentially akin to the public blockchain, such as the Ethereum network, with some crucial differences. Ethereum, for instance, is an infrastructure that stores information in a distributed database and enables the decentralized execution of computer instructions in so-called smart contracts. This allows users, for instance, to create assets and record ownership as well as to write computer instructions that enable the exchange of these assets. All this happens without the involvement of a trusted third party such as a bank, broker, or credit card firm. Instead, the execution of code and the storage security is embedded in the economics of the platform where maintainers, so-called miners, are incentivized to provide their services using internal money, which is commonly called a cryptocurrency. The miners' services specifically involve their participation in the proof-of-work protocol.

There are many issues with current public blockchains, including the high energy usage of the proof-of-work protocol, the low transaction throughput, the ever-increasing size of the

blockchain, issues with the internal programming languages, and the slow governance of the system. Although the blockchain community works intensely on solutions and improvements to the current systems, there are some intrinsic issues that are difficult to resolve, even in theory. One is the usage of internal money as a reward mechanism. The real-world value of this money derives solely from people's willingness to use the network, and most cryptocurrencies are extremely volatile relative to real-world "fiat" money.

One can think of Libra as an attempt to build a public blockchain without the caveats of the current public blockchains. The release of the internal programming and availability of its functionality will occur over time in steps, presumably only when the correct functioning is clear(er). There will likely also be tech support, and the Libra Association will be able to be efficient in its governance. In its whitepaper, the Libra Association indicated that its long-term goal is to create an open system, and so at some point, Libra would evolve into a network with a fully systems that allows fully decentralized financial services.

A central piece of Libra will be the Libra Coin, a digital currency that is supposed to be backed by government bonds and similar assets of six major fiat currencies. Thus in contrast to cryptocurrencies that rely on people assigning value to their tokens within the network, Libra Coins will be exchangeable for real money. This implies that the Libra network does not have to rely on bootstrapping itself --- once live, users can immediately use Libra Coins of value for transactions. Moreover, the value of Libra coins will be stable relative to the six currencies that it is based upon. That being said, Libra will fluctuate relative to each individual currency because the prices of the six currencies fluctuate relative to one another. According to its accounting statements, Facebook is sitting on piles of cash, presumably in various different currencies, and so it will not be difficult for Facebook to credibly issue asset-backed tokens, at least initially. Moreover, Facebook has almost no debt and strong income, so they will easily be able to issue bonds in exchange for fiat currency that they can they use as backing for Libra. Over time, as the value of transactions in the network increases and as users demand other financial services such as loans, the Libra Foundation may very well "accidentially" morph into becoming a bank.

## Why would Facebook issue Libra?

No entity in the world has a full view of how people spend their money. Google knows search terms; Facebook knows what people share and read; banks and credit card companies have a

partial view as they can see the transfers between customers and vendors; offline retailers know which products people bought in their particular store, but they do not see transactions with others. If Libra Coin became widely used money, Facebook may be able to learn exactly how users spend and use this money, and they can use this knowledge to improve targeted advertising and even investment management.

Why would people use non-traditional money? Is there a market for such money? Even in the developed world, the payment infrastructure is dated and expensive, yet highly profitable. In Canada alone, payments account for $16B annually, and profits margins are estimated to range from 50-80%. For all practical purposes, payments are a service without service, or in other words, a commodity, and the fair rate of return on a commodity is the risk-free rate. When high margins meet old tech, it is only logical that a competing service may emerge. In China and India, payment providers such as Tencent (which operates WeChat), Ant Financial (which operates Alipay), and PayTM have already been able to grow their market shares in payments dramatically at the expense of traditional banks. As a side effect Ant Financial became the world's largest money market fund.

Payment data is very valuable information, and clearly, a data company such as Facebook would benefit enormously if they knew what people actually spend their money on.

## Which users might benefit from Libra?

Cheaper payments may well benefit the economy as a whole, although banks as the main payment processors benefit greatly from these margins and a drop in their income from payments could potentially severely impact their long-term prospects. After all, a bank offers product bundles, and there is likely internal cross-subsidization of products. Firms that use Libra may be able to reach consumers directly via Facebook and arrange transactions, and new products in the space of microloans and microinsurnace will emerge.

