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P R O C E E D I N G S

MR. EITEL: Good morning. So, you know, in moderator school they teach you a lesson. That there's really one job you need to get right which is you need to get good panelists. And I feel like at this point, I've taken care of that and I can actually introduce them and then go to sleep and I will get an A plus.

So, let me just go quickly. Uh-oh, uh-oh is not a good thing say right now. So, let me just go quickly through the panel, you know all these people because they actually require no official introduction but I feel the need to do it. That's the second item they teach you in moderator school. And just going in order, Gene Lugwig to my left who runs Promontory Financial Group is an IBM company. Betsy Graseck, leading bank analyst, managing director at Morgan Stanley. Tom Michaud, CEO at Keefe, Bruyette & Woods, should id stay a steeple company.

MR. MICHAUD: Yes.

MR. EITEL: And to his left Hans Morris who is a managing partner at Nyca Partners. And last but not least only because of the geography, Deborah Matthews

Phillips who's a manager director for Payment Strategies at Jack Henry & Associates. Third lesson they teach a moderator which is start out with a superstar who is just going to lead us through a conversation and we're going to do that because we're going to turn it to Betsy just to give us her overview of where the banking industry is today and where it's going. And then we can all run out and invest on that basis.

MS. GRASECK: Okay, let's go. Thanks so much for that very rousing introduction there. I was asked to just give a little bit of a background as to how we're thinking about the bank stocks and bank earnings going into next year, right. Because we do have a lot of 2020 of outlooks going on. I want to ground what I'm about to say in what bank investors care about, bank stock investors care about because that's what I do. I cover U.S. large cap bank stocks and I'm also head of global banks and diversified financials at Morgan Stanley.

So, what we did about six or seven months ago maybe eight months ago is we asked the question, what drives bank stock alpha. What drives out performance of bank stocks versus each other in a period when there's no credit problems, right. Because I think we can all agree, credit is dead. Gene and I were having this discussion. Is it coming back Gene? No, don't just nod your head.

MR. LUDWIG: It's coming. The next 36 months --

MR. EITEL: But is credit is dead really the way you want to say that?

MR. LUDWIG: No, I wouldn't want to say that. I wouldn't want to say credit is dead. But I do think that we're, you know, this cycle is feeling toppy and you can't say when, that I think we'd agree on that. You have 12 months, 24 months, 36 months and there are a number of things that could push it off the edge. But it's hard to believe that this thing goes on without some bump in the next 36 ish months.

MS. GRASECK: Yeah, so it's interesting because it's been, what 11 years already and it's been phenomenal credit quality so far. And, you know, bank investors, they kind of hate credit but they love credit too because it gives them some alpha opportunity. So, what do you in an environment where there is no credit challenges?

Well, what we found out is bank stock investors care about two things. Are we an operating leverage and frankly positive surprises in ROE are by far and away the biggest driver of alpha in bank stocks. But it was extraordinarily close number two, operating leverage. And we all know ROE can be, you know, impacted by capital. So, the operating leverage metric really is the most important and cleanest way to deliver positive alpha for your bank stock investors.

Okay why does that matter going into 2020? It's going to be a tougher year. Efficiency is going to be critical and expense management, technology investment, all these things are going to be critical. When I think about what's going on for 2020, we have two, you know, issues which are a little bit of a negative, right. One, I think we all know net interest margins, yield curves down 75 basis points at the front end of the curve, 120 at the back end year on year.

I know the last couple of weeks it looked, you know, a little bit better. Everyone has been like oh, thank God, we're up on the 10 year yield from 1.4. We're back up to, you know, we almost touched 2, right. So, that's good from the last couple of months feeling but year on year we're down still about 120 bps.

So, revenues are going to be under a little bit of pressure because of the yield curve and then we have CECL. Anybody heard of that? CECL, all right. So, that is a big concern for investors because they're not sure how to model it. We all know day one impact ranges are in people's models but how do we think about the future. How do we think about how to compare and contrast, how do we think about what bank managements are considering in that reserve?

In other words, I don't know if net charge-ups go up 10 basis points or 20 basis points. Should I keep my allowance level flat? If net charge-ups go down 10 should I bring it down. History is not going to provide that, you know, kind of anchor for us like it's been in the past. And importantly you might also have heard of passive funds. I think we're going to talk a little bit about that too. The quanthra part of some of that passive fund activity as well. Quants use history.

Quants use things like book value per share. Book value per share is going to be down for some institutions because of CECL. And you could say it's not fundamental but the fundamental analysts are becoming a smaller and smaller portion of the overall market.

So, two challenges, yield curve and CECL. Two positives, lending, loan growth is actually accelerating a little bit going from 3 to 4 percent. I know that's lower than many people in the room but we look at the overall group. So, 3 to 4 percent, that's a plus. And that brings us to an outlook for revenue growth of about 2 percent well, and I should say capital markets flat. Our team's 2020 outlook went out yesterday and we were looking for flat capital market activity.

