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DOLLAR & SENSE: Could China's digital payment system be a model around the world?

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(MUSIC)

DOLLAR: Hi, I'm David Dollar, host of the Brookings trade podcast, "Dollar and Sense." Today my guest is Aaron Klein, a fellow in the Economic Studies Program here, policy director of the Center on Regulation and Markets. Aaron recently published a study called "China's Payment System: Revolution, Evolution, or Passing Fad?" So we're going to talk about that study, but also the larger issue of fintech, financial technology.

So welcome to the show, Aaron.

KLEIN: David, thank you very much. It's a pleasure to be here.

DOLLAR: So let's just start with the basics. What is this revolution in fintech in China?

KLEIN: So China has completely leapfrogged our card-based system that's prevalent in the U.S. and, frankly, most of the developed world in which we all carry around these square plastic cards that we insert into some sort of reading device that links primarily to a bank account, whether it's a debit account or a credit card, line of credit from a bank, and processes a payment.

China's system is based on digital wallets and QR codes, those kind of very large barcodes. And in the Chinese system you put money from your bank account into a digital wallet. There are two major providers. For China experts, WeChat and Alibaba/Alipay are common terms. They each have over a billion users.

But for those folks who don't know, it's kind of like Chinese Facebook and Chinese Amazon. So they connect to your bank account and you can upload funds there or use funds you've received, kind of like a PayPal account, but the money sits in these digital wallets. And when you go to buy something you either through their app scan their code or you show your code and they scan you. And this is how all retail payments are done for the most part. Nobody uses magnetic-stripped cards. They kind of look at you crazy. They do still use cash, but that is very much on the decline and its prevalence is breathtaking.

DOLLAR: So one interesting thing is those two big companies you mentioned, WeChat and Alibaba, these are private companies. And one idea around China that you hear is that this leapfrogging you describe is partly the result of the state-owned banking system being rather inefficient, not developing a lot of innovation, so then these two private companies, which are not banks, come in and develop this new system.

KLEIN: So it's very interesting, the banks were trying to duplicate what they did in the West. They all got together and formed this thing called UnionPay, which was kind of their version of Mastercard. A lot of people when they think of their credit card, they think, oh, I have a Mastercard, a Visa, or an American Express. Right? Mastercard is a collection of banks and Visa's a technology platform. What you really have is a card from JPMorgan Chase or Capital One or Citibank. Right? American Express is different. American Express actually is a bank in a closed loop system. But China's UnionPay was kind of an attempt to replicate, roughly speaking, Mastercard and all the banks would issue these cards.

It was not the government that said this system is inefficient and costly and provide subsidies, et cetera. It was actually the merchants. The Chinese merchants, by and large, balked at buying an expensive point-of-sale terminal reader, paying fees to the processor of those little terminals, the biggest one being Verifone in the U.S., but if you think of Square, whatever those terminals, they didn't want to pay those fees. They didn't want to pay fees to their bank to process the payment, to the person's bank to process the payment.

And so in a country where you have 7 billion debit cards, you have about 30 million credit card readers. I mean, think about that. Think about in your daily life how many credit card readers you see at the supermarket, when you're in a taxi, when you're checking out anywhere. Right? You see thousands of these at gas station pumps.

DOLLAR: Right, you can go to a craft fair, each booth at the craft fair has their own credit card

reader, right?

KLEIN: Right, exactly. There are hundreds of millions of these in the U.S. And in China, the merchants refuse to adopt them, largely because they didn't want to pay the fees. And that created an opportunity with Alipay and WeChat actually evolved in very different methods into creating these digital wallets.

Alipay's method was more like PayPal or eBay, the old eBay PayPal system, which was they wanted to do online transactions and online transactions can't be done in cash, and they had to solve for that. And when they solved for that, they realized that if you pre-funded these accounts, you could create an incentive for the merchant to keep the money in the ecosystem.

That is, if you think about Amazon for a second, when I buy something on Amazon, right, the banks take a slice of that fee between when I get it to Amazon and then when Amazon sends it to the merchant. And then when the merchant goes and takes that money and then buys supplies to build the next thing, there's a series of fees going on and on and on.

Instead, if you keep the money in the Taobao, Alipay, Alibaba ecosystem, the money moves from digital wallet to digital wallet to digital wallet with almost no fees. The fees are only when you downstream the money out of your digital wallet back into your bank account, which creates an incentive not to do that, but rather to continue to purchase within their platform.