The biggest beneficiaries, however, are likely people in the developing world as Libra Coin would potentially allow them to transact online in a currency that is significantly more stable than their home country's currency and it would allow them to at least partially insure themselves against their home country's misguided fiscal and monetary policies. It would also allow millions more businesses to participate in the global digital economy.

Most world commerce in international trade is conducted using single currencies such as the U.S. dollar and the Euro, and for businesses, it is costly and challenging to deal with the fluctuations of their home currency to the transactional currency. Even very large firms such as Airbus Industries struggle with currency fluctuations (airplane sales are usually settled in U.S. dollars). As a mix of multiple large currencies, Libra Coin would be close to a true world currency (akin to the IMF's Special Drawing Rights which are, however, only accessible to central banks and which are explicitly not money), and its proliferation could revolutionize world trade.

In trying to assess whether Libra could succeed, it is critical to study the possible acceptance not just in the developed world, where people arguably have less to gain from Libra, but also in the developing world.

## Survey Design

We were interested mainly in responses to two questions:

1. Would you pay for products and services using Facebook-issued money [money issued by a technology company]?
2. As a business, would you accept payments in Facebook-issued money [money issued by a technology company]?

We asked about Facebook-issued money or technology-company isused money rather than specifically about Libra, since the name does not yet enjoy widespread awareness.

We used a randomized controlled trial approach. We randomly assigned half the group to questions and answer options about Facebook-issued money, and the other half of respondents to questions and answer options money issued by a 'technology company'. Data were collected for both options during the same time period.

We also asked a follow-up question for the main concern regarding the usage of Facebook-issued (or tech company-issued) money, and we offered four options:

- Data privacy
- Money won't keep its value

- Don’t like Facebook [technology companies]
- Only governments should issue money

After asking for personal usage preferences, we asked people whether they are business owners and, if so, we asked whether they would accept Facebook-/Technology Company-issued money. If their response was negative, we offered the following four options as concerns

- Money won’t keep its value
- Don’t like Facebook [technology companies]
- Only governments should issue money
- Difficulties in converting this money to pay expenses

In addition to demographic information (age and gender), we asked people whether they had a bank account, whether they would use other cryptocurrencies to pay for products and services, and whether they prefer to pay with cash, debit or credit cards, or mobile wallets/money (the latter is a common means of payment in Asia and large parts of Africa). We also asked whether they had a Facebook, WhatsApp, or Instagram account. We autodetected sub-regional location within countries. The details for the questions are in Appendix A.

We ran the survey in three countries: India, Nigeria, and the USA. The survey in India started on July 31, 2019, the one in Nigeria and the USA started on August 9. Most responses were collected during the first week.

In order to assess the true likelihood of Libra’s success, we need to hear from respondents representative of the full set of potential adopters: anyone on the Web. We therefore used RIWI’s Random Domain Intercept Technology (RDIT) that engages respondents randomly from the Web-using population in any country. Unlike traditional survey approaches, anyone on the Web has an equal chance of being exposed to the questions. We chose this approach because it exposes survey questions to a much wider set of Web users than do other methods. RIWI “intercepts” Web users who have entered the name of a site that does not exist or has expired and invites them to complete the survey. Algorithms ensure the online population parameter is statistically representative of Web usage in each country. A geo-targeted language-appropriate survey is then offered for no incentives that clearly identifies this is a safe, secure survey with full anonymity.

The method produces a sample that is highly representative of the online population. RDIT™ generates a study sample that closely approximates Web users at large because the interception method – entering non-existent site names – is common. An analysis compared the geographic distribution, Internet service providers, and Web use characteristics (e.g. number of sites visited) of RDIT™-generated samples to Web users nationally in the United States, and found that the two samples were nearly identical on every measure with correlations between .915 and .997.[1]

To ensure responses are valid and unique, RIWI also monitors IP addresses to avoid duplicate responses and uses proprietary code to prevent automated entries by "bots". RIWI also uses machine learning to ensure that no fraudulent domains are used for survey landing pages in any country of interest (i.e., domains that do not 'click through' to reach actual Web users).

Using this approach, our data resulted in widespread coverage, including a large share of those excluded in typical surveys, such as those under age 35 (74% of respondents, 10,875 respondents), and those without a bank account (41% of respondents, 5,414 respondents). Since we are interested in data representative of the Web-using population, we do not weight these data to general population characteristics.