So, when you pull it all together for us, 2 percent revenue growth 1.5 percent expense growth so we get that positive operating leverage that we're looking for. And then we've got provisions up and, you know, you can throw darts at me but we're 25 percent growth here on your provisions and a lot of this reflects that CECL question mark.

So, we've got operating earnings flat, we've got operating EPS up 5 percent. Okay that's not a rousing cheer but it's better than the rest of the developed markets which are negative in Europe and just barely crunching over the zero mark in Japan. Even China, you might be surprised, is that we're only looking for about a 6 percent EPS rate in China as well.

So, what does that mean? That means operating efficiency is the most critical thing on investors minds. How you're using the technology, you you're investing in that infrastructure, how you're getting that incremental operating leverage is insanely important.

MR. EITEL: Tom.

MS. GRASECK: Did I do it? Did I open it the way you wanted it?

MR. EITEL: Oh, it was way beyond my expectations.

MS. GRASECK: Oh, all right, good. Now I can go to sleep.

MR. EITEL: You've set quite a floor for everyone else now, including me. I think I can't go to sleep because I just can't after that rousing rendition.

Tom, do you want to pick up though on the operating environment from your perspective?

MR. MICHAUD: What's incredible is how many versions I feel like we've had of it in the last 18 months. The Keefe bank indices both large banks and mid-cap banks, both peaked in the first half of last year. If you remember, June 8th of last year when our regional bank index peaked, we thought there was going to be 11 percent earnings per share growth this year and next. Well, it turns out it's going to be 5 this year. So, what happened.

Third quarter of last year expectations for loan growth came down. Fourth quarter of last year, the view on what the Fed was going to do changed and we ended up being right into this environment that Betsy was just talking about. Which is an environment that got to the summer where suddenly the recession word was being used a lot. So, that of course brought credit back into play.

And then we had this talk about negative interest rates. And negative interest rates, we did the work. Our view is if we get negative interest rates in the United States, that will take 20 to 25 percent of the profitability away from the banking industry. It's happening in Europe right now, it's not even a test case, we actually have it happening in Europe.

So, investors this summer were really worried about the worst case scenario. And then bank stocks rallied, what happened. And I say inside the office, it's a lot like my golf game, doesn't need to be better just needs to be less bad. So, the outlook for the banking industry got less bad, less talk about negative interest rates, long bond closer to two rather than one and we had a little bit better view about the economy.

What's really interesting is when I'm out talking to bank CEO's around the country, I ask them what their clients are telling them. Most of them say it's better than what you see in the news. They say most of our clients are feeling pretty good about the economy. So, I think the economy has been a little bit steadier than some of the real big naysayers might have been saying. We are hearing things about what the tariffs are doing. Specifically, I'm hearing about it from ag lenders and I'm also hearing about it from other manufacturers are starting to talk about they're really seeing it in some of their results.

But I would say we are in a more challenging environment going forward now than we had been in the most recent past. And also, of that 5 percent earnings per share growth we're looking for this year, almost 100 percent of it is due to share repurchase. So, you could almost say it's nearly zero.

So, the industry today is in a state a very high profitability. We've recaptured all our return on assets, all our return on equity. But really, it's a growth challenge due to exactly like what Betsy was saying. Which I think is going to have really big implications because the industry, I know we're going to get to this in a second, is on a cusp of a lot of digital investment. And it's happening around the industry by the biggest banks.

The other thing that's happening is for the first time in my career, the bigger banks have gained scale on more profitability. We could talk more about that but there's an interesting shift happening in the operating environment and inside the dynamics of the industry.

MR. EITEL: I think maybe we should pick up on that topic though of, you know, how the industry is segmented with what you see with bigger banks profitability scale, arguments and the like versus the middle of the smaller segment of the bank. That's either Tom or anyone else if you want to pick up on that.

MR. MICHAUD: I would just say, the bigger banks had typically had less stock valuation and less profitability than the highest performing mid cap and mid-size banks in the country. That is now evolving and no longer the case. The bigger banks, in general, some exceeding some lagging but have caught up. And the view of the future is that they're going to start to do better. Investors are on it. The PE ratio between the bigger banks and the mid-caps is at probably its tightest span that it's been at in years. And so, the price to tangible book of the two has really gotten closer.

So, really and I think too, with a tougher yield curve, the more consistent non-interest income you have, the better off you're going to be, the smaller you are, typically the less non-interest income you have and that's part of the math. And you're also less efficient if you're small or really small.

MR. LUDWIG: I wouldn't bet against mid-sized and community banks going forward. But we have a situation where as these institutions begin to ingest technologies that are necessary and that's going to be happening. They have serious competitive advantages that will begin to become more apparent.