And then they realized beyond that they now have data on different suppliers and they can create more incentives/offer you what you want by elevating where you are on the platform. And over time, through purchasing Ant Financial, Alipay now has a global bank. They can now provide alternative financial services in which the fees are basically kept within the ecosystem if you want to invest in a mutual fund, if you want to buy stocks, all these other services.

The WeChat story is a little different. It's more analogous to Facebook and it's more analogous to person-to-person payments, like we think kind of a Venmo or a PayPal. In the U.S. there are plenty of

examples of person-to-person payments, but rarely as gifts. For whatever reason, socially and culturally giving cash is not as common in the United States.

In China, particularly for Chinese New Year, it is very common to give red packets, or red envelopes as their called, as cash exchanges. And so what WeChat did was they launched a digital way to do this, which was particularly helpful within the country to ignore postage and writing checks or sending cash in the mail. And this seeded a whole series of accounts. It brought people on to link their account in the first place of the older generation and then brought a bunch of money into the younger generation.

So imagine if every grandparent, great aunt and uncle, et cetera, rather than send a check to their niece, grandchild, cousin at their birthday, electronically sent money from one Facebook wallet to another Facebook wallet or from one WeChat account to another. Then all these kids have money. Right? Then the toy store, the baseball card store, the bike store, the record store, right, wherever teenagers spend money is going to set up these digital wallets to collect those funds all through the shopping malls, et cetera. and then this kind of creates that ecosystem, again, where the money stays in the ecosystem and moves without fee. It's a fee when you bring it back down to your bank account.

DOLLAR: So one of the important points in your study is that this system has led to what we call more financial inclusion. So can you talk a little bit about that?

KLEIN: Absolutely. The system is shockingly easy to use and it's not only just for people with smartphones. The immediate problem people think about is that works great if you have a phone. So I'll give you two stories.

One is I was exploring some of the castles and the temples when I was out there doing research and took a moment to do a little bit of tourism. And you get to the top of one of these great shrines where you have to climb up the hill, it's hot, there's a little vendor with a cart with soft drinks and water, and you go there. And what's on top of that cart? A printed out piece of paper with two QR codes: one

for AliChat and one for WePay.

That person doesn't necessarily have a phone. That person doesn't have a scanner. That person doesn't need a little card-swiping device with a radio signal. You just pull out your phone and you pay and then that cart person now has those funds, and he can use that same printed out piece of paper when he goes to the store in town to buy the wholesale version of the drinks that he then carts up to the top of the Great Wall of China.

The second story is a beggar on the street. We're all used to seeing beggars with tin cups. This system is so pervasive in China that they don't have tin cups. They have sheets of paper with QR codes. And, again, you see the QR code, you want to donate to the beggar, you scan with your phone, it goes into their digital wallet. They need to go and buy food or buy clothing, they bring that piece of paper and the merchant scans it there. And all that person has to do is go into a library or wherever they can access once to create an account and they then have a digital wallet with no fees, no maintenance costs, no minimum amount.

DOLLAR: Right. So just to be clear, they don't have to have a bank account.

KLEIN: Nope.

DOLLAR: They don't have to have a cellphone. They just need to register and then print out their QR code and then people can pay them through that, right?

KLEIN: Absolutely. You just need a piece of paper and you're connected to the entire digital economy in all directions.

DOLLAR: Hmm, that's amazing.

KLEIN: It really is stunning. And it also helps explain why in a country with 7 billion debit cards, they don't need the readers. They just need the access to the digital wallet to upstream and downstream funds.

DOLLAR: So since this is the trade podcast can I ask how does this relate to international trade

and payments?

KLEIN: So in order to have international trade, you have to have settlement. We can trade goods and services, but ultimately we need to trade money or else none of the rest of the system works. I think there are two kind of core elements to understand.

The first is we have an unconscious assumption that our payment system on a retail and tourist and merchant basis is globally accepted. When you go to anywhere in the world, you're using your card. One upon a time you went and bought this thing called traveler's checks, which was a financial intermediation which some of your listeners on the podcast remember, some of your listeners have heard about, and other of your listeners are probably saying what's that? Those were very expensive and convoluted forms of payment.

Nowadays we assume that these types of card readers will work. I think people are going to find a couple big elements on this on trade.

One is tourism, which is a large part of trade, particularly one of America's great competitive exports. When you think about trade, you may not think about Disney World or Las Vegas, but those are major components of U.S. trade and services when foreign nationals come and enjoy that tourism. That counts as an export. And so those places are going to start putting Alipay signs and there are going to be barcodes at readers. And you're going to see terminals as American consumers and you're going to see Chinese foreign visitors using phones and scanners and scanning these types of QR codes for payments at cash registers. So that's one.