We also ask respondents about the last time they answered a survey in order to ensure we are not hearing from only a narrow respondent base that might not reflect widespread opinion. We find that the majority of respondents have not answered a survey ever (50%) or in the past month (17%). In Nigeria, 64% of respondents have not answered a survey in the past month, India 70%, and the U.S. 58%.

Overall, 10,875 people started the survey (7,082 in India, 2,701 in Nigeria, 1,092 in the USA), and 5,068 answered all questions (completion rates are 43% for India, 44% in Nigeria, and 76% in the USA). RIWI does not incentivize participants for data quality and data privacy reasons, since incentives require collection of personal data, such as email addresses, for rewards. As a result, respondents were able to easily drop off during the survey. RIWI collected these data anonymously, and did not collect any personally identifiable information such as names or

[1] Roder-DeWan S, Gage AD, Hirschhorn LR, Twum-Danso NAY, Liljestrand J, Asante-Shongwe K, et al. (2019) Expectations of healthcare quality: A cross-sectional study of internet users in 12 low- and middle-income countries. PLoS Med 16(8): e1002879. https://doi.org/10.1371/journal.pmed.1002879.

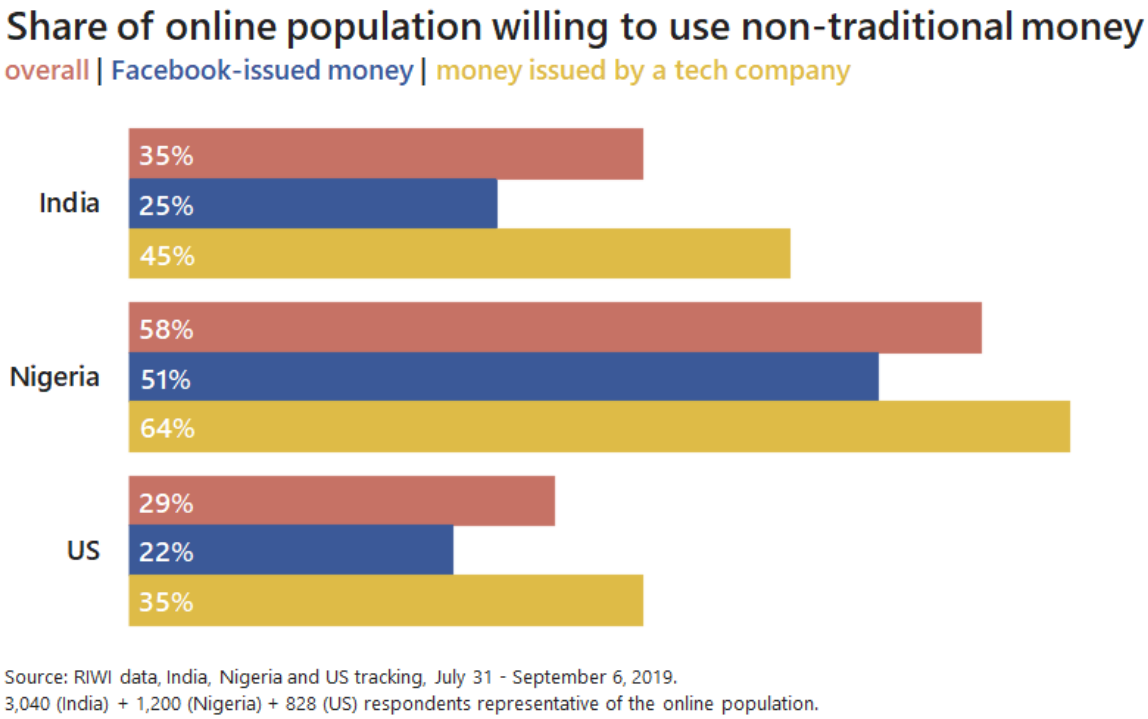
contact information. This was done a) to maximize the chance of respondents answering truthfully thereby improving data quality, b) encourage the widest possible respondent pool and c) guarantee respondent safety and d) eliminate privacy risk.