In the environment in which we currently live, the degree to which you can use social media, media generally, the internet, basically to project brand and also do things in an efficient fashion using advanced technology, you clearly have a leg up. But we're going to see that advantage be part of the community in regional banks increasingly.

So, fintech will change from being a threat, it will always be a threat to some degree, to an enabler. We've just closed on, in a separate thing I've done, something called Canopy, what will be the largest fintech in the United States. And it is all focused on synergies for community and mid-sized banks. Because there are a lot of these technology companies that recognize that they can get scale by being able to provide products for that segment of the marketplace. And that's going to transform the marketplace going forward. We're at a very interesting time in finance where we're going to see changes over the next couple of years that were just, you know, unfathomable a decade ago.

MR. EITEL: Maybe Deborah or Hans want to pick up on this. Since we've worked our way into the tech theme.

MR. MORRIS: Well, what I was going to talk about was providing some perspective saying we're 10 or so years into this fintech investment and 10 years since the financial crisis, where are we, what have learned. And so, I want to take everyone back to 2009, 2010 and say what was that like. Well, first of all, you had technology changing. Principally I say AWS, the ability to build infrastructure by the drink rather than have to spend tens or hundreds of millions of dollars to build that and invest that before you could actually launch a product.

Second thing was you suddenly had, you know, you had a super computer in your pocket. So, the iPhone changed things in profound ways because it enabled you to have very sophisticated applications that could be pushed to the consumer. But I also think it changed the consumers expectation of what a tech experience should be like. You know, it curated that.

And so, now my 88 year old dad gets all pissed off about all these forms he gets from Morgan Stanley and just throws them away, he won't do it. And I don't think anyone will do it. I don't think this is a millennial issue, I think no one wants to deal with the frustrations and expects a very different type of expectation, has a very different expectation.

And then what happened with the banks, you think back, all financial services as a bundled product. Generally, and this is something that John and and Joe were talking about earlier saying you either fit in the definition, you fit into that or you didn't. And if you didn't there were lots of fees and expenses or you weren't allowed in. So, if you had a salary, if you had a job and you had a direct deposit relationship, you get credit, you had a, you know, 700 FICO score, it was a very profitable relationship. But many people were either excluded from that or were just not well served by that. It was very expensive for them.

So, what's happened since then, I think, is fintech has fundamentally changed things both helping some of the banks, so enabling banks, for example, to have digital mortgage origination or remote deposit capture, things which I think are really now table stakes for banking. And it's enabled them to understand risk better and police and understand the evolution of risk. But it's also enabled tech companies to go in and really serve many constituents much better and much cheaper. So, you think about like economy workers and being able to -- small business which previously had very difficult and expensive origination processes or didn't have access to real times payments.

So, the issue for us when we look at this, we say either banks have to look at the fact that the profitability of many of these core customers is going to go down because their expectations, mainly services, are going to be free. If you're going to send money to somebody else, that's going to be free. There are fees for robo type advisors, many types of investing are going to be free. So, that's going to change and then the ability to cross, you know, to charge large fees for some of these other underserved people is also going to change because they can get those services much cheaper other places and with much better type experiences.

So, we can talk more about that. There are two areas where I want to come back to. One is core versus wrappers and how do banks modernize themselves faster which, I know you're going to talk about but I have some thoughts on it. And second, I want to come back and talk about the issue of credit and capital and how it relates to many of these fintech business models because that's the most important thing which I think is going to be a major issue for the next year.

MR. LUDWIG: Hans has been extremely foresighted, I've got to say that Hans, in this area and really recognized before many others the power of the digital revolution in finance. I think described you well, from my perspective, what has been happening in both what the threats and opportunities are.

The next wave is going to be the transformation of the, not just the front office but the back office for banks to get the efficiencies and also be able to deal with a regulatory problem so you can't otherwise deal not only efficiently you can't otherwise deal with them. We're living in a time where social media and the internet have magnified conduct events way beyond what would have been the case 20 years ago.

You ask, well why in Australia do they have all these conduct blowups. So, you know, the banks in Australia all of the sudden decided to take advantage of their consumers in existence for 150 years, no. It's because smaller incidents can be thrown onto the internet and magnified into very big things and political leaders can't, you know, avoid addressing it.

The only way to deal with that kind of problem is not scriveners and, you know, old policies and procedures. It is through technology and there is a double opportunity one, to deal with the problem and two, to do it efficiently. And the only way to do that is with modern technologies which are coming down the pike.

So, this next wave of this should be and will be the improvement through technology of the infrastructure of the existing financial system. And banking will benefit by that tremendously. It's enormously important both from a regulatory perspective and importantly from an operational perspective. So, that's what coming and we're just on the cusp of that really having an impact in terms of the bank operations. Which Tom, I would think, and from your perspective Betsy, will make a difference at the end of the day in bank valuations as these become efficient which is exactly, I think, where you two are going.