And we've already seen that at the event we did with the paper release. Frank Tuscano, who manages Royal Caribbean International's China Technology Center, talked about how their fleet of boats is incorporating this payment system. So Americans are going to start to see this. They may not fully appreciate it.

Two is other countries in the world are going to adopt this. Europe has already started to adopt

17 different digital wallet providers and they're trying to create commonality with the Chinese QR system. These QR codes, you can make an infinite number of them, but you have to have some agreement to commonality to not have duplication. And so just like America's magnetic-stripped card system became the backbone for global commerce and tourism, China's developing an alternative system and that system has the capability and many advantages to our current system, and the capability to supplant it.

In terms of business-to-business trade, I don't think it's going to be quite as big a deal. I think this is much more about commercial tourism, it's much more about services to individuals overseas. It's less wholesale trade. But I do think that this is going to find a place in the international payment system. And if you're running a global business, catering to global customers, and China is part of that, you're going to have QR codes and you're going to have to think about a potential Alipay or WeChat wallet and then how you link that and downstream those funds, which is not necessarily easy if you're outside of China.

DOLLAR: So just listening to you, Aaron, you're obviously quite excited about these fintech developments, yet, paradoxically, in your study you're somewhat skeptical that the U.S. will really adopt this prepaid digital wallet system; that China's leapfrogged our case-based system, but you're skeptical that the U.S. is going to move in this direction. So can you explain that?

KLEIN: America likes what's in its wallet. Let's segment these different populations by income level. For wealthier Americans the payment system works really well. First of all, we don't pay 100 percent. We get cash back, reward miles, points, 1 to 2 percent of everything we pay on a tax-free basis, which for upper income people would be more like 2 to 3 percent of actual earnings. I mean, somebody who charges \$100,000 a year can be getting 25-, \$3,000 back a year easily in pre-tax income. It's about 3 percent of their annual income. That's almost two weeks' worth of work free as a gift from the payment system.

And that's just the cash back. You also get, if you don't keep a balance on your credit card, like many rich people, you also get 45 to 60 days of grace period to pay your bill whenever you like, a very nice float where you can decide as your payments go up and down and your income varies throughout.

You get a series of consumer rights that are tied to this card, which is ultimately tied to your bank account. We have a very strong consumer lobby, Electronic Funds Transfer Act, which is why you're not worried if your credit card gets stolen that you're going to be on the hook for 20-, \$30,000. You build a credit score and a credit history through timely repayment and purchasing.

None of these features are part of the Chinese system. In fact, they're actually all the reverse because they're low fees, there aren't the ability to provide cash-back incentives; because it's a digital wallet, you have to pre-fund it, money's deducted from it instantaneously in real time. So the system doesn't seem to make much sense if you're a wealthy person, a high spender, good credit card, good credit history in your wallet.

If you're a lower income person -- and, by the way, lower income people use the payment system radically different from upper income people. One of my favorite statistics about America is 1 in 10 swipes at the register is a prepaid card. And think about your own personal transaction history, how often do you use a prepaid card? What you find is lower income people use them a lot, wealthier people use them very rarely.

So within lower income people, they do use prepaid cards a lot more and the prepaid cards have high reloadable fees, fees to check your balance, fees for different things that we think of as being free. That's a market that could be ripe for this type of innovation, but there are a couple of problems.

One is that's not necessarily a deeply profitable market for merchants to cater and adopt to. Yes, merchants would save some in the transaction cost, but then they would have to incur some new sorts of cost to access these funds in a Chinese system or through these alternative digital wallets.

Two, they're have to kind of create new payment mechanisms at the cash register. Right? So

China benefited, paradoxically, by being a generation behind and not having had everybody invest and become used to card readers. Right? Now you'd have to train merchants at your cash register to accept digital wallet type of form. And it doesn't seem to me that the Chinese companies, either of them, are going after this prepaid card market segment, which could be ripe for some type of transformation, but it doesn't seem part of the Chinese companies' strategic goals nor is it necessarily generating enough transactions and data, et cetera, that are profitable. The profits from those are usually part and parcel of the higher fee base.

So I don't see much potential in the U.S. system for any group to lead the change. I could envision a system where the existing credit card processing system is made more efficient through things like wireless contact lists, Apple Pay, QR scans. I could see elements of this Chinese system coming into play, but I don't see the basic banking credit/debit card system in the U.S. being eligible for disruption by us all some day having WeChat or Alipay accounts.

DOLLAR: What about elsewhere? Is there going to be competition between the U.S. card-based system and the Chinese system?