# Survey Outcomes

## Individuals

We will present results here only for those who completed the survey; the statistics look similar if we allow for partially completed surveys. We begin with some summary statistics for our headline question, the willingness to use non-traditional money. About 22-24% of respondents in all countries indicated that they do not have enough information to make a decision.

*Chart 1: Share that is willing to use non-traditional money*




Source: RIWI data, India, Nigeria and US tracking, July 31 - September 6, 2019.
3,040 (India) + 1,200 (Nigeria) + 828 (US) respondents representative of the online population.

Notably, people in Nigeria are most willing to use non-traditional money, people in the US are least willing, which shows why it is important to run surveys that differentiate by geography. There are many possible reasons for the difference. For the past year, Facebook saw a public strong backlash over its handling of customer data, and people in Nigeria may have just not been as engaged in the same discussion. People in the US are also used to legacy payments technology -- in many cases, retail businesses and hospitality services still require signatures for credit card payments, and cash is still widely used. Nigeria, on the other hand, is one of the countries in Africa that has seen the proliferation of mobile money from firms such as M-PESA. Similarly, India has seen a surge in the usage of mobile wallets and new payment options from

firms such as PayTM following the 2016 demonetization. Users that see the benefits that these new options bring may be more open to further innovations.

There are also possible differences by gender. In our sample and the online population more generally, women are under-represented. Their share of responses account for 23% (India) to 45% (U.S.) of the total. Women are also generally less likely to be willing to use non-traditional money. However, the difference between their willingness to use Facebook-issued money vs technology company-issued money is much less pronounced than for the men, as the last two columns in the following table show.

*Table 1: Women versus men willingness to adopt non-traditional money*

| | Women (%) | | | | Men (%) | | | |
|---|---|---|---|---|---|---|---|---|
| Accept Facebook-issued money | All | India | Nigeria | US | All | India | Nigeria | US |
| Total | 37 | 33 | 56 | 26 | 40 | 35 | 58 | 31 |
| Facebook | 30 | 26 | 52 | 18 | 31 | 25 | 50 | 25 |
| Tech company | 43 | 41 | 58 | 32 | 50 | 46 | 67 | 38 |

Source: RIWI data.

These observed differences in responses by countries are not due to the age distribution because the Nigerian age distribution looks similar to that in India and the differences in a positive attitude towards non-traditional money is similar. For those under age 35, the willingness of Indian respondents to accept non-traditional money is similar to the U.S., but in the US those over 34 years of age are much less likely to use non-traditional money than in India.

Probably the most striking observation is people's reservations towards money issued by Facebook relative to a generic tech company. In a separate regression analysis, in which we control for a number of characteristics, we assess that, when presented with the choice of

Facebook- vs. tech company-issued money, they are 27% less likely to be willing to use the former. Put differently, people do not seem to trust Facebook very much.

We asked people about their most common concerns, and we offer four choices: “data privacy”, “Don't like Facebook”, “Money will not keep its value”, and “only governments should issue money”. Table 2 lists the percentages of responses. The most common concerns are data privacy and a dislike of Facebook/tech companies, though the dislike is much less pronounced in Nigeria.

*Table 2: Concerns about using non-traditional money*

| Concerns voiced by users | All (%) | India (%) | Nigeria (%) | US (%) |
|---|---|---|---|---|
| Data privacy | 37 | 32 | 46 | 41 |
| Don't like Facebook | 29 | 36 | 13 | 28 |
| Money value | 17 | 15 | 22 | 18 |
| Government only | 17 | 18 | 19 | 12 |

Source: RIWI data.

In Table 2b, we break up the concerns by whether or not people were asked about Facebook-issued money vs. tech company-issued money. Here we see that the dislike answer is strongly linked to the mentioning of Facebook.

*Table 2b: Concerns about using non-traditional money*

| Concerns voiced by users | Facebook-money (%) | Tech firm-money (%) |
|---|---|---|
| Data privacy | 34 | 40 |
| Don't like Facebook | 38 | 20 |
| Money won't keep value | 14 | 20 |
| Government should issue money | 15 | 20 |

Source: RIWI data.

We asked respondents a number of other questions, namely, whether they preferred to pay in cash vs. credit/debit cards, whether they had a Facebook/Instagram/WhatsApp account, whether they had a bank account, and we asked them about their age. These features do affect people's responses, as Table 3 illustrates.