MS. GRASECK: Yes.

MR. MICHAUD: Yeah and I think there will be winners at each size category. It won't be one rule fits all, certainly.

MS. GRASECK: One of the most important things is getting that real time payment feasibility and functionality out there ASAP. I mean, I know this group knows that that's a priority. And I would think that it should be a priority of every bank, right, to enable that for their customers. Because that's what the tech companies have the promise of. That's what they're suggesting to you in the other verticals that consumers, you know face, their suppliers.

Right, like we're supplies to a consumer lifestyle, so I Amazon. And Amazon is promising you, you know, I'll get it to you in an hour. But they're also saying look, you can get credit easily, you can have your funds transferred easily. And we have debates constantly with my team down the hall about how far big tech will come into this space. That will be another panel so I'm not going to go through all of that at this stage.

MR. EITEL: You're allowed to talk about anything that you want to on this panel. That's the virtue of going first.

MS. GRASECK: I will say, look, I spend a lot of time with our colleagues who cover Apple and we worked on our Apple card note with them, more than meats the lower case i, more than meets the i, get it, that was me. That was my --

MR. EITEL: Boo.

MS. GRASECK: Oh, come on. It was a very cool title and got a lot of clicks. But my son who is 13 he's like, that was clickbait mommy. I’m like no, it worked and it was great. And it is great note and it's really deep and it gets into all kinds of detail and a lot of it is assumptions because there's not too much data out there.

But importantly the message that I have is that yes, big tech, while they might not do exactly what we're all doing in the room, they want to take it as far as possible. And by the way, they're going to squeeze down margins as a result because they have tremendous market power, right, they have tremendous presence.

Our estimate that's in this note is that Goldman will make a 1 percent ROA on the card. Now I don't know 100 percent exactly what they're going to make, right, but based on what we know about the product itself, we think that you're going to round to about a 1 percent ROA on the Apple card product. We all know a credit card is roughly a 2 percent ROA product, right, round numbers.

So, that is telling you, big tech is already in the room, okay. We can talk about the, you know, Google thing with Citi the other day. And to me, that's all about hey, are the rules and regs around privacy going to be, you know, locked at the gate of banking and when a consumer accesses a bank product through a Google pay app, do those privacy rules, you know, go away? You know, we don't know exactly because 2020, it doesn't come out until 2020 so we can't see the legal document behind it. But they're already in the room. Even if they're using our rails, they're in the room.

MR. LUDWIG: Look, it's outrageous that the big tech and tech generally, what was the traditional fintech approach has not regulated. The fact that banks are regulated and you have enemies out there doing the same thing that are unregulated is a complete just disaster in our financial system.

The good news for bankers is that that will not last. Either through vendor management rules or other regulatory necessities, we're going to see increasing regulatory focus on these non-bank entities. You saw it a little bit in the last few days. And partly because they're not going to understand enough, they're going to stumble, stumble, stumble. So, it's cold comfort that they're coming slow or they should have been on a level playing field to begin with but that's coming.

MR. MORRIS: Yeah because this to me and this is my most important point that I'm going to make and I think it's very important for all the banks. And the issue is why won't this go on forever? What is the impediment, what's happening with all these tech companies? Well, what they're doing is not Amazon, Apple, a little bit different. But definitely all the fintechs have to expand their revenue per customer. How do you expand your revenue per customer?

You really have to get regulated. They know that, you have to get into the deposit system so that you can either rent the service from somebody else. But the problem is if you rent the service from somebody else you can't control the experiences well, it's hard to get the tech to do what you want. It's actually cumbersome because you have to go through all their credit committees, everything the bank has to do, Apple has to do through Goldman.

And so, what many people are saying, we're going to get to our own charter or we'll do more imaginative leasing of the different services. However, this is the key thing. If you're going to be a bank or if you're going to be lending money or if you're an insurance company or you're taking other risk, you are warehousing risk. If you're warehousing risk you need capital.

Now you have regulated capital but I'm chairman of the board of the Lending Club. We proved like we're not warehousing long term credit risk we're not a bank. But we have a lot of risk. You have operational risk, you've got liquidity risk. So, things that we're talking about all the time, you have market risk.

So, the reality is a software company trades a software multiple because it's got 80 percent margins and doesn't have much capital and doesn't have much risk. There are not fair hands. Once you get into these other activities you need capital whether you want it banking, charter or not.

So, that's a very important fact. And I think the recognition when these companies go public, they start getting valued like, you know, people like Betsy and call and look at them and say, well I don't know what's the ROE. And if you have a negative ROE it's not a very valuable company.

MS. GRASECK: Well, that's been a great mode, regulation and multiple. So, regulation and multiple has kept big tech out of the process and, you know, right. But they're impacting the profitability of what the banking system is offering. Again, given the fact that look, what is Apple offering to Goldman half of the American population served on the platter, right? I mean, that is worth something, right, that's worth a huge amount and it seems to me that it's worth about 1 percent of ROA.