KLEIN: So I do think particularly in the developing world, particularly in Asia, some of the Chinese companies have started looking at neighboring countries. And the backbone for that for merchant adoption will be high levels of Chinese tourism, so if Chinese tourists are going to beaches in Malaysia or tourist towns in Vietnam.

For example, I was in Cancun, which would be U.S.-dominated. I didn't have to change money once in five days. Everybody accepted dollars. They have a system there where there is so much dependence on U.S. tourists that they run a dollar-based economy locally on a transactional basis.

I think you'll find in other countries that backbone will then create an infrastructure system whereby as Chinese folks come and spend money in that country, the merchants get money into these digital wallets, they'll then look to buy and the country may want to lever on that, particularly as people

have WeChat accounts. I'll pay you from this to that. And those countries don't have necessarily as developed a banking system as universal bank accounts, as clear a system. And this system is fast and cheap.

It's not clear what their consumer protection laws and statuses are. That's another advantage the U.S. system has which would delay adoption. Right? I'm confident about losing my physical wallet. What would happen if I lost my digital wallet? In these other countries you can see more ripe transactions. So I do think there'll be competition based on those dimensions elsewhere in more developing countries.

Korea has been more interested in the digital wallet construct. They have a pretty developed banking system, as well, but they've been looking and had some companies that have had a little more advancement there. But that's not necessarily adopting the Chinese system, like I think some of the lower income countries. That's more thinking about moving to an alternative system on their end.

DOLLAR: So recently, Facebook announced the launch of a cryptocurrency, Libra. How does that fit into this fintech revolution?

KLEIN: So I think it's very interesting, and people have not connected as much, Facebook is watching WeChat because there are a lot of similarities between those two. And WeChat has taken over person-to-person payments in China and established an extremely large footprint in person-to-business payments at the cash register. The cash register there is dominated by cash, Alipay, and WeChat.

However, that's a domestic thing. Facebook is thinking globally. They're thinking about person-to-person multinational payments. Right? The Chinese system is based on renminbi primarily, a domestic system. Yes, if you're an international company you can accept payment in China and then your ultimate bank account will have handled the payment processing. Royal Caribbean can accept Chinese payments and end up with dollars. On the other hand, they've had that problem for a long time

and that's part of their business model. It's different on person-to-person.

So Facebook is doing something different and creating their own currency, very different than WeChat this Libra. And the currently is meant not just for Facebook, but for a broader collection of folks in the ecosystem. Visa's one of their partners, Coinbase.

The other thing people have to appreciate in this system is Facebook isn't necessarily going to be the only digital wallet. I mean, Alichat and the Alipay and WeChat pay stories, those companies have your digital wallet. Here they're envisioning more competition about multiple digital wallet providers, just like there are multiple credit card providers, right, Visa, Mastercard, AMEX, Discover, et cetera. And then each one of those has a bank or multiples banks. Right? A Visa can be a JPMorgan, it can be a Citi, et cetera. Here in the Facebook account you could imagine multiple digital wallets, all transacting in Libra to each other.

The value of Libra will be pegged to a basket of currencies, meaning it will float relative to any individual currency. So the dollar to Libra to euro to yen will change over time, which creates another level of difference. Right? It will be far easier to do international transactions because both the sender and the recipient will end in Libra. But the value of that Libra could change relative to the value of your home currency in different directions.

DOLLAR: But probably not that much. Not like the way we see --

KLEIN: Bitcoin.

DOLLAR: Yeah, Bitcoin, which all that's speculation. If it's tied to a basket of currencies, then the fluctuation will be contained, yeah.

KLEIN: So if you think about the U.S. dollar to the euro or the U.S. dollar to the Canadian dollar, these things can fluctuate by 10, 20, 30 percent over a couple years, but not over a couple days. And so people will have confidence in the short term.

That being said, from a transaction standpoint, the way the U.S. Government has treated Bitcoin

is as capital gains and losses. And that transaction can be irrelevant of the magnitude. That is, if Libra's considered an asset, not a currency, for tax purposes, even if my Libra only appreciates 1 percent or 2 percent between when I received it and when I converted it back into dollars, I have to account for that as a capital gain or a capital loss, which creates an accounting burden, which would slow desires for merchant adoption.

If you look at Bitcoin adoption at the cash register, it took a giant hit after the IRS declared that this was a taxable commodity, an asset, not a currency. Nobody has to report on their taxes, oh, you know, I hold a bunch of dollars and the value of the dollar rose 5 percent this year, so I have to pay income tax on that. That's kind of a foreign concept when you even say it. But if you owned a bunch of Bitcoin you'd have to do that.

