Webinar Reviews the Year in Payments Transcript

December 20, 2018

Meredith Elmore: Good afternoon, and welcome to the Federal Reserve Bank of Atlanta's *Talk About Payments* webinar, focusing on 2018: Payments in Review. My name is Meredith Elmore, and I am from the Center for Learning and Innovation, and I will be your moderator for today's call. Today, we are joined by David Lott, Doug King, and Jessica Washington from the Federal Reserve Bank of Atlanta.

Before we get started, I do want to cover some logistics on slide 2. If you have not had a chance to join us in the webinar, please click the link provided to you in your webinar invitation and reminder. Please note this call is being recorded, and everyone's phone lines have been muted.

We will be taking your questions today, and you have two options for submitting those: you can email us at rapid@stls.frb.org—again, that email address is rapid@stls.frb.org—or you can click the "Ask Question" button located in the bottom left hand corner of your webinar player.

And before I turn the call over to our presenters, I did want to cover some brief legal information. The views expressed in this presentation are those of the presenters and do not necessarily reflect the views of the Federal Reserve Bank of Atlanta or the Federal Reserve System.

And with all that information out of the way, I'd like to turn the call over to Dave to get us started.

Dave Lott: Thank you very much, Meredith. Welcome, everyone, to our final *Talk About Payments* webinar for 2018, where we're going to be looking at the payments issues for 2018. And thank you again for joining us.

As Meredith indicated, I'm Dave Lott, with the Retail Payments Risk Forum, and I'm joined by two of my colleagues, Jessica Washington and Doug King. With that, let me give a brief commercial for the Retail Payments Risk Forum: we really have a two-fold mission, and that is one of research and education on payment risks issues. Our audience is the entire payments industry, and as you'll see on slide number 4, we've got some links on there, in the presentation that will be posted on our website—we do a weekly blog, *Take On Payments*; the blog this week was in regards to card fraud, based on some data that was just recently made available—and also a link to our website there.

As I said, we have education as a key part of our overall mission: through the blog, white papers that we do, speaking engagements at conferences. We host our own conferences. And then of course, [we have] these webinars.

So with that out of the way, let's move to slide 5, and we'll start. Our first topic is cash.

We've heard a lot of discussion about cash over this year, and what is happening there. Based on research that the Federal Reserve has done, cash is still king. It represents the most frequent form of payment by consumers, based on the Diary of Consumer Payment Choice data from 2016. And as you see on the graphic here on the slide, cash is used by all of the age groups. [It's] more frequently used by the older segments of the population, but is still also used by more than a quarter of the millennial folks as well.

Based on the Diary of Consumer Payment Choice, cash was used for two-thirds of transactions under $10, and almost 40 percent of transactions under $25. So it's still enjoying a lot of favoritism here in the United States. Of course, a key delivery mechanism for cash is ATMs, and they've been in the news—unfortunately, quite a bit this year from different types of attacks being launched against the ATMs. The first one is "jackpotting," where the criminals hack into the ATM's operating system posing as service technicians and they load some malicious malware, viruses, into the machine, where they then come back at a later time, and they can punch a series of keys and the machine will just start spitting cash out until it empties all of its cassettes.

The second form of attack is "cash-outs," where it's not a direct attack on the ATM but the ATM is used as the delivery mechanism for the proceeds of the crime. That's where the criminals hack into the card management system, they produce some counterfeit or cloned cards on just a couple of accounts, and then they go into the card management system on a very carefully synchronized attack and change things such as balance on the account, wipe out daily limit parameters, things of that nature. So then there's this network, often international in scope, that goes out and uses these counterfeit cards to just continually withdraw money from the machine.

And, finally, there's been a trend that originated in Europe and South America in the last five to 10 years, using explosives. We've previously had situations where people tried to steal ATMs by hooking up chains to the back of their car or truck, things of that nature, but now they've resorted to explosives, to—using either dynamite or explosive gases—try to penetrate the outer armor of the ATM without destroying the cassettes.

So the ATMs are under attack, and it's always very sensational news when any of these attacks are successful there.

Doug King: So Dave, before we move on, going back to "cash is still going strong, cash is king"—now, I can't argue with that data that's provided from that 2016 Consumer Payments Study, where cash is the most frequently used form of consumer payment. But I do think cash usage is under attack in several areas, and one of the more prominent areas to me, looking back at 2018, is in the person-to-person, or P2P, space. 2018 really has been the year that we've seen mobile P2P become more commonplace. I know it had been talked about for a while, but consider that 116 million transactions, valued at $32 billion, moved via Zelle during the third quarter—that represented year-over-year growth of 70 percent on dollar volume.