So, and then the next question is hey, you've got people that are going to be using this card and they see no fees and they see, you know, your rewards coming in immediately at the moment that you're paying it. I was talking to a colleague the other day who is like twenty something. She was like, I pay my credit card down every week. I was like what, you're supposed to do it once a month. She's like no, I like seeing that zero balance, I love it.

So, Apple card enables me to do it easier, all right. So, this is how it's impacting returns and it gets back to, you've got to be efficient to deal with the fact that big tech is having on us which is, you know, pressuring the ROE of the business.

MR. MORRIS: So, the first two facts, one is the ROE and the impact of a balance sheet and how and why that's important. And then second though is what we call the denominator problem. Which is you think about the pricing of a bank, your ROE, so function of a bunch of customers some of whom are bad in your denominator. So, those are the people that don't pay you back or they (inaudible), they're just unprofitable, they have very low balances, bad.

Bad customers don't leave, they're there forever. Good customers who are part of your entire profitability, if just 5 percent of your good customers go and get the Apple card, your ROE declines quite precipitously at a compounded rate. So, the impact, you can't -- no bank in this room can sit this out. You have to be improving customer experiences. When you have pricing, when you have illogical pricing like 2 percent ROA in the credit card business it's like that's not market. That's two higher (inaudible) someone else would go in and take advantage of that margin. I think I personally feel that late and over limit fees are in the same category.

MR. EITEL: Deborah, you help banks do this, right?

MR. MORRIS: All right Deborah.

MS. PHILLIPS: That's okay. So, I do want to agree with what you just said about customer journey. I think that this becomes very important for every single bank whether you're a tier one financial institution or a $50 million credit union or in between. The focus on customer journey has got to be front and center. And that has to take place in understanding what technologies your customer needs. I think it was the CIO of IBM that said today's best customer experience is tomorrow's minimum expectation.

And so, but it's got to be more than that. We know that today more than 40 percent of consumers have more than one deposit account. And so, what's happening is as Ron Chevlon says, they're accessorizing their accounts with other capabilities and that's leading to fragmentation in the industry.

And so, from my perspective, you know, as an advocate for community financial institutions which is Jack Henry's sweet spot in the market. Is that we have to focus on reducing the friction and in order to eliminate that fragmentation, you have to deliver that local touch.

But you also have to have the technology that's hygiene factors, right, and the bar keeps moving. Because technology is changing, consumer expectation is changing and so it becomes very important that you have the self-service, the digital transaction capability, the service capability for those mundane experiences, you know. They have to be self-service because they don’t want to talk to a person to get their balance or to check to make sure that a bill payment has been staged.

But in that moment of need when they want to talk to somebody that's when, you know, the community financial institutions can play upon their strengths. We're starting to see that being embedded in technology. Some of the things that we're working on is having encrypted conversations in the chat experience, in the digital experience so that people can talk to you about an account. They can give you the account number, they can send you a document.

And so, that's a nice way of blending the technology so that it's still a digital experience but they still have access to a person that they need in that moment of need. And I think that's the way to win against the fintechs. And, you know, let's fact it that, you know, the fintechs are redefining the meaning of banking and it's a threat that we all need to be taking very seriously. Because you don't necessarily need a deposit account at a bank anymore. You can do banking in lots of other places. So, you know, it's a cautionary tale that we all need to be paying attention to.

MR. EITEL: Tom, you were going to say something right before I --

MR. MICHAUD: I was just going to say, we just talked about deposits because the banks have customers, they have earnings, they have good regulation.  I think they've got confidence from just the community and stakeholders.  Like Deborah was just saying, the fintechs have great technology, bring new experiences but they don't have all the revenues, they don't have all the customers, they don't have all the regulation. The smartest thing to do is to bring it together and I think that's what's happening.

MR. LUDWIG:  Well, in an upside environment and we've been living in an upside environment for the last several years.  Innovations by non-regulated players has historically gotten a little bit of a boost. And any kind of a new innovative product, a shinny new penny, the customer goes to it.

In areas of increasing danger, banks have a competitive advantage and inherently people trust banks more and they should, deposit insurance, et cetera.  I predict that as we see this thing crest and as banks begin to ingest these technologies in a regulatory sensible way and you don’t have discriminatory problems. Because if you do this correctly with the correct partners, your own tech enabled abilities, I think banks will come out of this cycle much stronger on the delivery side and efficiency side. Ingesting the technologies and that's going to be a transformational time in banking which we're just entering into.

MR. MORRIS: Should we talk about cores and core banking and wrappers.

MS. PHILLIPS: Tread carefully.