*Table 3: Other Demographic Features*

| Use Facebook-issued money | Facebook users (%) | Not Facebook users (%) | Bank account (%) | No bank account (%) | Cash preferred (%) | Non-cash (%) | Under 35 (%) | 35 and older (%) |
|---|---|---|---|---|---|---|---|---|
| Total | 48 | 24 | 47 | 28 | 34 | 45 | 41 | 36 |
| Facebook | 38 | 20 | 36 | 24 | 26 | 37 | 32 | 28 |
| Tech company | 58 | 29 | 58 | 34 | 42 | 55 | 50 | 43 |

Source: RIWI data.

Namely, Facebook users are much more willing to try non-traditional money, as are people who hold a bank account and who prefer other means of payment than cash. Still, a quarter of people without a bank account are willing to try this type of currency. Young people, too, are

more open to using non-traditional money. In all cases, however, users are much more open to use non-traditional money that was issued by a tech-firm, the mentioning of Facebook made people far less willing.

We also find that the half of our respondents who say they have never answered a survey before are much less open to adoption of non-traditional money than those who have answered a survey in the past day or week. Without these data from non-typical survey takers, we might incorrectly assume much more openness to non-traditional money adoption than actually exists.

*Table 4: Willingness to adopt non-traditional money, by survey taking habits*

| Survey taking habits | Willing to use (%) | Facebook (%) | Tech company (% |
|---|---|---|---|
| Habitual | 54 | 47 | 60 |
| Casual | 43 | 30 | 55 |
| Never | 28 | 21 | 37 |

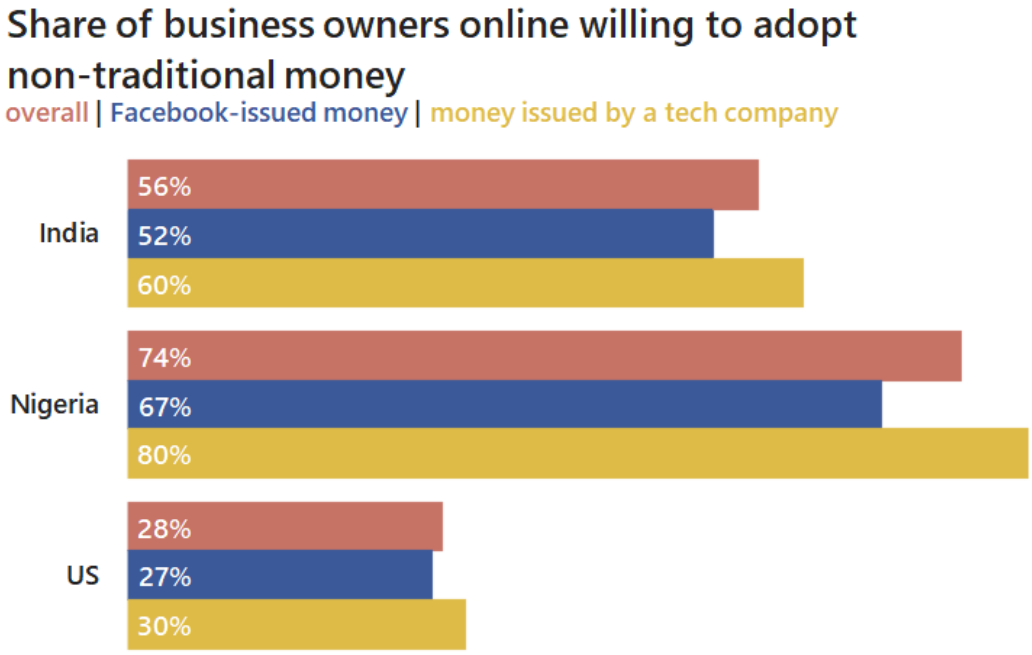
Source: RIWI data.

*Habitual* survey takers have answered a survey in the past month, *casual* answered over a month ago, and *never* say they have never answered a survey.

## Business Owners

Of all respondents, a little over 20% identified as business owners (21% for India, 29% for Nigeria, and 26% for the USA). When asked about whether or not they'd accept Facebook-issued money, 15% in India, 19% in Nigeria, and 27% in the US indicated that they needed more information. The following table indicates the business owners' willingness to accept Facebook-issued money as payment.