Looking at another big player in this space, Venmo, they moved $17 billion in the third quarter, which represented nearly an 80 percent year-over-year increase. Other apps became more commonplace in 2018: Square Cash, Circle Pay. So the P2P space for these alternatives to cash, I think, is really starting to mature in 2018. And I think the demise of cash as consumers' most frequent form of payment is imminent—though I will still dismiss all the experts out there who say that we're moving to a cashless society. I don't think we'll ever get there.

Jessica Washington: Yes, and I'll jump in there, to look at what's going on around the world. Cash is still the most widely used payment instrument, but people are relying on e-payments, like cards and mobile payments. I would say the vanguard for the war on cash is northern Europe, where using cash actually is quite difficult in many stores—and restaurants, even. The UK has seen probably the most drastic reduction in cash, and Sweden is probably the most intentional "war-on-cash" case study I've seen. But I wanted to point out mobile payments in China, which are more popular than debit and credit cards—Alipay has more than 520 million active users, and in 2017 processed nearly $15½ trillion. And by 2020, that forecast looks to be close to $45 trillion, which would make it a cashless society. It's far from there, yes, but with the way Ant Financial has been investing across the world... They've tried to buy MoneyGram, and they upped their stakes in India's mobile payments instrument, Paytm, up to 40 percent. They've been investing in Korea's mobile payments.

But they're not just investing in payment providers. They're investing in messaging apps in some countries, and also e-commerce platforms in some countries. So there are definitely many movements towards continuing that war on cash.

Lott: Yes, there's no question about that. Certainly we've seen here in the U.S. certain lines of business that used to be solely cash, such as vending machines and parking meters—things of that nature—[that are] now are accepting cards and other forms of cash. But you can't argue that cash is the fastest method of payment—it's immediate. So that leads us into our next topic of discussion, on slide number 6. Jessica, let's talk about "fast-er" payments a little bit.

Washington: Yes, I'd be glad to; one of my favorite subjects, actually—the revolutions in clearing and settlement. First, to look to the regulations that have kind of pushed us along to where we are. Across the globe, there have been many regulations moving towards an open banking environment, which has an explicit goal of increasing innovation and competition in payments—so things like the PSD2 in Europe, there were amendments to Japan's Banking Act, and also Australia's Review Into Open Banking. And here in the United States [is] the Federal Reserve's payment system improvement project, which I'll talk more about.

Other areas across the globe, where we've seen real-time payments, is in the UK, [with] their Faster Payments System; Australia's new payments platform; India's Immediate Payment Services; to name a few. Here in the United States, I'm calling out same-day ACH and real-time payments. So, arguably, same-day ACH is not "real time." However, it is faster nonetheless. And you might be on the team who says that clearing of information can be fast and instant, but settlement doesn't necessarily need to be. And where ACH predominates all value, as far as settlement goes, with noncash payments in the United States, it's important to mention.

So, let's talk about same-day ACH in a little bit more detail. There were some new rules this year that have expanded the use case for same-day. Now we can allow—or not quite yet, we have been approved to allow—for an extension of an additional two hours per day to process same-day ACH, and that would be effective in September 2020, contingent upon the Federal Reserve's public register comment period, which I think comes up in June of next year.

And then, in March 2020, the per-transaction dollar limit will increase to $100,000, and that's from $25,000.

As far as volume goes, same-day ACH grew 192 percent over the same period last year. That period was the third quarter, and then that was just when same-day debits were introduced.

So we're still looking to see some good information from this year's end, as far as same-day volume. In total, for the third quarter, we hit 43.2 million same-day items, and that's compared to an overall 5.6 billion ACH payments. So there's definitely some usage going on with same-day.

As far as real-time payments go, introduced by the Clearinghouse just over a year ago—this is a 24/7, 365, real-time clearing and settlement. Extensive messaging and data handling features go along with real-time payments. They currently have eight banks able to process, which account for 25 percent of U.S. transaction accounts, and they're working on 14 banks by year end.

Jack Henry and FIS are expected to go live with their interface for real-time payments near the second half of 2019, so that means other financial institutions and other customers will be able to join.

Now I need to mention that the work of the Federal Reserve's payment system improvement project, which led to the Faster Payments Task Force, has now launched the U.S. Faster Payments Council as a new payments organization. They have the mission to drive emerging faster-payments infrastructure towards ubiquity. It is a fee-based system, and it's open to all stakeholders.

And just to finalize this conversation on faster payments: we can look for some response to the request for comment that closed last week, on the 14th of December, where the Fed was proposing some options for delivering some business solutions to lead to real-time payments ubiquity.