MR. MORRIS: Yeah. I know because I'm sitting next to the big COR provider. But here's the issues. So, I was at Citigroup --

MR. EITEL: I may have to separate you.

MR. MORRIS: Yeah, so cores, I think, everybody here, who thinks they have a core problem? Nobody. I bet your lying. Anyway, everyone has a core systems, multiple core systems, a series of systems of record inside the bank. And that has over decades been built up with lots and lots of functionality. So, official check issuance in a branch which stuff that is essentially irrelevant to someone who is doing a digital bank.

So, they're expensive, they're hard to change, they're a batch virtually, you know, 95 percent, I'd say maybe close to 100 percent of banking customers they have batch core systems which making real time posting difficult. So, the issue is should you change your core and the core providers are modernizing their cores.

And I have always had the point of view like don't change your core. It's two years of analysis at least and then it's a couple of years of just writing your business requirements docs and everything and valuations and then implementation is a couple of years. And a global company might be 10 years start to finish to completely change a major core system.

MS. GRASECK: Are you telling me core cannot handle real time payments?

MS. PHILLIPS: Cores are handling real time payments and they're doing it today.

MR. MORRIS: But the core system itself, you got a wrap, you've got a functionality which allows you to handle real time payments.

MS. PHILLIPS: We have built a payments hub and we are public information. We have quite a few financial institutions that have signed up for RTP more in the hopper. We're live with Zell. And because of the way that we designed our hub, the institution connects to the hub and then we go out and connect to the various networks. So, when FedNow is ready, we'll connect to that as well making it easy for the community institution who doesn't have the resources to do the heavy lifting to be able to connect and take advantage of it.

And so, I know that, you know, there's been some tension in the industry about, you know, should we sit and wait for FedNow, should we jump in. And our message at Jack Henry is is that in order for you to be able to compete you need to be able to connect now to RTP and have the capabilities to receive those transactions.

Because the larger financial institutions that are already part of the RTP network are working with big insurance companies, gig economy players and those transactions need to have a place to land. So, we need that ecosystem, right. As we say at the U.S. Faster Payments Council, you need that ubiquity. You know, you can't send the transaction and have it settle unless there's a player on the other end ready to do that. And so, we're encouraging our financial institutions to get into the market and play.

MR. MORRIS: But there's real things like the (inaudible) systems are batch. The real things say, I got this real time payment, I need to reconcile this across everything in the bank and I need to be able to apply it to another obligation I have. Most people cannot do that real time.

MR. LUDWIG: I would say, Hans, irrespective of whether or not Jack Henry's changes are revolutionary or granular. The one thing that I can predict with almost complete certainty is that there will be additional core options that will be based on the most advanced technologies. And will offer the opportunity of lowering cost, increasing speed for smaller institutions for community and regional banks. That's' going to happen and there will be competitive landscape that we haven't seen in this part of the market for 30 years.

MR. MORRIS: Yeah. And I was going to get to this point because I think that I would say I was always against it. But there are new core models which can speed this up. And then I also would say there's what we call wrappers, so like blend, blend is a wrapper, personetics is a wrapper. You don’t change -- you leave your system of record exactly as it is. You apply a new data layer on top of that which syncs with your system of record and then you build new applications on top of that.

And what that can do is it can get into business with modern applications in literally weeks or months rather than years. But I also believe, I agree with Gene, there's half a dozen really interesting new approaches to cores. So, I think this is one of the most important developments that's going to head to the banking system, hit the banking system. And the reason why, another reason why this is so important is you've got to get your costs down dramatically.

MR. LUDWIG: Absolutely.

MR. MORRIS: It's like hundreds and hundreds and hundreds of millions of dollars that you need to do and also speed up your development. You can't say well, we're going to have this in two years, I see that as pretty irrelevant right now.

MR. LUDWIG: And it's a tricky business. I was just involved in, you know, the first bank centric public cloud first step development. And what makes it bank centric, of course, in large part is really meeting regulatory needs as well as other things that are peculiar to the echo system of banking.

There's no way that you can take advantage of these technologies without doing that sort of thing. But the fact that we can now do them, again, go back by (inaudible). We're going to see a lot more competition in the marketplace. It's going to be an exciting time with a lot more products offered over the next 10 years.

MS. GRASECK: How do you deal with the fraud risk?

MR. LUDWIG: Are you talking about AML generally or?

MR. MORRIS: (Inaudible) systems?

MS. GRASECK: Just, you know.

MR. MORRIS: My opinion, you can comment. The reason limits are low in real time payments is because there's a real concern that the banks don't have real time monitoring systems to take over monitoring. So, those are all things that they're, I'd say working on. And then also, corporations are not real time either. So, they have a batch SAP system, they can't reconcile their cash real time. So, the infrastructure on both the sending and receiving side has a lot of work to do to really make the most of it.

MS. GRASECK: That sounds like opportunity.