*Chart 2: Business owners' willingness to adopt non-traditional money*




Source: RIWI data, India, Nigeria and US tracking, July 31 - September 6, 2019.
657 (India) + 370 (Nigeria) + 212 (US) respondents representative of the online population.

We also asked business owners about their major concern regarding non-traditional money; instead of concerns about privacy, here we offered the option to express concerns about being able to convert the money back so as to pay for expenses. Response summaries are in Table 5:

*Table 5: Concerns about accepting non-traditional money*

| Concerns voiced by businesses | All (%) | India (%) | Nigeria (%) | US (%) |
|---|---|---|---|---|
| Converting pay to expenses | 28 | 26 | 30 | 30 |
| Don't like Facebook | 24 | 28 | 15 | 31 |
| Money won't keep value | 26 | 21 | 36 | 21 |
| Government only | 22 | 26 | 19 | 19 |

Source: RIWI data.

The distribution of concerns is relatively even across the categories, though we note that the dislike for Facebook is much lower in Nigeria.

If we break up responses by the type of money that we mention to responses we note that there is very little variation between Facebook- and tech-firm-issued money.

*Table 5b: Concerns about accepting non-traditional money*

| Concerns voiced by businesses | Facebook-money (%) | Tech firm-money (%) |
|---|---|---|
| Converting pay to expenses | 29 | 28 |
| Don't like Facebook | 28 | 21 |
| Money won’t keep value | 24 | 27 |
| Government only | 19 | 25 |

Source: RIWI data.

## Regression Analysis

In addition to the above summary statistics, we also performed formal regression analysis; the objective here is to determine whether, conditional on a certain personal feature, someone is more of less willing to use non-traditional money. For this assessment we ran a standard Logit model on a dummy for the willingness to use non-traditional money, using the following dummy variables as explanatory variables: *has bank account, younger than 35 years, male, prefers cash, has Facebook/Instagram/WhatsApp account, offered "Facebook-issued"* (as opposed to technology company issued), *has used other cryptos, India, US.* We present the results for the marginal effects, evaluated at the average in the table below; z-statistics are in parentheses.

*Table 6: Logit regression for the variables of interest*

| Variables | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| Has bank account | 0.08*** | 0.17*** | | | | | | |
| | (4.468) | (11.911) | | | | | | |
| Younger than 35 years | 0.02 | | 0.02 | | | | | |
| | (0.988) | | (1.026) | | | | | |
| Male | 0.03* | | | 0.03* | | | | |
| | (1.741) | | | (1.932) | | | | |
| Prefers cash | -0.05*** | | | | -0.11*** | | | |
| | (-3.328) | | | | (-7.886) | | | |
| Has Facebook account | 0.12*** | | | | | 0.22*** | | |
| | (6.588) | | | | | (13.990) | | |
| "Facebook-issued" | -0.20*** | | | | | | -0.18*** | |
| | (-12.786) | | | | | | (-12.619) | |
| Has used other cryptos | 0.38*** | | | | | | | 0.40*** |
| | (22.400) | | | | | | | (24.726) |
| India | -0.11*** | -0.20*** | -0.22*** | -0.22*** | -0.21*** | -0.17*** | -0.23*** | -0.14*** |
| | (-5.757) | (-11.994) | (-13.223) | (-13.342) | (-12.393) | (-10.066) | (-13.390) | (-7.714) |
| US | -0.19*** | -0.27*** | -0.28*** | -0.28*** | -0.30*** | -0.23*** | -0.30*** | -0.22*** |
| | (-7.208) | (-11.783) | (-12.097) | (-12.345) | (-12.994) | (-9.867) | (-12.872) | (-9.081) |
| Constant | -0.20*** | -0.05*** | 0.06*** | 0.02 | 0.13*** | -0.11*** | 0.16*** | -0.12*** |
| | (-4.768) | (-2.719) | (3.053) | (0.646) | (7.891) | (-5.648) | (10.012) | (-7.179) |
| Observations | 5,068 | 5,068 | 5,068 | 5,068 | 5,068 | 5,068 | 5,068 | 5,068 |

Source: RIWI data, authors' calculations.