King: Let's not close the conversation just yet, Jessica—and Dave, this is open for you as well, if you want to chime in—but same-day ACH has been in place now for several years, and the growth, the volume that we're seeing, and the growth in that volume, is pretty outstanding: 192 percent is what I think you referenced, Jessica. However, real-time payments has yet to really see any meaningful volume yet.

So putting on your forward-looking glasses—this is always a challenging exercise, I know—now, what impacts do you think real-time payments will have on the different payment instruments—be it cash, be it credit, be it debit? And then, do you think the impact will be greater for consumers, or for business incorporates, when you're talking about real-time payments?

Washington: Well, it's fun to make guesses, right? So, all the faster payments solutions, whether it be same-day ACH or across the globe, are really driven by competition authorities who see real-time payments as a way of stimulating that competition. And so when payment service providers can launch innovative products through overlay services on these faster payments solutions, then those overlay services will come to market and consumer and business demand will pick up, and that will have an implication for those other payments, those legacy payments. However, one legacy system is ACH, so they're actually moving themselves forward. And where they are, the settlement for many of those overlay services—I think that's good news for same-day ACH.

One thing I'll say is businesses are really going to be mostly impacted, as far as I can see. Consumers don't care about payments, in my opinion. They care about convenience, number one, and they want goods and services. So they will find a way to pay, and if convenience is there, then great. Businesses aren't going to make investments in payments if there are dead ends to those payments solutions. So for me, any winning solution, or any horse that's going to pull ahead in this race, really needs

to figure out how to deliver those payments no matter what. So to me, there has to be that straight-through processing mentality for these solutions, and then competition will play out and consumer demand will have an impact as well.

Lott: I would just very quickly add—it's just funny how things come around in a full circle. I've been in banking a long, long time, and I remember back when debit cards were first introduced, and consumers...how they were concerned that they were losing the "float" that they used to have on checks. So if you're receiving the funds, real-time is great. If you're paying the funds, especially from the consumer's side, it's going to be interesting to see how that's adopted.

King: And float really hadn't been an issue over the last 10 years, but it'll be interesting to see where we're headed, if float all of a sudden becomes something that people are interested in now.

Lott: Right. So let's jump to the next topic, Doug, talking about how all of these changes in the payments world might be affecting the retail side.

King: Certainly. So on to slide 7. Jessica provided a great segue, talking about convenience, because I think the changing retail landscape that we really saw take off in 2018 is all about convenience.

So over the last few years, the conversation that I've been hearing around retail has been about the death of brick and mortar. And then when talking about retail payments, the conversation has been dominated by EMV and mobile. [There is] no doubt that online shopping offers convenience that is often lacking with traditional brick and mortar. And to date, when talking about mobile and a mobile-payments perspective, mobile payments at the point of sale has really done nothing, in my opinion, to alter that reality of convenience.

Hence, we're beginning to see a makeover in brick-and-mortar retail that is all about convenience and experience—interestingly, mobile still can play a role, and does have a role—but it's just not, in my opinion, at the countertop POS.

So I've said all along that I think the key to improving [the] brick-and-mortar retail experience is not about *improving* that POS experience but doing away with it. And that is just what we're beginning to see happen in 2018.

Prior to 2018, really going all the way back to when Starbucks launched their mobile app, we saw movement with coffee shops—[as well as] other fast cash, casual dining—that was allowing consumers to use mobile as an order-ahead device. Go in, avoid the POS, avoid the traditional counter checkout, and pick up their coffee, pick up their quick-service food. Well, in 2018, the retail space might be best remembered for beginning the transformation of this queue-less checkout.

Amazon Go now has seven stores, and earlier this year Bloomberg reported that they plan to have 3,000 opened by 2021. Seems pretty aggressive, but it has been put out there in the media.

7-Eleven just recently began piloting a mobile scan-and-pay concept. Walmart is providing associates with a mobile POS solution, which allows customers to check out where they are in the store. And then Walmart...Sam's Club Now has launched a 32,000-square-foot store, where customers will use their mobile phone to scan and pay for items—again, right there within the store, not in a checkout lane.

Another big area for retailers is that some of your higher-end retailers have moved to showrooms or experience stores. I know Jessica just mentioned seeing one in a very prominent retail location here in Atlanta, where no inventory is actually sold but rather products can be seen and touched, and then consumers purchase from their phone, right there in the store, or perhaps go back home and pull out their favorite online resource, be it a tablet, a PC, a laptop, and make their purchase.