MR. LUDWIG: That's exactly, no Betsy, you've hit the jackpot in terms of as you often do. No, no, because that is why you have to have these technologies in a bank centric, you know, sort of, you know, you think of the old safe in the bank all made of iron. You've got to have the thing built so that you're not going to have that explode in your face. That puts a layer of excellence on top of the fintechs which they haven't had today nor have has big tech had to have it, right. You're going to see that in privacy, you're not going to see it in discrimination because there is no requirement that they've had to live with it. That will change.

MR. EITEL: Your point is sort of the converse in verse whichever it was and the point Hans made, I think it was Hans made earlier, right. If you're a fintech you have products if you give control. If you give the interface with the customer over to the bank you can't control that interface. You're looking at it, it's actually the opposite way.

MR. MORRIS: I was actually -- even the back end. If you get back end over to -- you can' innovate. You have the issues that the bank is if you're issuing if web bank is your issuer you have to go through the exact same process.

MR. EITEL: But those are very intentioned, right.

MR. MORRIS: Yeah.

MR. EITEL: You know, your perspective and what Gene is talking about the ability to control from a compliance perspective.

MR. LUDWIG: Right. And it may be, Mitch, it may be the rent a bank model which has been used forever, you know, becomes the model of the future. Whether it's big tech or some other industrial company does more rent a bank and the bank is in a sense that little protective layer. I don’t think that's right.

I think that the banks are not prepared to give up their franchise to the new tech companies nor do I think giving up the franchise will work. I mean, having a very little funnel through all of where this goes and somehow protecting consumers and protecting, you know, fraud risk et cetera through the little funnel, that is the little rent a bank or even a bigger rent a bank.

MR. MORRIS: And actually, the rent a banks are small and it's a weak link.

MR. LUDWIG: It's a weak link. So, I think the nature tendency, including in the regulatory community, will go the other way. And as banks ingest these technologies and modernize the big funnel with the big responsibilities, that's where it ought to go. And frankly, you know, I just can't beat this drum loudly enough because I think it is absolutely outrageous the regulatory bodies have to help us in terms of making sure that we don't continue to have a growing non-regulated financial community that will take advantage of the customer. It's going to come to no good. But the longer it goes on, it hurts profitability of the banks, it hurts competitive realities, it's a bad thing. And that doesn't mean more regulation for banks. Quite the contrary.

MR. MORRIS: Yeah.

MS. PHILLIPS: Well honestly, I actually believe that financial institutions can work with the fintechs as long as they maintain those relationships with their customers. Because the first time something bad happens, try to get ahold of somebody at Google, try to get ahold of somebody at Facebook. And if you look at the next generation of customers, you know, you're gen C folks, they're very concerned about data privacy. Who among us actually believes that Facebook is taking good care of our data.

At the end of day, you know, a lot of this is going to come down to trust. And so, I believe that financial institutions need to continue to foster those relationships and, you know, beat the drum about how, you know, they're the trusted partner. Whether it's a security issue, whether it's about fraud, whether it's being there in that moment of need. That's how we're going to win the battle.

MR. EITEL: So, the first -- this is a new technology from my perspective. It's probably supported in the background by Jack Henry. Will the average consumer be able to differentiate between a payment system of banks and one of big techs and if not, what is the risk of distortion of the level playing field if non-bank systems are not regulated in the same way? That's very apropos of the conversation we've just been having.

MR. MORRIS: I think the processes, I would actually say, any of the fintech if you're engaged in a certain function, that function is regulated and almost invariably. The companies aren't regulated, it's a big difference. I went through this myself when we merged with Citibank, we were saying wow, now I know what it feels like to be regulated, it's very different. But, you know, if you're a payment processor you're subject to all the payment rules and there's no difference.

And I'd say look, third party technologies whether it's Jack Henry or ACI or First Data, it's been 50 years of having tech companies, IBM, supporting financial institutions. And so, if you say well Stripe, Stripe processes through Wells, I believe, right, and Amazon processes through Chase. And so, there is not a single payment processor that isn't ultimately a bank. You have to be a bank to (inaudible).

MR. LUDWIG: On the pure payments, if you take things like Libre, I think at the end of the day the Federal Reserve is not going to give up the control of the payment system to non-banks. I think there will be attempts. Modern technology has all kind of wizardry. But at the end of the day, whether it's in digital currency with a sovereignty question or it's a payments system which IS control --

MR. MICHAUD: Bank Secrecy Act, AML all that.

MR. LUDWIG: I just do not think the regulatory agency --

MR. MICHAUD: It's not going to slip away.

MR. LUDWIG: They've been slow to get into the game because that's typical regulatory agencies, right. There's innovation then there's regulation. There's not regulation than innovation. But I don't think the governments around the world, particularly here, are prepared to give that up. So, we'll see.