DOLLAR: Right. So last question, Aaron. Do these financial innovations challenge the primacy of the U.S. dollar as the main reserve currency?

KLEIN: Not as the reserve currency in the sense that central banks and retail, wholesale, commercial action between banks don't involve physical transactions and flows of actual assets and currency so much. Right? We have assets called Eurodollar futures, which are kind of almost ephemeral concepts, but are trillion-dollar markets.

However, a different way to think of the dollar is the world reserve currency for usage. That is, if you're anywhere in the world and you have physical dollars, there's some belief that that's the best physical piece of paper you could have. And that is tied, I believe, to the notion that it is the world reserve currency. It's also tied to the primacy of America.

It's also tied to the ease to transact in dollars. Right? That's also an element that I'm confident -- when you think about what you need in a payment system, it's I'm confident that if I received your payment, I can then use your payment. Any degradation in that confidence makes me less interested in receiving your payment.

One of the many problems China, I think, faces structurally in making the yuan a global currency is some of these concerns about receiving the currency and then what do I do with it? How do I exchange? How do I use it? In terms of the euro, you have a lot of confidence in that.

To the extent that the ability to use yuan has been greatly expanded by this incredibly simple digital wallet system with broad adoption, it increases on the margin the ability of the renminbi to fulfill some of the roles of a global world reserve currency. And in that way I think it is a small step forward in challenging the dollar. I don't think it by itself has any measurable impact on the dollar's standing within the world.

But if you turn the question a little bit like a Rubik's cube and you ask yourself what are the necessary preconditions for an alternative currency to challenge them, a globally accepted, easy-to-use payment system on a commercial basis is probably one of them. And before this, China didn't really have it.

I was very much surprised, and I'd be interested in your thoughts on this, how prevalent these cash-counting machines were in China and how low denomination the highest denomination note was. You go anywhere and like the highest denomination note is about \$15. And to buy something people just had these big stacks of cash.

DOLLAR: I had to buy a new car about 10 years ago in China and you couldn't use a credit card for this kind of thing. Everything you've been describing didn't exist yet. So I took a suitcase full of 100 yuan notes across the city in a taxicab and paid enormous amounts of cash to buy a brand new Nissan SUV. So, yeah, the system used to be really primitive.

KLEIN: I was going to say, there had to be a roomful of people counting this, right?

DOLLAR: Yeah. There are machines and people who specialize in this, yeah.

KLEIN: I went to a restaurant and went to pay the bill, they just whipped out this cash-counting machine just the way that you're used to a waiter or a server whipping out a Verifone system. And so

that doesn't work, right? You can't be the global world reserve currency if people are schlepping suitcases around to buy things.

DOLLAR: And the largest denomination, as you say, the equivalent of about 15 U.S. dollars.

KLEIN: Right. And so here they've now built an entirely different system and it's based on a different premise, it's based on different rails, it's based on different user functionality. And it's not something I saw Americans fully understanding or appreciating or comparing, and that was the motivation behind this study.

It was actually -- I went, when I was the first time in China, I went to get some handmade clothing. And after I negotiated in a souk full of rows and rows of silks where everybody was shouting at me in a bunch of different languages, they found out I spoke English, they were excited. I think they figured there was probably some good money there, and we broke down about how to pay for it. I'd gone to an ATM beforehand specifically to get cash and she didn't want cash. And I thought to myself what souk in the world doesn't want cash? And when it was explained to me -- and she couldn't take foreign credit cards. That's another thing, there's a foreign-domestic difference of their credit card system.

She wanted my friend who I was with to use his WeChat pay. And I said what is this thing? I hadn't heard about; it was a couple years ago. He said, oh, everybody's doing it. And I said why is that? He goes, well, she probably has a factory where they're making it and she has to remit some of those funds to that factory. And if you give it to her in Alipay, she can send it back to the factory, she can send it to the people that are buying the clothing. All the just-in-time payment structure that this merchant at the store has behind needs a fast and efficient payment system behind it. And giving cash is going to make her life much more complicated. And then it dawned on me the power of this system and the ubiquity of it.

DOLLAR: So we've been talking to Aaron Klein about the new payment system in China and

potential for this kind of fintech change in the United States and elsewhere. If you want to read more, please look at his study, which you can find online on the Brookings website.

So thank you very much, Aaron.

KLEIN: Thank you very much, David. This was a pleasure.

DOLLAR: Thank you all for listening. We'll be releasing new episodes of Dollar & Sense every other week, so if you haven't already, make sure to subscribe on Apple Podcasts or wherever else you get your podcasts, and stay tuned.

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