So the future of brick and mortar, as we're beginning to see this shift in 2018, is going to revolve around experiential retail, and as more retailers catch on to this trend, I think we're going to start to see the demise of the traditional countertop POS, but not necessarily the brick-and-mortar retail that we so often read about.

Lott: So we've seen in the news, during 2018, the failure of a number of large retailers. Do you think that failure just is a coincidence, or is it somehow or another related to consumers' change of purchase habits—doing more e-commerce transactions—or just the retailer not keeping up with consumer changes?

King: So I think it's a little of kind of everything you've touched on there. There is no doubt that shopping from your mobile phone while you're sitting on the couch, or perhaps at your desk working, and you decide, "Oh, I want to purchase this"— that impulse buying is very easy to do online.

Alternatively, there are retailers out there who have not evolved and are doing the shopping experiences the same old way, whether it's not changing payment preferences or accepting certain payment types, or if it's traditionally lining the three of us up to shop and stand in line when there are other retailers who are clearly changing the experience to make it more convenient for consumers. Shopping online is extremely convenient. For me, personally, to go into a brick-and-mortar store to purchase something, it's got to be a convenient experience as well.

And it wasn't just 2018. retailers have been going for the last few years, and a lot of it is that so-called "Amazon effect." But I think it's, again, all about that convenience aspect. Those retailers who aren't willing to evolve—just as perhaps some of the bank branches that we see closing haven't evolved—aren't going to last.

Washington: Yes, and I just wanted to touch back to where the payment strategy is here. We've been talking about it for many years now, but really you're seeing invisible payments really come to the conversation as, "This is what our strategy is, is invisible payments: payments in the background, where you don't have to carry anything, no cash, no credit, just a virtual, cloud-based wallet."

The best example, obviously, is your Lyft car or your Uber car. The first time that you experience that, it may be a little awkward. But the next time, to me, it feels presidential. I feel like VIP status, and same when you get to skip lines. Maybe not so much when your car pays that toll, but you don't even know it's happening, so it really just kind of takes the friction out of the experience.

Lott: So, we're seeing the increase in e-commerce transactions, which from a consumer side, as we've talked about, brings convenience. but there's the other side of the coin, isn't there?

King: There is, and on slide 8, we can talk about that other side of the coin, which is: online shopping—or "card-not-present" [CNP] shopping—is also reshaping the card fraud landscape, in this country as well. In October of this year, the Federal Reserve released a report, *Changes in U.S. Payments Fraud from 2012 to 2016*. one out of many findings from this report is the growth of card-not-present fraud, and its much higher rate of incidence than face-to-face fraud. From 2015 to 2016, the value of card-not-present payments experienced double-digit growth of 11 percent. However, fraud losses from card-not-present payments also experienced double-digit growth of 35 percent. So the result of this growth was that the fraud rate on card-not-present transactions increased from 15.5 basis points in 2015 to 18.7 basis points in 2016. And those figures compare to face-to-face fraud, which saw a decline in that same time period from a little over 12 basis points in 2015 to just over 9 basis points in 2016.

Card-not-present fraud losses were nearly $3.5 billion, and that figure replaced counterfeit fraud as the most common type of card fraud in 2016. But keep in mind the time frame we're talking about, 2015 and 2016, and what was happening here in the U.S.: the EMV migration was in full force, with the POS liability shift date of October 2015. And as most of us know [that] EMV is designed to reduce counterfeit fraud. The early indications, by the 2016 numbers, are that it is in fact having a positive impact on that face-to-face fraud.

But EMV does not offer any positive benefits to card-not-present fraud, and as we know, when one door closes, the fraudsters take advantage of that other cracked door. Presumably, that's why we were seeing an increase in the card-not-present fraud rate from 2015 to 2016.

Lott: So, let me ask the question that always has perplexed me since we started looking at this several years ago. This doesn't come as a surprise, from the standpoint of the increase and shift over to card-not-present fraud. We've seen it in every country that has gone through an EMV migration. It doesn't seem that we were prepared—and when I say, "we," [I mean] financial institutions, retailers—to address this. Why? Why don't we have the tools to really confront this issue?

King: So, Dave, I think maybe it's a little harsh saying we weren't prepared, because when we look at the experiences of other markets—and unfortunately I don't have those numbers in front of me, but I do know that when they were going through their migration and around the liability shifts, they saw even higher incidences of CNP fraud. So we definitely knew it was coming, and I think we have done a better job than other markets, and learned.

Has it been good enough? That could be debatable. But the other thing, too, is unfortunately the data that we're looking at here in 2018, and that was reported to the industry, is from 2015 and 2016—right at the time when this liability shift was taking place. So I fully expect the next numbers that the Fed releases related to fraud, expect and hope to see, a decline in the actual card-not-present fraud rate. Now, from an absolute card-not-present fraud, that could be a little different.