The results from regression support our earlier findings:

- People who have no bank account or prefer cash are less likely to use non-traditional money;
- Age plays no statistically meaningful role, and the difference by gender is of low significance;
- Facebook users are more likely to use non-traditional money;

- Users who have used other cryptocurrencies before are more willing to try non-traditional money;
- And people who were asked about money issued by a generic technology company were much more likely to use such money relative to those who were asked about Facebook-issued money.

We then further investigated whether there was a difference in how the different types of types of users react to Facebook-issued vs. generic technology-company-issued money. For this, we estimated

$$1_{use\ Libra} = \alpha + \beta_1 \times 1_{facebook} + \beta_2 \times 1_{DV} + \beta_3 \times 1_{facebook} \times 1_{DV} + controls_i + \varepsilon_i$$

where $1_{use\ Libra}$ is a dummy that is 1 if the respondent is willing to use Libra; $1_{Facebook}$ is a dummy that is 1 if the user was asked about Facebook-issued money; $1_{DV}$ is a dummy that represents the above set of variables (e.g., whether someone is male). Our variable of interest is the estimate for the interaction term $\beta_3$ which captures the marginal effect of, for instance, a male, being asked about Facebook-issued money relative to a female who is asked the same question. Table 7 contains our estimation results where we only display the estimate for the interaction terms.

*Table 7: Marginal Effect of being asked about Facebook-issued money*

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| Has bank account | -0.10*** | | | | | |
| | (-3.205) | | | | | |
| Younger than 35 years | | -0.02 | | | | |
| | | (-0.556) | | | | |
| Male | | | -0.07** | | | |
| | | | (-2.122) | | | |
| Prefers cash | | | | -0.00 | | |
| | | | | (-0.027) | | |
| Has Facebook/Instagram account | | | | | -0.07** | |
| | | | | | (-2.189) | |
| Has used other cryptos | | | | | | -0.02 |
| | | | | | | (-0.725) |

Source: RIWI data, authors' calculations.

## Conclusions

The Libra project hinges on the widespread adoption of the digital currency, especially among young people in emerging markets. These data suggest that there is a large group of those open to adoption, but also an equally large group of those who are not open. There is much more openness in Nigeria than in the U.S., suggesting an important market for adoption in Africa. However, mentioning Facebook meant 15-20 percent fewer respondents were willing to use the money.

Future research should and could examine, using the same approach and using these as benchmark data, how quickly momentum is building towards Libra or other digital currencies, as well as other financial technologies.

# Appendix A: Survey questions

Q0 - What is your preferred way of paying for everyday purchases?
Cash
Debit card
Credit card
Mobile payments / Mobile wallets

Q1 - Would you pay for products and services using Facebook-issued money/using money issued by a technology company? (each option randomly assigned to half the respondents)
Yes
I would consider it
No
I don't have enough information
If yes, would consider, or no to Q1: Q1a - What would be your main concern about using Facebook-issued money (or money issued by a technology company)? (each option randomly assigned to half the respondents)
I worry about privacy of my personal dataI worry the money wouldn't keep its value
I don’t like Facebook/technology companies
Only the government should issue money

Q2 - Do you own or run a business?
No
Yes, I have less than 10 employees
Yes, I have 10-49 employees
Yes, I have 59-249 employees
Yes, I have 250+ employees

If yes to Q2: Q2a - As a business, would you accept payments in Facebook-issued money/ money issued by a technology company? (each option randomly assigned to half the respondents)
Yes
I would consider it
No
I don't have enough information

If yes, would consider, or no to Q2a: Q3 - As a business, what would be your main concern in accepting Facebook-issued money (or technology issued money)? (each option randomly assigned to half the respondents)
I worry the money won’t keep its value
I don’t like Facebook/technology companies
Only the government should issue money
Difficulty converting to pay expenses/employees

Q4 - Would you use other cryptocurrencies to pay for products and services?

Yes, I have already used other cryptocurrencies
Yes, I would consider it
No
I don’t have enough information

Q5 - Do you have a bank account?
Yes
No

Q6 - Do you currently have an account with Facebook, Whatsapp, and/or Instagram?
Yes
No

Q7 - Prior to this survey, when was the last time you answered survey questions?
Past day
Past week
Past month
Over a month ago
Never

## About the authors

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