MR. MORRIS: Yeah, so I did see a, you know, a moderately interesting item reported in some paper this morning that I read on my iPad. That the Fed, while they're not implementing a digital currency, they're at least thinking about whether they should do so presumably for these same reasons.

MR. EITEL: If we could -- oh, another question has come up. We'll do this one because it's relevant to what we're talking about right now and then there's one more. We'll go back which touches on a topic that Betsy and Tom raised earlier. Should real time payment systems let rent a banks join to give tech companies greater access to the payment system? Does that exacerbate the regulatory level playing field problem? We were just talking about that very topic. Anyone wants to respond to the question or feel we already have.

MR. MORRIS: I think it's inevitable, yeah, I think they should and I think they will. I mean, whether, I mean Chase or Bank of America are saying we have API's to corporates, they're saying this is your access to real time payments so if they could do it someone else could do it. So, I'd say that's happening right now. API's are live.

MR. EITEL: The third question, it's actually the second question but the third I'm coming to. Both Betsy and Tom raised the issue of institutional ownership earlier between active and passive players. And so, someone either picked up on that or is really, you know, is burning to know the same sort of things and your views on that topic and how it's affected the way we view the industry.

MR. MICHAUD: So, the change in that area is at a speed that's probably the greatest in our lifetime. So, since 2006, $3 trillion has gone into passive funds and $2 trillion has come out. We actually came out this morning with a review of the banking industry and on average, a little bit over 20 percent of banking companies' ownership comes from these passive or index funds.

I think if you add quantitative strategies on top of that it's even higher and there are some companies where ownership is about half. So, that has big implications for how stocks trade. And if you look at the fund flows after the presidential election, the first thing that happened was about $23 billion of funds flowed into the financial services ETFs. Since that time, $17 billion has come out. Now you can see the whole movement in bank stocks.

MR. EITEL: I mean to your point, right, of drawing from that point, this isn't just about, you know, large cap, you know, large cap institutions that are in the --

MR. MICHAUD: It's more significant in the mid and small cap, it's all cap.

MR. EITEL: Yeah.

MR. MICHAUD: But I think it's got big implications for how your stock trades and how it's valued in the marketplace. And I think emotions around themes are going to drive stocks more and then corporate governance. It's a, you know, it used to be that the most important letter on Wallstreet everybody wanted to read every year was the Warren Buffet letter.

And then now, you've got to read the Larry Fink letter because he's going to tell you how he's going to vote corporate American shares. Because he's got, you know, what are the issues that are important to his firm because there are a handful of firms that own a big slug of corporate America. And a lot of times, the managements of corporations, banks and others aren't having regular dialogue with these investors.

And so, if there's a moment of stress, I think it increases a little bit of uncertainty into corporate governance in America. Which I don't think right now is a great positive outcome and is still being worked on and figured out. And you saw this week, the SEC came out with some proposals and there's a lot debate around it. But I still think we have to answer this question, are we happy with more and more of corporate America being owned by fewer and fewer entities.

MS. GRASECK: I think it also gets back to if you can control it you've got to double down on that ability. Because you're influencing a smaller and smaller group of your investors but investors who are more incented to work with you and understand how you're actually, you know, positioning and what kind of timeframe your efforts and execution is going to occur over.

You know, it gets back to the operating leverage issue. You can control the expenses. If you can develop a strong track record and an understanding of the, you know, by the active investors that this is your plan. And if, you know, you have to reinvest a lot to get to a three year goal, you know, make that clear.

Because that's how you'll be able at least to get those incremental actives who are still the majority of the investor population but a declining percentage. Get them to partner with you and understand your vision, your values and where you're taking the company on the operating leverage trajectory. To me, that's even more critical than in the past.

MR. EITEL: Okay the clock gives us 27 seconds to go. Now there's a very controversial question that's been asked and I'm not sure whether or not to ask it. And I'm going to actually ask the entire room, we should have a show of hands. Does anyone think digital currency is a good idea?

MS. GRASECK: Well wait, what's digital currency?

MR. EITEL: Well that's part of the problem.

MS. GRASECK: I mean, is Zell digital currency? Zell is digital currency to me.

MR. MORRIS: Fed Wire is digital currency. You know, Fed Wire is irrevocable 22 and a half hours a day, any dollar size. It's that type of efficiency which is you can at very low cost, very quickly, transact and that will continue. There will be applications with digital ledgers.

MR. LUDWIG: The one thing marvels about this question is it could have been asked 25 years ago when people said electronic currency is coming tomorrow. Hopefully, we will all be here together, this marvelous panel, looking just as young 20 years from now.

MR. MORRIS: And you'll ask the same question.

MR. EITEL: Actually, Walter Riston's book was titled Digital Money and that I think was --

MR. MORRIS: 40 years ago.

MR. EITEL: Well, that's the last word. Thank you all so much for your attention. It was fun for us and good for you.

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