Washington: Well, I love when Dave asks this question, especially in a room full of a hundred experts—and especially in our group. We talk about it all the time. And I don't know that anyone has the right answer, but we all take a turn stabbing at it. Today... It may be different for these numbers that we're looking at now, [but] a few years ago—and probably today—shopping cart abandonment is still a major concern for online retailers. And still, so many retailers aren't online yet, and they're coming to be.

So the competition for the sales to be successful are top of mind, so I don't think that there has been (or at least it was slow to come), for that mentality to protect the herd. I think that is slow to come, but on my next slide I'm going to talk about that.

But also, I want to point out—kind of back to Doug's point in his last slide—that many retailers won't ever be online, but they are moving towards that invisible payment, which may have [an] impact on the rise of card-not-present fraud. The digital ecosystem is no doubt growing, and with the rise of card-not-present payments, with the rise of volume, even if the fraud rate stays flat we would—

King: Still see an increase in the absolute fraud number.

Washington: Right, exactly.

King: And just one more piggy-back: so many retailers had invested so much at the POS, and that makes perfect sense when you look at the mix of payments. Depending on what the source is, 88 to 92 percent of all payments are still done in person, in physical locations. And retailers spent a heck of a lot of money upgrading systems to accept EMV. We've heard about encryption, and tokenization—other efforts to protect those payment credentials—and now they're having to face those similar or same investments to protect their online interests now.

Lott: So this brings up the whole issue of authentication. Jessica, you want to talk a little—

Washington: Yes. On slide 9, I have some talking points here, but we really could spend all day talking about authentication. It's by far one of the most important conversations in payments today. Because if you do look at our most recent fraud study, payments are for the most part safe—payments in the pipe—but the front door to payments is where we're focused now.

And now it's about a continuous authentication experience. The technology advancements we're seeing means we're now having to authenticate the identity of a person, of a process, and now devices. So the process becomes more complicated. So one thing is for sure with authentication: that we can't just do more of the same. We have new schools of thought, we have new partnerships that have come to be, and we have new risk-management models out there.

So I'm just going to point out a couple. We could go on and on about this, but one in particular that stands out is the FIDO2, the browser support that became available in September of this year to reduce password use on the web. You may have first seen it come out in the Microsoft 10 October update, but these authentication keys are devices that allow users in without a password—so websites can access this—and they usually look like USB keys, and they are built in with biometric technology that allows that multi-factor authentication.

And so eventually, more devices will have these built in, but I think what stands out about the FIDO2 is that it's really an important cross-industry advancement, which we always like to see when we're talking about standards. It has the support of the W3C, the World Wide Web Consortium, and it has partners from Google, Amazon, hardware like Lenovo. We have Gemalto, and we have banks involved. We have Visa, USAA, Samsung (the hardware/device maker), and PayPal, to name a few—even Alibaba, who I mentioned earlier. So good things coming from that group.

Another new advancement is by EMVCo, Secure Remote Commerce. We're talking about 3D Secure, now most recently in a 2.2 model—but really the version 2.0 was considered a major upgrade from the longstanding 1.0, so welcomed in the industry because, at first, the 1.0 might have had a cold reception from some merchants because

it took shoppers away from the checkout and it reduced sales, kind of slowed things down a little bit.

But now we're talking about numerous transaction attributes that can be authenticated for that particular customer, without asking for static passwords and slowing down commerce. So that's exciting. It is a card-only-focused solution, so when you think about how authentication works, and proving that person's identity, we should mention some of the movements that are going on with digital identities, and two specific examples: Microsoft and MasterCard have announced a partnership to create a common, shared digital identity. That's fairly new. And then we also saw the creation of the Better Identity Coalition, which is a cross-sector policy solutions organization that is going to promote the adoption of better solutions for identity verification and authentication. Really, they're looking at some details just as far as how are we using social security numbers going forward.

So lots of good collaborations in authentication, and definitely a major focus for things to come in 2019.

Lott: So are there too many cooks here, in terms of... You see on the left side of this slide all these different specifications and standards, some of them overlapping, some of them distinct, some of them more open-process for developing, some a little bit more closed. Is it too much, or is it just a matter of things are changing so quickly that people are trying to react and at least put some framework around e-commerce and online transactions?

Washington: Right. I think if you go down that road, to say that there's too many cooks in the kitchen, you're drafting up regulations, right? So I don't know that that's necessarily the answer. To me—we're payments people here—I think it's important to remember, in this new continuous authentication ecosystem, the payments piece is important, so we need cross-sector, cross-industry folks talking about that specific payment authentication, and the standards that affect that moment in time. And I think that there are going to be multiple collaborations throughout the process, but as long as they're focused on that journey that eventually leads to payments, then I think we're going in the right direction.

King: And I'm seeing good collaboration in the industry. Dave, the one thing I do want to caution is you mentioned the fact of open or closed. Wherever we get to, we need to ensure—and I'm not suggesting regulation is the way to ensure this; it would be great if the private sector could work it out; in the past, they generally have been able to work out these issues, but—make sure that everybody has a seat at the table at these solutions that are going to become available.

Lott: Okay. Let us jump to slide 10, kind of talking about the technology improvements in authentication. One of the, what I call most-hyped words (or phrase) in 2018 was "artificial intelligence." It seems every vendor has an AI product or service out there. I just came back from the AI Summit in New York City, talking about that. And there's absolutely no question whatsoever that computing technology has gotten more powerful, less expensive, but from my perspective, it hasn't really achieved true AI, in the "Alan Turing" definition of AI.

We've had neural networks back since the 1950s. American Express was one of the first ones to look at their cardholder transaction activity and spot anomalies there. We're seeing data analytics being used at a super pace with regard to fraud mitigation, being used for social good in the health care area. We've talked about retailing and merchandising, how that is changing as a result of...with loyalty programs, and looking at customer activity there.

And we're seeing it in financial services as well, aren't we, Jessica?

Washington: Yes. I would say I heard many bankers this year at the various conferences that I was at talk about the development of virtual assistants for their banking apps: Erica by Bank of America and Eno by CapOne are top of mind. But I also heard about core processors developing those white-label virtual assistants that will be available to banks of all sizes.

And I think if there's ever a more fun topic than faster payments, it's artificial intelligence. But it's so new, like you're saying. I mean, eventually it's not going to be just your bank calling you about a suspected fraudulent transaction, but the artificial intelligence could actually combine with health care, and if they were seeing suspicious activity, they might actually suspect there's a mental health issue, or maybe the early onset of dementia, or something like that. But there's still a lot of work to be done here, and a lot more collaboration, I think.

Okay. Next slide, we're going to talk about cybersecurity—we talk about one positive, and then kind of talk about a negative going on—and it's an issue where threats are increasing and evolving faster than ever. There's more data available on the dark web than ever before. We're being attacked with organized crime, nation states trying to carrying out either disruption in general or just fraudulent games, or even just gain intelligence now. So now we have the mobile attacks vector to consider, which is playing a whole new role since a compromised device can just kind of lay in waiting, and they're in the hands of everyone.

Let's talk about just the big issues these days. All cybersecurity is a large issue, but data breaches—we continue to see that human error is the leading cause of data breaches. Two-thirds of data breaches result from a phishing email, according to the Verizon Data Breach Study. And nearly a quarter of individuals who receive a phishing email will open the email. Eleven percent will open the attachment. A phishing campaign, on average, yields a positive result in one minute and 22 seconds.

So the second leading cause of a data breach are weak passwords. So we talked about getting rid of those, so that's a good thing. But hackers also love companies that don't use multi-factor authentication. That was actually the reason for one of the largest breaches of the year. So we're starting to see our risk management, our cybersecurity, is focusing on this human element rather than the infrastructure in the system that we have built over the years past, and security awareness programs [are] being delivered on a continuous basis.

Now, we're also, I should mention, seeing business email compromise, or executive account compromise. This is still a very large issue, and it's actually the number one cybercrime when it comes to financial losses—even over ransomware and Trojans. And of course, that's much broader than just a phishing email. These guys...these criminals actually maintain vast networks of money mules, technical and logistical infrastructure, and just tons of romance scams. And they have to maintain that over time, so it becomes quite the business.

King: And Jessica, just piggybacking on that: no doubt, I think in 2018, business email compromise is a massive challenge we're facing. And it's not just here in the U.S., it's really across the globe. Out of the UK this year, they released some numbers. Out of all payments fraud—so, looking at check and cards—this business email compromise (they refer to it as "authorized push payment fraud") accounts for nearly a quarter of all payments fraud.

And interestingly, just last week, the UK's Financial Conduct Authority released new rules which could require banks or payment service providers to compensate victims of the scam. We know the U.S. has been very proactive on protecting consumers. This is an area so far, though, where it's generally been left to the courts to decide here in the U.S., that the responsibility of the loss was to be covered by maybe an insurance policy, or if the financial institution was on the hook, or actually the victim was the bearer of that burden.

Lott: Okay, let us jump along to slide number 12, because we want to make sure that we leave some time for the participants to add their questions here.

With regard to fintech, and a separate subject, regtech: again, fintech is one of those words that if we were involved in a drinking game, we would be out of our chairs by nine o'clock in the morning, I think. [laughter]

King: Hopefully our participants aren't in a drunken game right now. [laughter]

Lott: You know, there's this constant discussion between fintech companies and financial institutions: financial institutions saying they want a level playing field, fintech companies saying, "Don't burden [us] or prevent innovation with regulations. Let us have an opportunity to show how we can make improvements in the financial services area, and in payments." And really, we're seeing that the larger impact of fintech has been outside of payments, particularly in the insurance and the lending area. The Atlanta Fed... Our president Raphael Bostic has taken on the issue of fintech within the Federal Reserve System, and is working in that regard.

Real quickly, on regtech: again, we talked before about the amazing advances in technology, and this is being applied in the regulatory [arena], both by the examiners as well as those that are examined, in terms of trying to cut through a lot of the manual labor, to use these automated tools to ensure better compliance, to make examinations quicker. And we're seeing from the regulatory authorities different actions on their part in order to try and accommodate advances in the fintech world.

Washington: I used to do bank audits, so I'll drink to that.

King: And talking about changes: I think it was just last week, Dave, where we saw the CFPB [Consumer Federal Protection Bureau] draft a proposal which removes the threat of legal liability for fintech companies that test products benefitting consumers. So while the CFPB had been involved in the space prior, these proposed changes would go way beyond what they had done, with a "no-action-letter" policy, by in fact creating a product sandbox, whereby they offer firms a legal safe harbor and exemptive relief from supervisory and enforcement actions.

If anybody's interested, that proposed rule has been posted to the Federal Register, and [the] comment period is open until February 11th in 2019.

Lott: And that kind of follows... I don't know if it, I don't think it was a direct result [of] the Treasury report that was issued a short time ago that encouraged all the regulatory authorities to create such sandboxes for improvement there.

King: No doubt. And then moving on to slide 13—a day didn't go by in 2018, I feel like, where I didn't read a story or have a discussion on blockchain or cryptocurrencies. So why stop the party now? [laughter] Might as well include it in our 2018 year in review.

But with all this talk on distributed ledger technology, blockchain, cryptocurrencies, I still really haven't seen any movement of money using these technologies to date. Yes, there have been quite a few financial services, companies, as you can see on this slide, that have blockchain-related patents. As I've mentioned, there were definitely announcements and plenty of press releases, but still almost no money is moving along this technological rail, I'll call it.

So that's why I'm labeling 2018, when talking distributed ledger, blockchain as "all hat and no cattle." [laughter]

Also, while thinking about blockchain, distributed ledger technology—it seems really new, and we could debate, what does "new" mean? How do you define "new?" But it's been 10 years since Satoshi Nakamoto's famous paper was published, and in this day and age, 10 years seems like an eternity to me, especially when talking technological advances.

I'm beginning to wonder how much time's going to be needed, or how much money invested into blockchain projects, before we see tangible results, which includes some mainstream adoption by FIs, corporations, and/or consumers. Or perhaps history will look back on these times and the investments in blockchain and think, "Wow. What were those people thinking? Did they really buy into this hype, that the technology could solve challenges in payments more efficiently than existing or other solutions that are already out there?"

And of course, time will tell. But what time did tell us in 2018, looking at slide 14, is that the market did not like the valuations of cryptocurrencies. We presented this chart on the left at this very webinar last year, which showed these astronomical returns for several cryptocurrencies in 2017. Looking at the chart now, on the right, it's almost a mirror image, in reverse. Where we had some triple, and even quadruple, percentage return gains last year in some cryptocurrencies, through November 27th of this year, those same cryptocurrencies are down anywhere from 70 to 85 percent. If I had extended the time period to the last few days, it would have looked even worse.

So then, the question is, what's the reason behind this? Is it the volatility of these valuations, and the decline, causing the financial industry and regulators to take pause and question cryptocurrencies, and anything associated with blockchain technology? Are people finally coming to their senses and saying, "Maybe the hype isn't there, and therefore maybe these cryptocurrencies, which are supporting different blockchain or distributed ledger projects, aren't worth what we thought they might be the year prior?"

Lott: And also, I just read an article this morning talking about how the cost of mining for Bitcoin exceeds the current value of Bitcoin, so from an economic standpoint...

Washington: Right. In Iceland, they were using more to mine Bitcoin than the people used in everyday life, more energy.

Lott: Well, that's our view on key payment issues and events in 2018. So what did we miss, in your mind? Meredith, I'll turn it back over to you for questions that we might have from the participants.

Elmore: Thank you very much. And I do just want to remind everyone, if you do have questions, you can email them to rapid@stls.frb.org; or you can use the Ask Question feature located in the bottom left-hand corner of your webinar player.

So let's jump right in. The changing retail landscape was mentioned, but there was no mention of the impact of contactless cards that are set to be coming from the major issuers, as their chip cards are coming up on their renewal cycles. What impact do you think that this will have?

King: I'll take a stab at that. It's a great question, and one we can have a lengthy discussion on. But in the effort to get maybe a few more questions, I won't go into a lengthy discussion. But contactless cards are coming in 2019. Announcements were made in 2018. Some issuers began issuing them in 2018, but it was Chase who made a big announcement just last month that they'll be issuing contactless Visa cards beginning in the new year. Contactless cards failed mightily back in the early 2000s, so will it be different this go-round?

Things *are* different this go-round, and one of the big differences is that there are many more merchants who are capable of accepting contactless transactions today, and that number continues to rise every time I see it. For example, around 80 percent of quick-service restaurants, about three-quarters of drugstores, pharmacies, that I can remember, can accept contactless.

But the key question is, will consumers change their habits? How merchants and issuers execute on the contactless experience will be critical to its success, and changing consumer behavior. I don't want to get down into the weeds, but there are implementation decisions and challenges with contactless that can create different user experiences. It's been highly successful in other countries, and my crystal ball—putting on the dangerous crystal ball—thinks the payments industry will get it right here in the U.S., and we'll see contactless volumes begin to grow. I do remain skeptical that contactless using mobile, as a form factor, will benefit or gain any significant traction, though.

Lott: Yes, we had this discussion just last week at the MPIW (Mobile Payments Industry Workgroup) meeting in Charlotte, where there was discussion as to whether or not the introduction of contactless cards would either hinder or promote mobile payments. And there were mixed opinions on that. My personal opinion is that there's still going to be the issue of merchant acceptance. Yes, with EMV terminals, they have the capability of supporting that, but it's not just flipping a switch. They have to do development work and, as we talked about earlier, merchants have a lot on their plate with regard to other projects, so we will see how that goes.

In those localities where there's a mass transit system, certainly that's going to help with contactless. Those transit systems have been begging financial institutions to issue contactless cards for decades to help in that regard.

Meredith, do we have any more questions?

Elmore: Yes, we do. We do have a couple more, so I'm going to try and get these in. So what are turning out to be the main use cases for the same-day ACH?

Washington: Okay, I'll take that one. There are some healthy volume gains in same-day ACH. Many of those represent business-to-business payments, some person-to-person payments, P2P. But I would say the business-to-consumer payments are kind of leading the way for same-day ACH—those emergency payrolls, or hourly worker payrolls, and any disbursements. I think going forward, it's going to be exciting to see the transaction limit increase to $100,000, maybe create some more use cases going forward—but good question.

Lott: One more?

Elmore: Yes, I think we can get one more in here. So how does the Fed analyze cryptocurrencies? Is there a method to separate speculation and the valuation of cryptocurrencies, versus actual payments?

So the comment that "no money is moving" can't really be realistic, unless the audience here is missing something. But there are some places that are expecting Bitcoin for tax payments, and there have been a few Craigslist ads as options with cryptocurrency.

King: I think the reference to the tax payment—I was just reading on the state of Ohio—it's kind of trying to be a "ground zero" for cryptos. And so I should say, when... I don't know if I actually used the term "no money moving," because there is definitely money moving, but when you look at it from an entire payments ecosystem, it's not even registering on the radar, the money moving across that kind of technology versus the existing rails. And while it could be growing there, I don't know the actual rates of money flowing, but even if it's got substantial growth, it's not even registering as a blip on the payments ecosystem.

Again—and there perhaps the person that posed the question thinks very differently and feels that that will change—but as far as the research, the Federal Reserve System, the Bank of Atlanta, we continue to follow all things happening in payments, and just as of now, those currencies are not, as I said... Yes, there's money moving, but it is not creating any kind of systemic risks to the payments system yet.

Elmore: Okay, thank you so much for that. So I know we have closed out our hour, and I just want to thank Dave and Doug and Jessica for sharing your time and expertise with all of us here on this call. And again, I want to remind everyone: you will be receiving a survey shortly, so please take a few minutes to fill that out and let us know how we're doing.

This concludes today's webinar. Have great day, and happy holidays.

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